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## For Information Only

### Official Plan Review - Local Food, Climate Change & Lakes

#### Recommendation

For information only

#### **Purpose**

The purpose of this report is to continue to provide Planning Committee with an overview of the background studies and discussion papers that form the basis of the current Official Plan (OP) review. This report will touch on some of the larger aspects of:

- Climate Change;
- Cultural Heritage;
- Local Food Systems;
- Natural Heritage; and
- Lake Water Quality

#### **Background**

As highlighted in the January 26th report, the City is currently undertaking a five year review of the OP. The process began in January of 2012 and has involved conducting a number of public consultation sessions, background studies and policy discussion papers, which have been presented to Planning Committee, including:

- Climate Change and the Official Plan – February, 2013;
- Position Paper on Local Food Systems and the Official Plan – March, 2013;
- Greater Sudbury Natural Heritage Report – May, 2013;
- Cultural Heritage Policy Discussion Paper – November, 2013; and
- Development of a Lake Water Quality Model for Greater Sudbury Lakes – March, 2014

The purpose of undertaking these studies was to review and update the current policies related to natural and cultural heritage and water quality and also to explore the issues of local food systems and climate change, which would be new additions to the OP. In reviewing these issues, staff considered the 2014 Provincial Policy Statement, best practices from other municipalities and public input received during the course of the OP review.

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### ***The 2014 Provincial Policy Statement***

Under the *Planning Act*, municipalities must ensure that their OPs are consistent with the Provincial Policy Statement (PPS) and conform to applicable Provincial Plans, which in the case of the City of Greater Sudbury is the Growth Plan for Northern Ontario. With respect to issues of climate change, local food, natural heritage, cultural heritage and water quality, the PPS outlines specific policies that municipalities must be consistent with. In general terms, municipalities must:

- Base land use patterns within settlement areas to minimize impacts to air quality and climate change;
- Support climate change adaptation through land use and development patterns which promote compact form, a structure of nodes and corridors, transit, a mix of housing and employment and the mitigating effects of vegetation;
- Consider the potential impacts of climate change that may increase the risk associated with natural hazards and wildland fire;
- Provide opportunities to support local food;
- Conserve significant built heritage resources and significant cultural heritage landscapes;
- Protect natural heritage features for the long term; and
- Protect, improve or restore the quality and quantity of water by using the watershed for integrated and long term planning.

It should also be noted that the PPS contains many policies related to all aspects of land use planning that the revised OP will need to be consistent with. The above represent only a general overview of some of the policies that are the most relevant to this report. A full review of the draft OP and its consistency with the PPS has been undertaken as part of this five year review and will also be conducted by the Ministry of Municipal Affairs as part of their review process.

### ***Climate Change and the Official Plan***

As mentioned in previous reports on the OP review process, there have been a number of public consultations and submissions on the OP that have taken place. During these consultations, there was a significant amount of interest expressed in addressing climate change. This interest led to staff conducting a half day workshop on climate change with various stakeholders in the municipality. The results of this workshop, along with the OP submissions and staff research were presented in a position paper on *Climate Change and the Official Plan*. This paper provided an overview of what is climate change, potential implications for the City of Greater Sudbury, how climate change is currently being addressed through the OP and, finally, how it could be strengthened to further mitigate and adapt to climate change.

One of the key findings of this paper was that while climate change is a new concept in land use planning, many current OP policies are helping Greater Sudbury become more resilient to climate change (i.e. intensification, transit supportive land use policies). The key, given the somewhat uncertain nature with respect to the degree of change that will actually occur, will be to maintain flexibility.

Moving forward, the report recommends that the climate change be addressed as part of the OP review by:

- Incorporating climate change as a component of the OP's vision, principles and context, as well as other areas where applicable;
- Strengthening and expanding existing policy areas of the OP to minimize and adapt to climate change, including energy efficiency, storm water management, urban design and transportation demand management;
- Formalizing the existing system of nodes and corridors with policies and programs that continue to encourage medium and higher density developments (including mixed use) towards these areas

to help minimize the use of the automobile, and facilitate walking, cycling and public transit;

- Introduce new program related policies that the City and its partners can undertake in the next five years, including the development of a climate change adaptation strategy; and
- Introducing new policies to guide development in areas that may be at risk of wildland fires.

### ***Cultural Heritage Policy Discussion Paper***

Another component of the five year OP review was to examine the existing cultural heritage policies to ensure that they were consistent with the new PPS, the Ontario Heritage Act and addressed the public input received. This analysis also included a review of heritage policies in other municipalities.

The paper found that there were areas where the current OP cultural heritage policies could be improved, including:

- Preparing, publishing and updating a registry of the City's cultural heritage resources;
- Requiring cultural heritage assessments where development or public works are proposed on or abutting properties that are designated under the Ontario Heritage Act or are listed on the City's municipal heritage register;
- Encouraging different types of conservation for heritage buildings and structures;
- Policies to guide heritage preservation during building retrofits for energy conservation or accessibility;
- Requiring that cultural heritage resources be document for inclusion in the City's archives in the event that they cannot be preserved;
- Introducing a programming element to study and identify cultural heritage landscapes in the City; and
- Introducing a programming element to undertake the preparation of archeological management plan.

### ***Local Food Systems***

Food is a key part of the daily lives of all Greater Sudburians. Local food systems and by extension local food security, are issues that have been gaining traction in North America for several years. Food, and especially the production of local food, plays an important role in supporting community economic development, promoting health, protecting the environment and building strong, resilient and diverse communities.

Food systems are complex and operate simultaneously at multiple scales. A food system is generally defined as a set of food related activities including agriculture, processing, distribution, consumption and waste management. Each of these food system elements includes its own social, environmental and economic dimensions. Municipalities are uniquely positioned to play a significant role in identifying problems and challenges within the local food system and assist in the development of solutions.

Similar to climate change, there was a significant amount of interest expressed by the public to address local food systems in the OP. This interest resulted in a half day workshop being held with local food stakeholders to identify issues and explore how they may be addressed through the City's OP. In addition to this workshop, staff conducted an analysis of local food system work completed to date in the City and how other municipalities promote local food systems in their OPs.

The above input and analysis concluded that the OP could be modified to support local food systems by:

- Recognizing the important role that local food plays in the physical, social and economic health of the City;
- Modifying the existing agriculture section to reflect the components of a local food system,

namely:

- Local Food Production (Growing It)
  - Local Food Processing (Making It)
  - Local Food Marketing and Distribution (Selling It)
  - Local Food Service and Consumption (Eating It)
  - Local Food Waste Use and Disposal (Returning It)
- Encouraging and supporting increased urban food production within and around the settlement areas through the establishment of community kitchens, food hubs, community gardens, roof top gardens and greenhouses.
  - Strengthening and expanding the local food system, including removing barriers where feasible;
  - Considering innovative approaches to encourage small scale farming;
  - Permitting access to City lands for community gardens and greenhouses where appropriate; and
  - Introducing a programming element to develop a Local Food Action Strategy for the City, along with additional programs to grow the local food system.

### ***Natural Heritage and Water Resources***

Policies relating to natural heritage and water in the 2014 PPS have not substantially changed from the 2005 PPS as they apply to Greater Sudbury. Thus, the policies in the City's current OP, having been approved by the Minister of Municipal Affairs and Housing, are consistent with the 2014 PPS relating to natural heritage (Section 2.1 of the PPS) and water (Section 2.2 of the PPS).

- Through public consultation, the OP review process resulted in a number of submissions by individuals, agencies and local groups on matter relating to natural heritage and water. The input submissions can be roughly divided as follows:
  - Minor editorial changes to further reflect the importance of natural heritage features and areas in Greater Sudbury;
  - Matters that lie outside the purview of the OP;
  - Matters that are addressed by policies in the current OP, including the implementation of policies relating to the development of watershed plans;
  - Matters relating to the enhancement and protection of water resources; and
  - Matters relating to natural heritage on private lands, but for which there is no provincial direction and for which OP policies would be based on an adhoc or subjective evaluation process that would be difficult to defend objectively.

In addition to public consultation, two reports were prepared as part of the OP review process that address matters relating to natural heritage and water:

1. A Natural Heritage Background Study report was updated from the initial report prepared in 2005 for the current City of Greater Sudbury OP. The principal objective of the Natural Heritage Report is to ensure that the natural heritage data and information identified in the previous study are still valid and to ensure that the proposed policies reflect the current Provincial direction on these matters.
2. The City of Greater Sudbury (CGS) retained Hutchinson Environmental Sciences Ltd. to provide

technical guidance for the development and redevelopment of unserviced shoreline lots in support of OP policies that are protective of water quality, technically sound, defensible, and which meet the intent of the Provincial Water Quality Objectives and Provincial Policy Statement.

### **Synopsis of the Policy Recommendations for Natural Heritage**

The City of Greater Sudbury has a rich natural heritage that provides ecological services needed to maintain diverse and healthy ecosystems and water quality. As such, it is important that the OP contain policies aimed at protecting significant natural heritage features and their ecological functions. The Natural Heritage Report provides a number of policy recommendations for the OP. Most of the policy recommendations follow directly from the PPS:

1. Development and site alteration shall not be permitted in:
  - Significant habitat of endangered species and threatened species, and
  - Significant wetlands in Ecoregion 5E.
2. Development and site alteration shall not be permitted in:
  - Significant wetlands in the Canadian Shield north of Ecoregions 5E;
  - Significant wildlife habitat; and,
  - Significant areas of natural and scientific interest;

unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.
3. Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.
4. Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified above unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Also building on the PPS, the Natural Heritage Report highlights the need for the development of watershed plans that serve to integrate OP policies that address matters relating to water quantity and quality, stormwater management and natural heritage. The PPS encourages the use of the watershed as the ecologically meaningful scale for planning. An important role of the watershed plan is the identification of surface water features, ground water features, hydrologic functions and natural heritage features and areas that are necessary for the ecological and hydrological integrity of the watershed. Once these features are identified, the watershed plan outlines the measures that may be required to protect, improve or restore sensitive surface water features, sensitive ground water features, and their hydrologic functions.

The OP also includes policies on matters of natural heritage that are not addressed by the PPS but of local importance, such as consideration for geological sites of interest and mitigation of tree removal on previously restored land.

### **Synopsis of the Lakes Water Quality Model Report**

With minor modifications, the following paragraphs are taken directly from the Executive Summary of the report entitled 'Development and Application of a Water Quality Model for Lakes in the City of Greater Sudbury' prepared by Hutchinson Environmental Sciences Ltd for the City of Greater Sudbury.

#### ***Background***

The City of Greater Sudbury (CGS) retained Hutchinson Environmental Sciences Ltd. to provide technical guidance for the development and redevelopment of unserviced shoreline lots in support of OP policies that are protective of water quality, technically sound, defensible, and which meet the intent of the Provincial Water Quality Objectives and Provincial Policy Statement.

The Provincial Water Quality Objective (PWQO) for lakes on the Precambrian Shield allows human sources to increase phosphorus by 50% over a modeled background concentration to a maximum of 20 micrograms per litre. The Province recommends the use of their Lakeshore Capacity Model (LCM) to assess background phosphorus concentration and to determine the amount of unserviced shoreline development that can occur on lakes to meet the PWQO for phosphorus.

The LCM was developed using the most recent Provincial guidance and suggested input parameters and coefficients. It was applied on a watershed scale to include all lakes with a surface area greater than 10 ha within the CGS, as well as 44 upstream lakes that drain to them but that lie beyond city boundaries, for a total of 354 lakes within a total watershed area of 7,559 km<sup>2</sup>.

Evaluation of LCM results against measured phosphorus concentration data collected for 65 lakes between 2001 and 2012 by the CGS revealed that the model does not provide sufficiently accurate predictions of phosphorus concentration in CGS lakes to determine defensible capacity limits for unserviced shoreline development using the Provincial approach.

Evaluation of model variance against the model’s input parameters and assumptions did not identify any systematic source of error, suggesting that error is due to multiple sources. Overall, the model had a tendency to overestimate phosphorus concentrations in lakes with human development in the watershed.

An alternate approach to water quality protection was therefore recommended that uses those components of the LCM for which there is a greater degree of confidence to provide the necessary defensibility and rigour to policy. The criteria include:

1. Whether or not the existing phosphorus load to the lake is 50% greater than the natural or “background” load, and
2. Whether the lake has a High Responsiveness or Low Responsiveness to phosphorus loading.

The criteria were used to classify CGS area lakes into three categories of protection for planning policies (“Enhanced”, “Moderate” and “Standard”) based on the following matrix:

**Management Classification of CGS Lakes**

	P load $\geq$ BG+50%	P load
High Responsiveness	Enhanced (33 lakes)	Moderate (113 lakes)
Low Responsiveness	Moderate (30 lakes)	Standard (179 lakes)

Hutchinson Environmental Science Ltd recommends the development of planning policies for new shoreline un-serviced lot creation that would a) prevent additional phosphorus loads to “Enhanced” management lakes, b) minimize phosphorus loads as much as possible to avoid degradation of water quality in “Moderate” management lakes, and c) to foster best management practices that would mitigate phosphorus loads to “Standard” management lakes.

The management approach also recognizes three triggers based on measured or observed responses to phosphorus loading: 1) if phosphorus concentration in a lake exceeds 20 micrograms per litre, 2) if there is an increasing trend in phosphorus concentration (or a decreasing trend in water clarity or hypolimnetic oxygen), and/or 3) a bluegreen algal bloom is reported and confirmed. More investigation should be considered by the City to evaluate the cause of the trend or bloom and to respond as required by amendments to policy or through lake-specific Watershed Management Plans that are being developed by

the City.

Continued monitoring is recommended to track changes in water quality so that management efforts can be assessed and revised over time if necessary, but also to improve estimates of phosphorus loads to refine the management classification of lakes.

### **Synopsis of the Policy Recommendations for Water**

OP policies are proposed that are protective of lake and river quality based on the report for the lake water quality model. The proposed policies include the increase of vegetative buffers on shoreline lots, increased septic system setbacks from the shoreline, requirements for site plan agreements, and, for some lakes, studies to outline the conditions under which development may proceed on shoreline lots. Conditions under which new lot creation will not be permitted are also proposed along with policies relating to development on lake trout lakes. Finally, as previously discussed, watershed plans are proposed to integrate OP policies that address matters relating to water quantity and quality, storm water management and natural heritage.

### **Conclusion**

The purpose of this report is to review and highlight the public consultation, background studies and discussion papers that have been undertaken as part of the OP review. This report specifically looked at issues related to climate change, cultural heritage, local food systems, natural heritage and water quality. The main themes that emerged from this process were:

- Many policies to help reduce the effects and adapt to climate change are already present in the OP, but are not identified as such;
- The OP should be updated to reference climate change in key areas along with strengthening existing policies including formalizing a system of nodes and corridors and the development of a climate change adaptation strategy;
- The cultural heritage policies should be updated to include the City's Heritage Register, a requirement for cultural heritage impact assessment and a program to identify cultural heritage landscapes;
- The current agriculture section should be revised to reflect a local food system that promotes urban food production, including the development of a local food action strategy;
- Slight modifications will be made to existing natural heritage policies to reflect requirements of the 2014 PPS.
- Substantial changes are proposed to policies relating to water resources to reflect input received during the public consultation process and recommendations from the lake model background study report.