FAREWELL HEIGHTS
MUNICIPALITY OF CLARINGTON

Phase 1 sustainability + urban design report

April 2024
REV November 2024

Prepared for: Municipality of Clarington

Prepared by: The Planning Partnership

April 2024

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Table of Contents


Tooley Road
Prince Rupert Dr
Trulls Road
Pebblestone Road
Timberlane Crt
Sherry Ln
FAREWELL HEIGHTS
Tooley Road
Adelaide Avenue
George Reynolds Dr
Trulls Road
Firwood Ave

1 INTRODUCTION

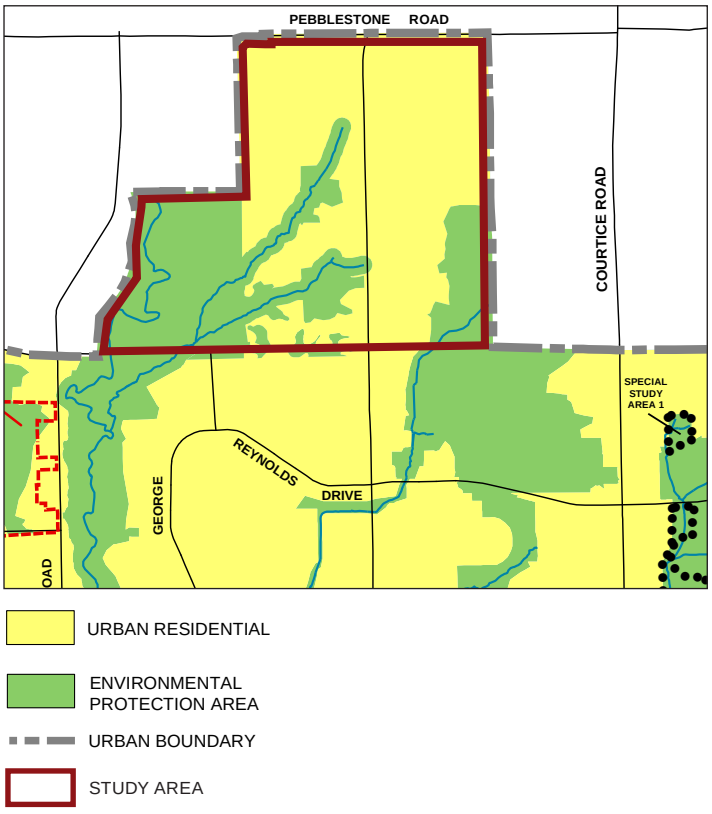
1.1 Context and Purpose of the Document

Context

The 107 hectare Farewell Heights Study Area is located in the Municipality of Clarington, at the north portion of Courtice. It is generally bound by Pebblestone Road to the north, Tooley Road and existing residential along Timberlane Court the west, Adelaide Avenue to the south, and natural features to the east.

The Study Area is comprised of a variety of uses including agricultural land, private residential properties, commercial (Witzke's Greenhouse and Lu's Nursery), and natural features, such as wetlands, woodlots and the Farewell Creek.

A large portion of lands within the Farewell Heights Secondary Plan boundary are designated as "Environmental Protection Area" (EPA) with the remainder designated as "Urban Residential" in the Clarington Official Plan (2018).



Purpose

The purpose of this report is to identify and assess sustainable development principles and practices, as well as describe the vision, principles, and urban design intent for the Farewell Heights Secondary Plan Area. This report will form the basis for the development of the Sustainability and Urban Design principles for Farewell Heights, as well as the foundation for the development of the Urban Design and Sustainability Guidelines that will form an appendix to the Secondary Plan.

This report addresses two guiding priorities for Secondary Plans:

- Sustainability and Climate Change; and,
- Urban Design.

The initiatives outlined within this report are components of a healthy, complete, and sustainable community that will work together to support the vision, principles, and objectives for the secondary plan.

This report is organized under two Parts:

PART I SUSTAINABILITY – discussion of the need for sustainable communities, climate change and resilience, review of provincial, regional and municipal policies and documents and establish a set of sustainable initiatives and principles for policy and guideline development.

PART II URBAN DESIGN – identification of urban design policies from the Official Plan and requirements from Priority Green, an overview of the existing context and proposed community design intent, urban design opportunities, and key urban design principles

The discussion from these two sections will lead to the identification of key **SUSTAINABILITY AND URBAN DESIGN PRINCIPLES** that will be used to guide the preparation of the secondary plan and the urban design and sustainability guidelines.

2 SUSTAINABILITY

2.1 Need for Sustainable Communities

Sustainability

Sustainability has become an issue of ever increasing importance due to, and not limited to, climate change, rising greenhouse gas emissions, aging population, resource depletion, and increasing public health challenges all related to the way in which we interact with our built and natural environments. The current pattern of development in many municipalities is placing a strain on the natural environment and the health of residents. The evidence of the linkage between improvements to both sustainability and public health through meaningful interventions in community design has made significant progress in recent years. The nature and shape of development needs to change to respond to these limits if we are to achieve any meaningful sustainable measures.

Greenhouse Gas Emissions

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

According to The Atmospheric Fund (TAF) **Carbon Emissions Inventory Report** (2023), the largest GHG emissions in Durham Region in 2022 were from transportation and buildings.

Sector	% Breakdown
Transportation	37%
Buildings	31%
Industry	25%
Agriculture	3%
Waste	3%

The reduction of GHG emissions is a priority issue that needs to be implemented in all municipal documents and directives. A well-rounded approach incorporates climate change mitigation strategies that are focused on reducing GHG emissions by promoting multi-modal transportation systems, creating mixed use and compact urban structures, maximizing opportunities for energy efficiency, and ensuring the preservation of green spaces and tree canopy.

Becoming resilient to changing weather patterns and extreme weather events also requires a multi-faceted approach that addresses integrated stormwater management, green infrastructure, energy supply and distribution, and precautionary land use planning.

Public Health

Public health and land use planning are intrinsically linked. Bringing to the forefront a number of increasing public health challenges related to the way in which we interact with our built and natural environments is essential. Built environments that encourage physical activity can in fact reduce the incidence of diseases such as obesity, cardiovascular disease, diabetes, asthma and respiratory disease and contribute to better overall public health. It is essential that the goal of creating livable communities that focus of public health, climate change, and the built environment be at the forefront of all policy documents.

While various planning, urban design, and sustainable policies and principles share a common intent and are applicable in a broad range of conditions, the means by which they are applied can vary significantly with the local context.

3 POLICY FRAMEWORK

3.1 Provincial Policy

The Planning Act

Municipalities, in carrying out their responsibilities under the Planning Act, must have regard to matters of provincial interest. The Planning Act provides a framework and legislative authority for municipalities to engage in land-use planning by creating Official Plans, Zoning By-laws, and Community Improvement Plans. Section 2 of the Planning Act sets out interests, which include

- The conservation of natural resources;
- The supply, efficient use, and conservation of energy and water;
- The minimization of waste;
- The orderly development of safe and healthy communities;
- The promotion of development that is designed to be sustainable, to support public transit and to be oriented to pedestrians; and,
- The mitigation of greenhouse gas emissions and adaptation to a changing climate.

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. The Clarington Official Plan designates all of Clarington as a site plan control area, which includes the necessary site plan control provisions to request exterior sustainable design features for development.

The Municipal Act

The Municipal Act, 2001 (Municipal Act) is the primary piece of legislation that sets out the roles and responsibilities of Ontario's municipal governments. The Municipal Act allows municipalities to pass by-laws with respect to the economic, social, and environmental well-being of the municipality which includes actions to address climate change. For example, section 11(2) of the Municipal Act provides the ability for a municipality to pass by-laws respecting various matters, including to address climate change and environmental well-being, and the health, safety and well-being of community members.

11 (2) A lower-tier municipality and an upper-tier municipality may pass by-laws, subject to the rules set out in subsection (4), respecting the following matters:
[...]
5. Economic, social and environmental well-being of the municipality, including respecting climate change.

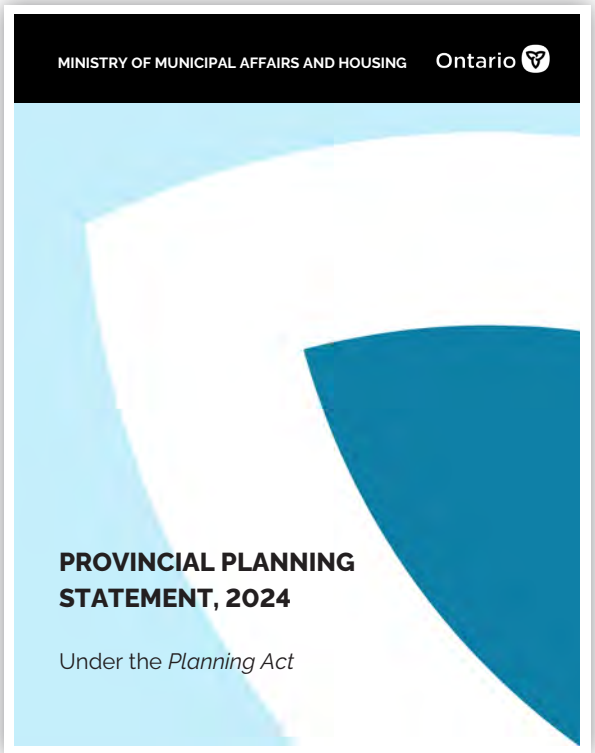
6. Health, safety and well-being of persons.

[...]

Section 97.1 (3) of the Municipal Act authorizes municipalities the power to require the construction of green roofs or alternative roof surfaces that achieve similar levels of performance to green roofs. Section 147 (1) and (2) allows municipalities to participate in long-term energy planning their municipality, which may include consideration of energy conservation, climate change, and green energy.

Provincial Planning Statement, 2024

The Provincial Planning Statement (PPS) is issued under the authority of the *Planning Act* and came into effect on October 20, 2024. The PPS is a single, province-wide land use planning policy framework that replaces both the Provincial Policy Statement 2020 and A Place to Grow: Growth Plan for the Greater Golden Horseshoe (Growth Plan).



Complete Communities

An overarching theme of the PPS is the promotion of complete communities, housing options, and the careful coordination and management of land uses to accommodate appropriate development to meet the full range of current and future needs of the community, while achieving cost effective development patterns.

Section 2.2 of the PPS requires the provision of an appropriate range and mix of housing options and densities that meet the needs of current and future residents through minimum targets to provide for housing that is affordable, facilitating all types of residential

Energy Conservation, Air Quality and Climate Change

Section 2.9 of the PPS speaks to supporting energy conservation and efficiency, improving air quality, reducing greenhouse gas emissions, and preparing for climate change. Planning authorities can generally achieve this through land use and development patterns that promote compact, transit-supportive, and complete communities, green infrastructure, and low impact development. Section 3.8 supports the opportunity for energy supply through district energy and renewable and alternative energy systems.

Infrastructure and Facilities

Section 3.6 promotes the use of existing municipal services to accommodate forecasted growth. Further, under 3.6.8 planning for stormwater management shall minimize erosion and changes in water balance through green infrastructure, maximize vegetative and pervious surfaces, and promote stormwater management best practices including attenuation and reuse, water conservation and efficiency, and low impact development.

3.2 Region of Durham

Envision Durham, Region of Durham Official Plan, 2023

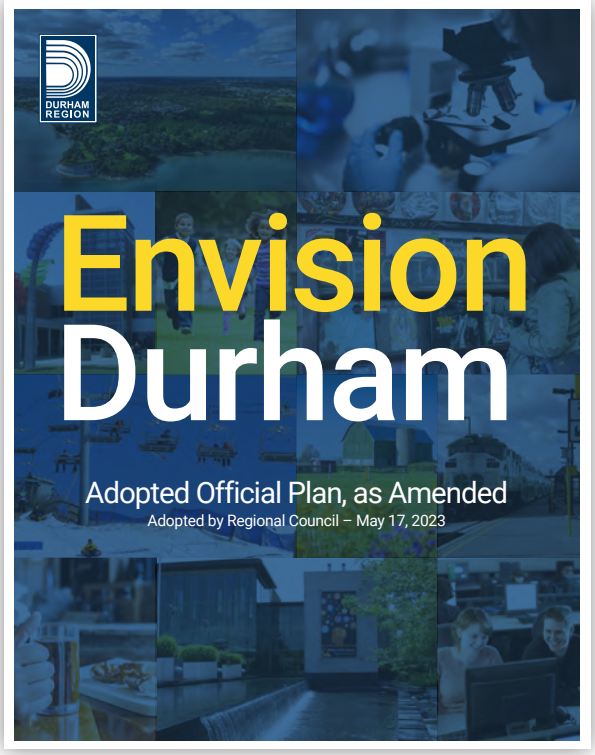
The Region of Durham Official Plan, Envision Durham (Official Plan) was adopted by Regional Council in 2023. On Sept.3, 2024 the Minister of Municipal Affairs and Housing approved Envision Durham, in part, with modifications. The Official Plan envisions Durham's growth and development for 1.3 million residents and 460,000 jobs by 2051. The policies of the Official Plan that will provide direction for the sustainable development of Farewell Heights include:

- Accommodating the needs of an aging, growing, and diverse population;
- Meeting obligations to address the impacts of a changing climate and to protect the natural environment;
- Satisfying a growing demand for sustainable alternatives to the personal vehicle for mobility, such as active transportation and public transit options; and
- Using land efficiently, optimizing services and infrastructure, and focusing efforts on intensification within existing communities.

Official Plan policies under Chapter 3 Healthy Communities prioritize complete, healthy, well-designed, and resilient communities. The goals include a range of housing options including affordable and special needs; low carbon and climate-resilient built and natural environments; complete communities with sufficient community services to improve quality of life and enhance health and well-being; and recognize the diversity of the Region's population.

Housing Options

The Region supports a diverse mix of housing options appropriate for residents at various stages in their life cycle and ability, including additional residential units, special needs, senior's, and rental housing. It is the policy of the Region to require municipalities to adopt policies to permit additional residential units, require at least 25% of all new residential units throughout the region to be affordable to low and moderate income households (3.1.20), promote affordable housing in well-served areas and support aging in place for older adults; and prioritize a balance between rental and ownership.



Climate Change and Sustainability

Under Policy 3.2.3 reducing GHG emissions, improving air quality, encouraging sustainability, and mitigating impacts of a changing climate is supported through measures such as green infrastructure and low impact development, tree-planting, energy efficient construction and green building design, renewable energy, climate-resilient infrastructure, and community design that promotes walkability, public transit, and reduced vehicle use.

Policy 3.2.9 states that it is the Region's policy to promote a range of sustainable and green design standards, including:

- drought-tolerant open spaces that maximize infiltration;
- green infrastructure and low impact development;
- planting native or non-invasive plant species; and,
- incorporating biophilic design concepts.

The Region further supports resilient development through orienting and designing buildings to maximize solar access, passive building design, bird friendly building design, and green or cool roofs to reduce urban heat island effect (3.2.10).

Planted areas along the sidewalk assist with absorbing stormwater runoff.

For new development, the Region encourages electric vehicle charging stations, renewable energy sources, net or near -zero ready, bicycle parking and storage, and water conservation and reuse through greywater systems, rain barrels, and drought-tolerant native plantings and trees (3.2.11).

Nature-Based Solutions

Further increasing resiliency and adaptation to the effects of climate change are the use of nature-based solutions. The Region encourages solutions that include tree planting, preserving tree canopies, protecting and restoring wetlands, using native species, invasive species management, and urban agriculture. It is a policy of the Region to increase regional tree canopy cover through planting strategies, restoration programs, and use of drought-tolerant native tree species along road allowances (3.2.22).

Complete Communities

To support the development of healthy, sustainable, and complete communities the Region requires area municipal secondary plans to plan for a range of housing options, community hubs, universal design, energy efficiency including alternate and renewable energy models, accessible parks and open spaces within 500 metres of all residents, and climate resilient development that reduces the urban heat island effect (3.3.2).

Further, under Policy 3.3.4, secondary plans are required to include policies that ensure high quality and sustainable urban design, sufficient, publicly accessible greenspace and parks, an attractive public realm, reduced parking, and a grid pattern of streets that balances the needs and priorities of the various users.

Stormwater Management

To reduce the risk of flooding and the strain of stormwater infrastructure, the Region encourages low impact development such as green roofs, permeable pavement and permeable surfaces, rainwater harvesting, infiltration facilities and vegetated swales, bioretention, and natural landscapes (4.1.18).

Environmental Stewardship

The Region supports environmental stewardship to restore and enhance the natural environment. Policy 7.7.5 states that the Region will work with area municipalities, Indigenous communities, conservation authorities, the province, school boards, post-secondary institutions, and other stakeholders to provide education to support environmental stewardship. Stewardship opportunities include urban agriculture, waste management, invasive species management, low impact development and design, habitat protection, and low carbon lifestyles.

Complete Street and Active Transportation

The Region supports a complete streets approach to the design of roads to accommodate all modes of transportation and to ensure that the design of roads is appropriate for their intended role and function.

Active transportation networks such as pedestrian and cycling facilities should be direct, comfortable, attractive, and convenient to reduce reliance on automobiles and single-occupant vehicles, and to support access to transit.

Towards Resilience: Durham Community Climate Adaptation Plan, 2016

The Region has a number of initiatives and strategies (18 proposed programs) set forth under **Towards Resilience: Durham Community Climate Adaptation Plan** (Climate Adaptation Plan), which is the Region's plan to prepare the region for climate change and extreme weather.

The Climate Adaptation Plan provides climate change resiliency measures, broken down into sector objectives:

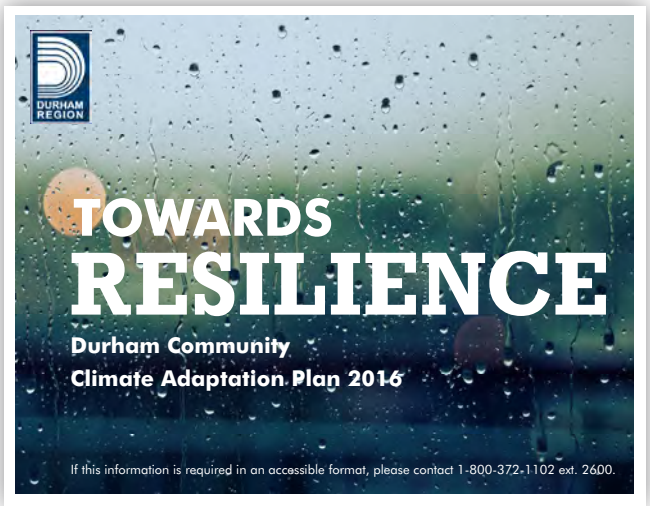
1. Buildings,
2. Flooding,
3. Human Health,
4. Roads,
5. Natural Environment;
6. Food Security (addendum to the Climate Action Pan)

One of the main points is that Durham's infrastructure (roads, bridges, stormwater systems, water supply and sewage treatment systems, buildings, energy supply systems, communication networks) were built in the period 1950 to 2000. This infrastructure was designed and built to be resilient to the climate of this period. This climate no longer exists and steps need to be taken to ensure that upgrades and new development are built to the requirements of this changing environment.

The objective of the building sector is to improve the resilience of new buildings to future climate conditions. **Durham Climate Resilience Standards** for low-rise residential and high-rise residential, industrial, commercial, and institutional buildings, identifies climate resilience features for all new buildings in Durham constructed after 2020. The Standard is a very comprehensive document and is a useful climate resilience reference for area municipalities. .

The flooding sector objective seeks to reduce the severity and frequency of urban flooding, which involves the implementation of adaptation actions such as LID techniques, green infrastructure and methods to help reduce the impervious surfaces of lands.

The human health sector objective is to reduce ambient summer temperatures in urban areas in order to reduce heat stress. The Region has undertaken a study that looked

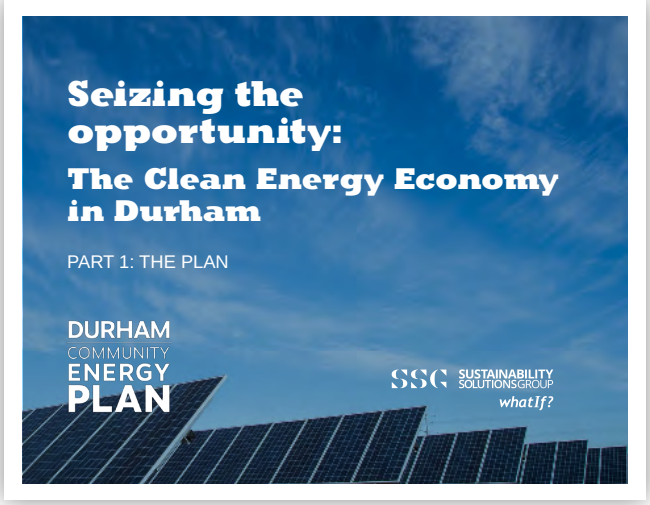


at urban heat islands and its effects in the Region. The report is called **Keeping Our Cool: Managing Urban Heat Islands in Durham**. Urban heat island effects are intensified by land use and development decisions, as well as and climate change. The report examined heat island mapping in each of the 8 municipalities in the Region and the context of risks and concerns for Durham Region. Several measures were identified to reduce the effect of urban heat islands and include: planting trees and urban greening; cool and green roofs, reflective surfaces; and increasing energy efficiency in appliances and equipment.

An objective of the roads sector is to improve the performances of roads under extreme heat conditions through using resilient asphalt, 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 objective of the natural environment sector is to achieve climate change resilience in the natural environment. Conservation practices should protect, enhance and restore the health/resiliency of the natural environment with actions such as tree and shrub planting; forest management; sensitive habitat creation and restoration; and riparian and in-stream habitat creation and construction. Green infrastructure should be incorporated to protect, enhance, and restore the natural environment through the implementation of green roofs, rain gardens, permeable groundcovers, and bioswales.

The food security sector overview was provided in an addendum to the Durham Community Climate Adaptation Plan entitled **A Summary of Durham Region's Food Security Task Force: Inspiring Next Steps**. The report discussed the impact of climate change on food security, such as higher temperatures year-round, more extreme heat waves, increases in one-day maximum rainfall especially in the summer, more intense rainstorms, and more risk of tornadoes. Durham Region Public Health (2019) reports that 14% of households (or 66,100 residents) in Durham Region are food insecure, meaning inadequate or insecure access to food because of financial constraints. Considerations identified include designing for urban agriculture opportunities, , designing to avoid food deserts, rooftop gardens, community led agriculture and gardening.



The Durham Community Energy Plan, 2018

Durham Region created the **Durham Community Energy Plan** (DCEP) in association with all 8 local municipalities, utilities, and the regional government of Durham. The objective of the Report is to "accelerate the transition to a clean energy economy in Durham while simultaneously achieving multiple economic, environmental and social benefits".

The DCEP highlights Energy Use by Sector in the Region with the largest emissions coming from transportation and buildings. The report also discusses how the Region is going to reduce energy and GHG emissions by the year 2050 across all sectors. Six programs are outlined including the development of a Durham Green Standard that would use the Toronto Green Stand (TGS) as a model program for adaptation for Durham, supporting electric vehicles, and embedding land use policies into Official Plans and Secondary Plans that enable or directly conserve energy and reduce GHG emissions.

Durham Region's community GHG emissions reduction supports the Low Carbon Pathway and target reducing annual GHG emission by 30% over 2019 levels by 2030 and to achieve net-zero by 2050.

Guide to Conducting a Climate Change Analysis at the Local Scale: Lessons Learned from Durham Region, 2020

As of August 2021, the Ontario Climate Consortium (OCC) transitioned into a Toronto and Region Conservation Authority (TRCA) climate change program.

In 2018, the Region of Durham hired the Ontario Climate Consortium to develop a report examining how climate change considerations were being integrated into natural environment-related policies and plans. An exercise was undertaken to update the Region's climate modeling to current climate projections to include both Global and Regional Climate Models. These updated climate projections were used to inform future updates to policies and plans.

The preparation of this guidance document was to provide municipalities within Durham, as well as other Greenbelt municipalities with an opportunity to undertake their own climate modeling exercises, to improve consistency in the climate modeling approach used across Ontario municipalities.

The climate modeling analysis demonstrated that Durham Region will experience a warmer and wetter climate, with a longer growing season, more variable weather patterns, and higher intensity storms with greater amounts of precipitation in all seasons. This may impose threats to the health of communities, natural systems, infrastructure, agriculture, economy, and services within the region. The study results were interpreted for the short (now until 2040), medium (2050's), and long term (2080's). The Climate Trends for the Region as a whole are found on following page.

A comparison was provided for all of the local municipalities across Durham Region, noting that the climate conditions, across the Region are not the same based on the function of geography, local features, and historic observations. Appendix F of the report provides a ranking of the municipalities based on temperature and precipitation. The Municipality of Clarington climate change trends are as follows:

Mean Air Temperature

Trends in average air temperature across Durham Region vary. Oshawa, Scugog and Clarington have been identified to be warming the fastest.

Extreme Hot Temperatures

For extreme heat temperatures, there is strong evidence that the Region's northern municipalities (Scugog, Uxbridge and Brock) all are expected to have higher numbers of extreme heat days compared to southern Durham. While projections show lesser extreme heat, there are still significant increases.

Extreme Cold Temperatures

The number of days where temperatures are below -20C is indicative of how fast warming may occur, or in other words how many fewer cold days may occur by end of the century. Local municipalities in the south end of Durham (e.g., Oshawa, Pickering, Ajax, and Clarington) are projected to lose more extreme cold days than those in the north, which is consistent with the findings that warming is occurring more quickly along the southern shoreline municipalities.

Total Precipitation

Total amounts of precipitation are less certain across the Region in comparison than temperatures. Clarington and Brock are the municipalities that are projected to have the largest change in precipitation by end of century across the Region.

Extreme Precipitation

All trends indicate an increase in 1-day maximum precipitation. It appears that the increase in extreme precipitation events may increase more among the southern municipalities (Ajax, Whitby, Clarington and Oshawa).

Summary

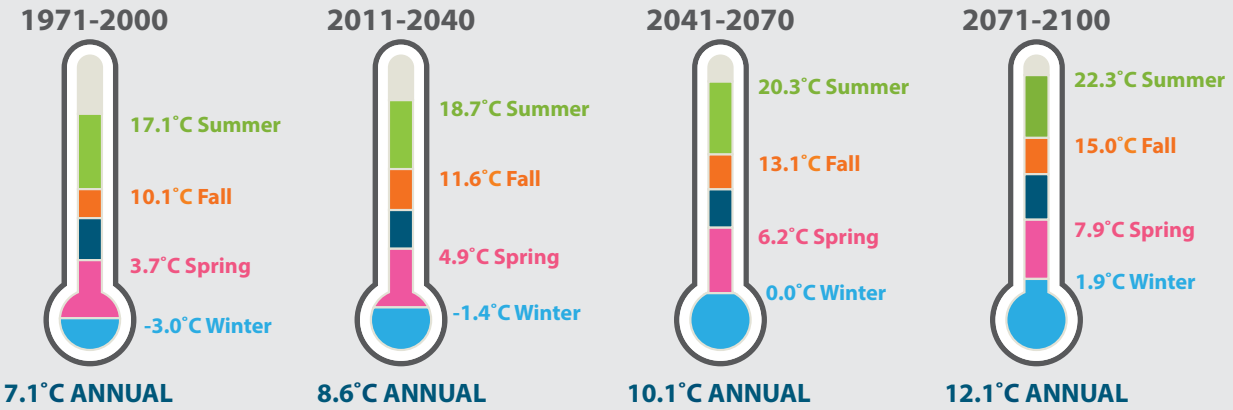
The climate conditions for Clarington are changing and will see an increase in average and maximum temperatures and total precipitation. These changes can affect human health, cooling needs, increased risk of flooding due to extreme storms, and impact municipal infrastructure. A number of planning and policy considerations to assist with mitigating these impacts include requirements for low impact development and green infrastructure, increasing urban tree cover and reducing heat absorbing surfaces to support urban heat island reduction, and improve building efficiency and resilience.

CLIMATE TRENDS FOR DURHAM REGION

UNDER THE CURRENT PACE OF GREENHOUSE GAS EMISSIONS

MEAN TEMPERATURE

By the end of the century, Durham Region is expected to warm by 5°C, leading to more variable and extreme weather



DAYS ABOVE 30°C

1971-2000	2011-2040	2041-2070	2071-2100
7.6	15.9	27.4	46.9

A 6-fold increase in the number of extreme heat days is expected by the end of the century, which will pose significant risks to people's health and well-being

DAYS BELOW -20°C

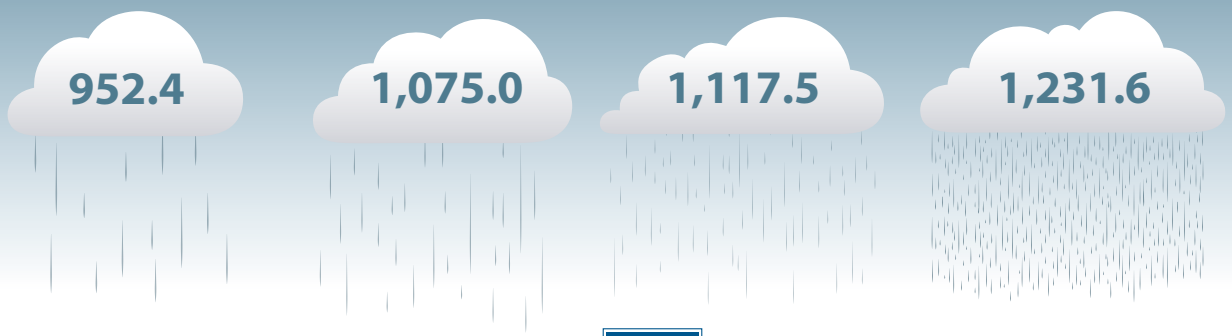
1971-2000	2011-2040	2041-2070	2071-2100
8.6	4.2	2.3	0.5

As winters become warmer, less snow and ice conditions are expected with more precipitation falling as rain instead of snow, which increases the risk of flooding among other impacts

ANNUAL PRECIPITATION

Measured in millimetres (mm)

Storms are expected to become more frequent and intense, including the number of extreme precipitation days which increases the risk of hazardous conditions and property damage



ONTARIO CLIMATE CONSORTIUM
Supported by Toronto and Region Conservation Authority

DURHAM REGION

Toronto and Region Conservation Authority

Source: www.durham.ca/en/citystudio/resources/4012-ClimateTrend-Durham-8.5Scenario-v5.pdf

3.3 Municipality of Clarington

Clarington Official Plan, 2018

The Municipality is currently undertaking an Official Plan Review to ensure the vision for the Municipality continues to meet the community's evolving needs; align with recent changes in provincial policy and legislation; and conform to the new Durham Regional Official Plan.

The following review of the current 2018 Clarington Official Plan (COP) highlights policies that are related to urban design, sustainability and climate change, and where secondary plan policies will help direct development towards a more sustainable future.

Consideration must also be given to what policies are needed to start preparing Farewell Heights current and future residents and the Municipality's infrastructure for the impacts of climate change. Considerations include:

- The impacts of climate change are already being felt in Ontario. They include more frequent and severe weather events that challenge the Municipality's stormwater management (SWM) capacity.
- Major storm events are increasingly creating risks to public safety and damage to public infrastructure and private property.
- Emerging stormwater management strategies include reducing the amount of paved surface to reduce run-off flows and using green infrastructure and low impact development (LID) methods to increase infiltration.
- The need for resiliency is becoming more urgent due to weather extremes, economic disruption, and resource depletion. There is a need to better understand how resilience can be built into our urban environments to ensure our ability to adapt, as well as establish a focused way of understanding and applying resilience within urban design and planning.

The COP is predicated on three key principles, Sustainable Development, Healthy Communities, and Growth Management. The COP sets forth a number of directions under Section 2.2.1 Sustainable Development that include:

- Acting locally in response to climate change, threats to air quality and other environmental concerns.

- Recognizing the interaction of all parts of ecosystems and protects the integrity and vitality of natural systems and processes.
- Recognizing cumulative impacts by not exceeding the carrying capacity of air, land and water to absorb the impact of human use.
- Remediation of past environmental degradation.
- Contributing to the reduction of energy and water consumption.
- Shared stewardship of natural resources.
- Development and built form will have consideration for resilience and sustainability.

Section 4.6.7 requires new secondary plan areas to address the criteria outlined under the Green Development Program to plan for more resilient infrastructure and to move towards net zero communities by incorporating techniques to reduce greenhouse gas emissions.

The COP promotes vibrant and sustainable urban places under the objectives of Section 5.2 by creating neighbourhoods that promote environment-first principles, land efficiency, compact and connected communities, walkability, and the managing of resources and energy efficiently.

Generous and well-designed landscaped areas to offer privacy, screening, and an attractive interface between buildings and the sidewalk.

New neighbourhoods are to be designed with appropriate built form through a comprehensive secondary plan process to provide for a variety of housing types and supporting uses, alternate street design that avoids reverse frontage and supports window streets, sustainable buildings and landscaping, walkable neighbourhoods, and cohesive urban design to create a sense of place (5.4.2).

The design of our built environment needs to be resilient while also contributing to community and environmental health and a high quality of life. The design of the public realm, which includes parks, roads, streetscape, and trails should provide opportunities for a connected system that supports all modes of transportation in a safe and comfortable environment. Urban design policies of the COP will be further elaborated though secondary plans and their associated urban design guidelines (5.6.1).

Under Section 5.5 Sustainable Design and Climate Change, the Municipality will seek to address climate change, become a more sustainable community, minimize the consumption of energy, water, and other resources, and reduce impacts on the natural environment. Further the Municipality will promote: the reduction of greenhouse gas emissions and the adaptation of buildings and infrastructure to be more resilient; improved air and water quality; mixed land uses at higher densities to efficiently utilize existing infrastructure; integration of transit and active transportation; and the reduction, reuse, and recycling of waste (5.5.1).

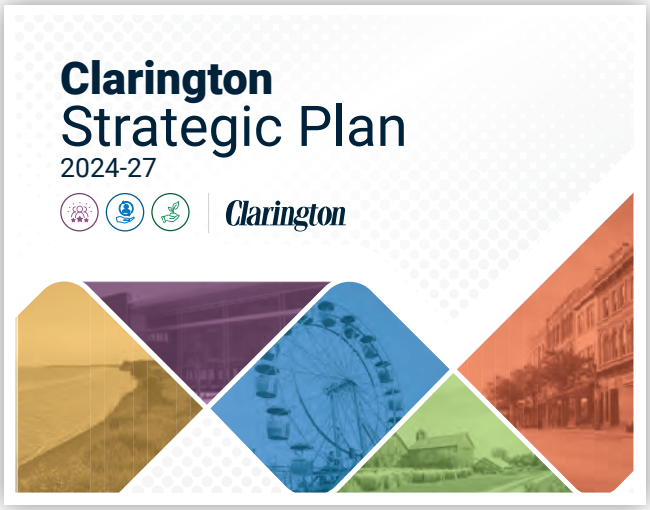
Trees reduce the amount of carbon in the atmosphere by sequestering carbon in new growth. The COP recognizes their importance under Section 5.5.2 that states urban forests are fundamental to address climate change. Urban forests are to be protected to not only absorb carbon dioxide from the atmosphere but to assist with mitigating heat island effects. Street trees shall also be provided within the public right-of-way.

It is a goal of the Municipality to create a continuous open space system and ensure the protection and enhancement of the natural heritage system. Section 14 of the COP defines the The Open Space System as Environmental Protection Areas, Natural Core Areas, Natural Linkage Areas, the Waterfront Greenway, and Green Space.

Healthy communities are characterized as those which instill a sense of place and identity and provide arts, culture, and heritage programs, events, and facilities (5.2.3, 5.3.3). Supporting cultural heritage and incorporating cultural heritage resources into community design and development further fosters civic pride and neighbourhood identity through built form (8.1.1, 8.2.2).

The Farewell Heights Study Area contains a large portion of designated Environmental Protection which is part of a larger Open Space System. The COP states that development within the Open Space System is generally discouraged (14.3.2).

The extent of the Environmental Protection Area designation includes a 30 metre vegetation protection zone (14.4.3) with no development permitted except for low-intensity recreation; uses related to forest, fish, and wildlife management; erosion control and stormwater management; and agriculture and on-farm diversified uses (14.4.5).



Clarington Strategic Plan 2024-27

Clarington's Strategic Plan is the guiding document that outlines the Municipality of Clarington's vision and priorities for the 2024 - 2027 term. The purpose of this plan is to provide strategic priorities for Council and staff to determine the best way to provide services and help the community thrive. The Strategic Plans sets forth a number of actions under three priority areas:

LEAD
Exceptional Municipal Services and Governance
Objective: To be a leader in the delivery of efficient, effective and meaningful municipal services.

CONNECT
Safe, Diverse, Inclusive and Vibrant Community
Objective: To cultivate a strong, thriving and connected community where everyone is welcome.

GROW RESPONSIBLY
Resilient, Sustainable and Complete Community
Objective: To promote responsible and balanced growth by developing the economy while protecting the environment.

Priority Green Development Framework

The Municipality of Clarington's Priority Green Initiative was introduced in 2013 by Council in response to growth pressures and related development anticipated over the next 20 years. An analysis of Provincial, regional, and local planning and policy frameworks, as well as additional studies, were key drivers in the development of the Priority Green Initiative that seeks to further integrate sustainability into the residential land development process, developing "a new standard for residential development that prioritizes sustainability, promotes innovation, and continues to improve the community's quality of life".

In 2015, Clarington Council endorsed the Priority Green Clarington: Green Development Framework and Implementation Plan, providing a road map for the detailed design and implementation of a Green Development Program that includes Secondary Plan, Draft Plan of Subdivision, and Site Plan checklists organized into three tiers.

Green Development Framework Update (GDF)
Clarington is updating the Green Development Framework with the intention to expand its current green development program to include all types of development, and to fully implement it into municipal by-laws and processes. The Municipality wants to ensure that the standard is in line with several initiatives currently in place, including the Strategic Plan, the Clarington Corporate Climate Action Plan, as well as the Municipality's GHG reduction target of net zero GHG emissions by 2050.

The Municipality also wants to ensure that the standards are applicable, and feasible, for a variety of building projects using metrics and targets that are unique and relevant to Clarington. The standards developed must promote energy efficiency and climate resilience alongside social and economic benefits. The update was initiated in November 2024. Until such time as the update is available, the Farewell Heights Secondary Plan will proceed with the current program.

Priority Green Clarington

Under the Priority Green Clarington: Green Development Program the benefits of sustainable development include:

- Improved energy conservation which lowers utility costs, improves human comfort and reduces the need for long term infrastructure expansion to deal with increasing energy demands,
- Improved water quality and conservation through efficient water fixtures, and drought resistant plantings which lowers utility costs and reduces the need for long term infrastructure expansion,
- Improved air quality through reduced greenhouse gas emissions and reduced heat islands effects which improve human health and comfort as well as providing environmental benefits,
- Improved biodiversity and health of the natural environment through increased preservation and protection of natural areas, improved stormwater controls, increases in native species and a reduction in invasive species,
- Improved human health by encouraging more active transportation,
- Reduced consumption of agricultural lands through more efficient use of urban land,
- More efficient use of resources, and
- Improved waste management which reduces the impact on landfills sites.

Clarington has committed to a sustainable future for its communities, as set forth in both the Official Plan and the Priority Green Development Framework. These documents are used by the Municipality to guide the development of vibrant and complete communities. Under the Priority Green Clarington - Green Development Program Secondary Plans are a key tool through which to implement the evaluation criteria for new communities.

The recommended Priority Green criteria that are to be applied to a **Secondary Plan** fall under the four theme areas of **Built Environment, Mobility, Natural Environment and Open Space,** and **Infrastructure and Buildings.**

BUILT ENVIRONMENT

- **Density**
- **Housing mix**
- **Access to services and amenities**
- **Connectivity**

MOBILITY

- **Walkability**
- **Transit supportive**
- **Active transportation network**
- **Complete streets**

NATURAL ENVIRONMENT AND OPEN SPACE

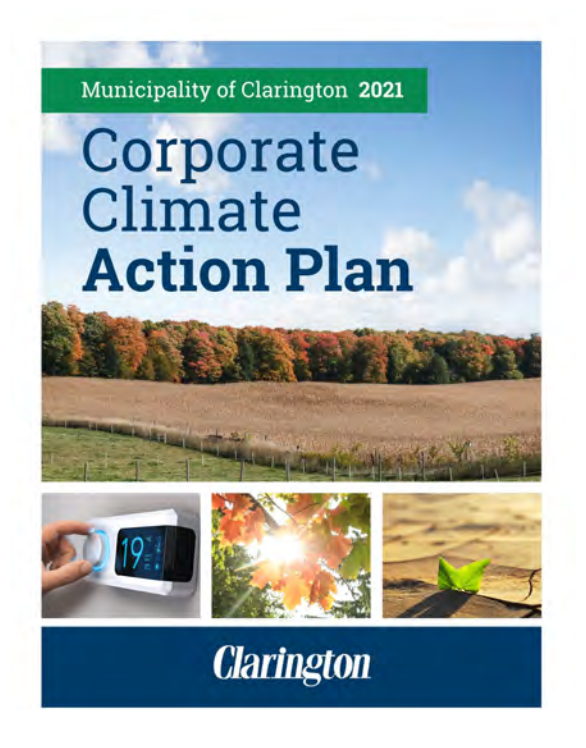
- **Natural heritage features protection**
- **Natural heritage connections and linkages**
- **Views and vistas**
- **Park accessibility**
- **Urban tree canopy**

INFRASTRUCTURE AND BUILDINGS

- **Stormwater planning and design**
- **Retention and infiltration of stormwater**
- **Low impact development**
- **Local food production**
- **Energy efficiency/water conservation**
- **Passive solar alignment**

Corporate Climate Action Plan, 2021

The Municipality has prepared a Clarington Corporate Climate Action Plan (CCCAP) in response to climate change and the impacts that more frequent and severe weather will have on residents, infrastructure, municipal operations, and the economy. The CCCAP was approved by council in March 2021 and includes both adaptation and mitigation elements.



The plan sets a target to **reduce corporate GHG emissions by 35 per cent by 2030 from 2018 levels, and to achieve net zero GHG emissions by 2050**. To support this target, 115 specific actions were developed that the Municipality will take to reduce GHG emissions, and adapt corporate assets, operations, and services, to limit the negative impacts of climate change.

The climate actions are categorized under seven goals:

1. Reduce Corporate GHG Emissions
2. Maintain Public and Workplace Health and Safety
3. Minimize Risks to Buildings and Properties
4. Strengthen the Resilience of Municipal Infrastructure
5. Protect Ecosystems and Biodiversity
6. Minimize Disruption to Corporate Operations and Services
7. Build Community Resilience

Following the discussion of the Priority Green Clarington, it is important to highlight that under Goal number one, there are three priority actions identified to integrate Clarington's Green Development Program into ongoing municipal operations.

CCCAP Action 1.25 - Update the Priority Green Clarington Green Development Framework criteria checklists to include considerations for climate change mitigation and adaptation.

CCCAP Action 1.26 - Update Clarington's Planning and Development Design Standards and Guidelines to align with the Clarington Priority Green Development Framework to support moving toward net zero communities.

CCCAP Action 1.27 - Complete the implementation of Clarington's Green Development Standards, including the development of a program guidebook, application instructions, and terms of reference for sustainability reporting.

These actions are being undertaken by the municipality to streamline the implementation of Clarington's Green Development program within the current development application process to achieve the full benefits that the Green Development Program can provide.

3.4 Key Directions

The following is a summary of key directions that have been identified from the review of provincial, regional, and municipal policies, plans, reports, and standards that will be used to develop the framework for the Farewell Heights Secondary Plan and Urban Design and Sustainability Guidelines. The key directions are organized under the four Priority Green theme areas.

Built Environment

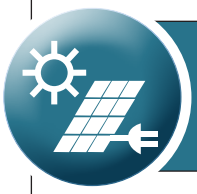
- Efficiently use land and infrastructure
- Promote efficient and compact development
- Contain an appropriate mix of uses
- Incorporate climate resiliency in community design
- Provide for a full range of housing types and tenures including affordable housing options, as well as housing specifically designed for seniors
- Create walkable communities
- Plan public streets, spaces and facilities to be safe, meet pedestrian needs, foster social interaction
- Promote the accessibility of services, culture, and recreation facilities by walking, cycling, or transit
- Facilitate accessibility for persons with disabilities and older persons
- Urban agriculture and access to healthy local food

Mobility

- Support transit and reduce auto-dependence
- Design to support transportation and active transportation options
- Plan for complete streets
- Prioritize active transportation
- Design the pedestrian and cycling network to minimize environmental impacts and to accommodate a range of users and abilities
- Network of multi-use paths and sidewalks will be introduced, providing linkages through and to open spaces and amenities
- Ensure the street network connects to the existing road system and adjacent residential developments
- All roads should have sidewalks and street trees on both sides
- Block lengths should be designed to be less than 250 metres to support active transportation
- Connect to existing trail and path systems

Natural Environment and Open Space

- Preserve and enhance natural heritage features
- Incorporate and connect the natural heritage system into the open space and parks system, with views and vistas maintained
- Protect and sustainably manage natural resources
- Access to parks within a 400m walking distance
- Access to an interconnected network of parks and open spaces with a variety of parkland options considered, including neighbourhood parks and parkettes
- CO_2 sequestering through tree planting
- Drought tolerant landscapes
- Native or non-invasive species to be used in all landscaping
- Protection and avoidance of natural hazards



Infrastructure and Buildings

- Consideration for renewable/low carbon energy supply, on-site generation, power supply resilience, and energy affordability
- Reduction of GHG emissions through compact, transit supportive development, complete streets approach
- Plan for the conservation of resources, water, and energy
- Energy efficiency and conservation through building design
- Implement innovative stormwater management strategies
- Address urban flooding, incorporate green infrastructure and low impact development
- Incorporate opportunities for electric vehicle infrastructure
- Urban heat island reduction - minimize hard surface infrastructure, reflective surfaces, green roofs, and increase in tree cover to mitigate the impact of climate change (i.e. increased temperatures)
- Optimize passive solar orientation
- Move towards net zero communities through GHG and carbon reduction strategies
- Sustainable waste management by considering opportunities for reusing, reducing, and recycling materials and resources.

4 INITIATIVES + PRIORITIES

4.1 Key Initiatives

Land use planning, urban design, and sustainability need to be fundamentally linked in order to guide and create liveable and sustainable communities that are resilient to the impacts of climate change. Land use plans and policies must not only guide land use distribution and the creation of complete, walkable, and attractive neighbourhoods, but also direct development to support reductions in energy and GHG emissions, address urban flooding, and move towards net zero communities.

In consideration of the key directions set forth under Section 3.4 and the Priority Green criteria for Secondary Plans, sustainable components and key initiatives for Farewell Heights have been broken down under the four Priority Green themes for sustainable community design: **Built Environment, Mobility, Natural Environment and Open Space, and Infrastructure and Buildings**.

Built Environment

Essentially, the built environment and the way it is designed can influence a person's lifestyle choices which, when considered on a much broader scale, can contribute to either the success or failure of achieving sustainability goals within a community.

Efficient use of land and a mix and diversity of housing types and amenities, located within walking distance, provides the opportunity for residents to meet their day to day needs without reliance on the private automobile and provides for life-cycle housing allowing residents to remain in their communities throughout the various cycles of their lives.

Mobility

Supporting a full spectrum of mobility options for all residents and improved connectivity within a fully integrated network is an essential element of planning for sustained transportation methods and healthier lifestyles. Providing enhanced mobility for people of all ages means understanding opportunities to make any type of street a "complete street". Complete streets provide pleasing pedestrian experiences, improved safety for cyclists, and enhanced opportunities for active transportation, all while ensuring the efficient movement of goods, transit, and passenger vehicles within a balanced right-of-way.

Medium density housing in the form of townhouses.

Bike lanes to support active transportation.

Natural Environment and Open Space

The current pattern of development in many municipalities is placing a strain on the natural environment and the health of residents. Farewell Heights natural heritage context defines the community and structures its future growth. Establishing a scientifically defensible natural heritage framework that strikes an appropriate balance between competing goals and interests is fundamental to achieving environmental sustainability in land use planning. Farewell Heights watercourses and natural heritage features need to be properly protected, restored, and enhanced for the long-term. Not only do the natural heritage areas sequester vast amounts of carbon, but they also provide significant opportunities for linked active transportation corridors.

The natural environment, urban forest, and the open space system are essential components of a healthy, sustainable community. Firstly, the preservation and enhancement of the natural heritage system ensures the health of the environment and supports the recreational and cultural opportunities in the Municipality. Secondly, ensuring residents have convenient access to a connected and diverse range of open spaces, parks, and recreation facilities offers opportunities for improved public health and exercise.

Infrastructure and Buildings

The indicators of green infrastructure and building are designed to ensure that energy conservation is maximized and the strain on non-renewable resources is minimized. New buildings and communities should be designed with a focus on reducing water, waste, and energy use. Since human activity is the principal cause of elevated levels of greenhouse gases and demands on energy, water, and waste systems, initiatives must focus on means of remediating this impact on both the built and natural environments.

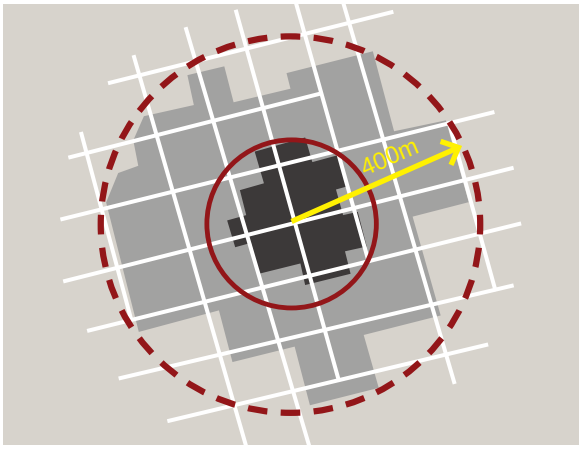
Recommendations for reducing energy use and setting projects up to achieve carbon neutrality, where possible, can be through a phased approach utilizing varying approaches including enhanced building performance, alternative energy supply options, and renewable energy generation.

Becoming resilient to changing weather patterns and extreme weather events requires a multi-faceted approach that plans for major event response, as well as preparedness. Considerations include integrated stormwater management (particularly through low-impact development measures) and green infrastructure.

Increase the tree canopy to reduce the urban heat island effect.

A bioswale in the right-of-way to assist with run-off and infiltration.

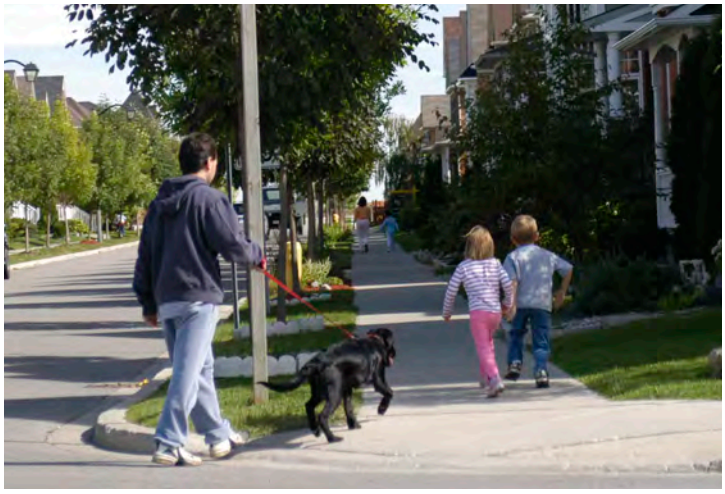
Single detached dwellings with rear lanes to remove the garage from the streetscape.



5 minute walking distance to daily activities and amenities.

Variety in housing options. Medium density housing in the form of townhouses.

Front drive single detached dwellings.



Walkable streets with sidewalks and street trees.

Built Environment

Sustainable Element and Components	Farewell Heights Initiatives
1. Compact Development Transit supportive Energy conservation Walkability Accessibility Air Quality	• Density - contributes to the overall density requirement and diversity of unit types in the developable area. Achieve a minimum density of 50 residents and jobs per gross hectare. (PG) • Live/work proximity, proximity to future transit/services/jobs. • Strategic allocation of density contributes to compact form, increased transportation efficiency, transit support, and walkability. (PG) • Higher densities, retail, and institutional uses placed along mixed use corridors, transit corridors, and in close proximity to public open spaces. (PG)
2. Community Structure Energy Conservation Transit Supportive Walkability Accessibility	• Create a coherent system of walkable neighbourhoods which cluster to form a community with a vibrant mixed use area providing a range of social and employment opportunities. • Neighbourhood shape and size defined by approximately 200 metres (3 minute walk) from centre to perimeter with a distinct edge or boundary. • 200 metre walking distance (3 minute walk) for each neighbourhood focal point, such as a village square. 400 metres (5 minute walk) to daily activities, such as future transit, parks and modest services, or 800 metres (10 minutes) to higher order transit, major services, or community facilities. (PG)
3. Housing Mix and Diversity Range of Housing Options Affordability Ageing Society Age in Place	• Provide a range of lot sizes and building forms to avoid homogeneous development. A range of lot sizes within a block to ensure diversity and choice of housing types and forms to satisfy broader community needs. • Provide for housing options specifically designed for seniors. Retirement and long term care facilities are placed closer to the neighbourhood centre and incorporate multi-storey, dense components to achieve sufficient yield on small sites. • Provide a range of housing types includes, but not limited to: bungalows, single detached, semi-detached, townhouses, live-work units, low rise apartments, and seniors housing options. (PG) • Mixed tenure and affordability. (PG)
4. Walkability Transit Supportive Walkability Air Quality Public Health Heat Island Reduction	• Promote internal connectivity and connections to the community at large, taking into account existing and proposed urban structure of adjacent and adjoining areas. • Street and block pattern allows for an interconnected network of sidewalks, bicycle routes, future transit, and multi-use trails ensuring proper integration with surrounding neighbourhoods and a variety of destinations, allowing for continuous movement throughout the community. (PG) • Provide sidewalks on both sides of the street, especially if it is a major pedestrian link to school, centre, shops. (PG) • Neighbourhood permeability is provided using block lengths of 150 to 180 metres in length, whenever possible, unless due to the topography of the site. • Design high quality streetscapes that provide appropriate planting materials to address summer/winter conditions, canopy closure on local roads. • Utilize comprehensive streetscape elements to enhance walkability (i.e. trees, pedestrian crossings, pavement patterns, bump outs, speed humps, lighting).

"PG" indicates a Priority Green criteria for Secondary Plans

Sidewalks and walking trails provide connections in the community and promote active transportation.

Access to transit supports a reduction in automobile use.

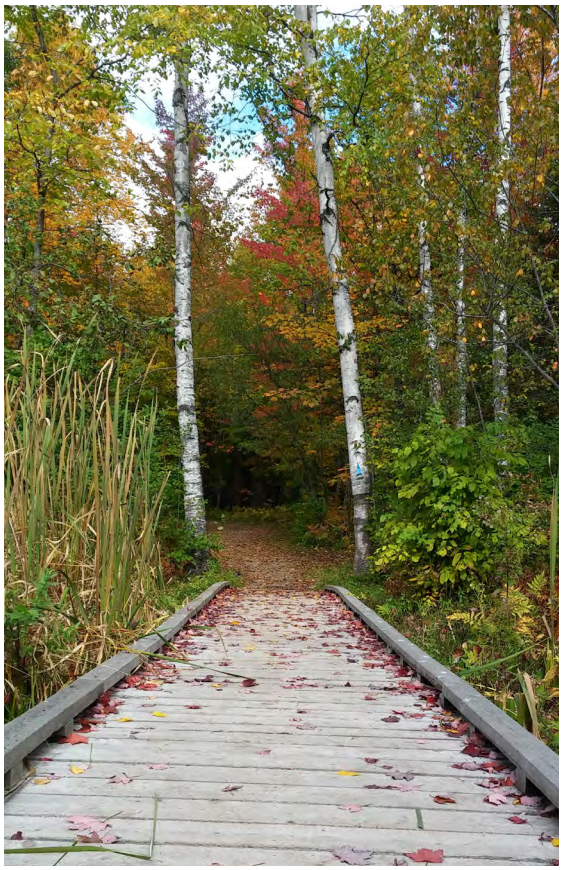
Marked cycle lanes on Collector Roads.

Create continuous, linked, legible, and clearly marked system of trails throughout the community.

Mobility

Sustainable Element and Components	Farewell Heights Initiatives
1. Street and Block Pattern Energy Conservation Transit Supportive Walkability Connectivity	• Connected and permeable street system that facilitates the efficient movement of pedestrians, cyclists, future transit, and vehicles. (PG) • Neighbourhood permeability is provided using block lengths of 150 to 180 metres in length, whenever possible. • Local streets are designed for short trips for local traffic moving between neighbourhoods. • Appropriately sized roads to reflect the built form scale and context, and to provide inherent traffic calming. • Street and block alignments for grade-related residential units are designed within 15 degrees of geographic east-west in order to maximize passive solar orientation of buildings. (PG)
2. Active Transportation Energy Conservation Transit Supportive Walkability Accessibility Public health	• Street layout is designed to ensure efficient and safe walking routes to schools, central services, future transit, and other key destinations to encourage daily physical activity. (PG) • Street and block patterns emphasize connections and walkability internally, and with surrounding neighbourhoods, through a grid or modified grid pattern. • Connected trail and bicycle system that links natural heritage features, parks, and SWM ponds.
3. Pedestrian and Cycling Network Walkability Public Health Accessibility Mobility Options	• Pedestrian and cycling routes travel to or from amenity areas, with access to trip end facilities such as secure long-term bicycle parking such as lockers, and secure short-term bicycle parking such as bicycle racks. • Network of pathway/cycling trails that are connected through the natural heritage system, woodlot, parkland, and street network. Internal pedestrian and bicycle connections (PG) • Community plan accommodates a cycling network that includes bike lanes and off-road cycling or multi-use trails, that will connect to existing bike lanes and trails. • Marked cycle lanes (shared lane markings) should be provided on major and minor collectors and local streets will have on-street cycling shared with cars. • Shared off-street pedestrian and bicycle paths should be designed for the requirements of the route, provide for a continuous linked system of trails throughout the community, be part of the open space network.
4. Transit Supportive Energy Conservation Transit Access Walkability Connectivity Air Quality	• Promoting higher densities and compact development to support existing and planned transit services, reducing the need for automobile use and greenhouse gas emissions. • Future transit system will be complemented and supported by a network of active transportation facilities to further promote walking, cycling, and the use of public transit. • Continuous collector street system to ensure efficient transit access, movement, and efficiency. (PG)

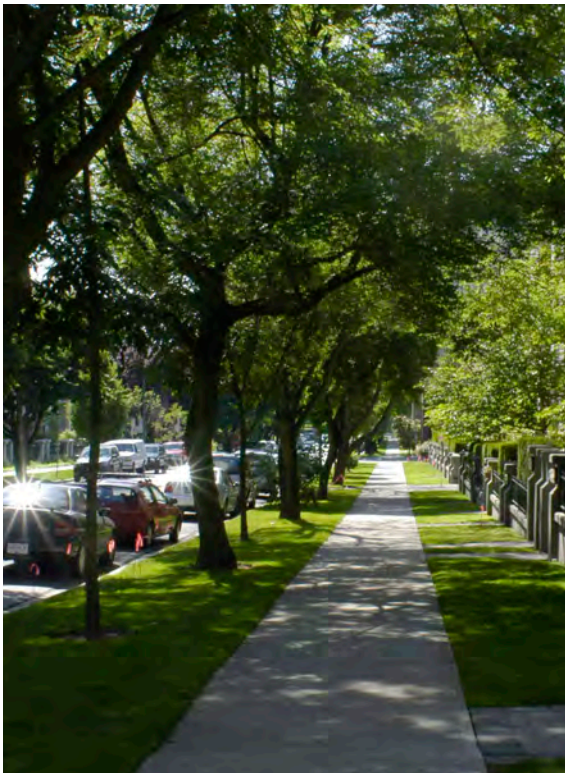
"PG" indicates a Priority Green criteria for Secondary Plans



Opportunities for walking trails through the natural heritage system.

Parks with active facilities such as playgrounds should be central to the community.

Smaller parks should include areas of shade and seating.



Street trees provide shade over the sidewalk and mitigate the heat island effect.

Urban agriculture supports sustainable local food production.

Natural Environment and Open Space

Sustainable Element and Components	Farewell Heights Initiatives
1. Natural Heritage Energy Conservation Heritage Preservation and Enhancement Public Health	• Integrated the Natural Heritage System as a key structural element of the community by providing appropriate views, vistas and connections by utilizing terminal views at the ends of prominent streets and by providing for a range of development interfaces to provide opportunities for pubic visual and physical access, while also limiting access where necessary. (PG) • NHS is connected to and integrated with the open space network and trail system. (PG) • Plan provides for a continuous linear natural open space system and corridor. (PG) • Protecting and avoiding natural hazards. • Encourage residents to participate in the protection, enhancement and maintenance of the Natural Heritage System, as well as encourage sustainable/water wise landscapes - a homeowner's pamphlet should be distributed.
2. Parks Walkability Connectivity Air Quality Public Health	• Accessible, connected, and diverse range of parks are provided to allow for active and passive recreational opportunities for all residents. (PG) • Parks will be designed and located to utilize Crime Prevention through Environmental Design (CPTED) principles. • Where possible, parks are located adjacent to school sites or community facilities to promote shared facilities. • Neighbourhood Park - opportunities for active and passive recreation for surrounding residents within an approximate 400 to 800 metre distance (5 to 10 minute walk). (PG) • Village Squares - accessible for residents within a 200 to 400 metre radius (3 to 5 minute walk). • Public frontage is provided through public roads, the school, and the Natural Heritage System. • Potential for community gardens, local food covenants available to residents to grow local food on properties. (PG)
3. Pathways and Trails Accessibility Walkability Active Transportation	• Providing the opportunity for a connected and accessible trail system throughout the Town by providing a connected system of trails that link to future walking or multi-use trails. (PG) • Connected to and integrated with the open space network. • Trail heads are incorporated with parks, village squares and stormwater management ponds, whenever possible. • Native, non-invasive plantings will be encouraged along trail connections abutting natural feature. • Trails will be designed to accommodate a range of users and abilities, and should be barrier-free where appropriate.
4. Tree Canopy GHG reduction Air Quality Heat Island Reduction	• Street trees on both sides of the right-of-way to assist with mitigating heat island effects • CO_2 sequestering through preserving tree canopies and tree planting in parks • Encourage a diversity of tree species along each road, native to the municipality and county, that are non-invasive, drought and salt tolerant, and low maintenance. • Utilize best practices in tree planting and maintenance

"PG" indicates a Priority Green criteria for Secondary Plans

Solar canopies in parking lots capture solar energy and provide shade.

Bioretention planters have stormwater management benefit.

To maximize passive solar orientation the street and block alignment should be designed within 15 degrees of geographic east-west.

Solar panels on the roof of low-rise development.

Charging stations for electric vehicles powered by the sun.

Light coloured pavers assist with the reduction of the urban heat island effect.

Infrastructure and Buildings

Sustainable Element and Components	Farewell Heights Initiatives
1. Low Carbon/Net Zero Ready Energy Conservation Solar Orientation Heat Island Reduction On-site Renewable Energy Production GHG Reduction Air Quality	• Consider alternative energy sources such as solar and opportunities for geo-exchange. • Utilizing passive solar orientation to permit enhanced energy efficiencies by creating optimum conditions for the use of passive and active solar strategies. • Street tree planting on all roadways and/or green roofs on large scale buildings to minimize urban heat island effect. • Constructing all low and mid-rise residential buildings to be Solar Ready - built with all the necessary piping and equipment that would be needed to install a rooftop solar power system, as well as heat pump ready. • Reduce heat absorption through the use of cool roofs that are designed to reflect more sunlight and absorb less heat than a standard roof. • Explore sustainability opportunities for community-based initiatives (i.e. car pooling, community composting, waste reduction, education and stewardship programs). • Potential for a central charging stations. • Dedicated parking spaces for Electric Vehicles (EV) and car sharing.
2. Water Use and Management Improve Water Quality Public Health Reduce Flooding	• Implementing Low Impact Design Standards that emphasize the use of innovative stormwater practices, at-source infiltration, potential greywater re-use system, water conservation measures, cisterns and rain barrels. (PG) • Opportunities for best management practices (BMPs) for stormwater such as rain gardens, vegetated swales, permeable pavements, rain barrels, and green roofs. (PG) • Considering the use of porous or permeable pavement instead of standard asphalt and concrete for surfacing sidewalks, driveways, parking areas. (PG) • Use of native, drought resistant landscaping. • Introduce green infrastructure, such as bioswales or bio-retention planters, within the public right-of-way to enhance ground water infiltration and improve water quality as part of a comprehensive water management plan.
3. Green Buildings Energy Conservation Public Health Water Conservation GHG Reduction Resilience	• Green roofs are encouraged for employment and public institutional buildings to minimize surface runoff, reduce the urban heat island effect, provide noise insulation, and improve local air quality. • Green Buildings should consider building energy and water efficiency measures, low carbon heating, and resilience measures such as basement flood protection, heat, and wind protection. • Encourage sustainable construction practices to reduce greenhouse gas emissions. • Include an owner/tenant education package at the time of purchase or rental regarding household activities to improve energy and water efficiency, access to transit, location of recycling station, etc. • Utilize best practices for design and construction techniques in order to reduce the amount of construction waste produced. • Green building materials should be used to reduce impacts on the environment. Encourage the purchase of building materials (or obtained) from responsible, ethical, and whenever possible, local sources. • Going beyond the OBC - “better than code” design to be considered, where possible.

“PG” indicates a Priority Green criteria for Secondary Plans

4.2 Key Sustainable Priorities

The key initiatives under the four themes of **Built Environment, Mobility, Natural Environment and Open Space, and Infrastructure and Buildings** have been refined to establish a set of core sustainable priorities that can be used to establish the sustainable framework for the Farewell Heights Secondary Plan and the Urban Design and Sustainability Guidelines.

Built Environment

- Ensure an efficient use of land and infrastructure
- Provide for a range and diversity of housing options and tenures
- Establish a sense of place by enhancing important views to natural features
- Ensure that all parks, open spaces, and trails are visible and accessible
- Ensure the community is accessible for all ages and abilities
- Plan public streets, spaces and facilities to be safe, meet pedestrian needs, foster social interaction

Environment and Open Space

- Preserve and enhance the natural heritage system through the restoration and enhancement of wetland/ woodland habitat and incorporate as part of the community structure
- Protect and avoid natural hazards
- Maintain and enhance wildlife linkages and corridors
- Ensure an optimal tree canopy to reduce the urban heat island effect
- Use of native or non-invasive plant species for all landscaping
- Accessible, connected, and diverse range of parks to provide a healthier urban ecosystem and encourage residents to be physically active

Mobility

- Promote walkability and a transportation system that prioritizes active transportation to support GHG reduction
- Ensure the street network connects to the existing road system and adjacent residential developments
- Sidewalks and trees on both sides of the street to support pedestrian comfort
- Develop a trails system that minimizes impact to the environment and connects to existing trails and sidewalks

Infrastructure and Buildings

- Encourage the alignment of streets and blocks to maximize passive solar orientation
- Encourage the construction of green buildings that consider building energy and water efficiency measures, low carbon heating, and resilience measures such as basement flood protection, heat, and wind protection
- Use of low impact development to support stormwater best management strategies

5 URBAN DESIGN

5.1 Urban Design

A guiding priority area for the Farewell Heights Secondary Plan is **Urban Design.** New neighbourhoods are to be created with a sense of place and all development should result in high-quality design.

A Secondary Plan establishes:

- An appropriate mix of land uses;
- The height and density of buildings;
- The road network, trails, and transit routes;
- The parkland system; and,
- Protection for the natural heritage system.

Through urban design, the overall framework and guidance on the arrangement, relationship, and articulation of these elements will be provided in the Secondary Plan. Further detail is provided on building design, complete streets, park connectivity, trails, sun and shadow impacts, active transportation, as well as the integration of green infrastructure for overall excellence in urban design.

This section follows the intent and objectives described in the previous section and builds upon the urban design initiatives of the four Priority Green themes of **Built Environment, Mobility, Natural Environment and Open Space, and Infrastructure and Buildings** with the goal to achieve a complete sustainable community that is built upon design excellence.

The **Urban Design** section includes:

- An understanding of the urban design policies from the Official Plan;
- Requirements from Priority Green,
- An overview of the existing context
- Proposed community design intent,
- Urban design opportunities, and
- Key urban design priorities.

Low-rise mixed use buildings with activity at ground level.

Clarington Official Plan

The Clarington Official Plan (COP) provides policy direction for the design and structure of new neighbourhoods. The Farewell Heights Secondary Plan Study Area is designated as "Urban Residential" and "Environmental Protection Area". Under Section 9.3 of the COP the predominant use of the lands designated "Urban Residential" shall be housing, with supportive and compatible uses such as small scale neighbourhood retail and service, parks, schools, and community facilities permitted. For lands designated "Environmental Protection" generally development is discouraged and the lands include a 30 metre vegetation protection zone.

Additional COP policies in regard to new communities and urban design outlined in Section 3.3 of this report include the following:

- Create vibrant and sustainable urban places that promote environment-first principles, land efficiency, compact and connected communities, walkability, and the managing of resources and energy efficiently (5.2).
- Provide for new neigbourhoods that include a variety of housing types and supporting uses, alternate street design that avoids reverse frontage and supports window streets, sustainable buildings, streetscapes, and landscaping, walkable neighbourhoods, and cohesive urban design to create a sense of place (5.4.2).
- Design of the public realm, which includes parks, roads, streetscape, and trails should provide opportunities for a connected system that supports all modes of transportation in a safe and comfortable environment (5.6.1).

Priority Green

The urban design strategies or structural plan elements from Priority Green are highlighted below:

BUILT ENVIRONMENT

diversity in housing types; placing residential within 800 metre walking distance of amenities; schools adjacent to public parks, interconnected street network; and modified grid design

MOBILITY

walkability; local streets with short block lengths to support connectivity and active transportation; sidewalks and streets trees on both sides of the right-of-way; complete streets principles; and connected pedestrian and cycling network

NATURAL ENVIRONMENT AND OPEN SPACE

maintain views and vistas to landmarks and natural heritage system; integrate NHS into parks system; parks within 400 metre walking distance of residents; and connected system of parks and open spaces

INFRASTRUCTURE AND BUILDINGS

minimize hard surface infrastructure; reduced parking standards, permeable paving; stormwater management facilities designed as amenities; community gardens; and maximize passive solar opportunities in street and lot orientation

Existing Context

Residential Uses

The Study Area is bordered by existing residential uses. The residential area to the south of the Study Area, know as Highland Gardens, is largely comprised of single detached dwellings. More recent development directly south of Adelaide Street is a mix of townhouses and single detached dwellings.

Residential to the west along Timberlane Court includes large lot single detached dwellings within a wooded area. Residential along Tooley Road also includes large lot single detached dwellings.

Six residential lots are located along Pebblestone Road, along the northeast portion of the plan area.

The residential within the Study Area along Trulls Road and Sherry Lane are single detached dwellings.

Natural Heritage Features

The Study Area is comprised of a number of environmental features including wetlands, woodlands, hedgerows, and tributaries of the Farewell Creek.

Roads

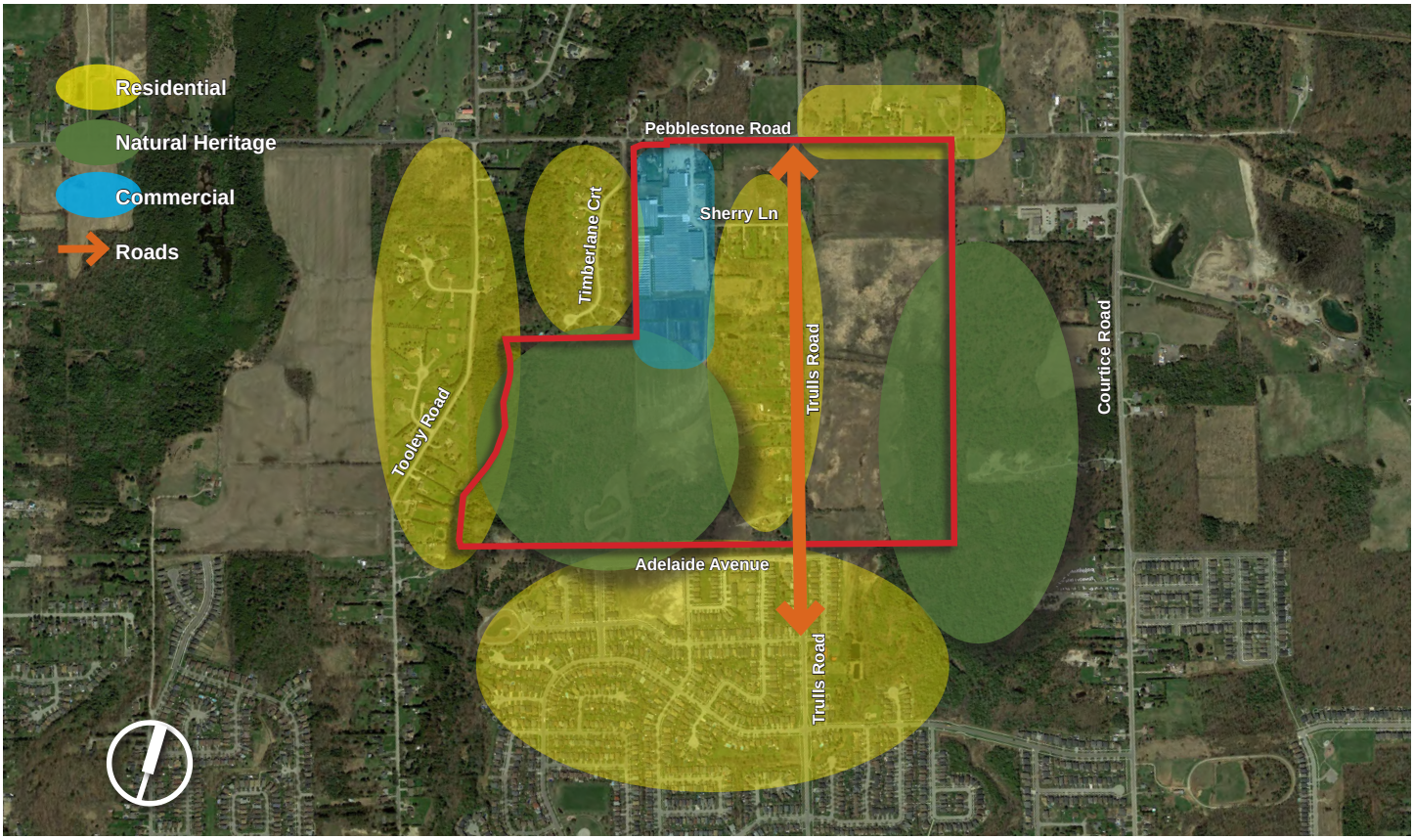
Internal to the Study Area is a local road, Trulls Road, that serves as a north-south connector between Pebblestone Road and the community to the south. There are currently no connections to the east and west.

Commercial

Existing commercial uses include Witzke's Greenhouses along Pebblestone Road and Lu's Nursery Garden Centre along Trulls Road.

Considerations

Transitions to existing dwellings, mitigating impacts to existing natural features, views to natural heritage features, road connections and access, gateways, and active transportation.



Farewell Heights existing context.

5.2 Community Design Intent

The Design Intent for the community articulates the physical pieces of the community - the key organizing elements of the 'Plan' and how its component elements are to be arranged, organized, and shaped to enhance a sense of place.

Community Structure

A **Permeable Street and Block Pattern**, with block lengths in the range of 150 – 180 metres in length will create a more pedestrian-scaled environment and provide multiple points of access and routes of movement through the community.

The creation of a modified grid of streets and blocks will build upon the existing road network and take advantage of connections (visual and physical) to the surrounding natural heritage system.

In the east-west orientation, and in addition to the location of parks and open space components, considerations should be given to connecting the natural features through the local road pattern, which will create multiple 'windows.

Gateways and Landmarks are important parts of the fabric of the neighbourhood and can be created using a combination of buildings, landscapes, spaces or public art. Properly designed, these elements have the ability to enhance wayfinding and the sense of place.

The intersection of Pebblestone and Trulls Road represents the opportunity to incorporate special built form and public space designs that communicate the character of the community.

The two corners of the intersection provide the opportunity to develop a gateway/landmark through building placement and design, combined with animated public spaces, pedestrian-scaled streetscapes and public art.

Most importantly, the scale and design of the north-south road needs to be designed as a pedestrian-scaled environment, where building design, placement, height, and massing should be coordinated with the design of the street and streetscape.

The **Natural Heritage System,** made up of the Environmental Protection Areas, woodlots, hedgerows, and creek tributaries, frame the Study Area. These features contribute to the community's character and are key structural elements of the study area. They should be preserved with opportunities to create linkages and enhance views, and serve as a recognizable and ever-present way to orient oneself within the community.

Opportunities to frame and direct views to the Natural Heritage System should be encouraged throughout the Study Area.

A **High-Quality Public Realm**, consisting of a hierarchy of active and passive parks, both urban and rural in character, along with a variety of streets, will enhance mobility, promote healthy and active lifestyles, and contribute to the character of the community. The public realm serves as the 'Living Room' of the community and should be developed to support and enhance the range of activities and functions of the community.

The **Private Realm** will ensure the built form relationship to adjacent uses, open spaces, and roads is designed to contribute to the community's character and will assist in further defining and complementing the public realm.

Appropriate and sensitive transition to the adjacent and surrounding residential uses through building heights, massing, and planted buffers.

An **Accessible and Connected Active Transportation Network**, consisting of pedestrian and cycling routes, sidewalks, and trails will be important to promoting healthy, active lifestyles.

Place-making

Place-making involves a multi-faceted approach to the planning, design, and management of private development and public spaces. Place-making is the recognition and enhancement of a local community's unique assets and potential. Recognizing the unique assets of a community requires an understanding of its existing attributes and how they contribute to creating a recognizable and defined character. These attributes assist in understanding the physical make-up of an area and help to identify what sets an area apart from its surrounding context.

The following attributes, which contribute to and define the character of a community, include:

- Built Form – Height and Massing
- Built Form – Style of Architecture
- Building Setbacks
- Pattern, Rhythm, and Size of Adjacent Lot Fabric
- Streetscape Design (Public)
- Landscaped Areas (Private)
- Cultural Heritage

Urban design relies upon a combination of high-quality built form, engaging public spaces, animated pedestrian streets, and recognizable gateways and landmarks to create neighbourhood character and a sense of place. These elements build upon the existing structure of the community, the natural and built environments, and consider the elements of both buildings and public spaces.

Private Realm

The private realm is comprised of the built form and site design within development blocks and their relationship to adjacent open spaces and roads. The residential buildings within the community contribute to its character and can assist in further defining and complementing the public realm.

High quality urban design within the private realm should be based upon the quality, scale, and character of the surrounding existing and emerging contexts to reinforce 'human scaled' environments and promote a sense of place.

Good urban design practices will promote excellence in the design of the private realm. Objectives for Farewell Heights include:

- Creating distinctive, appealing, and pedestrian friendly streetscapes through attention to building design and detailing;
- Ensuring appropriate massing, materials, building siting, and design compatibility; and
- Identifying enhanced design requirements for priority lots having highly visible elevations.

Public Realm

The design and organization of the public realm will contribute to place-making and to the framework and setting for development. Guidelines for the public realm should address matters such as the arrangement of streets and blocks, ease of movement, streetscapes, parks and open spaces, views, natural heritage features, and stormwater management facilities. The successful design of the public realm relies on defining the community character and creating diverse, comfortable, welcoming, safe, and accessible spaces.

Appealing pedestrian streetscape with sidewalks, front porches, and plantings.

Active streetscape with signage, wide sidewalk, and plantings.

5.3 Urban Design Opportunities and Challenges

Opportunities

Based on the existing Study Area structure and furthering the intent for a healthy, complete community the following is a list of opportunities for the Farewell Heights Secondary Plan:

Promote a **Healthy and Connected** community with a community structure that promotes the following:

- A complete and robust public realm;
- The synergies between the built form and landscape/ open space,
- A permeable street and block pattern to create a pedestrian-scaled environment;
- A high-quality public realm that enhances mobility, promotes a healthy lifestyle and contributes to the character of the community;
- An active transportation network that is accessible and connected; and,
- A built form that is appropriate for Farewell Heights, while promoting an intensified form of development; and,
- A mix and variety of housing forms to provide for life cycle housing.

Passive recreation - opportunity to create a trail system that complements the existing watercourses with passive recreation uses such as trails and community gardens, amongst others.

Natural Heritage System - enhance the system to ensure it is framed and provides for view corridors onto natural features. Restoration and enhancement of wetland/ woodland habitat (i.e., removal of invasive species) and wildlife habitat.

Streetscape Treatment – Opportunity to enhance the streetscape along Trulls Road to provide sidewalks and bike lanes. Streetscapes within the community must be designed to balance pedestrian, cycling, transit, and land use, in addition to the movement of cars. Consideration must be given to the provision of sidewalks and street trees on both sides of the right-of-way.

Challenges

Urban design must also take into consideration the challenges of the Study Area, such as the existing natural features, and how best to address these issues through appropriate urban design.

Access – Currently, only one access point is provided along Pebblestone Road. Pebblestone Road is a Regional Road and intersection spacing will be a consideration for a second access to Pebblestone.

A second access along the south boundary, connecting to Adelaide Avenue is also limited due to environmental constraints.

With new residents coming to the community there may be challenges with access for emergency services and traffic movement in and out of the community.

High water table - Implementing low impact development such as rain gardens, planted swales, permeable/porous pavements may be limited due to a high water table.

Farewell Creek – The creek tributaries bisect the Study Area in a north-south and east-west orientation and will constrain road connections as crossings are limited.

Wetlands and woodlands - the existing natural features create a barrier to parts of the Study Area and require a minimum 30 metre buffer.

5.4 Key Urban Design Priorities

Urban Design provides guidance on how the community will be physically shaped in order to achieve a stated vision for the community. The following urban design priorities are derived based on Priority Green, the community design intent, and design opportunities to establish the urban design framework for the Farewell Heights Secondary Plan and the Urban Design and Sustainability Guidelines.

Built Environment

- Recognition of the scale and form of development/ existing built character of the area
- Establish a variety of public spaces to support community life throughout the year
- Ensure appropriate massing, materials, building siting, and design compatibility
- Promote of a variety and range of housing types
- Promote innovative residential building designs that contribute to energy reduction and synergies between buildings, and site management practices
- Foster a sense of place
- Design for all ages and abilities

Create neighbourhood character to foster a sense of place.

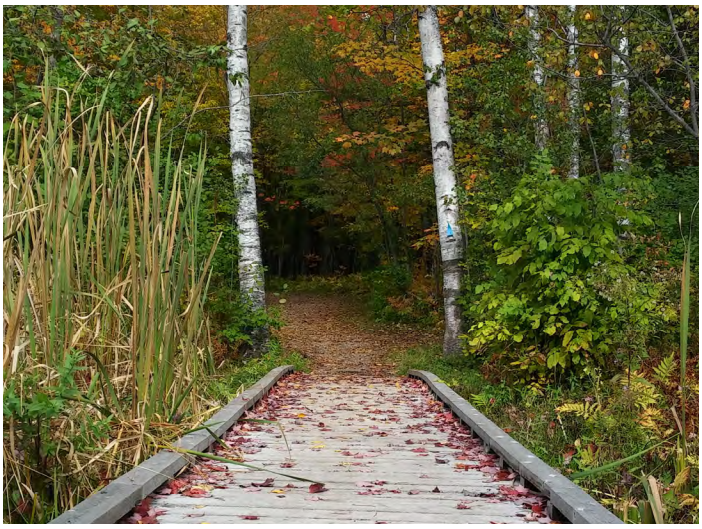
Mobility

- Create animated, safe, and comfortable human-scaled streets that enhance mobility for pedestrians, cyclists, and vehicles
- Promote walkabilty through sidewalks on both sides of the street, short block lengths, and connected pedestrian system
- Permeable and connected street pattern, no dead ends or reverse frontage
- Connect the natural features through the local road pattern to create multiple ‘windows’

Connect the community with adjacent uses through trails and pathways.

Environment and Open Space

- Protection and enhancement of surrounding environmental lands/natural features, while broadening opportunities for public access, enjoyment, education and stewardship
- Provision of connected systems of parks, open space, roads, and trails
- Use landscape design to protect the relationship between natural areas of scenic and biological value created by topography; vegetation and water resources, and existing woodlots and hedgerows
- Maximize views and vistas to the natural heritage system through site design



Integrate the natural heritage system into the community.

Infrastructure and Buildings

- Implement best management practices in stormwater management including widened open space corridors and incorporate innovative and appropriate LID opportunities and best practices
- Utilize passive solar orientation in the layout of the community to maximize solar energy gain opportunities
- Infrastructure and buildings are designed and built to be resilient
- Incorporate community gardens

Support innovative housing designs that are energy efficient.

6 FAREWELL HEIGHTS PRINCIPLES

The following guiding sustainability and urban design principles have been shaped by the direction of provincial, regional, and municipal policies and the requirements for secondary plans under Priority Green. The following sustainable and urban design principles will be used to inform the policy framework for the Farewell Heights Secondary Plan and the Urban Design and Sustainability Guidelines.

The principles are organized under the following four theme areas .

Built Environment

The built environment and the way it is designed can influence a person's lifestyle choices. The efficient use of land and a mix and diversity of housing types and amenities, located within walking distance, provides the opportunity for residents to meet their day to day needs.

- Create a healthy, pedestrian-oriented environment that supports opportunities for daily physical activity in a safe, inclusive, and accessible community, meeting the needs of residents of all ages and abilities.
- Provide for an appropriate mix of housing options, including affordable and rental housing to meet the projected needs of present and future residents throughout all stages of their lives.
- Design for a contextual community which transitions meaningfully into its surroundings, creating new connections to existing amenities, respecting existing built-up areas, and maintaining effective buffering and relationships with natural areas.
- Design for a coherent community which organizes itself around well-defined public spaces, using architecture, transportation networks, and the landscape to frame identifiable urban places and celebrate the existing natural and built character.
- Promote design excellence through a well-designed and contextually appropriate community that celebrates the scale and form of the existing natural and built character.

Mobility

Supporting a full spectrum of mobility options for all residents and improved connectivity within a fully integrated network is an essential element of planning for sustained transportation methods and healthier lifestyles.

- Ensure the provision of an accessible and connected multi-modal transportation network that gives priority to the creation of complete streets and active transportation to ensure all persons have transportation options while reducing automobile dependence.
- Create a transportation network which promotes health and safety by providing an enhanced and safe network for pedestrians, cyclists, and transit users.
- Foster a connected and accessible on-road and off-road pedestrian path network which promotes a culture of walking.

Natural Environment + Open Space

Recognizing the importance of the natural features as contributing to the quality of life for local residents and observing defined protection areas to restore or enhance the natural heritage system. Providing a continuous open space system linking natural features, public parks, stormwater management facilities, and trails

- Promote development and land use patterns that conserve biodiversity, ecological integrity, and function to protect the health of the natural environment.
- Identify and integrate compatible passive and sustainable recreational opportunities within natural areas and through a linked trail system.
- Create a connected parks and trails network that complements the road-based circulation network, including pedestrian and cycling, providing both utilitarian and recreational amenities that support active and healthy living.
- Ensure optimal tree canopy and promote the benefits of the urban forest such as reduction in air pollution, urban heat island effect, energy savings, habitat for urban wildlife, biodiversity, and opportunities for recreation and physical activity.

Infrastructure and Buildings

Becoming resilient to changing weather patterns and extreme weather events also requires a multi-faceted approach that addresses integrated stormwater management, green infrastructure, energy supply and distribution, and precautionary land use planning. New buildings and communities should be designed with a focus on reducing water, waste, and energy use.

- Promote an adaptive and resilient community through the responsible use of resources, reduction of greenhouse gas emissions, reduction of demands on energy, water, and waste systems, and the impacts of climate change.
- Ensure new development contributes to adapting to, and mitigating, the impacts of climate change through the construction of energy efficient buildings and the use of green building materials.
- Utilize opportunities for best management practices for stormwater that implement green infrastructure techniques and Low Impact Development (LID) standards.

7 NEXT STEPS

Next Steps

PHASE 2

Land Use Options

The next phase of work entails developing three land use options for the Study Area. We will leverage the background research outlined in this report, the sustainable and urban design initiatives and priorities, and the findings from the Phase 1 technical reports to develop land use options that respond to the existing conditions, implement a sustainable approach, and provide appropriate urban design strategies to support a complete, sustainable, and healthy community.

Evaluation Criteria

The three land use options will then be evaluated based on a set of Evaluation Criteria to determine the best elements of the three plans to move forward with the development of a Preferred Plan which will be used to prepare the Secondary Plan. The Evaluation Criteria will be developed based on the sustainable initiatives and priorities and urban design intent and priorities.

Following the development and evaluation of the land use options, the discussion and recommendations from this report will be used to assist with structuring the framework for the Farewell Heights Secondary Plan and the Urban Design and Sustainability Guidelines.

These documents will ensure an approach to development that respects the function of green infrastructure, remains adaptable over time, and is informed by green standards including resilient infrastructure and reduced greenhouse gas emissions, in support of a move towards a net zero community.