



THE TORONTO AND REGION CONSERVATION AUTHORITY

Sustainable Communities Board Meeting #4/05

Chair:	Michael Di Biase
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	Norm Kelly
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	Elaine Moore
	Gerri Lynn O'Connor
	Linda Pabst
	Andrew Schulz
	John Sprovieri
	Dick O'Brien - Chair, Authority

December 2, 2005
11:00 A.M.
HUMBER ROOM, HEAD OFFICE

AGENDA

- | | | |
|-----------|---|---------------------|
| 1. | MINUTES OF MEETING #3/05, HELD ON OCTOBER 14, 2005 | <u>Pages</u> |
| | (Minutes Summary enclosed herewith on Green) | |
| 2. | BUSINESS ARISING FROM THE MINUTES | |
| 3. | DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF | |
| 4. | DELEGATIONS | |
| | 5.1 A delegation by Mr. Stephen Thompson, Member, CHiPS, in regards to item 7.3
- Eastern Power - Greenfield South Limited. | |
| 5. | PRESENTATIONS | |
| 6. | CORRESPONDENCE | |

- 7. **SECTION I - ITEMS FOR AUTHORITY ACTION**
 - 7.1 **A SYSTEMS THINKING CURRICULUM FOR LEARNING IN THE LIVING CITY** 3-5
 - 7.2 **MUNICIPAL TOOL KIT FOR SUSTAINABLE DEVELOPMENT**
A Product to Assist Municipalities with Green Building Development and
Implementation 6-10
 - 7.3 **EASTERN POWER - GREENFIELD SOUTH LIMITED**
Environmental Screening and Review Report Comments
Report to Follow

- 8. **SECTION IV - ITEMS FOR THE INFORMATION OF THE BOARD**
 - 8.1 **YORK-DURHAM SANITARY SEWER PROJECTS IN TORONTO AND REGION
CONSERVATION AUTHORITY'S JURISDICTION** 11-25

- 9. **NEW BUSINESS**

NEXT MEETING OF THE SUSTAINABLE COMMUNITIES BOARD #5/05,
TO BE HELD ON FEBRUARY 3, 2006, IN THE
SOUTH THEATRE, BLACK CREEK PIONEER VILLAGE

Brian E. Denney
Chief Administrative Officer

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TO: Chair and Members of the Sustainable Communities Board
Meeting #4/05, December 2, 2005

FROM: Adele Freeman, Director, Watershed Management

RE: **A SYSTEMS THINKING CURRICULUM FOR LEARNING IN THE LIVING CITY**

KEY ISSUE

Request to adopt "A Systems Thinking Curriculum for Learning in The Living City" as the policy framework for the Toronto and Region Conservation Authority's (TRCA) education programs and activities. This document presents systems thinking as a key skill in learning for sustainable living and provides learning benchmarks that align with TRCA's strategic plan objectives of Healthy Rivers and Shorelines, Regional Biodiversity, Sustainable Communities.

RECOMMENDATION

THE BOARD RECOMMENDS TO THE AUTHORITY THAT "A Systems Thinking Curriculum for Learning in The Living City" be adopted as the policy framework for Toronto and Region Conservation Authority's (TRCA) education programs and activities;

THAT through its implementation staff thoroughly integrate a systems approach for learning in The Living City into TRCA's education programming;

AND FURTHER THAT the curriculum document be promoted and shared within the larger education community to provide the opportunity for the on-going exchange and expansion of key concepts and methodologies in sustainability education.

BACKGROUND

TRCA has committed to making the Toronto Region one of the most livable city regions in the world. Education will play a important role in this transformation. The United Nations Educational, Scientific and Cultural Organization has stated that "Education is the most effective means that society possesses for confronting the challenges of the future. Indeed, education will shape the world of tomorrow." With its wealth of experience and diversity of established and new programs, TRCA is perfectly positioned to be a champion of education for sustainable living.

Recognizing this opportunity and imperative, research into the strategies, trends and current initiatives in sustainability education was carried out in order to evaluate and advance TRCA's work in education. This research drew upon the body of work from such diverse agencies and organizations as the United Nations, the Minnesota Office of Environmental Assistance, the Ontario EcoSchools program and local boards of education, as well as the work of individual authors and education practitioners. From this, a framework for the re-orientation of TRCA's education programs was developed. This framework confirms and enhances the experiential learning model employed by TRCA, yet adds an emphasis on the need for systems thinking as a key learning objective.

To this end, "A Systems Thinking Curriculum for Learning in The Living City" was prepared. The Living City Curriculum is based on the premise that *Systems Thinking with Purposeful Activity leads to Sustainability*. Drafts of the document have been shared with education practitioners and most recently, staff presented a workshop on systems thinking at a large, environmental education conference. Participants from Ontario, Canada and international communities were in attendance. The consultation and feedback to date confirms this new direction in education for sustainability.

RATIONALE

Traditional environmental education and nature interpretation have focused on learning about the different parts of the environment and how they work. Early in the development of the new curriculum, it was recognized that The Living City is a complex entity of which our present methods of notation and description can only scratch the surface. A system this intricate cannot be explained by just looking at the parts or following a traditional "scientific method" approach to learning.

To effectively engage people in learning about The Living City and how this connects to being sustainable, the TRCA needs a way to frame learning in a holistic, nonlinear and temporal context which both includes and goes beyond what we are doing today. A curriculum that is based on systems and systems thinking can frame learning in this way. A systems-focused curriculum allows TRCA staff to better unravel the complexities of The Living City system and promote nontraditional learning. Presenting this work in the context of The Living City objectives for Healthy Rivers and Shorelines, Regional Biodiversity and Sustainable Communities, also allows staff to develop and share a common and connected vision for the learning programs of TRCA.

The Living City Curriculum

"A Systems Thinking Curriculum for Learning in The Living City" provides the policy framework for TRCA's education programs and initiatives. The curriculum has been developed to provide staff with common goals and objectives, benchmarks for systems learning and the framework for the scope and the sequence for learning. The curriculum document is presented in four parts:

Introduction to Systems and Systems Thinking - The presentation of the research and connection between systems thinking and sustainability education.

General Systems Benchmarks - A presentation of the sixteen key concepts required to understand systems and systems thinking.

The Living City Systems Benchmarks - The examination of TRCA's strategic objectives for The Living City (Healthy Rivers and Shorelines, Regional Biodiversity and Sustainable Communities) from a systems perspective. This includes a detailed narrative, illustration of the sixteen general systems benchmarks and a related glossary of essential vocabulary.

Systems Thinking Teaching Toolkit - An appendix to support TRCA staff in the implementation of the curriculum that presents the specific language used to describe systems and various tools to assist in the study and analysis of systems.

The Introduction and General Systems Benchmarks of the curriculum are included with the agenda package. A limited number of copies of the complete curriculum document will be available at the Sustainable Communities Board and Authority meetings.

DETAILS OF WORK TO BE DONE

Through its implementation, the curriculum will build upon TRCA's current education practices, be supported by internal professional development and utilize the expertise of staff. Staff will develop practical ways to thoroughly integrate a systems approach into the delivery and development of TRCA education programs and present these in a portfolio of systems-infused lessons plans. Its distribution through print, workshops, etc., it will also provide the basis for the on-going exchange and expansion of key concepts and methodologies in sustainability education within the larger education community.

Report prepared by: Renee Jarrett, extension 5315
For Information contact: Renee Jarrett, extension 5315
Sarah Kear, extension 5234

Date: November 17, 2005

Attachments: 1 (Included in Agenda Package)

TO: Chair and Members of the Sustainable Communities Board
Meeting #4/05, December 2, 2005

FROM: Deborah Martin-Downs, Director, Ecology

RE: **MUNICIPAL TOOL KIT FOR SUSTAINABLE DEVELOPMENT**
A Product to Assist Municipalities with Green Building Development and
Implementation

KEY ISSUE

The Municipal Tool Kit is a new collaborative initiative between Toronto and Region Conservation Authority and the Canada Green Building Council. It is a project that will give support, direction and case study examples to help municipal green building programs achieve success.

RECOMMENDATION

THE BOARD RECOMMENDS TO THE AUTHORITY 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.

BACKGROUND

At Sustainable Communities Board Meeting #3/05, held on October 14, 2005, resolution Res.#E9/05 was approved as follows:

AND FURTHER THAT staff report back to the Sustainable Communities Board on the feasibility of requesting all municipalities in Toronto and Region Conservation Authority's jurisdiction to consider requiring LEED certification in building applications.

RATIONALE

TRCA staff do not recommend requiring or mandating green building certification for buildings other than those that are classified as publicly-owned (i.e. libraries, civic centres, sport centres). Without the appropriate level of education, mandating certification for building applications would place a negative overtone to the process within the building sector. Although a few municipalities in British Columbia have successfully mandated LEED certification for all building construction, it is important that green building certification in Ontario maintain its current voluntary status at this time. This is to ensure the healthy uptake for which green building professionals strive. Creating a green building incentive program for privately-owned projects would provide a more positive response to green building development.

A new TRCA project is about to begin development in partnership with the CaGBC titled the Municipal Tool Kit for Sustainable Development. This tool kit is designed to aid municipal leaders with their green building projects and allow them to encourage green building design for projects within their jurisdiction.

Project Overview

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 their new buildings. Canada has mandated LEED certification for all new federal buildings and the Province of Alberta has now mandated LEED certification for all new public buildings.

Other municipalities have followed suit, for example:

Mandating LEED for public buildings:

- City of Waterloo
- City of Richmond, British Columbia (B.C.)
- Greater Vancouver Regional District, B.C.
- Town of Saanich, B.C.

Making commitments to build green:

- Toronto Waterfront Revitalization Corporation
- Toronto and Region Conservation Authority
- Town of Oakville
- Resort Municipality of Whistler, B.C.

In the process of developing green building policies and/or programs:

- City of Toronto
- Town of Markham
- City of Kingston
- Halifax Regional Municipality, Nova Scotia

The reasons are clear: greening civic buildings provides municipalities with on the ground examples for the community on 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 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 three-part tool kit targeted specifically at municipal government. The tool Kit will consist of the following:

Phase 1. Local Government Tool Kit

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.

Total development costs including print-ready layout are estimated at \$55,000 for this stage of the project, excluding GST. The CaGBC has already allocated \$20,000 for the project in its 2005 budget. Ameresco Canada is a sponsor for the Municipal Tool Kit, contributing \$10,000 for phase 1. The Cement Association is also a committed sponsor with final budget to be determined. TRCA will be presenting the Municipal Tool Kit to associates and partners to help raise the remaining budget requirements. The project will begin development in the fall of 2005 with expected completion by early 2006.

Phase 2. Municipal Green Building Project Management Guide

Once municipalities have made the commitment to build green, they will need to better understand how to implement and manage green building projects and bring them to successful completion. Municipalities will have to make changes to their internal building processes and work successfully with external green building consultants. This will require a rethinking of established policies and procedures and training of staff on green building practices as they apply to their area of responsibility.

The guide will:

- show how to tender green building projects and provide sample language to identify green building goals to bidders;
- discuss strategies on how to identify and select green building consultants and contractors;
- discuss the integrated design process which is key to achieving high performance buildings;
- show how to manage documentation requirements for LEED certification;
- provide models on how to realign and integrate internal resources and departments for project delivery;
- outline internal training and implementation requirements;
- identify key green building strategies and practices for selected municipal building types including recreation centres, libraries, public works facilities, park buildings and infrastructure projects; and
- provide information on available resources and funding

Total development costs including print-ready layout are estimated at \$55,000, excluding GST. The CaGBC will allocate \$20,000 for this project in its 2006 budget and will work with TRCA to approach municipalities and federal government agencies and associated sponsors to raise the remaining funds.

Phase 3. Compendium of Green Building & Sustainable Community Projects

Greening municipal buildings is a first and important step in advancing sustainability locally. However, to have a greater environmental impact and reduce demand on infrastructure services, green building practices must also be adopted by the private sector. Municipalities have considerable influence over private sector development within their jurisdictions through permitting, planning and engineering functions. Some municipalities have engaged the development community in the green building discussion through sustainable communities projects including Dockside Green in Victoria, B.C., South East False Creek in Vancouver, B.C., Regent Park and waterfront revitalization in Toronto.

A compendium of leading examples of sustainable community project green buildings, sustainable infrastructure and land use from across the country will be prepared. The compendium will summarize key approaches, strategies and mechanisms Canadian municipalities have used to green private sector development projects on publicly- and privately-owned land. It will outline the lessons learned to date and recommend steps municipalities can take to advance green development in their jurisdictions. The compendium would be the key piece for a one-day national forum, organized by the CaGBC, TRCA, the City of Calgary and its partners from industry and government. This will be in early 2007 and will discuss and advance the adoption of green buildings and sustainable communities practices nationally. The cost of preparing the compendium is estimated at \$65,000 and the national forum at \$35,000 plus in-kind contributions.

FINANCIAL DETAILS

Project Section	Budget Required	Committed Funds	Potential Funders to Date
Phase 1 Completed first quarter 2006	\$55,000	\$20,000 CaGBC \$10,000 Ameresco Canada \$10,000 Cement Association \$10,000 City of Calgary	\$10,000 Stantec
Phase 2 Completed fourth quarter 2006	\$55,000	\$20,000 CaGBC	\$10,000 Ameresco Canada \$10,000 Cement Association
Phase 3 Completed second quarter 2007	\$65,000 \$35,000	\$20,000 CaGBC	\$10,000 Ameresco Canada \$10,000 Cement Association

Report prepared by: Andrew Bowerbank, extension 5343
 For Information contact: Andrew Bowerbank, extension 5343
 Date: November 21, 2005

TO: Chair and Members of the Sustainable Communities Board
Meeting #4/05, December 2, 2005

FROM: Carolyn Woodland, Director, Planning and Development

RE: YORK-DURHAM SANITARY SEWER PROJECTS IN TORONTO AND REGION
CONSERVATION AUTHORITY'S JURISDICTION

KEY ISSUE

Receipt of the staff report regarding the status of current projects of the York-Durham Sanitary Sewer project.

RECOMMENDATION

THAT the staff report on the status of current York-Durham Sanitary Sewer (YDSS) projects be received.

BACKGROUND

At Authority Meeting #8/05, held on October 28, 2005, continued staff involvement in the York-Durham Sanitary Sewer (YDSS) projects was approved in accordance with Res.#A240/05. In addition, staff were directed to report back to the Authority through the Sustainable Communities Board regarding the status of YDSS projects currently under review. The approved resolution stated, in part:

... THAT staff be directed to continue reviewing the monitoring and mitigation reports and web site data, conducting field inspections and independent monitoring, and participating in the adaptive management program associated with the implementation of the 16th Avenue Phase II York-Durham Sanitary Sewer project;

THAT staff be directed to continue working with York Region, Fisheries and Oceans Canada, and the Ontario Ministries of Environment and Natural Resources to ensure that the environmental impacts associated with the planning, design and construction of all other York-Durham Sanitary Sewer projects in TRCAs jurisdiction are minimized;

THAT staff report back to the Sustainable Communities Board in December 2005 with a detailed presentation regarding the planning, design and construction status of all other York-Durham Sanitary Sewer projects in TRCAs jurisdiction;...

The intent of this report is to provide a status update regarding YDSS projects that are under review by the Toronto and Region Conservation Authority (TRCA). This includes projects which are at the environmental assessment (EA) stage, the detailed design and permitting stage, and the construction, mitigation and monitoring stage.

THE YDSS MASTER PLAN

The 1995 York Region Official Plan identified substantial growth in the region, primarily around the existing urban centres of Aurora, Newmarket, Vaughan, Richmond Hill and Markham. To support this development, a need for increased capacity in the York-Durham Sanitary Sewer was also identified. In 1997, York Region approved the YDSS Master Plan. The plan was intended as an upgrade to the existing system which was installed in the 1970 and 1980s, as this system was considered to have insufficient capacity to meet the planned population and employment growth. The master plan was updated in 2002 to reflect changes in the growth management strategy and official plan of York Region.

Based on the 1997 master plan and its subsequent update, York Region has planned, initiated or completed EAs for the various projects identified in the master plan. Attached to this report is a copy of the existing and proposed YDSS system. With the exception of the Southeast Collector project, each of these EAs was reviewed, or is being reviewed, under the *Municipal Engineer's Association, Class EA for Municipal Infrastructure*. For further information regarding the YDSS Master Plan, refer to the correspondence in Attachment 2 from York Region to Mr. Gord Miller, Environmental Commissioner of Ontario.

As stipulated in the Ontario Environmental Assessment Act, any individual or agency can request the Minister review the class designation of a particular project and if appropriate, order an Individual EA be conducted. In 2004, the Minister of the Environment received a request for a Part II Order for a number of the YDSS projects. While this request was denied by the Minister, conditions were imposed on many of the projects. As appropriate, some of these conditions are discussed in this report.

PROJECT MANAGEMENT

The YDSS system traverses four watersheds in TRCA's jurisdiction: the Don River watershed, Humber River watershed, Rouge River watershed and Duffins Creek watershed. TRCA Planning and Development staff have been working with TRCA Watershed Specialists regarding issues within the respective watersheds as they arise, as well as ensuring that the respective watershed councils or alliances are aware of the projects as they proceed.

In May 2004, York Region committed to meeting with TRCA, Ministry of Natural Resources (MNR) and Fisheries and Oceans Canada (DFO) staff on a regular basis in order to address concerns related to impacts on the aquatic and terrestrial systems. Every three weeks an inter-agency staff meeting is held with the York Region project teams to review and discuss issues relating to the natural environment specific to the particular projects. Separate meetings take place with Ministry of the Environment (MOE), where York Region also reviews impacts on the groundwater resource and private wells. TRCA and MOE meet on a regular basis regarding YDSS projects.

In the summer of 2004, a request for a Part II Order on many of the YDSS projects was received by the Minister of the Environment. While the request was denied, conditions were imposed by the Minister in a letter dated October 4, 2004. The two conditions that are consistent with many of the projects that are of particular note is (1) a requirement for an assessment of construction techniques, dewatering needs and environmental impacts, regardless of whether the EA was complete and (2) a requirement to complete an independent peer review by recognized experts in their fields.

In terms of the assessment, as required, York Region has planned, initiated or completed dewatering impact assessments for a number of projects. In accordance with TRCA's Level 3 Agreement with DFO, TRCA staff have reviewed the projects under the habitat protection provisions of the *Fisheries Act*. DFO staff are consulted with respect to the appropriateness of the mitigation and monitoring strategies and to confirm the appropriate designation as related to any potential harmful alteration, disruption or destruction (HADD) to fish or fish habitat. In accordance with this agreement, TRCA will issue a Letter of Advice for all projects determined to be a mitigable HADD. Details regarding particular projects are provided below.

Independent peer review of technical documentation was required by the Minister for four projects: Bathurst Collector and Langstaff Trunk Sewers, Interceptor (19th Avenue) Sewer, Southeast Collector and the Duffins Creek Water Pollution Control Plant Expansion. The peer review team hired by York Region includes:

- Team Coordinator -- Craig Mather, former TRCA CAO;
- Geotechnical/Tunnelling - Mr. John Westland, Golder Associates;
- Terrestrial/Ecology - Dr. Paul Eagles, University of Waterloo;
- Hydrogeology - Dr. Ken Howard, University of Toronto;
- Fluvial Geomorphology - Dr. Robert Newbury, Newbury Hydraulics; and
- Fisheries - Dr. Richard Cunjak, University of New Brunswick and/ or Mr. Serge Metikosh, Golder Associates.

The team is provided with the draft reports, as is TRCA and the other agency reviewers. Peer review comments are provided to York Region in isolation of agency comments, and addressed by York Region as appropriate. The Peer Review Team also receives final reports for review and comment. Mr. Mather has provided a formal response on the final documents for two of these projects to date and details will be provided, as appropriate, later in this report.

Environmental mitigation and monitoring of the various projects is a requirement of implementation, and is or will be stipulated in conditions for approval of required Permits to Take Water (PTTW) or Letters of Advice. Recognizing this, York Region has provided TRCA with funding for the YDSS Mitigation and Monitoring Coordinator position. On behalf of TRCA, MOE, MNR and DFO, the YDSS Coordinator reviews all reports and provides comments to the various agencies in relation to their respective mandates or concerns. The YDSS Coordinator then works with technical staff of each agency to provide responses to York Region on the results of the monitoring and mitigation programs.

STATUS OF PROJECT REVIEW

Within the four TRCA watersheds, thirteen YDSS Master Plan projects are under review or have been completed with approvals by TRCA. They are discussed below.

Projects in the Don River Watershed

The Bathurst Collector and Langstaff Trunk Sewer is the only project in the Don River watershed. This project has three phases:

Bathurst-Langstaff Phase I

The Bathurst-Langstaff Phase I project includes the extension of the trunk sewer on Bathurst Street from Steeles Avenue to Autumn Hill Boulevard (where it connects with Phase II), and a collector sewer on Langstaff Road from Bathurst Street westerly to connect with the Maple Collector Relief Sewer east of Keele Street.

The EA was completed by York Region in 2001. In late Fall 2004, TRCA received draft copies of the initial dewatering impact assessment that supported a PTTW application to MOE. The assessment indicated that substantial dewatering was required, and substantial impacts to baseflow contributions in the East Don River (near shaft C2) would occur as a result of the dewatering. In a letter dated April 1, 2004, TRCA identified to York Region significant concerns with the dewatering aspects of the project. In response, York Region committed to addressing these concerns through changing construction methodologies so that the required dewatering could be minimized and the impacts on the environment substantially reduced or eliminated. Also of concern to TRCA staff was the proximity of Baker's Sugarbush to this project area and a need to ensure sufficient monitoring was in place.

During the remainder of 2004 and the better part of 2005, York Region and their consultants worked with the agencies to satisfy these concerns. Substantive baseline environmental data has been collected. In support of the now revised PTTW, York Region has submitted the *Bathurst Street Collector/Langstaff Road Trunk Sewer - Dewatering Environmental and Ecological Impact Assessment (DEEIA)*, dated May 2005 and addendum reports dated September 15, 2005, October 11, 2005 and November 21, 2005. The DEEIA describes the construction methodology, hydrogeological conditions, extent of potential dewatering and a mitigation and monitoring plan for the portions of the sewer proposed to be tunneled.

York Region is currently working with MOE to ensure that the conditions in the Minister's October 4, 2004 letter have been satisfactorily addressed. A public meeting was hosted in Spring 2005 and the Don Watershed Regeneration Council received notification. The DEEIA has been reviewed by the Peer Review Team and staff understand that all concerns have been addressed. The final report of the external peer review team is available for public review. TRCA staff have reviewed the DEEIA and have no objections to its recommendations.

As described in the DEEIA, the tunnels will be constructed using an Earth Pressure Balance Machine (EPBM) such that as the tunnels are mined, the liner will be immediately installed behind the machine. A key feature of the EPBM is that planned dewatering is not required. However, should boulders be encountered which cannot be cut by the machine, direct human entry to the tunnel face may be required. Localized dewatering could be necessary while the obstruction is removed. Thus, there are provisions for contingency dewatering and a detailed monitoring and mitigation plan has been developed to address potential impacts related to the natural environment. Shafts C2, C3, C4, C5, C6, C7 and C8, as well as manhole C1, will be constructed using contiguous bored piles (secant piles) and no planned dewatering is required.

In the opinion of TRCA staff, the environmental impacts on the aquatic and terrestrial resources, including but not limited to the east and west branches of the Don River and Baker's Sugarbush, have been minimized. Any impacts that could occur through the contingency dewatering will be effectively mitigated and monitored through implementation of the DEEIA. In accordance with the TRCA Level 3 agreement with DFO, and in consultation with DFO staff, TRCA determined that these projects constituted a mitigable HADD under the *Fisheries Act* and has issued Letters of Advice to the proponent based on the information provided in the dewatering needs assessments and addendum reports. MNR has consulted with TRCA staff on this project, and its opinion has been considered in the TRCA comments. MOE review of the DEEIA and PTTW is independent, although staff of TRCA and MOE have discussed this project as a part of their regular meetings. Once the design-build contract is finalized, TRCA permits for the contingency dewatering discharge areas and the construction compounds may be required. It is anticipated that these permits will be before the Executive Committee in the summer of 2006.

Bathurst-Langstaff Phase II and III

Phases II and III of the Bathurst Trunk Sewer Project extends the Phase I sewer northerly from Autumn Hill Boulevard to Mill Street. This will provide sanitary services for new development occurring in the City of Vaughan. The Phase II and III sections of the project are being undertaken by the benefiting land developers group as substantial portions of these sewers are located within lands owned by the developer group. A Development Charge Credit Agreement has been established between York Region and involved developers groups. Phase II extends on the west side of Bathurst Street from Autumn Hill Boulevard northerly and then internally through the future developments west of Bathurst Street to Major Mackenzie Drive. The Class EA for this phase was part of the Phase I Class EA document. Phase III starts where Phase II finishes at Major Mackenzie Drive and runs east along Major Mackenzie Drive to Bathurst Street and then north on the west side of Bathurst Street to Mill Street. A Class EA Addendum to the 2001 Class EA was completed for Phase III in 2005.

As per the Minister's letter, conditions for Phase II required increased public consultation, technical analysis and peer review. The conditions outlined by the Minister were applied to Phase III. A public meeting for both Phase II and Phase III was hosted in summer 2005. Notification to the Don Watershed Regeneration Council was provided. Dewatering Needs Assessments were prepared for both project phases, addressing issues relating to construction techniques, hydrogeology, terrestrial and aquatic concerns and cumulative (Phase I, II and III impacts). All potential impacts to the natural environment were minimized and a mitigation and monitoring plan was developed. This project was reviewed by the Peer Review Team and staff understands that all concerns were addressed jointly by the region and the developer group.

The shallow sewer is being constructed using open cut technologies. Within road right-of-ways on Major Mackenzie Drive and Bathurst Street, watercourses are crossed above the culverts. Localized dewatering was to occur, as necessary, in certain project areas. To date, dewatering needs have been below the required 50,000 L/day threshold required for a PTTW. Provisions for mitigation were made in the dewatering needs assessments and detailed monitoring plans were developed. TRCA approved two permits required under Ontario Regulation 158 for the crossings C-05289 and C-05292 in August 2005. In accordance with the TRCA Level 3 Agreement with DFO, and in consultation with DFO staff, TRCA determined that these projects constituted a mitigable HADD under the *Fisheries Act* and has issued Letters of Advice to the proponent based on the information provided in the dewatering needs assessments and follow-up letters. The YDSS Coordinator has received copies of the monitoring reports and to date, there have been no issues arising from the construction of these sewers. Construction is scheduled to be complete by the end of 2005.

Projects in the Humber River Watershed

The four projects in the Humber River watershed are: the King City Forcemain, Nobleton Trunk Sewer and Sewage Treatment Plant (STP), West Rainbow Creek Trunk, and York-Peel Forcemain. Details are provided below.

King City

A Schedule B Class Environmental Assessment was completed for the King City Trunk Sewer by York Region in 1995 and updated in 2001. Requests for a Part II Order were received by the Minister and they were denied. In response to MOE requirements under the Oak Ridges Moraine Act, the *Oak Ridges Moraine Conservation Plan Compliance Report for the King City Sanitary Sewer* was completed in January 2004.

The project is being permitted and constructed through approximately 12 contract areas. To date, four contract areas have been permitted or cleared by TRCA including the works along King Road, a pumping station on King Road and some local sewer works in the vicinity of King Road. No dewatering was required for these sections. TRCA is currently reviewing a permit application for the fifth contract area, paralleling the GO tracks south of King Road to Station Road. While only limited construction dewatering will be required, TRCA is reviewing the project under the habitat protection provisions of the *Fisheries Act*. It is unlikely that a PTTW will be required as dewatering should be below MOE's required volumes for such permitting.

At the appropriate time, this project will be brought to the Executive Committee for approval, likely in December 2005 or January 2006. As part of its regular meetings, TRCA staff are reviewing information and providing comments related to the remaining seven contract areas. As appropriate, details will be brought to the Authority for information, or to the Executive Committee if permit approvals are required.

Nobleton STP

A Class EA was completed for the Nobleton Sewage Treatment Plant (STP) in 2003 and is currently in the detailed design phase. The project will require TRCA land acquisition or easements, as well as permits. TRCA is currently reviewing the technical details associated with these requirements as part of its regular meetings. As well, MOE will require that phosphorous loads to the Humber River be offset. While the phosphorous reduction plan will be developed by York Region in consultation with MOE, TRCA is working with the proponent regarding the implementation of this plan through the Watershed Stewardship section. The Humber Watershed Specialist has been involved in these discussions when appropriate. The Humber Watershed Alliance was aware of the Class EA; the Humber Watershed Alliance will be advised of the recommended design in the near future. It is anticipated that this project will be brought to the Executive Committee and Authority in Spring 2006 for approvals.

West Rainbow Trunk

A Class EA is underway for the West Rainbow Trunk. As part of its regular meetings, TRCA staff are reviewing information and providing comments related to required baseline data, route selection, construction technologies for required watercourse crossings and implications under the *Fisheries Act* for various components of this project. The project will require TRCA permits. The second public meeting for this project is scheduled for January 2006 and notification will again be sent to the Chair of the Humber Watershed Alliance.

York Peel (Steeles Avenue) Forcemain

A Class EA was completed for the York Peel (Steeles Avenue) Forcemain in 2001. Detailed design followed and the sewer has now been built. The project required TRCA permits, as well as a PTTW. The zone of influence for this project extended south of Steeles Avenue, into the City of Toronto. A mitigation and monitoring plan was prepared and monitoring reports were provided to TRCA during and post construction. TRCA staff considered this project a mitigable HADD and a Letter of Advice under the *Fisheries Act* was issued. The Humber Watershed Alliance was advised of this project. The project, including monitoring, is complete.

Projects in the Rouge River Watershed

There are five sewer projects in the Rouge River watershed: 16th Avenue Phase 1, 16th Avenue Phase II, 9th Line (Main and West Branch), Interceptor Sewer and Southeast Collector. Information pertaining to the 16th Avenue Phase I and II projects was presented to the Authority in October, 2005 (Res.#A240/05) and is not repeated in this report.

9th Line Main Branch

The construction of the main branch will be completed at the end of 2005. A permit to take water was issued by MOE, as were permits from TRCA. Impacts to the local forest and wetland are being monitored, and mitigation contingency plans are in place should established trigger values be reached. To date, no such events have occurred. Tunnelling stopped in November 2005 and the aquifer has shown signs of rebounding since September 2005. This project is under on-going review by the YDSS Monitoring and Mitigation Coordinator.

9th Line West Branch

The construction of the west branch will be completed by spring 2006. A permit to take water was issued by MOE, as were permits from TRCA. A Letter of Advice was issued by TRCA on behalf of DFO for two watercourse crossings. The in-water works are now complete. The local forest, wetland and stream baseflow are being addressed through a monitoring program, and mitigation contingency plans are in place should established trigger values be reached. To date, no such events have occurred. This project is under on-going review by the YDSS Monitoring and Mitigation Coordinator.

Interceptor Sewer

The Class EA was completed in 2003. As per the Minister's letter, conditions were imposed that required a new comparison of alternative route alignments, increased public consultation, technical analysis and peer review. Extensive public consultation has been undertaken at various stages of this new comparison of alternative routes. The technical analysis report: *YDSS Interceptor Sewer Study and New Comparison of Alternative Route Alignments*, dated October is complete. The report confirms the preferred alignment along 19th Avenue from Yonge Street to Leslie Street, and then down Leslie Street to Elgin Mills Road. Issues relating to construction techniques, hydrogeology, terrestrial and aquatic concerns and construction technologies for a number of routes were considered. The selected route and construction technologies minimize the required dewatering, and hence impacts to the natural environment. The reports were developed in consultation with the Interceptor Sewer Stakeholder Advisory Committee, of which TRCA was a member. The Rouge Park Alliance has participated in the public consultation associated with this project. The report was also reviewed by the Peer Review Team and staff understand that all technical issues raised by the Peer Review Team have been addressed.

The preferred alternative requires the sewer be constructed using a combination of tunneling and open cut technologies. Construction along 19th Avenue will be done using an EPBM (refer to information provided for the Bathurst-Langstaff Phase I project regarding this technique). Dewatering will likely be required at the shaft locations. The Region will employ shaft construction techniques that minimize and, where possible, eliminate dewatering. There is no planned dewatering for the tunnel construction. However, provisions for short-term contingency dewatering is required in case boulders are encountered or shaft bottoms need to be secured. If boulders are encountered, the Region will exhaust other viable measures prior to initiating any dewatering. Construction of the sewer along Leslie Street will be through the use of open cut technologies. Localized dewatering will be required and two tributaries of the Rouge River watershed will be crossed.

Extensive baseline data has been compiled. In order to address the potential impacts to the natural environment that could occur through the dewatering, a mitigation and monitoring plan has been developed. The *Environmental Management Plan*, dated November 4, 2005, has been drafted and is under review by the agencies and the Peer Review Team, among others. An application has been made to TRCA for permits in accordance with Ontario Regulation 158, and to MOE for a PTTW. TRCA is reviewing the project under the habitat protection provisions of the *Fisheries Act* and is consulting with DFO as required. It is anticipated that this project will be brought to the Executive Committee in spring 2006 for approvals.

Southeast Collector

An Individual EA is underway for this project. Because the project crosses federal lands, review under the Canadian Environmental Assessment Act (CEEA) has been triggered. A harmonized federal-provincial EA is planned. In accordance with the Minister's letter and in partnership with Durham Region, this project now extends from Box Grove in York Region to Valley Farm Road in Durham Region. The Southeast Collector Stakeholder Advisory Committee has been established by the regions, and TRCA, Rouge Park and City of Toronto are all members. The Terms of Reference for the EA is pending approval by the MOE and staff understand that work on the EA is about to commence. Extensive baseline data is being collected within the study area. It is premature to discuss permitting requirements for this project until the preferred alternative has been selected. The Peer Review Team is required to review all technical documentation associated with this project as it proceeds. TRCA will be actively participating in the EA.

Projects in the Duffins Creek Watershed

There are three sewer projects in the Duffins Creek watershed: 9th Line (East Branch), Stouffville Sewage Treatment Plant (STP) Decommissioning and Duffins Water Pollution Control Plant (WPCP).

9th Line (East Branch)

The construction of the east branch will be completed by spring 2006. A permit to take water was issued by MOE, as were permits from TRCA. TRCA determined, in consultation with DFO, that there was no HADD related to this project. The local forest is being monitored, and mitigation contingency plans are in place should established trigger values be reached. TRCA, in consultation with the YDSS Coordinator and MNR, has requested more intensive monitoring and mitigation of the wetland in spring 2006, subject to further site visits and discussion. This project is under on-going review by the YDSS Monitoring and Mitigation Coordinator.

Stouffville STP Decommissioning

With the construction of the new sewer lines to Whitchurch-Stouffville, the STP is no longer required. Its decommissioning will remove a local source of stress on the upper reaches of Reesor Creek, but will also result in decreases to stream flow. TRCA is currently reviewing a permit application for the in-stream works that will be required when the sewage treatment plant is decommissioned next year. The Class EA stipulates that natural channel design techniques are to be employed in Stouffville Creek in order to accommodate the reduced flows, and mitigate these effects on fish and fish habitat. TRCA is working closely with DFO and MNR in this regard. It is anticipated that this project will be brought to the Executive Committee in spring 2006 for approvals.

Duffins WPCP

The Duffins Creek WPCP, jointly owned by the regional municipalities of York and Durham, is managed and governed by the "York Durham Sewage System (YDSS), The Regional Municipality of York and The Regional Municipality of Durham Operating Agreement," which was executed November 28, 1997. The existing facility treats sewage flows from both regions, with approximately 80 percent of the flows originating from York Region.

A Class EA is underway for the Duffins Creek WPCP as an expansion in capacity was identified in the YDSS Master Plan. TRCA is a member of the Stakeholder Advisory Committee and has provided comments to the regions in that capacity. Staff understand that technical studies have been developed and are currently being reviewed by the Peer Review Team. Staff anticipate receiving the Environmental Study Report for review late in 2005 or early in 2006. It has not been determined if the project will require TRCA permits.

Report Prepared by: Beth Williston, extension 5217
For information contact: Beth Williston, extension 5217
Date: November 22, 2005
Attachments: 2

Attachment 1



Transportation and Works Department

*Office of the Commissioner
Fax (905) 895-0260*

November 8, 2005

Mr. Gordon Miller
Environmental Commissioner of Ontario
1075 Bay Street, Suite 605
Toronto, ON M5S 2B1

Dear Mr. Miller:

Re: York-Durham Sewer System

I am writing in response to your deputation to the City of Toronto, Policy and Finance Committee on October 20, 2005.

The York Durham Sewage System is a state-of-the art wastewater collection system within the Great Lakes basin. It was constructed by the Province of Ontario in the late 1970s and early 1980s in response to a 1965 decision that no additional sewage treatment plants could be built on the Humber, Don and Rouge Rivers. The concern at the time was that the assimilative capacity of receiving streams could be exceeded by continued local service. The project need was hasten through the execution of the *Great Lakes Water Quality Agreement* (between the Governments of Canada and the United States of America) in 1972, and subsequent amendments. It fulfills some of the obligations imposed upon the Province of Ontario through the *Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem*. What evolved from these initiatives was the most environmentally respectful system in the entire Great Lakes basin - far superior, for example, to the systems serving the City of Toronto,

In the mid-1990s, the Regions of York and Durham assumed ownership of the York Durham Sewage System from the province. In 1997, York Region embarked on a Master Plan Study for the York Durham Sewage System to identify and review current conditions as well as future alternatives to service approved growth within our urban communities. The Master Plan involved an extensive review of servicing alternatives and public consultation opportunities as prescribed through the Environmental Assessment process. The Master Plan identified priority (required imminently to sustain existing levels of service) and strategic (required to accommodate planned growth) projects.

In March of 2002, the York Durham Sewage System Master Plan as updated to reflect current planning forecasts (as reflected in the Region's Official Plan and, again, more recently in Ontario's "Places to Grow"). The Master Plan process is recognized in the Environmental Assessment Act as the appropriate public process used for consultation on a broad scale of servicing alternatives spanning a number of years.

Based upon your comments made to the Toronto Policy and Finance Committee, it appears that you may not be fully aware of the Region's ongoing efforts. I would like to address the concerns raised in your deputation (for reference purposes, a recording of your presentation is enclosed on a CD):

1. Assessment of the YDSS in stages instead of one Environmental Assessment

Due to the magnitude of the York Durham Sewage System - which includes approximately 187 km of sewer pipe and a major sewage treatment plant - different timeframes and varying conditions found throughout the Region, an Individual Environmental Assessment is neither appropriate nor is it in the best interests of the environment.

The Master Plan is recognized under the environmental assessment process as an appropriate mechanism to examine broad alternatives to a proposed project and to meaningfully engage the public. Master Plans typically identify a number of related projects which have different time frames and levels of complexity. These projects are conceptual in nature, without a pre-determined location, technology or construction method. Proponents are then required to further fulfill the requirements of the Environmental Assessment Act and assess each project in accordance with its individual characteristics. In this way, further review of alternative locations, technologies and construction methods can be thoroughly examined with full and comprehensive public consultation in order to identify the actions appropriate to address, mitigate or avoid environmental impacts. It also permits an efficient use of public funds for projects.

By employing this staged approach, the Region was able to engage the public (i) comprehensively on the system and (ii) specifically on each project - to address long-term planning needs and benefit from advancements in technology, mitigation and other practices. The staged approach also permits the efficient use of public funds for project finances.

Based on our extensive experience with the environmental assessment process, it would have been virtually impossible to complete an Individual Environmental Assessment for the entire York Durham Sewage System series of projects in a meaningful, productive and timely manner that was not overly cumbersome or confusing.

2. Use of Section 32 by the Ministry of the Environment to avoid posting approvals on the Environmental Bill of Rights (EBR) Registry

As you indicated, the Minister of the Environment is not required to post approvals on the EBR Registry that are connected to the implementation of a project approved under the Environmental Assessment Act. We do not believe this to be a part of a nefarious effort to avoid press but rather a means to avoid duplication in efforts subscribed under several provincial statutes. Notwithstanding the lack of specific obligation, the Ministry of the Environment did post the Permits to Take Water (PTTW) for the 9th Line and 16th Avenue Projects on the EBR - as acknowledged in your 2003/2004 Annual Report (p.55). Similarly, the York Durham Sewage System Interceptor Sewer Project PTTW will be posted on the EBR. In addition, the Region is required, through conditions placed on it by the Minister of the Environment, to consult the public prior to submitting the PTTW application and to do follow-up consultation upon receiving notice from the Ministry that the PTTW application is approved.

3. Lack of public consultation

Like your office, The Regional Municipality of York shares the mandate of keeping the public informed and protecting the natural environment. To this end, the Region routinely practices Constructive Engagement - an exercise which proactively involves the public in the decision-making processes on our York Durham Sewage System projects. On the York Durham Sewage System Interceptor Sewer project, for example, a committee of stakeholders was invited to voice feedback, comments and concerns through two charettes, in addition to three public meetings during the review of alternatives.

4. Satisfying the need and the requirement to look at "Alternatives To" the York Durham Sewage System

In 2004, the Minister of the Environment received a Part II order "bump up" request) to make all unfinished York Durham Sewage System projects subject to an Individual Environmental Assessment. The Minister denied this request and acknowledged that York Region had committed to prepare an Individual Environmental Assessment for the Southeast Collector and Upper Leslie Street projects if and when these projects proceed. In addition, the Minister made an order under Section 16 of the Environmental Assessment Act placing project specific conditions on the Region. In all, 44 conditions were made that are being fulfilled as the projects progress.

The Minister's conditions for the York Durham Sewage System Interceptor Sewer Project required York Region to comply with the following:

- Comprehensive review of *alternative routing options* and *alternative sewer design and construction techniques*
- *Proactive, strategic, and ongoing* stakeholder relationship management
- Technical assessments sufficient for all permits and approvals
- Analysis of "*cumulative effects*" of dewatering combined with other Regional projects
- Independent *Peer Reviews*
- Technical resource for individual well complainants
- Additional monitoring and reporting requirements during and after construction
- More frequent, effective, interactive public communication

In the past, a Class Environmental Assessment would have cost between \$150,000 and \$200,000. York Region has spent more than \$2.5 million on a work plan that goes well beyond satisfying the conditions set out by the Ministry of the Environment. Our work and experience is arguably advancing the standards for environmental assessment and environmental mitigation to unprecedented levels in contrast with any comparative endeavour elsewhere in the province or, for that matter, any other Great Lakes basin jurisdiction.

The Region recognizes the benefit of having extensive baseline data early in the project to make certain that potential impacts can be assessed during the evaluation of alternatives stage. This ensures that the preferred solution is balanced when considering environmental, social and economic impacts. In the case of the York Durham Sewage System Interceptor, the preferred alternative (along 19th Avenue and using an Earth Pressure Balance Machine) has not only been determined to have the least impact to the Oak Ridges Moraine aquifer, but also the least impact to the public and local businesses.

From a financial point of view, the technology recommended by the Region is not the least expensive; it would have been far more economical to use conventional open cut construction along 19th Avenue at a cost savings of almost \$12 million. However, the Region recognized the importance of protecting the natural features and recommended the use of "Earth Pressure Balance" technology, which does not require dewatering during tunneling operations.

York Region is working closely with all regulating bodies to monitor environmental compliance with all of our York Durham Sewage System projects and obtain all required approvals. In his report to the Policy and Finance Committee, Mr. Robert Ashley, solicitor for the City of Toronto, noted, "York, the Ontario Ministry of the Environment, the Toronto and Region Conservation Authority and the federal Department of Fisheries and Oceans all take the position that all necessary approvals and permits for the 16th Avenue project are in place. With respect to the 19th Avenue Interceptor, the Class EA is complete; however, the Minister required a re-evaluation of the preferred route and the consideration of design alternatives. With respect to the SEC, its EA was bumped up to an Individual EA by the Minister. The regulators have clearly addressed what they believe to be "proper" approvals or conditions to approval."

In closing, York Region was surprised when you stated to the Toronto Committee that your files are "bulging" with 10 years of public concerns on the York Durham S wage System projects. We have no record, prior to October 20th, 2005, of your office contacting the Region regarding your concerns. We have reviewed Annual Reports from your office over this period and found no references to your concerns.

I would be pleased to help you, or your office staff, become better informed with respect to our efforts. The very essence of the EA process is to invite and receive constructive thoughts and suggestions. We take criticisms from your office very seriously as we do our roles in protecting public health and the environment. I look forward to the opportunity to share our concerns.

Sincerely

ORIGINAL SIGNED BY

Bruce Macgregor, P. Eng.
Commissioner of Transportation and Works

BCM/PC/gl

Enclosure - CD video/voice recording of City of Toronto, Finance and Policy Committee deputation

Copy to: Bill Fisch, Regional Chair
Mike Garrett, Chief Administrative Officer
Dr. H. Jaczek, Medical Officer of Health
Patrick Casey, Director, Corporate Communications Services
Debbie Korolnek, General Manager, Water and Wastewater

Comm\W02\G.Miller YDSS

YDSS MASTER PLAN

