

# Environmental Activities of the City Planning Division

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Presentation to Toronto and East York

Community Council

May 14, 2009



## OFFICIAL PLAN chapter 3 Natural Environment

**"manage stormwater where rain and snow fall"**

**"protect the natural heritage system"**

**"reduce energy consumption and reliance on carbon based fuels"**

**"support innovative energy producing options, green industry and green building designs and construction"**

**Diagram 1: Natural Ground Cover vs. Impervious Surface**

Surface Type	Evapotranspiration	Infiltration	Runoff
Natural Ground Cover	35%	21% deep infiltration	10%
10%-20% Impervious Surface	30%	21% deep infiltration	20%

**Diagram 2: Residential vs. Commercial Buildings**

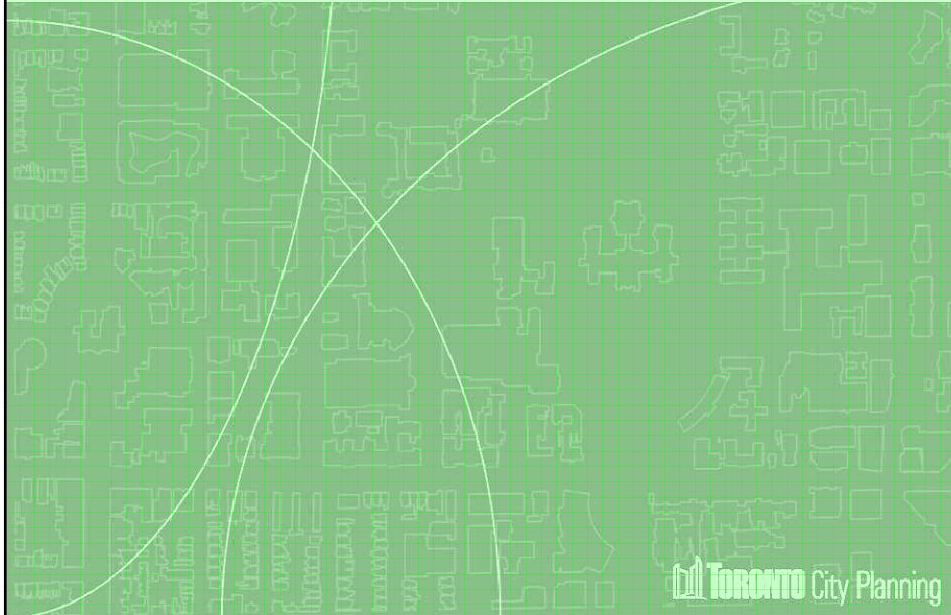
Building Type	Evapotranspiration	Infiltration	Runoff
Residential (30% impervious)	30%	20% shallow infiltration, 15% deep infiltration	20%
Commercial (75%-100% impervious)	30%	10% shallow infiltration, 5% deep infiltration	30%

**Book Cover: The New Toronto Ravine By-Law**

The Ravine will be a unique and important natural heritage system for Toronto and the Province. It is a natural heritage system of the highest quality and should be protected and managed accordingly. (Source: requires an understanding of the ravine.)

**City of Toronto**

# Environmental Initiatives



# Sustainable Transportation

OP 2.2.3(a-h)  
EP 25, 26



Toronto City Planning



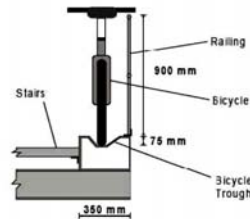
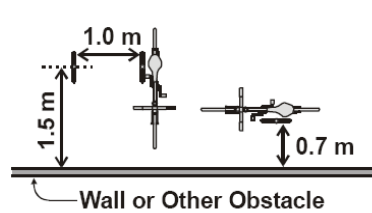
# Sustainable Transportation



TORONTO City Planning

## Sustainable Transportation Bicycle Parking Facility Guidelines

OP 2.2.3(e)  
E 25, 26



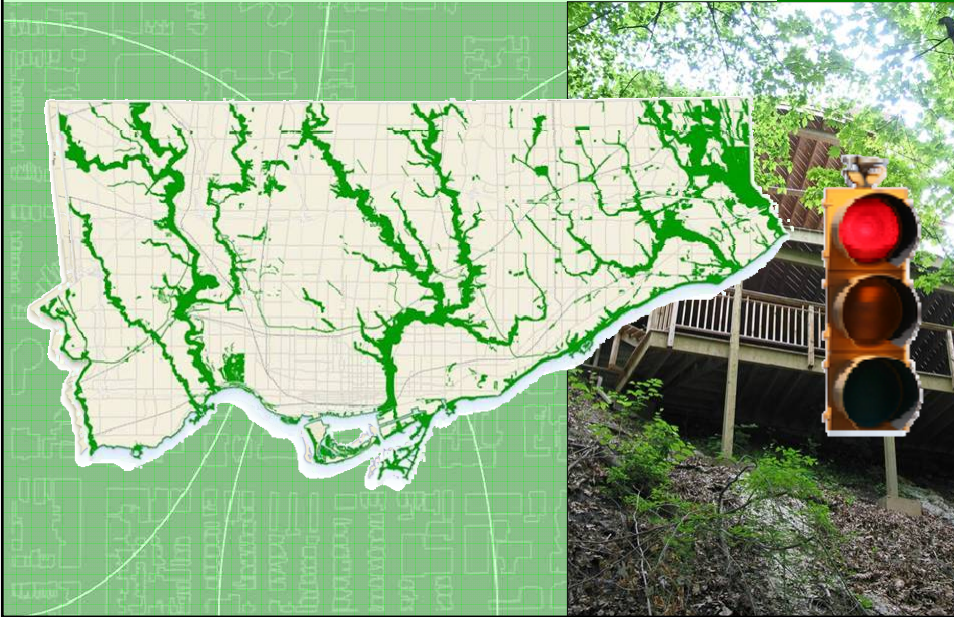
Guidelines for the  
Design and Management of  
Bicycle Parking Facilities

DRAFT – MAY 2008



# Natural Heritage System

OP 3.4.8-15  
EP 4, 6



# Natural Heritage System

OP 3.4.8-15  
EP 4, 6

**Ravine and Natural Feature Protection By-law**      **Environmentally Significant Areas**

Legend

- Existing Protected Area
- Additional Protected Area

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# Light Pollution

OP 3.4.1, 3.4.18  
EP 1, 29, 33, 41



# Light Pollution

OP 3.4.1, 3.4.18  
EP 1, 29, 33, 41

Reducing light pollution by turning off all unnecessary interior lights at night, especially during the migratory seasons, is a positive bird-friendly management practice.

Light pollution can be drastically reduced by drawing office blinds or curtains (top), or using task lighting at work stations (middle). Doing neither (bottom) is energy inefficient and dangerous for migrating birds.

**External Lighting Fixtures**

Inefficient external lighting is a significant source of light pollution. For a building to be bird-friendly, light pollution from external lighting must be minimized. This can be achieved by implementing several design features and operational practices related to vanity and architectural lighting, site lighting, lighting for advertising, event and festival lighting.

**THE OBJECTIVES ARE TO:**

- Eliminate direct upward light  
Direct upward light is projected directly upward by inefficient lighting fixtures.
- Reduce spill light  
Spill light spills beyond areas that need to be lit for safety and security reasons but is not projected directly upward.
- Optimize useful light  
Useful light is used to illuminate urban areas that need to be lit for safety.

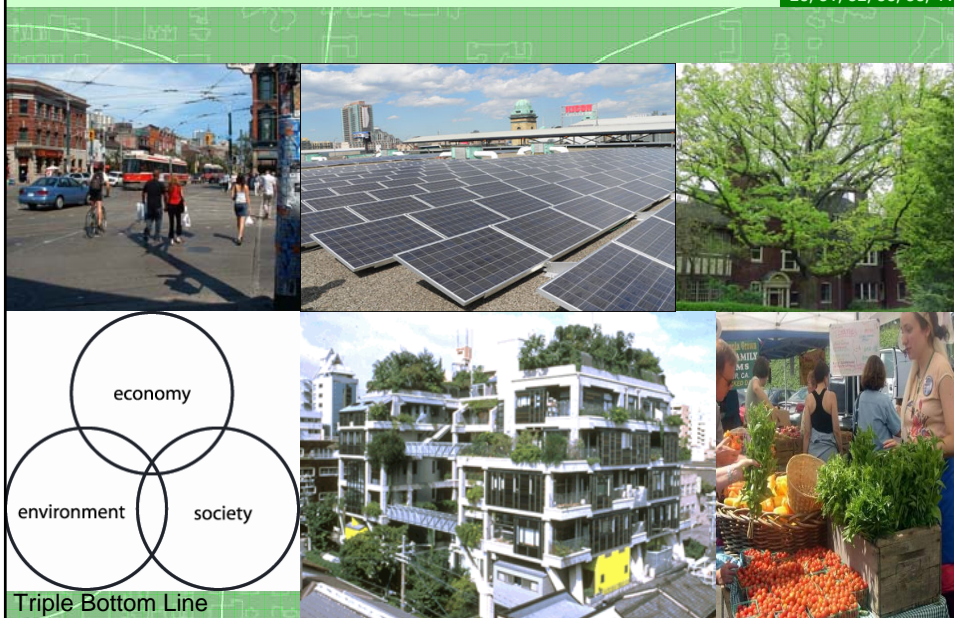
# Sustainable Community Planning Lawrence-Allen

**OP** 3.4.1, 3.4.18  
**EP** 5, 8, 15, 22, 26,  
29, 31, 32, 33, 35, 41



# Sustainable Planning Framework

**OP** 3.4.1, 3.4.18  
**EP** 5, 8, 15, 22, 26,  
29, 31, 32, 33, 35, 41





# Waterfront Revitalization

- 800 Ha (475 hectares of parks and public spaces)
- 40,000 new homes in mixed-use neighbourhoods
- 1 million sq.m. employment space



# Waterfront Revitalization

- Sustainability Framework
- brownfield remediation
- creating more parks and public spaces
- expanding the urban forest
- compact urban development serviced by transit and pedestrian routes
- energy efficient buildings serviced by District Energy
- storm water management



## Renewable Energy By-law

OP 3.4.18  
EP 30, 31, 32

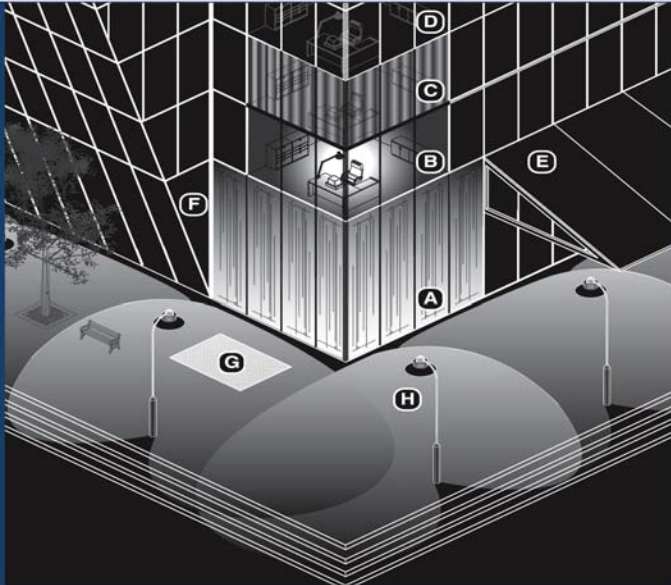


## Bird Friendly Development Guidelines

OP 3.4.1, 3.4.18  
EP 3, 12, 41

### COMPREHENSIVE BIRD-FRIENDLY SITE STRATEGY

- A: Treatment applied to glass projecting enough visual markers to make it visible to birds
- B: Task lighting in use after dark
- C: Blinds drawn after dark
- D: Lights turned off after work hours
- E: Awning for muting reflections on lobby windows
- F: Glass effectively angled to project reflections downward
- G: Bird-friendly site ventilation grates
- H: Use of lighting fixtures effectively projecting light downward





# Design Guidelines for Greening SURFACE PARKING LOTS

OP 3.4.1, 3.4.18  
EP 5, 13, 30



# Biodiversity Strategy

OP 3.4.1, 3.4.18  
EP 3, 12, 41



# Sustainable Development Training Course

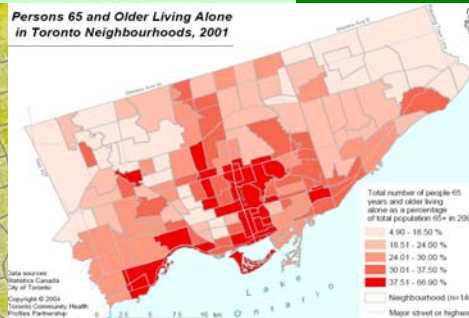
OP  
EP 31, 41



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# UHI Decision Support Tool

OP 3.4.18(f)  
EP 20, 24

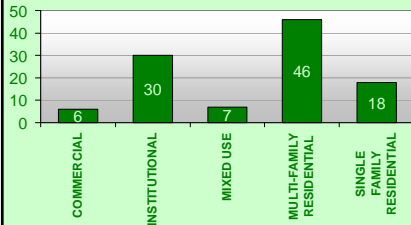


0% Tree Canopy / 60% Tree Canopy

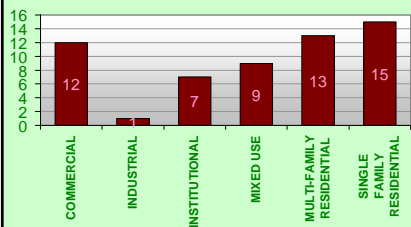


# Green ROOFS

## Built (107)



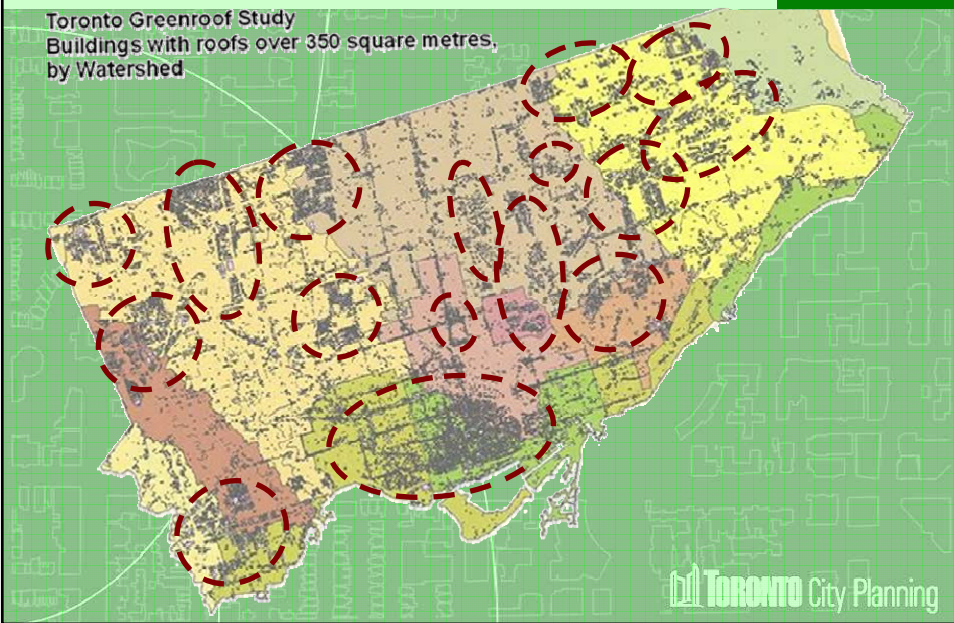
## Planned (57)



# Green Roof By-Law

OP 3.4.18 (f)  
EP 8

Toronto Greenroof Study  
Buildings with roofs over 350 square metres,  
by Watershed



# GREEN DEVELOPMENT STANDARD

**OP** 3.4.1, 3.4.18  
**EP** 5, 8, 15, 22, 26,  
 29, 30, 31, 33, 35, 40

Development Feature	Existing City Standards, Guidelines or Targets	The Toronto Green Standard 2006*	Relationship to Other Standards	Possible Implementation Strategies
Development				
Storage and				<ul style="list-style-type: none"> <li>• Solid Waste Reuse</li> <li>• Best Use Strategy</li> <li>• Addressed by LEED</li> <li>• Dev. Costs</li> </ul>
Construction				<ul style="list-style-type: none"> <li>• Draft WWT Intakes</li> <li>• See existing std.</li> <li>• Addressed by LEED</li> <li>• Boxes and</li> </ul>
Development				

## The Toronto Green Standard Cost-Benefit Study

- 2- 7% premium
- \$1.2 billion avoided costs over 25 years
- GHG emissions reduced by:
  - typical condo (MURB): 500 tonnes eCO<sub>2</sub>
  - typical office building: 300 tonnes eCO<sub>2</sub>
  - typical single storey retail building: 300 tonnes eCO<sub>2</sub>

**Toronto Green Development Standard  
 COST - BENEFIT STUDY**

By Frank and Laura Miller - Johns D. Collins Faculty of Architecture, Landscape and Design, University of Toronto



# The Toronto Green Standard



## Tier 1

- 20 minimum performance targets secured through Planning Act approval processes (plans and agreements)
- Exterior Sustainable Design Features
- 25% Energy Efficiency above MNECB



# The Toronto Green Standard



## Tier 2

- Superior performance targets plus 8 additional items added
- 40% energy efficiency above MNECB
- Eligible for 20% DC refund if all Tier 2 targets are met



# CONTACTS

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