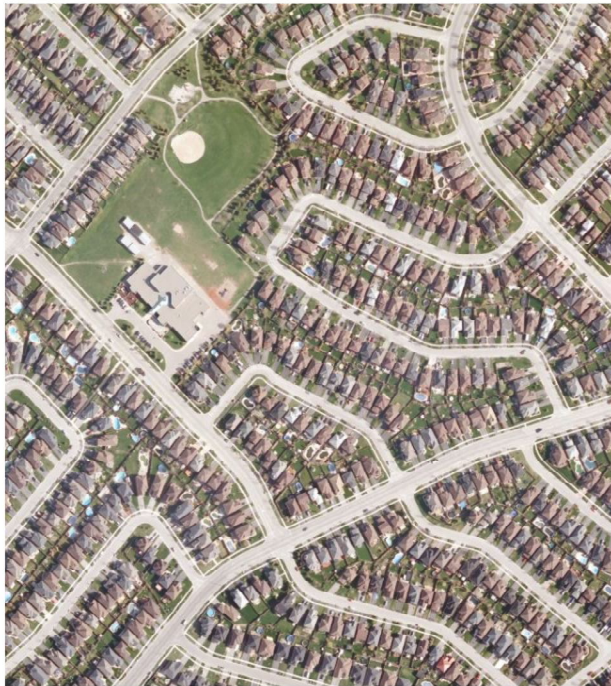


MARCH 2014

Town of Halton Hills **Green Development Standards Study**

Final Report



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IN ASSOCIATION
WITH

BrookMcIlroy

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Executive Summary

The Town of Halton Hills has undertaken a Green Development Standards Study to review and update the existing Green Development Evaluation Checklist, and to provide additional guidelines which can apply to all forms of development, not just low rise residential projects. Building on the success of the existing Green Development Evaluation Checklist, the Green Development Standards will put in place a flexible and comprehensive 'second-generation' set of criteria that will materialize in more sustainable, high-performance and efficient development. The Standards will make an appreciable difference in the quality of development. Aside from the performance of individual structures, the new Standards improve broader community design and infrastructure.

Based on stakeholder consultation and a review of municipal best practices, the recommended Standards have been carefully designed to maximize benefits to the Town, the broader community, residents and builders/developers. Benefits include:

- Energy conservation
- Water conservation
- Improved community design
- More active transportation
- Efficient infrastructure use
- Stormwater management
- Reduced long-term home/building/business operating costs
- Implementation Flexibility
- Marketing advantage
- Efficient resource/material use
- Reduced utility costs
- Lower greenhouse gas emissions
- A healthier community.

The standards are also in keeping with the Provincial Policy Statement 2014 which has been updated to, among other things, include: active transportation; additional elements of healthy communities such as community design; consideration of potential impacts of climate change to support the reduction of greenhouse gas emissions and maximize energy efficiency and conservation; encourage green infrastructure; and strengthen stormwater management requirements.

The Green Development Standards will apply within the Town's urban boundaries to new applications for new low-rise residential, low-rise non-residential, and mid to high-rise development of all types. Renovations, alterations and development consisting of less than four residential lots will remain subject to existing requirements. The Green Development Standards will apply Town-wide. The Standards' objectives align with those being considered for the Vision Georgetown lands.

Implementation of the Standards will engage applicants early in the application/design process to maximize benefits and awareness, starting with widespread communication of the Standards and discussions at the development pre-consultation stage.

The new Standards align with and will advance the objectives of the Strategic Plan, Official Plan, Green Plan, Cycling Master Plan, Community Sustainability Strategy, Mayor's Community Energy Plan, Corporate Sustainable Building Policy, Green Development Evaluation Checklist, Pedestrian Charter, the Climate Change report prepared by the Town's Environmental Advisory Committee, and others.

The Study is being carried out in five phases that include:

1. Background analysis, issue identification and the provision of a draft Green Development Standards Checklist;
2. Industry Consultation;
3. Initial Policy and Regulatory Framework;
4. Final Green Development Standards Checklist and Policy and Regulatory Framework;
5. Staff and Industry Engagement

The completion of this report and the finalization of the criteria for the Green Development Standards is part of Phase 4. The Standards are broken down into three Checklists being: Low-Rise Non-Residential, Low-Rise Residential, Mid to High Rise (any use). The approach to the Standards has been to provide flexibility by using a LEED® like approach. This approach means that a numerical score has been assigned to the criteria and the builder is now asked to satisfy a minimum number of points by choosing the criteria which are most appropriate for them. The criteria are rated on both the environmental benefits of the criteria and the difficulty or cost associated with implementing them.

The required number of points has started reasonably low to allow builders to adjust to these criteria and with a recommendation that the Town consider increasing the numerical level that must be achieved after a two year period. It is recommended that the Town continue to make completion of the Checklist a requirement of a complete application under the Planning Act and that allocation of water capacity be based on demonstrating compliance with the Official Plan as illustrated through the successful completion of the Checklist.

In order to ensure that the Town's desire for sustainable and high-performing development practices are clearly articulated and completely integrated into the planning process, it is recommended that additional minor modifications be made to the Official Plan. This will reflect the changes to the Planning Act as approved through Bill 51, Planning and Conservation Land Statute Law Amendment Act which encourage sustainable development and assist in clarifying that the Town is committed to sustainable community development. It will also provide guidance on the process by which the Town is anticipating achieving this objective.

There is no explicit reference to sustainable or high-performing development into the Community Vision statement and it suggested that the Town consider incorporating that objective.

It also suggested that a new Sustainable Community Development section be added to the goals and strategic objectives. Changes to the goals and strategic objectives should occur at the same time as a change to the Community Vision. Based on the outcome of this Study, the suggested wording for the new Goal would be:

"To promote community development in a manner that is sustainable for present and future generations."

The accompanying strategic objectives would be:

- “a) To develop an energy efficient mix of land uses in urban areas to create vibrant, complete, healthy communities.*
- b) To reduce consumption of energy, water, land and other non-renewable resources.*
- c) To promote sustainable site and building design and construction techniques in new development that reduces energy and water consumption, improves air and water quality, encourages alternative modes of transportation, provides for enhanced natural environment conditions, and improves waste management.*
- d) To promote a total and per capita reduction in energy and water consumption in all sectors by encouraging retrofitting of existing buildings and facilities.”*

It is suggested that modifications be made to the Environment Management section to specifically identify that the Town is addressing green development by adding the following section:

“GREEN DEVELOPMENT

To ensure that the goals and strategic objectives of this Plan to facilitate sustainable development practices are addressed through development applications, all development applications in the Town shall promote the following goals through use of technologies, innovations, features, landscaping, site plans, subdivision plans and any other mean available to the developer:

- *Energy conservation*
- *Water conservation Air quality*
- *Waste management*
- *Transportation and/or Community Design*

C18.1

A development application will be deemed to have met the above goals if it meets the requirements of the Green Development Standards adopted by Council, from time to time, to provide detailed direction for the implementation of this policy. “

It is recommended that the Site Plan Control section be amended to reference the Planning Act which has added new powers to deal with sustainable development on exterior facades and within municipal roads through Bill 51.

It is recommended that the Green Development Standards Checklist be included in the list of supplementary information requirements and that policies refer to the requirements for a complete application. It is recommended that the following section be added:

“Green Development Standards Checklist. The intent is to demonstrate that the development meets the goals of the Official Plan to provide for sustainable building and development and to be consistent with Section C18 of this Plan.”

The approach to the Green Development Standards is intended to provide flexibility to the builders to choose which items which make the most sense for their development. Due to this fact, there is not one single list of criteria that will specifically apply to each application. In addition, different criteria can be addressed at different points in the approval and building process. As a result, it must be made clear to

developers/builders at each step in the planning process that the Green Development Standards are being utilized and that they have the option of implementing some of the Green Development Standards at the building permit stage if they chose to do so. Based on the total number of points that are available and the minimum threshold of points to be achieved, it is not necessary to fulfill points at the Building Permit stage.

The Town needs to consider if and how the items that are being voluntarily installed at the Building Permit stage are going to be verified and the Checklist enforced. There are a number of options which the Town can choose in dealing with compliance and implementation of the Standards at the Building Permit Stage. The following options are available:

1. Non- Verification

The Town requires proof of intent but allows for a non-verification path. This means that the Builder is required to demonstrate at the time of the Building Permit application which criteria on the checklist are being fulfilled and to include the data as part of the application that shows how the criteria will be met. Once the Building Permit has been issued however, this approach assumes that the Builder will install all of the features that have been identified on the Checklist but the Town does not require verification.

2. Verification by Town Staff

The Town follows the same process listed above but requires that verification occurs and adds that to the scope of the building inspector's job. The building inspectors would be asked to verify compliance as part of the regular building inspection process.

3. Verification by Third Party

The Town requires that builders prove compliance with the criteria by obtaining third party verification paid for by the developer. This approach would be similar to requiring a control architect to verify that buildings have been designed in accordance with Architectural Design Guidelines.

4. Random Verification

The Town requires that Builders submit proof, with their building permit application, for all criteria they are planning to satisfy (as is the case for option 1). During the building process, the Town will require an audit of a certain number of criteria (3 for example) for compliance. The Town can choose to audit the criteria themselves (via their building inspectors) or have a third party professional audit the criteria (with the cost either going to the Town or the builder). As the builder will not know which criteria will be checked, it is assumed they will implement all of them. This is similar to the approach used by LEED®.

Based on discussions with the Steering Committee and Technical Advisory Committee, it is recommended that the Town start with Option 1 to allow builders to adjust to the new Standards and the process with the intent to move to Option 4 when the Green Development Standards are reviewed in 2 years. As part of utilizing the Option 1 approach it is suggested that builders be offered the option of providing third party verification of compliance and that if they do so then they be posted on the Town's web site as a Halton Hills Green Development Champion (or some similar name) and permitted to use that term in their marketing materials. It is recommended that a link be created on the Town's homepage to make it easy to find the Green Development Champions. It is also recommended that the

applicant be required to post information on a sign indicating that the project will be implementing the Town's Green Development Standards.

The concern with using Option 1 permanently is that some builders may not implement all of the criteria despite having agreed to do so in a subdivision or site plan agreement if verification of the building permit matters is not mandatory. Option 4 should be considered as a long term approach because it involves some verification of compliance but there is less of a burden on all parties involved.

It is recommended that the existing Sustainability Implications section of the staff report as well as the accompanying Sustainability Implications Worksheet be used to highlight how the Green Development Standards Checklist has been satisfied. It is also recommended that all applicants be required to post information on a sign on the site (or at the sales office) indicating that the project will be implementing the Town's Official Plan policies on sustainability through the use of the Green Development Standards.

In order to effectively incorporate the Green Development Standards into the approval process and to ensure that the Standards are being achieved, the Town has a variety of application forms, pre-consultation forms and processes, application guides, conditions of approval, and legal agreements that should all be updated. The documents which should be amended to reference to Green Development Standards are:

1. Pre-consultation form
2. OPA / ZBA Application form
3. Subdivision/Condominium application form
4. Draft Plan of Subdivision conditions of approval
5. Subdivision agreement
6. Site plan application form
7. Site plan agreement
8. Site Plan Development Guide

It is suggested that the Town provide support to the development industry to ensure effective implementation of the Standards. These should include:

- a) Establishing a Green Development Champion Award to recognize leaders in green and sustainable development who have provided verification of satisfying the Green Development Standards and post the winners of the Award in a prominent location on the Town's website.
- b) Providing On-line resources that can include such things as green suppliers, lists of native drought resistant plant species, and energy consultants.
- c) Establishing an on-going working group with industry stakeholders to address problems as they arise.
- d) Creating a designated municipal contact person who offers technical assistance to builders.
- e) Reviewing/updating the green Development standards in 2 years.

1. Introduction

The Town of Halton Hills is undertaking a Green Development Standards Study to review and update the existing Green Development Evaluation Checklist, and to provide additional guidelines which can apply to all forms of development, not just low rise residential projects. Building on the success of the existing Green Development Evaluation Checklist, the Green Development Standards will put in place a flexible and comprehensive 'second-generation' set of criteria that will materialize in more sustainable, high-performance and efficient development. The Standards will make an appreciable difference in the quality of development. Aside from the performance of individual structures, the new Standards improve broader community design and infrastructure.

Based on stakeholder consultation and a review of municipal best practices, the recommended Standards have been carefully designed to maximize benefits to the Town, the broader community, residents and builders/developers. Benefits include:

- Energy conservation
- Water conservation
- Improved community design
- More active transportation
- Efficient infrastructure use
- Stormwater management
- Reduced long-term home/building/business operating costs
- Implementation Flexibility
- Marketing advantage
- Efficient resource/material use
- Reduced utility costs
- Lower greenhouse gas emissions
- A healthier community.

The standards are also in keeping with the Provincial Policy Statement 2014 which has been updated to, among other things, include: active transportation; additional elements of healthy communities such as community design; consideration of potential impacts of climate change to support the reduction of greenhouse gas emissions and maximize energy efficiency and conservation; encourage green infrastructure; and strengthen stormwater management requirements.

The Green Development Standards will be used in new applications within the Town's urban boundaries for new low-rise residential, low-rise non-residential, and mid-high-rise development of all types. Renovations, alterations and development consisting of less than four residential lots will remain subject to existing Planning Act and Ontario Building Code requirements.

The Green Development Standards will apply Town-wide. The Standards' objectives align with those being considered for the Vision Georgetown lands.

Implementation of the Standards will engage applicants early in the application/design process to maximize benefits and awareness, starting with widespread communication of the Standards and discussions at the development pre-consultation stage.

The new Standards align with and will advance the objectives of the Strategic Plan, Official Plan, Green Plan, Cycling Master Plan, Community Sustainability Strategy, Mayor's Community Energy Plan, Corporate Sustainable Building Policy, Green Development Evaluation Checklist, Pedestrian Charter, the Climate Change report prepared by the Environmental Advisory Committee, and others.

The Study is being carried out in five phases that include:

1. Background analysis, issue identification and the provision of a draft Green Development Standards Checklist;
2. Industry Consultation;
3. Initial Policy and Regulatory Framework;
4. Final Green Development Standards Checklist and Policy and Regulatory Framework;
5. Staff and Industry Engagement

Phases 1, 2 and 3 have now been completed and have resulted in the creation of the final recommended Green Development Standards. The Standards are broken down into three checklists being: Low-Rise Non-Residential, Low-Rise Residential, Mid to High Rise (any use). After obtaining input into the first round of the draft Standards, the approach to the Standards has been revised to provide flexibility by using a LEED® like approach. This approach means that a numerical score has been assigned to the criteria and the builder is now asked to satisfy a minimum number of points by choosing the criteria which are most appropriate for them. The criteria are rated on both the environmental benefits of the criteria and the difficulty or cost associated with implementing them.

It is noted that the criteria dealing with communication to the end user are mandatory and no points are assigned to achieving the mandatory criteria. These criteria should be relatively straight forward and low cost to implement.

It is recommended that the required number of points start reasonably low to allow builders to adjust to these criteria and that the Town may then wish to consider increasing the numerical level that must be achieved after a two year period.

It is recommended that, in order to demonstrate how the application complies with the Official Plan policies, the Town continue to make completion of the Checklist a requirement of a complete application under the Planning Act and that allocation of water capacity be based on satisfying the Official Plan policies as demonstrated by achieving the required number of points within the applicable Standard.

In order to facilitate implementation of these criteria, this report provides recommendations for amendments to the Official Plan, the Town's pre-consultation and approval processes, application forms, site plan application guide, and subdivision and site plan agreements. This will help to ensure

that the Town has a clear and strong policy basis upon which to be making its decisions, that the development industry is aware as early as possible in the development approval process of the need to demonstrate compliance with the Official Plan through the use of these criteria and that both Town staff and the development industry can effectively implement the Standards.

Electric vehicles are an opportunity to lower greenhouse gas emissions caused by vehicle travel.



An example of Low Impact Development techniques which assist with storm water management.



2. Official Plan

The Town of Halton Hills has a thoughtful and well laid out Official Plan that is consistent with the requirements of the Provincial Policy Statement to: encourage a mix of employment and housing uses; to promote compact form, use of public transit and alternative forms of transportation; to conserve and manage natural resources; to address the supply, efficient use and conservation of water and energy; to minimize waste; to minimize stormwater volumes and contaminant loads; and to maintain or increase the extent of vegetative and pervious surfaces.

The matters of provincial interest identified in the Planning Act and Provincial Policy Statement are found throughout the Official Plan and are addressed under a variety of sections and policies. In order to ensure that the Town's desire for sustainable and green development practices are clearly articulated and well integrated into the planning process, it is recommended that additional minor modifications be made to the Official Plan. This will assist in clarifying that the Town is committed to sustainable community development and will provide guidance on the process by which the Town is anticipating achieving this objective.

2.1 Community Vision

Section A1 of the Official Plan articulates the Community Vision for the municipality. The Vision establishes an "environment first" philosophy "whereby the importance of maintaining, restoring and where possible, enhancing or improving the natural heritage features and ecological functions is recognized and promoted as a Town priority..." There is no explicit reference however, to sustainable or green development within the Town. In addition to this Study, the Town has also undertaken the Integrated Community Sustainability Strategy (ICSS). The ICSS was developed on the basis of extensive community input to create a Strategy that reflects the needs and desires of the residents and stakeholders of the Town in terms of economic prosperity, cultural vitality, environmental health and social well-being, including more sustainable forms of development. Given the Town's commitment to both the Green Development Standards and the ICSS it suggested that the Town consider incorporating an objective into the Community Vision statement which addresses sustainable development. Depending on the timing, changes to the Community Vision could also be incorporated into the Town's comprehensive five year review of the Official Plan. As a basis for starting to discuss revisions to the Community Vision to address the Green Development Standards Study the following wording is suggested at the end of the current Vision section:

"The Town is taking numerous steps towards achieving a sustainable community through a variety of successful initiatives and sustainable development is an important component of that. Sustainable development is often defined as development meeting the needs of the present without compromising the ability of future generations to meet their own needs. The benefits of sustainable development are a reduction in the environmental footprint through a variety of measures that include improving water, energy and land consumption, reducing construction waste and contaminants, and improving air quality and the natural environment. As part of achieving a sustainable community there has been recognition of the need for sustainable

building and development practices to use fewer resources during the construction process, and to reduce the greenhouse gas emissions and long term operating costs of buildings.”

2.2 Goals and Strategic Objectives

In the goals and strategic objectives section of the Official Plan there is reference to various matters which incorporate sustainable (green) development. These include:

- compact and pedestrian friendly neighbourhoods with a mix of uses,
- an integrated transportation system that accommodate various modes of transportation including public transit, walking and cycling;
- establishing a permeable grid pattern of roads;
- construction of infrastructure with a minimum of environmental impact that is energy efficient, promotes water conservation and water efficiencies and supports improvements to air quality;
- improvements to air quality through facility management, land use planning, transportation management, and roadway design, operation and maintenance;
- protecting water resources as an integral component of the natural environment;
- preserving trees and wooded areas and facilitating the planting of trees through the development process;
- encouraging the development of alternatives to automobile use through the establishment of transit, pedestrian and bicycle routes;
- encouraging energy efficiency in the design of public and private buildings.

In order to be more explicit regarding the Town’s desire to foster sustainable development, it is recommended that an amendment be made to the goals and strategic objectives section of the Plan at the same time as a change to the Community Vision and again, taking into consideration input from the ICSS. Suggested wording for the amendment based on this Study is:

“A.2.11 Sustainable Community Development

A.2.11.1 Goal

To promote community development in a manner that is sustainable for present and future generations.

A.2.11.2 Strategic Objectives

- a) To develop an energy efficient mix of land uses in urban areas to create vibrant, complete, healthy communities.
- b) To reduce consumption of energy, water, land and other non-renewable resources.
- c) To promote sustainable site and building design and construction techniques in new development that reduces energy and water consumption, improves air and water quality,

- encourages alternative modes of transportation, provides for enhanced natural environment conditions, and improves waste management.
- d) To promote a total and per capita reduction in energy and water consumption in all sectors by encouraging retrofitting of existing buildings and facilities.”

It is noted that, although the Green Development Standards only apply to new construction, subsection d) above makes references to retrofitting existing buildings and facilities. Adding this policy is in keeping with the same principles that are being addressed by the Town through upgrades to its own buildings as opportunities arise and it is therefore appropriate to reference them at this time as well. It also means that on a case by case basis, Town staff can encourage and assist development that is not subject to the Standards to adopt appropriate sustainable development techniques and/or approaches that meet the objectives of the Official Plan.

2.3 Environmental Management Policies

The Official Plan has a section which is entitled Environmental Management Policies which states the objectives for the section and deals with a wide variety of environmental issues. The objectives for this section again cover most of the issues that relate to green development standards. It is recommended that an objective be added to set the basis for more detailed policies on Green Development Standards by adding:

- “s) Identify means for ensuring that new development is built in a more sustainable manner, including the implementation of green development standards.”

It is also recommended that a new subsection be added to the end of the Environmental Management Policies to reference Green Development to show how the Green Development Standards will be used to help to ensure the Town’s sustainable goals and objectives are being met. This will also articulate the basis for the Town’s evaluation and prioritization of development approvals and the assignment of servicing allocation. It is suggested that the following policy be added:

“C18 GREEN DEVELOPMENT

To ensure that the goals and strategic objectives of this Plan to facilitate sustainable development practices are addressed through development applications, all development applications in the Town shall promote the following goals through use of technologies, innovations, features, landscaping, site plans, subdivision plans and any other mean available to the developer:

- Energy conservation;
- Water conservation;
- Air quality;
- Waste management; and
- Transportation and/or Community Design.

A development application will be deemed to have met the above goals if it meets the requirements of the Green Development Standards adopted by Council, from time to time, to provide detailed direction for the implementation of this policy.”

2.4 Subdivision of Land

Bill 51, Planning and Conservation Land Statute Law Amendment Act in amending the Planning Act also dealt with the matters under Section 51 dealing with subdivision of land. Section 51(24) was amended by modifying subsection (l) so that it now reads:

“(l) the extent to which the plan's design optimizes the available supply, means of supplying, efficient use and conservation of energy.”

Section F1.3 of the Official Plan deals with the subdivision of land and states:

“Prior to the consideration of an application for Plan of Subdivision, Council shall be satisfied that:

f) the proposal conforms to Section 51 (24) of the *Planning Act*, as amended. “

As a result it does not appear to be necessary to amend that section of the Official Plan.

2.5 Site Plan Control Approval

Section G8 of the Official Plan deals with Site Plan Control approval. Section 41 (4) of the Planning Act as amended by Bill 51 now gives municipalities the ability to address matters relating to the sustainable design. These include:

“(d) matters relating to exterior design, including without limitation the character, scale, appearance and design features of buildings, and their sustainable design, but only to the extent that it is a matter of exterior design, if an official plan and a by-law passed under subsection (2) that both contain provisions relating to such matters are in effect in the municipality;

(e) the sustainable design elements on any adjoining highway under a municipality's jurisdiction, including without limitation trees, shrubs, hedges, plantings or other ground cover, permeable paving materials, street furniture, curb ramps, waste and recycling containers and bicycle parking facilities, if an official plan and a by-law passed under subsection (2) are in effect in the municipality”.

As a result, it is recommended that the Official Plan be amended to incorporate those provisions. The following additional wording is recommended for the end of the first paragraph under section G8:

“Prior to the consideration of an application for Site Plan Control approval, Council shall be satisfied that the proposal conforms to Section 41(4) of the Planning Act, as amended.”

2.6 Plan Implementation and Administration

Section G12 of the Official Plan provides the basis for pre-consultation and establishes the requirements for complete applications. The list understandably does not reference the Green Development Standards Checklist since the Standards were first created after the Official Plan was adopted by Council. It is therefore suggested that the Green Development Standards Checklist be included in the list of supplementary information requirements and that policies refer to section C18 to ensure that applicants are aware that Green Development Standards will be used as a tool for evaluating development applications and assigning servicing capacity. It is recommended that the following section be added:

- “o) Green Development Standards Checklist. The intent is to demonstrate that the development meets the goals of the Official Plan to provide for sustainable building and development and to be consistent with Section C18 of this Plan.”

An example of Low Impact Development techniques which assist with storm water management.



3. Development Approval Process

The approach to the Green Development Standards is intended to provide flexibility to the builders and developers to choose which items which make the most sense for their development. Due to this fact, there is not one single list of criteria that will specifically apply to each application. In addition, different criteria can be addressed at different points in the development approval and building process. As a result, it must be made clear to developers/builders at each step in the planning process that the Green Development Standards are being utilized and that they have the option of implementing some of the Green Development Standards at the building permit stage if they chose to do so. Based on the total number of points that are available and the minimum threshold of points to be achieved, it is not necessary to fulfill points at the Building Permit stage. It is recommended that the developer/builder be requested to provide a statement of intent with the first application to confirm their intent to conform to the Official Plan and to provide a completed Checklist to identify how they intend to do this.

To assist with addressing the implementation of the criteria, it is important to identify at what point in the process each item on the Checklist will be addressed. In order to do that, a fourth column has been added to each of the Checklists. This fourth column states the application during which the criteria will be demonstrated and it also identifies where the criteria will be secured.

The identification and enforcement of some criteria should be fairly clear and straight forward in some cases and in other cases, will require coordination between different application processes. For example, in the Low Rise Residential Standards, having the street and block alignments designed to achieve passive solar gain will need to be demonstrated at the time of subdivision application. It will be shown on the plans submitted in support of the application, the approved plan will be made a condition of draft plan approval and it will be secured through the registration of the subdivision. As the result, the fourth column of the Checklist indicates that the criteria will be demonstrated at Subdivision stage and will be secured through the subdivision registration. Given that one planner will be following the subdivision application from submission of the application to registration, they will be familiar with the criteria that have been identified and should be able to ensure that they are implemented in the drawings that are submitted and the agreements that are signed.

For other criteria however, the desire to address them can be identified at the start of the planning process but may not be demonstrated until the time of Building Permit. As the municipality cannot require standards greater than the Building Code at the time of the Building Permit applications, if the builder intends to voluntarily use standards greater than Building Code, the criteria should be secured earlier through a Planning Act process in either a site plan or subdivision agreement. This would be similar to the approach that is currently used by the Town for implementing Urban Design Guidelines.

As a result, the fourth column in the Checklist identifies WaterSense® fixtures for example, as being demonstrated at Building Permit stage but secured by site plan or subdivision agreement. Once the applicable agreement has been signed agreeing to comply with the Official Plan policies to provide for green development then the water allocation can be conveyed.

If the builder has agreed to satisfy the Official Plan policies to achieve green development through the use of some items that are proposed to be installed at the Building Permit stage, the Town needs to consider if and how those items are going to be verified. There are a number of options that are available to the Town in dealing with compliance and implementation of the Standards at the Building Permit Stage. These include:

1. Non-Verification Approach

The Town requires proof of intent but allows for a non-verification path. This means that the Builder is required to demonstrate at the time of the Building Permit application which criteria on the checklist are being fulfilled and to include the data as part of the application that shows how the criteria will be met. Proof will come in the form of product cut sheets, design drawings, energy calculations, or declarations (ie: we, the builder, will use 25% FSC wood for this project). This will require more detailed information than is usually provided with the Building Permit application. For example, rather than simply listing the number of water fixtures that are being installed, the builder would also include the specifications of the water fixtures indicating that they are WaterSense® rated. Once the Building Permit has been issued, this approach assumes that the Builder will install all of the features that have been identified on the Checklist but the Town does not require verification.

The advantage to this approach is that:

- a. It is the relatively easy for the Town to implement. Although the builder must submit more information than is normally required at the Building Permit stage, it does not require additional processes.

The disadvantage is that:

- a. The Town has no way of verifying that the criteria have been fulfilled.

2. Verification by Town staff

The Town follows the same process listed above but requires that verification occurs and adds that to the scope of the building inspector's job. The building inspectors would be asked to verify compliance at the building stage (WaterSense® fixtures, Energy Star® compliant fixtures etc).

The advantages to this approach are that:

- a. It integrates the green building compliance process into the existing compliance framework and makes no distinction between good structural building and good sustainable building.
- b. Unless there is an additional application fee to the Town, there is no additional cost to the builder which is a benefit to the consumer and there are no additional costs which may make developers reluctant to build in the Town.
- c. It keeps the building process streamlined rather than having a second, independent, process to verify sustainable compliance on top of code compliance, meaning less potential delays in the process.

The disadvantages are:

- a. It may require additional training for inspection officials, and adds scope to their jobs which may require more inspectors depending on their current workloads. Both of which likely adds cost.
- b. Builders may complain if the additional scope slows down the timing for receiving a building permit.

3. Verification by Third Party

The Town requires that builders prove compliance with the criteria by obtaining third party verification paid for by the developer. This approach would be similar to requiring a control architect to verify that buildings have been designed in accordance with Architectural Design Guidelines.

The advantages to this approach are that:

- a. The burden of proof is on the developer, both in terms of time and cost. There are no additional real costs to the Township.
- b. With third party professional certification, criteria compliance rates will be much higher as all criteria are independently verified.
- c. There is no holdup for the builder at the permit application stage.

The disadvantages are:

- a. It adds cost and complexity to the builder's process, which will most likely be passed on to the buyer / tenant. There is also a chance that this could discourage developers from building in the Town if neighbouring municipalities don't have these requirements.
- b. The less stringent the requirements of proof, the less likely it is that there will be full compliance, affecting the overall success of the program.
- c. The Town would likely have to develop a process to ensure that the professionals verifying the criteria are in fact, doing so consistently and to the level that the guidelines state. While not as burdensome as verifying the criteria, some form of oversight may be required, possibly a random check of project verifications every year.
- d. Developers feel that they are being asked to absorb more cost in addition to the cost of addressing the criteria.
- e. The Building Code compliance is seen as separate and more important than the Green Development Standards compliance because the Town pays for one compliance path and not the other. Building code compliance and Green Development Standards compliance are never merged into one stream as in option 2.

4. Random Verification

The Town requires that Builders submit proof, with their building permit application, for all criteria they are planning to satisfy (as is the case for option 1). During the building process, the Town will require an audit of a certain number of criteria (3 for example) for compliance. The Town can choose to audit the criteria themselves (via their building inspectors) or have a third party professional audit the criteria (with the cost either going to the Town or the builder). This option is very similar to the LEED® compliance model which does random checks of various credits but which does not require complete verification of all credits.

The advantages to this approach are:

- a. The burden of proof is still on the builder, but the burden of verification (the audit) is far less, and the cost could be assumed or split by the Town and the developer.
- b. Random audits of criteria help to ensure that all criteria are completed to a level that will pass compliance. It involves the assumption that because the builder does not know which criteria will be audited that they will comply with all of them.
- c. There is less burden on the Town at the building permit stage (the Town only has to verify that documentation for all intended criteria has been submitted), and the only time burden on the builder might occur during construction while criteria are being audited. If the audits are planned to occur in a timely manner (i.e: the review of insulation happens before the drywall goes up) then there will be little to no burden on the contractor.

The disadvantages are:

- a. Not all criteria are verified.
- b. Developers might complain if they feel that the criteria they are audited for are more time and cost intrusive than those audited for other developers.

In evaluating the above options, the following questions were considered by the Town:

- Is adding scope to the building department's review and inspection process currently an option?
- Is there funding available for possibly adding more staff if required?
- To what level does the Town want compliance at the building permit stage verified? Is the non-verification path or audit of random criteria acceptable?
- Was it the Town's initial intention to have the developer pay for all costs associated with the Green Development Standards or can the Town assume some of these costs to facilitate the implementation?

Based on discussions with the Steering Committee and Technical Advisory Committee, it is recommended that the Town start with Option 1 to allow builders to adjust to the new Standards and the process with the intent to move to Option 4 when the Green Development Standards are reviewed in two years.

The concern with using Option 1 permanently is that some builders may not implement all of the criteria despite having agreed to do so in a subdivision or site plan agreement if verification of the building permit matters is not mandatory. Option 4 should be considered as a long term approach because it involves some verification of compliance but there is less of a burden on all parties involved.

As part of utilizing the Option 1 approach to start with, it is suggested that builders be offered the option of providing third party verification of building permit level compliance and as an incentive to do so that they be given a Halton Hills Green Development Champion Award. This Award would be posted on the Town's web site and the builder would be encouraged to use the Award in their marketing materials. It is recommended that a link be created on the Town's home page to make it easy to find the Green Development Champions.

It is recommended that the Town compile a list of companies that they are prepared to accept as suitable to provide third party verification. For example, the City of Toronto currently has a list of consultants that they will accept which is available on their web site.

If the Town decides to require some form of verification of the criteria in the future then it needs to be determined who will be responsible for the verification and the fourth column of the Standards should be modified to add a statement for each criteria indicating who will verify the criteria.

It is recommended that the existing Sustainability Implications section of the staff report as well as the accompanying Sustainability Implications Worksheet be used to highlight how the Green Development Standards Checklist has been satisfied.

It is also recommended that all applicants be required to post information on a sign on the site (or at the sales office) indicating that the project will be addressing the Town's sustainability goals by implementing the Town's Green Development Standards.

To assist the development community with understanding the criteria and the process it is recommended that the following two pages be inserted in the front of the Green Development Standards Checklists.

Town of Halton Hills Green Development Standards

The Town of Halton Hills has taken numerous positive steps towards achieving a sustainable community as directed by the Planning Act including the establishment of the Halton Hills Green Plan, the Integrated Sustainable Community Strategy, the establishment of goals, objectives and policies in the Official Plan and a variety of other successful initiatives. As part of this process, there has been a recognition of the need for sustainable building and development practices.

Building on the success of the existing Green Development Evaluation Checklist, the Green Development Standards put in place a flexible and comprehensive ‘second-generation’ set of criteria that will materialize in more sustainable, high-performance and efficient development. The Standards will make an appreciable difference in the quality of development. Aside from the performance of individual structures, the new Standards improve broader community design and infrastructure.

Based on stakeholder consultation and a review of municipal best practices, the recommended Standards have been carefully designed to maximize benefits to the Town, the broader community, residents and builders/developers. The purpose of the Standards is to incrementally increase the performance for new development in order to:

- Improve energy conservation which can result in lower utility costs, improved human comfort and a reduction in the need for long-term infrastructure expansion to deal with increasing energy demands;
- Improve water quality and conservation through such means as efficient water fixtures, Low Impact Development standards and drought resistant plantings which can lower utility costs and reduce the need for long-term infrastructure expansion;
- Improve air quality through such means as reduced greenhouse gas emissions and reduced heat islands effects which can improve human health and comfort as well as provide environmental benefits;
- Improve biodiversity and health of the natural environment through such means as improved stormwater controls, increases in native species and a reduction in invasive species;
- Improve human health by such means as encouraging more active transportation;
- Improve waste management which can reduce the impact on landfills sites;
- Improve community design which creates a healthier community and increases interactions among residents;
- Reduce long-term home/building/business operating and utility costs;
- Allow implementation flexibility
- Provide a marketing advantage
- Efficiently utilize resources and materials.

The Standards are broken down into three Checklists which apply to different forms of development:

1. Low-Rise Non-Residential which applies to non-residential development up to 3 storeys in height;

2. Low-Rise Residential which is intended to apply to single detached, semi-detached, duplex and townhouse development containing 4 or more lots or dwelling units up to 3 storeys in height;
3. Mid to High Rise applies to all residential apartments buildings and all non-residential buildings 4 storeys in height or higher.

Each Checklist provides for a list of criteria and each criteria is assigned a numerical score. The Checklist identifies the minimum number of points to be achieved at the end of the Checklist. The criteria are chosen by the developer/builder on the basis of what is most appropriate for the proposed development. The criteria are rated on both the environmental benefits of the criteria and the difficulty or cost associated with implementing them.

New planning applications including zoning by-law amendments, draft plans of subdivision, site plan applications that involve new development of 4 or more residential lots or units or more than 100 square metres of new industrial, commercial, or institutional uses are required to complete the Green Development Standards Checklist. The Checklist will not apply to the expansion of existing buildings although existing owners may be encouraged where applicable to consider what measures can be undertaken to meet Official Plan policies on sustainable development. Where the Green Development Standards apply, the Checklist must be completed and submitted as part of a complete application under the Planning Act.

Satisfactorily addressing the Green Development Standards will be used as a basis for assessing the compliance of the proposed development with the Official Plan and for assigning servicing capacity.

Where pre-consultation has already occurred but the application has not yet been submitted, it is recommended that a letter be sent to potential applicants notifying them of the new Official Plan policies, the Green Development Standards, and the related implementation procedures. An additional pre-consultation meeting may be recommended.

Various energy conservation incentives may be available for eligible projects. Applicants are encouraged to investigate the availability of any such incentives, including contacting Halton Hills Hydro, Union Gas and the Ontario Power Authority regarding current incentive programs.

Green Development Standards Implementation Process



4. Documentation Amendments

In order to effectively incorporate the Green Development Standards into the approval process and to ensure that the Official Plan policies are being achieved, the Town of Halton Hills has a variety of application forms, pre-consultation forms and processes, application guides, conditions of approval, and legal agreements that should all be updated. This will ensure that it is clear at the outset of the application process that the Official Plan policies must be addressed and that the Town intends to utilize the Green Development Standards to demonstrate that compliance. This will allow the Standards to be consistently applied and effectively dealt with throughout the process. The documents which should be amended include:

1. Pre-consultation form
2. OPA / ZBA Application form
3. Subdivision/Condominium application form
4. Draft Plan of Subdivision conditions of approval
5. Subdivision agreement
6. Site plan application form
7. Site plan agreement (Conditional Site Plan Approval)
8. Site Plan Development Guide

The following revisions are therefore recommended.

1. The Pre-consultation Form should be amended by adding the following to Section 7:

*“Do the Town of Halton Hills Official Plan policies on sustainable development as illustrated through the Green Development Standards apply? Yes____ No____
If yes, please review the Green Development Standards Checklist and be prepared to discuss the means that are intended to be used to address the requirements of the Official Plan policies on sustainable development as illustrated by the Green Development Standards.”*

2. The Official Plan Amendment/ Rezoning Application form should be amended by adding a new Section as follows:

*“Do the Town of Halton Hills Official Plan policies on sustainable development as illustrated through the Green Development Standards apply? Yes____ No____
If yes, please complete the Green Development Standards Checklist and identify which criteria are intended to be addressed as part of this approval process.”*

3. The Subdivision/Condominium application form should be amended by adding a new Section 10 as follows:

“10. Green Development Standards:

Has the Town of Halton Hills Green Development Standards Checklist been completed and attached to this application? Yes_____ No_____

Please list the criteria that are intended to be addressed as part of the subdivision/condominium approval process and the means by which they will be addressed.”

4. Draft Plan of Subdivision approval should (i) list as a condition(s) of draft plan approval, the Green Development Standards criteria that must be satisfied as part of final approval; (ii) add a clause to the Town’s existing Notice to Purchasers section requiring signage to indicate that the development will satisfy the Town’s requirements for sustainable development as illustrated through the implementation of the Green Development Standards; and (iii) add the following conditions:

- *“The Owner agrees to incorporate in every agreement of purchase and sale the following notices:*

The development in this subdivision is required to satisfy the Town of Halton Hills’ Official Plan policies dealing with sustainable development. This is being implemented through the use of the Green Development Standards which are intended to reduce energy and water consumption, improve air and water quality, encourage alternative modes of transportation, provide for enhanced natural environment conditions, lower long-term operating costs, and improve waste management. The builder has the option of addressing some of these matters at the Building Permit stage.”

- *“The owner agrees to satisfy the requirements of the Green Development Standards as approved by Town Council on _____, as amended from time to time. The Green Development Standards are intended to reduce energy and water consumption, improve air and water quality, encourage alternative modes of transportation, provide for enhanced natural environment conditions, lower long-term operating costs, and improve waste management.*

The owner acknowledges and agrees that, if they have voluntarily agreed to satisfy items in the Green Development Standards Checklist through matters that are addressed at the Building Permit stage, they will submit documentation as part of the Building Permit applications in sufficient detail to identify how the Standards have been complied with.

5. The Subdivision Agreement should be amended by adding the following sections:

- *“The owner agrees to satisfy the requirements of the Green Development Standards as approved by Town Council on _____, as amended from time to time. The Green Development Standards are intended to reduce energy and water consumption, improve air and water quality, encourage alternative modes of transportation, provide for enhanced natural environment conditions, lower long-term operating costs, and improve waste management.*

The owner acknowledges and agrees that, if they have voluntarily agreed to satisfy items in the Green Development Standards Checklist through matters that are addressed at the Building Permit stage, they will submit documentation as part of the Building Permit applications in sufficient detail to identify how the Standards have been complied with.

6. The Site Plan application form should be amended by adding a new Section between the current Sections 7 and 8 as follows:

Green Development Standards:

“Do the Town of Halton Hills Official Plan policies on sustainable development as illustrated through the Green Development Standards apply? Yes_____ No_____

If yes, has the Green Development Standards Checklist been completed and attached to this application? Yes_____ No_____

Please list the criteria in the Green Development Standards Checklist that are intended to be addressed as part of the site plan approval process and the means by which they will be addressed.”

7. The Conditional Site Plan approval should be amended by adding the following:

1. *“The Owner agrees to incorporate in every agreement of purchase and sale the following notices:*

This development is required to satisfy the Town of Halton Hills’ Official plan policies dealing with sustainable development. This is being implemented through the use of the Green Development Standards which are intended to reduce energy and water consumption, improve air and water quality, encourage alternative modes of transportation, provide for enhanced natural environment conditions, lower long-term operating costs and improve waste management. The builder has the option of addressing some of these matters at the Building Permit stage.”

2. *“The owner agrees to satisfy the requirements of the Green Development Standards as approved by Town Council on _____, as amended from time to time. The Green Development Standards are intended to reduce energy and water consumption, improve air and water quality, encourage alternative modes of transportation, provide for enhanced natural environment conditions, lower long-term operating costs, and improve waste management.*

The owner acknowledges and agrees that if they have voluntarily agreed to satisfy items in the Green Development Standards Checklist through matters that are addressed at the Building Permit stage, they will submit documentation as part of the Building Permit applications in sufficient detail to identify how the Standards have been complied with.”

3. *“The owner agrees to supply, erect and maintain a sign on the lot or in the case of multiple lots, the sales centre property indicating that the development will satisfy the Town of Halton Hill’s requirements for sustainable development as illustrated through implementation of Green Development Standards. The Owner will make this sign to the specifications of the Town.”*

8. The Site Plan Development Guide should be amended as follows:

Section 3.5 Report and Study Requirements should be amended to include:

Green Development Standards Checklist as part of the list of reports that can be required under the site plan application under the column *“At the discretion of the Director of Engineering”*.

It is noted that the Town is currently in the process of preparing a new Development Application Guide. It is recommended that this new Guide incorporate and make reference to the Green Development Standards. It is noted that this new Development Application Guide is intended to incorporate the Site Plan Development Guide so the Site Plan Development Guide will therefore ultimately become redundant.

5. Implementation Assistance

As noted in the Background Discussion Paper it is suggested that the Town provide support to the development industry to ensure effective implementation of the Standards. This should include:

- a) Establishing a Green Development Champion Award to recognize leaders in green and sustainable development who have provided verification of satisfying the Green Development Standards and post the winners of the Award in a prominent location on the Town's website.
- b) Providing On-line resources that can include such things as green suppliers, lists of native drought resistant plant species, and energy consultants.
- c) Establishing an on-going working group with industry stakeholders to address problems as they arise and ensure effective implementation of the standards.
- d) Creating a designated municipal contact person who offers technical assistance to builders.
- e) Reviewing / updating the Green Development Standards in 2 years to address any implementation issues that may arise and to consider updating the numerical score that is required to be achieved for each Standard.

It is also recommended that the Town continue to pursue other education and public sector leadership options as staff time and municipal financial resources allow.



Cycling as a viable alternative transportation option.



Generating electricity from renewable sources, such as the sun, can make a significant contribution to reducing greenhouse gas emissions.

Appendices

Green Development Standards Checklists

Low Rise Residential Green Development Standard Checklist

		Criteria	Points	Rationale	Implementation
Energy Conservation					
Energy Conservation	<input type="checkbox"/>	1	All ground-related dwellings shall be constructed in accordance with the most current version of Energy Star® requirements in place at the time of Building Permit application.	12.0	<p>By some estimates, 40% of energy use in North America can be attributed to the heating, cooling and maintenance of buildings.</p> <p>Building to the Energy Star® standard enables new homes to be approximately 20% more energy efficient than those built to the minimum requirements of the provincial building code and strikes a balance between the premium level of energy efficiency associated with the Energy Star® label and an acceptable incremental cost. According to Natural Resources Canada, an Energy Star® home reduces greenhouse gas emissions by about three tons per year when compared to a similar home built to the minimum building code. Energy Star homes meet minimum insulation requirements and minimum amounts of electrical savings. Due to their high energy efficiency, Energy Star® homes also reduce air pollution and lessen other environmental impacts such as climate change.</p> <p>Various energy conservation incentives may be available for eligible projects. Applicants are encouraged to investigate the availability of any such incentives, including contacting Halton Hills Hydro and the Ontario Power Authority regarding current incentive programs. Information on the SaveONenergy program for homes that install various energy efficient measures including: prescriptive; performance based; custom and training. Information is available at: https://saveonenergy.ca/Business/Program-Overviews/New-Home-Construction.aspx</p>

	Criteria			Points	Rationale	Implementation
	<input type="checkbox"/>	2	Supply all Energy Star® compliant light fixtures.	2.0	According to Natural Resources Canada, Energy Star® products are best energy performers, meeting strict technical specifications for energy performance.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	3	Developers install solar panels on streetlights.	5.0	Streetlights are a major energy user. Energy generated through solar panels is a clean and renewable energy source. Wherever feasible, the proponent will be encouraged to assess the feasibility of installing solar panels on streetlight posts.	Demonstrated at time of: Street light illumination plan Secured by: Subdivision agreement
	<input type="checkbox"/>	4	Install occupancy sensors in the main living areas of the home, as well as motion sensors for all exterior lighting fixtures.	1.0	Occupancy sensors can reduce energy use by ensuring that lights do not remain on when a room is not being used.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	5	Provide zonal HVAC heating and cooling controls.	3.0	The use of zone controls for HVAC systems will allow homeowners to control the temperature in different areas of the home. This can reduce energy consumption since not all spaces will be required to achieve the same temperature.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	6	Supply on-demand water heating.	3.0	On-demand water heating is more efficient as water is heated only when it is needed rather than heated and stored for future use.	Demonstrated at time of: Building Permit Secured by: subdivision or Site Plan agreement
	<input type="checkbox"/>	7	Use triple pane windows with low emissive coatings to help reflect heat and sunlight.	2.0	Highly energy efficient windows can reduce energy use by lowering the need for air conditioning in the summer and heating in the winter.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement

	Criteria			Points	Rationale	Implementation
	<input type="checkbox"/>	8	Install an indoor (basement) and outdoor clothesline.	0.5	An electric clothes dryer is a major energy user. The use of a clothesline can significantly reduce energy consumption associated with electric dryers.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	9	Street and block alignments are designed to achieve passive solar gain.	5.0	East west orientation of units will maximize the passive solar orientation of buildings.	Demonstrated at time of: Draft Plan of Subdivision approval Secured by: Subdivision registration
	<input type="checkbox"/>	10	Identify opportunities for maximizing solar gain through site layout and building orientation in an Energy Efficiency Report.	3.0	Passive solar gain reduces the need for heating and lighting at no cost to the occupants.	Demonstrated at time of: Site Plan approval Secured by: Site Plan Agreement
	<input type="checkbox"/>	Maximum Possible Points in Energy Conservation		36.5		

Criteria				Points	Rationale	Implementation
Water Conservation and Quality						
	<input type="checkbox"/>	1	Use WaterSense® water fixtures, including faucets and showers, in all areas.	3.0	Installing water-efficient water fixtures will reduce water consumption, lower environmental impacts and save water bill costs for the homeowner(s).	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	2	Provide purple-pipe rough-in plumbing for future on-site water reuse.	4.0	Reuse of water collected from laundry and bathwater can be used for flushing toilets, irrigation and other non-potable uses which lowers demand for potable water.	Demonstrated at time of: Building Permit Secured by: subdivision or Site Plan agreement
	<input type="checkbox"/>	3	Provide one rain barrel per 100 square metres of dwelling unit roof area and allow sufficient space at base of downspouts for installation. Each rain barrel shall have secure mosquito protection and an overflow to grade.	0.5	Rainwater collection is an effective method of reducing the use of potable (drinking) water for non-potable purposes such as landscape irrigation. Refer to the Ministry of Environment manual on Stormwater Management Planning and Design.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	4	Employ opportunities within the subdivision and site design to reduce impermeable surfaces and stormwater runoff through the use of Low Impact Development (LID) techniques.	4.0	Low Impact Development (LID) is an alternative approach to conventional stormwater management. The overall objective of LID is to address stormwater at the source rather than collecting stormwater in traditional stormwater management ponds. This assists with pollution control and reduces runoff. LID techniques include bioretention, use of permeable pavers, tree box planters and disconnected downspouts.	Demonstrated at time of: Subdivision or Site Plan approval Secured by: Approved drawings attached to Subdivision or Site Plan agreements

Criteria				Points	Rationale	Implementation
	<input type="checkbox"/>	5	Provide a minimum of 15 cm of high quality, non-compacted topsoil on all lawn and garden areas.	1.0	Poor quality, compacted top soil results in over irrigation by owners in an effort to keep lawns and gardens alive. High quality soil is well drained, un-compacted soil comprised of 5 to 15 % organic material with a pH level of 6.0 to 8.0.	Demonstrated at time of: Grading Plans Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	6	Use native drought tolerant plant material (which does not include grass but can include groundcovers) for at least 50% of landscaped area (including vegetated roofs and walls).	2.0	Reduces the demand for potable water which can increase by as much as 50% during the summer months placing a strain on potable water systems.	Demonstrated at time of: Grading and/or Site Plan Secured by: Subdivision or Site Plan agreement
Maximum Possible Points In Water Conservation				14.5		

			Criteria	Points	Rationale	Implementation
Community Design						
Community Design	<input type="checkbox"/>	1	Construct a network of suitable pedestrian facilities and multi-use paths within the development which also connect the development with surrounding neighbourhoods, are integrated with the Town’s trail system and implement recommendations of the Town’s Cycling Master Plan.	5.0	Pedestrian networks support the Town’s Pedestrian Charter, encourage walking which improves health and reduces dependence on automotive travel. Multi-use paths promote active transportation and provide connections between communities. Implementing the recommendations of the Town’s Cycling Master Plan will help facilitate active transportation.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
	<input type="checkbox"/>	2	Create street and block patterns that the emphasize connectivity and linkage by encouraging grid or modified grid patterns and discourage the use of cul de sacs except where necessary for grading and topography.	2.0	Connected streets reduce the length of trips and reduce greenhouse gas emissions.	Demonstrated at time of: Draft plan of Subdivision approval Secured by: Subdivision agreement
	<input type="checkbox"/>	3	If cul de sacs are necessary, provide pedestrian and / or bicycle connections in the cul de sacs.	1.0	This provides flexibility and allows pedestrians to get to their destination in the most direct route.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement

			Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	4	Design streets with medium (400 m) to short (less than 250 m) block lengths.	2.0	Research shows that a high density of intersections is among the design factors which facilitate increased walking behaviour and less motor vehicle travel.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
	<input type="checkbox"/>	5	Where the block perimeter exceeds 400 m provide mid-block pedestrian connections.	1.0	This shortens the length of pedestrian trips.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
	<input type="checkbox"/>	6	Provide streetscape amenities such as benches, street trees, and waste receptacles.	1.0	This creates an attractive, safe and supportive pedestrian environment which facilitates walking.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
	<input type="checkbox"/>	7	Design draft plans of subdivision so that residences are located within 500 metres of a public meeting space such as a park, square or recreational facility.	2.0	Close proximity to public facilities encourages residents to walk to such facilities and encourages active lifestyles which promote health.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
Maximum Possible Points In Community Design			14.0			

		Criteria	Points	Rationale		Implementation
Air Quality						
Air Quality	<input type="checkbox"/>	1	Use low or no VOC paints and finishes (e.g. adhesives, sealants, paints, carpet).	1.0	Using paints and finishes that are rated as having no or being low-VOC (volatile organic compounds) helps improve indoor air pollution as these products eliminate or reduce the amount of contaminants released by these products into the air.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	2	Install HVAC systems that reduce exposure to indoor air quality pollutants by ventilating with outdoor air.	2.0	Heat Recovery Ventilation systems that use outdoor air can improve indoor air quality.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	3	Provide additional street trees at least 10% above the minimum required by the Town’s Development Standards either within the street right of way and/or in nearby public open spaces.	3.0	Trees improve air quality, reduce heat island effects and enhance the streetscape for pedestrian usage	Demonstrated at time of: draft plan of Subdivision approval – street tree planting plans Secured by: Subdivision agreement
	<input type="checkbox"/>	4	If surface parking is provided other than in individual driveways, plant shade trees at a minimum ratio of 1 tree native to Halton Region for every 5 parking spaces provided.	2.0	Trees reduce heat island effects of large expanses of hard surfaces	Demonstrated at time of: Site Plan approval – landscaping plans Secured by: Site Plan agreement
	Maximum Possible Points In Air Quality			8.0		

		Criteria	Points	Rationale	Implementation
Innovation and Other Green Features					
Innovation & Green Features	<input type="checkbox"/>	1	Each home purchaser(s) shall be provided with an option to select one (1) or more of the following green building options: i. Solar water and space heating ii. 100% native to Halton region, non-invasive species and/or drought-resistant xerophytic landscaping iii. Energy saving features, including window awnings, vegetation shade landscaping package and window blinds iv. Universal accessibility package (e.g. wheelchair accessible layouts, ground-level entry, etc).	2.0 By offering green building options, the proponent (i.e. builder) will promote green technologies. At the same time, homeowners will be provided with an opportunity and be educated on the benefits of incorporating green technologies into their home.	Demonstrated at time of: Building Permit Secured by: Subdivision Agreement

			Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	2	Innovative design or performance features not listed that receive prior approval from the Town have been provided.	Generally up to a total of 5.0 points	<p>Green development opportunities are constantly evolving and therefore this provides for new and emerging ideas and technology that may not have been contemplated in this checklist. Innovative design or construction that enhances the environmental performance of communities and buildings will be encouraged.</p> <p>Although these standards apply to new buildings, the retrofit and retention of existing buildings (including heritage buildings) on site which retains the embodied energy and reduces the need to extract and transport new resources will also be encouraged and can be given points under these criteria.</p> <p>Points can also be considered under this category for infill development and intensification which utilize existing infrastructure and promote more compact communities.</p>	To be discussed in pre-consultation meetings
	Possible Points in Innovation & Other Green Features			7.0		

		Criteria	Points	Rationale	Implementation	
Waste Management						
Waste Management	<input type="checkbox"/>	1	Utilize a minimum of 25% of wood based materials and products that are certified in accordance with the Forest Stewardship Council's principles and criteria for wood building components.	2.0	The Forest Stewardship's Council ensures sustainable harvesting and replanting practices.	Demonstrated at time of: Building permit Secured by: Subdivision or Site Plan agreement
	Maximum Possible Points In Waste Management		2.0			

			Criteria	Points	Rationale	Implementation
Communication						
Communication	<input type="checkbox"/>	1	Familiarize the homeowner(s) with all of the dwelling's green building features as part of the Pre-Delivery Inspection.	Required	Communicating the dwelling's green building features and familiarizing the homeowner(s) with these features will help to ensure their proper use and maintenance.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
	<input type="checkbox"/>	2	A Homeowner's Information Package will outline all of the dwelling's green building features, neighbourhood conveniences and information that promotes green lifestyle choices such as water conservation, stormwater management and use of rain barrels, recycling, green procurement, organic lawn care and renewable energy generation. The Package must also provide information on the proper use and maintenance of the home's green features and will include a copy of the Town's Green Plan and Community Sustainability Strategy.	Required	Communicating the dwelling's green building features and familiarizing the homeowner(s) with these features will ensure their proper use and maintenance.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement

Maximum Total Possible Points	82
Minimum Required Number of Points	33
Number of Points achieved	<hr/>

Mid to High Rise Green Development Standard Checklist

		Criteria	Points	Rationale	Implementation	
Energy Conservation						
Energy Conservation	<input type="checkbox"/>	1	Achieve 10% or better energy efficiency improvements over ASHRAE 90.1-2010 as demonstrated by third party certification.	12.0	By some estimates, 40% of energy use in North America can be attributed to the heating, cooling and maintenance of buildings. Building more energy efficient buildings reduces greenhouse gas emissions, reduces air pollution and lessens other environmental impacts such as climate change. Various energy conservation incentives may be available for eligible projects. Applicants are encouraged to investigate the availability of any such incentives, including contacting Halton Hills Hydro and the Ontario Power Authority regarding current incentive programs. Information on the SaveONenergy program for high performance new construction that addresses energy efficiency. Approved projects are eligible in 1 of 3 programs: prescriptive; engineered; and custom. Information is available at: https://saveonenergy.ca/Business/Program-Overviews/New-Construction.aspx	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	2	Commission building systems to ensure they function properly.	2.0	Commissioning of a building is a systematic process that documents and verifies that all the facility’s energy related systems perform interactively as per the design specifications and operational requirements for at least one year following construction. See LEED-NC Energy & Atmosphere Prerequisite 1 – Fundamental Building Systems Commissioning or The Building Commissioning Guide at www.wbdg.org/ccb/GSAMAN/buildingcommissioningguide.pdf	Demonstrated at time of: Building Permit Secured by: Site Plan agreement

Criteria			Points	Rationale	Implementation	
	<input type="checkbox"/>	3	Incorporate on-site renewable sources of power generation (e.g. solar) to meet 15% or more of the energy needs of all buildings or take part in the Feed-In Tariff Program. Include consideration of required roof loads, as appropriate.	7.0	On-site energy reduces the demand on the electrical grid and the demand for electrical generation which can be a source of greenhouse gas emissions. The Feed-In Tariff Program allows the generation of clean energy from renewable sources.	Demonstrated at time of: Building Permit Secured by: Site Plan agreement
	<input type="checkbox"/>	4	Construct each building to be solar ready (i.e. conduit installed from roof to mechanical room/ electrical box and appropriate electrical systems installed). Include consideration of required roof loads, as appropriate.	3.0	This eliminates the cost of retrofitting buildings thereby encouraging future installations.	Demonstrated at time of: Building Permit Secured by: Site Plan agreement
	<input type="checkbox"/>	5	Identify opportunities for maximizing solar gain through site layout and building orientation in an Energy Efficiency Report.	3.0	Passive solar gain reduces the need for heating and lighting at no cost to the occupants.	Demonstrated at time of: Site Plan approval Secured by: Site Plan Agreement
Maximum Possible Points in Energy Conservation			27.0			

Criteria				Points	Rationale	Implementation
Water Conservation & Quality						
Water Conservation & Quality	<input type="checkbox"/>	1	Employ opportunities within the site design to reduce impermeable surfaces and stormwater runoff through the use of Low Impact Development (LID) techniques.	4.0	Low Impact Development (LID) is an alternative approach to conventional stormwater management. The overall objective of LID is to address stormwater at the source rather than collecting stormwater in traditional stormwater management ponds. This assists with pollution control and reduces runoff. LID techniques include bioretention, use of permeable pavers, tree box planters and disconnected downspouts.	Demonstrated at time of: Subdivision or Site Plan approval Secured by: Approved drawings attached to subdivision or Site Plan agreements
	<input type="checkbox"/>	2	Retain at least 7 mm from each rainfall through rainwater reuse, on-site infiltration, and evapotranspiration OR Ensure that the maximum allowable annual runoff volume from the development site is no more than 50% of the total average annual rainfall depth.	5.0	Helps to recharge the groundwater, encourages landscaping options on site that will green the site and reduces the need for large off-site stormwater retention facilities which consume additional land thereby decreasing densities.	Demonstrated at time of: Subdivision or Site Plan approval Secured by: Approved drawings attached to subdivision or Site Plan agreements

			Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	3	Remove 85% of total suspended solids (TSS) on annual loading basis from all runoff leaving the site based on the post-development level of imperviousness.	4.0	Reducing suspended solids cleans the stormwater that leaves the site thereby assisting in protecting water quality of receiving water bodies	Demonstrated at time of: Subdivision or Site Plan approval Secured by: Subdivision or Site Plan agreements
			Maximum Possible Points In Water Conservation	13.0		

			Criteria	Points	Rationale	Implementation
Transportation						
Transportation	<input type="checkbox"/>	1	Provide 5% of parking spaces or a minimum of 1 space with plug-ins for electric vehicles.	2.0	Encouraging vehicles that utilize alternative fuel sources can reduce greenhouse gas emissions.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	2	Minimize surface parking by providing 50% of parking underground or in parking structures.	2.0	Decreasing surface parking will reduce the amount of impermeable surfaces and the heat island effect.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	3	In workplaces provide 1 shower and change facility. Where the number of bicycle parking spaces exceeds 30, provide 1 additional facility for every 30 spaces or part thereof.	2.0	Cycling promotes active transportation and improves health. Allowing employees to shower and change after riding to work encourages cycling to the site thereby reducing dependence on automobile travel.	Demonstrated at time of: Building Permit Secured by: Site Plan agreement

			Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	4	Locate occupant bicycle parking in a weather protected, secure area with controlled access; or secure individual enclosures. OR Locate employee bicycle parking in a weather protected, secure area with controlled access; or secure individual enclosures.	2.0	Providing secure weather protected bicycle storage encourages people to acquire and utilize bicycles	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	5	Locate visitor bicycle parking in a highly visible and easily accessible location at grade.	1.0	Providing bicycle parking encourages employees and visitors to access the site by bicycle and reduces the greenhouse gas emissions caused by motorized modes of transportation	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	6	Connect buildings on the site to off-site pedestrian paths and parking areas (car and bike) and require a pedestrian entrances to have linkages to transit stops (e.g. GO Transit) if they are located within walking distance of the site	1.0	Encourages walking and where applicable, transit use thereby reducing dependence on the automobile usage	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement

			Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	7	Design on-site sidewalks, crosswalks and walkways to be continuous, universally accessible, barrier-free and clearly designated.	1.0	This promotes walking by all age groups and abilities and provides access for those with limited mobility.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	8	Outdoor waiting areas located on the site must offer protection from the weather.	1.0	Outdoor waiting areas include the primary entrance to the building or any entrance off a lobby and should provide opaque canopies or awnings to offer better comfort for pedestrians	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	9	Development includes streetscape amenities such as benches, street trees, and waste receptacles.	1.0	This is consistent with Official Plan policies and encourages pedestrian activity by creating a more attractive environment in which to walk.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	10	Plan includes lanes or private driveways into mixed use or retail areas at the rear of street related retail for service and loading.	1.0	This helps to separate pedestrians and trucks to improve safety and enhance the street level experience	Demonstrated at time of: Subdivision or Site Plan approval Secured by: Subdivision or Site Plan agreement
	Maximum Possible Points in Transportation			14.0		

		Criteria	Points	Rationale		Implementation
Air Quality						
Air Quality	<input type="checkbox"/>	1	For 50% of the site’s non-roof hardscapes: Use high-albedo surface materials. OR Use open grid pavement. OR Use a combination of high-albedo surface materials, and open grid pavement.	5.0	This reduces the ambient surface temperatures to limit the heat island effect at grade and increase shade for human comfort and health. High albedo materials include white or grey concrete, light coloured asphalt, selected interlocking concrete paver and other light coloured pavers and must have an initial reflectance of at least 0.3 or Solar Reflective Index of 29.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	2	Provide additional street trees at least 10% above the minimum number required by the Town’s Development Standards either within the street right of way and/or in nearby public open spaces.	1.0	This helps to reduce the heat island effect along the street, improves air quality with the increase of tree cover and enhances the pedestrian experience along the street thereby encouraging walking.	Demonstrated at time of: Subdivision approval Secured by: Subdivision agreement
	<input type="checkbox"/>	3	If surface parking is provided, plant shade trees native to Halton Region at a minimum ratio of 1 tree for every 5 parking spaces supplied.	2.0	This will require the introduction of additional high branching deciduous shade trees on site.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement

			Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	4	Do one of the following for Available Roof Space: Install a Green Roof with 50% minimum coverage OR Use cool roofing materials for 100% of the available roof space OR Use a combination of green roof and cool roof materials for a minimum of 75% of the roof.	5.0	This reduces the ambient surface temperature of the roof thereby reducing the heat island effect and reduces cooling requirements within the building. Available roof space is the total roof area for the building, excluding areas designated for renewable energy devices and private terraces	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	5	Use low or no VOC paints and finishes (e.g. adhesives, sealants, paints, carpet) on the interior of the building.	1.0	Using paints and finishes that are rated as having no or being low-VOC (volatile organic compounds) helps improve indoor air pollution as these products eliminate or reduce the amount of contaminants released by these products into the air.	Demonstrated at time of: Building Permit Secured by: Site Plan agreement
	Maximum Possible Points In Air Quality			14.0		

		Criteria	Points	Rationale	Implementation
Natural Environment					
Natural Environment	<input type="checkbox"/>	1	Use low-maintenance, drought resistant, non-invasive plant material native to Halton Region for a minimum of 50% of the landscaped areas (including vegetated roofs).	2.0 Reduces the demand for potable water which can increase by as much as 50% during the summer months placing a strain on potable water systems. For a list of native species refer to Conservation Halton Landscaping and Tree Preservation Guide Appendix 1 found at http://www.conservationhalton.on.ca/ShowCategory.cfm?subCatID=898 or the Credit Valley Conservation Plant Selection Guideline Document found at: www.creditvalleyca.ca/wp-content/uploads/2013/04/Credit-Valley-Conservation-Plant-Selection-Guideline-FINAL-March-2013-2_.pdf	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	2	Plant a minimum of 1 tree native to Halton Region for every 30 sq metres of post development site area covered by soft landscaping or for a constrained site, plant some of the trees in nearby public open spaces.	2.0 This enhances the urban forest which provides shade to reduce the heat island effect, cleans the air by filtering some air born pollutants, provides oxygen, and improves slope stability through their root base.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	3	Provide triple the typical tree pit size of high quality soil per tree with a minimum depth of 0.8 m.	1.0 This helps to ensure that planted trees survive and thrive which increases the tree canopy in order to improve the environment and the streetscape. High quality soil is well drained, un-compacted soil comprised of 5 to 15 % organic material with a pH level of 6.0 to 8.0.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement

Criteria			Points	Rationale	Implementation	
	<input type="checkbox"/>	4	Provide a watering program for trees for the first 2 years after planting and use non-potable water through rainwater harvesting.	2.0	This ensures that trees become well established on site to facilitate their long-term survival and reduces the demand for potable water	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	5	Do not plant non-native and invasive species adjacent to top of bank of valleys and ravines or natural areas.	Required	This helps to protect and enhance the natural heritage system and increase biodiversity. For a list of native species refer to Conservation Halton Landscaping and Tree Preservation Guide Appendix 1 found at http://www.conservationhalton.on.ca/ShowCategory.cfm?subCatID=898 or the Credit Valley Conservation Plant Selection Guideline Document found at: www.creditvalleyca.ca/wp-content/uploads/2013/04/Credit-Valley-Conservation-Plant-Selection-Guideline-FINAL-March-2013-2_.pdf	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	6	Retain and reuse all uncontaminated on-site soil in areas not covered by the building and parking footprint or hard surfaces. <u>OR</u> Adjust or replace with soil of equal or better quality.	2.0	This reduces the need to truck soil in or out of the site thereby reducing greenhouse gas emissions	Demonstrated at time of: Subdivision or Site Plan approval Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	7	Eliminate all spotlighting and Vanity lighting on the building.	1.0	Vanity lighting wastes electricity.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	Maximum Possible Points in Natural Environment		10.0			

			Criteria	Points	Rationale	Implementation
Innovative Elements						
Innovative & Green Features	<input type="checkbox"/>	1	Innovative design or performance features not listed that receive prior approval from the Town have been provided.	Generally up to a total of 5.0 points	<p>Green development opportunities are constantly evolving and therefore this provides for new and emerging ideas and technology that may not have been contemplated in this checklist. Innovative design or construction that enhances the environmental performance of communities and buildings will be encouraged.</p> <p>Although these standards apply to new buildings, the retrofit and retention of existing buildings (including heritage buildings) on site which retains the embodied energy and reduces the need to extract and transport new resources will also be encouraged and can be given points under these criteria.</p> <p>Points can also be considered under this category for infill development and intensification which utilize existing infrastructure and promote more compact communities.</p>	To be discussed in pre-consultation meetings
	Possible Points in Innovative Elements			5.0		

		Criteria	Points	Rationale	Implementation	
Waste Management						
Waste Management	<input type="checkbox"/>	1	Provide a dedicated area or areas within or attached to the building for the collection and storage of recycling and organic waste that is equally as convenient as the garbage facility.	1.0	Recycling lowers landfill tipping fees and the need for landfill expansion.	Demonstrated at time of: Site Plan or Building Permit Secured by: Site Plan agreement
	<input type="checkbox"/>	2	Ensure that a least 5% of a project's materials (based on value) comprise salvaged, refurbished or reused materials.	1.0	This will decrease the amount of construction material generated and maximize the recycling of non-hazardous construction and demolition debris.	Demonstrated at time of: Building permit Secured by: Site Plan agreement
	<input type="checkbox"/>	3	Ensure that at least 15% of a project's construction materials (based on value) comprise recycled content.	1.0	This reduces the demand for virgin materials and therefore the environmental impacts associated with their extraction, processing, manufacturing and transportation.	Demonstrated at time of: Building permit Secured by: Site Plan agreement

			Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	4	Where wood based materials and products are used, utilize a minimum of 25% that are certified in accordance with the Forest Stewardship Council's principles and criteria for wood building components.	2.0	The Forest Stewardship Council ensures sustainable harvesting and replanting practices.	Demonstrated at time of: Building permit Secured by: Site Plan agreement
	Maximum Possible Points in Waste Management			5.0		

			Criteria	Points	Rationale	Implementation
Communication						
Communication	<input type="checkbox"/>	1	Residential: Familiarize the homeowner(s) with all of the dwelling's green development features as part of the Pre-Delivery Inspection. Non- Residential: Familiarize occupants with the building's green development features through provision of printed and/or digital material as part of the lease or sales agreement.	Required	Communicating the building's green development features and familiarizing the homeowner(s) or occupants with these features will help to ensure their proper use and maintenance, as well as awareness of the practical benefits of the Green Development Standards.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement

			Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	2	Residential: Each homeowner(s) or renter shall be provided with a Homeowner's Information Package which outlines all of the dwelling unit's green building features, neighbourhood conveniences and information that promotes green lifestyle choices such as water conservation, recycling, green procurement, and renewable energy generation. The Package must also provide information on the proper use and maintenance of the unit's green features and will include a copy of the Town's Green Plan and Integrated Community Sustainability Strategy.	Required	Communicating the dwelling's green building features and familiarizing the homeowner(s) with these features will help to ensure their proper use and maintenance.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement

Maximum Total Possible Points	88
Minimum Required Number of Points	36
Number of Points achieved	<hr/>

Low Rise Non-Residential Green Development Standard Checklist

Criteria				Points	Rationale	Implementation
Energy Conservation						
Energy Conservation	<input type="checkbox"/>	1	Achieve 10% or better energy efficiency improvements over ASHRAE 90.1-2010 as demonstrated by third party certification.	12.0	<p>By some estimates, 40% of energy use in North America can be attributed to the heating, cooling and maintenance of buildings. Building more energy efficient buildings reduces greenhouse gas emissions, reduces air pollution and lessens other environmental impacts such as climate change.</p> <p>Various energy conservation incentives may be available for eligible projects. Applicants are encouraged to investigate the availability of any such incentives, including contacting Halton Hills Hydro and the Ontario Power Authority regarding current incentive programs. Information is available on the SaveONenergy for high performance new construction that addresses energy efficiency. Approved projects are eligible in 1 of 3 programs: prescriptive; engineered; and custom. Information is available at: https://saveonenergy.ca/Business/Program-Overviews/New-Construction.aspx</p>	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
	<input type="checkbox"/>	2	Commission building systems to ensure they function properly.	2.0	<p>Commissioning of a building is a systematic process that documents and verifies that all the facility’s energy related systems perform interactively as per the design specifications and operational requirements for at least one year following construction. See LEED-NC Energy & Atmosphere Prerequisite 1 – Fundamental Building Systems Commissioning or The Building Commissioning Guide at www.wbdg.org/ccb/GSAMAN/buildingcommissioningguide.pdf</p>	Demonstrated at time of: Building Permit Secured by: Site Plan agreement

Criteria			Points	Rationale	Implementation	
	<input type="checkbox"/>	3	Construct each building to be solar ready (i.e. conduit installed from roof to mechanical room and appropriate electrical systems installed). Include consideration of required roof loads, as appropriate.	2.0	This eliminates the cost of retrofitting buildings thereby encouraging future installations	Demonstrated at time of: Building Permit Secured by: Site Plan agreement
	<input type="checkbox"/>	4	Incorporate on-site renewable sources of power generation (e.g. solar) to meet 15% or more of the energy needs of all buildings or take part in the Feed-In Tariff Program. Include consideration of required roof loads, as appropriate.	7.0	On-site energy reduces the demand on the electrical grid and the demand for electrical generation which can be a source of greenhouse gas emissions. The Feed-In Tariff Program allows the generation of clean energy from renewable sources.	Demonstrated at time of: Building Permit Secured by: Site Plan agreement
	<input type="checkbox"/>	5	Identify opportunities for maximizing solar gain through site layout and building orientation in an Energy Efficiency Report.	1.0	Passive solar gain reduces the need for heating and lighting at no cost to the occupants.	Demonstrated at time of: Site Plan approval Secured by: Site Plan Agreement
Maximum Possible Points in Energy Conservation			24.0			

			Criteria	Points	Rationale	Implementation
Water Conservation and Quality						
Water Conservation & Quality	<input type="checkbox"/>					
		1	Employ opportunities within the subdivision and/or site design to reduce impermeable surfaces and stormwater runoff through the use of Low Impact Development (LID) techniques.	4.0	Low Impact Development (LID) is an alternative approach to conventional stormwater management. The overall objective of LID is to address stormwater at the source rather than collecting stormwater in traditional stormwater management ponds. This assists with pollution control and reduces runoff. LID techniques include bioretention, use of permeable pavers, tree box planters and disconnected downspouts.	Demonstrated at time of: Subdivision or Site Plan approval Secured by: Approved drawings attached to subdivision or Site Plan agreements
	<input type="checkbox"/>	2	Retain 7 mm from each rainfall through rainwater re-use, on-site infiltration and evapo- transpiration OR Ensure that the maximum allowable annual runoff volume from the site is no more than 50% of the total average annual rainfall depth.	5.0	Helps to recharge the groundwater, encourages landscaping options on site that will green the site and reduces the need for large off-site stormwater retention facilities which consume additional land thereby decreasing densities.	Demonstrated at time of: Subdivision or Site Plan approval Secured by: Approved drawings attached to subdivision or Site Plan agreements

			Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	3	Remove 85% of total suspended solids on an annual loading basis from all runoff leaving the site based on post-development level of imperviousness.	4.0	Reducing suspended solids cleans the stormwater that leaves the site thereby assisting in protecting water quality of receiving water bodies	Demonstrated at time of: Subdivision or Site Plan approval Secured by: Subdivision or Site Plan agreements
	Maximum Possible Points in Water Conservation & Quality			13.0		

		Criteria	Points	Rationale		Implementation
Transportation						
Transportation	<input type="checkbox"/>	1	Provide 5% of parking spaces or a minimum of 1 space with plug ins for electric vehicles.	2.0	Encouraging vehicles that utilize alternative fuel sources can reduce greenhouse gas emissions.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	2	Minimize surface parking by providing 50% of parking spaces underground or in parking structures.	2.0	Decreasing surface parking will reduce the amount of impermeable surfaces and the heat island effect.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	3	In workplaces provide 1 shower and change facility. Where the number of bicycle parking spaces exceeds 30, provide 1 additional facility for every 30 spaces or part thereof.	2.0	Cycling promotes active transportation and improves health. Allowing employees to shower and change after riding to work encourages cycling thereby reducing dependence on motorized travel modes.	Demonstrated at time of: Building Permit Secured by: Site Plan agreement
	<input type="checkbox"/>	4	Locate the visitor bicycle spaces in highly visible, easily accessible locations at grade.	1.0	Providing bicycle parking encourages visitors to access the site by bicycle and reduces the greenhouse gas emissions caused by motorized modes of transportation.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	5	Locate employee bicycle parking in a weather protected, secure area with controlled access; or secure individual enclosures.	2.0	Providing secure weather protected bicycle storage encourages people to acquire and utilize bicycles	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement

		Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	6 Connect building(s) on the site to off-site pedestrian paths and parking areas and require pedestrian entrances to have linkages to transit stops (e.g. GO Transit) if they located within walking distance of the site.	1.0	Encourages walking thereby reducing dependence on the automobile usage.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	7 Design on-site sidewalks and walkways to be continuous, universally accessible, barrier-free and clearly designated.	1.0	This promotes walking by all age groups and abilities and provides access for those with limited mobility.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	8 Provide multi-storey, multi-use projects.	2.0	This provides for more compact development, and has the potential to reduce vehicular trips and to promote walking.	Demonstrated at time of: Zoning or Site Plan approval Secured by: Site Plan agreement
	Maximum Possible Points in Transportation		13.0		

		Criteria	Points	Rationale	Implementation
Air Quality					
Air Quality	<input type="checkbox"/>	1	For 50% of the site's non-roof hardscapes: Use high-albedo surface materials. OR Use open grid pavement. OR Use a combination of high-albedo surface materials, and open grid pavement.	5.0 This reduces the ambient surface temperatures to reduce the heat island effect at grade and increases shade for human comfort and health. High albedo materials include white or grey concrete, light coloured asphalt, selected interlocking concrete paver and other light coloured pavers and must have an initial reflectance of at least 0.3 or Solar Reflective Index of 29.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	2	If surface parking is provided, plant shade trees native to Halton Region at a minimum ratio of 1 tree for every 5 parking spaces provided.	2.0 This will require the introduction of additional high branching deciduous shade trees on site.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement

			Criteria	Points	Rationale	Implementation
	<input type="checkbox"/>	3	Do one of the following for Available Roof Space: Install a Green Roof with 50% minimum coverage. OR Use cool roofing materials for 100% of the available roof space. OR Use a combination of green roof and cool roof materials for a minimum 75 % of the available roof space.	5.0	This reduces the ambient surface temperature of the roof thereby reducing the heat island effect and reduces cooling requirements within the building. Available roof space is the total roof area for the building excluding areas designated for renewable energy devices and terraces	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	4	Use low or no VOC paints and finishes (e.g. adhesives, sealants, paints, carpet).	1.0	Using paints and finishes that are rated as having no or being low-VOC (volatile organic compounds) helps improve indoor air pollution as these products eliminate or reduce the amount of contaminants released by these products into the air.	Demonstrated at time of: Building Permit Secured by: Subdivision or Site Plan agreement
			Maximum Possible Points in Air Quality	13.0		

		Criteria	Points	Rationale	Implementation	
Natural Environment						
Natural Environment	<input type="checkbox"/>	1	Use low maintenance, drought resistant, non invasive plant material native to Halton Region for at least 50% of landscaped areas (including vegetated roofs).	2.0	Reduces the demand for potable water which can increase by as much as 50% during the summer months placing a strain on potable water systems. For a list of native species refer to Conservation Halton Landscaping and Tree Preservation Guide Appendix 1 found at http://www.conservationhalton.on.ca/ShowCategory.cfm?subCatID=898 or the Credit Valley Conservation Plant Selection Guideline Document found at: www.creditvalleyca.ca/wp-content/uploads/2013/04/Credit-Valley-Conservation-Plant-Selection-Guideline-FINAL-March-2013-2 .pdf	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	2	Plant a minimum of 1 tree native to Halton Region for every 30 square metres of post development site area covered by soft landscaping or for a constrained site, plant some of the trees in nearby public open spaces.	2.0	This enhances the urban forest which provides shade to reduce the heat island effect, cleans the air by filtering some air born pollutants, provides oxygen, and improves slope stability through their root base.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	3	Provide triple the typical tree pit size of high quality soil per tree with a minimum depth of 0.8 m.	1.0	This ensures that trees have sufficient soil to achieve reasonable growth in hard landscaping areas and to achieve maturity in soft landscaping areas. High quality soil is well drained, un-compacted soil comprised of 5 to 15 % organic material with a pH level of 6.0 to 8.0.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement

Criteria			Points	Rationale	Implementation	
	<input type="checkbox"/>	4	Provide a watering program for trees for the first 2 years and use non-potable water through rainwater harvesting.	2.0	This ensures that trees become well established on site to facilitate their long-term survival and reduces the demand for potable water.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	5	Do not plant non-native and invasive species adjacent to top of bank of valleys and ravines or natural areas.	Required	This helps to protect and enhance the natural heritage system and increase biodiversity. For a list of native species refer to Conservation Halton Landscaping and Tree Preservation Guide Appendix 1 found at http://www.conservationhalton.on.ca/ShowCategory.cfm?subCatID=898 or the Credit Valley Conservation Plant Selection Guideline Document found at: www.creditvalleyca.ca/wp-content/uploads/2013/04/Credit-Valley-Conservation-Plant-Selection-Guideline-FINAL-March-2013-2 .pdf	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	<input type="checkbox"/>	6	Eliminate all spotlighting and Vanity lighting on the building.	1.0	Vanity lighting wastes electricity and can contribute to light pollution.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement
	Maximum Possible Points in Natural Environment		8.0			

			Criteria	Points	Rationale	Implementation
Waste Management						
Waste Management	<input type="checkbox"/>	1	Ensure that a least 5% of a project's materials (based on value) comprise salvaged, refurbished or reused materials.	1.0	This will decrease the amount of construction material generated and maximize the recycling of non-hazardous construction and demolition debris.	Demonstrated at time of: Building permit Secured by: Site Plan agreement
	<input type="checkbox"/>	2	Ensure that at least 15% of a project's construction materials (based on value) comprise recycled content.	1.0	This reduces the demand for virgin materials and therefore the environmental impacts associated with their extraction, processing, manufacturing and transportation.	Demonstrated at time of: Building permit Secured by: Site Plan agreement
	<input type="checkbox"/>	3	Where wood based materials and products are used, utilize a minimum of 25% that are certified in accordance with the Forest Stewardship Council's principles and criteria for wood building components.	2.0	The Forest Stewardship's Council ensures sustainable harvesting and replanting practices.	Demonstrated at time of: Building permit Secured by: Site Plan agreement
	Maximum Possible Points In Waste Management			4.0		

Criteria			Points	Rationale	Implementation
Innovative Elements					
Innovative & Green Features	<input type="checkbox"/>	1	Innovative design or performance features not listed that receive prior approval from the Town have been provided.	Generally up to a total of 5.0 points	To be discussed in pre-consultation meetings.
				<p>Green development opportunities are constantly evolving and therefore this provides for new and emerging ideas and technology that may not have been contemplated in this checklist. Innovative design or construction that enhances the environmental performance of communities and buildings will be encouraged.</p> <p>Although these standards apply to new buildings, the retrofit and retention of existing buildings (including heritage buildings) on site which retains the embodied energy and reduces the need to extract and transport new resources will also be encouraged and can be given points under these criteria.</p> <p>Points can also be considered under this category for infill development and intensification which utilize existing infrastructure and promote more compact communities.</p>	
	Possible Points In Innovative Elements		5.0		

			Criteria	Points	Rationale	Implementation
Communication						
Communication	<input type="checkbox"/>	1	Familiarize occupants with the building's green development features through the provision of printed and/or digital material as part of the lease or sales agreement.	Required	Communicating the building's green development features and familiarizing the occupants with these features will help to ensure their proper use and maintenance, as well as awareness of the practical benefits of the Green Development Standards.	Demonstrated at time of: Site Plan approval Secured by: Site Plan agreement

Maximum Total Possible Points	80
Minimum Required Number of Points	32
Number of Points achieved	<hr/>