

Ch.8

8.1 Municipal Services, Utilities & Infrastructure

8.1.1 Servicing Vaughan

Water, sewer, electricity, natural gas, telecommunications, waste disposal, and other utilities and services are the infrastructure that keeps Vaughan running. Readily available and efficient services and utilities are critical to everyday needs and to supporting economic growth and development.

Vaughan will continue to prioritize and support utility and service infrastructure investments and provide for the effective provision of all of the services that support the needs of residents and businesses. These investments can provide secondary benefits that support placemaking initiatives, such as streetscape redevelopment, and contribute to Vaughan's open space network, such as trails within electricity corridors.

Rising energy and resource costs, limited resource availability, increased greenhouse gas emissions and increasing impacts from global climate change are a growing reality. Global climate change will place a greater strain on infrastructure, including more extreme weather events that threaten electricity distribution and strain stormwater infrastructure. While effort must be made to respond to the impacts from climate change, Vaughan must also support sustainable and efficient services that reduce energy and resource use to ultimately reduce greenhouse gas emissions.

It is the policy of Council:

- 8.1.1.1. To maximize efficiency and minimize resource and energy consumption by efficiently providing utilities and services, and to support and encourage measures to conserve water and energy resources.
- 8.1.1.2. To use investments in utility and service infrastructure to support placemaking initiatives and to maximize the use of major utility corridors for a variety of compatible activities, including recreation and community gardening.
- 8.1.1.3. To support the growth of high speed and reliable data and wireless networks to provide comprehensive service throughout Vaughan.
- 8.1.1.4. To recognize that utilities and infrastructure must be designed to minimize their impact on the environment, while also being designed to respond to the impacts of climate change, such as extreme weather events.
- 8.1.1.5. To establish a comprehensive solid waste management program to maximize waste diversion for residential and non-residential uses, including limits, diversion targets, program monitoring and awareness.
- 8.1.1.6. That development will proceed in concert with the provision of infrastructure as determined by York Region and Vaughan infrastructure master plans and appropriate phasing, including the identification of infrastructure triggers, will be established through the secondary and block plan processes as detailed in ~~Section~~ subsection 10.1.1 ~~10.1.1~~ of this Plan.
- 8.1.1.7. To ensure delivery and planning of infrastructure is coordinated, through the master planning process, with the growth management objectives of this Plan and the Regional Official Plan in terms of *intensification*, phasing of new communities and completion of existing communities.

8.1.2 Maximizing Investments in Utilities and Services

In addition to meeting direct needs, new and existing utility and service infrastructure has a role to play in placemaking. As Vaughan matures, integrated projects can be achieved that combine infrastructure investments with placemaking and city-building opportunities. As large scale investments in public places, infrastructure and utilities can often be creatively used to provide a broad range of benefits that extend beyond Vaughan's service needs.

Required infrastructure renewal projects often occur within existing public rights-of-way. These projects can serve as opportunities to invest in streetscape initiatives, including tree planting, redesigned sidewalks, introduction of street furniture, public art and other initiatives.

Major utility corridors within a separate dedicated right-of-way, such as high voltage electricity transmission corridors, can also provide placemaking benefits. Often seen as gaps in the urban structure, they represent large contiguous open spaces rivaling only the valley corridors in size and connectivity. As such, they should be designed and planned to maximize their usefulness for a variety of uses and to contribute positively to the urban landscape and as wild life corridors. These corridors can be reimagined as large integrated trail networks that serve as linkages rather than boundaries, and can be locations for recreation activities including *urban agriculture* and gardening. In considering secondary uses on the corridor lands respect shall be given to the transmission and distribution as the primary use of the lands.

It is the policy of Council:

- 8.1.2.1. To request that utility providers work with the City to implement streetscape improvements and other placemaking initiatives when undertaking new utility infrastructure and development projects within public rights-of-way.
- 8.1.2.2. That visual impacts from the provision of services and utilities shall be encouraged to be minimized through infrastructure design, site design, landscaping and other means, and that municipal design policies and guidelines provide direction for utility and infrastructure design at a city-wide and local scale.
- 8.1.2.3. That metering equipment, transformer boxes, power lines, conduit equipment boxes and other utility equipment and devices be designed and located to reduce their visibility from and within the public realm, improve the quality of the streetscape and reduce clutter in rights-of-way. Further direction may be provided through urban design guidelines.
- 8.1.2.4. To support that servicing and utilities that are provided in a sustainable manner, and that:
 - a. environmental assessments for infrastructure planning shall evaluate economic, social, cultural and environmental considerations in order to maximize benefits from future investments, where applicable;
 - b. all servicing and utilities infrastructure shall be developed in a manner that is consistent with the natural heritage policies of this Plan and that new infrastructure shall be directed outside of the **Core Features** of the Natural Heritage Network identified on Schedule 2 and any hazard areas, where feasible;
 - c. the removal of existing infrastructure from the **Core Features** of the Natural Heritage Network and hazard areas should be encouraged when development occurs or when infrastructure is at risk or undergoing maintenance; ~~and~~
 - d. that all utilities, infrastructure and servicing within the Oak Ridges Moraine Conservation Plan Area or Greenbelt Plan Area identified on Schedule 4 shall be subject to the policies of the Oak Ridges Moraine Conservation Plan or Greenbelt Plan and the policies of Sections 3.4 and 3.5 of this Plan; and
 - ~~d.e.~~ infrastructure be planned and designed to ensure long term fiscal sustainability through advanced design standards, asset management programs, and provision for efficient, cost-effective operations.

- 8.1.2.5. That, where appropriate, the City, in consultation with the utility provider will encourage the use of major utility rights-of-way for greenways, recreational uses, community and private gardening, trails, commuter parking lots and stormwater ponds, subject to easement rights and/or approval processes established by the utility provider.

8.2 Municipal Services

8.2.1 Providing Efficient and Timely Municipal Services

In partnership with York Region, Vaughan provides water, wastewater and stormwater service to all areas of the City within the *urban area*. Reliable and efficient municipal services require long-term planning and maintenance. Increasing reinvestment will be required to maintain a state of good repair and to adapt to changing demands and new service requirements.

It is the policy of Council:

- 8.2.1.1. To provide efficient servicing that meets Vaughan's long-term needs by:
- supporting and encouraging measures to conserve servicing capacity;
 - implementing efficient and long-term cost-effective means of servicing development;
 - designing sustainable infrastructure and utility corridors to maximize flexibility to accommodate long-term needs, adapt to new technologies and potential new uses, and minimize disruption and cost related to upgrades; and
 - coordinating a comprehensive servicing plan with York Region to ensure the growth management objectives of this Plan and the York Region Official Plan are met and phased appropriately.
- 8.2.1.2. That water and waste water capacity, assigned by York Region, be allocated by the City in a manner that supports the policies of this Plan and with other Council approved policies with respect to servicing capacity. **Intensification Areas** shall be the priority when allocating servicing capacity.
- 8.2.1.3. That all development in the *urban area* of the City shall be serviced by municipal water, sanitary sewers, storm sewers and other utilities. Conversely, development in the **Countryside** will not be serviced by municipal water, and sanitary sewers.
- 8.2.1.4. Where minor infill development is proposed in existing **Countryside** hamlets on private individual wastewater systems, these systems will be permitted only if it can be demonstrated to the satisfaction of the City that there are no adverse impacts on soil, surface or groundwater quality and quantity.
- 8.2.1.5. That the construction or expansion of partial services is prohibited in the Oak Ridges Moraine unless it has been deemed necessary to address a serious health or environmental concern identified by the Medical Officer of Health or other designated authority.
- ~~8.2.1.5.~~ 8.2.1.6. To plan for and protect corridors and rights-of-way for transportation, transit and infrastructure facilities to meet current and projected needs.

8.3 Water and Wastewater

8.3.1 Providing Water and Wastewater Services

Vaughan is dependent on Lake Ontario municipal drinking water, which is imported through adjacent regions, supplied by York Region and distributed by Vaughan. Though seemingly unlimited, there are limits to available water and the infrastructure to transport it. Limited treatment and pipe capacities, high

energy costs related to treatment and pumping, and uncertainties related to climate change require increased attention to conservation and water efficiency. Vaughan's water system will provide access to water while maximizing efficiency to protect this valuable resource.

Water consumption generates wastewater, which, in urban areas, is collected and treated by a large network of wastewater pipes and a series of wastewater treatment plants. Collection and treatment of wastewater is expensive and has the potential to introduce contaminants into the natural environment. Vaughan will encourage reduced and more efficient water use, decreasing the need for water and wastewater treatment, saving money and conserving a valuable resource. Opportunities also exist to reuse greywater for on-site purposes, reducing water consumption and encouraging environmental innovation in reuse or pre-treatment of wastewater.

Most development in the **Countryside** is dependent on well water and on-site wastewater treatment. There are also two regional water wells within Vaughan's **Countryside**. Additional considerations and issues arise when groundwater is used as a source for drinking water, including potential contamination, and testing requirements. Where municipal wastewater services are not provided, safe and effective private wastewater treatment will be required.

It is the policy of Council:

- 8.3.1.1. To support the continuous provision of safe drinking water and wastewater service to all *urban areas*.
- 8.3.1.2. To prioritize the efficient use of water, including:
 - a. exploring the most efficient means of water distribution;
 - b. encouraging increased water efficiency and reductions in water use;
 - c. supporting opportunities for water recycling, reuse, and on-site collection and storage, where feasible; and
 - d. developing green building standards that set specific targets and requirements for water efficiency within new developments, consistent with [Section subsection](#) 9.1.3 of this Plan.
- 8.3.1.3. To establish and implement a city-wide water and wastewater master plan to ensure the sustainable delivery of water and wastewater services, long term water efficiency, conservation, cost savings and public education.
- 8.3.1.4. To establish and implement a city wide storm drainage and stormwater management master plan to ensure sustainability of Vaughan's natural water systems and ecosystem.
- 8.3.1.5. To develop and implement a wastewater inflow and infiltration reduction program and commissioning standards for new wastewater systems.
- ~~8.3.1.6.~~ 8.3.1.6. That, in coordination with York Region, water and wastewater systems shall be designed to permit their future expansion into areas designated for urban development and to accommodate all natural tributary areas subject to:
 - a. phasing growth in new communities to provide for substantial completion (approximately 75%) of one phase prior to proceeding to future phases; and
 - b. identification of key infrastructure requirements to service each phase of growth; and
~~the;~~
 - ~~a-c.~~ Availability of excess capacity in any given area shall not be interpreted to mean that additional development is appropriate or desirable.
- ~~8.3.1.6.~~ 8.3.1.7. To recognize, prioritize and respond to water-related issues caused by global climate change, including impacts that may affect water quantity and quality.
- ~~8.3.1.7.~~ 8.3.1.8. To work with York Region on drinking water issues in order to:

- a. confirm water and wastewater servicing capacity prior to development approval;
- b. identify and address inefficiencies in the water system in order to conserve water resources, including leaking pipes and infrastructure, and ensure water quality;
- c. identify and address significant seepage and leakage issues in the wastewater network to increase efficiency and minimize groundwater impacts and protect aquifers;
- d. encourage and support public awareness programs to reduce water use, prevent pollution and increase water resource awareness;
- e. undertake regular servicing studies to understand water capacity and needs; and
- f. design Vaughan's water system to appropriately respond to anticipated impacts from global climate change.

~~8.3.1.8~~8.3.1.9. To undertake a water use audit to identify measures to reduce the non-revenue component of the city's water consumption and to improve overall city wide water use efficiency.

~~8.3.1.9~~8.3.1.10. To support the development of greywater systems in buildings that filter and reuse wastewater generated from non-toxic sources for toilets, irrigation, and other non-contact uses. Approval for greywater systems shall be subject to design standards and approvals by appropriate agencies.

~~8.3.1.10~~8.3.1.11. To work with York Region, the Toronto and Region Conservation Authority and the Province to ensure safe drinking water conditions for areas of Vaughan serviced by water wells.

~~8.3.1.11~~8.3.1.12. To promote groundwater and source water protection for wells through the implementation of the natural heritage and environmental policies contained in Chapter 3 of this Plan.

~~8.3.1.12~~8.3.1.13. To recognize the York Region *Wellhead Protection Areas*, as shown on Schedule 11, which are based on *time of travel zones* as follows:

- a. a 100-metre pathogen zone around each wellhead; and
- b. *time of travel zones* of 0 to 2 years, 2 to 5 years, 5 to 10 years and 10 to 25 years.

~~8.3.1.13~~8.3.1.14. That in *Wellhead Protection Areas* outside of the Oak Ridges Moraine, a *Risk Assessment* shall be conducted as prescribed by the Clean Water Act, 2006, and a *Risk Management Plan* developed and approved prior to the establishment of new land uses that involve the storage or manufacture of:

- a. petroleum-based fuels and or solvents;
- b. pesticides, herbicides, fungicides or fertilizers;
- c. construction equipment;
- d. inorganic chemicals;
- e. road salt and contaminants as identified by the Province;
- f. hazardous waste or liquid industrial waste, and waste disposal sites and facilities;
- g. organic soil conditioning sites and the storage and application of agricultural and non-agricultural source organic materials; and
- h. snow storage and disposal facilities.

~~8.3.1.14~~8.3.1.15. That outside the Oak Ridges Moraine, where existing land uses in *Wellhead Protection Areas* and areas with high potential for groundwater contamination, involve the storage, manufacture or use of materials detailed in policy 8.3.1.14, a *Risk Assessment* and a *Risk Management Plan*, as defined by York Region, may be required.

~~8.3.1.15~~8.3.1.16. That the storage or use of pathogen threats by new land uses, including the siting and development of stormwater management ponds and *rapid infiltration basins* or *columns*, except for the storage of manure for personal or family use, is prohibited within the

100-metre pathogen zone around each active wellhead shown on Schedule 11 and may be restricted within the 100-metre zone and within the 0-2-year *time of travel zone*.

~~8.3.1.16~~-8.3.1.17. That expansion of existing incompatible land uses within the 100-metre pathogen zone is prohibited and expansion of existing incompatible land uses within the 100-metre zones, the 0-2 year *time of travel zone* and the 2-5-year *time of travel zone* will be discouraged, unless a *Risk Assessment* and *Risk Management Plan*, as defined by York Region, has been undertaken. Redevelopment of these uses to more compatible uses is encouraged, subject to an appropriate *Risk Assessment* and a *Risk Management Plan*.

~~8.3.1.17~~-8.3.1.18. To investigate the need for undertaking risk management planning, including spills response, contaminant recovery, aquifer rehabilitation plans and public education in consultation with other partners, where existing land uses involve the storage of contaminants identified in policy 8.3.1.14 in *Wellhead Protection Areas*.

~~8.3.1.18~~-8.3.1.19. To require appropriate buffer areas around Regional water wells according to Provincial guidelines.

8.4 Utilities

8.4.1 Utility Provision in Vaughan

Utility corridors and facilities play a critical role in transporting energy, transmitting data and supporting communication throughout Vaughan. These activities will continue to be supported. Utilities also contribute to the quality of the built environment in Vaughan and will play an increasing role in enhancing the built environment through appropriate design and contributions to placemaking.

Many utility networks are located within public streets, either buried below ground or mounted on poles or towers above ground. Often located side-by-side in the same rights-of-way, redevelopment or replacement of underground utilities should be coordinated to minimize costs and disruptions due to construction activity and reduce land requirements. Coordinated utility upgrades also provide opportunities to implement right-of-way enhancements as described in Section 9.1 .

Major utility corridors can also be located in their own large right-of-way. Vaughan has two high voltage electricity transmission lines and associated distribution facilities, including one that runs along the western edge of the City and another that follows the Highway 407 corridor. The TransCanada natural gas pipeline also crosses Vaughan south of Kirby Road, and includes a compressor station west of Weston Road. As large-scale investments, major utility corridors should be protected from activities and development that may threaten their long-term viability.

It is the policy of Council:

- 8.4.1.1. To support the provision of utilities within public rights-of-way to provide efficient and reliable service.
- 8.4.1.2. To facilitate the coordination of all utilities and services within public rights-of-way and to work with utility providers to coordinate infrastructure renewal and redevelopment. Coordinated infrastructure redevelopment initiatives will consider placemaking opportunities of utility investments, as discussed in Section 9.1 of this Plan as well as the efficient use of public space for their accommodation.
- 8.4.1.3. To maximize the flexibility and adaptability of utility corridors within public rights-of-way to maintain corridors that can accommodate long-term needs and are able to adapt to new technologies.

8.4.2 Hydro Corridors

Vaughan's electricity is delivered through a large network of electricity transmission and distribution facilities, including overhead and underground wires, transformer and municipal substations, poles and structures, and other infrastructure. Hydro One is responsible for provincial electricity generation and for provincial distribution. The high voltage electricity transmission and distribution facilities, that pass through Vaughan are controlled by Hydro One. Local delivery of electricity in Vaughan is the responsibility of PowerStream, a private corporation that is jointly owned by the municipalities of Vaughan, Markham and Barrie.

Vaughan will continue to support the provision of safe, reliable and efficient electricity service. For local service, underground circuits will be encouraged to minimize visual impacts and to increase reliability. Existing high voltage corridors will continue to be protected for electricity transmission and distribution facilities, but the large open spaces within these corridors can provide opportunities for other activities.

It is the policy of Council:

- 8.4.2.1. To require the use of underground wires for local electricity distribution systems.
- 8.4.2.2. To develop a plan to bury existing overhead hydro wires and other utilities in ***Intensification Areas***.
- 8.4.2.3. To recognize the importance of high-voltage hydro corridors in servicing Vaughan and to minimize any adverse impacts on the use of such corridors.
- 8.4.2.4. To recognize the open space character of hydro corridors as an important structuring element of the City and a resource for uses in addition to electricity transmission and distribution facilities, including supporting natural heritage linkages.
- 8.4.2.5. To encourage transformer stations to be designed in a manner that is sensitive to the surrounding context. Potential tools may include locating the station in the prevailing area building type, or using the station as a potential opportunity for installations of public art, and/or enhanced landscaping.

8.4.3 Natural Gas

TransCanada PipeLines Limited operates high pressure natural gas pipelines within its right-of-way. Any development within close proximity of TransCanada's facilities may affect the safety and integrity of the pipeline. TransCanada is regulated by the National Energy Board. There exist a number of requirements regulating development in proximity to pipelines, including approvals for activities on or within 30 metres of the right-of-way such as excavation, blasting and any movement of heavy equipment.

It is the policy of Council:

- 8.4.3.1. That, for development proposals within 200 metres of the pipeline right-of-way or compressor station, the City shall require the applicant to pre-consult early in the process with TransCanada or its designated representative. The pipeline right-of-way is shown on Schedule 12.
- 8.4.3.2. That no permanent building or structure may be located within 7 metres of the pipeline right-of-way. A reduction in the 7 metre setback will only be considered if it can be demonstrated, to TransCanada's satisfaction, that it will not compromise the safety and integrity of the pipeline and if all necessary municipal approvals are obtained.

- 8.4.3.3. That no building or structure is permitted within 3 metres of the right-of-way. Accessory structures shall have a minimum setback of at least 3 metres from the limit of the right-of-way.
- 8.4.3.4. That regard shall be given to noise levels where development is proposed in close proximity to the TransCanada compressor station. A noise and vibration study, to be carried out by the proponent, may be required for development proposals within 750 metres of the compressor station. The study will determine if provincial guidelines can be achieved, and if necessary recommend appropriate mitigation measures.
- 8.4.3.5. That, where appropriate, the City will encourage the use of TransCanada's right-of-way for open space and trail purposes including an east-west open space link, subject to TransCanada's easement rights.

8.4.4 Telecommunications and Data

Telecommunications and data networks and infrastructure have grown at a rapid pace in recent years. Fuelled by growth in mobile telephones, email and the internet use, private providers have invested significantly in new infrastructure, including upgraded cable and phone lines, fibre optic networks and cell phone towers.

The City will support the provision of high speed, reliable and accessible telecommunications and data service throughout the City where appropriate, including wired infrastructure within public rights-of-way or wireless infrastructure, such as cellular towers. Competing service providers will share resources and infrastructure in order to minimize use of public rights-of-way and reduce visual clutter from infrastructure, where possible. Design guidelines for wireless communications towers will be developed to minimize the visual impacts of such infrastructure.

It is the policy of Council:

- 8.4.4.1. To encourage the development of comprehensive high-speed telecommunications and data networks throughout Vaughan to contribute to economic competitiveness and support widespread access to such services.
- 8.4.4.2. That providers shall be encouraged to share telecommunications and data infrastructure, where feasible, to minimize adverse impacts, including visual impacts, from wireless towers.
- 8.4.4.3. To develop comprehensive site planning and design guidelines to provide direction for the development of wireless communications infrastructure, including:
- a. locating telecommunications towers and infrastructure to the rear of lots and away from streets and prohibiting locating such towers in parks;
 - b. minimizing adverse impacts, including visual impacts, on surrounding uses;
 - c. supporting integration into existing or new buildings and structures;
 - d. engaging cellular service providers early in the development process to facilitate integration of wireless telecommunications infrastructure into development;
 - e. ensuring infrastructure blends in with the existing built and natural landscape; and
 - f. encouraging towers to be camouflaged where they are located in sensitive areas, including the **Countryside**, open space and residential areas.
- 8.4.4.4. To consider potential impacts on existing utility infrastructure and opportunities for enhancement and/or replacement, as part of street construction, improvements and maintenance through discussions with utility providers.

8.4.4.5. That the Telecommunications and Data polices 8.4.4.2 and 8.4.4.3 will not apply until such time as the Telecommunication Facility Siting Protocol Task Force has concluded its work and Council has adopted new policies.

8.5 Energy Conservation

8.5.1 Energy Conservation and Efficiency In Vaughan

Energy use is a part of everyday life. Natural gas, electricity and gasoline are the most common sources of energy, used for heating, lighting, cooking, transportation and other needs. But energy use comes at a price. In addition to the rising costs of energy, there are many negative effects, including reduced air quality, increased greenhouse gas emissions and even impacts on water quality.

A comprehensive approach to energy conservation will improve the quality of life for Vaughan's residents, minimize impacts on the natural environment and reduce greenhouse gas emissions. Vaughan can best address energy conservation by ensuring compact development patterns that support rapid transit and other movement alternatives, and by implementing green building standards to promote highly efficient buildings.

Energy conservation will also be addressed through support for alternative energy, local energy and a variety of programs to reduce energy consumption. In partnership with York Region, Vaughan will undertake a community energy plan to understand the City's energy use and establish a plan to reduce demand while considering alternative energy sources, including renewable energy, on-site generation, district energy systems and other means. Smaller, local community energy plans may be developed, including plans for **Intensification Areas** and the urban expansion areas. Prior to proceeding, the City will work with York Region to establish study criteria and terms of reference for the preparation of community energy plans. As a major energy consumer, the industrial and manufacturing sector will also be a priority for energy conservation and efficiency.

It is the policy of Council:

- 8.5.1.1. To support a pattern of growth and development that minimizes electricity, natural gas and gasoline consumption, including;
 - a. higher density buildings and land uses in accordance with the land use designations on Schedule 13 and associated policies in Chapter 9 of this Plan;
 - b. energy efficient developments and buildings, including developments that maximize solar gains and facilitate future solar energy installations;
 - c. integration of transportation and land use planning, such that transit use is encouraged;
 - d. a balanced transportation network that supports increased modal shares for walking, cycling and transit; and
 - e. energy efficient and efficiently planned industrial and manufacturing buildings and infrastructure.
- 8.5.1.2. To develop community energy plans as part of the Block Plan and Development Concept Plan processes as appropriate for **Intensification Areas**, lands designated as **New Community Areas**, and as yet undeveloped **Employment Areas** that will:
 - a. provide additional detail and clarity about Vaughan's energy consumption;
 - b. identify targets for energy reduction;
 - c. identify opportunities and targets for on-site energy generation and district energy systems; and
 - d. provide development standards and design guidelines to maximize energy efficiency.
- 8.5.1.3. To work with York Region to develop a City-wide community energy plan in accordance with the requirements identified in policy 8.5.1.2 above.

- 8.5.1.4. To prioritize energy conservation and efficiency in the industrial and manufacturing sectors by:
- a. encouraging industrial energy conservation through municipal programs and support;
 - b. coordinating with York Region to develop conservation standards and guidelines for industry; and
 - c. coordinating and partnering with energy providers and other government agencies to develop programs and strategies to encourage conservation.
- 8.5.1.5. To support reductions in peak electricity consumption by:
- a. supporting the transition to smart electrical meters;
 - b. encouraging innovative energy storage technologies through best practices and design guidelines that minimize peak electricity consumption; and,
 - c. designing municipal facilities to be models for peak electricity reductions
- 8.5.1.6. To support the development of district energy systems in areas of appropriate development density by:
- a. encouraging partnerships between adjacent land owners to identify district energy opportunities;
 - b. supporting district energy pilot studies;
 - c. considering the implementation of district energy systems for all *significant development* applications within **Intensification Areas** and for lands designated as **New Community Areas** and undeveloped **Employment Areas**; and
 - d. developing partnerships with locally-serving energy utility companies to facilitate the design and implementation of district energy systems.
- 8.5.1.7. To support and encourage alternative and renewable energy generation and support increased energy independence by:
- a. supporting local and on-site energy generation;
 - b. encouraging and supporting the development of alternative and renewable energy sources, including solar, wind, water, biomass, geothermal, energy-from-waste and other technologies throughout Vaughan, provided that they do not adversely impact surrounding uses;
 - c. encouraging on-site electricity generation initiatives that connect to Vaughan's electricity grid;
 - d. supporting the use of renewable energy sources in district energy systems;
 - e. supporting the development of minimum on-site alternative energy production requirements for *significant development*; and
 - f. supporting local industries that manufacture and support alternative energy generation technology.
- 8.5.1.8. To support best practices for incorporating energy generating technology and infrastructure into community design and buildings, including:
- a. developing Green Building Standards as set out in [Section subsection 9.1.3](#) of this Official Plan;
 - b. zoning by-laws that support the installation of technologies that do not adversely impact surrounding uses; and
 - c. [that design guidelines should identify best practices and techniques for incorporating those technologies into building and site design, and](#)
 - d. [encouraging the incorporation of renewable energy when it does not adversely affect a heritage resources.](#)
- 8.5.1.9. To support opportunities for alternative energy production in the **Countryside** that do not adversely affect agricultural practices or prime agricultural land, including:
- a. energy production that makes use of animal waste and by-products;

- b. energy generating infrastructure that can coexist with agricultural uses and does not adversely impact agricultural activities; and
- c. bio-fuel sources that make use of crop by-products or uses non-food crops as energy sources.

8.5.1.10. To encourage municipal and on-site energy generation initiatives that support the air quality and natural heritage policies contained in Chapter 3 of this Plan.

8.6 Waste Management

8.6.1 Managing Vaughan's Waste

Waste is an inevitable result of everyday living, but it reflects a loss of energy and resources and is inherently unsustainable. To promote the sustainable use of resources, Vaughan is committed to reducing and diverting waste. Through City-wide three-stream waste collection (waste, recycling and compost) and programs to achieve ambitious reduction and diversion targets, waste can be minimized.

It is the policy of Council:

- 8.6.1.1. To support Vaughan's comprehensive waste management strategy to:
 - a. promote waste diversion, including composting and recycling;
 - b. identify targets for waste diversion for residential and non-residential users;
 - c. establish a program of monitoring and reporting to track waste diversion progress;
 - d. monitor the overall effectiveness of waste diversion to minimize the reintroduction of diverted waste into traditional waste streams;
 - e. support residential and non-residential programs that promote waste reduction and diversion;
 - f. encourage public awareness around waste reduction and the adverse environmental, economic and social effects of waste;
 - g. provide convenient and accessible waste disposal sites for highly toxic or other materials that are not accepted within traditional waste streams; and
 - h. coordinate and streamline waste collection and diversion with York Region.
- ~~8.6.1.2.~~ 8.6.1.2. To require that all new multi-unit residential buildings incorporate three-stream (waste, recycling, compost) collection capabilities, and to support the participation of existing multi-unit residential buildings in three-stream collection capabilities.
- ~~8.6.1.2.~~ 8.6.1.3. To support the reduction of waste, Council shall support the adaptive reuse of older and existing building stock, including buildings of cultural/heritage importance as an alternative to demolition.
- ~~8.6.1.3.~~ 8.6.1.4. To design City-owned and operated facilities to be a model for reduced waste generation and high rates of waste diversion.
- ~~8.6.1.4.~~ 8.6.1.5. To identify and support source-based waste reduction strategies, including:
 - a. working with retailers to reduce goods packaging and other forms of waste including shopping bags;
 - b. supporting on-site recycling programs and/or facilities at waste sources such as retailers;
 - c. minimizing the production and sale of toxic materials, where feasible;
 - d. minimizing the production of municipal communications and advertising materials, including mailings, brochures and other materials, in support of electronic and other methods of communication and advertising; and
 - e. targeting specific waste streams that offer limited opportunities for recycling, pose potential hazards to municipal landfills, or are a large contributor to litter.
- ~~8.6.1.5.~~ 8.6.1.6. To support waste reduction, recycling and reuse of building materials and demolition debris in the construction process by:

- a. requiring construction waste reduction strategies to be implemented on construction projects in the City; and
- b. requiring that buildings constructed by the City will implement waste diversion targets established in appropriate green development standards.

~~8.6.1.6~~8.6.1.7. To encourage the development of eco-industrial networks in **Employment Areas** to maximize opportunities for reuse of industrial by-products and waste.

~~8.6.1.7~~8.6.1.8. To investigate potential opportunities for innovative energy-from-waste programs in Vaughan, provided that energy-from-waste initiatives:

- a. be planned in coordination with ~~the Region of York~~York Region and other government agencies;
- b. have minimal impacts to air quality and climate change due to emissions;
- c. be located in **Employment Areas** where they will have minimal impacts on surrounding land uses; and
- d. be co-located with compatible land uses that can potentially benefit from by-products.

Ch.9

9.1 Elements of a Great City

9.1.1 The Public Realm

The public realm consists of the various public and publicly accessible spaces in which residents, employees and visitors interact. It is the public sidewalks on which we walk, the parks in which we play and the squares and open spaces in which we celebrate. The public realm is also about the elements that one finds within these spaces – benches, light poles, transit shelters and public art all work together to provide character and identity within the public realm. Great cities can all boast of a vibrant public realm. To do so requires both a high-quality of design and the foresight to provide for functional, comfortable and safe features within the public realm that make such spaces attractive and universally accessible to all residents. Vaughan is committed to building a truly remarkable public realm throughout the City.

Building a great city means bringing together in a functional, attractive and sustainable manner the various components that create the everyday urban fabric. These components consist of the buildings in which we live and work and the public spaces in which we gather, move about and recreate. This section of the Official Plan provides a framework for continuing to build Vaughan as a great City. It includes specific policies and development criteria to promote the creation of a wonderful public realm, an attractive and pedestrian-oriented built form and sustainable and green buildings.

It is the policy of Council:

- 9.1.1.1. To support the development of a high-quality, attractive and sustainable public realm that includes the following elements:
 - a. public streets and rights-of-way;
 - b. public parks and open spaces;
 - c. publicly accessible natural areas;
 - d. off-street trails and bikeways;
 - e. transit stations and stops;
 - f. publicly accessible private spaces; and,