



THE TORONTO AND REGION CONSERVATION AUTHORITY

INDEX TO

SUSTAINABLE COMMUNITIES BOARD #2/07

Friday, September 7, 2007

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THE TORONTO AND REGION CONSERVATION AUTHORITY

**MEETING OF THE SUSTAINABLE COMMUNITIES BOARD #2/07
September 7, 2007**

The Sustainable Communities Board Meeting #2/07, was held in the South Theatre, Black Creek Pioneer Village, on Friday, September 7, 2007. The Vice Chair Linda Pabst, called the meeting to order at 11:05 a.m..

PRESENT

Laurie Bruce	Member
Jack Heath	Member
Colleen Jordan	Member
Gerri Lynn O'Connor	Chair, Authority
Linda Pabst	Vice Chair

ABSENT

Glenn De Baeremaeker	Member
Suzan Hall	Chair
Glenn Mason	Member
John Sprovieri	Member

RES.#E11/07 - MINUTES

Moved by: Jack Heath
Seconded by: Laurie Bruce

THAT the Minutes of Meeting #1/07, held on April 13, 2007, be approved.

CARRIED

PRESENTATIONS

(a) A presentation by Glenn MacMillan, Senior Manager, Water and Energy Management, Toronto and Region Conservation Authority (TRCA), in regard to item 7.1 - Permeable Pavement and Bioretention Swale Demonstration Project.

RES.#E12/07 - PRESENTATIONS

Moved by: Jack Heath
Seconded by: Laurie Bruce

THAT above-noted presentation (a) be heard and received.

CARRIED

SECTION I - ITEMS FOR AUTHORITY ACTION

**RES.#E13/07 - PERMEABLE PAVEMENT AND BIORETENTION SWALE
DEMONSTRATION PROJECT**

Preliminary results from the permeable pavement and bioretention swale demonstration project at Seneca College, King Campus.

Moved by: Jack Heath
Seconded by: Laurie Bruce

THE BOARD RECOMMENDS TO THE AUTHORITY THAT the staff report on the Permeable Pavement and Bioretention Swale Demonstration Project be received;

AND FURTHER THAT staff report back on study results after completion of the study.

CARRIED

BACKGROUND

Many of the adverse impacts of urban development on watercourses stem from the loss of natural infiltration and evapotranspiration functions as pervious vegetated areas are replaced with buildings and paved surfaces. When less rainwater infiltrates and evapotranspires, more runs off over the surface, causing flooding, channel erosion and degradation of aquatic habitat. Permeable pavement and bioretention swales help to prevent these negative consequences by preserving or re-instating natural hydrologic functions to the landscape.

Implementation of these stormwater practices in the Greater Toronto Area (GTA) has been limited due to concerns about the effectiveness of the technologies in cold climates, maintenance requirements, potential contamination of soil and groundwater resources by infiltrated stormwater, cost and other factors. Initiated in the fall of 2004, this three year demonstration project was intended to address these concerns by evaluating the benefits and limitations of the technologies under climate and soil conditions representative of watersheds in the GTA.

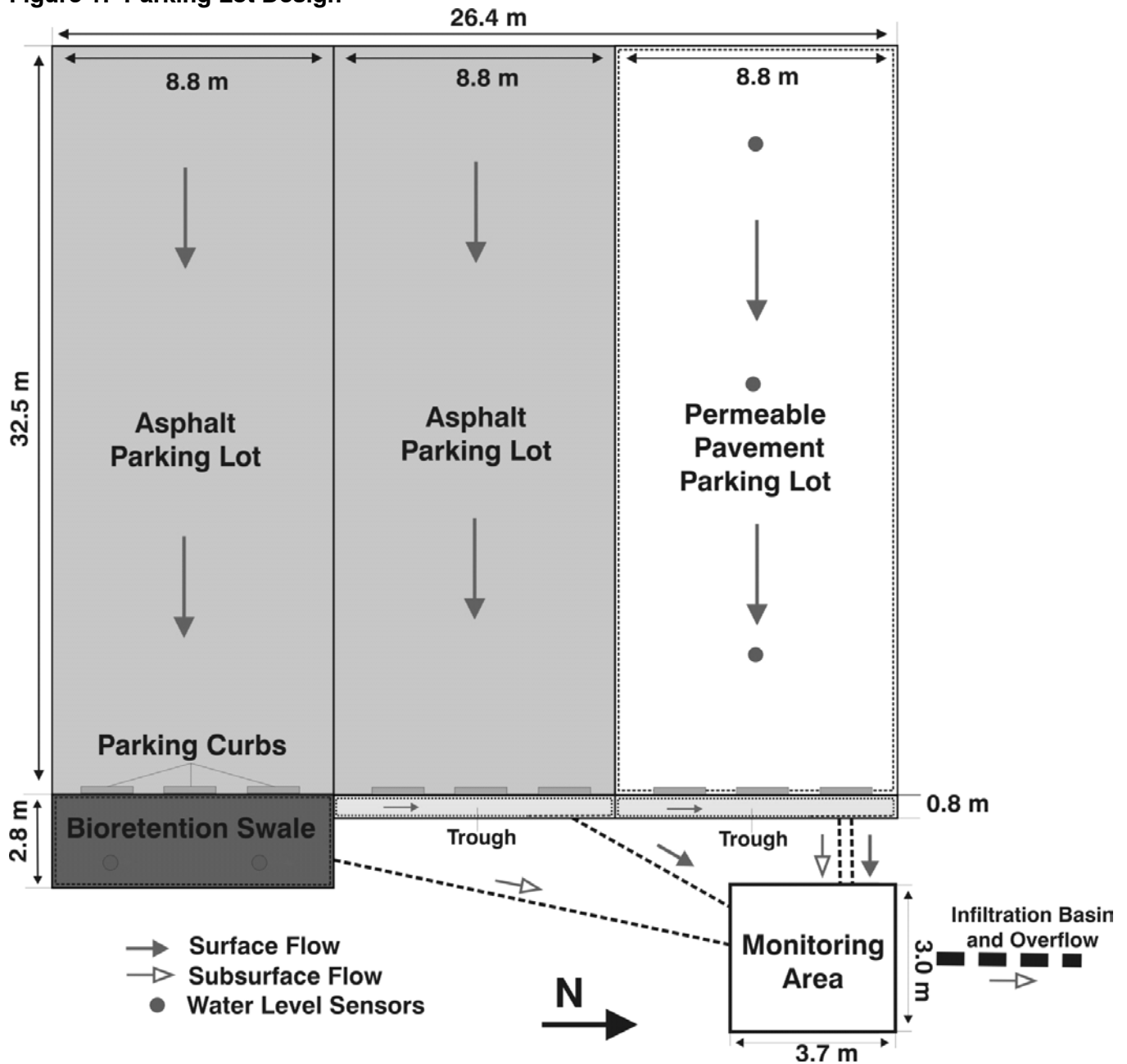
Permeable pavement refers to a group of technologies that reduces surface runoff by allowing rainwater to seep through the road surface. This group of technologies includes porous asphalt, pervious concrete, plastic grid systems and interlocking concrete blocks. This project evaluates a specific concrete block paver design (manufactured by Unilock) as a representative example of a type of permeable pavement that has shown promise under cold weather conditions.

Bioretention swales consist of small excavated depressions at the curbside that allow runoff from paved surfaces to pond and infiltrate. The vegetation, mulch and soils in the swale are specially selected to enhance infiltration and retain and filter contaminants in the upper soil layers before water passes through the system into the groundwater or underground drainage system. Bioretention swales provide a useful complement to permeable pavement where tight soils limit infiltration rates under the pavement itself.

The study is being conducted on a parking lot at Seneca College in King City, Regional Municipality of York, on the Oak Ridges Moraine. The area is within the Humber River watershed, and drains to a tributary of the East Humber River. The clay loam soils at this site are representative of soil texture in the majority of urban and urbanizing areas within Toronto and Region Conservation Authority's (TRCA) jurisdiction.

The study site was specially designed and constructed in the summer and fall of 2004 to facilitate evaluation of the various benefits and limitations of the two technologies. The parking lot is divided into three equal sized sections for the permeable pavement, bioswale and a conventional asphalt control area (Figure 1). Parking lot runoff is being collected both at the road surface level and as infiltrate from the native soil approximately 1.5 meters beneath the permeable pavement and bioswale. The permeable pavement and bioswale areas are lined with an impermeable plastic membrane overlaid with weeping tile to allow monitoring of water passing through the granular base course and native soils. All monitoring equipment is located underground in a large sampling vault and is powered by a combination of a wind turbine and three solar panels, which were installed in the summer of 2005.

Figure 1: Parking Lot Design



To date, three interim reports have been prepared as part of this study. The third interim report for the project was completed in May, 2007 and is available on TRCA's Sustainable Technologies Evaluation Program (STEP) website (www.sustainabletechnologies.ca). The report includes a review of international literature on permeable pavement and bioswales, describes the overall study design, and presents preliminary results for the period from the late summer of 2005 to March, 2007.

Results to date show that permeable pavement and bioretention swales offer significant advantages over conventional impervious pavement drainage systems. The main study findings to date include the following:

- Permeable pavement infiltrated virtually all rainfall for events up to approximately 48 mm. Surface runoff was observed during only one event, in which 72 mm of rain fell over a five hour period.
- The bioretention swale operated within its design capacity, infiltrating all runoff during events with rainfall depths of less than 15 to 20 mm. The swale experienced overflows during larger events because of limited storage on top of the swale.
- Bioswale runoff volumes from the underdrain were less than the permeable pavement site even when the swale did not overflow because some runoff is held in the root zone and released to the atmosphere through evapotranspiration.
- The permeable pavement and bioretention swale reduced peak flow rates by over 95% relative to the control pavement area. Runoff was stored and released over a period of several days after each rain event.
- Both infiltration technologies provide good 'removal' of typical parking lot contaminants, such as zinc, lead and hydrocarbons. Concentrations of total suspended solids (TSS), nutrients, hydrocarbons and most metals in the permeable pavement infiltrate fell within acceptable limits for the protection of receiving waters. Copper concentrations were slightly elevated, possibly due to leaching from the native soils or drainage materials.
- Nutrients and undegraded oils from the organic rich bioswale soils resulted in elevated levels of these constituents in the bioswale infiltrate.
- Surveys of six older permeable pavement parking lots ranging in age between 3 and 14 years indicated that pavements were generally in good structural condition with few signs of slumping or heaving caused by freeze/thaw cycles within the base course layer. Several of the sites were experiencing reduced surface infiltration from clogging with fine sediments. The use of sand either as a bedding layer for the pavers or for winter maintenance was identified as an important factor contributing to clogging of pavement void spaces.
- The chemical quality of soils underlying the older permeable pavements were found to be similar to, or better than that of nearby reference sites. Chloride was the only variable with higher concentrations in the permeable pavement soils. Although further sampling is needed, results so far suggest that heavy metals and hydrocarbons in infiltrated runoff are mostly retained within the granular base course layer of the pavements, and that long term accumulation of contaminants in subsoils is probably not a significant concern.

Other questions relating to the structural integrity of permeable pavements, winter performance and the cost of the technologies relative to conventional alternatives are the subject of ongoing investigations.

As monitoring continues through 2007 and 2008, more will be learned about the performance, longevity and maintenance requirements of the permeable pavement and bioretention swale. Findings from the monitoring assessment will be used to develop water management guidelines for application of these technologies on new and reconstructed parking lots. The final report will be disseminated through a variety of sources (print, web, conferences).

DETAILS OF WORK TO BE DONE

Table 1 shows the schedule of project activities.

Table 1. Schedule of activities

Activity	Schedule	Status
Conduct a Literature Review; Design Plan of Parking Lot and Study Area	May - August 2004	Complete
Construction of Permeable Pavement Parking Lot and Bioswale	August - September 2004	Complete
Develop Monitoring Program	November - December 2004	Complete
Report of activities to date, monitoring design, monitoring protocol, and activities for 2005.	March 2005	Complete
Install equipment and monitor performance	May 2005 to March 2008	On-going
Year end report	March 2005/2006/2007	three of four completed
Final Report	April 2008	to be completed

FINANCIAL DETAILS

Table 2 lists project partners for fiscal year 2007/08.

Table 2: Partner contributions

Partner	Funding Status	Funding Type	Contribution (\$)
Toronto, York, Peel	Committed	cash	40,000
Markham	Committed	cash	10,000
Environment Canada	Proposed	cash	12,500
Ontario Ministry of the Environment	Committed	laboratory services	25,000
		cash	12,500
The Great Lakes Sustainability Fund	Decision Pending	cash	30,000
Fisheries and Oceans Canada	Decision Pending	cash	10,000
		Total	120,000

Construction costs for this study were approximately \$88,000, which included labour, construction material purchases, machinery rental and landscaping. Approximately \$38,000 in donated materials was supplied by Unilock, Hanson Canada, Layfield Geotextiles and EMCO Ltd.. Seneca College provided the wind turbine, one solar panel and some of the electrical supply materials (approximately \$15,000 in value). It is expected that monitoring, data analysis and final report preparation will cost approximately \$110,000. Of this, \$25,000 will be in-kind contributions for lab services from the Ministry of the Environment. An additional \$10,000 is needed to conduct structural stability tests and off site investigations of older installations.

Funding contributions in earlier years were received from the Pat and John McCutcheon Foundation (\$20,000), the Oak Ridges Moraine Foundation (\$25,000), Wal Mart (\$10,000), the Concrete Association of Canada (\$5,000), the Interlocking Concrete Paving Association (\$5,000), the Great Lakes Sustainability Fund (\$55,000), Toronto and Region Remedial Action Plan (RAP) Memorandum of Understanding (\$60,000), Fisheries and Oceans Canada (\$19,000), City of Toronto (\$20,000), Regional Municipality of Peel (\$10,000) and Regional Municipality of York (\$10,000).

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Date: August 17, 2007

RES.#E14/07 -

THE LIVING CITY POLICIES FOR WATERSHEDS

Comprehensive Policy Update to Valley and Stream Corridor Management Program (1994) - Planning and Development Policy Guidance Document. To undertake a comprehensive policy review and update the Valley and Stream Corridor Management Program (1994), Toronto and Region Conservation Authority's (TRCA) principal policy document, to be consistent with current legislation; to establish new policy directions supported by the technical information and science gained by the development of TRCA watershed plans; and to incorporate and advance the objectives of The Living City.

Moved by: Colleen Jordan

Seconded by: Jack Heath

THE BOARD RECOMMENDS TO THE AUTHORITY THAT staff proceed with "The Living City Policies for Watersheds" as per the work plan, which includes a comprehensive review and update to the Toronto and Region Conservation Authority's (TRCA) Valley and Stream Corridor Management Program (1994), including emphasis on new program areas of natural systems and sustainable communities;

THAT staff be directed to report back to the Sustainable Communities Board in 2008 with the progress on the work detailed in the work plan and to bring forward a work plan for the public and municipal consultation process;

AND FURTHER THAT TRCA's member municipalities be so advised of this initiative as it is complementary to, and supportive of, the municipal growth planning and Official Plan updating process.

CARRIED

BACKGROUND

The Valley and Stream Corridor Management Program (VSCMP) was approved by TRCA in 1994. It was TRCA's first attempt at integrating ecosystem planning and management in a single policy document by incorporating components of many TRCA plans and programs in the 1980 Watershed Plan and the 1986 Watershed Plan Update. It was also an attempt on behalf of TRCA of consolidating policies and procedures within other separate documents and reports, such as the 1982 Environmentally Significant Areas Study, 1987 Flood Susceptible Sites Policy and the 1990 Comprehensive Basin Management Strategy for the Rouge River Watershed. The VSCMP also updated policies and procedures to reflect the understanding of the watershed ecosystem at that time and established new policy directions responding to watershed issues. Essentially, the VSCMP established TRCA's policies for the protection and rehabilitation of valley and stream corridors within its jurisdiction.

On a day to day basis, the VSCMP is used to guide TRCA's role in the planning and development review process and assists with the implementation of responsibilities under the Planning Act and the Conservation Authorities Act (CA Act). However, legislative amendments have been made to both the Planning Act and the CA Act since 1994, and several new acts, plans and regulations related to planning and development have been issued by the province. These include the Oak Ridges Moraine Conservation Act and Plan (2001), Ontario Regulation 97/04 -Generic Regulation Conformity (2004), the revised Provincial Policy Statement (2005) and associated guidance documents, the Greenbelt Act and Plan (2005), Bill 51, Planning and Conservation Land Statute Amendment Act 2005 (2006), The Places to Grow Act and Growth Plan for the Greater Golden Horseshoe (2006), The Clean Water Act (2006), Ontario Regulation 166/06, and TRCA's Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation (2006). In 1997, TRCA entered into a Level III Agreement with the Department of Fisheries and Oceans Canada (DFO) to review development applications under Section 35(1) of the Fisheries Act. In 2001, Conservation Ontario, the Ministry of Natural Resources and the Ministry of Municipal Affairs and Housing entered into a memorandum of understanding, in which conservation authorities (CA) were delegated responsibilities under the Provincial One Window Planning System to review policy documents and applications under the Planning Act to ensure that they are consistent with Section 3.1 (Natural Hazards) of the Provincial Policy Statement (PPS). Given the significant amount of legislation that has been released since 1994, and changes to our planning and regulatory roles and responsibilities, a comprehensive review and update to the VSCMP is necessary in order to ensure consistency with current legislation. Furthermore, TRCA's member municipalities are in the process of updating their official plans to be consistent with all of the new planning legislation.

Through the completion of new watershed studies and strategies and updates to TRCA's existing watershed plans, the base of scientific research has grown substantially. In turn, TRCA has significantly advanced the understanding of watershed issues. The results of this work indicate the need to update current policies and procedures, as well as develop new policies to address the complex interrelationships between watershed health and urban development. This is in order to build more sustainable communities consistent with The Living City vision.

Since 1994, TRCA also adopted a strategic plan for moving towards The Living City with a vision of a healthy, attractive, and sustainable urban region extending into the 22nd century. A comprehensive review and consolidated policy update to the VSCMP is essential to achieving The Living City. The objectives of Healthy Rivers and Shorelines, Regional Biodiversity, Sustainable Communities and Business Excellence need to be integrated into the policy framework. The objectives of The Living City are compatible with the province's vision of a healthy natural environment, productive urban and rural areas, community well-being and an integrated transportation network supported by a diverse, more compact urban form for the entire Greater Golden Horseshoe (GGH), as promoted by the Growth Plan for the GGH.

WORKPLAN

TRCA's new policy document, *The Living City Policies for Watersheds*, will be a comprehensive consolidation and update of policy to reflect the evolution of programs and their policies since 1994. This report relates specifically to planning and development review policies associated with the natural systems and sustainable communities. As such, TRCA staff has developed a work plan to undertake a comprehensive review and update to those policies (Attachment 1). This work plan outlines the first phase of the project of preparing a draft policy document. Staff will report back to the Sustainable Communities Board in 2008 with a work plan to deal with the municipal and public consultation process on the draft policy document for the planning and permitting aspects of policies.

Similar to the exercise and process that was undertaken for the development of the VSCMP, the work plan includes a consolidation of existing TRCA policies and procedures. As an example, the Shoreline Management Program 1980, and related program updates, will be consolidated into our new policy document to address the Lake Ontario waterfront within TRCA's jurisdiction. It should be noted that although there have been a significant number of legislative changes related to planning and development, many of the principles and policies established within the 1994 VSCMP remain relevant and applicable today. The intent is not to lose these elements through this review and update, but rather to build upon the foundation and success of those policies within the VSCMP.

The implications of new legislation to TRCA's planning and regulatory responsibilities under the Planning Act and the CA Act will be included in this update. For example, amendments to the CA Act that led to the Generic Regulation conformity exercise undertaken by TRCA between 2004 and 2006 resulted in the new regulation, Ontario Regulation 166/06: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses. Policies related to the implementation of TRCA's regulatory responsibilities need to be updated to be consistent with new regulations. In 2006, TRCA adopted transitional policies and guidelines to facilitate the transition from TRCA's previous regulation to the new regulation and a "Permission for Minor Works" letter of approval protocol to streamline the review of minor works, as initial steps in TRCA's overall initiative to update the VSCMP. CAs across the province are undertaking a similar process to update their policy and guideline documents as a result of the Generic Regulation process. Conservation Ontario has established the Section 28 Peer Review and Implementation Committee to, in part, develop a policy guidance document to assist CAs in the interpretation of the regulation and in the development of their own individual policies.

TRCA's understanding of watershed issues has been expanded by a growing base of scientific research obtained through watershed plans, strategies and studies, such as the Rouge River Watershed Plan and TRCA's Terrestrial Natural Heritage System Strategy. Accordingly, the current policies and procedures in the topic areas of natural heritage, water management and aquatic resources need to be updated to reflect the outcome and directions of this research. In the area of water management for example, TRCA Ecology staff is in the process of developing a comprehensive, state-of-the-art "Water Management Guideline" to assist practitioners (consultants and developers) and review agencies (municipalities and TRCA) in the planning, selection, design and costing of a wide range of best management practices (BMPs). This will lead to a more streamlined and focused design and review process. The guideline will also help to ensure that the goals, objectives and targets as outlined in larger scale studies (watershed and subwatershed studies) are being met. It is expected that the proposed guideline will be completed by the end of 2007 and will have input from municipalities and the development community. The guideline will include sections on: relevant legislation and TRCA's role in water management, integrating stormwater management into the planning process, stormwater design criteria, water balance (surface and groundwater), watercourse/fluviol geomorphology (meander belt, watercourse crossings), flood plain management, BMPs, erosion and sediment control, operations and monitoring. The guideline will be a key reference for the update as its technical requirements and the new policies will need to be compatible.

Sustainable community planning and design is an integral component of watershed management and new policies built on the foundation of The Living City objectives will be included in this update. Through the planning and development process, TRCA has the opportunity to encourage sustainable development patterns and energy efficiency in building design, which will contribute to climate change mitigation. It is current practice that where opportunities exist in the development review process, TRCA staff work with developers, builders and municipal staff to incorporate sustainable practices and building designs, such as green building technologies (e.g. Leadership in Energy and Environmental Design (LEED)), greenroofs and permeable pavement, into developments. Successful achievements have been negotiated through this process from individual sites to large scale developments, such as Block 39 in the City of Vaughan. Planning for growth and development to be undertaken in a more sustainable and energy efficient manner is supported by Bill 51, which enables municipalities to include these elements in their official plans.

MUNICIPAL AND PUBLIC CONSULTATION

Consultation with TRCA's municipal partners, the public, the development community and watershed stakeholders will be an integral part of this policy update process. It is the intent of staff to complete a draft of the *The Living City Policies for Watersheds* document by early 2008, so that this document can be used as a basis for discussion and consultation. Staff will bring forward to the Sustainable Communities Board in 2008 a work plan detailing the municipal and public consultation process. Municipal consultation will occur prior to the public consultation process. Staff will be building upon TRCA's consultation and on-going dialogue with municipal partners and key stakeholders established with recent and current policy related initiatives.

Through the Generic Regulation conformity exercise, TRCA conducted extensive municipal and public consultation. TRCA staff met individually with municipal partners to discuss the implications of the new regulation and associated policy and implementation issues. During this process, staff indicated to municipal partners that staff would be undertaking a comprehensive update to the VSCMP to address both planning and regulatory responsibilities. The updated flood plain and hazard mapping in support of the new regulation has also generated specific policy related discussions with both municipal partners and the province. In TRCA's jurisdiction, some of the 'Urban Growth Centres' designated under the Growth Plan and Special Policy Areas (SPAs) in municipal official plans, which are slated for redevelopment and intensification, are also located within the Regulatory Flood Plain. TRCA staff has been working with municipalities, the province and developers to reconcile the conflict inherent in intensifying development in flood prone areas through appropriate flood studies, flood remediation and flood proofing measures, and seeking opportunities for intensification outside the flood plain. Policy formulation on the technical parameters and risk assessment strategies to facilitate this reconciliation is needed.

TRCA has and will continue to conduct consultation with municipalities, key stakeholders and the public on watershed plans, strategies and special studies. The results of these consultations will be integrated into the policy update. Examples of these include the watershed plans for the Rouge, Humber and Don rivers; Headwater Drainage Features Study and Water Management Guideline. This ongoing consultation process ensures that the science and research of this work that will help formulate TRCA's policies, is available to support municipal partners as they update their official plans and undertake growth planning exercises. This is in keeping with the municipal plan review and technical clearance agreements that TRCA has with municipal partners.

Over the past five years, there has been an on-going dialogue between TRCA and the development community (developers, consultants and proponents) regarding TRCA's planning and regulatory functions, including opportunities to increase procedural transparency and streamline the review and approval process where appropriate. Significant progress has been made in improving TRCA's working relationship with the development community, primarily through the adoption of technical guidelines and complete application checklists. All of these have been recently incorporated into a "Development Procedural Guide". The guide serves as a comprehensive reference document detailing TRCA's legislative authority, technical requirements and review and approval procedures. It has been prepared to guide both novices and those familiar with TRCA's processes. Through the policy update process, TRCA will continue to work with the development community to further improve clarity around TRCA's planning and regulatory responsibilities.

FINANCIAL DETAILS

Funding for this project is available in TRCA's 2007 Capital Budget from the regions of Peel, York, Durham and the City of Toronto.

CONCLUSION

The Valley and Stream Corridor Management Program (1994) is used to guide TRCA's role in the planning and development review process and assist with the implementation of our responsibilities under the Planning Act and the CA Act. However, given the significant amount of legislation that has been released since 1994, a comprehensive review and update to the VSCMP is necessary to ensure consistency with current legislation. Furthermore, this update is essential to achieving the objectives of The Living City. This work is also complementary to the growth planning and official plan updating process being undertaken by TRCA's member municipalities.

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Date: August 21, 2007

Attachments: 1

Attachment 1

The Living City Policies for Watersheds

Last Revised: August 23, 2007

Work Plan	Legend:	Policy Research & Consolidation of Existing Policy/Practice	Preparation of 1st Draft	Consultation with TRCA Staff	Preparation of 2nd Draft	Preparation of Final Draft Policy Document

Policy Topic Area	Policy Components	2007										2008		
		April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	
Introduction														
Landforms	Watersheds													
	Valley & Stream Corridors													
	Lake Ontario Shoreline													
	Oak Ridges Moraine													
	Niagara Escarpment													
	Lake Iroquois Shoreline													
	Agricultural Lands & Greenbelt													
Natural Heritage	Wetlands													
	Lands Adjacent to Wetlands													
	Woodlands													
	Meadows													
	Inland Lakes													
	Other Components: Significant Valleylands, Wildlife Habitat, ANSIs													
	Restoration													
	ESAs													
Natural Hazards	Flooding													
	Erosion													
	Dynamic Beaches													
	Wetlands													
	Lands Adjacent to Wetlands													
	Special Policy Areas													
	Two Zone Areas													

Work Plan	Legend:	Policy Research & Consolidation of Existing Policy/Practice	Preparation of 1st Draft	Consultation with TRCA Staff	Preparation of 2nd Draft	Preparation of Final Draft Policy Document

Policy Topic Area	Policy Components	2007										2008		
		April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	
Water Management	Stormwater Management													
	Water Budget													
	Fluvial Geomorphology													
	Hydrogeology													
	Water Quality													
	Source Protection													
Aquatic Resources	Fish													
	Benthics													
	Riparian Habitat													
Public Use Areas	Lake Ontario Shoreline													
	Conservation Lands													
	Public Parks & Open Space													
	Acquisition through Planning process													

Emerging Policy Topic Areas	Policy Components	2007										2008		
		April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	
Air	Air Quality													
	Atmospheric Deposition													
Community Design Planning	Neighbourhood Design													
	Cultural Heritage													
	Building Design													
	Infrastructure													
Energy														
Climate Change														

Additional Tasks / Activities	2007										2008		
	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	
Board Reports						●							●
Municipal Notification							●						
Municipal & Public Consultation													● →
Internal Training													● →

RES.#E15/07 -

**CLIMATE CHANGE, CLEAN AIR AND SUSTAINABLE ENERGY PLAN:
MOVING FROM A FRAMEWORK TO ACTION**

To highlight Toronto and Region Conservation Authority's support of the City of Toronto's Climate Change and Clean Air Action Plan and Toronto's Sustainable Energy Plan.

Moved by: Jack Heath
Seconded by: Colleen Jordan

THE BOARD RECOMMENDS TO THE AUTHORITY THAT WHEREAS Toronto and Region Conservation Authority's (TRCA) strategic plan, Moving Toward The Living City, identifies the integration of climate change as a critical component in achieving the objectives and goals of a healthy, sustainable urban region extending into the 22nd century;

WHEREAS TRCA is committed to taking immediate action and exemplifying leadership to support our communities and partners in dealing with the climate change issue;

WHEREAS TRCA is currently working on a variety of climate mitigation and adaptation initiatives that complement the City of Toronto's Climate Change and Clean Air Action Plan and Toronto's Sustainable Energy Plan;

THEREFORE LET IT BE RESOLVED THAT the City of Toronto be congratulated for their leadership and proactive approach to climate change, clean air and sustainable energy issues within the city;

THAT staff be directed to assist the City of Toronto with the implementation of recommendations set out in the City of Toronto Report, "Climate Change, Clean Air and Sustainable Energy Action Plan: Moving from Framework to Action" and to seek opportunities for partnerships with other municipalities, government agencies, community groups and corporate sector to accelerate the implementation of recommendations that have TRCA jurisdiction-wide implications;

THAT the City of Toronto be requested to ensure that the city's Agencies, Boards and Commissions be eligible for special funding programs that support the implementation of said recommendations;

AND FURTHER THAT the recommendations for TRCA action outlined below be forwarded to the City of Toronto for their consideration.

CARRIED

BACKGROUND

At its meeting held on June 27, 28 and 29, 2006, City of Toronto Council approved the development of an energy plan that would move the city to a sustainable level of energy use by 2031.

On February 20, 2007, the City of Toronto's Parks and Environment Committee held a special meeting with experts to discuss the key issues related to air quality and climate change and how the city could address these issues. A subsequent report, *Framework for a Climate Change and Clean Air Action Plan*, was presented to the Executive Committee on March 26, 2007 and public engagement was recommended.

The document, *Change is in the Air: Toronto's Commitment to an Environmentally Sustainable Future* was released on March 27, 2007 and outlined the framework for public review and engagement. On April 29, 2007, the City of Toronto held a Climate Change Action Forum at the Direct Energy Centre to solicit input during the development of the Climate Change and Clean Air Action Plan. Input was also solicited on-line and a number of different methods were piloted to reach various target groups. TRCA staff participated in a number of consultation sessions.

The report, *Climate Change, Clean Air and Sustainable Energy Action Plan: Moving from Framework to Action* was approved by City Council at the council meeting held on July 16, 17, 18 and 19, 2007. This report brings together two important City of Toronto initiatives, the *Climate Change and Clean Air Action Plan* and *Toronto's Sustainable Energy Plan*. Both plans outline a series of recommendations suggesting how the City of Toronto can mitigate and adapt to the effect of climate change.

The *Climate Change and Clean Air Action Plan* provides a series of recommendations that both engages the community and builds upon existing City of Toronto programs. The plan explains actions that can significantly reduce the release of greenhouse gases to the atmosphere and suggests ways to make substantive positive change to local air quality.

Toronto's Sustainable Energy Plan recommends the development of funding programs that will encourage energy efficiency and renewable energy initiatives which in turn will support implementation of the recommendations for the *Climate Change and Clean Air Action Plan*.

The plans support the overall goal of reduction targets for greenhouse gas emissions from the 1990 levels of approximately 22 million tonnes per year for the Toronto urban area:

- i) 6% by 2012 (the "Kyoto target");
- ii) 30% by 2020;
- iii) 80% by 2050.

Additionally, a 20% reduction target for locally-generated smog causing pollutants from 2004 levels by 2012 for the Toronto urban area was recommended.

To meet the reduction targets, the plans are designed to:

- Encourage Torontonians to adopt more environmentally friendly lifestyles, and reduce the energy required to heat, cool and light their homes.
- Help Toronto businesses be more environmentally friendly.
- Make the City of Toronto a leader in local renewable energy production.
- Help the City of Toronto build a sustainable transportation system.
- Double the tree canopy from 17% to 34%.
- Foster mutually beneficial improvements in air quality and climate change by continuing to build necessary partnerships.

- Help Torontonians understand the need to reduce their energy use and what actions they can take at home, work and on the road.
- Help the City of Toronto prepare for and adapt to climate change and the effects on its residents, vulnerable populations and city operations.
- See the City of Toronto monitor and evaluate its progress on reducing emissions and report on that progress to the community.
- Help the City of Toronto build on its success in reducing greenhouse gas emissions from city operations by over 30% since 1990.
- Help the City of Toronto establish the financial resources to implement the programs required to meet reduction targets.
- Help move the City of Toronto toward a sustainable energy future.

The City of Toronto will bring forth further recommendations for action in a Phase II *Climate Change and Clean Air Action Plan* and associated *Sustainable Energy Action Plan* in early 2008. TRCA's Chief Administrative Officer is participating in this process.

TRCA and Climate Change

TRCA's Strategic Plan, *Moving Toward The Living City* identifies the integration of climate change as a critical component in achieving the objectives and goals of a healthy, sustainable urban region extending into the 22nd century. At TRCA, we are convinced that the most effective way to reduce greenhouse gas emissions, and therefore to help mitigate against climate change, is to promote renewable energy application, energy conservation and acting sustainably in virtually everything we do.

In addition to acting sustainably, TRCA's goal is to become a trusted resource in areas of climate change adaptation and mitigation. TRCA is involved in several programs and projects aimed at increasing our understanding of climate change and developing new projects and partnerships to reduce the region's ecological footprint, helping to create a livable sustainable region in the future - The Living City. A brief description of TRCA's initiatives related to the City of Toronto's *Climate Change and Clean Air Action Plan* and *Toronto's Sustainable Energy Plan* are below:

Sustainable Management System

TRCA's Sustainability Management System (SMS), previously called Environmental Management System (EMS), enables TRCA to track indicators of operational sustainability and report to our stakeholders. Within SMS, the EcoOffices Certification initiative (currently in development) will strive to educate, involve and drive employee participation in an effort to make TRCA's offices more sustainable.

Community Transformation Programs

With sustainability and strong environmental values at the core, Community Transformation Projects are designed to achieve substantial measurable improvements in the sustainability of towns, cities and regions. To do this, Community Transformation Programs engage leaders in business, government and society to create and deliver innovative programs that allow cities to grow and thrive today and well into the future. Designed to be implemented in communities across Canada, projects include the Mayors' Megawatt Challenge, Greening Health Care, Greening Retail, Home Energy Clinic, Sustainable Schools and the Renewable Energy Program.

Sustainable Technologies Evaluation Program

The Sustainable Technologies Evaluation Program (STEP) is a multi-agency program, led by TRCA. The program has been developed to provide the data and analytical tools necessary to support broader implementation of sustainable technologies and practices within a Canadian context.

The Living City Campus

The Living City Campus is a facility that initiates, inspires, supports and monitors change toward sustainable living, leading the way toward sustainable development and the use of sustainable technologies through practice, education and market transformation.

Green Building Partnership

TRCA has formed a partnership with two green building councils, the Canada Green Building Council – Greater Toronto Chapter (CaGBC-GTC) and the World Green Building Council (WorldGBC). In both cases, TRCA assists in programming and operations.

Eco-Industrial Networks

The essence of eco-industrial networking is improving the financial and environmental performance of industry. This is achieved by reducing energy, waste and water-use through efficiencies and developing synergies between companies, where one company's waste is another's feedstock. TRCA is currently exploring opportunities for partnerships related to realizing eco-industrial networks.

Ontario EcoSchools Program

TRCA is a proud partner and participant in the Ontario EcoSchools Program with four EcoSchool certified facilities. The program's goal is one that TRCA embraces - to help schools reduce their environmental impact by making decisions for a healthy world a part of everyday school life.

TRCA Climate Modeling

Through the Rouge and Humber watershed plans, TRCA has begun to model potential climate change effects on our watersheds to assist with adaptation strategies.

TRCA Actions

To assist the City of Toronto in meeting the specific goals of the *Climate Change, Clean Air and Sustainable Energy Action Plan: Moving from Framework to Action*, TRCA will undertake the following actions:

1. Neighbourhood Actions for Green Toronto (Motion #4)

- a) The Live Green Toronto Program will support the greening of neighbourhoods through a range of programs delivered by residents' groups, Business Improvement Areas and other neighbourhood agencies and community groups.

- b) TRCA offers to lead the first Live Green Toronto Program in the Jane-Finch-Steeles neighbourhood where the combination of schools, natural spaces, local businesses, cultural facilities, water management issues in Black Creek, new transit, social housing and the presence of the Black Creek Urban Farm attest to the need to coordinate greening activities within the neighbourhood.
- c) TRCA will investigate the feasibility of banning the use of equipment powered by two stroke engines (motion 4j).
- d) TRCA will continue to assist the city with city's Green Development Standard labeling system, green buildings and LEED (Leadership in Energy and Environmental Design) for Neighborhood programs recently developed with Canada Green Building Council and World Green Building Council.

2. Environmentally Friendly Public Institutions, Industries and Commercial Operations (Motion # 5)

- a) TRCA supports the City of Toronto's Green Economic Development Strategy.
- b) Through TRCA's new eco-industrial park initiative, TRCA proposes to work with the city to provide assistance to businesses to lower their operating costs and improve their environmental performance through increased efficiencies in resource use and by-product exchanges.
- c) TRCA is currently working with the Greater Toronto Area Agriculture Action Committee to promote sustainable agriculture within the Greater Toronto Area. Feasibility of using TRCA lands for near urban agriculture projects is currently being investigated. The Black Creek Urban Farm, developed in partnership with the city, will be a model for future partnerships and will assist the city's Enviro-Food Working Group.

3. Toronto, Becoming the Renewable Energy Capital of Canada

- a) TRCA will continue to participate on the Renewable Energy Action Plan Working Group to prepare recommendations on addressing issues concerning renewable energy generation (motion 7e).
- b) TRCA will continue to develop and establish landscaping and maintenance techniques that eliminate the need for equipment powered by small engines and shift to use of equipment powered by alternative technologies (motion 9i).

4. Setting an Example by Greening City Operations

- a) Through the existing SMS, TRCA has begun to phase out the use of incandescent light bulbs wherever possible (motion 9d). TRCA continues anti-idling education in TRCA fleet vehicles (motion 9f), supports the Smart Commute Program for the Toronto Public Service (motion 9g), has created and adheres to TRCA's Mandatory Green Product/Service Procurement Listing (January 2007) (motion 9j) and promotes the use of energy efficient appliances (motion 7k).
- b) TRCA welcomes the opportunity to work with the City of Toronto's General Manager of Solid Waste Management Services, on the proposed agreement between the City of Toronto, TRCA and Toronto Hydro Energy Services Inc. to install and operate electrical generation equipment to utilize methane from the Thackeray Landfill Site (motion 9m).

5. Making More Sustainable Transportation Choices

a) TRCA will continue to work with the City of Toronto to complete the Bike Plan by the end of 2012, in particular expanding the existing network of trails (motion 8b).

6. Double the Tree Canopy

a) TRCA, identified as a key partner with Parks, Forestry and Recreation, will assist City of Toronto in doubling the existing tree canopy from 17% to 34% (motion 10). TRCA will assist the City of Toronto in delivering tree planting on public lands. (motion 3).

7. Partnerships for Change

a) Leveraging partnerships and funding resources is a strength that TRCA brings to our existing partnerships. TRCA is committed to accelerate the implementation of sustainable technologies to meet The Living City objectives. TRCA will continue to support the city with its climate change initiatives by participating on new enviro-action working groups. (motion 11a).

A number of the initiatives highlighted above are dependent upon funding support from the City of Toronto and as such, TRCA requests that City of Toronto's Agencies, Boards and Commissions be eligible for special funding programs that support implementation of the above noted initiatives.

TRCA's additional actions supporting City of Toronto's *Climate Change, Clean Air and Sustainable Energy Action Plan*

In addition to assisting the City of Toronto in meeting the specific goals of the *Climate Change and Clean Air Action Plan* and *Toronto's Sustainable Energy Plan*, TRCA will undertake the following actions in concert with the plans:

1. Build upon the success of TRCA's SMS which has reduced TRCA's footprint in the areas of energy use, vehicles and equipment emissions, green purchasing and water consumption by promoting the system to external partners.
2. Build on the data gathered through the Rouge and Humber watershed plan climate modeling to better understand and communicate the effects of climate change on our watersheds.
3. Develop a plan to achieve 30% of TRCA's electricity needs from green energy sources by 2010. TRCA operations utilize 20% of electricity needs from green energy sources, with the exception of the Kortright Centre which sources 100%.
4. Develop purchasing policies and implementation strategies relating to food that address energy, waste and economic priorities.
5. Strengthen the role of STEP by beginning to monitor and evaluate new green building technologies.
6. Develop and implement a net-zero energy plan for The Living City Campus.
7. Adopt CaGBC's new LEED Complete strategy to address the issue of building life cycle analysis.
8. Launch The Living Building Challenge which will challenge several new building projects to move beyond LEED to create the greenest buildings in North America. These projects will act as case studies for further research and monitoring.

9. Develop a Renewable Energy Roadmap to identify the most strategic method for transforming the market for renewable energy technologies in the Greater Toronto Area.

Additional Recommendations for Climate Change, Clean Air and Sustainable Energy Plan Implementation

- a) TRCA, as partner and participant in the Ontario EcoSchools Program, will recommend our participation on the School Board/City Environmental Education Working Group to review current environmental curriculum and explore opportunities for collaboration on environmental initiatives (motion 12b).
- b) The Toronto Environment Office will continue to coordinate the City of Toronto's actions to measure, monitor and model greenhouse gases and smog causing emissions to ensure efforts are focused on those that have the greatest effect on human health and the natural environment (motion 14a). TRCA recommends that this motion be strengthened by measuring and monitoring energy use as it relates to greenhouse gases.
- c) Further, TRCA recommends that information should be incorporated into the City of Toronto's financial reporting structure for each division.

DETAILS OF WORK TO BE DONE

1. Forward TRCA recommendations to the City of Toronto for their consideration.
2. Continue to assist the city with the implementation of their recommendations and support the development of the Phase II Climate Change and Clean Air Action Plan and associated Energy Plan actions.

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Date: August 20, 2007

TERMINATION

ON MOTION, the meeting terminated at 11:42 a.m., on Friday, September 7, 2007.

Linda Pabst
Vice Chair

Brian Denney
Secretary-Treasurer

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