

Appendix B:

Options for Incenting or Mandating Water-Sensitive Design in New Construction

The following is a brief summary of the types of incentives and requirements used today to encourage green building, illustrated through examples of government programs.

The Carrot (Incenting)

Some municipal governments have increased adoption of green-building practices by offering incentives in the permit process. This may take the form of an expedited review and approval process, which reduces transaction costs for developers; lower permit fees; or cash rebates. Expediting permits and offering direct incentives work by appealing to the developers' bottom line. Faster time to break ground and lower administrative overhead can provide powerful motivators to incorporate water-sensitive design elements in plans for new development.

Financial Incentives

Development Charges: The City of Toronto offers rebates on development charges for buildings meeting the second tier of the Toronto Green Standard. New developments meeting this standard receive a 20% refund on the development charges paid to the municipality.

Direct Rebate: The City of Guelph's Blue Built program offers direct rebates to homeowners, between \$460 to \$2,460 depending on the level of certification achieved (Bronze, Silver, or Gold) and the number of fixtures in a home.

Building Permit Rebate: The City of Edmonton, Alberta adopted the City of Calgary's "Building Permit Rebate Program" for both the residential and commercial, institutional, and industrial (CI&I) sectors. Tiered rebates were offered on building permit fees: 10% rebate for Bronze-certified BuiltGreen or LEED certified; 20% for BuiltGreen or LEED Silver; and 30% for BuiltGreen or LEED Gold or Platinum.

Property Tax Reductions: As part of the City of Hamilton's LEEDing the Way Community Improvement Plan the city offers grants not exceeding 75% of the municipal realty tax increase resulting from pre-development to post-development assessment for industrial development for five years. Under the LEED Grant Program, there is no actual loss of tax revenues to the city. The annual grant paid by the city to the owner is paid out of increased taxes generated by the development (City of Hamilton, 2008).

Approvals-Process Incentives

Streamlining the Permitting Process: The City of Seattle developed a Priority Green initiative to accelerate innovative projects that meet LEED certification criteria or are participating in the Priority Green Building Matrix pilot program. Applicants are encouraged (but not required) to

engage a representative from the city's Department of Planning and Development in the early planning stages so they can benefit from an "integrated, coordinated review that can identify and resolve issues for complex projects" (City of Seattle, 2010). Those accepted into the program can expect to begin construction four weeks faster for single-family and townhomes and two weeks faster for multifamily and commercial projects (City of Seattle, 2011). Like the City of Chicago, developers also have a single point of contact and can expect faster response times during the application process.

The City of Portland streamlines its approval process for rainwater harvesting systems by ensuring there is only one form to be completed (Portland Office of Planning and Development 2001).

The Stick (Mandating)

An emerging trend among municipal and other government bodies, particularly in severely water-stressed locales, is to mandate water efficiency measures that exceed the minimum building code standards. However, this approach often creates significant resistance from the building and realty industry and may not be politically palatable for many jurisdictions.

Ontario's building community has a preference for voluntary standards; however, Toronto, Vaughan, East Gwillimbury, and Markham have successfully adopted a variety of mandatory green-building requirements for multi-family buildings (see Box I). Nonetheless, if sufficient investment is made in engaging and incenting stakeholders, mandating water sensitive design elements can be extremely effective in reducing water demand and the associated negative impacts on local water bodies.

Box I. Getting Around the Red Tape: Minimum Standards for New Building in Ontario

A number of communities in the Greater Toronto Region have identified policy mechanisms to mandate efficiency standards that go beyond the Ontario Building Code for new development. The following excerpt from the City of Vaughn illustrates both the legal challenges and one way these communities have overcome this limitation. A number of communities have now expanded these requirements for new development to mandate other labels such as LEED and the Toronto Green Standard.

"The Ontario Building Code provides for minimum standards of construction which govern and mandate the building permit process. Since the Energy Star® construction standards are in excess of the Building Code requirements, the [local] Building Department has no legislative authority by which to enforce this standard on all new construction. However, additional energy efficiency requirements such as Energy Star® can be recommended to be included as a standard condition through dwelling construction governed by a Subdivision Agreement, prior to issuance of a building permit, in order to achieve more energy efficient dwellings than the current Building Code requirements."

*Excerpted from: The City of Vaughan Energy Star® Program Standard Conditions of Draft Plan of Subdivision Approval. Accessed at:
http://www.city.vaughan.on.ca/vaughan/council/minutes_agendas/committee_2007/pdf/CWA1105_13.pdf*

"The City of Toronto is empowered by the Planning Act to review and approve proposals for all types of development. It is our goal to ensure your development contributes to Toronto's economic, physical, social and environmental quality of life. We believe this is important, high-value work and

have established a number of processes to address this mandate.” (City of Toronto, 2011) The City of Toronto mandates compliance with the Toronto Green Standard (TGS) through a requirement in their Development Guide to meet the conditions of the Green Development Standards Checklist (aka the TGS) as a conditional of planning approval.

City of Toronto (2011) Toronto Development Guide. Accessed at: http://www.toronto.ca/developing-toronto/pdf/guide_intro.pdf#exec_summary

Prescriptive (Technologies or Practices): Mandated requirements for new buildings may stipulate a specific technology (e.g. rainwater harvesting) or parameters for a particular end use (e.g. landscape). The Town of Cochrane, Alberta, requires minimum areas of naturescaping under their Land Use Bylaw. The minimum naturescaping requirement for residential areas is 25% and Commercial properties must be 100% naturescaped. The City of Tucson, Arizona requires all new commercial developments to supply 50% of their landscape irrigation needs through rainwater harvesting in their site plans. Tucson has also mandated that all new single-family homes must include separate greywater plumbing for collection and reuse of water from bathroom and clothes washing (Tucson, 2008a; Tucson, 2008b).

Certification-Based: Many communities in North America now require classes of buildings to meet specific certification programs such as ENERGY STAR or LEED. The City of Vaughan requires all residential developments meet ENERGY STAR® requirements as a standard condition of approval (refer to Box I).

Target-Based: Target-based requirements offer a flexible framework by specifying a required reduction in water use or stormwater overflow, enabling a range of possible measures to meet the targets. The City of Chilliwack, British Columbia and the City of Toronto both require that new development restrict stormwater overflows at the site level to pre-development volume. Rainwater harvesting is specified as one mechanism for achieving this goal, in which case both cities require a minimum volume of rain water capture to be either infiltrated, reused, or released through evapotranspiration (City of Toronto 2006; City of Chilliwack and CH2MHill 2002).

Offsetting New Demand: As a condition of permitting a new house or subdivision, a municipality may require that the developer purchase “offset credits” or upgrade inefficient fixtures and landscapes at properties they own to offset the project’s expected water use in an existing community. For example, East Bay Municipal Utility District (East Bay MUD) in Oakland, California requires either a one-to-one or a two-to-one offset from residential developments (negotiated on a project-by-project basis). The funds are used to pay for retrofitting plumbing fixtures, sub-metering, installation of greywater systems, and creating water budgets. There are reportedly a dozen communities in California that require demand offsets as a condition of permitting (Wilson, 2008; Green Cities California, 2012).

Retrofit on Resale: Requiring all plumbing fixtures in a home to be upgraded to efficient fixtures upon transfer of ownership (re-sale) can signal to the housing industry that fixtures in new homes should also meet these same standards. The costs of the retrofit are typically the responsibility of the purchaser of the property and the retrofits are required prior to the utility reconnecting the water service for the new homeowner. Several water utilities in the United States have regulations requiring retrofit upon resale; they include the City of San Diego, the City of Los Angeles, and DeKalb County, Georgia. The municipalities that have ordinances for retrofit on resale have met with resistance from the real estate sector and have had to work closely with the sector to gain approval (DeKalb County, 2008; Wilson, 2008).

References

- City of Chilliwack and CH2M Hill (2002). Policy and design criteria manual for harvesting – ICC – RES/34/#1 & UPC/6/#2. Available on-line at: <http://www.chilliwack.com>.
- City of Hamilton (2008). Hamilton LEEDING the Way Community Improvement Plan (PED08169) (City Wide). Report to Chair and Members Economic Development and Planning Committee. Submitted by: Tim McCabe General Manager Planning and Economic Development Department. Accessed at: <http://www.hamilton.ca/NR/rdonlyres/37C6C33D-421B-4E29-9BFB-DF52DBAE01DA/0/Sep02PED08169.pdf>
- City of Seattle (2010). Priority Green. Available online at: <http://www.seattle.gov/DPD/Permits/GreenPermitting/Facilitated/default.asp>
- City of Seattle (2011). Priority Green: Streamlining Sustainable Development. Available at: http://www.seattle.gov/dpd/cms/groups/pan/@pan/@permits/@prioritygreen/document/s/web_informational/dpdp021378.pdf
- City of Toronto (2006). Wet weather flow management guidelines. Accessed at: http://www.toronto.ca/water/protecting_quality.
- DeKalb County, Georgia (2008). An Ordinance to Amend the Code of DeKalb County , Georgia, Chapter 25 Pertaining to Inefficent Plumbing Fixtures Replacement Plan and for Other Purposes. Accessed at : <http://dekalbwatershed.com/PDF/plumbingFixturesReplacement.pdf>
- Green Cities California (2012). Water Best Practice: Water Demand Offsets. Accessed at: http://greencitiescalifornia.org/best-practices/water/soquel_water-demand-offsets.html
- Portland Office of Planning and Development Review (2001). Code guide: rainwater surface water management. Accessed at: <http://www.portlandonline.com/shared/cfm/image.cfm?id=68627>.
- Tucson, Arizona (2008a). Rainwater Harvesting Ordinance 10597. Accessed at: http://greencitiescalifornia.org/assets/water/Tucson_rainwater-harvesting_Ordinance.pdf
- Tucson, Arizona (2008b). Residential Gray Water Ordinance 10579. Accessed at: <http://cms3.tucsonaz.gov/files/agdocs/20080923/sept23-08-527a.pdf>
- Wilson, A. (2008). Water Policies: Encouraging Conservation. Environmental Building News, What Really Matters in Sustainable Design and Construction. Accessed at: <http://www.buildinggreen.com/auth/article.cfm/2008/8/28/Water-Policies-Encouraging-Conservation/>