TERMS OF REFERENCE

MASTER ENVIRONMENTAL SERVICING PLAN
SEATON COMMUNITY
CITY OF PICKERING

1.0 INTRODUCTION

In May of 2006 the Central Pickering Development Plan (CPDP) was approved by the Province of Ontario under the *Ontario Planning and Development Act*.

The CPDP sets out the requirements for, and the general items to be addressed, within a Master Environmental Servicing Plan (MESP) to be prepared in advance of, or concurrently with, the preparation of Neighbourhood Plans.

This Terms of Reference, which further details the item required by the CPDP, has been prepared based on an extensive consultative process with the Province, the Region of Durham, the City of Pickering, various approval agencies and other stakeholders, and will be used as the basis for preparing the MESP.

The MESP will be developed using technical supporting analyses prepared as part of the CPDP together with additional technical input in order to meet the detailed objectives of this MESP.

2.0 STUDY AREA

The Study Area is shown on the attached Figure 1. The study area extends from the Pickering Townline east to 16th Sideline and is bounded by Highway 7 to the north and the Canadian Pacific Railway to the south. The community of Green River north of Highway 7 is also included in the Study Area. The lands are within the watersheds of Duffins Creek and Petticoat Creek. Within the Duffins Creek watershed, the lands are part of the subwatersheds of West Duffins Creek, Ganatsekiagon Creek and Urfe Creek.

3.0 BACKGROUND

The CPDP establishes:

- A Natural Heritage System (NHS) protecting over 50% of the study area and the limits of development
- A land use structure and associated population and employment allocations
- The arterial and collector road network
- A regional level transit framework identifying transit spines
- A policy framework for development
- A community supported by sustainable land uses and infrastructure
- Urban Design Guidelines

Furthermore it is the intent of the CPDP to develop a sustainable community based on the best management practices recommended within this MESP and through a long term monitoring program to assess and, if required, modify the MESP recommendations as appropriate.

In addition, a number of supporting documents are available, including:

- Water and wastewater servicing studies completed by the Region, prospective landowners and the Province
- Water balance work completed by the City as part of their Growth Management Study (Phase 2)
- Brock Road Class Environmental Assessment
- Durham Region Master Transportation Plan
- Seaton Lands/Duffins-Rouge Agricultural Preserve, Natural Heritage System Report (MNR 2005)
- Greater Toronto Airports Authority Pickering Airport Draft Plan Report
- Conceptual neighbourhood plans prepared by the prospective landowners and the Province
- Preliminary concepts of the number and location of community facilities to service the proposed development
- A Growth Management Strategy for the area including planning and servicing principles and preliminary neighbourhood design guidelines
- City trails and bikeway master plan (TSH 1996)
- Duffins and Carruthers Creek Watershed Plan (2003)
- Fisheries Management Plan for Duffins Creek and Carruthers Creek
- Digital Floodline Mapping within the Study Area
- Duffins Creek Watershed: Hydrogeology and Assessment of Land Use Change of the Groundwater Flow System (Gerber, 2003)
- State of the Seaton Lands: A Report on the Enhanced Seaton Lands Aquatic Habitat Assessment Conducted in 2006 (TRCA, March 2007)
- Consultants' Final Report of the Sustainable Neighbourhood Plan project including the Draft Sustainable Development Guidelines and District Energy Pre-feasibility Report for Central Pickering (May 2007)

A number of other relevant initiatives are or will be undertaken in parallel with the MESP:

- Preparation of Development Guidelines
- Regional and City Fiscal Impact Studies
- Archaeological Assessments
- Preparation of Neighborhood Plans
- Preparation of a Neighbourhood Sustainability Strategy
- An Environmental Assessment for Regional Water and Wastewater Services and Roads under the Municipal Engineer's Association Class EA (MEA Class EA)
- York Durham Sewage System South East Collector Sewer Individual EA
- Wetland monitoring
- Duffins Creek WPCP expansion Class EA
- Region of Durham Zone 1 reservoir Class EA
- Seaton Natural Heritage System Management Study and Master Trail Plan
- Durham Toronto York Transportation Study
- Highway 407 Economic Development Study
- Duffins Heights Water and Wastewater Servicing Class Environmental Assessment and Environmental Servicing Plan
- An Environmental Assessment for GO Transit Station

- Seaton Affordable Housing Strategy
- An Environmental Assessment for Highway 7 from Brock Road to Highway 12
- Seaton Retail Market Analysis Study
- Enhanced Seaton Lands Aquatic Habitat Assessment (TRCA)

4.0 PURPOSE

The purpose of this study is to complete an overall Master Environmental Servicing Plan (MESP) for all of the Seaton Community and develop phase-specific implementation recommendations in the context of the CPDP.

This MESP is to fulfill the requirements of the Municipal Engineers Association Class Environmental Assessment – Master Planning Process as set out in Section A.2.7.1 of the MEA Municipal Class EA. At a minimum, the MESP will address the first two phases in the Planning and Design Process of the Class EA for all non-major road, water and wastewater projects. The Master Plan is to be integrated with the Planning Act as outlined in Approach #4 of the Master Planning Process.

5.0 STUDY MANAGEMENT

The MESP shall be completed in collaboration with the Toronto and Region Conservation Authority (TRCA), the Ministry of Municipal Affairs and Housing (MMAH), Ontario Realty Corporation (ORC), Region of Durham, Region of York, the City of Pickering and the developers subject to the land exchange agreement with the Province.

The development group shall retain and fund the consulting team to prepare the MESP.

An Oversight Committee made up of representatives of the agencies and organizations will be established to provide an overview and consultative function including reviewing the results of the analysis at key milestones, to be identified in the schedule for the study.

6.0 MESP EXPECTATIONS

The CPDP defines the general expectations for the MESP through a collaborative effort as follows to the extent that they are not identified through the Environmental Assessments undertaken by the Region of Durham:

1) Identify any requirements for water source protection.
2) Conduct an overall and monthly water balance on a subwatershed basis or for specific natural heritage features (ie. wetlands, woodlands) and identify infiltration targets and surplus water volumes.
3) Conduct an erosion sensitivity analysis for all receiving watercourses on a subwatershed basis.
4) Protect and enhance the Duffins Creek fisheries in keeping with the direction of the Fisheries Management Plan and the recovery planning for Atlantic Salmon and Redside Dace.
5) Determine the general location, type and discharge targets for all stormwater management facilities.
6) Confirm the overall municipal service requirements including trunk alignments, general facility locations and open space crossings.
7) Confirm the collector road and transit system requirement including bridge locations and open space crossings, and neighborhood traffic calming.
8) Identify the existing and proposed major utilities including appropriate locations for large utility equipment and utility cluster sites, installations, corridors, easements, substations, etc.
9) Provide preliminary servicing cost estimates for all Regional and City infrastructure.

10) Identify the number and general location of major community facilities including but not limited to, emergency service facilities, secondary schools, district parks and recreational complexes. Also identify an interconnected network of pedestrian, bicycle and multi-use trails throughout Seaton as an input to the City's Pedestrian and Bicycle Master Plan in coordination with the Seaton Natural Heritage System Management Plan and Master Trail Plan that will be identifying a trails system for the NHS portion of Seaton.
11) Provide for an Energy and Water Management Strategy including, but not limited to, consideration of energy efficient infrastructure and process management, potential district energy production and distribution if appropriate, the harvesting and reuse of rain and Stormwater, etc. Identify monitoring requirements for the foregoing.
12) Utilize a three-dimensional groundwater flow model to quantify the sensitivity of all affected aquifers, aquitards and groundwater fed wetlands and streams; the relationship between land use changes and local and regional groundwater and the provision for the mitigation of potential development impacts.
13) Identify any additional information required at later stages of the planning process or design.

It is the intent that the recommendations of this MESP will be coordinated and integrated with the recommendations of the various studies and processes indicated above. Co-ordination of these activities will be through a combination of participation by the Study Team, through the Oversight Committee listed in Section 5.0 and other inter-agency committees that may be established.

7.0 DETAILED REQUIREMENTS FOR THE MESP

The following outlines the detailed requirements for the MESP:

7.1 Source Water Protection

The development of a preliminary Assessment Report for the Duffins and Carruthers Creek Watersheds is currently being carried out by the TRCA as part of the anticipated requirements of the draft Drinking Water Source Protection Act (Bill 34). This report will include an inventory of drinking water resources, and will identify potential threats to drinking water resources that must be considered in the development of the MESP. Under Provincial guidelines, these threats may include the construction of municipal infrastructure (i.e. construction impacts due to dewatering), and stormwater infiltration measures with direct pathways to vulnerable groundwater sources.

1) The MESP will identify any requirements for water source protection within the Seaton Community, through consultation with TRCA.
2) Make specific recommendations to mitigate any impacts to hydrologically sensitive areas, and to existing and anticipated wells (e.g. private wells in proximity of the urban/rural boundary). This may include precautionary, interim management measures until such time as the Source Protection Plan is completed.
3) Identify all domestic and other wells, including depth size, pump intake, water level, owner and address.
4) Identify potential impacts on water quality and quantity in the main aquifer, streams and wells. Identify potential ground settlement if water table is modified.
5) Develop a specific monitoring plan, mitigation measures and Public Relations plan for well issues.
6) Conduct three-dimensional hydrolgeologic modeling to assess the impacts on the aquitards and aquifers in accordance with the direction provided in the CPDP.

7.2 Water Balance

The latest Duffins Creek water balance model shall be used in consultation with TRCA.

The MESP will:

1) Prepare an overall water balance analysis for the Seaton Community on the basis of local surface drainage, soil and existing land use characteristics.
2) Identify local areas that may contribute to the recharge of shallow aquifers, and that contribute to wetlands, local discharge and baseflow, using available resources such as aquifer vulnerability index mapping.
3) In consultation with Department of Fisheries and Oceans (DFO), the Ministry of Natural Resources (MNR) and Toronto & Region Conservation Authority (TRCA), develop local surface and groundwater recharge targets that must be attained to manage runoff volumes and thereby sustain wetlands and woodlots, and local base flow.
4) Using the appropriate model carry out a post-development impact assessment including an analysis of the impact of a change in water volume on receiving watercourses and manage runoff volumes through techniques such as infiltration, evapotranspiration and rainwater reuse Best Management Practices (BMP's).
5) Based on the analysis carried out above, develop post-development mitigation scenario to demonstrate that there will be no adverse impacts to water levels in streams, wetlands and woodlots that are sustained by groundwater.
6) Identify implementation measures to ensure preservation and enhancement of the natural heritage system, including but not limited to the consideration, BMP's such as permeable pavers, or servicing measures such as redirection of roof leader discharge. The types of implementation measures selected will be dependent on local soil types, percolation rates, and generic design conditions.
7) Where feasible, incorporate the principals of low-impact development to minimize the amount of impervious surfaces and thereby control excess runoff volumes at source. Options to explore include reducing road widths eliminating cul-de-sacs, permeable pavement, etc.

7.3 Erosion Sensitivity Analysis

The MESP will:

1) Review fieldwork completed by Parish Geomorphic in 2003 for the TRCA for portions of West Duffins Creek, Whitevale Creek, Ganatsekiagon Creek and Urfe Creek, and determine if further work is required within the study area (e.g. tributaries of Whitevale, Ganatsekiagon, Urfe and Brougham Creeks, etc.).
2) Establish locations for detailed assessment in consultation with the TRCA. Where required, characterize the existing channel form to define representative reaches and classify the stability of the active channel (i.e. determine the most sensitive reaches).
3) Establish the erosion thresholds based on field measurements (i.e. determine critical discharge, velocity and depth of flow for the most sensitive reaches based on both bed and bank assessment – the most critical values should be used).
4) Investigate and identify slope stability at locations where toe erosion is occurring or where visible slumps or scars exist.
5) Establish a continuous simulation model using the appropriate model in consultation with the TRCA. The modeling will include converting the Duffins Creek Visual OTTHYMO (version 2.0) existing conditions hydrology model to the appropriate model to assess the instream erosion potential and runoff volumes. The continuous model should be completed using a minimum of 6 years of hourly data

(to be provided by the TRCA).

6) Run the existing conditions scenario, which will establish the targets for the receiving watercourses.
7) Run the future land use scenario (which would include the proposed developments, and the airport lands) (with consultation with GTAA in regard to assumptions used) with and without SWM controls (i.e. all SWM ponds need to be modelled) to determine the necessary storage volume and release rates to maintain the existing erosion potential.
8) Perform a sensitivity analysis to determine how a 25% variation in the erosion thresholds established in item 3 above will affect the design of the stormwater management facilities (i.e. pond volumes and release rates).

7.4 Aquatic Habitat

The MESP will:

1) Document and define existing aquatic habitat conditions within each watercourse, from existing data sources, other MESP study components and additional field reconnaissance as required. Components of this task are as follows:
    - Confirm the presence and location of all watercourses on-site;
    - Summarize and describe the aquatic habitat conditions within each watercourse, including flow regime, channel dimensions, in-stream cover, substrate quality, water quality, and thermal regime (where data available);
    - Summarize and describe the historic and current resident and migratory fish communities (where data available);
    - Classify the watercourses based on habitat quality, present fish community, target fish community and thermal regime (where data available);
    - Identify and describe barriers to fish migration (both physical and velocity, all species and life stages);
    - Document the nature and extent of riparian vegetation along the watercourses; and
    - Identify data gaps and undertake additional study where required.
2) Determine potential impacts to fish and fish habitat from proposed development activities. As part of this task, representative predictions from other MESP study components will be extracted to define potential impacts. Impacts may include, but not be limited to:
    - Watercourse crossings;
    - Dewatering;
    - Loss of riparian vegetation;
    - Loss of in-stream habitat;
    - Degradation of water quality or thermal stability;
    - Disruption of sediment transport;
    - Barriers to fish migration (physical or velocity); or
    - Stormwater inputs and infrastructure.
3) Develop preliminary design detail and mitigation approaches to address the impacts identified at each watercourse crossing and stormwater management facility. Impacts will be assessed using a multi-disciplinary evaluation matrix approach, factoring in the regulatory requirements of each approval agency.
4) Evaluate the net effects of the development, considering the identified impacts and the proposed design and mitigation approaches, to determine if a "net gain" in fish habitat productive capacity can be achieved, consistent with the Department of Fisheries and Oceans (DFO) Policy for the Management of Fish Habitat in Canada (1986).
5) If a "net gain" cannot be achieved through design innovation and mitigation alone, develop a Conceptual Fish Habitat Compensation Plan to attain a "net gain" following the hierarchy of

compensation preferences outlined in DFO's Policy for the Management of Fish Habitat in Canada (1986). The Compensation Plan will consider opportunities both on and off-site as required.

6) Prepare a monitoring plan for the fish habitat mitigation and compensation works, forming part of the broader scale MESP monitoring plan.

7.5 Stormwater Management

The following criteria are to be used in the preparation of the MESP using the appropriate models in consultation with TRCA.

Water Quality - Minimum criteria will be enhanced (Level 1) protection based on the MOE SWM manual (2003). The design of SWM facilities will provide for temperature mitigation measures.

Frequent Flow – Based on the criteria determined in Section 7.3.

Flood Flow – The criteria will be based on the Duffins Creek Hydrology Update prepared by Aquafor Beech, 2002, and is dependent on the subcatchment (Whitevale, Urfe, Ganatsekiagon and Brougham Creeks have 2-100 year post to pre-control, while, direct discharge to East and West Duffins Creek requires no quantity control.). The criteria will have to be verified as outlined below.

The MESP will:

1) Evaluate stormwater management alternatives, including but not limited to source (i.e. harvesting and reuse of rain/stormwater), conveyance (i.e. grassed swales and filter strips) and end-of-pipe controls (i.e. stormwater management ponds, constructed wetlands), in order to address the water management criteria and sustainability.
2) Select a preferred stormwater strategy in accordance with the CPDP. This will include determining the type of best management practices (BMPs) best suited for the various drainage areas, the quantity of BMPs required and the locations of the BMPs, all with consideration for the Natural Heritage System and the long term maintenance requirements and financial implications of these BMPs.
3) Alternative stormwater options will be reviewed with TRCA, MNR and the City before selecting the preferred option. End-of-pipe facilities may be located within the NHS lands subject to confirmation that the facilities will not adversely impact any significant natural heritage features.
4) Update the Duffins Creek Visual OTTHYMO future OP scenario from the Aquafor Beech 2002 hydrology report to include the proposed development area (i.e. the future OP scenario from the 2002 update did not include urban areas to Hwy 7).
5) Reassess the current quantity criteria as stated above based on the future development to confirm it remains valid.
6) Carry out a regional storm analysis to determine the need for regional control.

7.6. Municipal Service Requirements

Concurrent with the preparation of this MESP, the Region of Durham will be preparing Class EA's for the principal Regional trunk water and sewerage infrastructure and Regional Roads. The recommendations of the MESP shall be coordinated with the Regional EA's and shall address those Regional items not included in the Regional EA's.

The MESP shall, in relation to works not included in the Regional EA's:

1) Confirm the municipal water, stormwater, and wastewater servicing requirements for the proposed development using the MEA Municipal Class EA process, and fulfilling at a minimum, the first two phases of the Class EA.
2) Identify the applicable Class EA schedule and remaining EA steps for all undertakings identified. This will include identification and preliminary design details of the main sanitary and storm sewer alignments, non-local watermains, and significant water crossings.
3) Estimate the costs for design, construction and operation of all Regional and City infrastructure at a level of detail that will be of value in a municipal-wide financial impact analysis and for use in a Development Charges Study and funding agreements.
4) Consider potential servicing requirements for the hamlets of Whitevale, Brougham and Green River.
5) Consider the infrastructure and road works requirements to protect for the development of the Federal lands north of Hwy 7 as an airport or other urban use.
6) Identify impacts to the Natural Heritage System as it relates to municipal water, stormwater and wastewater servicing requirements.

7.7 Transportation System

The MESP shall in relation to works not included in any related Regional Roads EA:

1) Confirm the collector road and transit network requirements for the proposed development using the MEA Municipal Class EA process and fulfilling, at a minimum, the first two phases of the Class EA.
2) Consider alternate transportation choices, including public transit, walking and bicycling, and alternative transportation facilities including park and ride, car pooling, bicycle storage areas, bus bays and accessible transit stop pads.
3) Determine the applicable Class EA schedule and remaining EA steps for all undertakings identified. This will include detailed assessment of road, water and open space crossings, intersection options and neighborhood traffic calming measures to meet the identified network requirements.
4) Consider the implications of other Class EA's underway such as 14th Avenue, Highway 7 and Highway 407 to the MESP.
5) Determine the estimated costs for design, construction and operation of facilities at a level of detail that will be of value in the identification of possible Development Charges updates and funding agreements.
6) Complete a needs assessment in consultation with the Ministry of Transportation and the 407 ETR Concessions Company with respect to the construction of two Highway 407 interchanges.
7) In consultation with GO Transit, determine the potential to extend GO Transit services to the Seaton Community.

Specific to Municipal (both Regional and City) servicing and transportation requirements, the MESP shall review all anticipated road and water/wastewater infrastructure crossings of the NHS, including those reviewed in the Regional Class EA to address the following considerations:

1) The treatment of water runoff from roads within stormwater management measures.
2) The use of alternative road design standards to minimize the impacts on any natural heritage features to the extent reasonably possible.
3) Avoid road crossings of the NHS wherever possible.
4) Locate and design NHS crossings to facilitate the preservation of natural habitat form and function. This will include an assessment of the impacts on the aquatic and terrestrial system at the proposed crossings and the development of mitigation measures to minimize or eliminate the impacts.
5) Establish future objectives by incorporating measures to maintain current aquatic and terrestrial linkages and minimize negative impacts (e.g. salt spray and road way illumination) for all NHS crossings.

6) Conduct a preliminary geomorphic assessment in order to determine the preferable locations based on plan form as well as determining the meander belt width and the 100 year erosion limit (i.e. the crossing should not be located at a bend or an actively eroding reach, etc.).
7) Conduct a preliminary hydraulic analysis to confirm opening size as to ensure that any increases to floodlines does not affect the development limit (where the floodline has established the development limit).
8) In consultation with TRCA, complete a needs assessment for aquatic and terrestrial linkages for all crossings.
9) Provide recommendations on detailed requirements for the preparation of subsequent Functional Servicing Study (F.S.S.) in support of subdivision level approvals. Necessary future requirements may include but are not limited to terrestrial, fluvial geomorphic and hydraulic considerations (i.e. detailed hydraulic analysis may be required to demonstrate that there is no increase in flood risk to adjacent, upstream or downstream properties, method of construction including geotechnical investigations and the depth of servicing).
10) Where feasible, conveyance of surface runoff to adjacent SWM facilities and not discharge directly off bridges to valleys.
11) Propose co-location of infrastructure and road crossings of the NHS, wherever possible.
12) Where there is no road crossing, align infrastructure to avoid natural heritage features and both the regional and local aquifer systems, where possible.
13) Where intrusions into significant natural features do occur, minimize intrusions and impacts, avoid fragmentation and only where it has been demonstrated that there are no reasonable alternatives that exist, provide compensation.
14) Identify areas requiring potential dewatering for infrastructure construction with estimated dewatering rates and radii of influence. Provide an analysis of the potential impact of dewatering on water resources.

7.8 Non-Municipal Utilities

The MESP will:

1) Identify existing and proposed major utility installations, corridors, easements, substations, etc., in consultation with the appropriated utility company. To the extent possible, these shall be co-located with other road and municipal servicing infrastructure.
2) Provide for enhanced telecommunications systems (i.e. fiber optics) within Seaton including provision for new systems to the extent possible given current and anticipated technology advances.

7.9 Preliminary Servicing Estimates

The MESP will:

To the extent that estimates are not provided through other on-going initiatives dealing with Fiscal Impacts, Development Charges calculations or front-ending discussions, prepare preliminary servicing construction cost estimates for the servicing infrastructure recommended within the MESP.

7.10 Community Facilities

The MESP will:

1) Identify the preferred location for major community facilities including, but not limited to schools, district and community parks, recreational facilities, libraries, health care facilities. Regional and local operation

facilities, transit facilities, and emergency service facilities such as fire, EMS and police stations. In determining locations for such facilities, consider accessibility to transit and arterial roads, multi-modal accessibility to multiple neighborhoods; locations where additional buffering from natural areas and locations which provide gateways and connections with natural areas and associated trail systems. The location of facilities requiring irrigation such as parks, schools and recreational facilities should be coordinated with the stormwater recycling and water balance strategy.

2) Based on a needs analysis completed in consultation with the Province, the City of Pickering and appropriate stakeholders, identify the preferred locations for any required major provincial institutions such as a medical facility, a university and/or college campus site, which should be highly accessible by road and served by transit, within or immediately adjacent to the employment lands.
3) Using the City and Region trails and bikeway connection points as a basis, and with input from the Natural Heritage System Management Plan, identify the connection points to the neighbourhood plans linking neighborhoods, mixed use areas, employment areas, natural heritage areas, and major community facilities.

7.11 Energy and Water Management Strategy

The MESP will:

1) Prepare an energy management plan including the potential to include a district energy production and distribution system within the study area where appropriate in consultation with Veridian, the City of Pickering and the landowner group, including potential for the provision of Smart meters and the potential to use centralized heating and cooling systems for all or a portion of the Seaton Community.
2) In consultation with the City of Pickering and the Region of Durham, prepare a waste diversion and composting strategy.
3) Provide for a water efficiency and reuse strategy including, but not limited to, the harvesting and recycling of rainwater, the use of water efficient devices within and external to all buildings, the harvesting and reuse of stormwater.
4) In consultation with the City of Pickering consider the adoption of LEED certification for office buildings.

7.12 Monitoring Program

The MESP will:

1) Establish a long-term environmental monitoring program, including implementation strategies and contingency planning. Details to be provided in the MESP shall include the type, location, frequency, duration of reporting, as well as potential contingency measures (where feasible) based on the results of the monitoring. It is anticipated that the monitoring will include, but not be limited to, baseflows, water temperature, peak flows, ground and surface water quality, streambank erosion, groundwater elevations, aquatic and terrestrial habitat, transportation, and transit usage. Baseline data and sustainable benchmarks will be established through the MESP process where feasible in each category.
2) The monitoring program will tie into the TRCA Regional Monitoring Network as well as any Provincial and Federal monitoring stations. The program should continue through the build out and post build out period for the Seaton Community.
3) The implementation strategy shall confirm the process by which the monitoring will be carried out including determination of the funding mechanisms and the roles and responsibilities of both the land owners/developers and approval agencies.
4) The contingency plan shall identify performance measures in the identified categories and a contingency process to be used in the event that the performance measures are not met.

8.0 GENERAL AND PUBLIC CONSULTATION

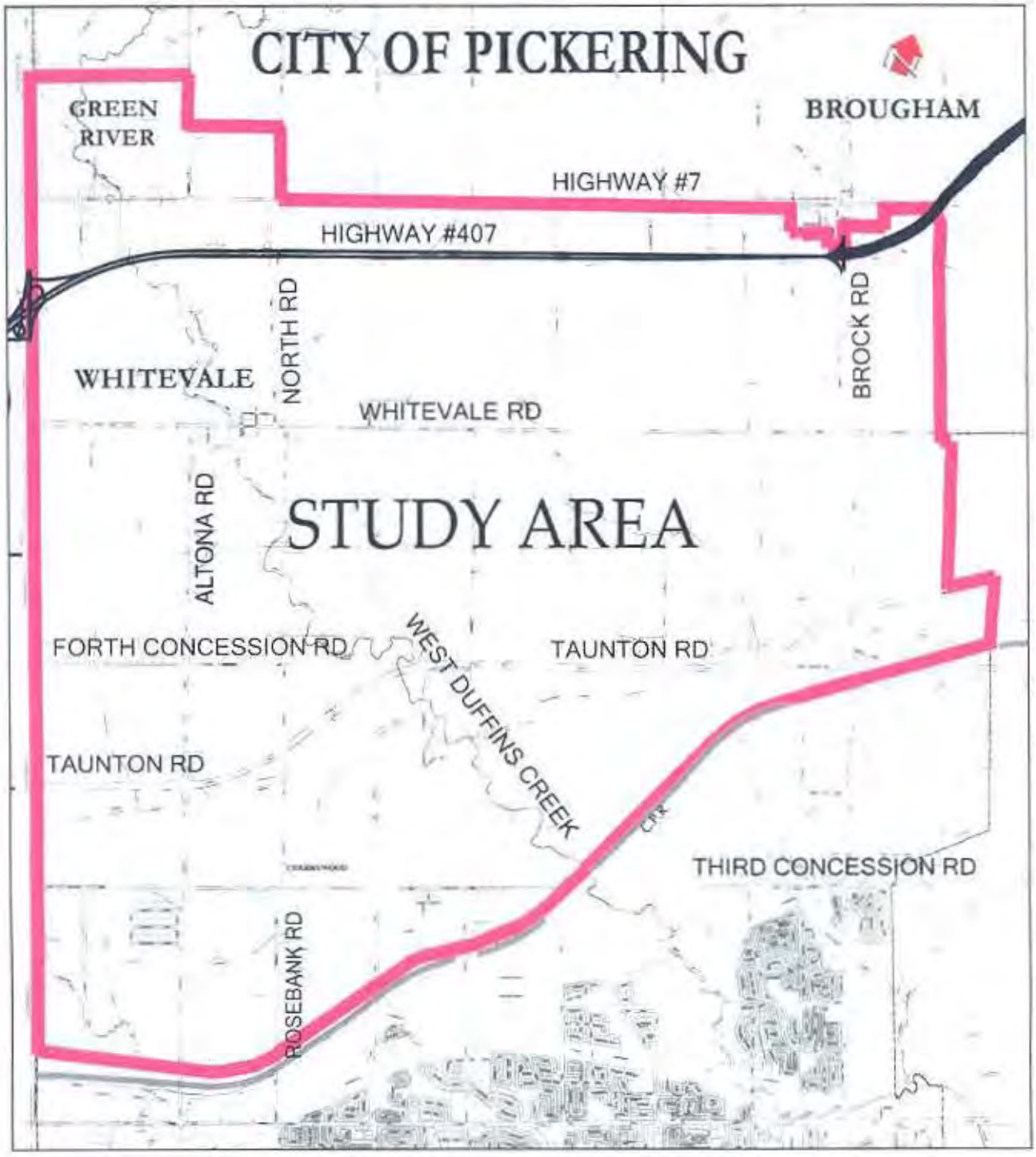
1) The MESP will meet all consultation requirements of the MEA Class EA for the first two phases in the Planning and Design Process of the Class EA for all major road, water and wastewater projects at a minimum.
2) Appropriate consultation with approval agencies and the First Nations will be undertaken in preparing the MESP.

9.0 PHASING / IMPLEMENTATION

1) A phasing strategy shall be prepared to:
   - support Regional and City objectives to provide early servicing of the employment lands including a financial strategy to achieve the foregoing;
   - identify the first and subsequent phases of neighbourhood development;
   - facilitate the construction of major community facilities that promote a balance live/work relationship and the provision of such facilities and services at the earliest feasible stage of the community development process;
   - support the targets established in Neighbourhood Plans for the construction of higher density residential uses along transit spines;
   - to minimize impacts to the natural environment during and post construction; consideration shall be given to stormwater management needs (i.e. the location of temporary erosion ponds during construction, and global facilities post construction).
2) Identify facilities, services structures/lands for major community facilities to be cost shared and how the facilities are to be cost shared.
3) Identify ability for new technologies to be introduced.

10.0 REFERENCE DOCUMENTS

1) Water Budget in Urbanizing Watersheds: Duffins Creek Watershed – Clarifica 2002
2) Duffins Creek Hydrology Update (Aquafor Beech 2002)
3) MNR. Seaton Lands/Duffins-Rouge Agricultural Preserve, Natural Heritage System, City of Pickering , May 2005
4) Water and wastewater servicing studies completed by the City, prospective landowners and the Province
5) Preliminary financial analysis for servicing completed by the City, prospective landowners and the Province
6) Water balance work completed by the City as part of their Growth Management Study (Phase 2)
7) Durham Region Master Transportation Plan
8) Greater Toronto Airports Authority Pickering Airport Draft Plan Report
9) Conceptual neighbourhood plans prepared by the prospective landowners and the Province
10) Preliminary concepts of the number and location of community facilities to service the proposed development
11) A Growth Management Strategy for the area including planning and servicing principles and preliminary neighbourhood design guidelines
12) City Trails and Bikeway Master Plan (TSH 1996)
13) Erosion Assessment and Fluvial Geomorphological Update for Portions of West Duffins Creek, Whitevale Creek, Ganatsekiagon Creek and Urfe Creek (Parish Geomorphic, Nov. 2003)



STUDY AREA

Figure 1