

COMMITTEE OF THE WHOLE (WORKING SESSION) DECEMBER 3, 2013

**NATURAL HERITAGE NETWORK INVENTORY AND IMPROVEMENTS
PHASES 2 TO 4 UPDATE REPORT
FILE NO. 25.5.4**

Recommendation

The Commissioner of Planning recommends:

1. THAT the presentation and staff report, which provides an update on the progress of the Natural Heritage Network Study, BE RECEIVED for input and discussion.

Contribution to Sustainability

The Vaughan Official Plan (VOP 2010) was adopted by Council on September 7, 2010 and was subject to further Council modifications on September 27, 2011, March 20, 2012 and April 17, 2012 and was endorsed by York Region Council on June 28, 2012. VOP 2010 designates a natural heritage system, the Natural Heritage Network, which is delineated on Schedule 2. Environmental policies in Chapter 3 of VOP 2010 direct that appropriate studies be undertaken to determine the precise limits of "natural heritage features and any additions to the mapped network". The Plan is consistent with York Region Official Plan policies directing local municipalities to develop local greenlands systems.

Two specific action items in Green Directions Vaughan (2009), the City's Community Sustainability and Environmental Master Plan, relate to the need to complete a natural heritage system.

1.3.2. Through the development of the City's new Official Plan, and in partnership with the Toronto and Region Conservation Authority, ensure protection of remaining natural features and explore opportunities for habitat restoration in headwater areas, along riparian corridors, and around wetlands.

2.2.4. Develop a comprehensive Natural Heritage Strategy that examines the City's natural capital and diversity and how best to enhance and connect it. As part of this action:

- *Develop an inventory of Vaughan's natural heritage, and identify opportunities for habitat restoration;*
- *Ensure that policies in the City's new Official Plan protect all ecological features and functions as per current provincial and regional policies, and also include consideration for locally significant natural features and functions;*
- *Develop policies to create opportunities for near urban agriculture within Vaughan's rural areas, through policies described in the City's new Official Plan.*

The refinement of the Natural Heritage Network and development of a stewardship strategy in Phases 2 through 4 of the Natural Heritage Network Study fulfill key components of the Green Directions Vaughan plan.

Economic Impact

Funding for the Natural Heritage Network Study was included in the 2011 Capital Budget (PL-9025-11) on the basis of a two part allocation. Phase 1 was treated as a stand-alone project and was funded in the amount of \$52,400. In the 2012 Capital budget, the funding for Phases 2, 3, and 4 was approved at \$199,700. The total budget for the preparation of the Natural Heritage Network Study is \$252,000.

Communications Plan

A communications plan in respect of this report is not required. A communications and public consultation plan has been prepared as part of the process of conducting Phases 2 to 4 of the Natural Heritage Network Study. A summary of stakeholder and broader public consultation is provided in this staff report.

Purpose

The purpose of this report is to inform Council of the work completed to date on Phases 2 to 4 of the Natural Heritage Network Study. This staff report marks the completion of Phase 2 and one round of consultation. The consulting team will integrate the information generated to date to inform updated ecosystem targets and prepare NHN scenarios in preparation of the next round of consultation. This will take place in the first quarter of 2014 with the draft and final reports being presented in the second quarter of 2014.

Background - Analysis and Options

The Policy and Planning Context

A rigorous Provincial and Regional policy framework directs the maintenance, restoration or improvement of the diversity and connectivity of natural features and the long-term ecological function and biodiversity of natural heritage systems in the Greater Toronto Area. This policy framework is reflected in the environmental policies of VOP 2010. The following policy documents were consulted in the preparation of the environmental policies of VOP 2010 and the Terms of Reference for Phase 1 and Phases 2 to 4 of the Natural Heritage Network Study:

- the Growth Plan for the Greater Golden Horseshoe (2006);
- the Provincial Policy Statement (2005) and the Natural Heritage Reference Manual - Second Edition (2010);
- the Greenbelt Plan (2005);
- the Oak Ridges Moraine Conservation Plan (2002);
- the Endangered Species Act (2007);
- the Ontario Biodiversity Strategy, 2011;
- the York Region Official Plan (2010); and
- Ontario Regulation 166/06 under the Conservation Authorities Act.

i) Provincial Policies

The Growth Plan for the Greater Golden Horseshoe – Places to Grow

The Province of Ontario approved the Growth Plan for the Greater Golden Horseshoe (GGH) - Places to Grow in 2006. The Growth Plan sets out a vision for growth in the GGH to the year 2031. This includes a set of long-range growth forecasts and directing how growth should be accommodated and managed effectively.

The Growth Plan supports the role of municipal policy in providing leadership and innovation in developing a culture of conservation. The Growth Plan also encourages planning authorities to identify natural heritage features and areas that complement, link, or enhance natural systems. Municipalities are encouraged to develop a system of publicly accessible parkland, open space and trails embedded in a natural heritage system as well as establish an urban open space system within built-up areas, which include rooftop gardens, communal courtyards, and public parks.

The Provincial Policy Statement

The Provincial Policy Statement (PPS) has a strong focus on the long-term prosperity and environmental health of Ontario. It states that natural features and areas shall be protected for the long-term (2.1.1). The PPS defines natural features and areas as:

“features and areas, including significant wetlands, significant coastal wetlands, fish habitat, significant woodlands south and east of the Canadian Shield, significant valley lands south and east of the Canadian Shield, significant habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, which are important for their environmental and social values as a legacy of the natural landscapes of an area”.

The PPS also defines natural heritage system as:

“A system made up of natural heritage features and areas, linked by natural corridors which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and ecosystems. These systems can include lands that have been restored and areas with the potential to be restored to a natural state”.

The Greenbelt Plan

The Greenbelt Plan contains policies for providing permanent agricultural and environmental protection as well as providing for a wide range of recreation, tourism and cultural opportunities in the area. The Protected Countryside comprises an Agricultural System and a Natural System, together with a number of settlement areas and is intended to improve linkages between these areas and surrounding systems. The Natural System identifies lands that support both natural heritage and hydrologic features and functions. The Greenbelt Plan recognizes that the Natural System extends beyond the boundaries of the Greenbelt and encourages connections between the Greenbelt's Natural System and the broader scale natural heritage systems of southern Ontario. Criteria have been defined to permit potential municipal requests to expand the Greenbelt.

The Oak Ridges Moraine Conservation Plan

The Oak Ridges Moraine Conservation Plan (ORMCP) is a fundamental component of the Greenbelt Plan. The Oak Ridges Moraine is an environmentally sensitive, geological landform located in south central Ontario, covering 190,000 ha. It has a unique concentration of environmental, geological and hydrological features that make its ecosystem vital to south-central Ontario. The ORMCP identifies four categories of land use: Settlement; Countryside; Natural Linkage; and Natural Core. The latter two designations are the most restrictive, and provide the most aggressive goals for the protection of natural heritage.

Endangered Species Act

The new Endangered Species Act (2007) is the first in Canada to combine mandatory habitat protection with a science-based approach to listing species for protection. Species thought to be at risk are assessed by The Committee on the Status of Species at Risk in Ontario (COSSARO). COSSARO is an independent body that reviews species based on the best available science, including community knowledge, and Aboriginal Traditional Knowledge. Once species are classified as "at risk", they are added to the Species at Risk in Ontario (SARO) list in one of four categories. Endangered, threatened and extirpated species on this list automatically receive legal protection under the ESA 2007. Providing legal protection to threatened species is a change from the original Act which only applied to endangered species. Under the ESA 2007, it is required that direct and indirect habitat of endangered

species be protected. Habitat regulations under the Act are available for Redside Dace (Regulation 293/11), which is relevant to the NHN Study in Vaughan.

Ontario's Biodiversity Strategy, 2011

Ontario's Biodiversity Strategy, 2011 is the guiding framework for coordinating the conservation of Ontario's variety of life and ecosystems. The success of this Strategy will be tracked through 15 specific targets representing key areas of focus for biodiversity conservation in Ontario. The progress will be monitored and assessed over a 10-year time frame to encourage people across all sectors to take actions that will ultimately lead to securing and maintaining Ontario's biodiversity. Several of the 15 targets refer directly to implementing natural heritage systems for biodiversity conservation, maintaining and enhancing ecosystem services, and reporting on the state of Ontario's biodiversity.

ii) York Region Official Plan (YROP)

The York Region Official Plan (ROP 2010), approved by the Minister of Municipal Affairs and Housing on September 7, 2010, is the upper tier planning document that provides the framework for achieving the Region's urban structure. The Region's plan was appealed to the Ontario Municipal Board (OMB). A series of modifications have been approved by the OMB and the plan is substantially in effect.

Any amendments to the City's Official Plan must conform to the Region's Official Plan. The ROP 2010 recognizes the importance of integrating the objectives of the natural environment with those for healthy communities and economic vitality as outlined in its Sustainability Strategy (2007). The importance of maintaining and enhancing a healthy Regional Greenlands System is emphasized in the ROP 2010.

The policy framework has been brought into conformity with the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan, the York Region Significant Woodlands Study (2005) among other important instruments that will affect the outcomes for the Greenlands System. The primary function of the Regional Greenlands System is:

"... the protection of natural heritage features in a system of cores connected by corridors and linkages. The Regional Greenlands System also provides opportunities for passive recreation in a future Regional Trails System such as hiking and nature appreciation. Urban uses and infrastructure projects should contribute ecological gains to the Regional Greenlands System through enhancement and restoration, and the strategic creation of natural habitat."

It is the intent that the Vaughan Natural Heritage Network (NHN) and supporting policies be consistent with the objectives identified in the ROP 2010.

iii) Toronto and Region Conservation Authority Policy and Regulation

The province has delegated approval authority to the Toronto and Region Conservation Authority (TRCA) for the Natural Hazard section of the PPS. The TRCA also has a commenting role on development applications submitted to the municipality under the Planning Act for aspects of water resource systems and natural heritage. They rely on four key instruments to guide their comments and permitting: the Terrestrial Natural Heritage System Strategy (2007); watershed plans; the Valley and Stream Corridor Management Program (1994); and Regulation 166/06 under the Conservation Authorities Act.

The objective of the TRCA Terrestrial Natural Heritage System (TNHS) is to identify and evaluate natural heritage features and functions in the landscape, for inclusion in a Natural Heritage System. The Humber River Watershed Plan and Don River Watershed Plan

describe the TNHS for the respective watersheds and include implementation recommendations regarding land use, outreach and stewardship.

Watershed Plans are mandated under the Oak Ridges Moraine Conservation Plan. The "Humber River Watershed Plan: Pathways to a Healthy Humber and the Implementation Guide (2008)" and the "Don River Watershed Plan: Beyond 40 Steps and Implementation Guide (2009)" provide guiding principles and objectives that support strategies and targets that include protecting and expanding the terrestrial natural heritage system, building sustainable communities and creating an enhanced regional open space system.

The TRCA's Valley and Stream Corridor Management Program outlines policies that seek to retain watercourses and valley and stream corridors as open, natural landforms, from the headwaters to the river estuary marshes. These policies guide the TRCA Planning and Development staff when reviewing applications under Ontario Regulation 166/06 and in commenting on land use planning policy documents and development applications.

Ontario Regulation 166/06, Development, Interference with Wetlands and Alterations to Shorelines and Watercourses, is the regulation under Section 28 of the Conservation Authorities Act that is specific to the TRCA. The main objectives of O.R. 166/06 are to ensure public safety and protect property with respect to natural hazards and to safeguard watershed health by preventing pollution and impacts to sensitive environmental areas such as wetlands, shorelines and watercourses.

Relation to VOP 2010 and Green Directions Vaughan

The overall Natural Heritage Network Study will assess the role of the existing Natural Heritage Network in maintaining elements of biodiversity and ecological functions for the long term, consistent with Provincial Policy Statement (PPS) 2.1.2. At the completion of all phases of the Natural Heritage Network Study, additional NHN areas may be proposed to meet ecosystem targets of the natural heritage system related to biodiversity persistence and ecological function.

At the completion of the Natural Heritage Network Study, an amendment to VOP 2010 will be prepared to implement the findings of the Natural Heritage Network Study, which will modify Schedule 2 and relevant policies in section 3.2.3, "Components of Vaughan's Natural Heritage Network". Schedules may also be added to delineate natural features according to Section 3.3, "Features of the Natural Heritage Network".

Protection, restoration and enhancement of natural areas in the City's Natural Heritage Network are aspects of achieving healthy and vibrant communities that is reflected in the City's sustainability strategy, Green Directions Vaughan. While two action items in Green Directions Vaughan specifically address the Natural Heritage Network (Action Items 1.3.2 and 2.2.4), related action items address green infrastructure (e.g. treatment train approach to stormwater management and urban forests), recreation and open space, trails and other active transportation paths, and agriculture. The scope of the Natural Heritage Network Study has a clear focus on biodiversity persistence and sustaining key ecological functions. However, the benefits to residents through the provision of ecosystem services (e.g. clean air, clean water, flood protection, carbon sequestration) and the amenity value of the City's existing and restored natural areas extend well beyond the limits of the Natural Heritage Network.

Achieving certain key milestones of the NHN Study are also a requirement of initiating the New Community Areas Secondary Plan process. Policy 10.1.1.2 of VOP 2010 requires the following prior to commencement of the New Community Areas Secondary Plan(s): the submission by the landowners within the ROPA 2 amendment area of information in a format and at a level of detail consistent with the TRCA, York Region and City of Vaughan policies; a report to Committee of the Whole and Council on the findings of Phase 1 of the Natural Heritage Network Study; and Council approval of the Terms of Reference for Phases 2-4. These steps have been substantially completed as discussed below.

- (i) Phase 1 of the NHN Study is complete and a staff report summarizing the findings was provided to Committee of the Whole (Working Session) on December 4, 2012. Committee of the Whole recommended that a summary of the public consultation component be provided to the January 15, 2013 Committee of the Whole meeting; and Phase 1 was subsequently approved by Council on January 29, 2013.
- (ii) The Terms of Reference for Phases 2-4 of the NHN Study was approved by Council on September 25, 2012, and the consulting contract for the corresponding Request for Proposal (RFP) was awarded on January 29, 2013. The work plan for Phases 2-4 of the NHN Study has been underway since May 2013 and is expected to be completed in the second quarter of 2014.
- (iii) A public consultation strategy is a critical component of the work plan for the Natural Heritage Network Study and includes meetings with landowners and their agents for the individual Blocks to be developed. These meetings are planned as technical sessions in January and February of 2014 to discuss data sharing and data interpretation, all of which is part of the Phase 3 objective to test NHN scenarios against ecosystem targets. The completion of these technical sessions in the first quarter of 2014 is anticipated to satisfy the test of the “submission by the landowners within the ROPA 2 amendment area of information in a format and at a level of detail consistent with the TRCA, York Region and City of Vaughan policies.”

Update on the Natural Heritage Network Study: Work To-date and Next Steps:

Phase 1 of the Natural Heritage Network Study

Phase 1 of the NHN Study was completed in November 2012 and a report provided to Committee of the Whole (Working Session) in December 2012. The expectations set out in the Terms of Reference for Phase 1 of the NHN Study were met. A comprehensive GIS database was developed and delivered to the City, recommendations to revise the Environmental Management Guideline were provided, and recommendations for field investigations assisted in identifying sample sites and finalizing survey protocols.

One of the early findings of the effort to compile a comprehensive GIS database included the identification of data gaps. In particular, recent approvals of some developments have resulted in changes to feature boundaries, but the available environmental information layers show previous land classifications. Many of these situations for woodlands, wetlands and ANSIs have been corrected in Phase 1, but these situations will continue to be identified through review and consultation in Phase 3 of the Study. Such data discrepancies highlight the need for more detailed and refined GIS layers for Vaughan and an appropriate protocol to track changes.

The development of NHN targets and an assessment of the NHN against the targets, to understand the biodiversity contribution of existing natural areas, required further work in Phases 2 and 3. The key lesson learned in Phase 1 was the need to undertake spatial modelling of enhancement area options to identify and test NHN targets in an iterative process. This will be the primary task of the consulting team in the coming months.

Phases 2 to 4 of the Natural Heritage Network Study

Phase 2 – Field Investigations

Field investigations were undertaken between April 2013 and September 2013. As described in the Terms of Reference for the NHN Study, the field investigations were targeted to sampling headwater drainage features (HDF) and lands potentially meeting criteria for Significant Wildlife Habitat as defined in the PPS.

Of the 57 HDF sample sites visited in the Spring, 12 were re-visited to sample Summer conditions according to the standards in the Ontario Stream Assessment Protocol and “Evaluation, Classification and Management of Headwater Drainage Features Guideline” prepared by the Toronto and Region Conservation Authority and Credit Valley Conservation (TRCA 2013).

Breeding bird sampling was undertaken targeting open meadow habitat and forest clusters, a total of 50 sites were sampled two times following Breeding Bird Atlas protocols.

A total of 71 stations were sampled to assess potential amphibian breeding habitat, sites were sampled following Marsh Monitoring Protocols with each station survey three times.

Bluff communities were visited to search for potential colony nesting bird habitat and to look for potential significant plant communities such as prairie. A total of 41 bluff communities were visited.

Phase 3 – NHN Summary, Recommendations and Reporting

Phase 3 is now the main focus of the consulting teams work. NHN scenarios will be developed by integrating the information and input provided through the GIS compilation in Phase 1, the field sampling, and the consultation process. The scenarios will then be tested against ecosystem targets. The results of this iterative analysis will be the focus of the next round of the consultation in late January 2014 to March 2014.

Phase 4 – Land Securement Strategy

The public consultation venues provided the opportunity to introduce a range of land securement options. The focus at this point has been on education of the land securement approaches. The Land Securement Strategy will be developed in tandem with developing the NHN scenarios and will offer input into the NHN scenarios by considering feasibility of land securement options together with ecological criteria when evaluating enhancement and restoration priorities.

Public Consultation Strategy

The approach to community engagement will ensure that key stakeholder groups, as well as the general public, have an opportunity to participate in the development of Vaughan’s NHN. The objectives of the community engagement process are to:

- Raise awareness about the importance of Vaughan’s natural heritage assets to the city’s environmental, social and economic well-being;
- Provide opportunities for both individuals and groups to be engaged in meaningful discussion about the development of Vaughan’s NHN;
- Actively engage and inspire key audiences in the creation of the NHN strategy through the use of innovative tools and techniques; and
- Inform the development of Vaughan’s NHN Study through a collaborative and participatory process.

The public consultation approach emphasizes the following key messages.

- Balancing urban growth and natural heritage conservation is important to Vaughan’s long-term development, and can be achieved in part through a NHN.
- The community engagement process will provide stakeholders and members of the public with the opportunity to participate in the development of Vaughan’s NHN. The feedback collected through the engagement process will be used to inform decision-making as the NHN Study progresses.
- Everyone’s voice is important. The City wants to hear from as many people as possible.

The following activities have been undertaken.

Targeted Stakeholder Meetings

Meetings were held with the owners (and their agents) of lands within the planned urban envelope to provide an update on the NHN Study. The main action item from the meetings was to share information and to set the stage for discussion on data interpretation in subsequent technical meetings, which will be held in late January and early February 2014.

Two stakeholder sessions were held for a range of interested parties including representatives of utilities, agencies, and environmental organizations. A session was also held for internal staff to update the consulting team on related projects, such as for infrastructure, parks and other matters related to asset management.

First Nations

A letter was sent to the First Nations' contacts provided as part of the York Region First Nations and Metis Consultation Draft and the Region's Archaeological Management Plan. The City and consulting team have offered to meet with First Nations in Q1 of 2014 to seek input on the Phase 3 and Phase 4 recommendations of the NHN Study.

Public Meeting (Community Forum)

A Public Meeting was held on November 13, 2013 as a joint Community Forum for both the NHN Study and the City's Community Climate Action Plan aimed at reducing community generated greenhouse gas emissions. After introductions and a "world café", participants were asked to move to stations to participate in specific discussions. Two stations were set up for the NHN Study: a discussion of ecosystem targets and NHN scenarios facilitated by Brent Tegler of North-South Environmental; and a discussion of land securement mechanisms facilitated by Kate Potter of Orland Conservation.

The joint Community Forum, together with provision of an online survey and map products on the City web site in advance of the meeting, was a success in attracting attendees and generating feedback. The City received constructive comments for changes to the materials on the project web site. During the meetings, input and questions ranged in scope from requests to expand the NHN in Vaughan to detailed requests or clarification on methodologies being employed and next steps. Several mapping issues were raised at the meeting and this feedback will be considered in the analysis comprising Phase 3.

Interactive Information and Updates

Prior to the Community Forum, the following materials were made available on the City's project web site and by E-mail notification.

Newsletter and Notification of Public Meeting

An e-mail was sent to the broad distribution list established through the Official Plan review process and revised in Phase 1 of the NHN Study with a notification of the Public Meeting and Issue #1 of the NHN Newsletter.

Interactive Maps in Adobe Acrobat Format

Consistent feedback from the public in Phase 1 of the NHN Study was to provide NHN information such as map products, ideally as interactive data through a Geographic Information System (GIS). While the City is not able to provide interactive GIS data, the consulting team provided maps in Adobe Acrobat format with layers that can be turned off and on. While only a subset of data compiled in Phase 1 could be displayed in the Adobe

Acrobat maps, it provides the opportunity for input into setting priorities for modifications to the NHN.

Online Survey

The online survey has the objective of seeking input from the public about areas of importance and/or priorities for conservation to support the refinement of the NHN. The survey is structured in three parts: Part A seeks input on the broad vision and goals of the NHN; Part B provides illustrative examples of ecosystem targets intended to generate qualitative feedback about specific areas and/or ecological themes of importance; and Part C invites the respondent to stay connected to the process.

Twitter Messages

Messages sent through the City's Twitter feed were coordinated with the Community Climate Action Plan.

Next Steps

Completion of the field sampling season and a major round of consultation mark a significant milestone for the NHN Study. The consulting team will take the information and input provided to date to address the tasks of Phase 3 by developing NHN scenarios to test against ecosystem targets.

Phase 2 – Field Investigations

The main outstanding task of Phase 2 is to compile the field data and analyze the information together with information provided by landowners and data from other pertinent sources. A particular focus will be the consideration of a cumulative effects approach to assess headwater drainage features. This information will be the subject of future technical meetings with landowners in the parts of the City for planned future development.

Phase 3 – NHN Summary, Recommendations and Reporting

Phase 3 is now the main focus of the consulting team's effort. Information from Phase 1 will be integrated with input provided through field sampling and the consultation process to develop NHN scenarios and test the scenarios against ecosystem targets. The results of this iterative analysis will be the focus of the next round of consultation in late January 2014 to March 2014.

Phase 4 – Land Securement Strategy

The Land Securement Strategy will be developed in tandem with developing the NHN scenarios and will offer input into the NHN scenarios by considering feasibility of land securement options together with ecological criteria when evaluating enhancement and restoration priorities.

Public Consultation

Future rounds of public consultation will focus on the early results of the Phase 2 efforts and include:

- Technical meetings with landowners and agents, who own land in areas of the City planned for future development, to continue to share information and provide input to the NHN scenarios and ecosystem targets;
- Targeted stakeholder meetings;
- A possible meeting(s) with First Nations representatives; and
- A Public Meeting.

The City will circulate at least one additional newsletter and continue to make information available on the project web site, as required.

Reporting

A draft report and final report will be provided in the second quarter of 2014.

Relationship to Vaughan Vision 2020/Strategic Plan

The Natural Heritage in the City report is consistent with the Vaughan Vision 2020 Strategic plan, through the following initiatives, specifically:

Service Excellence:

- Lead & Promote Environmental Sustainability

Management Excellence:

- Plan and Manage Growth & Economic Vitality
- Demonstrate Leadership & Promote Effective Governance

This report is consistent with the priorities previously set by Council.

Regional Implications

Policies in the ROP 2010 support the effort of local municipalities to identify local greenlands systems.

Conclusion

Phase 2 and a major round of the Natural Heritage Network Study consultation process are now complete. This report outlines the steps leading to the completion of the NHN study, which is anticipated for the second quarter of 2014. Therefore it is recommended that this report and the accompanying presentation on the progress of the Natural Heritage Network Study be received for input and discussion.

Attachments

n/a

Report prepared by:

Tony Iacobelli, Senior Environmental Planner ext. 8630
Roy McQuillin, Manager, Policy Planning

Respectfully submitted,

John MacKenzie
Commissioner of Planning

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