

RAINWATER HARVESTING IN TORONTO



TORONTO WATER'S INTEREST IN RAINWATER HARVESTING

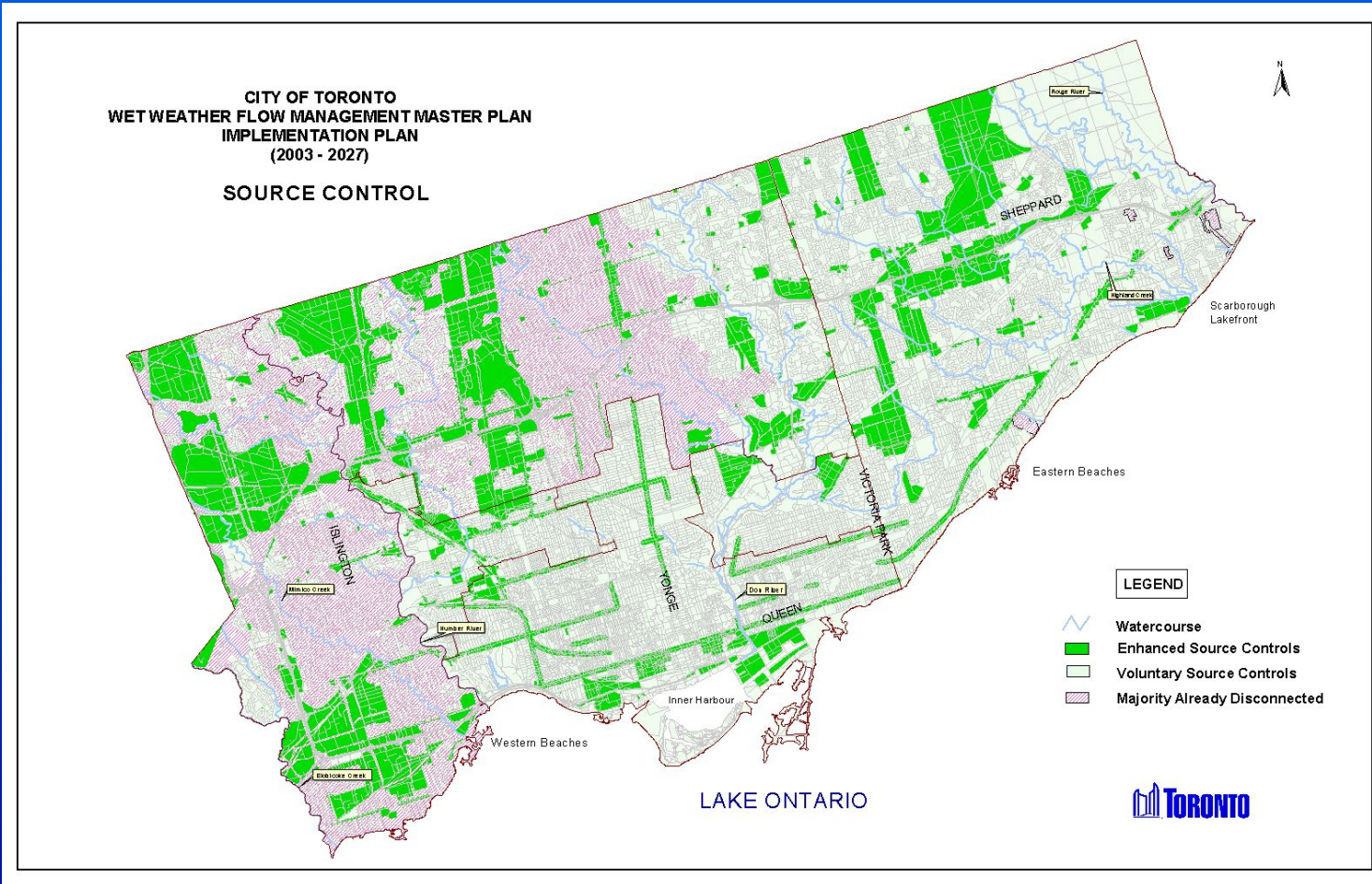


Wet Weather Flow Control

Water Conservation



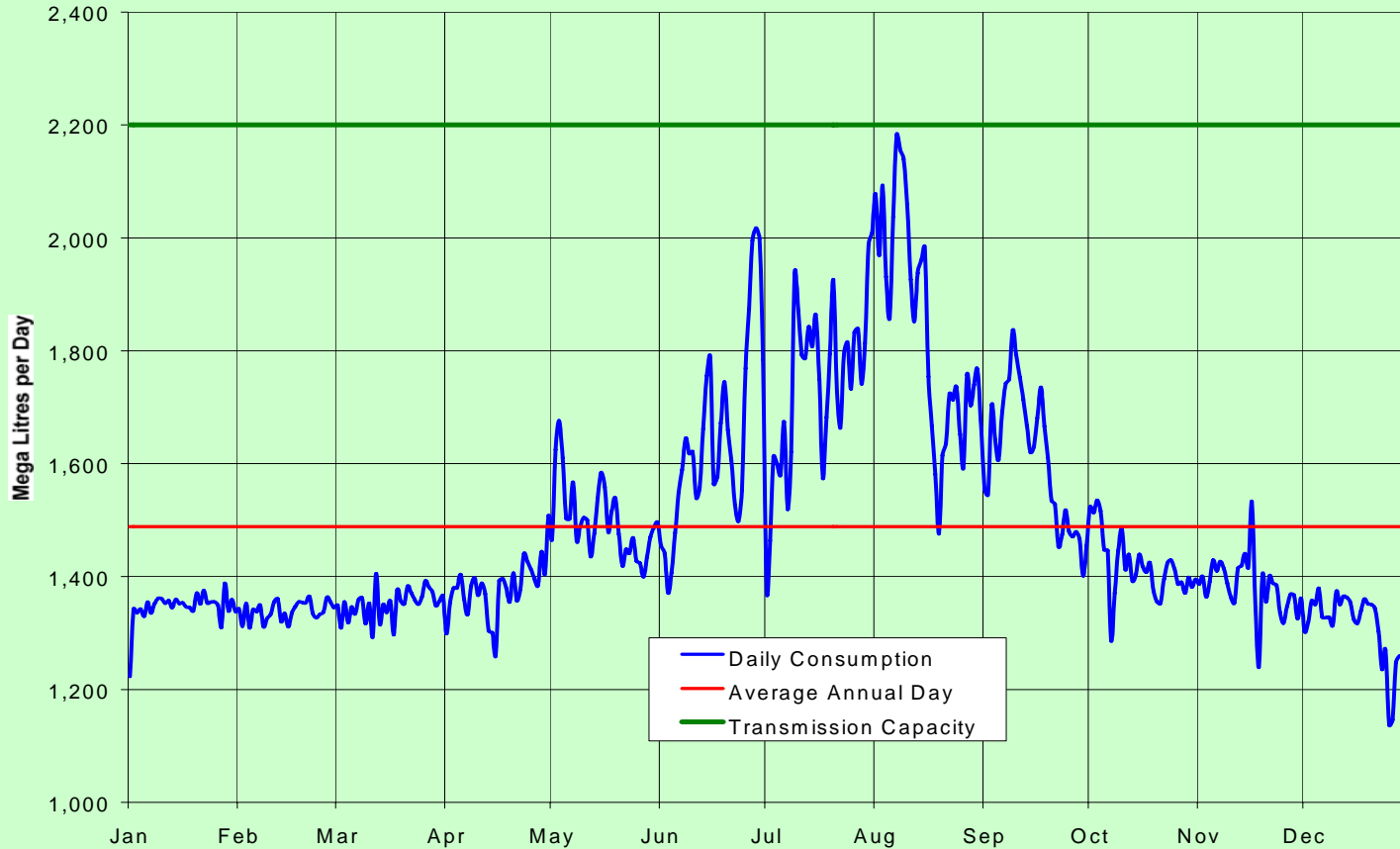
SOURCE CONTROLS



ANNUAL WATER CONSUMPTION



Water Consumption 2001
(City of Toronto and York Region)



TORONTO WATER'S PILOT PROJECT OBJECTIVES

- Demonstrate viability of approach with necessary safeguards to support changes to the Ontario Building Code.
- Demonstrate cost-effectiveness as an “on-site” stormwater management measure for inclusion in future redevelopment and development proposals.
- Demonstrate viability in a “retrofit” situation, for large impervious surfaces, particularly for large commercial/industrial/institutional roofs.
- Raise public awareness about the merits of rainwater harvesting and the wasteful use of high quality “drinking water”.

RAINWATER HARVESTING WORKSHOP (May 24, 2005)



Rainwater Harvesting Workshop & Design Charrette

May 24, 2005
9:00am-4:30pm

Metro Hall Council Chambers
55 John Street
Toronto, Ontario



Attendees will look at progressive, yet realistic, means of harvesting rainwater and using it in a more productive and beneficial way.

May 24th Agenda

9:00 – 9:30 WELCOME

9:30-12:45 MORNING SESSION

1. General

- i. Options for use-gardens, toilets, etc.
- ii. Regulation/Code/Safety requirements
- iii. Case studies
- iv. Marketability
- v. Incentives for developer and municipality
- vi. Cold-climate application
- vii. Rainwater quality/health concerns

2. Cost/Benefit

- i. Capital cost
- ii. Operation/Maintenance costs
- iii. Net benefit

1:15-4:30 AFTERNOON SESSION

3. Technical Aspects

- i. Technical components, catchment (collection area), conveyance, cisterns etc.
- ii. Component prerequisites
- iii. Filter systems used
- iv. Performance evaluation

4. Design Aspects

- i. Design criteria
- ii. Quantity calculations, sizing
- iii. Certification, approvals authority

5. Operation and Maintenance

- i. O & M Checklist/Schedule
- ii. Acceptability
- iii. Regulations surrounding O&M
- iv. Inspection protocols

Speaker Information



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Registration Info

For more information on the agenda, list of speakers, and registration procedures:

www.urisaoc.ca/subPage.asp?id=446

or contact Gary Stinson, 416.338.2399 or stinson@toronto.ca



RAINWATER HARVESTING WORKSHOP

PARTICIPANTS

- 3 world renowned experts
- 200 participants
- City staff from: Toronto Water, Technical Services, City Planning, Building, Forestry, Parks & Recreation, Toronto Public Health, Facilities & Real Estate
- ABCs: Exhibition Place, Toronto Zoo, TRCA
- Provincial staff: MOE, MMAH, MOH
- Federal staff: CMHC, Environment Canada
- Municipal staff: Halifax to Vancouver // Iqualuit to Windsor
- Development Industry, Environmental Groups, Academia

CONSIDERATIONS IN ADVANCING RAINWATER HARVESTING

- Dual Plumbing Systems within building envelope are not permitted in OBC.
- Public health concerns.
- Suitable and cost-effective design: “potable water is cheap” – but can be viable option for new development to provide on-site stormwater management.
- System must be easy to install, operate and maintain and include appropriate public health safeguards.

POTENTIAL PILOT PROJECT SITES

- Exhibition Place
- Toronto Zoo
- Minto Development (Yonge and Eglinton)

EXHIBITION PLACE

Interception Concept:

- collect rainwater from “Better Living Centre” roof/s and store in basement

Use Concepts:

- lawn irrigation
- floor washing
- toilet flushing



TORONTO ZOO

Interception Concept:

- collect rainwater from “Horticultural Building” - maintenance building and/or greenhouse roofs
- build cistern (indoors or outdoors)

Use Concepts:

- lawn irrigation
- toilet flushing



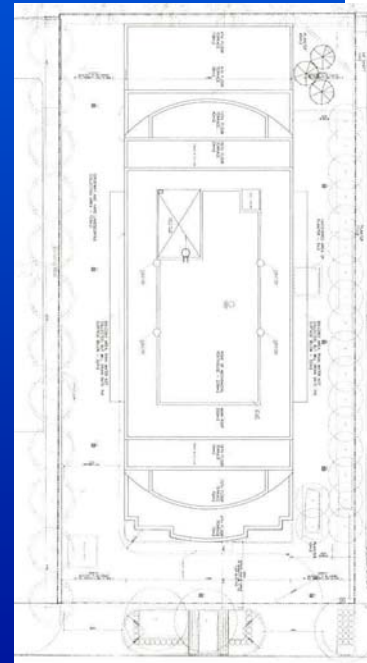
MINTO DEVELOPMENT

Interception Concept:

- private sector development proposal
- 16 storey multi-residential building
- 30m X 60m lot
- collect rainwater from roof areas
- build cistern in basement garage or on roof

Use Concepts:

- tree/landscape irrigation
- air conditioning: cooling tower
- toilet flushing for lower floors



RAINWATER HARVESTING IMPLEMENTATION

NEXT STEPS

Finalize Concepts & Business Case for City Owned Sites



**Internal Divisional Approval to Proceed
(Building, TPH, Legal, Technical Services)**



Works Committee & Council



Detailed Design and Construction



Monitoring & Reporting



**Ontario Building Code
Amendment**



Widespread Implementation