

For Information

REPORT TITLE: **Settlement Area Boundary Expansion (SABE) - Scoped Subwatershed Study**

FROM: Kealy Dedman, Commissioner of Public Works

OBJECTIVE

To provide a summary of the purpose and key deliverables of the Environmental Screening and Scoped Subwatershed Study (Scoped SWS), which is one of 12 technical studies informing the Peel 2041+ Settlement Area Boundary Expansion (SABE).

REPORT HIGHLIGHTS

- The Peel 2041+ Official Plan Review SABE Study technical work is ongoing.
 - Wood Environment & Infrastructure Solutions has been retained to complete the Scoped SWS.
 - The Study scope was expanded in June 25, 2020 to address new 2051 forecasts for additional growth in Peel including additional analysis in later phases of the work around the amount of land needed for settlement expansion.
 - A Phase 1: Environmental Screening draft report, which helped inform a Focus Study Area for the expansion, was completed and made available to the public.
 - The Phase 2: Scoped Subwatershed Study is a three-part study to characterize the area, undertake an impact assessment and provide an implementation plan addressing water resources management and protection, restoration and enhancement of natural heritage systems.
 - The urbanization of new greenfield areas will impact watershed conditions and require a comprehensive implementation approach outlining recommendations, strategies and measures to address environmental and water management requirements for the SABE.
 - The Scoped SWS is providing the necessary water resources and natural heritage input to support the SABE Study that will determine where new settlement area growth is proposed in Peel with recommendations addressing how growth is to be managed to avoid, minimize and mitigate impacts.
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DISCUSSION

1. Background

Wood Environment & Infrastructure Solutions has been retained to undertake an Environmental Screening and Scoped Subwatershed Study (Scoped SWS) as technical background studies for the Peel 2041+ Settlement Area Boundary Expansion Study (SABE).

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The 2019 Growth Plan updated the definition of a municipal comprehensive review (MCR) and the policy direction for settlement boundary expansions which directs upper and single-tier municipalities, in consultation with lower-tier municipalities, to delineate and justify a settlement area boundary expansion through an MCR Growth Plan conformity exercise. Where it has been demonstrated that a boundary expansion is justified, criteria addressing the feasibility and location for settlement expansion must be satisfied.

With respect to environmental criteria, the Provincial Policy Statement and Growth Plan require that settlement expansion areas be planned to avoid, and where avoidance is not possible, minimize and mitigate potential impacts on watershed conditions and protect, restore or improve natural heritage and water resource systems. Provincial direction also requires that environmental management responses address the added impacts of a changing climate, including impacts of extreme weather events.

The Scoped SWS is providing the necessary water resources and natural heritage input to support the SABE Study that will help determine where new settlement area growth is proposed in Peel with recommendations addressing how growth is to be managed. The Study is scoped to provide broad scale information and assessments in sufficient detail to support the SABE work. Detailed subwatershed studies are not required at the Regional level as it is expected that these more comprehensive subwatershed studies will be completed in more detail at the local level to support secondary planning and Local Official Plan Amendments and detailed land use assessments as required.

Environmental information generated by the Scoped SWS has been used to evaluate and refine settlement expansion areas leading to a recommended settlement expansion boundary for growth to 2051.

Previously, broad scale environmental impact studies for settlement expansions have been conducted and led by local municipalities to support Regional Official Plan Amendment (ROPA) applications to the Region and then later secondary planning at the local level. The initiation of a scoped subwatershed study by the Region is based on requirements in the Growth Plan and enables water resource and natural heritage system planning requirements that cross municipal boundaries, to be addressed on a subwatershed basis.

The scoping and sequencing of study requirements at the Regional and Local levels is intended to create efficiencies enabling local studies to build on the Region's work while ensuring appropriate environmental due diligence is conducted to inform Regional decision making. The technical work ensures that Regional growth management and planning decisions are linked to policy and informed by science. The intended outcomes are natural systems that are robust, connected and resilient, taking into account impacts of urbanization and climate change to provide long-term benefits to public health, well-being and safety.

The Scoped SWS will form part of the planning justification to support the Regional Official Plan Amendment implementing the settlement expansion. The Study will also provide the technical basis to implement the settlement expansion in the Town of Caledon Official Plan and provide the foundation for future detailed subwatershed planning to be undertaken at the local level to support secondary planning.

Further background on the study approach and requirements to support the Regional MCR are summarized below.

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Graphics depicting the systems approach to integrating watershed and land use planning and management is provided in Appendix I.

2. Study Area

The broad study area in Caledon, in which expansion options are being studied, extends across several subwatersheds, specifically (see Focus Study Area Map in Appendix II):

Toronto and Region Conservation Authority Area Jurisdiction

- the headwaters of the Upper Etobicoke Creek
- West Humber River
- Main Humber River

Credit Valley Conservation Jurisdiction

- headwater reaches of areas directly discharging toward the Credit River (Glen Williams to Norval)
- Huttonville Creek
- Fletcher's Creek

The area is situated almost completely in the South Slope physiographic region in southern Caledon, characterized by predominantly till plains, fine grained soils and lands in agricultural use. Major drainage networks originate from the west and north and drain south and east into urbanized areas in Brampton, Mississauga, Vaughan and Toronto. The major Greenbelt valleys bisecting the area provide critical corridors and linkages to the Oak Ridges Moraine, Greenbelt and Niagara Escarpment.

Understanding the sensitivities of resources in the Study Area is a key focus in the Scoped SWS to ensure that water management and natural heritage system planning requirements address potential risk to downstream flooding and erosion and that natural system features and functions are appropriately protected, restored and enhanced.

3. Study Process

The Scoped SWS is being conducted in two phases to initially provide information across a broad study area to define the Focus Study Area, followed by more detailed impact assessment within the FSA to support identification and then refinement of a SABE.

a) Phase 1 Environmental Screening

In the Phase 1 Environmental Screening, environmental features and systems were inventoried through a screening exercise to identify constraints in the broader study area comprising lands outside settlement areas and outside the Greenbelt. This information was integrated with findings from the overall SABE planning study led by Hemson Consulting that identified constraints, needs and opportunities to define the Focus Study Area. This information has been used along with additional subwatershed analysis as further input to recommend a preliminary and final draft settlement area boundary in the next phases of the Scoped SWS and SABE studies.

Key findings from the Phase 1 Environmental Screening concluded that approximately 1,321 ha (18 percent) of the Focus Study Area is occupied by high and moderate constraints and that the balance of the Focus Study Area, approximately 6,679 ha, would provide enough

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area to accommodate land needs for settlement expansion while still providing adequate lands to meet natural heritage system planning requirements (see map in Appendix III).

Additional information summarizing the screening approach and results of Phase 1 is provided on the Peel 2041+ project website.

b) Phase 2 Scoped Subwatershed Study

The Phase 2 Scoped SWS component is being conducted in three parts:

- Part A - Characterization of the environmental systems, features and functions in the affected subwatersheds associated with the urban expansion areas;
- Part B - Impact Assessment of community and employment land uses and supporting infrastructure to understand potential changes to watershed conditions and provide a technical basis for recommended management actions; and,
- Part C - Implementation Plan outlining recommended protection, enhancement, and implementation requirements to manage environmental impacts.

Requirements to accommodate approximately 4,300 ha of new greenfield area for growth to 2051 as identified through the land needs assessment are being addressed. The Phase 2 analysis is also addressing directions from Regional Council, including the further assessment of employment areas within the Focus Study Area and the recent Council resolution objecting to the proposed GTA West Highway.

A summary of key analysis and impact assessments being conducted for the Scoped SWS includes:

- baseline characterization and identification of natural heritage and water resource system features and areas;
- surface water quantity and quality impact assessments, including detailed off-site flooding impact assessments of downstream flood vulnerable areas and preliminary stormwater management requirements, including anticipated requirements for Regional Storm (Regulatory) flood control for each subwatershed based on guidance from available watershed studies;
- groundwater quantity and quality impact assessments;
- stream morphology and erosion hazard assessments;
- natural heritage system impact assessment; and
- water resource system impact assessment.

c) Key Findings and Deliverables

The conversion of rural lands to urban land use, without appropriate stormwater management, reduces the amount of rainfall which infiltrates into the ground, increases the volume of surface runoff generated and the rate at which runoff is conveyed toward receiving systems.

These impacts, if unmitigated, will increase the risk of flooding and erosion along watercourses within and downstream of the new urban area, including impacting the extent and depth of flooding experienced during Regulatory flood events, as well as deteriorate

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water quality and associated ecology within receiving systems. These changes to runoff volume and rate, may likewise increase risk of flooding and erosion at a broader subwatershed or watershed scale within the receiving systems.

The Scoped SWS has included an off-site hydraulic impact assessment of flood vulnerable areas downstream of the Focus Study Area in the Etobicoke Creek and Humber River subwatersheds in order to evaluate anticipated flood risk impacts within designated Flood Vulnerable Areas (FVAs) (e.g. Downtown Brampton FVA). This analysis provides a basis for determining stormwater and flood control requirements in the SABE to mitigate impacts for the Regulatory flood condition, recognizing that more comprehensive and detailed analysis will need to be conducted as part of future subwatershed studies to be conducted at the local level to support secondary planning.

Similarly, the impact of urbanization to natural heritage and water resource system features and areas within the Focus Study Area, without mitigation, can diminish the quality, connectivity and function of these systems. Regional planning objectives require the systems to be protected, restored and enhanced to ensure they are robust and resilient to impacts of urbanization and a changing climate. Recommendations to identify and implement enhancement targets have been developed for the study to address this planning need at a Regional level.

The key deliverables of the study include:

- a comprehensive implementation plan outlining recommendations, strategies and measures to address environmental planning and management requirements for the SABE;
- integrated natural heritage and water management recommendations demonstrating that the settlement expansion will be planned to avoid, minimize and mitigate potential negative impacts, including consideration for climate change;
- identification of a preliminary stormwater management strategy to manage impacts on subwatershed conditions, including water quantity and quality;
- preliminary recommended stormwater management sizing criteria to mitigate off-site flooding and erosion hazards including identification where Regional Storm (Regulatory) stormwater flood control is needed for each subwatershed;
- identification of a conceptual water resource system and natural heritage system with targets for enhancement and establishment of linkages;
- a framework to implement monitoring and adaptive management planning; and,
- guidance to implement the management recommendations through local level subwatershed studies.

d) Consultation and Engagement

The Scoped SWS is led by a Steering Committee including Regional staff and planning representatives from the Town of Caledon and Toronto and Region Conservation Authority (TRCA). Since project initiation in 2019, further technical review and input has been obtained from a Project Technical Advisory Committee (TAC). The Project TAC includes additional planning and technical staff from within the Region, Peel's local municipalities and conservation authorities (TRCA and Credit Valley Conservation). Regular updates have been provided through the Peel 2041+ Working Group, and a Planning Technical Advisory Committee. Copies of the draft Phase 1: Environmental Screening and Phase 2: Scoped SWS draft reports are available on the Peel 2041+ website. Consultation has also occurred

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with the Peel Agricultural Advisory Working Group and is ongoing with individual stakeholders and landowners through “one-on-one” meetings. The initial Scoped SWS findings were included in the fall public virtual consultations in October 2020 and in Peel 2041+ staff update reports on the SABE. These consultation and engagement opportunities will continue through 2021 and 2022 including with relevant Provincial ministries, local municipal water resources and planning staff and agencies.

CONCLUSION

The Peel 2041+ Regional Official Plan Review continues to move forward to ensure completion by July 2022. Finalization of draft reports, incorporating consultation comments, will be provided in late-summer of 2021 and updated on the Peel 2041+ website to support formal statutory consultation on the recommended SABE and implementing ROPA.

APPENDICES

Appendix I - Diagram Illustrating New Systems Approach Integrating Watershed Planning and Land Use Planning

Appendix II - Focus Study Area with Subwatersheds

Appendix III - Focus Study Area with Scoped Subwatershed Study Environmental Constraints

For further information regarding this report, please contact Adrian Smith, Chief Planner and Director, Regional Planning and Growth Management, Ext. 4047, adrian.smith@peelregion.ca.

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