

REGION OF OTTAWA-CARLETON
RÉGION D'OTTAWA-CARLETON

REPORT
RAPPORT

Our File/N/Réf.	42-96-0038
DATE	10 March 2000
TO/DEST.	Co-ordinator Planning and Environment Committee
FROM/EXP.	Planning and Development Approvals Commissioner
SUBJECT/OBJET	SHIRLEY'S BROOK/WATTS CREEK SUBWATERSHED STUDY

DEPARTMENTAL RECOMMENDATION

That the Planning and Environment Committee recommend that Council endorse the Shirley's Brook/Watts Creek Subwatershed Study (September 1999) as the technical document to guide environmental planning and management decisions within the subwatershed area.

BACKGROUND

In September of 1999, Dillon Consulting Ltd. completed the Shirley's Brook/Watts Creek Subwatershed Study on behalf of the Region of Ottawa-Carleton and the City of Kanata. The plan makes recommendations as to the way in which water resources, and related natural features and ecological functions, should be protected and enhanced to coincide with existing and changing land use. These recommendations provide a consistent and comprehensive guide to managing and planning our water and land resources within the subwatershed area based on: existing municipal, provincial and federal legislation. The benefits that will flow from this will:

- provide a greater understanding of how the watercourses and their terrestrial features and linkages interrelate with each other, allowing for more informed decision making;
- provide a basis for successful integration of existing natural systems with proposed land use;
- ensure fairness and certainty in the requirements of government review agencies;
- early in the process, increase the development community's awareness and understanding of the requirements for obtaining development approval;
- allow a more streamlined development approval process as environmental requirements are clearly defined up-front;
- provide a basis for the Environmental Management Plan and Servicing Studies (EMPSS) and Stormwater Site Management Plans (SSMP);

- potentially reduce maintenance and rehabilitation costs associated with stormwater infrastructure by encouraging the use of a natural, rather than an engineered, watercourse feature.

Successful implementation of the subwatershed plan is expected to enhance the aesthetic values of the natural areas and adjacent properties; land value of adjacent properties; and, maintain or improve wildlife and recreational linkages.

The Plan also provides appropriate background information to the Region of Ottawa-Carleton, the City of Kanata, the Mississippi Valley Conservation Authority, and the Ministry of Natural Resources for the preparation of land use planning and resource development policies and implementation strategies. It is also expected to be of value to the City of Nepean, the National Capital Commission, the Department of Defence, developers, and other landowner within the study area.

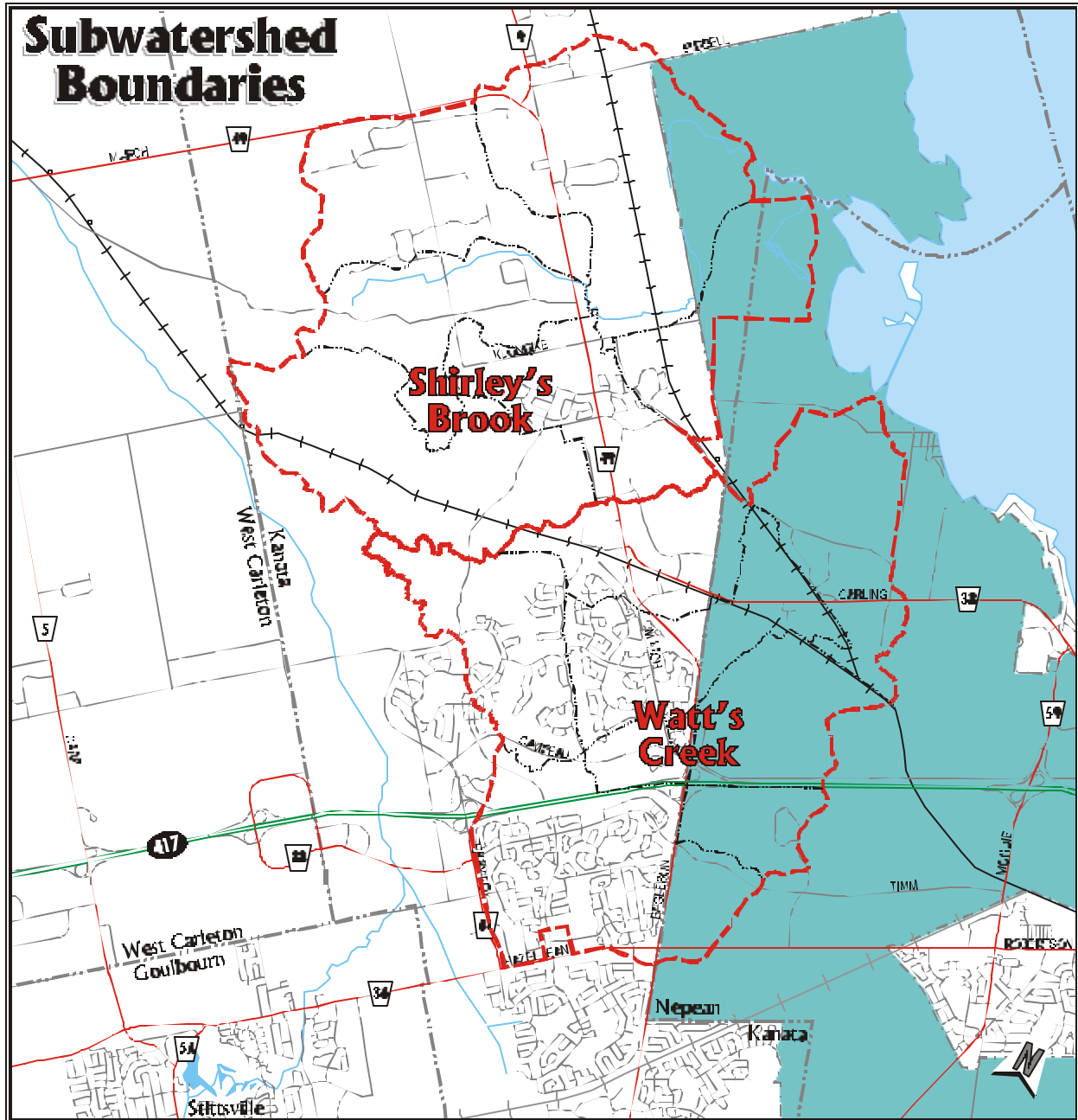
DISCUSSION

Shirley's Brook and Watts Creek (inclusive with its tributary, Kizell Drain) flow into the Ottawa River and drain approximately 52 sq. kilometres of land in the City of Kanata and a small portion in the City of Nepean (please refer to figure below). The combined catchments of these two systems form the main drainage areas within the urban boundary of the City of Kanata. The subwatershed study was undertaken to ensure that planning future development proceeds in an environmentally sound manner in keeping with the Region's Official Plan.

The subwatershed planning process consisted of four main tasks:

1. develop an understanding of the current subwatershed features (natural and social/cultural) and how they function;
2. predictions of current and potential future impacts on the natural environment which may result from land use changes and development;
3. recommendations for possible ecological restoration and/or enhancement measures which could improve existing subwatershed features and functions; and,
4. development of an approach for managing future development in the subwatershed which includes specific policies for natural heritage features and developable areas.

In order to understand the existing environmental features and associated functions within the subwatershed area, a comprehensive field investigation program and analysis was conducted by an interdisciplinary technical team for the following environmental components: land use, aquatic biology, terrestrial biology, geology, hydrogeology, surface water quality, hydrology, and stream morphology.



Key Issues in the Subwatershed

The field work and analysis resulted in the identification of six main issues or problems as a result of human activities which will magnify with new development unless management measures are taken. These key subwatershed issues are:

- **Flood and Erosion Problems** persist in susceptible areas of existing creeks taxing the capacity of existing infrastructure and impacting stream banks as a direct result of development.

- **Lack of a Comprehensive Stormwater Management (SWM) Strategy** has resulted from a multitude of earlier incompatible or absent stormwater measures executed on a site-specific basis only.
- **Poor Surface Water Quality** is evident and has resulted from uncontrolled polluted runoff and erosion due to existing agricultural and urban land uses.
- **Fish and Aquatic Habitat has been degraded** through polluted stormwater as well as the destruction of fish habitat and watercourse vegetation which moderates water temperature and helps to filter pollutants.
- **The Loss of Terrestrial Habitat** through the removal of woodland and wetland areas which has resulted in fragmentation of natural areas which decreases biodiversity and the quality of habitat for wildlife.
- **Groundwater Supply** is important to baseflow which is necessary to maintain aquatic habitat and help dilute pollutants that enter the watercourse. **Groundwater Quality** is susceptible to contamination due to a minimal overburden which results in short flow paths to bedrock groundwater.

Goals and Objectives

Based on the key issues, the study team developed, in consultation with the public, goals and objectives which will guide the development of the subsequent subwatershed plan. These goals are as follows:

Goal 1 - To ensure the safety of subwatershed residents, users, property and natural resources with respect to natural hazards such as flooding and erosion

Goal 2 - To protect, maintain and enhance the warm water fishery and associated aquatic communities in Shirley's Brook, Watts Creek and Kizell Drain

Goal 3 - To protect, maintain and enhance the significant natural terrestrial features (land, forest and wildlife) and ecological functions of the subwatersheds

Goal 4 - To protect, maintain and enhance the quality and quantity of surface and groundwater resources in the subwatersheds

These goals are consistent with the philosophy of the Region's Official Plan as well as other existing policies and regulations of various government agencies. However, the objectives were refined to recognize the unique features and functions of the subwatershed area.

Recommended Subwatershed Plan

The recommended Subwatershed Plan consists of six different, but interrelated management strategies, each comprised of a series of management measures/actions designed to: protect and enhance the Subwatershed natural features and ecological functions; restore those features/functions that have been

degraded; and guide future development in a manner that will ensure the long-term health of the environment.

The evolution of the overall subwatershed plan was based on goals and objectives of the subwatershed. The following management strategies were developed to address both existing as well as preventing future problems:

- Natural Area Management;
- Flood Management;
- Erosion Management;
- Groundwater Quality and Quantity Management;
- Agricultural and Rural Land Management; and
- Urban Stormwater Management for New Development.

With these management strategies, the Plan identifies specific actions and the associated roles and responsibilities of both the public and private sector. The implementation of the subwatershed plan will involve all partners either singularly or in partnership with others including the Region, the City of Kanata, the Mississippi Valley Conservation Authority, land owners (e.g. National Capital Commission, Department of National Defence), developers, and the public.

The endorsement of the study recommendations is an on-going commitment to the philosophy of the Official Plan and sound environmental management and planning. It is expected that the implementation of the subwatershed plan will extend over a number of years. However, the plan will provide the technical basis for day-to-day environmental planning and management decisions within the subwatershed area for both private and public sector projects.

Next Steps - Implementation

It is recognized that not all of the policy, protection, management, and restoration initiatives recommended in the plan can be achieved simultaneously. Some initiatives will be implemented through the planning approval process and proceed in the short term. However, other recommendations will need to be examined in more detail in order to develop priorities, strategies, and cost estimates. Further work is required by staff in partnership with other key public and private agencies such as the City of Kanata and MVCA in order to refine and prioritize the study recommendations into a clear definitive strategy.

More detailed Environmental Management Plan and Servicing Studies (EMPSS) will be required for some areas of the subwatershed before development occurs. The EMPSS is to address the needs for stormwater management and sanitary and water servicing for a large development area involving a number of landowners, taking into account the environmental constraints and opportunities on site. The primary objective of the integrated EMPSS will be to ensure that the desirable hydrologic characteristics of the subwatershed are maintained and the optimum ecological resources are protected in conformity with the overall intent of the subwatershed study. The EMPSS will provide guidance to the approval agencies (the Region, City of Kanata, and the Mississippi Valley Conservation Authority), the land

owners and the general public in the preparation and approval of individual Stormwater Site Management Plans.

An EMPSS has been recommended as a requirement of approval of the Kanata North Urban Expansion Area Regional Official Plan Amendment 8. This development involves a large land area with multiple landowners. A comprehensive environmental and stormwater management plan for the entire study area needs to be established in order for development to proceed in conformity with the principles of the subwatershed plan which reflects current municipal, provincial and federal legislation.

CONSULTATION

Public and agency consultation was a fundamental component of the subwatershed study. A number of public and agency consultation events were held as part of the study. These included:

- Steering Committee Meetings
- Public Open House #1 (November 26, 1998)
- Landowner/Developers Workshop #1 (July 9, 1998)
- Stormwater Professionals Workshop (January 9, 1999)
- Developers/Landowners Workshop and Public Open House #2 (June 29, 1999)

The purpose of the first open house was to introduce the study and obtain public input on: present issues/problems in the watershed; potential vision/goals and targets; and, options for potential solutions. The purpose of the second open house was to present the draft subwatershed plan focusing on: environmental constraint/opportunity areas; best management practices and stormwater management; the meander belt concept and geomorphology.

The entire project was overseen by a Steering Committee that included representatives from:

- City of Kanata;
- Region of Ottawa-Carleton;
- National Capital Commission;
- Mississippi Valley Conservation Authority; and,
- Ministry of Natural Resources.

The Steering Committee met several times throughout the study to review the key findings as well as to discuss project process and technical issues. Committee members were also circulated drafts of the study documentation for review and comments.

On the 22nd of February 2000, the City of Kanata Council received the subwatershed study and directed staff to incorporate the goals and objectives of the study into the City's policies and programmes and into the development review process.

COMPATIBILITY WITH THE REGIONAL OFFICIAL PLAN

The Regional Official Plan, specifically section 5.4, supports and provides policy context for the preparation and implementation of watershed and subwatershed plans. The Shirley's Brook/Watts Creek Subwatershed Study is the first plan to be completed under the new Official Plan. This study will assist in executing several policies of the Official Plan in order to ensure sound environmental planning and management of the water and land resources within the subwatershed. Specifically, the subwatershed study provides direction and guidance in executing the following section and/or policies of the Official Plan: Section 3 - Community and Built Environment (Policies 3.2.10 and 3.2.13 in particular), Section 5 - Natural Environment (Objectives 5.1 and Policies 5.2, 5.3, 5.4, and 5.5), Section 6 - Regional Open Space and Cultural Heritage (policy 6.7), Section 10 - Environmental Services (Policy 10.3 in particular), and Section 11 - Environmental Constraints (particularly 11.2).

In addition, the plan supports and will help achieve the following goals of the Regional Official Plan:

Goal 2 - maintain the desirable characteristics and integrity of established communities in the urban and rural areas of Ottawa-Carleton.

Goal 7 - support a high quality of public open space and natural environment to bolster economic, cultural and political activities.

Goal 8 - preserve the integrity of natural systems by directing land use and development in a way that maintains ecosystem functions over time.

Goal 12 - protect people from natural and human-made hazards.

FINANCIAL IMPLICATIONS

The endorsement of the subwatershed plan for Shirley's Brook/Watts Creek does not have any financial implications for the Region at this time. An implementation strategy (once developed) will prioritize projects, with costs, for consideration by Council, prior to implementation.

*Approved by
Nick Tunnacliffe, MCIP, RPP*

JP/sm