



Municipality of Clarington | Soper Hills Secondary Plan

Sustainability + Green Principles Report

Clarington

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1 Introduction

The Municipality of Clarington has been on a sustainable journey for some time now. Particularly, since Council in 2015 endorsed Priority Green Clarington, a plan to promote and encourage greener sustainable neighbourhoods. Priority Green provides a roadmap for green development in Clarington. This Sustainability and Green Principles Report provides the road map or framework for implementing green development as part of the Soper Springs Secondary Plan.

- Review and summarize relevant policies and Clarington’s sustainability framework;
- Identify sustainability Themes;
- Identify Urban Design and Sustainability Principles to be carried through as part of the evaluation criteria; and
- Provide next steps for sustainability as it pertains to the secondary plan.

1.1 Purpose of this Report

The purpose of this report is to identify and summarize relevant policies and inform the development of a sustainability framework and design principles to facilitate the three key principles identified in Clarington’s Official Plan:

- Sustainability Development;
- Healthy Communities; and
- Management of Growth.

The establishment of a sustainability framework through the development of a set of themes and principles will provide the basis for the development of a healthy complete community with a strong sense of place fostered through good urban design. These principles will also inform the evaluation criteria to be used in the Phase 2 evaluation of the land use concepts and form the foundation for the Sustainability Plan to be completed in Phase 3 of the Secondary Plan Study.

This report will:

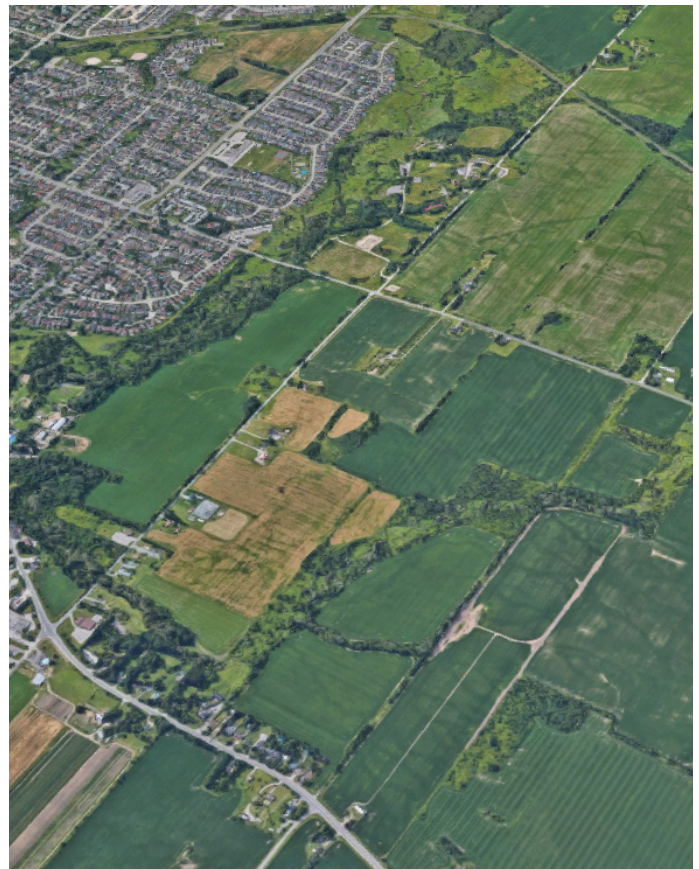


Figure 1 : The municipality of Clarington contains the best of both worlds: environmental beauty and a place to love, work and play

1.2 Context

The 193 hectare Study Area is located in the Municipality of Clarington, located on the east side of Bowmanville (Figure 2). It is generally bound by Highway 2 to the south, Lambs Road to the west, the Canadian Pacific Railway to the north and Providence Road and its unopened road allowance to the east. A mixture of agricultural fields and operations, natural areas, private residential properties, and institutional uses exist within and around the subject lands as shown on Figure 1. To the west of Lambs Road, north of Concession Street, there is a historically important site known as Camp 30, which served first as a school then as a prisoner of war camp during World War II.

As Figure 2 shows, the Study Area contains some designated Environmentally Protected Areas (EPA) to the southernmost portion of the site.

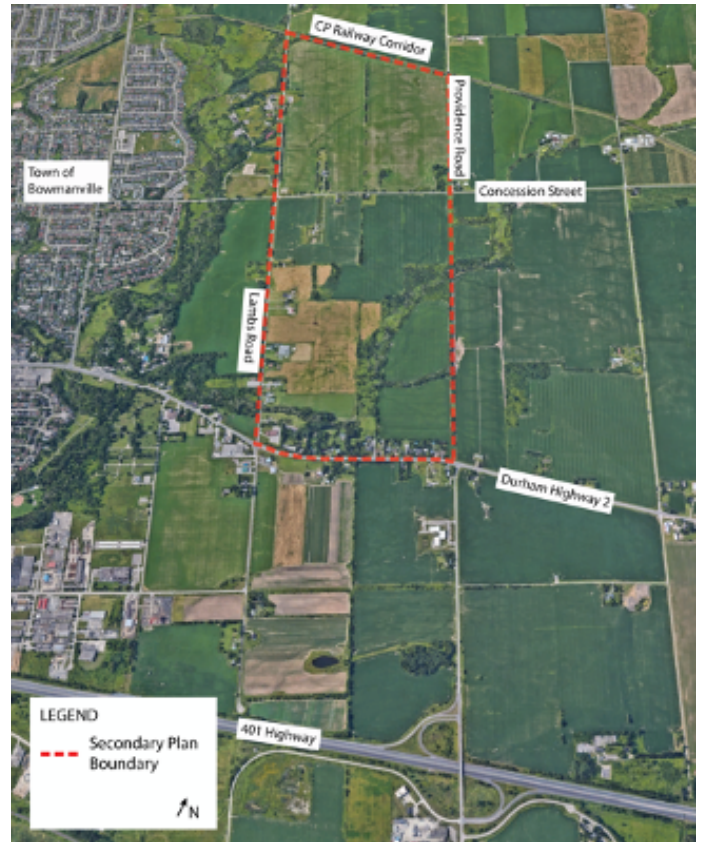


Figure 2 : Subject area and surrounding area | Source Google Earth (Base)

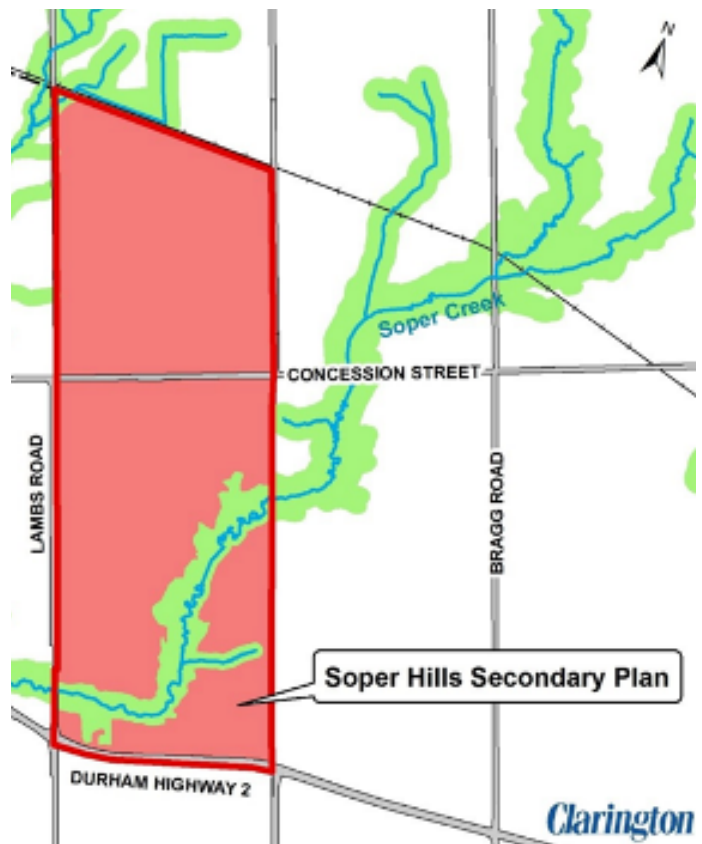


Figure 3 : Soper Hills Secondary Plan Area context | Source Municipality of Clarington

2 Sustainability Framework & Policy

2.1 Purpose of this Chapter

The purpose of this chapter is to identify and summarize relevant Provincial, Regional and Municipal policies and documents that facilitate the development of sustainability and green principles in preparation of the Secondary Plan.

2.2 Ontario's Planning Act

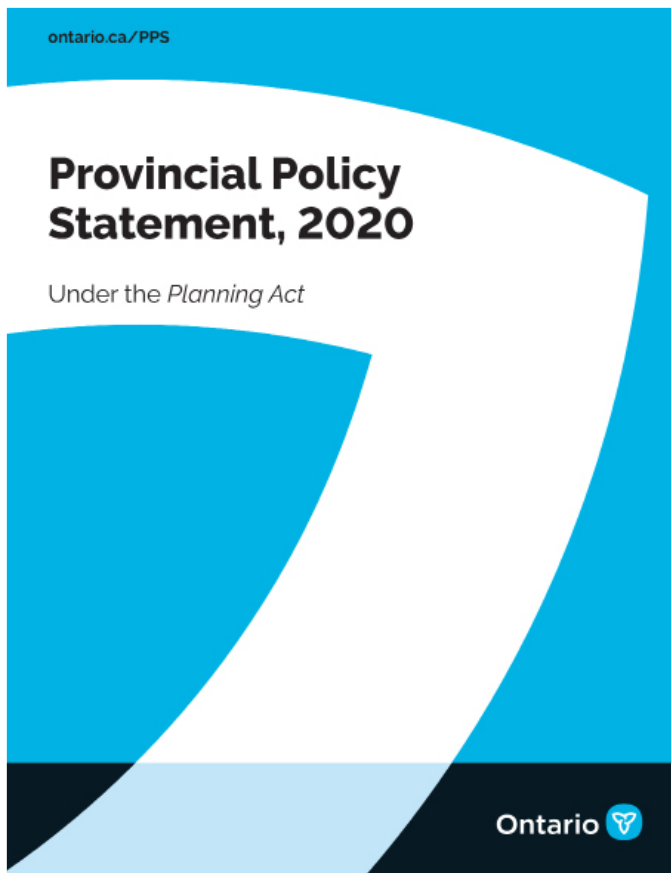
The Planning Act is a piece of provincial legislation that sets the legal framework and rules for planning in Ontario. It provides jurisdiction and power to regional and local municipalities to make decisions that impact them specifically, while directing specific Provincial land use and sustainability goals.

The purpose of the Planning Act is to:

- Promote sustainable economic development in a healthy natural environment within a provincial policy framework;
- Provide for a land use planning system led by Provincial policy;
- Integrate matters of Provincial interest into municipal planning decisions by requiring that all decisions be consistent with the Provincial Policy Statement and conform with provincial plans;
- Provide for planning processes that are fair by making them open, accessible, timely and efficient;

- Encourage co-operation and coordination among various interests; and
- Recognize the decision-making authority and accountability of municipal councils in planning.

The Planning Act grants municipalities the ability to create site plan control areas. Site plan control areas can address matters relating to “their sustainable design but only to the extent that it is a matter of exterior design.” This is contingent upon the municipality having an Official Plan and by-law in effect that both contain provisions relating to such matters. All of Clarington is designated a site plan control area through the Official Plan, which includes the necessary site plan control provisions to request exterior sustainable design features for development.



2.3 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.

2.3.1 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.

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;
- 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; and
- Provide for an appropriate mix and range of housing



2.4 Growth Plan for the Greater Golden Horseshoe (2019)

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.

2.4.1 Protecting the Environment

Section 2.2.1.4 supports climate change mitigation through compact built form as well as 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.

2.4.2 Housing

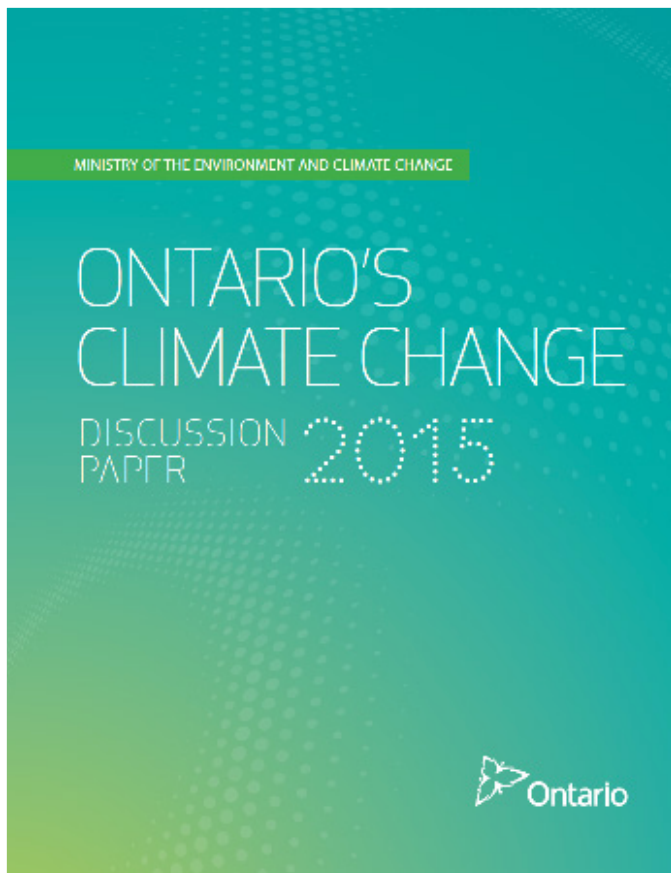
When planning for housing, the achievement of complete communities will be supported by the accommodation of forecasted growth, along with minimum intensification and density targets as outlined by the Growth Plan. Multi-unit residential developments should be encouraged to incorporate a mix of unit 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).

2.4.3 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 municipalities within Durham Region is no less than 50 combined residents and jobs per hectare (Policy 2.2.7).

2.4.4 Protecting What is Valuable

Section 4 of the Growth Plan provides policies for the protection of Water Systems, Natural Heritage Systems, Hydrologic Features, Hydrologic Areas and Natural Heritage Features. Policies within Section 4 of the Growth Plan focus on the protection, enhancement, or restoration of resources as noted Policy 4.2.1.3, and 4.2.2.2. 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”.



for the short and long term.

In looking at the causes of greenhouse gas emissions, the Discussion Paper notes that the transportation and building sectors account for 35% and 17% respectively of all greenhouse gas emissions provincially. Further, since 1990 these sectors have seen increases in emissions, whereas reductions have been demonstrated in most other sectors. In addressing the issue in the building sector, the Province is suggesting that curbing urban sprawl and creating complete communities that are healthy, walkable and transit supportive, while protecting agricultural lands, natural resources and the environment will continue to be a key initiative. Another key initiative outlined for the building sector is creating new buildings that are even more energy efficient, which harness renewable energy and use integrated energy infrastructure, such as direct energy. Municipalities are anticipated to have an increasingly important role in taking such action to address climate change, possibly with strengthened authority.

Long term goals for achieving sustainability include transforming the economy and communities to ones that are low carbon and resilient to the impacts of climate change. To achieve this, key features of transformation involve:

- Leadership and collaboration with trading partners and learning from leading jurisdictions;
- Economic growth that is based on a multi factor productivity – which means the productive use of human, natural, social, manufactured and financial capital to allow growth without carbon subsidies in order to reduce greenhouse gas

2.5 Ontario Climate Change Discussion Paper (2015)

In February 2015, the Ministry of the Environment and Climate Change released Ontario's Climate Change Discussion Paper (2015) The discussion paper aimed to engage the people, businesses and communities of Ontario in a dialogue on climate change and reducing greenhouse gas emissions, and inform the development of a Provincial climate change strategy and action plan for release later in the year.

The Climate Change Discussion Paper reviews high level provincial goals and outcomes to reduce the Province's dependence on non-renewable resources, and transition to sustainability in various sectors in Ontario. The Discussion Paper identifies how Ontario has and will address climate change mitigation measures

emissions;

- Research and innovation for the breakthroughs in science and technology that will be required;
- Managing risks of climactic changes in Ontario and improving reliance to these changes; and
- Creating well-built communities across Ontario that are strong, livable and healthy.

Short term goals include designing “climate critical” policies that allow the formal inclusion of climate change considerations in government decision making. Climate critical policy areas involve:

- Putting a price on carbon to motivate emission reductions and innovation;

- Taking action in key sectors through:
 - » Implementing the government’s conservation first policy; and,
 - » Strengthening conservation and improving efficiency in transportation, buildings, electricity, agriculture, and waste by building on existing climate-critical provincial initiatives;
- Supporting science, research and technology as drivers of economic growth; and,
- Promoting climate resilience and risk management by partnering with public or private agencies to install stormwater management features.

Overall, addressing climate change requires

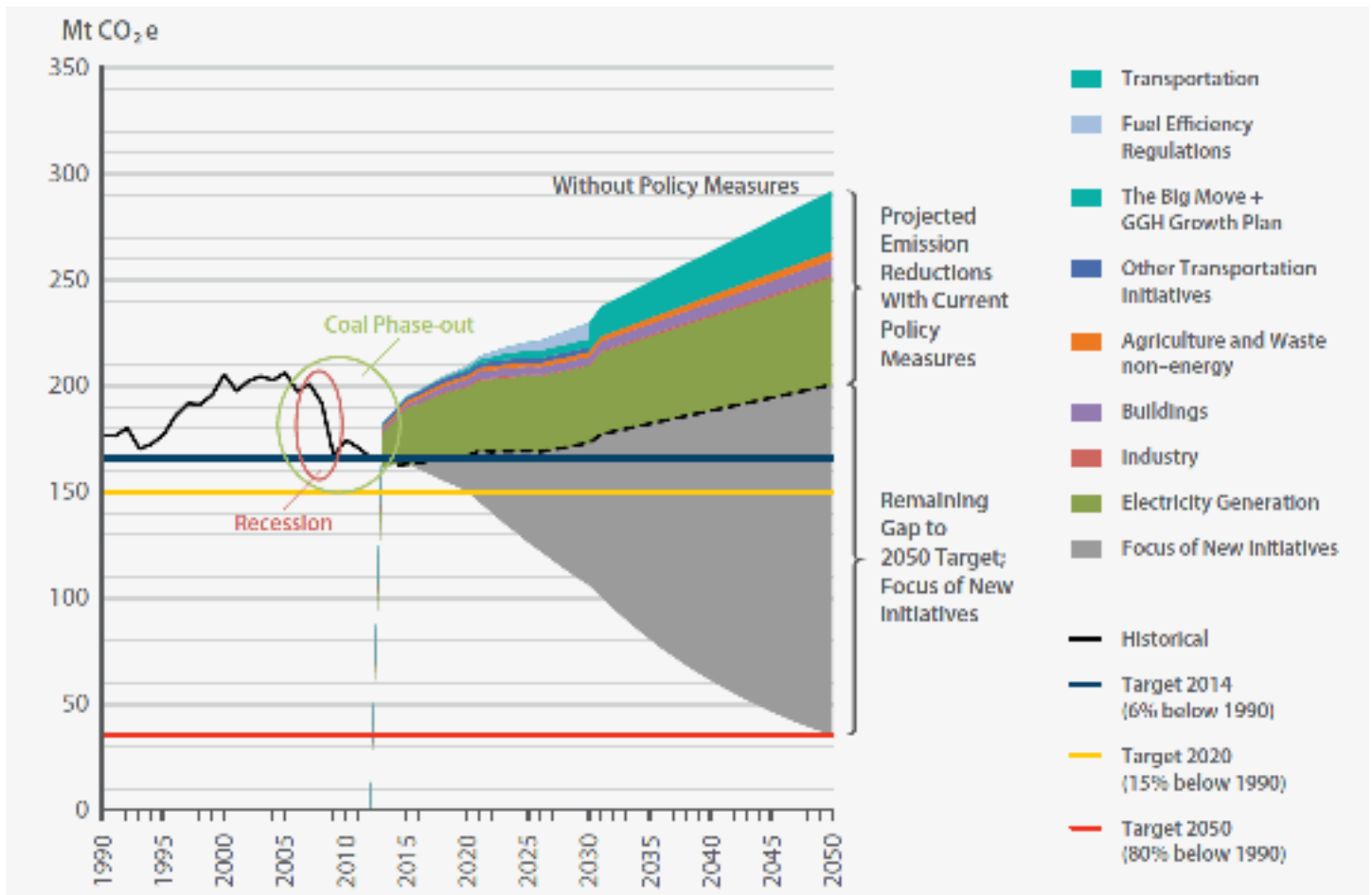


Figure 3 : Ontario's GHG emissions trajectory | Source: MOECC Ontario's Climate Change Discussion Paper (2015)

input and involvement from all sectors and all Ontarians. To influence the long term impacts of climate change mitigation measures, short term interventions must be effectively applied in order to achieve high level provincial goals to reduce greenhouse gas emissions and reduce dependence on non-renewable resources.

2.6 Clarington's Green Community Strategy (2010)

In recognition of the important role that municipalities can play in energy conservation and addressing climate change, in 2006, Council set out to prepare a Green Community Strategy for Clarington. The Living Green Community Advisory Committee (LGCAC) of Council was formed in May 2007, with a mandate to develop a strategy focused on the community's local response to the interrelations among energy, health, climate change and development. The LGCAC consulted with the public, including high school students, through surveys, focus groups, briefs and public meetings to prepare the Green Community Strategy and identify priorities for sustainable action, policy, and future investment.

Six priorities for sustainable action, sustainable policy and sustainable future investment form the foundation of the Green Community Strategy. These priorities are as follows:

- Transportation:
 - » Promoting active and healthy modes of transportation;
 - » Working in partnership with transit agencies to improve public transit by providing "discount days" during special events, integrating with Regional transit lines, and advocating for additional transit investment;
 - » Reduce traffic congestion and idling; and,
- Energy Efficiency in Existing Buildings:
 - » Exploring opportunities to facilitate low emission mobility for vehicles.
 - » Retrofitting existing municipal buildings to showcase green projects and teaching tools for the community;
 - » Amending local policy to encourage and support energy efficient upgrades to existing buildings and neighbourhoods;
 - » Encouraging green building retrofits and energy saving devices for homes and businesses; and,
 - » Partnering with Local Distribution Companies to offer public seminars and information packages.
- Energy Efficiency in New Developments:
 - » Encouraging the Municipality to consult with the development industry, to create and adopt a Green Building Code for new developments based on the highest accepted industry standards;
 - » Encouraging the Municipality to provide priority permitting for green buildings that exceed industry standards;
 - » Encouraging the Municipality to review existing Municipal policies and bylaws that apply to new developments and identify opportunities for green focused amendments; and,
 - » Investigate the possibility of an alternative energy saving streetlight project.
- Zero Waste:
 - » Working with Durham Region to develop tools to encourage and evaluate responsible waste management;
 - » Promoting programs that encourage a culture of zero waste;

- » Advocating for waste reduction laws and policies at Provincial and Federal government levels;
 - » Implementing policies that require reusable, recyclable or compostable packaging and other similar items at all public facilities including schools and at all municipally sanctioned events; and,
 - » Continuing to work with Regional and Provincial pilot projects and increase communication regarding the programs.
- Thriving Green Economy
 - » Creating a green economic development strategy;
 - » Helping businesses go green and attract existing green businesses to locate in Clarington by partnering with the Clarington Board of trade and business community;
 - » Creating green jobs by partnering with all levels of the business sector;
 - » Educate residents about Clarington’s green economy; and,
 - » Investing in programs and improvements that will allow and encourage residents to shop locally.
 - Healthy Natural Environment
 - » Supporting the public health and environmental benefits of locally grown foods;
 - » Improving air quality by reducing pollutants and greenhouse gas emissions;
 - » Encouraging the planting of native species for a healthy natural environment;
 - » Every year, identifying one product, chemical or compound that is used within the Municipality that represents the greatest risk to human health and reduce or eliminate its use by the

Municipal government; and,

- » Preserving surface water and groundwater resources through water stewardship practices to reduce the opportunities for pollutants to enter our ecosystem.

Overall, the intention of these six priorities are to inform an Official Plan review and be implemented into municipal policy. These identified priorities are high level goals that should be considered for the development of Clarington over the long and short term.

2.7 It’s All Connected: Actions to foster a Community-Wide Culture of Sustainability in Clarington (2014)

The purpose of the Its All Connected report is to provide, advice to Council and Clarington community organizations on actions that will foster a community-wide culture of sustainability in Clarington. This report is written under the guidance of the Sustainable Clarington Community Advisory Committee.

The culture of sustainability involves a balance



Figure 4 : Community garden in Bowmanville | Source: BCO

between social, economic and environmental sustainability that allows all three sectors to flourish and ensure sustainable growth for the long term.

In consultation with members of the public, the Committee concluded that existing sustainability efforts are commendable and the challenge is to further optimize these efforts.

Numerous priority actions and additional recommendations put forward by the committee over the course of their term could potentially be supported by the establishment of a green development framework for Clarington, such as:

- Encouraging housing diversity, supporting affordability and aging in place;
- Promoting active and healthy modes of transportation;
- Accessible and integrated trail system and linkages within and between community areas;
- Provision of bicycle parking in new multi-residential development;
- Protection and enhancement of natural green space;
- Encouraging energy and water efficient buildings and neighbourhoods;
- Fostering new community gardens; and
- Acceleration of the review and approval process for green development; and

Enhanced education and communication relating to sustainable development principles and practices and available incentive programs.

Overall, a culture of sustainability can be established through education, collaboration, and implementation of green initiatives that can be

further used as teaching tools for all who live and work in Clarington. By establishing a conservation culture, residents, stakeholders, and developers can be more empowered to make decisions that reduce negative impacts to the environment while allowing economic and social sustainability to thrive.

2.8 Strategic Plan of Council (2019-2022)

Clarington's Council developed a Strategic Plan to guide the Municipality and set out its vision for the 2019 - 2022 term. The purpose of this plan was to provide strategic priorities for Council and staff to determine the best way to provide services and help the community thrive.

The Strategic Plan identified 5 priorities including engaging with the community; establishing a strong economy by exploring an economic development strategy and expanding the transportation network; developing an affordable housing policy; facilitating legacy projects such as the Port Darlington Waterfront or making a decision on Camp 30; and advancing waste reduction initiatives by promoting the four Rs: Refuse, Reduce, Reuse and Recycle.

The previous Strategic Plan for the 2015 – 2018 term identified 6 Strategic Priorities including facilitate the creation of jobs, attraction of new businesses and expansion of existing businesses; ensuring and demonstrating good governance and value for the tax dollar; managing growth to maintain the "small town" feel; enabling safe, efficient traffic flow and active transportation; promoting resident's engagement in our community and enhancing access to our unique natural environment.



2.9 Clarington Official Plan - 2018

Key Principles of the Clarington Official Plan

The Clarington Official Plan (COP) was prepared in recognition of three key principles which provide the high level direction for policy development in the COP: sustainable development, healthy communities and growth management. The principles are summarized below.

i. Sustainable Development

The future development of Clarington will be pursued in a manner that ensures that current needs are met without compromising the ability of future generations to meet their own needs. This involves considering the impacts of reduced air quality, preservation of environmentally significant

areas, consideration of the interconnectedness of environmental systems, reducing energy and water consumption for new developments, and development of high quality buildings that consider sense of place and resiliency in their design.

ii. Healthy Communities

Healthy communities nurture the health and well-being of residents to provide a high quality of life. Central principles to create healthy communities involve the provision of places to live, work and play in the community, encouraging active transportation, designing for all ages and abilities, fostering a sense of place and identity through urban design, involving members of the public in the development process, supporting arts and culture, and providing a diversity of housing types and densities for people of all income levels.

iii. Management of Growth

Smart Growth recognizes the importance of pursuing the principles of sustainable development and healthy communities through the land development process. This involves protecting key environmental features, firmly defining settlement boundaries to not encroach on prime agricultural land, designing with a compact urban form, balancing greenfield development with infill and intensification, providing jobs in close proximity of residential areas, phasing development, prioritizing infrastructure projects in built up areas, and integrating transportation and land use to provide efficient movement of people and modal choice.

The Clarington Official Plan (COP) guides the development of sustainable communities. The COP also provides policy direction on development adjacent to Open Space Systems.

As Figure 2 shows, a large portion of the Study Area is comprised of EPA and Community Park (Open Space).

2.9.1 Sustainable Communities

Section 5 of the COP, Creating Vibrant and Sustainable Urban Places, sets out a number of policies relevant to sustainable design. 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 (Policy 5.4.2). Policies also include developing neighborhoods that 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 (Policy 5.4.3).

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



Figure 6 : Soper Springs is surrounded by protected green space | Source: Google

2.9.2 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. Open Space under the COP is defined as areas consisting of EPAs, Natural Core Areas, Natural Linkage Areas, the Waterfront Greenway and Green Space.

As shown on Figure 2, the Soper Springs Study Area is largely made up of water features and designated EPA which is part of a larger open space system. The COP states that generally development within the Open Space System is discouraged (Policy 14.3.2).

The COP states the EPA designation will include a 30-metre vegetation protection zone, and provides direction where development shall be permitted within the EPA:

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

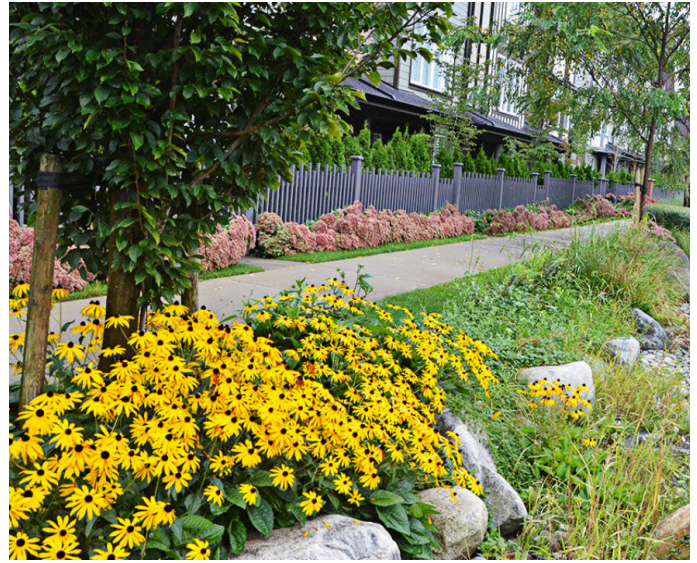


Figure 7 : Bioswales, green roofs and rain gardens are low impact development features that reduce runoff

2.10 Durham Community Climate Adaptation Plan (2016)

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 Climate Adaptation Plan provides climate change resiliency measures, broken down into six infrastructure "sector" objectives: buildings, flooding (urban flooding infrastructure), human health, roads, natural environment, and food security as 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.

2.11 Priority Green: Green Development Framework and Implementation Plan (2015)

The Priority Green Clarington initiative provides a green framework and implementation plan for future development. The document sets out a strong vision for growth in Clarington prioritizing sustainability, innovation, and improved air quality. Supporting the plan, the Priority Green initiative outlines a variety of strategies including but not limited to protecting and enhancing natural heritage and open spaces, optimizing opportunities for infill, creating accessible spaces, and the integration of green infrastructure.

2.12 Municipality of Clarington Green Development Standards (2015)

The Green Development Standards, Guidelines and Incentives (GDSGI) report presents an implementation framework for the incorporation of sustainable practices in the residential land development process for the Town of Clarington. The GDSGI report was prepared as part of the Priority Green Clarington initiative, and presents existing provincial, regional and local policy guiding the implementation of sustainable design in Clarington, an overview of existing green building and site programs such as EnergyStar®

and LEED®, a review of municipal best practices, and lastly an overview of strategies for promoting green development in Clarington.

The background policy overview shows that the creation of green developments are matters of provincial interest under the Planning Act and Provincial Policy Statement. Green development involves the supply, efficient use and conservation of energy and water, and the promotion of development that is designed to be sustainable, transit supportive and oriented to pedestrians. Regional and

The use of established green standards such as EnergyStar® or LEED® is beneficial for implementing green standards that are recognized by developers, and the public. As these standards are already well established in land use development, it requires limited involvement from the municipality for ensuring conformity. Disadvantages of using these certifications, however, include the additional time and money required by the developer to meet certification standards. Additionally, these certifications only apply to the built form, and offer limited guidance on the implementation of green standards for entire communities.

A review of best practices found the following green and sustainability standard implementation methods for the Town of East Gwillimbury, Cities of Brampton and Vaughan and the Town of Richmond Hill (joint initiative), Town of Halton Hills, City of Toronto, City of Mississauga, City of Pickering, Town of Whitchurch-Stouffville, Town of Oakville, Markham Centre, Town of Caledon, Township of Scugog, City of Kitchener, and City of Burlington. Common approaches for implementing green standards include the use of standard (EnergyStar® or LEED®)

or municipal checklists, grant programs, development charge discounts based on level of LEED® implementation, and the provision of an expedited development application approval process.

Based on the information gathered from the background policy and best practice review, the Town of Clarington may choose to implement sustainability standards through offering incentives, education, and public sector leadership:

- Incentive programs may include reduction of development charges, reduction of planning application fees, expedition of processing time for applications, increase in height / density under Section 37 benefits, reduction of cash-in-lieu for parkland, and more;
- Education programs may include the provision of online resources or seminars for industry stakeholders, and educating residents through trade shows, seminars, or green home building tours; and,
- Public sector leadership may include the review of Green Development Standards at all pre-consultation meetings, requirement of green standards checklist as part of a complete application, and inclusion of highly visible components such as green roofs or at grade landscaping with information signs to provide additional information and education, and retrofit of municipal building and facilities to implement green standards.

standards for buildings. They are also supportive of creating walkable communities that are in close proximity to parks, open spaces and natural areas. The municipality should consider the implementation of standards checklists, similar to EnergyStar® or LEED® for Clarington to establish a standardized implementation of sustainable design that is straightforward for developers and reflects the vision of the municipality.

Overall, Clarington residents are in support of the implementation of sustainability and green

3 Sustainability Themes

3.1 Purpose of this chapter

The purpose of this chapter is to identify the themes that will be used to establish urban design and sustainability principles for the preparation of the Secondary Plan. These themes coordinate with 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.

3.2 Themes

Section 2 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 (UDSP). Just as sustainability is woven throughout the COP, the UDSP 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 themes 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 sustainability themes inform the specific principles detailed in Section 4 for Soper Springs.

3.2.1 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 provision of safe, walkable streets and trails, a variety of housing types, and implementation of age friendly design throughout the community.

3.2.2 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.

3.2.3 Natural Environment

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.

3.2.4 Infrastructure and Sustainability

Infrastructure and buildings have an influence on our environment and can positively shape spaces. Sustainable infrastructure includes stormwater management ponds, low impact development (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, low-impact development (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

4 Urban Design & Sustainability Principles

4.1 Purpose of this Chapter

The purpose of this chapter is to propose specific sustainable design principles that will guide the development of the Soper Springs community. Based on the themes: built form; mobility; natural environment and open space; and infrastructure and buildings identified in Section 3, the following principles have been developed.



BUILT ENVIRONMENT



4.1.1 BUILT ENVIRONMENT

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 establishment of compact and walkable communities can be achieved in Soper Hills 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 for Regional Corridors and Neighbourhood Centres with higher density housing

Principle: to create residential areas designed to be within 800 metres walking distance of at least 3 of the following: 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

4.1.2 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 Hills community may be designed to include a mix of medium and higher density housing particularly within the Regional

Corridor.

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

Principle: to ensure the type and variety of housing minimizes sprawl and helps to protect natural features

4.1.3 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 Hills community can establish a sense of place by creating a unique Neighbourhood Centre and integrating cultural heritage features into the overall design of the community. Built form can also include landmark buildings, gateway features, public art or opportunities for uses like community gardens to guide the character of the community.

Principle: to create a unique Neighbourhood Centre that creates a unique sense of place while respecting adjacent residential neighbourhoods

Principle: to create landmark or gateway buildings or incorporate cultural heritage features that add to the character of the community

Principle: to encourage community gardens as part of or adjacent to multi-family developments

Principle: to enhance a sense of place by preserving views to natural features and the creek through the design of streets and trails

4.1.4 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 Hills 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.



4.1.2.1 Active Transportation

Car pollution contributes significantly to climate change. Cars release carbon dioxide, which is 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 encourage walking and cycling and improve overall health for the residents and community. A successful active transportation network is facilitated by a mix of uses located within nodes 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 trail system that minimize 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



4.1.3 Natural Environment and Open Space

4.1.3.1 Preserve and enhance the Environmental Protected Area (EPA)

A significant feature within the Study Area is the designated EPA (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 Plan is achieved

4.1.3.2 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 provide a connected parks and open space system 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



4.1.4 Infrastructure and Buildings

4.1.4.1 Stormwater Management

Stormwater management

techniques and low impact development (LID) features will be implemented that utilize natural drainage patterns to minimize the risk of flooding and protect significant environmental features. 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 community gardens as part of or adjacent to multi-family developments

4.1.4.2 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 checklists 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

4.1.4.3 Sustainable Built Form

The construction of buildings is a main contributor to pollution. The construction process contributes a large amount of the greenhouse gas emissions to the environment. 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

4.2 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 2, and sustainability and urban design themes as outlined in Section 3 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 	

5 Green Development Checklist

Priority green recommends the development of a checklist as part of the preparation of a secondary plan. As part of Phase 3, the Sustainability Plan will confirm what is needed to evaluate the preparation of the Soper Hills Secondary Plan.

6 Key Take Aways and Next Steps

Key take aways and recommendations will be prepared in phase 3 as part of the final Sustainability Plan. The next steps in the study will be the preparation of land use concepts. The principles included as part of this report will inform the development of the land use concepts as well as the criteria needed to evaluate the different concepts.