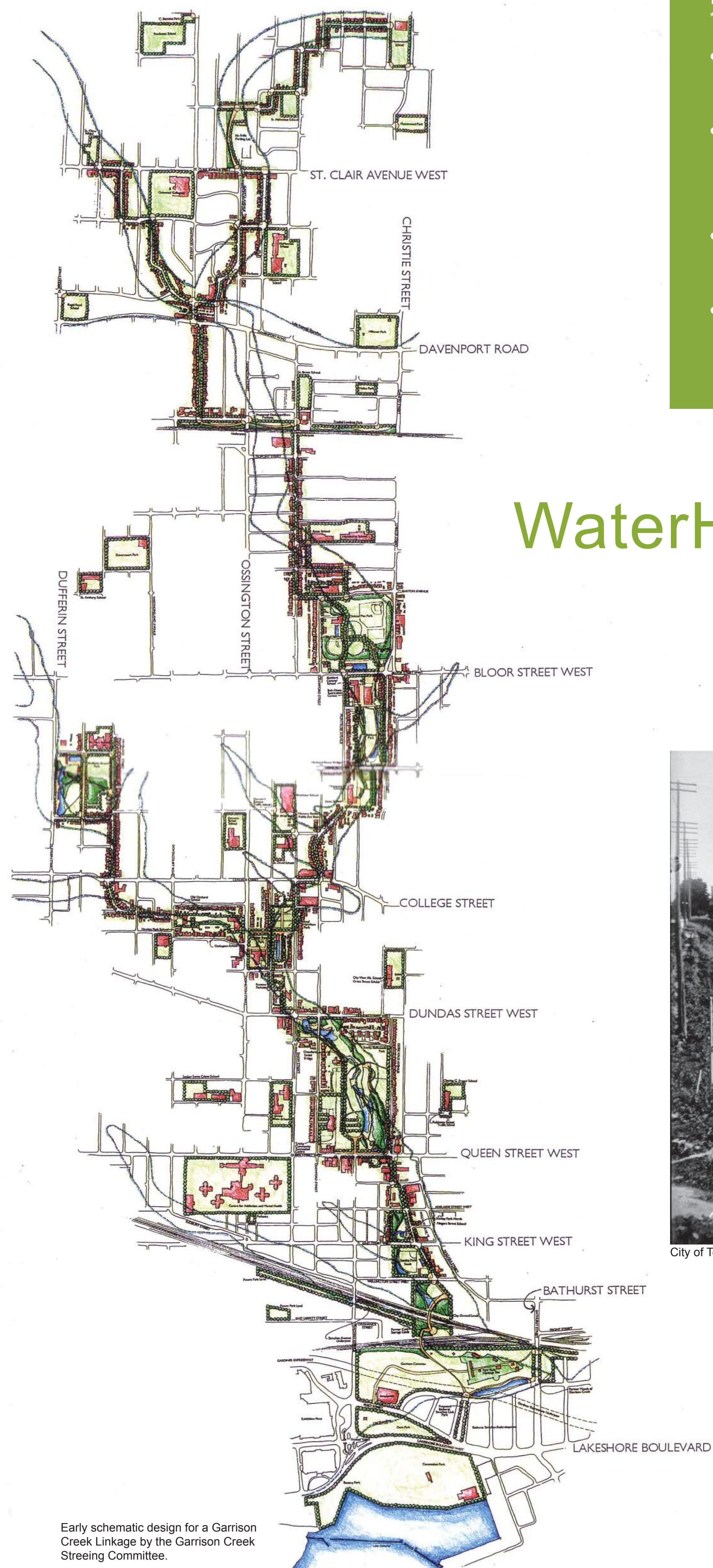


Roxton Road Parks Revitalization



Pictures from the Community at FoRRP Events

In 2011, neighbours responded to a call from the local Councillor's office for guidance on pending upgrades to Fred Hamilton Park. The group evolved and eventually came to call itself Friends of Roxton Road Park (FoRRP) giving stewardship to the three parks that border Roxton Road and sit atop the former Garrison Creek. We are dedicated to enhancing our urban parks and collaborating with the City and stakeholders both in the neighbourhood and beyond, and developing models for others along the Garrison Creek corridor.



Early schematic design for a Garrison Creek Linkage by the Garrison Creek Steering Committee.

FoRRP Principles

*these guide the ideas behind the WaterHarvest.

- **Inclusive:** Support people of all ages, and accessible to everyone.
- **Ecologically Responsive:** Steward climate change action and environmental practices at a local level.
- **Creative:** Celebrate, support, and engage our creative community.
- **Historical:** Make visible the history of our neighbourhood including Garrison Creek and immigrant story.

WaterHarvest: Background

Until the late 1800s, Garrison Creek was the largest watershed between the Humber and Don Rivers and served as a natural storm water management system for the city. Over time, the ravine was largely filled in and the river now flows in an aging combination sewer that is susceptible to overflow during extreme weather.



City of Toronto archival photo of the Prittie Ravine (now Fred Hamilton Park), 1913.

The City struggles to deal with stormwater run-off while at the same time lacking the necessary water in our parks to increase the green canopy. The creation of the WaterHarvest concept, started with the desire to divert water from entering sewers and use it locally to nurture the struggling ecosystem.

FoRRP proposes to collect and use rain water from roofs and other potential sources (eg. the wading pool and permeable surfaces etc.) in the parks. By storing water for future use, the burden on the storm sewers is reduced and water becomes available for watering gardens, young trees and grass during dry times. The WaterHarvest, when fully built, intends to engage private property owners and tenants that abut the parks, along with adjacent businesses, the local school, and Bellwoods Park House in a larger neighbourhood-wide water harvest practice.

The WaterHarvest prototype works in tandem with the renovations to the brick building already in progress. The upgraded washrooms add a new community kitchen, and an expanded roof will provide shelter and increased water harvesting capacity within the park. Future park enhancements also seek to embrace the water cycle, including the playground equipment, pathways, fountains, and wading pool. The WaterHarvest also aims to educate children and adults about the historical significance of the former Garrison Creek.

FoRRP, along with the students from the University of Waterloo and U of T, the Toronto & Region Conservation Authority (TRCA), the City and many other supporters are optimistic that these ideas will have applications in other parks.



Roxton Road Parks Revitalization

WaterHarvest: Masterplan

We may not be able to re-create the Garrison Creek, but we do need to manage our water better. Storm water management has been an issue in Toronto for years; the TRCA originated due to the disastrous effects of Hurricane Hazel in 1954, and flooding has only become more problematic as climate change impacts our weather. In 2003, Toronto City Council adopted a Wet Weather Flow Masterplan to reduce run off from rain and snow. In keeping FoRRP has initiated **WaterHarvest** Prototype for roof water harvest, raingarden, and storage cistern.

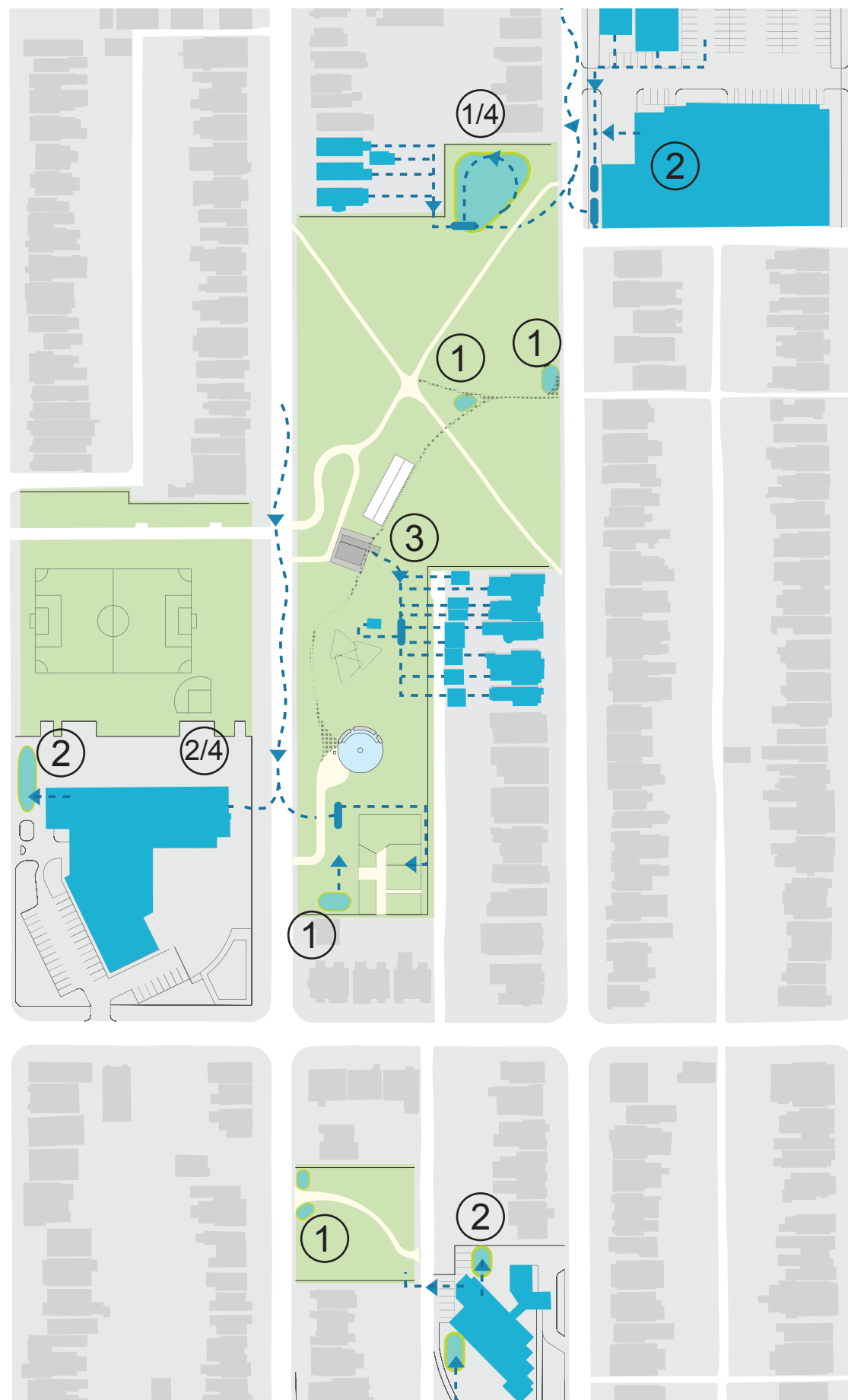
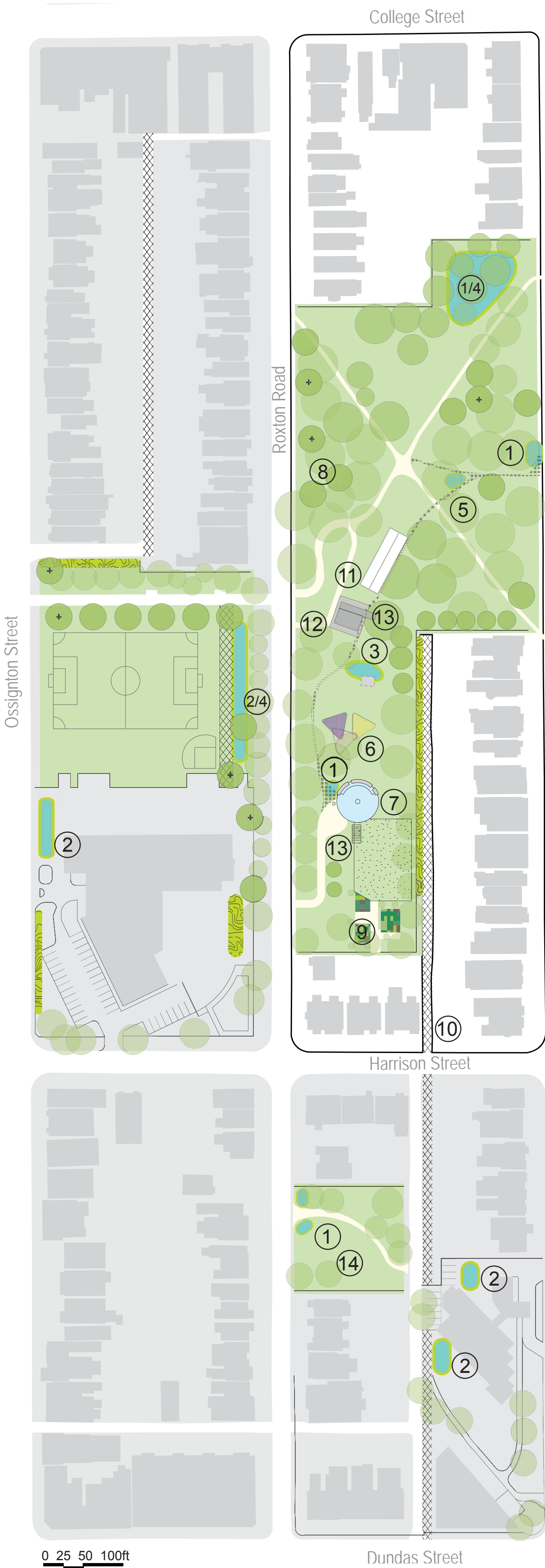


Diagram: Proposed Flow of Water

A **Community Kitchen** within the renovated washroom building will serve many functions: a picnic prep space, a farm-fresh food drop-off, cooking classes, space for kids, community food drive hub, and seasonal programming (toast + coffee mornings in spring; soup Saturdays in autumn, ice-cream Sundays in summer) and possible local partnering with non-for-profits.

Other future plans include the enhancement of the playground to include equipment that uses natural material, incorporates water and is inviting to all ages and abilities. Join our playground group to develop plans.



LEGEND:

1. Proposed Rain Garden
2. Possible Rain Garden on Other Property
3. WaterHarvest Prototype
4. Cistern
5. Natural Pathway
6. Proposed Playground
7. Existing Wading Pool and Proposed Footbath
8. Park Hotdesk
9. Community Garden
10. Laneway Intervention
11. Bocce Court
12. Kitchen/ Washroom
13. New Canopies
14. Canoe Garden

- + New Trees
- Trees
- Community Garden
- ▨ Permeable Paving
- ▨ Swales
- Rain Gardens

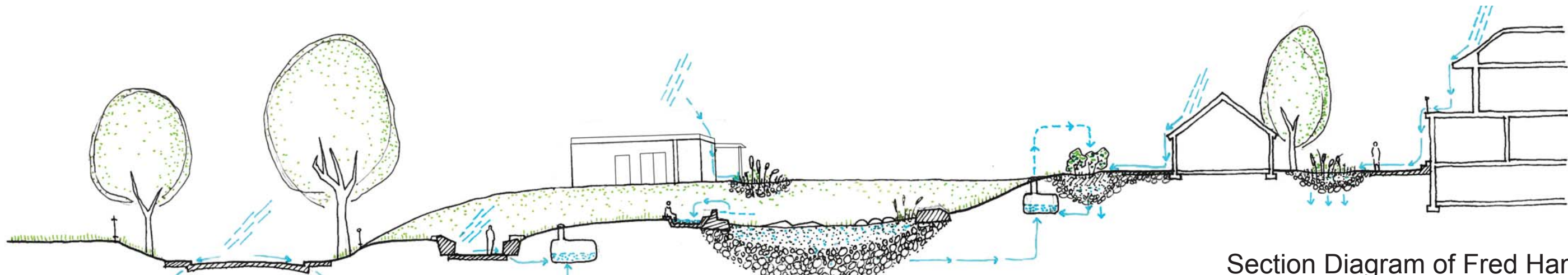


Roxton Road Parkette is an ideal location to harvest water from the adjacent Bellwoods Park House. Small and under-utilized this Parkette would also be ideal for an “edible orchard”. A pathway has recently been established connecting the pedestrian right-of way from the north-west corner of Shaw and Dundas between the two buildings of Bellwoods Park House, through the Parkette to Roxton Road.

George Ben Park offers an opportunity to expand the WaterHarvest. Partnering with St. Luke Catholic School to create local garden plots, collect water from the school roof, create a cistern for storing captured water, and future rain gardens to temper the ebb and flow of our current rain surges.

FoRRP is committed to increasing Toronto’s tree canopy in keeping with the City’s goal to move from 26% tree coverage to 40% city wide. Our community currently has a meager 7% coverage! BUT...in less than one year 30 native trees of diverse species were added to our parks. We can do more!

How can you help? **Adopt-a-Tree!** Or sign-up for tree inventory and volunteer to help build our neighbourhood tree management plan.



Section Diagram of Fred Hamilton Park

Roxton Road Parks Revitalization

WaterHarvest: Prototype



The Friends of Roxton Road Parks (FoRRP) will create infrastructure to capture and use rainwater. We call this project the WaterHarvest. It aims to recreate some of the lost watershed that was the Garrison Creek. FoRRP received a Livegreen grant of \$19,475 to create a prototype WaterHarvest system that will divert water currently falling on the roof of the park building from going straight into the sewers, and to build a cistern, and rain garden system in Fred Hamilton Park.

LEGEND:

- A. New steel roof for water collection
- B. Visible rainwater leader through the kitchen (exposing the water collection system)
- C. 200-300L rain barrel
- D. Overflow to cistern through underground pipe
- E. Eavestrough and rainchain emptying in concrete basin
- F. Roof drain
- G. Permeable paving
- H. Underground pipe to cistern
- I. Rain collection pipe (future for residential connection)
- J. Bench
- K. Hand pump
- L. Concrete base
- M. 'Stream' to rain garden
- N. Rain garden
- O. Over flow pipe from cistern
- P. Gravity fed faucet from cistern
- Q. Laneway puncture (separate project by the Laneway Project)
- R. Existing shed to be removed

The objectives of the WaterHarvest are:

- to capture rain water for watering park trees and gardens, instead of using valuable tap water
- reduce burden on the aging sewer infrastructure
- reduce likelihood of flooding basements & low lying streets along the Garrison Creek corridor, and raw sewage flowing into Lake Ontario
- increase awareness of the natural water cycle

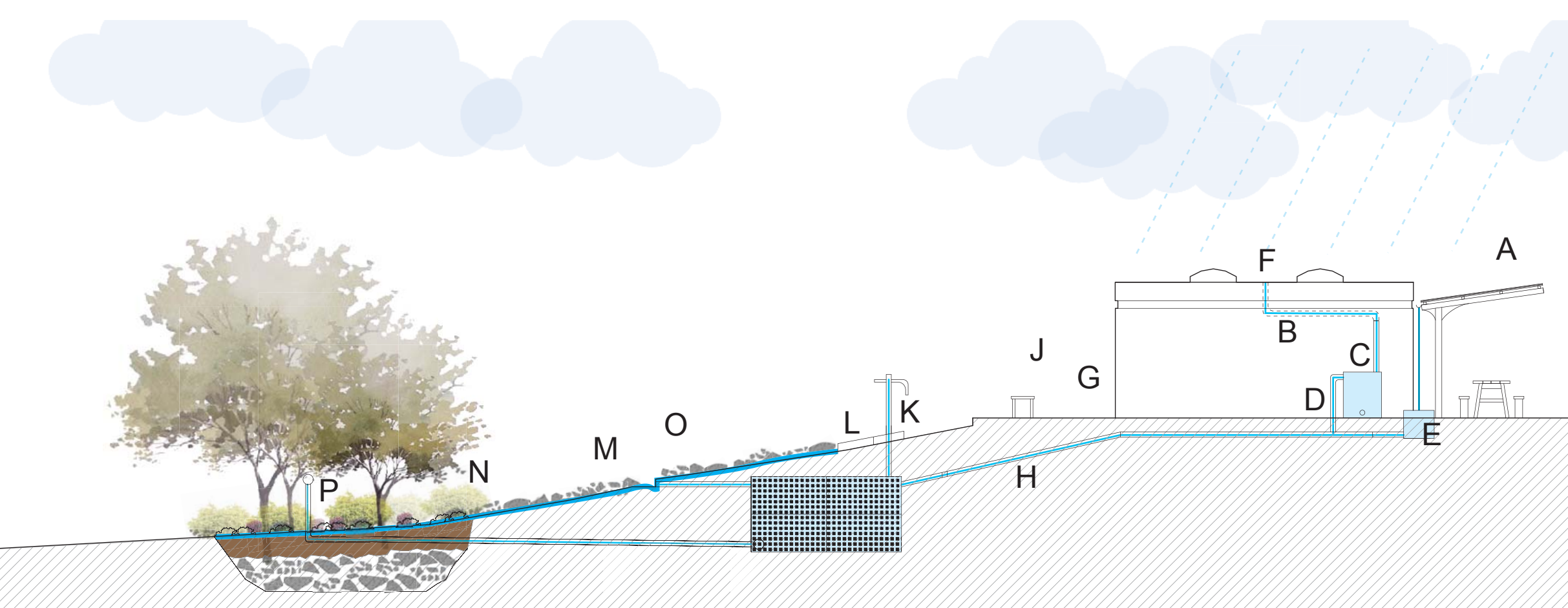


Recent summer weather events have underscored the need to manage our storm water more effectively and provided the initial impetus for FoRPP to develop this prototype. The other major catalyst for the project was to support the City's goal of increasing tree canopy. In the summer of 2013, when the City planted 21 saplings in the three parks along Roxton Road, FoRPP started an Adopt-A-Tree program using only two awkward water outlets, both located far from most of the trees. Most adopters resorted to hauling buckets of tap water from their homes! WaterHarvest changes this!

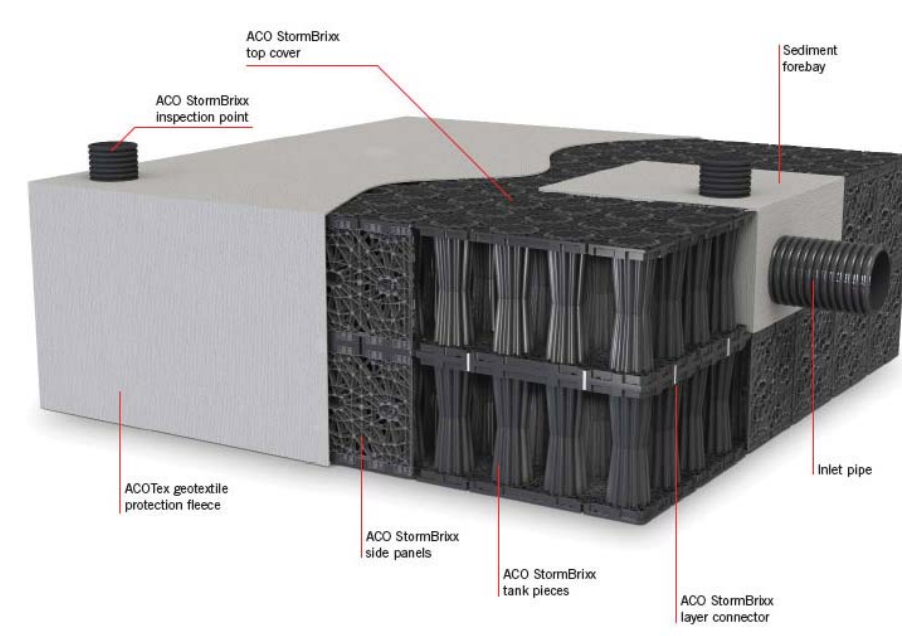
Our parks, though small, are perfectly situated to help with stormwater management, but planting and maintaining the raingarden will be a community effort.



ACO StormBrixx installation.



Sectional diagram of WaterHarvest prototype.



ACO cistern with StormBrixx and enclosing membrane.



Images of water harvesting elements (overflow, rain barrel, handpump, swale and rain garden).

The WaterHarvest prototype is the result of a collaboration between FoRRP,

- the City of Toronto Councillor's Office and Dept of Parks, Forestry, and Recreation,
- architecture students from UoF and University of Waterloo with MJ | architecture
- and our Neighbours and Friends!



Roxton Road Parks Revitalization

WaterHarvest: Playground



More trees, grass, and gardens,
More water play.
More playground equipment,
More diverse types of play for all ages,
More learning opportunities,
More art filled,
More natural features,
More seating and basic amenities,
while preserving open space.



LEGEND:

1. Wading Pool with Artist's Mural
2. Foot Bath (Accessible)
3. New Play/Climbing Structure (w/ Water Elements)
4. Shade Structure
5. Rain Garden & Water Pump (see WaterHarvest Prototype)
6. Chess Table
7. Sand Diggers
8. Four Square
9. Zipline
10. Beach Volleyball/ Tetherball/ Badminton (borrow from kitchen)
11. New Swings (location t.b.d.)
12. Textured/Natural Paths
13. Renovated Kitchen/Washrooms
14. Bocce
15. Open Area for freeplay
16. Existing Drinking Fountain
17. Existing Exercise Equipment
18. Existing Play Equipment (1 climber, 1 teeter totter, swings)
19. Recent Apple Trees
20. Existing Community Gardens
21. New SE Park Access

Our playground in Fred Hamilton Park can be more. It can have more shade, it can have more water, it can have more places to play and more things to play with. It can be used longer into the night and longer into the seasons. It can be fun for people ranging in age, ability, and interests. It can be beautiful, and safe, and adventurous.

While the initial step into the WaterHarvest project is designed to lead into the more comprehensive management of our rain water by repurposing it to support the park's ecological balance, subsequent steps can embrace the water cycle in other aspects of our park including our playground equipment, pathways, fountains and wading pool. The WaterHarvest also aims to educate children and adults about the historical significance of the former Garrison Creek.

An example of this currently under development is WaterWise, a participatory art sculpture designed to capture water, encourage the community to explore the urban water cycle, and provide a play structure consistent with the theme of water cycles within the park.

We want everyone to have fun in our playground. Come help us make it more!



Roxton Road Parks Revitalization

WaterHarvest: Vision 2080



Stormwater
Sewer Intake

Wetlands

Existing Park
Pavilion

Play Pool Plaza

Fred Hamilton

GeoTerraces

Retention Basins

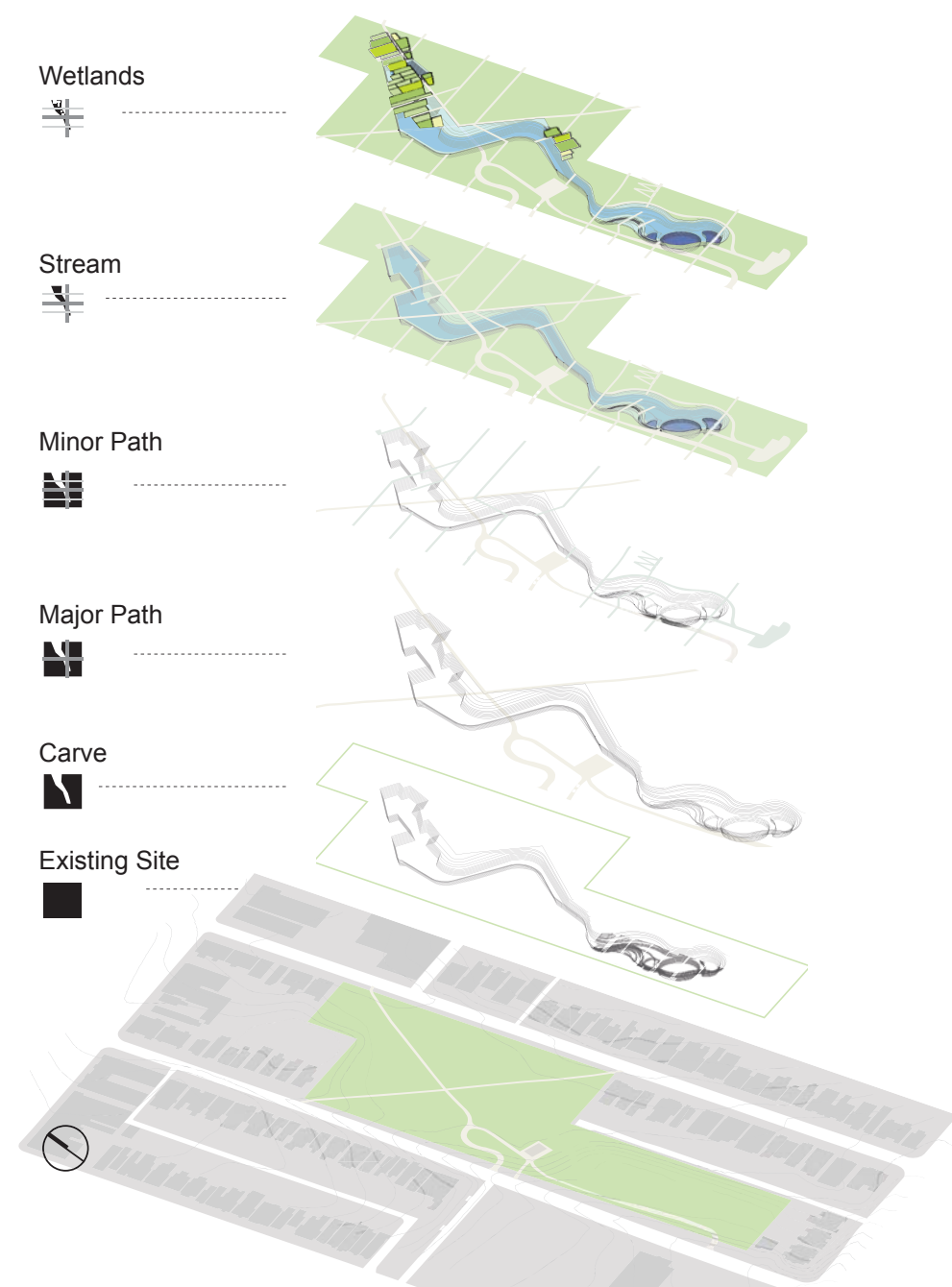


In 2014, May Wu, at the time a University of Waterloo graduate student, completed a thesis inspired by the master planning efforts of the Friend of Roxton Road Parks. She was interested in the topic of parks taking an active role in the creation of urban watershed and took the early ideas to a whole new level – a true vision for the future.

“A century after the burial of Garrison Creek, Toronto continues to experience urban floods and unpleasant sewer problems as a result of the unsettling creek...

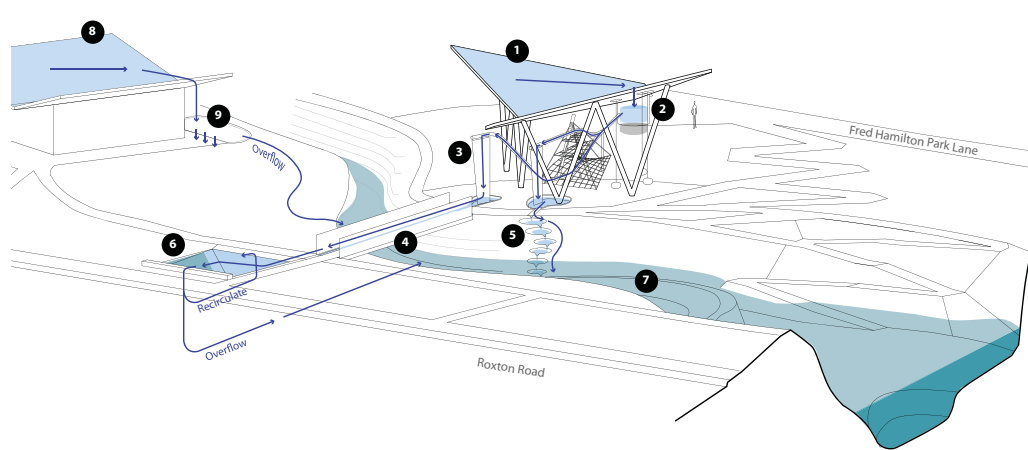
Combining the concerns of ecology, storm water infrastructure and urban public space, this thesis proposes a series of design interventions centering on the Fred Hamilton Park at the College and Shaw neighborhood. The proposal is aimed at converting the area's current open spaces including parks, street corners and school yards into multi-functional public spaces that bear both environmental and social responsibilities. A water playground, programmed earth terraces, and storm water retention basins form the central hub of the neighborhood—while a school wetland garden, a street corner square and an all-can-accessible park extend opportunities for play and environmental education into all corners of the neighborhood. Three scales of exploration—entire watershed, local neighborhood and detailed construction assembly—are executed in the design to create a composite network of public spaces that re-establishes the function and life of the former creek.”

-May Wu, 2014



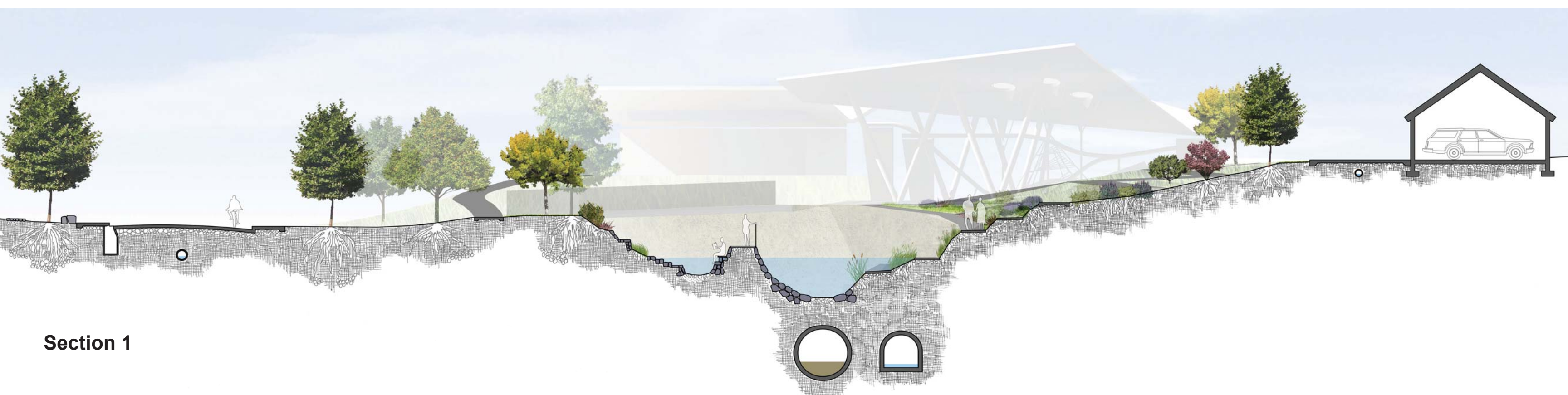
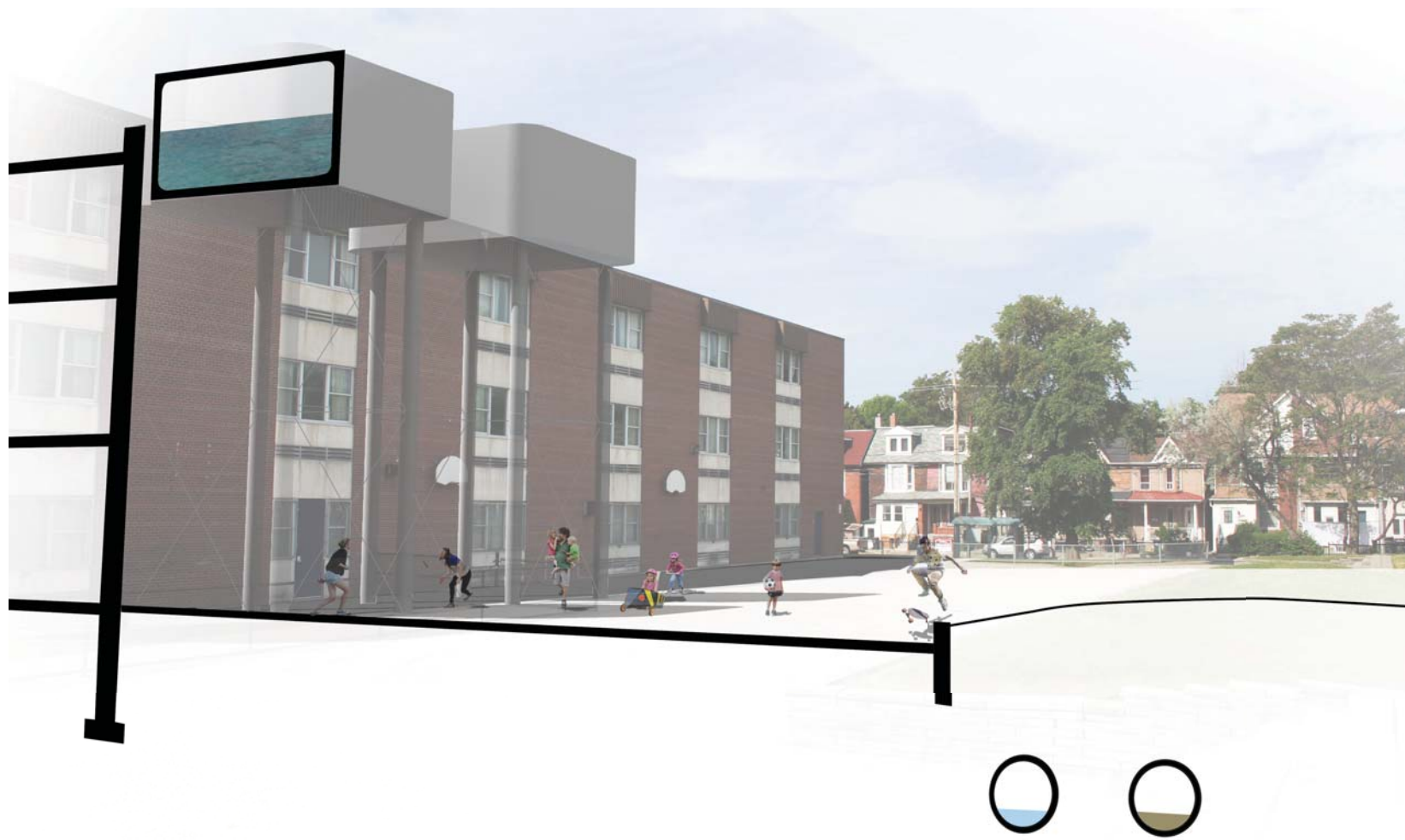
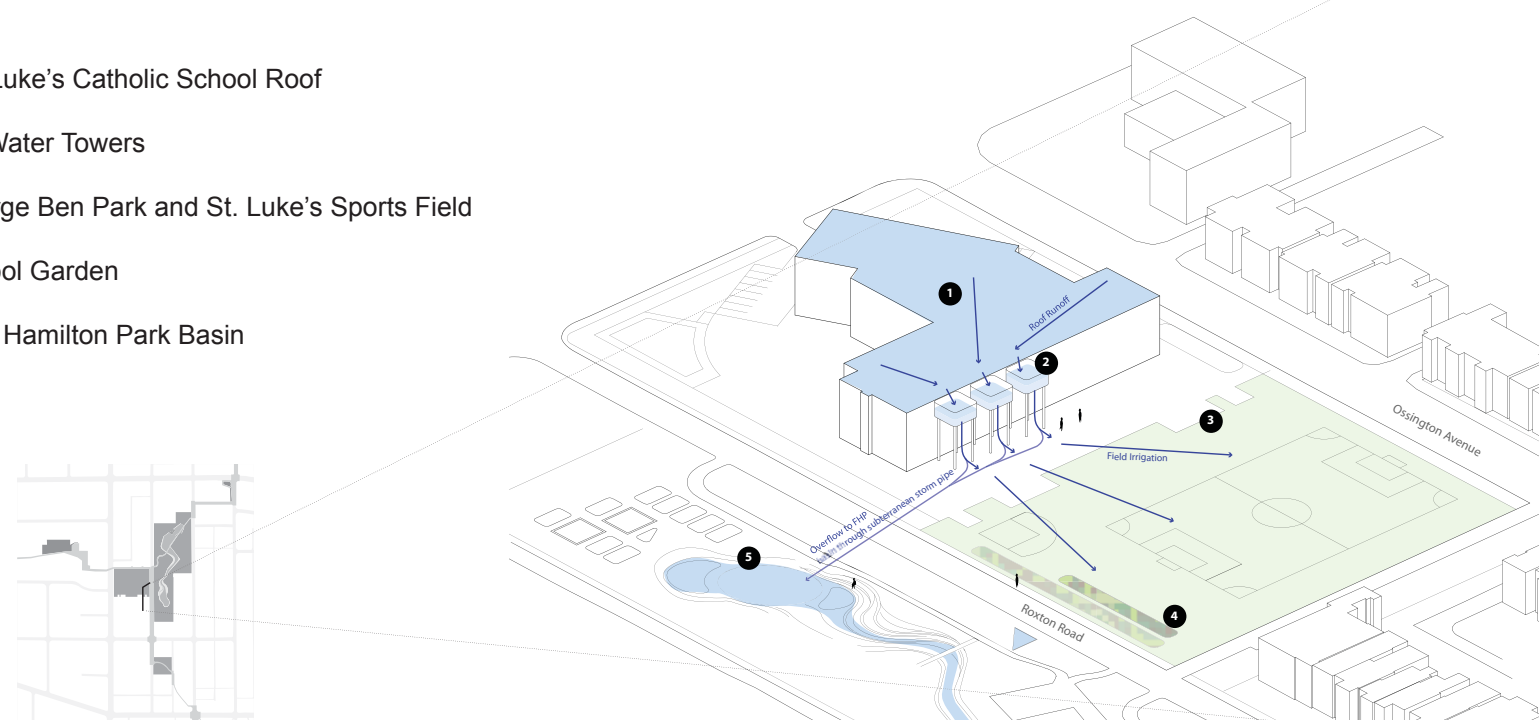
Fred Hamilton Park Playground

- 1 Playground A
- 2 Playground WaterHarvest Tank
- 3 Water Screen Cascade
- 4 Pedestrian Bridge
- 5 Cascading Water
- 6 Play Pool
- 7 Main Stream
- 8 Existing Park Pavilion Roof
- 9 Existing Prototype Rain Garden



George Ben Park

- 1 St. Luke's Catholic School Roof
- 2 3 x Water Towers
- 3 George Ben Park and St. Luke's Sports Field
- 4 School Garden
- 5 Fred Hamilton Park Basin



Section 1