



SNAP

Sustainable Neighbourhood
Retrofit Action Plan

Black Creek SNAP Growing Food and Green Opportunities



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The Black Creek SNAP

Growing Food and Green Opportunities

The Black Creek Sustainable Neighbourhood Retrofit Action Plan (SNAP) is a plan for environmental and community transformation. It is the product of an innovative, integrated approach to urban retrofit challenges in this northwest Toronto neighbourhood (Figure 1, Box 1). One of five pilot SNAPs in the Toronto Region, the Black Creek SNAP was developed by Toronto and Region Conservation in partnership with the Jane Finch Community and Family Centre, Black Creek Conservation Project, City of Toronto and many other community stakeholders (Box 2).

The Black Creek SNAP seeks to coordinate and find synergies between numerous on-the-ground improvement efforts. It addresses a number of previously recommended environmental objectives with unique solutions that fit the compelling socio-economic needs of this neighbourhood. Black Creek, a Humber River tributary that flows through the area, is an urban river with limited aquatic habitat and degraded water quality. It was identified as a priority for restoration in the Humber River Watershed Plan, *Pathways to a Healthy Humber* (TRCA, 2008), along with other recommendations for improved urban forest. The area is also a site of basement flooding concern under the City of Toronto's Wet Weather Flow Management Master Plan. A recent environmental assessment process identified infrastructure upgrades within road rights of way to alleviate flooding. Alongside this work, Toronto Water is interested in promoting basement flooding prevention measures and lot level stormwater management practices such as rain harvesting and permeable pavement in driveways to reduce the strain on the storm sewer system. Private landowners need to be engaged to achieve maximum success on these issues.

Despite the local environmental concerns, the top of mind community interests that dominated the many workshops, survey findings and feedback sessions held throughout development of the SNAP were food security and job skills/employment opportunities (Box 3). Notably, this area also lies within a Priority Neighbourhood, designated by the City of Toronto as a focus for improved social health and wellbeing.

The resulting SNAP action plan, therefore, centres on actions to fulfil these community needs, while incorporating designs and delivery approaches to address broader objectives.

Box 1: Neighbourhood Profile

Study Area

395 ha

Land Use

22% single family residential (SFR)
20% multi-unit residential (MUR)
23% industrial, commercial, institutional (ICI)
16% roads
19% open space and other

Demographics (Based on 2006 Census)

Population: approx. 25,000
Median age: 28-30 (44 in SFR area)
Median household income: \$31,000-40,000
(\$57,000 in SFR area)
Low Income: 37-54% (12% in SFR area)
Recent immigrants (2001-2006): 11-19%
(4% in SFR area)
Unemployment rate: 10-15% (7% in SFR area)
Top five home languages: Vietnamese, Spanish,
Chinese, Italian, Arabic
Private dwellings: 66% rented; 34% owned
Building age: 90% built between 1960
and 1980
Total estimated single family homes: 2700
Total estimated MUR buildings: 45



Box 2: Who's involved?

Lead Partners

TRCA
 City of Toronto
 Jane Finch Community and Family Centre
 Black Creek Conservation Project

Major Landowners

Toronto Community Housing Corporation
 Jane Finch Mall
 Yorkgate Mall
 Tennis Canada
 Single detached homeowners
 Multi-unit residential owners
 Churches/Schools
 City of Toronto (parks, roads)
 Ontario Infrastructure and Lands Corporation
 (Hydro Corridor)

Local Groups

Jane Finch Community and Family Centre
 – Green Change Agents
 Toronto Hydro
 Enbridge
 Black Creek Clean Energy Coalition
 Afri-Can FoodBasket
 Live Green Animators
 ACORN
 San Romano Way Revitalization Association
 Yorkwoods Library
 Driftwood Community Centre
 LINC Centre
 Reaching Up Homework Club
 Signs of Science

Box 3: How we're listening

Research Tools

- Single detached homeowner survey by local green change agents (130)
- Key informant interviews (15)

Fun Informative Events

- Homeowner learning centre
- Participation in local events

Feedback Sessions

- City department meetings - One on ones; joint meetings
- Community leaders workshops (35+ people)
- Meetings with local stakeholders



A vision of the future Black Creek neighbourhood.

A Closer Look at the Black Creek SNAP

The Black Creek SNAP focuses on *Growing Food and Green Opportunities* through four primary action areas: vegetable gardening (supported by rain harvesting) in homes and open spaces, stormwater management and basement flooding prevention, urban forest enhancement and energy conservation and renewables (Figure 2, Box 4). Other considerations, such as sustainable transportation, waste management, long term land use planning and air quality were found to be adequately addressed by other existing plans and programs or not a top priority in the neighbourhood, and links to them will be made.

Implementation programs will be explored through local trusted agents and realize added social benefits by incorporating local job skills training and employment opportunities as part of delivery. The programs will also explore opportunities for revenue generation to contribute to long term program sustainability. This integrated Action Plan addresses local needs for improved environmental health, climate change adaptation, increased local food production opportunities and greater job skills training and employment in this diverse community of over 25,000 people, over 60% of whom are tenants.

A description of the primary components of the Action Plan is presented here, followed by an overview of the next steps involved in developing the implementation program. Additional background about the SNAP planning process can be found at the end of the document.

Black Creek SNAP Concept Plan

*Exact locations may vary and are subject to further analysis and refinement during the implementation process



Urban Forest Enhancement*	Stormwater Management*	Vegetable Gardens/ Rainharvesting*	Energy Conservation and Renewables*
<ul style="list-style-type: none"> Existing Natural Cover SNAP Potential Natural Cover Trees in Single Family Lots Trees in Other Lots 	<ul style="list-style-type: none"> Greening Paved Areas LID-SWM and Basement Flooding Prevention 	<ul style="list-style-type: none"> Community Farming Residential Eco-edible Landscaping 	<ul style="list-style-type: none"> Renewable Energy Energy and Water Conservation

Figure 2: Black Creek Sustainable Neighbourhood Action Plan.

Vegetable Gardens & Rainharvesting for Homes and Open Spaces

Community Gardening

The availability of fresh produce is a high priority in this community. It is underserved by outlets for fresh produce. There has been a strong community expression of the need for food security and access to a healthy diet, especially for over 60% of the population who live in apartment buildings and who are among the lower income earners. We conducted an analysis of the growing requirements for fresh vegetables and the potential plantable space on house and townhouse yards, multifamily and institutional sites, public and private open space, the Toronto urban farm and hydro corridor. Our analysis indicates that 20% of the area's open ground (excluding industrial, commercial and ravine lands) can provide 20% of the community's vegetable needs. Additional local food production may be possible, if balcony and rooftop gardens are promoted.

The strong community interest in vegetable gardening represents a potential mechanism for engagement of greater participation in the SNAP and can serve as a catalyst for greater use of rainwater as a source



Reaching Up Homework Club's Community Garden

of garden water supply. This will help achieve local water management objectives. Our resident interviews found that local social connections tend to follow cultural lines, except in the case of gardening, where neighbour to neighbour sharing of seeds and skills occurs. A coordinated urban agriculture program for this neighbourhood may, therefore, also represent an opportunity to strengthen a sense of community. Furthermore, opportunities for harvest sharing or sales represent additional mechanisms for revenue generation, increased food availability and community building.



Community gardens help address local food needs and strengthen social connections, while also presenting opportunities for on site rainwater use.



Roof leader disconnection combined with large rain barrels will be promoted to supply water for private vegetable gardens. They can also help prevent basement flooding and save residents money on their water bill.

Residential Eco-edible Gardening

Among residents of single-family homes, there is also a strong vegetable and fruit gardening culture. This particular population, mostly from Italian, Vietnamese and Spanish background, has been growing food for decades on its backyards, and has extensive knowledge about gardening. It is an older population, with 30% over 60 years old. In the last few years families have become smaller and their physical capacity to garden has been reduced due to age. SNAP sees an opportunity to facilitate sharing of skills, backyards and produce with other members of the community (i.e. apartment buildings tenants) that don't have access to these resources, while also promoting improved water management.

The strong community interest in vegetable and fruit gardening represents an opportunity not only for the engagement of residents, but for the promotion of rainwater as a low cost water supply alternative to tap water. In our door to door survey, approximately 71% of single family homeowners report growing food already

and only about 20% of them currently use rainbarrels. Our social research further revealed that the environmental ethic among homeowners is most closely tied to practical considerations and saving money, rather than more abstract concepts of climate change or ecological integrity. Many respondents noted conservation and re-use as a way of life in their countries of origin. For these reasons, the collection of rainwater for beneficial re-use in gardens and to save money on the water bill, appear to be well aligned with resident values. TRCA has estimated that a 500 liter rain barrel can save around 18.5 cubic meters of water per year. Rainwater collection and re-use will also help in supporting the basement flooding prevention strategy.

Once residents open the door to the measures that are of most interest to them, SNAP will use the opportunity to encourage other measures such as tree planting, sustainable stormwater management at the lot level and basement flooding prevention procedures (see other SNAP components).

Stormwater Management and Basement Flooding Prevention

Primary issues identified at the outset of this study are the quality and quantity of water entering the storm sewers (and ultimately Black Creek) and the frequency of basement flooding during storms in the single family housing tracts. The latter is caused in large part by capacity constraints in the piped sewer system, as well as the prevalence of reverse-sloped driveways. The relative lack of tree cover and extent of hard surfaces aggravate these problems. Black Creek suffers from flashy flows and poor water quality which pose challenges for the restoration of healthy aquatic habitat. A sustainable solution is to reduce the amount of storm water entering the sewers by dealing with rainfall where it lands, through increased ground infiltration and evapotranspiration, increased re-use and attenuation.

Single-Family Residential Properties

In the private residential lots, SNAP proposes runoff reduction measures, combined with other actions for enhanced prevention of basement flooding. In order to engage the community, SNAP will approach residents on the basis of their known interest in vegetable gardens and rainharvesting, and then other key measures, as explained below, will be encouraged.

The primary water management measure proposed is roof leader disconnection combined with large rain barrels and re-use schemes; with permeable paving at driveways and rain gardens/infiltration trenches in landscaped areas considered secondary measures as opportunities arise. Tree and shrub plantings, as part of urban forest enhancement initiatives, will also contribute to objectives for water management and energy conservation through building shading among other benefits. While the primary objective of these measures is to improve the health of the Black Creek subwatershed, they will also help in supporting the basement flooding prevention strategy.

The flow and quality targets set out in Toronto's Wet Weather Flow Management Master Plan are to absorb the first 5mm of a rainfall event before entering the sewers and reduce 80% of the total suspended solids. The Humber River Watershed Plan sets a directional

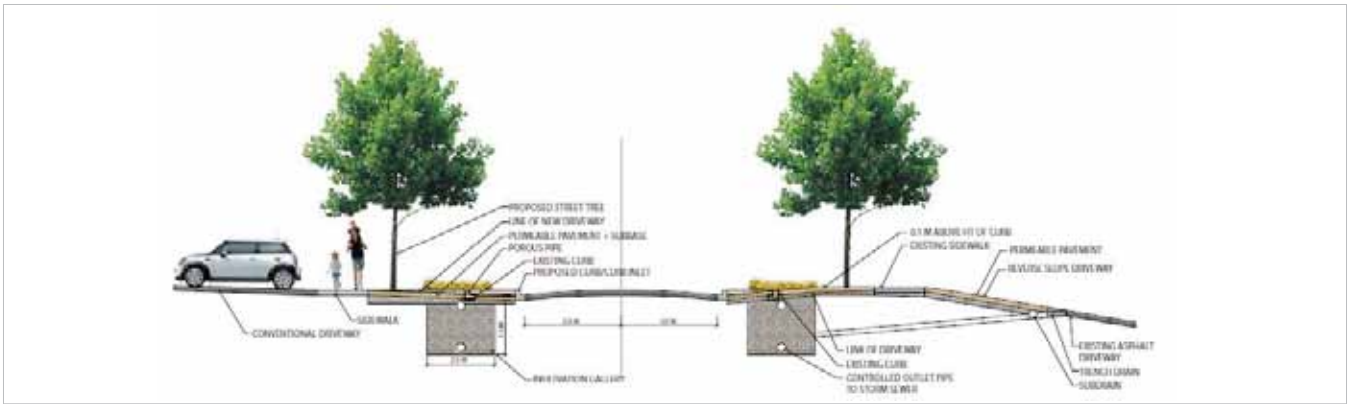


target for runoff reduction and quality improvement, with the specific targets to be set at a local level in retrofit situations. SNAP has estimated that a typical single family residential lot in this neighbourhood already retains the first 5 mm of rain, but could have the potential to retain up to 10 mm of water and achieve 80% removal of suspended solids, if the above-noted measures are implemented. This assumes roof leaders are disconnected and directed to non-paved areas.

Recognizing technical constraints and homeowner preferences at individual lots may limit the full adoption of these measures, SNAP recommends a target of an additional 30% reduction in runoff and an associated 30% reduction in pollutants be adopted for the single family residential lots. This target could be achieved if 90% of lots disconnected their downspouts, 50% installed 500 liter rain barrels, 30% installed a 1 m² rain garden and 5% adopted permeable pavement.

SNAP will encourage other actions to further reduce basement flooding risk, such as disconnection of foundation drains and reversed-slope driveway drains from the sanitary sewer, installation of sump pumps and installation of backwater valves.

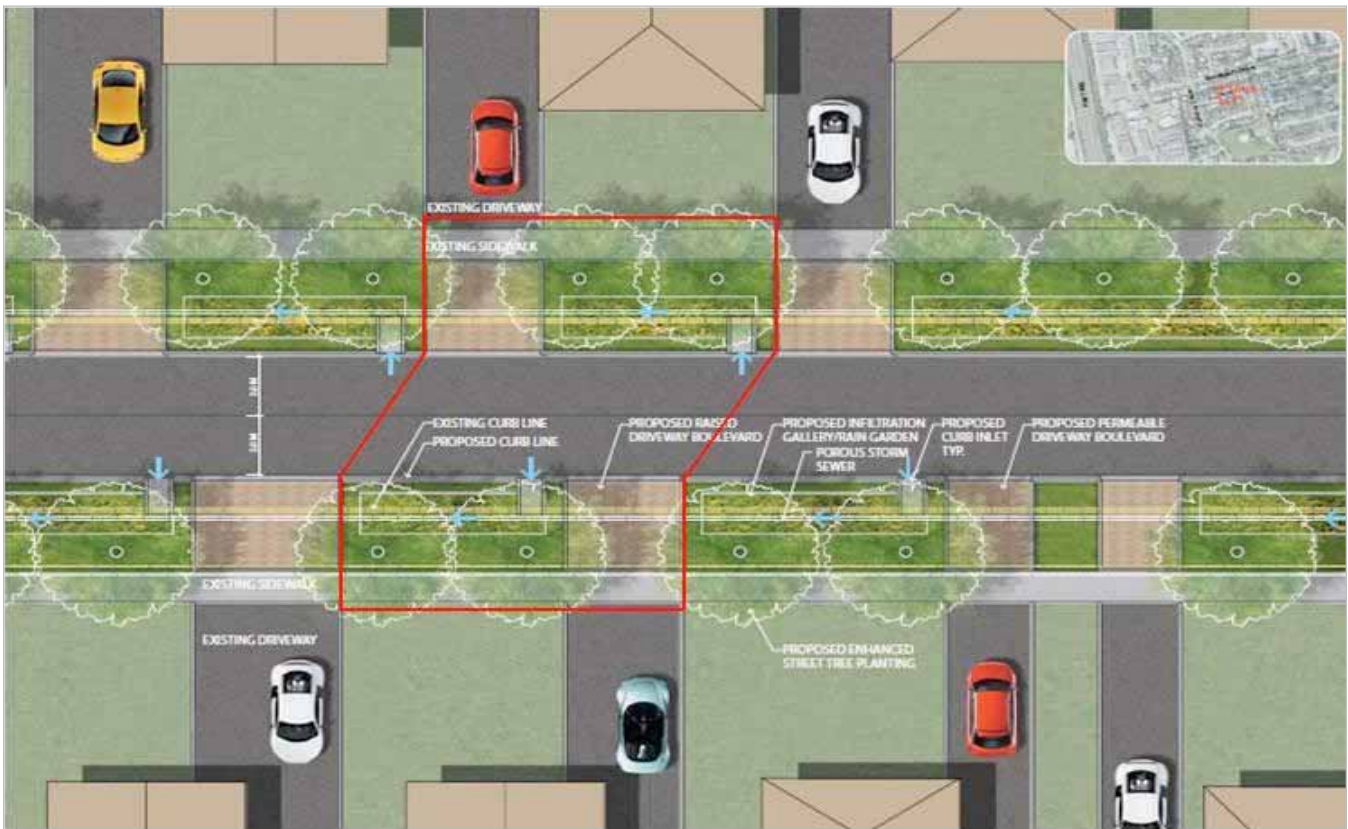
Under the City of Toronto's Mandatory City-wide Downspout Disconnection By-law (2009), the Black Creek neighbourhood will be required to disconnect all downspouts by December, 2013. This represents a great opportunity for coordination in SNAP implementation.



Conceptual drawing of a modified single family residential road right of way

In the single family residential road right of way (ROW), the measures proposed are a reduced pavement width, permeable pavement on the driveway aprons, and infiltration galleries or bioswales within the boulevard. In addition, ROW modification provides an opportunity to raise the lip of reverse sloped driveways, thereby reducing the vulnerability of these homes to basement flooding from the street. Further input from the community

is needed to determine the likely acceptability of the proposed measures, and any implementation should be coordinated with the City's long term road maintenance and rehabilitation plans. It is recommended that pilot projects involving these design concepts be earmarked for incorporation into the City's long term road projects for this neighbourhood. No such projects are anticipated in this neighbourhood within the next five years.



Commercial and Institutional Properties

The extensive area of paved parking lots and hard rooftop surfaces, prevalent in this neighbourhood as part of commercial/retail centres, schools and churches, contribute to high volumes of stormwater runoff that flow largely untreated to Black Creek. Built in the 1960s car-focused planning era, many of the parking lots are now considered oversized and underutilized. These hard surfaces also contribute to urban heat island effects, (warmer air temperatures relative to the cooler, more vegetated areas). Strategies to reduce the impacts of these hard surfaces involve attenuation of rainwater and re-use as well as plantings to help provide shade. Additional greening targets involve the adjacent buildings, such as energy and water conservation, renewable energy production, etc. (see other SNAP components).



The low impact stormwater management measures proposed for these properties are permeable paving, bioswales, bio-retention cells, rainwater harvesting and planted medians. The extent and variety of measures required to achieve the targets are entirely dependent on site specific conditions including the overall site area, the proportion of building to parking areas, and the amenability of property managers to the different types of approaches. However, as an example, in order to capture 15 mm of every rainfall event, a 5 hectare commercial property would need to include mechanisms that together provide about 750 m³ of storage, either within cisterns for reuse, or within the subsurface media underlying permeable pavement zones, bioswales, bioretention cells, or the planted medians. This benchmark has been shown to be achievable in other projects and is estimated to result in a 60% reduction in peak release rates and runoff volume from the 2-year storm and 20% reduction for the 100 year storm. These effects will contribute to the alleviation of erosion and flood risk, as well as reduce the pollutant load to Black Creek. Further detailed site analysis will explore opportunities to optimize designs and achieve or exceed these objectives.

Multifamily Residential Properties

In these properties, a similar suite of low impact development measures as for commercial properties has been explored in detail as part of the Toronto Tower Renewal Program. The study identified the effectiveness of these measures and demonstrates that the SNAP targets can be achieved through implementing them. Further detailed analysis will take place at the site scale to optimize designs.

A number of rainwater re-use, permeable pavement and rain garden demonstrations have been completed or are being investigated in the Black Creek SNAP area. These initiatives will generate a set of local champions for this sector.

Urban Forest Enhancement

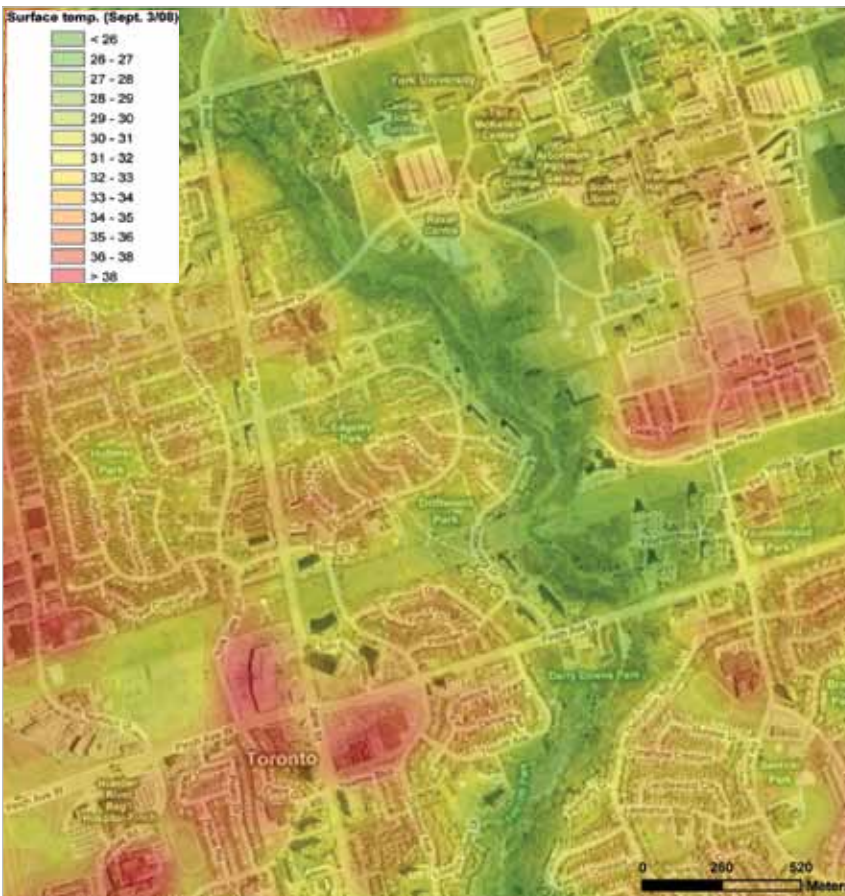
The focus of this component of the Action Plan is on expansion of the natural heritage system and the overall urban forest. Although the existing urban forest tree canopy covers 26% of the SNAP area, it is concentrated in the Black Creek valley corridor with relatively sparse cover in the built up areas. Urban forest health is poor. There is a low proportion of mature trees, due in part to the area's inclusion within the federally-regulated Asian-Long Horned Beetle control area. In this area, potential host trees (e.g. maple, poplar) were removed to control spread of the beetle. The relatively well-vegetated valley supports greater habitat diversity and provides a significant cooling effect on surface air temperatures of up to 10°C, as compared to the warmer, predominantly paved tableland areas.

Given that the Black Creek corridor is the centrepiece of the natural heritage system, this Action Plan aims to increase the extent of natural cover along the Black Creek corridor as well as the corridor associated with Driftwood Creek. Potential opportunities to expand natural cover have been identified including naturalizing portions of the Hydro corridor and public and private lands that are situated along these Creek corridors. These 'Priority Naturalization Areas' represent an area of 12.3 hectares. The successful implementation of this work will elevate the total area of natural cover from 72.5 ha (18.3% of the study area) to 84.8 ha (21.5%).

The enhancement to overall urban forest cover should also aim for improved distribution throughout the area and be coordinated with efforts to achieve objectives related to the urban agriculture theme. We have estimated that by planting the equivalent of one new large stature tree (e.g. silver maple) or three small stature trees (e.g. fruit trees)



A Black Creek Conservation Project community tree planting event



The well-vegetated valley provides a cooling effect of up to 10°C as compared to the built up areas.

at each single family residential property (about 1700 lot parcels), combined with the above-noted expansion of the natural heritage system, the total urban forest cover in the study area will reach 34%. Although these residential plantings could be done within only 25% of the plantable space in residential yards, we would expect that a portion of these plantings would take place in school yards, church properties parks or other private properties.

This sample planting effort illustrates a possible way to achieve the City’s overall target of 30-40% urban forest cover within the study area. In addition to providing shade and water management functions, the urban forest removes greenhouse gases and other pollutants from the air.

Without exception, community members indicated they are interested in more naturalization in parks. The parks, greenspace, trees and trails were identified by many as the best things about the neighbourhood. There is a sense of pride in the neighbourhood and support for further enhancing it with tree planting and profile projects.

Energy Conservation and Renewables

According to Toronto's Sustainable Energy Strategy, electricity and natural gas end-use in Toronto accounts for approximately 60 percent of the entire City's greenhouse gas emissions. Natural gas and electricity also emit into the air thousands of tonnes of pollutants each year, giving rise to smog that contributes to health problems resulting in thousands of deaths.

Even with current relatively low energy prices, there are "energy equity" issues that affect low-income residents in Toronto. Low-income households tend to live in less energy efficient homes. These households tend to spend a much higher percentage (more than twice) of their pre-tax income on utilities. Many of these people are unable to afford maximizing the energy efficiency potential of their homes. It is expected that the cost of fossil fuel sourced energy will significantly rise in the next few years, as availability of limited resources is unable to keep pace with the increasing demand.

Increasing energy conservation is crucial, in order to:

- address environmental and public health issues
- help residents, businesses and institutions to cope with fluctuating prices of energy from fossil fuels
- improve energy security
- keep dollars within local economies.

In this neighbourhood the residential sector is the largest gas consumer, consuming 67% of total gas used (30% is consumed by single-family residences and 37% by apartment buildings). The commercial and institutional sectors are the largest electricity consumers, consuming 58% of electricity used (32% is consumed by the commercial sector and 26% by the institutional sector, including municipal facilities).

The Black Creek SNAP will focus its main efforts on promoting gas-saving measures in the residential, commercial and institutional sectors, with a particular emphasis on the residential sector (low, mid and high rise). In terms of electricity-saving measures, SNAP will focus its main efforts on the commercial and institutional sectors. Some attention should also be given to the high and mid-rise residential sector. Electricity use in the low-rise residential sector is very low; resources allocated to

this area ought to be proportional to the small savings potential. The same applies for gas and electricity use in the industrial sector in the neighbourhood, where consumption is relatively low.

While implementation of renewable energy measures is desirable in the long term, in this particular neighbourhood (with 90% of the building stock developed before 1980), the most cost-effective means of achieving gas and electricity savings in the mid and short term is through energy conservation measures. SNAP will concentrate on the following actions (in this order of priority):

1. Promoting existing energy efficiency retrofit programs offered by utilities (i.e. including weatherization programs, HVAC retrofits, appliance and equipment replacement, etc). A neighborhood-based social marketing approach can be customized by SNAP to effectively reach and assist each specific sector.
2. As opportunities arise, promoting "light" energy efficiency measures and behavioral changes in all sectors. Light energy efficiency measures include programmable thermostats, power bars with timer, efficient bulbs, etc. These measures are highly cost-effective, achieving high energy savings at a small cost.
3. Supporting opportunities for renewable energy production in the neighborhood, not as an ultimate cost-effective strategy to save energy but as a means of creating momentum, changing the face of the neighborhood, attracting investment and generating revenue. More than 14 suitable roofs have been identified in the neighbourhood, with areas of 12,000 square ft or greater and potential for photovoltaic installations. The Ontario Sustainable Energy Association (OSEA), through the Black Creek Community Energy Coalition is currently exploring the implementation of a Feed-in Tariff-contracted, solar PV project, to be located on one of these roofs. The project would operate as a cooperative. It is hoped to bring revenue to the community.
4. Exploring opportunities with businesses for "bulk purchasing deals" on products and services, to achieve key energy efficiency measures in key sectors, in exchange for marketing and promotion.

Box 4: Key Outcomes

Local food production

Produce 20% of the community's vegetable needs by creating vegetable gardens on 20% of the area's potential plantable ground (excluding industrial, commercial and ravine lands). An estimated 3% of plantable ground is currently used for food production.

Basement flooding reduction

Reduce the risk of basement flooding in single family residential properties by implementing targeted measures such as disconnection of foundation drains and reversed-slope driveway drains from the sanitary sewer, installation of sump pumps and/or installation of backwater valves in homes that experienced flooding during the 100 year storm in August of 2005.

Stormwater management / Improved health of Black Creek

Achieve Humber River Watershed Plan and City of Toronto objectives for stormwater runoff reduction and improved water quality by retaining an additional 30% of stormwater runoff (and diverting it from the sewer system) and removing an additional 30% of total suspended solids every year, in the single family residential, commercial and institutional properties, by dealing with rainfall where it lands, through increased ground infiltration and evapotranspiration, increased re-use and attenuation.

Urban forest enhancement

Achieve the City of Toronto's urban forest targets by expanding the overall tree canopy cover from 26% to 34% of the area. This can be done by planting the equivalent of one large tree (e.g. silver maple) or three small trees (e.g. fruit) per single family residential lot and by adding 12.3 ha of natural cover to the Black Creek corridor, Driftwood Creek and immediately adjacent properties. These efforts will also meet watershed targets by expanding the natural heritage system from 18.3% to 21.5% of the area.

Ecoservices

After 30 years of growth, the new urban forest will have removed 5700 kg of air pollution (service valued at \$2800 annually) and provided 128,000 kg of carbon storage (valued at \$3000 annually).

Energy conservation

Achieve targets established by the City of Toronto by reducing electricity use in the neighbourhood by 10% and reducing natural gas use by 17% below 2007 levels by 2020.

Next Steps

The partners will now focus on the development of implementation programs and building capacity for the implementing non-profit groups for key action areas of the Black Creek SNAP. In keeping with the highly collaborative and innovative process that was followed in the development of the plan, the project partners will continue to engage additional local groups, community leaders and other stakeholders in this work. Demonstration projects are underway to bring the concepts to life.

Primary implementation program areas include:

- 1. Neighbourhood-wide Agriculture Supported by Rain Harvesting.** This program will expand food production and facilitate improved access to local food through private and public residential property gardens, balcony gardens, and community gardens on open space such as parks, hydro corridors, schools and churches and the Toronto Urban Farm. Rainharvesting will be incorporated into garden designs wherever possible, as a source of water supply. Program development will involve determination of a suitable business model and partnerships for coordination and delivery.
- 2. Single-family Residential Eco-edible Landscaping and Other Strategic Retrofits.** This program will promote rain harvest supported vegetable gardens, while also promoting other strategic retrofits for single-family residential properties. Other retrofits include measures to address basement flooding, stormwater management at the lot level, rainwater re-use, tree planting and water and energy conservation. Implementation program design will involve the development of a customized marketing and delivery approach that is informed by insights gained from the SNAP study on key motivations and barriers of local residents. Delivery approaches will build on existing programs.
- 3. Greening of Paved Areas and Buildings on Institutional, Commercial and Multi-Unit Residential Properties.** This implementation program will encourage low impact development measures for stormwater management, tree planting,

rainwater harvesting and re-use and energy and water conservation. It will also support renewable energy, such as mid-scale solar PV projects that can potentially bring revenue to the community and raise the neighbourhood profile. The approach will facilitate partnerships and opportunities for collaboration that can take advantage of existing programs and technical support offered by utilities, the City of Toronto and the Toronto and Region Conservation Authority.

- 4. Urban Forest Enhancement** This implementation component will focus on tree and shrub plantings on public open spaces, including the Hydro Corridor and parks, but it will also support the above mentioned greening programs for the residential, commercial and institutional sectors. SNAP recognizes the Black Creek Conservation Project as the lead organization with a long history of tree planting in this neighbourhood and will continue to collaborate with them to achieve SNAP's urban forest objectives.

Delivery Parameters

- **Build on the strengths of local partners**
SNAP will identify potential delivery partners for each program. The partners will be identified based on their history and presence in the neighbourhood, their existing relationship with community leaders, residents and local stakeholders, and their level of expertise on key action areas.
- **Local green job creation and skills development**
SNAP is committed to create jobs in the neighbourhood, as this has been identified as one of the primary top of mind issues in this community. SNAP will collaborate with local organizations to train and hire local residents in SNAP implementation programs.
- **Partnership with private businesses**
SNAP will work with private businesses to explore opportunities for sponsorship or "deals", in exchange for the creation of a market for the products and services that support SNAP objectives.



Toronto Urban Farm



Rain harvest kick off at 35 Shoreham Drive - May 2012

The partners acknowledge the consulting team of DuToit Allsopp Hillier, Schollen and Company, The Municipal Infrastructure Group and Nicole Swerhun for their contribution to background studies in support of the Black Creek SNAP.



SNAP

Sustainable Neighbourhood
Retrofit Action Plan

Sustainable Neighbourhood Retrofit Action Plan (SNAP) projects develop an environmental improvement plan for existing urban neighbourhoods. The projects aim to accelerate implementation of sustainable practices through: (1) An integrated approach to urban retrofits that addresses a broad range of objectives (e.g., natural water cycle, water and energy conservation, urban forest, green building, community interests); and (2) Innovative stakeholder engagement and social marketing to increase the rate of private landowner uptake and secure local partnerships for implementation.

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