



THE TORONTO AND REGION CONSERVATION AUTHORITY

Sustainable Communities Board Meeting #4/06

Chair:	Michael Di Biase
Vice Chair:	Suzan Hall
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	Colleen Jordan
	Norm Kelly
	Glenn Mason
	Gerri Lynn O'Connor
	Linda Pabst
	John Sprovieri
	Michael Thompson
	Dick O'Brien - Chair, Authority

December 1, 2006
11:00 A.M.
HUMBER ROOM, HEAD OFFICE

AGENDA

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|------------|--|---------------------|
| 1. | MINUTES OF MEETING #3/06, HELD ON OCTOBER 13, 2006 | <u>Pages</u> |
| | (Minutes Summary enclosed herewith on <u>GREEN</u>) | |
| 2. | BUSINESS ARISING FROM THE MINUTES | |
| 3. | DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF | |
| 4. | DELEGATIONS | |
| 5. | PRESENTATIONS | |
| 5.1 | A presentation by Sean Mason, Vice President, Mason Homes, in regards building a LEED for Homes Canada case study. | |
| 5.2 | A presentation by Deborah Martin-Downs, Director, Ecology, TRCA, in regards to item 7.1 - Municipal Green Building Tool Kit. | |

- 6. **CORRESPONDENCE**
- 7. **SECTION I - ITEMS FOR AUTHORITY ACTION**
 - 7.1 **MUNICIPAL GREEN BUILDING TOOL KIT**
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 - 7.3 **CONSERVATION BUREAU**
2006 Annual Report 9-12
- 8. **SECTION IV - ITEMS FOR THE INFORMATION OF THE BOARD**
 - 8.1 **SUSTAINABLE PRACTICES RESEARCH PROJECTS** 13-18
 - 8.2 **COMMUNITY TRANSFORMATION PROGRAMS** 19-22
- 9. **NEW BUSINESS**

NEXT MEETING OF THE SUSTAINABLE COMMUNITIES BOARD #5/06,
TO BE HELD ON FEBRUARY 2, 2007, IN THE
SOUTH THEATRE, BLACK CREEK PIONEER VILLAGE AT 11:00 A.M.

Brian E. Denney
Chief Administrative Officer

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TO: Chair and Members of the Sustainable Communities Board
Meeting #4/06, December 1, 2006

FROM: Deborah Martin-Downs, Director, Ecology

RE: **MUNICIPAL GREEN BUILDING TOOL KIT**
A Product to Assist Municipalities with Green Building Development and
Implementation

KEY ISSUE

On December 1st 2006, the Municipal Green Building Tool Kit will be available for purchase and distribution from the Canada Green Building Council.

RECOMMENDATION

THE BOARD RECOMMENDS TO THE AUTHORITY THAT Toronto and Region Conservation Authority (TRCA) staff work with the Canada Green Building Council (CaGBC) and the Association of Municipalities of Ontario to promote the purchase and application of the Municipal Green Building Tool Kit;

THAT municipal leaders work with the CaGBC Greater Toronto Chapter and CaGBC National Office to facilitate the application of green building standards and protocols as outlined in the Municipal Green Building Tool Kit for new and existing buildings on both private and public sector lands;

AND FURTHER THAT all municipalities in TRCA's jurisdiction be requested to encourage public sector staff to participate in Municipal Green Building Tool Kit workshops and information sessions under development for 2007/8.

BACKGROUND

At the Authority Meeting #10/05, held on January 6, 2006, Resolution #A292/05 was approved as follows:

THAT Toronto and Region Conservation Authority (TRCA) staff continue to work with the Canada Green Building Council (CaGBC) in developing the Municipal Tool Kit based on the successful American product created by the US Green Building Council (USGBC);

THAT TRCA staff provide services where possible in the production of the Municipal Tool Kit;

THAT TRCA staff inform municipal partners on the benefits of adopting and implementing the initiatives outlined in the Municipal Tool Kit;

THAT all municipalities in TRCA's jurisdiction be asked to review and participate in the new Municipal Tool Kit for sustainable development;

THAT TRCA work with municipalities and associated partners to raise the remaining funds needed to create the Municipal Tool Kit;

THAT TRCA staff report back on the progress of the Municipal Tool Kit through the stages of development;

AND FURTHER THAT TRCA staff review the application of the Municipal Tool Kit when complete to require Leadership in Energy and Environmental Design (LEED) certification for all public buildings and encourage LEED for all building applications.

RATIONALE

Municipalities are among the early adopters of green building practices and the LEED building rating system in Canada. Some municipalities such as the City of Calgary and the City of Vancouver have mandated LEED Silver and Gold level certification respectively for the design and construction of new buildings. Canada has mandated LEED certification for all new federal buildings, the Province of Alberta has now mandated LEED certification for all new public buildings and the Toronto Waterfront Revitalization Corporation has mandated LEED Gold for new construction and will be participating in a LEED for neighborhoods pilot project.

The reasons for these municipal commitments are clear: greening civic buildings provides on the ground examples for the community of how municipalities can address climate change and other environmental issues. It is also responsible fiscal management since green buildings help to significantly reduce operating expenses (particularly energy costs) over the life-cycle of the buildings. If built on a larger scale, green buildings can have significant regional environmental benefits and reduce demand on infrastructure services with associated savings from deferred investments in future capital projects.

Municipal Green Building Tool Kit Project

Municipalities across the country are looking for assistance on how they can adopt and implement green building policies and programs to green their own buildings and those developed by the private sector. In order to facilitate the adoption of green building practices at the local level, CaGBC and TRCA are working together to develop a tool kit targeted specifically at municipal governments.

The tool kit will provide a step-by-step approach on how local government can develop green building policies and programs for their own building projects (new and major retrofits). It will show what policies, tools, processes and strategies other municipalities have used to advance green building practices within their own organizations. The information will be collected through a national survey of key decision-makers and program managers at Canadian municipalities.

More specifically, the tool kit will:

- make a clear linkage of green buildings to local sustainability priorities and infrastructure demand reduction;
- identify green building benefits to municipalities;
- provide strategies on how to work with key decision-makers;
- identify opportunities and barriers to green municipal buildings and discuss solutions on how to overcome significant roadblocks;
- provide the business case for municipal green buildings;

- provide examples of green building policies and programs;
- address building code issues and recommend the development of training programs for building inspectors;
- discuss the application and use of green building guidelines with a focus on LEED Canada;
- identify best green building practices and those tools and resources currently available for program implementation; and
- showcase completed municipal green buildings from across the country.

DETAILS OF WORK TO BE DONE

The Canada Green Building Council, the Association of Municipalities of Ontario and TRCA staff have been preparing for distribution of the Municipal Green Building Tool Kit, to be made available on December 1, 2006. Workshops will be conducted in 2007 to assist municipal staff in southern Ontario with navigating through the tool kit and applying the information to potential green building projects within their jurisdictions. A support website is also under development as a partnership project between TRCA and the CaGBC -Toronto Chapter.

FINANCIAL DETAILS

Total project cost is \$55,000 and is completely funded as follows:

CaGBC	\$20,000
Ameresco Canada	\$10,000
Environment Canada	\$10,000
Cement Association	\$10,000
Enbridge Gas	\$5,000
TOTAL	\$55,000

Report prepared by: Andrew Bowerbank, extension 5343
 For Information contact: Andrew Bowerbank, extension 5343
 Date: November 06, 2006

TO: Chair and Members of the Sustainable Communities Board
Meeting #4/06, December 1, 2006

FROM: Deborah Martin-Downs, Director, Ecology

RE: **ARCHETYPE SUSTAINABLE HOUSE PROJECT**

KEY ISSUE

Update on progress with design and financing for the Archetype Sustainable House Project.

RECOMMENDATION

THE BOARD RECOMMENDS TO THE AUTHORITY THAT Toronto and Region Conservation Authority (TRCA) staff continue to work with partners and sponsors to develop The Archetype Sustainable House Project and move to construction phase at The Living City Campus.

BACKGROUND

The TRCA Archetype Sustainable House Project began with a national competition conducted in partnership with the Design Exchange. The intent of the competition was to engage architects, engineers and graduate students from across Canada to design a mass production green home for new community development. The winning team, Building Blocks joint venture, chosen on June 21, 2006 was selected from 17 entries by a blue ribbon panel of judges. A comprehensive report was provided with each design submission, with final design drawings and specifications to be generated by the winning team prior to construction.

The winning design will be built at The Living City Campus, at the entrance to the Energy Trail. The Energy Trail is an interactive renewable energy learning exhibition. The Archetype Sustainable House Project will serve as the primary energy conservation education facility for workshop participants and as a model to help monitor and verify the effectiveness of materials, systems and technologies.

RATIONALE

TRCA plans to build two semi-detached houses at The Living City Campus. The primary goal of the first home will be to represent affordable green options that can be adopted by home builders and buyers in today's marketplace; the second home will showcase alternative materials and technologies that will demonstrate the best in sustainable design, resource efficiency and energy management systems. These houses will serve as models for industry and municipal leaders to see the next generation green homes as we move toward ever more sustainable housing. They will be a powerful statement of what can be achieved in environmentally conscious new home design. They will demonstrate Canada Mortgage and Housing Corporation's (CMHC) five principles of Net Zero Energy Healthy Housing (NZEHH), and stand as a case study for the emerging Leadership in Energy and Environmental Design (LEED) for Homes program in Canada.

The goals of the sustainable demonstration houses are to:

- educate and demonstrate new technologies, materials and processes for residential mass construction;
- provide training for product installation and systems management;
- provide equal opportunities for the demonstration and application of products; and
- encourage a holistic approach to sustainable design (not just energy efficiency).

Halsall and Associates have also been engaged to document the construction process of the Archetype house in relation to the United States (US) Green Building Council's LEED for Homes system. The objective of this initiative is to review how the US LEED for Homes certification standard can be adapted to better serve the Canadian market. A Report will be compiled through an interview process of the project participants with final recommendations to assist in the creation of LEED for Homes in Canada.

One of the primary objectives of the Archetype Sustainable House Project is to highlight the support and sustainability initiatives of sponsors and associates. Initiatives conducted on The Living City Campus must be conducted through partnerships and associations to ensure success and achieve market transformation toward communities that are healthy and sustainable.

The project team and advisory committee (see table below) for the houses are comprised of people with expertise that will help to ensure the project's success. The team and committee are accountable to TRCA Directors and the Authority. TRCA and the City of Vaughan will be working with the Greater Toronto Home Builders' Association (GTHBA), CMHC, PowerStream and Enbridge to streamline the approvals and building process once the design is completed by Building Blocks. Furthermore, sponsor interest and support in the project will be a catalyst for the project to stay on schedule.

<p>Project Team:</p> <p>Mark Preston, TRCA Andrew Bowerbank, TRCA Alex Waters, TRCA John Godden, Alphatec</p>	<p>Advisory Committee:</p> <p>Mark Salerno, CMHC Larry Brydon, GTHBA/Ozz Lenard Hart, Summerhill Group Karen Antonio-Hadcock, Vaughan Patrick Guran, PowerStream Chris Gates, Enbridge</p>
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Note: The project team reports to TRCA's Directors Committee with primary construction management and decision-making provided by the Director, Restoration Services. Regular progress updates will be provided to the TRCA Sustainable Communities Board to keep stakeholders informed and engaged.

The GTHBA has been engaged to partner with TRCA in the construction phase of the project, and has been asked to take on a major role in the construction of the Archetype houses. A full memorandum of understanding between TRCA and the GTHBA is currently under development. This will be available for review as of December 20, 2006.

Construction is planned to start in May 2007 and to be completed by the Fall of 2007. A number of variables were considered before commitment to the construction start date including: finalizing of funding, donation of materials, building permits, coordination of utilities and media coverage.

DETAILS OF WORK TO BE DONE

- Final contracts between TRCA and Building Blocks Architectural team are expected to be completed by Dec. 1 2006.
- Mechanical systems for the houses will be finalized by the engineering committee by January 2007.
- Final funding commitments are expected to be secured by February 2007.
- Construction is expected to begin in April 2007.

FINANCIAL DETAILS

The total construction is expected to cost approximately \$1,682,000.

DESCRIPTION	AMOUNT
Construction Budget (including contingency fee)	\$1,167,000
TRCA Overhead & Administration	\$180,000
Demonstration Components	\$40,000
Equipment & Furnishings	\$40,000
Cost & Code consultant	\$20,000
Architect Fees (including contingency fee)	\$150,000
Multi Media Equipment	\$40,000
Materials Storage & Site Office	\$20,000
TOTAL	\$1,682,000

The projected expenses for the construction of the Archetype Sustainable House Project will be offset by sponsorship funding, donated materials, technology and labour. A full breakdown of the financial details is available in the draft business plan (available upon request). The financial details will be updated bi-weekly as new sponsors sign on to participate.

Status of Funding:

Cash, In Kind Materials & Labour Committed	\$380,000
Cash, In Kind Materials & Labour Pending	\$470,000
Cash, In Kind Materials & Labour Under Development	\$672,000
Total	\$1,522,000
Remaining to be Sourced	\$160,000
Total Project Budget Required	\$1,682,000

Report prepared by: Andrew Bowerbank, extension 5343
 For Information contact: Andrew Bowerbank, extension 5343
 Date: November 20, 2006

TO: Chair and Members of the Sustainable Communities Board
Meeting #4/06, December 1, 2006

FROM: Deborah Martin-Downs, Director, Ecology

RE: **CONSERVATION BUREAU**
2006 Annual Report

KEY ISSUE

Release of the Conservation Bureau annual report for 2006, which outlines energy conservation accomplishments in 2006 as well as key recommendations for 2007.

RECOMMENDATION

THE BOARD RECOMMENDS TO THE AUTHORITY THAT Toronto and Region Conservation Authority (TRCA) staff be directed to meet with the Conservation Bureau and the Ontario Power Authority to explore opportunities for collaboration;

AND FURTHER THAT Peter Love, Ontario's Chief Energy Conservation Officer, Conservation Bureau, Ontario Power Authority, be requested to make a presentation to the Authority at Meeting #10/05, to be held on January 5, 2006, regarding the 2006 Annual Report of the Conservation Bureau, as well as on the direction for the bureau in 2007.

BACKGROUND

In December 2004 the Ontario government passed the Energy Restructuring Act which directed the Ontario Power Authority to establish the Conservation Bureau and a hire a Chief Energy Conservation Officer. The mandate of the Conservation Bureau is to develop, coordinate and stimulate electricity conservation and demand management by planning, designing and implementing programs that foster a culture of conservation across the province.

The Conservation Bureau 2006 Annual Report

The bureau's Chief Energy Conservation Officer, Peter Love, recently released their Annual Report for 2006. This report contains information on Ontario's conservation targets, the conservation market, conservation performance in Ontario, Conservation Bureau's 2006 activities, Conservation Bureau's 2007 proposals, along with regulatory opportunities and barriers.

The following are some conservation highlights in the report:

- Energy-efficiency amendments to the Ontario Building Code, announced in June 2006, increased energy-efficiency requirements and will save Ontario an estimated 550 megawatts of electricity over the next eight years.
- Ontario consumers have reduced peak demand by approximately 950 megawatts since 2004, including 328 megawatts of naturally occurring conservation.
- Consumers have reduced electricity consumption per capita by 2.5 per cent, weather-adjusted, during the period January to August 2006, compared with the previous year.

- The Conservation Bureau launched 10 programs in 2006, including a demand response program, which on August 1, delivered maximum savings of 182 megawatts, with an average of 133 megawatts over eight hours.
- Conservation programs run by local distribution companies achieved 2005 savings of 121 million kilowatt hours and will result in 868 million kilowatt hour savings over the life of the installed equipment.
- Energy management companies have achieved an estimated 20 megawatts of peak demand reduction in 2005 and in 2006.
- Investment in electricity conservation in Ontario, including the activities of energy management firms and local distribution companies, is estimated at \$300 million to \$350 million per year.

A key conservation target for Ontario is to reduce peak electricity demand by 6,300 megawatts by 2025, and it includes interim targets of 1,350 megawatts reduction in peak demand by 2007 and a further 1,350 megawatts by 2010. A more general target is to create a culture of conservation in Ontario.

To meet these targets the Conservation Bureau is taking a threefold approach:

1. Creating and delivering conservation initiatives informed by the best available market knowledge through a multitude of channels.

The initial program focus will be on reducing summer peak demand through demand response, and commercial and residential cooling and lighting programs. In addition they will target reductions in electricity consumption through programs aimed at low-income consumers, electrically heated homes, residential appliances and the agricultural sector.

2. Developing needed infrastructure and market mechanisms to deliver and measure sustainable electricity savings by forging partnerships with a broad range of industry and community organizations and establishing a protocol for electricity program measurement, verifications.

Their priority here is to build market capacity with a focus on large industrial consumers, municipalities, universities, schools and hospitals sector.

3. Championing the building of a culture of conservation to achieve sustained commitment to conservation through targeted awareness, education and social marketing campaigns, and by advocating for policy and regulatory changes to promote energy efficiency.

In this area the Bureau will focus on raising awareness in the mass market and recognizing ongoing conservation success of consumers. They will also undertake advocacy efforts to increase the energy-efficiency requirements of standards related to heating, ventilation and air conditioning, lighting, building code and standby power.

The annual report ends by giving 17 strong recommendations to the Government of Ontario for achieving the conservation targets. These are listed below, under five categories.

Provincial Energy and Conservation Policy

1. All new government building construction should use the 2011 Ontario Building Code requirements as a minimum. New and green technologies should also be explored.
2. Government procurement contracts must specify high energy efficiency as a minimum requirement.
3. The government should continue to actively seek stakeholder advice on conservation targets through stakeholder groups as appropriate and other mechanisms.
4. The Conservation Action Team should act on its expanded role and leverage other cross-ministerial forums to provide consistency and coordination of conservation policy and action across the government.
5. The government should publish its energy and conservation policy in one summary document.

Energy Efficiency Standards in Ontario

6. Ontario should continue to match California's standard and work with California and other leading jurisdictions on the introduction of new standards in the future.
7. Ontario should work with other jurisdictions to adopt a one-watt standard for load losses associated with standby losses.
8. Ontario should incorporate the A440.2-04 window performance standard for replacement windows into the Ontario *Energy Efficiency Act*.

Ontario Building Code

9. Develop a market transformation strategy to ensure achievement of the Part 2 target by 2011.
10. Develop a market transformation strategy to ensure achievement of the Part 9 target by 2011.
11. Put in place a process to ensure ongoing facilitation of green technologies.
12. Begin discussion on how to ensure that energy efficiency is considered in renovations.
13. Begin to develop a vision for the Ontario Building Code beyond 2011.

Other Regulatory Opportunities and Barriers

14. Develop meaningful regulations under the *Energy Conservation Leadership Act, 2006*, to address barriers to conservation and to promote leadership by the broader public sector in energy conservation.
15. Review land use policies to establish density requirements in existing and future developments.
16. Consideration should be given for site design and the implementation of energy efficiency and renewable energy in land use policies.
17. Ensure that electricity savings are considered in the implementation of the 2005 Greenbelt Protection Plan.

Of particular note for municipalities is the Ministry of Energy's work to develop regulations under the Energy Conservation Leadership Act. The Act was passed in March of 2006 and under the Act, Ontario Ministries, agencies and broader public sector organizations such as municipalities and hospitals may be required to:

- prepare energy conservation action plans on a regular basis
- set targets for reducing consumption
- report on energy consumption and
- report on conservation measures taken.

TRCA's Mayors' Megawatt Challenge and Greening Health Care are designed to help the respective sectors meet the requirements of the Act.

RATIONALE

Through the adoption of The Living City vision, TRCA has a stated interest in the sustainability of the Greater Toronto Area. The supply and consumption of energy are significant issues for the sustainability of the province and the city region. TRCA is already partnering with the Bureau on the development of the Sustainable Schools and the Greening Health Care programs but there are many other TRCA programs that could be leveraged to help TRCA, OPA and the Conservation Bureau achieve their objectives.

DETAILS OF WORK TO BE DONE

1. Staff will meet with OPA and the Conservation Bureau staff to discuss opportunities for collaboration.
2. Invite Peter Love to give a brief presentation to the Authority at the January meeting, regarding the Conservation Bureau's Annual Report 2006 and the direction for 2007.
3. Report back to the Authority on opportunities for collaboration with the OPA and the Conservation Bureau.

Report prepared by: Anne Reesor, extension 5202
For Information contact: Bernie McIntyre, extension 5326
Date: November 15, 2006

TO: Chair and Members of the Sustainable Communities Board
Meeting #4/06, December 1, 2006

FROM: Deborah Martin-Downs, Director, Ecology

RE: SUSTAINABLE PRACTICES RESEARCH PROJECTS

KEY ISSUE

Community-based social marketing research and a survey of new home buyers to inform implementation strategies for lot level stormwater management and naturalized landscaping. Recommendations from the studies are being incorporated in the watershed plans to address water balance and other sustainability objectives.

RECOMMENDATION

THE BOARD RECOMMENDS TO THE AUTHORITY THAT Toronto and Region Conservation Authority (TRCA) staff incorporate the findings of the sustainable practices research projects into watershed plan recommendations for enhancing implementation of lot level sustainable practices;

THAT TRCA staff use the findings of these research projects to inform and improve the effectiveness of their stewardship, education and outreach programs;

THAT TRCA staff continue to work with municipalities and other partners to develop proposals for follow up projects that enhance adoption of sustainable water practices and naturalized landscaping by businesses, and to develop a Greater Toronto Area (GTA)-wide marketing strategy and pilot implementation program for the residential sector in the Rouge watershed;

AND FURTHER THAT copies of the study reports be provided to member municipalities and neighbouring conservation authorities.

BACKGROUND

The watershed advisory councils, TRCA and its partners are preparing updated watershed plans for the Rouge, Humber and Don watersheds. The watershed plans will further The Living City vision and recommend implementation strategies for creating more sustainable communities in these watersheds. Findings from the Rouge watershed planning study confirm that the watershed has suffered degradation in response to urbanization, despite state-of-the-art management practices over the past decade. These findings are typical of conditions found in neighbouring watersheds. Innovative management approaches will be needed in urban, urbanizing and rural communities in order to protect and restore these watersheds. For example, scenario modelling for the Rouge watershed plan showed that current stormwater management technologies alone will not be adequate to achieve a more natural water balance; lot level practices are essential if we are to maintain current flow conditions, let alone attempt to enhance them, as further urban growth or redevelopment proceeds. The shift to sustainable lifestyles at the personal, community and watershed scales is going to require changes in attitudes and behaviours, which will need to begin with individual property owners in residential and commercial/industrial areas. This report summarizes findings and proposed next steps from two studies: 1) the Sustainable Community

Management Practices - Implementation Barriers project – a social marketing study of existing residents and businesses, and 2) a survey of new home buyers in the Greater Toronto Area.

1. SOCIAL MARKETING STUDY - SUSTAINABLE COMMUNITY MANAGEMENT PRACTICES

In April 2006, TRCA hired Freeman Associates to undertake a marketing study, applicable across TRCA watersheds, with a focus on the Rouge, Humber and Don watersheds, that will assist watershed advisory groups, TRCA and its partners to accelerate implementation of sustainable community management practices. The objectives of the study were to:

- identify key barriers to the adoption of sustainable practices (e.g. lot level stormwater management, water conservation, backyard naturalization) by existing single-family homeowners and the owners or property managers of existing commercial and/or light industrial operations (i.e. those with extensive roofs or surface parking areas);
- seek input on suggested strategies to overcome the key barriers to implementation or adoption of sustainable practices;
- develop a recommended action plan outlining specific strategies for overcoming the barriers and accelerating adoption of sustainable practices by watershed residents and businesses (i.e. marketing strategies, programs, policies, initiatives, short list of preferred sustainable practices).

The consultant's work has been overseen by an advisory committee with representation from TRCA, Region of Durham, Region of Peel, Region of York, City of Toronto, Town of Markham, Town of Richmond Hill, Rouge Park, Great Lakes Sustainability Fund – Environment Canada, Rouge Watershed Task Force, Humber Watershed Alliance, Canada Mortgage and Housing Corporation, and the University of Waterloo.

Study Approach

The study has incorporated tools of community-based social marketing (CBSM) in order to identify barriers to the adoption of sustainability practices. CBSM is a set of tools for understanding behaviours and behavioural change at the local level, through direct contact with watershed residents and businesses and public awareness.

A workshop with municipal and environmental NGO representatives was used to identify, from their perspective, the opportunities and barriers to on-site stormwater management in the residential and business sectors and potential strategies to foster sustainable practices in these sectors. Research with owner/occupants of single family dwellings was undertaken in Brampton, Vaughan/Woodbridge, Thornhill/Richmond Hill, Markham/Unionville and north Toronto (Don Mills area). At each of five research sessions, 20 to 25 participants (selected to reflect the communities' demographic profiles) were asked 124 written response questions to explore residents' motivations and intrinsically held beliefs regarding their home and surrounding landscape. Residents were also asked to draw representations of their "ideal" landscape and what they believe a "naturalized" landscape to be. A Cantonese and Mandarin speaking researcher was hired to identify key stakeholders (community organizations, retailers, electronic and print media) utilized by Chinese residents of Markham/Unionville, as it was difficult to include this group in the research sessions due to language barriers. Subsequent to the residential sector research, interviews were conducted with 19 key informants in the business sector – building owners/managers, architects, landscape architects, civil and

mechanical engineers and stormwater management specialists – to identify on-site stormwater management marketing barriers and opportunities.

Key Findings and Recommendations

A final report has been prepared and has been reviewed by TRCA staff, advisory committee members and selected others. Major findings and recommendations that have sparked discussion within the advisory committee are summarized in the following sections.

Residential Sector

The study revealed a strongly held underlying aesthetic motivation that leads homeowners to unsustainable practices, such as excessive lawn and garden watering. Participants defined beautiful landscapes as ones with:

- a manicured, green, weed-free lawn;
- lots of colour, primarily from flowers;
- a neat, tidy appearance; and
- a well-designed, organized layout.

Additional barriers to the uptake of sustainable practices by residents included a perception of “naturalized” landscapes as uncontrolled and lacking in design (i.e. inconsistent with their aesthetic), competing lifestyle priorities, and varied and mixed environmental messages. On a positive note, participants reversed their opinions when shown photos of neat and well-designed partially naturalized residential landscapes, and were supportive of reusing rainwater for irrigation.

The major recommendation is for a multi-faceted, GTA-wide marketing strategy to enhance the uptake of sustainable practices (e.g. backyard naturalization, rain gardens) by using homeowners’ strongly held aesthetic motivations for their personal landscapes (e.g. promote partial naturalization using images showing tidy appearance, design and structure, colours, trees). Unified messaging and strategic partnerships with municipalities, community and environmental organizations, box retailers (especially Home Depot and Canadian Tire), and garden centres and nurseries; and a landscape advisory service; could be key components of the strategy.

Business Sector

The major finding from the business sector interviews was that most of the barriers to on-site stormwater management had little to do with marketing and instead related to institutional arrangements, budgets and financial mechanisms, and a lack of technical capacity. Key barriers included:

- Municipal development approvals staff focus on, and are most familiar with, compliance with building code requirements, rather than enhanced (i.e. beyond regulation) lot level stormwater management and green building technologies.
- Capital cost, functionality of the building and site, and regulatory compliance are the major drivers in building design. Many stormwater management technologies are not considered to be cost effective – they have a long payback period (e.g. greenroofs for box stores) or have associated carrying costs (e.g. bioswales occupying otherwise usable space or requiring additional land purchase).

- Municipal stormwater management fees are sufficiently low as to *not* serve as a motivator for adopting enhanced stormwater management in new development or as a retrofit.
- Many building owners/managers would be willing to undertake “greener” construction if incorporation of those technologies meant expedited approvals from the municipality, in compensation. Otherwise, enhanced stormwater management likely occurs only when the builder/developer: wants to market a “green” development; has a personal commitment to the environment; or is offered an incentive (e.g. change in zoning to increase density in exchange for green design).

The study recommends additional research into the non-marketing barriers to sustainable development in the business sector. Key marketing related recommendations included:

- Establish a “virtual” GTA Centre for Sustainable Technologies in partnership with stakeholder experts to act as an information hub for resources and referrals on sustainable practices and green building.
- Target educational outreach to municipal planning and approvals staff through a workshop and development of a set of guidelines for reviewing applications incorporating enhanced stormwater management and green building technologies.
- Raise the profile of sustainable practices through demonstration projects, case studies, establishment of a sustainable practices business leaders program (including an award) and outreach to the business community.

It was strongly recommended that TRCA develop strategic partnerships with stakeholders to design and deliver these programs to enhance market penetration, reduce costs and develop a cooperative approach.

2. J.D. POWER SURVEY OF NEW HOME BUYERS

In a related study, TRCA hired J. D. Power and Associates to deliver a web-based survey of new home buyers (i.e. largely greenfield development) in the GTA, to collect data on:

- the relative importance of, and access to, sustainable technologies (e.g. water efficiency, energy efficiency) and proximity to environmental amenities (e.g. public transportation, natural areas) in the purchase of a new home;
- new home buyer preferences regarding type of backyard landscaping and anticipated maintenance approaches (e.g. level of water and fertilizer use); and
- new home buyer comfort level with sustainability practices and technologies (e.g. smaller lot sizes, rain harvesting).

There were 1,527 respondents to TRCA’s web-based survey (March 28 - May 19, 2006). A final report on the results of the survey was completed in June 2006. More than 70% of respondents rated the following as important or extremely important in their purchase decision:

- proximity to a park, common outdoor area, or natural area;
- energy efficiency;
- water efficiency; and
- indoor air quality.

However, the extent to which these amenities were available was variable:

- 4 out of 5 responding purchasers of new homes live within a 10 minute walk to a park, common outdoor area or natural area;
- 94% were offered energy efficiency packages by their builders;
- 34% were offered water efficiency packages by their builders; and
- 29% were offered indoor air quality packages by their builders.

There was evidence to suggest that new home buyers may be more inclined to adopt other sustainable practices, if they are made available:

- 46% of respondents would accept a low maintenance landscaping package requiring less water and fertilizer use if such an option was offered by the builder. Only 28% of new home owners would choose conventional landscaping methods if the builder offered a choice of packages. However, 45% of new home owners planned to use conventional methods if an alternative was not available from the builder.
- When asked to rank their comfort level in using rainwater, 86% of respondents chose 4 or 5 out of 5 for comfort in irrigating their lawn and garden; 66% for flushing their toilet; and 37% for supplementing their laundry water.

The findings of the survey suggest opportunities to work with builders to make sustainable practices and technologies more available in greenfield developments, and the need to work with provincial and municipal stakeholders to revise building regulations to make rainwater re-use technologies more accessible to homeowners and builders.

Integration into the watershed plans

The findings of these studies have provided invaluable information about the feasibility, acceptability and strategic approaches to implementation of lot level practices on private lands that has informed the watershed management strategies. The Rouge watershed planning study has found that lot level practices are essential if we are to maintain current flow conditions, let alone attempt to enhance them, as further urban growth or redevelopment proceeds. The Rouge Watershed Plan, therefore, includes recommendations to implement these practices using approaches outlined in the Action Plan. Findings also will be incorporated into the Humber and Don watershed plans.

DETAILS OF WORK TO BE DONE

Staff has begun working with the advisory committee and other potential partners to develop proposals for an additional phase of study to address some of the key recommendations.

Anticipated follow-up projects include:

- Development of a multi-faceted, GTA-wide marketing strategy to enhance the uptake of sustainable practices (e.g. backyard naturalization, rain gardens) by using homeowners' strongly held aesthetic motivations for their personal landscapes in a high impact visual campaign.

- In concert with the marketing strategy, development of a pilot program to enhance the uptake of sustainable practices by residents in selected municipalities in the Rouge River watershed. The pilot will involve co-ordination with existing conservation authority, municipal and non-governmental organization programs that deliver advice and assistance regarding naturalization and lot level stormwater management. Opportunities for partnerships with key Chinese community stakeholders identified in the first phase of the study will be explored to expand delivery of the pilot program to the Chinese community, if appropriate.
- Host one or more "strategy sessions" in cooperation with municipal and business sectors, and other partners, to discuss mechanisms that could support and drive the adoption of sustainable practices (e.g. beyond compliance on-site stormwater management). These sessions will be a first step toward addressing the financial, regulatory and other barriers to sustainable practice uptake identified in the study. The scope of the session(s) would be confirmed by a multi-stakeholder advisory committee.

BENEFITS

Findings from these studies are providing more strategic, effective recommendations for TRCA and its partners to pursue in motivating sustainable actions by property owners.

FINANCIAL DETAILS

The Sustainable Community Management Practices - Implementation Barriers project was financially supported by the Great Lakes Sustainability Fund, Canada Mortgage and Housing Corporation, City of Toronto, Region of York, Region of Peel and CTC Region Source Water Protection Program, with in-kind support from the Region of Durham. The total budget for the project was \$75,000. The municipal partner funding for this and the J. D. Power and Associates survey (total cost \$7,500) was derived from the watershed planning capital budget.

Report prepared by: Janet Ivey, extension 5729

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Date: November 10, 2006

TO: Chair and Members of the Sustainable Communities Board
Meeting #4/06, December 1, 2006

FROM: Deborah Martin-Downs, Director, Ecology

RE: **COMMUNITY TRANSFORMATION PROGRAMS**

KEY ISSUE

Update in the status of the Community Transformation Programs.

RECOMMENDATION

IT IS RECOMMENDED THAT the staff report on the status of the Community Transformation Programs be received.

BACKGROUND

The Community Transformation Programs are a group of new programs under The Living City banner focused on creating substantive measurable change in the sustainability of the Greater Toronto Area. The programs are collaborative initiatives working with partners to engage and enable leadership to take action. The programs are dynamic, continually shifting to meet the needs of participants in target sectors as well as ephemeral, existing only for as long as needed to effect the necessary change.

This group of programs was endorsed in 2004 when at Authority Meeting #2/04, held on February 27, 2004, Resolution #A45/04 was approved as follows:

THAT the program of activities set out in the staff report and as presented in the summary of the Living City Centre programs be endorsed.

AND FURTHER THAT staff be directed to seek further opportunities and new partnerships which will support the efforts of the Toronto and Region Conservation Authority's member municipalities to create more sustainable urban and rural communities.

At Authority Meeting #2/05, held on March 11, 2005, Resolution #A41/05 was approved as follows:

THAT the 2005 business plan for the Community Transformation Partnership be approved.

AND FURTHER THAT staff be directed to put funding partnerships in place to achieve the objectives outlined in the business plan.

RATIONALE

The purpose of this report is to provide the Authority with an comprehensive overview of the status of all the programs. The Community Transformation Programs continue to play an important role for TRCA in engaging and enabling sectors to take action in support of The Living City vision.

Mayors' Megawatt Challenge

The Mayors' Megawatt Challenge (MMC) brings municipalities together to improve energy efficiency and environmental management in their own buildings. Through the Mayors' Megawatt Challenge, municipalities demonstrate leadership, inspiring other organizations and individuals to take action toward healthier, more sustainable communities.

Thirteen municipalities are participating in the program. This total includes returning municipalities, the Town of Ajax, City of Barrie, City of Brampton, Town of Milton, City of Mississauga, City of Oshawa, Town of Richmond Hill and City of Toronto and new municipalities to the program, City of Guelph, City of Kitchener, City of St. Catharines, City of Waterloo and Township of Uxbridge. We are continuing the recruitment of new participants.

The Arenas Project is a special project of the MMC that was introduced to members in 2005. The goal of the Arenas Project is to achieve large-scale energy and water use savings in arena facilities across the Greater Golden Horseshoe, through identification and implementation of comprehensive energy retrofit projects and operational best practices. Seven municipalities have joined the program and have enrolled 22 arenas. In TRCA's jurisdiction, Uxbridge and Richmond Hill are participating. Data collection will occur over the fall and early winter with workshops and final audits and action plans to be developed by spring 2007. We are in discussions with the Ontario Recreational Facilities Association to determine how the pilot project, when successful, could be scaled up and delivered across Ontario.

Mayors' Green Building Challenge

The Mayors' Green Building Challenge was a pilot initiative to bring together municipalities in the Greater Toronto Area (GTA) that are in the early stages of planning new facilities for opening in 2006 to 2008 (or major renovations). The concept was to have leaders work together on designing and building exceptional municipal facilities for the betterment of their communities, the province and Canada.

Staff determined that this program could not function as a stand-alone program of The Living City. As such, the concept has been incorporated into other Living City programs and activities, including the Mayors' Megawatt Challenge, Greening Health Care, Sustainable Schools, the Municipal Green Building Tool Kit, as well as general activities promoting green buildings.

Greening Health Care

The nature of health care facilities and operations makes them inherently intensive users of resources. Hospitals in Ontario spend more than \$250 million a year on utilities. As facilities expand and acquire new equipment, and the prices of energy, water and waste removal continue to rise, hospitals are faced with volatile costs that consistently rise faster than the rate of inflation.

Membership in the program includes 16 hospital corporations, representing a total of 19 hospital sites. In order to increase membership in the program we are developing partnerships with the Canadian Coalition for Green Health Care and the Canadian Health Care Engineering Society (CHES). As a result of a workshop held with CHES in September, an additional 12 hospitals have recommended joining the program to their senior management. We anticipate holding two to three more workshops with CHES in 2006 to help extend membership into eastern, southern and north central Ontario.

The Energy Conservation Action Planner is a collaborative project with the Ontario Power Authority's Conservation Bureau, to help hospitals benchmark energy and water usage, develop conservation action plans that satisfy Ontario Bill 21 (the Energy Conservation Responsibility Act) requirements and establish rational conservation targets. Under Ontario's Bill 21, hospitals may be required to prepare energy conservation plans and report on energy consumption, proposed conservation measures and results achieved. This project provides hospitals with the opportunity to take a pro-active approach to addressing the requirements of Bill 21.

Sustainable Schools

The Sustainable Schools program identifies and evaluates best practices in green design, commissioning and operations, and helps school boards take action to improve the energy and environmental performance of their new and recently-built schools. Recruitment of school boards for the program is an ongoing process, with four of the up to 10 boards we plan to recruit having signed up. York public and Peel public boards were the first to join the program, followed by the Dufferin-Peel Catholic District School Board and Simcoe County District School Board. Once the boards joined, we immediately began working with them to identify recently-built schools to include in the program. At present a total of 53 recently built schools have been enrolled.

Benchmarking has been updated with the additional schools and the results continue to indicate up to a four-fold difference in energy intensity in recently built schools. Two workshops have been held with the Simcoe public board to review the benchmarking results and begin to engage staff. A design charette for one or two new schools is being planned with Simcoe for January or February, 2007. Workshops with the York public board are currently being scheduled.

Greening Retail

The Greening Retail Program is a new program of The Living City that was brought to the Authority at Meeting #3/06, held on April 28, 2006 at which Resolution #A86/06 was approved as follows:

THAT staff pursue funding and partnership opportunities in order to develop and implement a new program of the Living City that engages the retail sector in the application of sustainable practices and technologies.

Staff was able to secure \$25,000 from Environment Canada and \$6,000 in-kind from the Conservation Foundation to undertake and complete Phase I of the program. The results of the Phase I report confirmed the premise for Greening Retail that, doing the right thing for the environment can also be good for the bottom line. There are a great many environmental best practices that leaders in the sector are implementing but are not yet common practice across the sector. The objective of Greening Retail is to make the best practices of the leaders, common practice for the sector.

Having confirmed the premise for the program, staff are now in the process of raising funds for Phase II. Staff has received a verbal commitment for an additional \$25,000 from Environment Canada and \$20,000 from PowerStream. Total cost of Phase II is \$180,000 and staff will be working with the Conservation Foundation to raise the additional funds.

Home Energy Clinic

The Home Energy Clinic teaches homeowners to identify and understand the benefits of making their homes more energy efficient. The clinic offers homeowners a solution by identifying the actions that can be taken, the resulting savings in energy costs and the appropriate incentive and rebate programs. This information is then presented in an easily understood Home Energy Plan.

Development of the Home Energy Clinic was put on hold when staff learned that a significant local distribution companies (LDC) was in the process of developing a similar software program. Staff will explore partnerships with the LDC in question and determine how best to move forward with the program.

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Date: November 06, 2006