

## **Regeneration: It Takes a Village to Raise a Park**

**David Burns**

High Park is unlike any other habitat in the City of Toronto. Its 400 acres contain the most significant areas of original prairie and oak savannah communities in the Toronto region. Moreover, due to its size and proximity to the Lake Ontario waterfront, High Park is considered a destination park for the 1 million human visitors it receives each year. The balance between these conflicting forces of ecological restoration and human use is in dire need of attention. High Park and the western waterfront must create a symbiotic relationship between human use and regeneration.

The design of Regeneration relies upon precise restoration efforts as well as neighbourhood involvement through various groups such as community organizations, committees, education facilities, businesses, and government. A framework is established to structure a decades' long process of regeneration based on designated ecological zones, bounded by gridded pathways which follow current property lines and also reference High Park's historic agricultural past. From north to south, the grid extends to the waterfront via land-bridges, establishing a restoration spine that transversely radiates into existing intact, yet threatened habitats, allowing volunteers and workers to access seed inventories and invasive species.

The regeneration framework also extends into the western waterfront - where intensive programming has been relocated - through the establishment of shallow marsh conditions that historically occurred along the shoreline. It is through this extensive and ongoing process of human intervention and engagement that High Park and its rare ecosystems begin to find a common balance.



**HUMAN = HABITAT**

# SITE PLAN

Once zones have been designated their desired restoration conditions and agencies a framework is established in order to structure this decades long process. A grid of pathways following current property lines and based upon High Park's historic agricultural past initiate the restoration strategy. The gravel pathways divide test plots for plant communities and easily organize the restoration efforts for volunteers and organizations. From Bloor Street, the grid extends south all the way toward the waterfront via landbridges. This inadvertently creates a restoration spine that transversely radiates into existing intact, yet threatened habitats. The pathways terminate several metres into the intact conditions for volunteers and workers to gain access to seed inventories and invasives.

The strategies occurring within High Park extend into the western waterfront - where intensive programming has relocated - through the establishment of shallow marsh conditions that historically occurred along the shoreline. This area is fed by the Spring Creek and Grenadier Pond watersheds, absorbing pollutants and excessive nutrient loads. Through human intervention and engagement High Park and its rare ecosystems begin to find a common balance.

Emerging Prairie

(former Norway Maple Grove)

Ecological Learning Centre

Streetcar Loop

Emerging Oak Savannah

(former recreation fields)

Emerging Hemlock Forest

(former dogpark and allotment gardens)

Allotment Gardens

Performance Space

Emerging Maple-Beech Forest

(former hillside gardens)

Sponge Garden

Constructed Wetlands

Land Bridges

Recreation Fields

Constructed Marshlands

Urban Beaches

1:4000



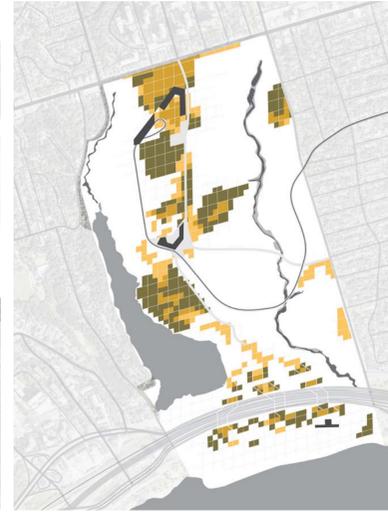
# PROCESS SECTION - REGENERATION



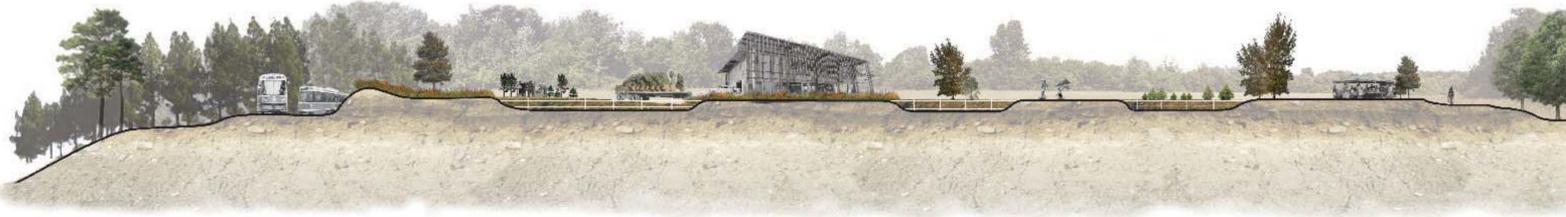
MANITOBA MAPLE NORWAY MAPLE BLUESTEM LIATRIS PANICUM LUPINE RECREATIONAL FIELD HIMALAYAN BALSAM AUSTRIAN PINE JAPANESE HONEYSUCKLE

Site preparation begins first and foremost with the removal of invasives such as Norway Maple and Japanese Honeysuckle. Thinning of exotic forest canopies also prepares the restorative effort for new plant communities. Lastly, soil regeneration through tilling, removal of contaminants, and additions of compost ensure ideal growing conditions. Areas like the dogpark and recreation fields (depicted through above section) are severely compacted and degraded and deserve intensive preparation methods.

## PREPARATION



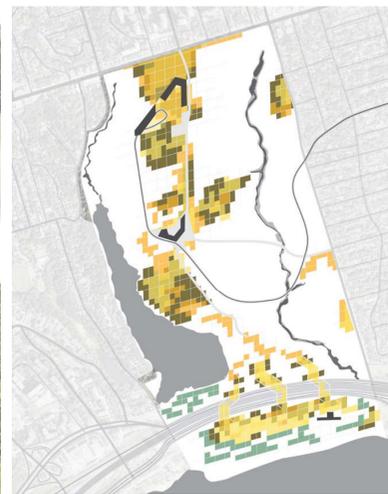
- tree removal and thinning
- soil regeneration



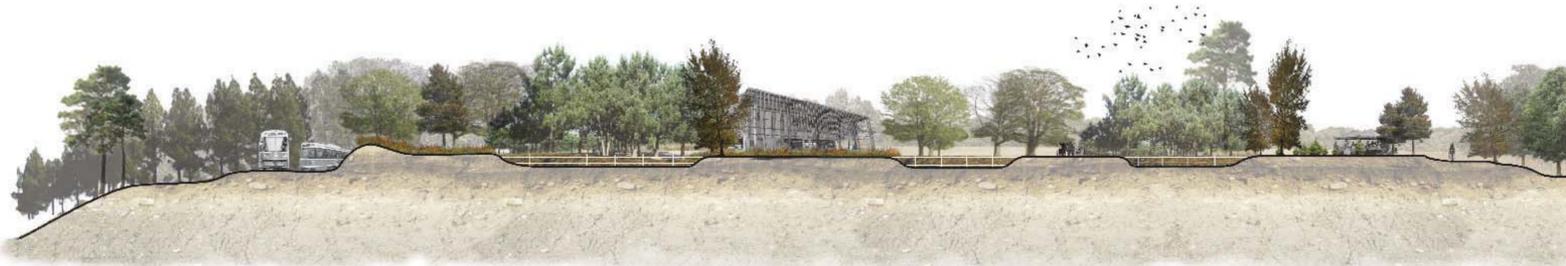
TREMBLING ASPEN WHITE SPRUCE REDOSIER DOGWOOD BLUESTEM LIATRIS PANICUM LUPINE TURF EASTERN WHITE PINE RIVER BIRCH DRY MEADOW AMELANCHIER-HAWTHORN EDGE

After site preparation, specific agencies, volunteer groups, and community organizations will be designated certain restoration zones and the responsibility of fostering site regeneration. These groups would lay the initial framework for succession and establish process based strategies that evolve into adaptive and healthy habitats. Primary species, particularly meadow and sedge communities well adapted to disturbed and exposed conditions quickly colonize the zones. After such conditions thrive, small woody species are planted in groups forming thickets for wildlife habitats. Ecological programming, community events, and passive recreation begin to liven High Park after intensive programming has dispersed.

## IMPLEMENTATION



- meadow planting
- sedge planting



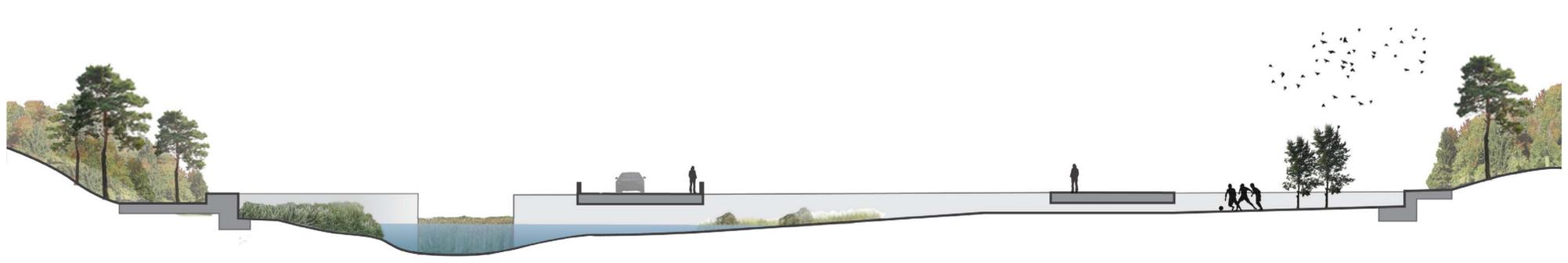
MAPLE-BEECH OSTRICH FERN EASTERN WHITE PINE TREMBLING ASPEN LIATRIS PANICUM OAK SAVANNAH DRY MEADOW EASTERN WHITE PINE WHITE SPRUCE RIVER BIRCH AMELANCHIER-HAWTHORN EDGE

As planting, thinning, burning, and propagating continue over decades, a diverse ecological habitat emerges from once degraded conditions. The regeneration that primarily takes place within the centre spine of High Park bridges the gap between the intact, yet threatened conditions that exist today. The desired outcome is that the newly created habitats along with the existing inventory of species combine into a diverse adaptive ecology balanced with human use through environmental stewardship, education, and experience.

## SUCCESSION

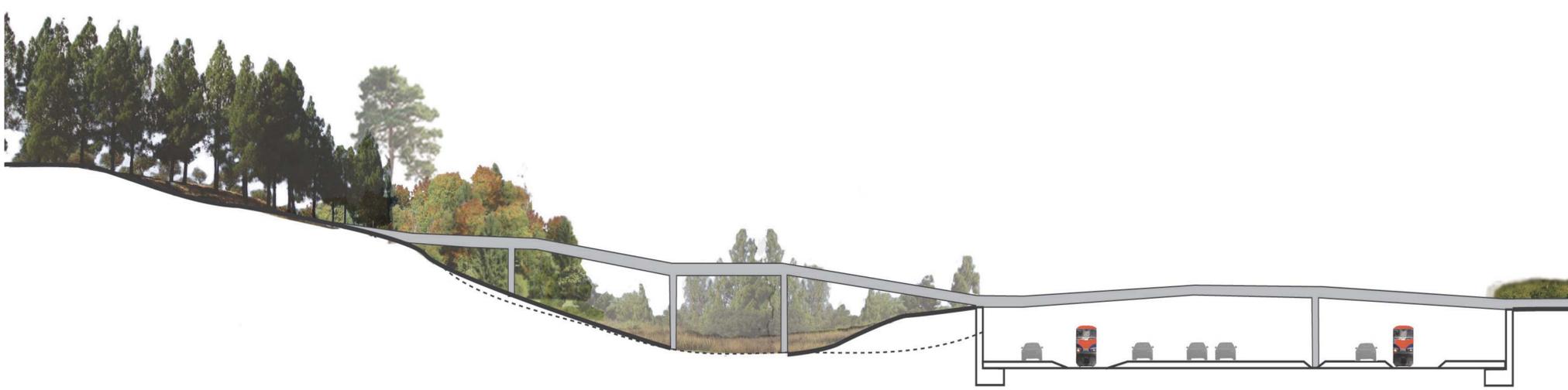


- reforestation
- marsh construction



**SPRING CREEK AND SPONGE GARDEN**

1:600



**LANDBRIDGE AND WATERFRONT CONNECTION**

1:600



**SPONGE GARDEN - SPRING CREEK**

The Sponge Gardens are constructed to counteract the effects of climate change on local watercycles. It is predicted that the GTA will experience prolonged drought during summer months as well sporadic yet heavy storms events. The sponge gardens act as planted cells that accumulate water from Spring Creek when it swells during storms. In dry periods the spaces can be programmed for human use and recreation.



**CONSTRUCTED WETLANDS - GRENADIER POND**

Grenadier Pond is fed by overland and subsurface water flows from northern urban areas. These waters tend to be high in pollutants and sediment and thus degrade the quality of Grenadier Pond and its habitats. Inlets constructed to intercept the pond's flows capture and absorb pollutants and sediment through bioretention habitats.



**CONSTRUCTED MARSHLANDS - LAKESHORE**

Historically, the Lake Ontario shoreline at the base of High Park was covered in marsh conditions. Grenadier Pond and Spring Creek fed these waters. Decades of transportation infrastructure such as the Gardiner Expressway has erased these ecosystems and altered the hydrological flows of High Park. Historic flows are reestablished and terminate at newly constructed marshlands at the Bathing Pavilion.

