Subject: Ecological Land Classification Mapping Update

Report to: Planning and Economic Development Committee

Report date: Wednesday, February 12, 2020

Recommendations

1. That Report PDS 3-2020 **BE RECEIVED** for information; and,

2. That Report PDS 3-2020 **BE CIRCULATED** to the Area Municipalities and the Niagara Peninsula Conservation Authority (NPCA).

Key Facts

- The purpose of this report is to provide additional details on a project to update the Region-wide Environmental Land Classification (ELC) mapping - which is being undertaken in support of the Natural Environment Work Program for the new Niagara Official Plan.
- PDS 32-2019 (November 6, 2019) recommended that a new ELC mapping dataset was the preferred option as it would have a range of benefits associated with natural environment planning.
- A work plan, in consultation with NPCA staff, has been prepared. A procurement process for consulting support is underway. It is expected that a consultant will be retained by March 1, 2020.
- After a successful grant application, the project was approved for partial funding by the Greenbelt Foundation.

Financial Considerations

The ongoing costs associated with the Natural Environment Work Program, including the Environmental Land Classification (ELC) mapping, will be accommodated within the Council approved Regional Official Plan project budget.

Analysis

Ecological Land Classification (ELC) Methodology

The ELC program was established as a comprehensive and consistent province-wide approach for ecosystem description, inventory, and interpretation. The industry-accepted ELC methodology is documented in the guide entitled *"Ecological Land*

Classification for Southern Ontario". ELC is a hierarchical and nested methodology that can be applied from scales ranging from province-wide to site-specific. The appropriate scale for Region-wide mapping and informing a Regional Official Plan is 'community series'. ELC mapping is required to be completed by a certified ecologist or other practitioner.

Background

Starting in 2006, the NPCA, in coordination with the Region, local naturalist clubs, and area municipalities, initiated the "Natural Areas Inventory" (NAI) project. A major element of the project was the completion of comprehensive ELC 'community-series' level mapping of natural areas, which represented the first dataset of its kind for the entirety of the Region.

The NAI ELC mapping was completed using 2006 aerial imagery. Field crew's ground-truthed some natural areas where access was permitted by landowners. The ELC dataset was continuously refined through a QA/QC process by staff at the NPCA until 2012, when it was subsequently used as a data input for a follow-up natural heritage project.

The NAI ELC dataset remains the most comprehensive data of its type for the extent of the Region, however, the information has decreased value and accuracy owing to the fact that it is approximately ten years old and does not consider landscape changes from recent developments and continued vegetation growth. An update is required to ensure that natural environment mapping to be included as part of the new Niagara Official Plan is accurate and reliable.

Dataset Update

The exiting ELC dataset will be updated using new 2018 aerial imagery and large-scale mapping specifications as prescribed by the Region. Vegetated areas will be identified and interpreted using a standard methodology, resulting in a polygon-based vegetated area inventory. ELC coding in then applied to each polygon in the GIS environment. Provincially identified wetland boundaries will be incorporated directly into the dataset to avoid duplications. The dataset will consider vegetated areas in both rural and urban area. A QA/QC program for the dataset has been included in the work plan.

Field Verification Component

The ELC methodology permits mapping to be completed at the 'community-series' level to be completed as a desktop exercise only. However it is the intention of this project to go beyond this minimum requirement and to include a field verification component.

The goal of the field verification exercise is to ensure a higher degree of confidence in the data and will include representative sites across all 12 area municipalities. The field verification exercise will involve publically owned lands and areas viewable from public roads or other public locations.

Regional and local planning staff will be invited to attend the field verification sessions. The purpose of this is to foster an education of the ELC methodology and to ensure a higher-level of confidence in the project. Local planning staff will be asked for input on the sites to be visited in their municipality to ensure local knowledge is being maximized. A report will be prepared documenting the field verification exercise.

Project Funding

In late 2019, planning staff submitted the ELC project to the Greenbelt Foundation for consideration under the Resilient Greenbelt funding stream. The application was made in partnership with the NPCA and was successful in attaining a $25,000 grant contribution to supplement the total cost of this project.

The balance of the project is being completed under the Council approved budget and work plan for the new Niagara Official Plan.

Alternatives Reviewed

Council could choose not to receive or circulate this report. This is not recommended.

Relationship to Council Strategic Priorities

This report is being brought forward as part of the ongoing reporting on the new Niagara Official Plan. The Natural Environment Work Program aligns with Objective 3.2 Environmental Sustainability and Stewardship:

“A holistic and flexible approach to environmental stewardship and consideration of the natural environment, such as in infrastructure, planning and development, aligned with a renewed Official Plan.”

Other Pertinent Reports

- PDS 40-2016 – Regional Official Plan Update
- PDS 41-2017 – New Official Plan Structure and Framework
- PDS 3-2018 – New Official Plan Update
- PDS 6-2018 – Natural Environment Project Initiation Report
- PDS 18-2018 – Natural Environment – Project Framework
- PDS 9-2019 – New Official Plan Consultation Timeline Framework

- PDS 10-2019 – Update on Natural Environment Work Program – New Regional Official Plan
- CWCD 122-2019 – Agricultural and Environmental Groups – Draft Stakeholder Lists
- CWCD 150-2019 – Update on Official Plan Consultations – Spring 2019
- CWCD 179-2019 – Notice of Public Information Centres – Natural Environment Work Program, New Regional Official Plan
- CWCD 271-2019 – Update on Consultation for New Official Plan
- PDS 32-2019 – Natural Environment Work Program – Phases 2 & 3: Mapping and Watershed Planning Discussion Papers and Comprehensive Background Study
- PDS 1-2020 – New Niagara Official Plan – Public Consultation Summary

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