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Stormwater and Erosion
and Sediment Control
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A Circular Argument: Can Ponds be Parks/Can Parks be Ponds? Combining SWM Infrastructure and Social Infrastructure



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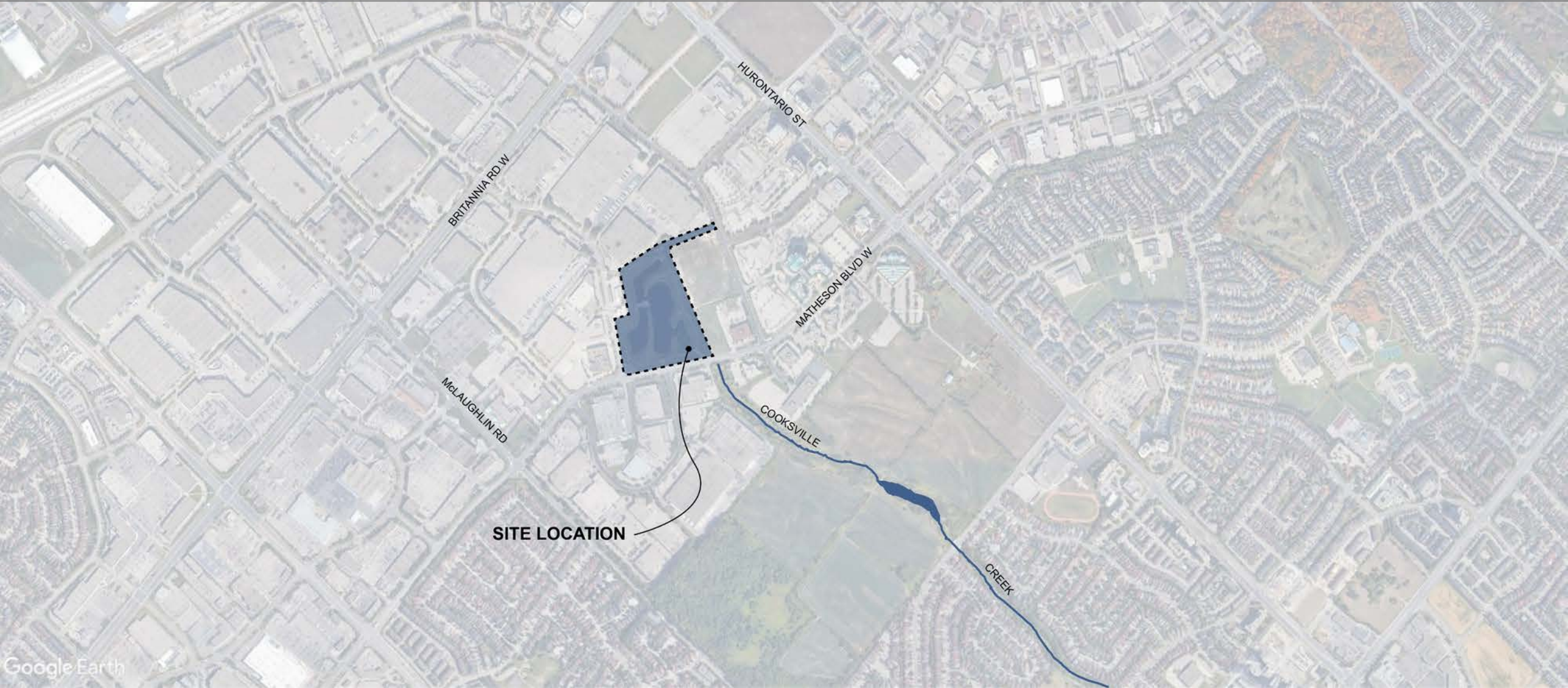
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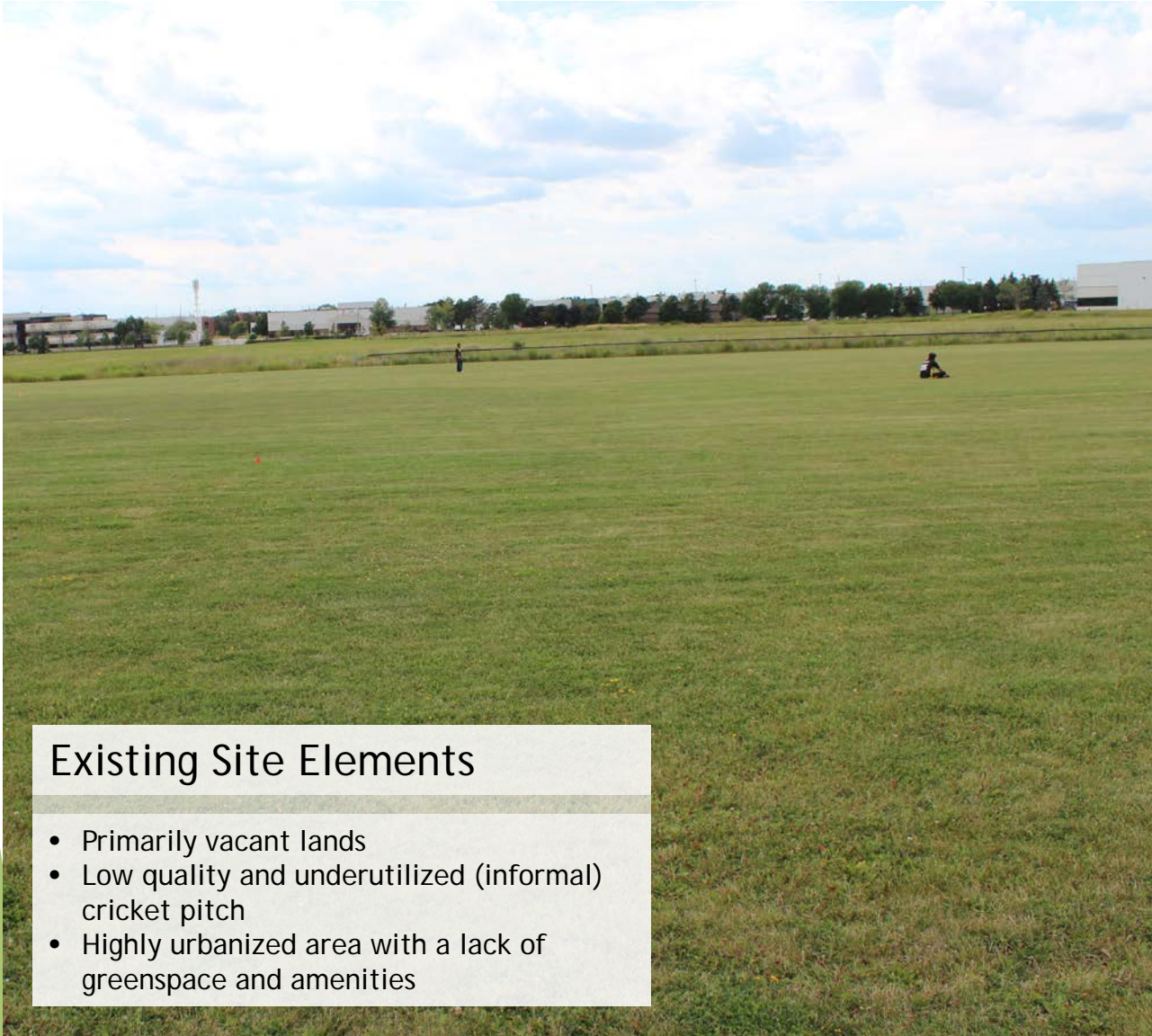
Case Study

Saigon Park, Mississauga, ON



SITE LOCATION

Before



Existing Site Elements

- Primarily vacant lands
- Low quality and underutilized (informal) cricket pitch
- Highly urbanized area with a lack of greenspace and amenities



Before



Existing Hydrology

- 605 hectare drainage area
- Storm Sewer Outlet to Cooksville Creek
- 2009 Flood Event

Traditional Approach

- ▶ Difficult to realize the recreational opportunities SWM facilities provide using the traditional design approach
- ▶ Siloed and ad hoc
- ▶ Park users and spatial design are not considered until the later stages of the design process producing under-utilized urban spaces

SWM Facility
Concept Design and
Sizing
(30%)

SWM Facility
Detailed Design
(60%)

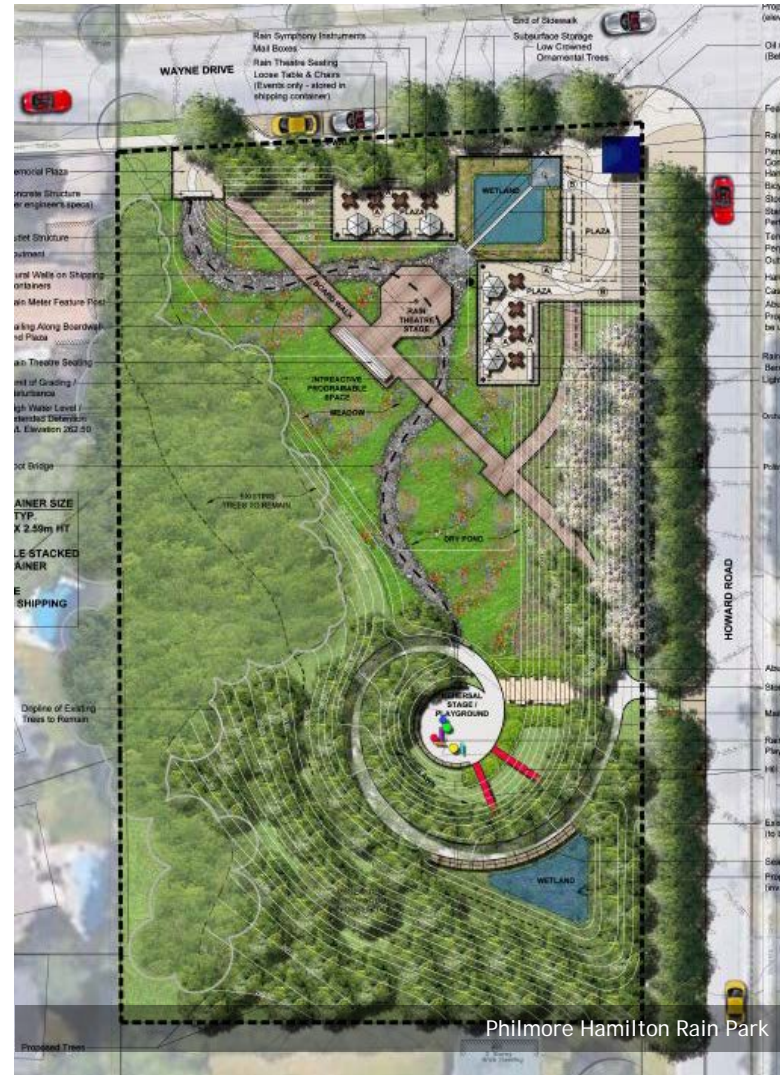
Park Element
Integration
(60-90%)



Multi-functional Approach



Upper Nine SWMF

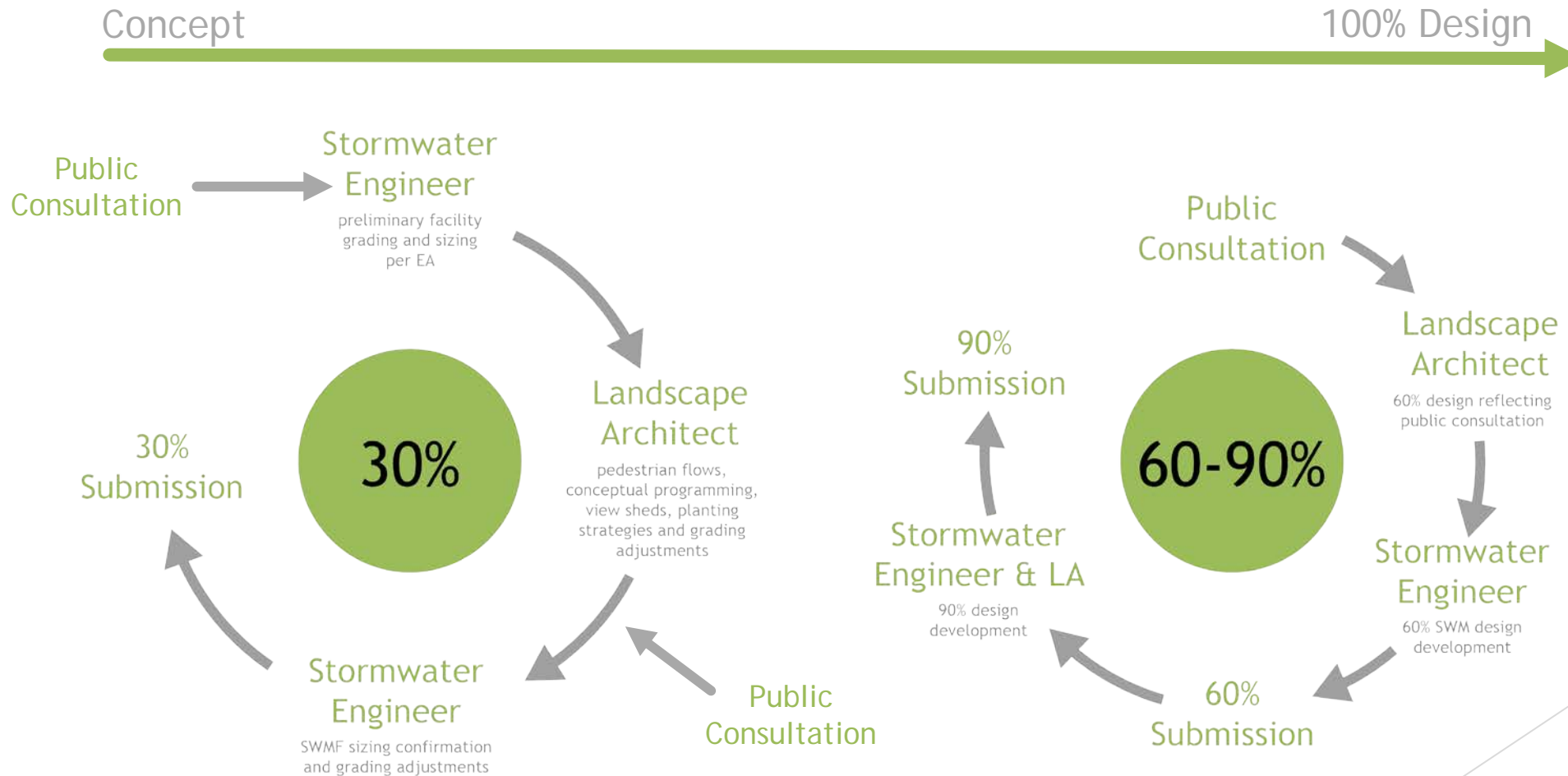


Philmore Hamilton Rain Park



Saigon Park

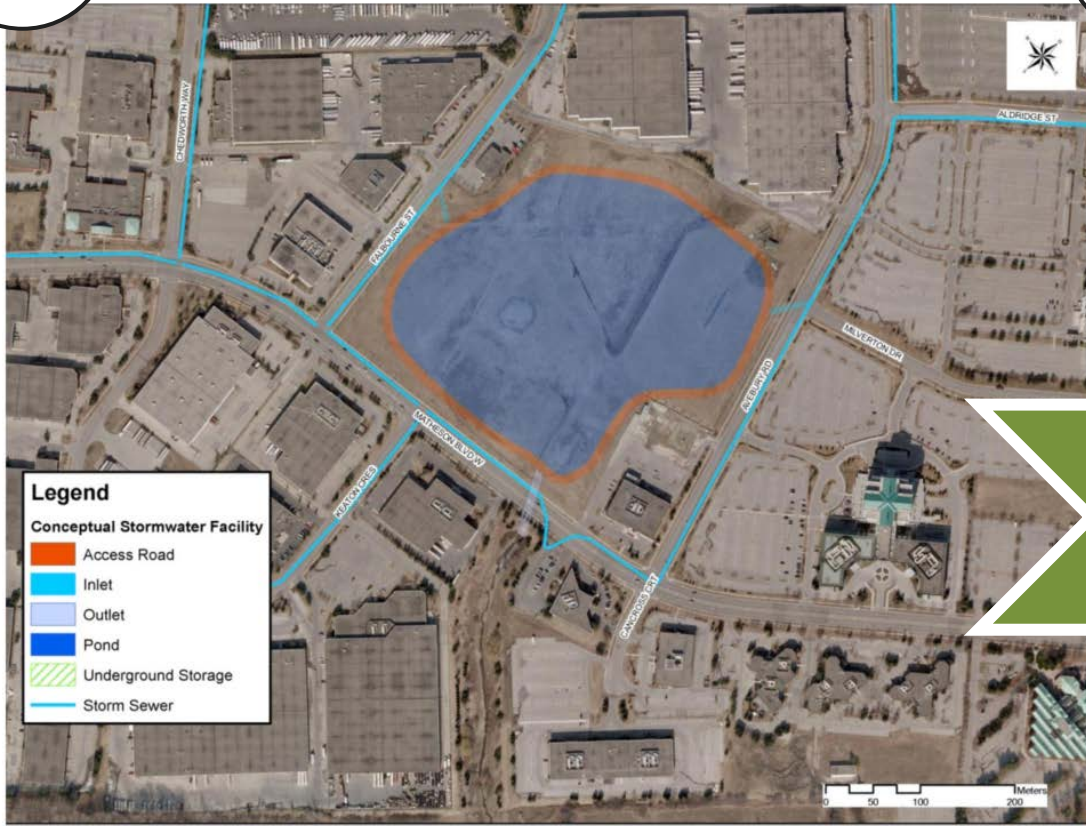
The Design Process



The Design Process

1

Park 317



2



MCEA

Preliminary Facility Sizing

The Design Process

3



Conceptual Park Design

4



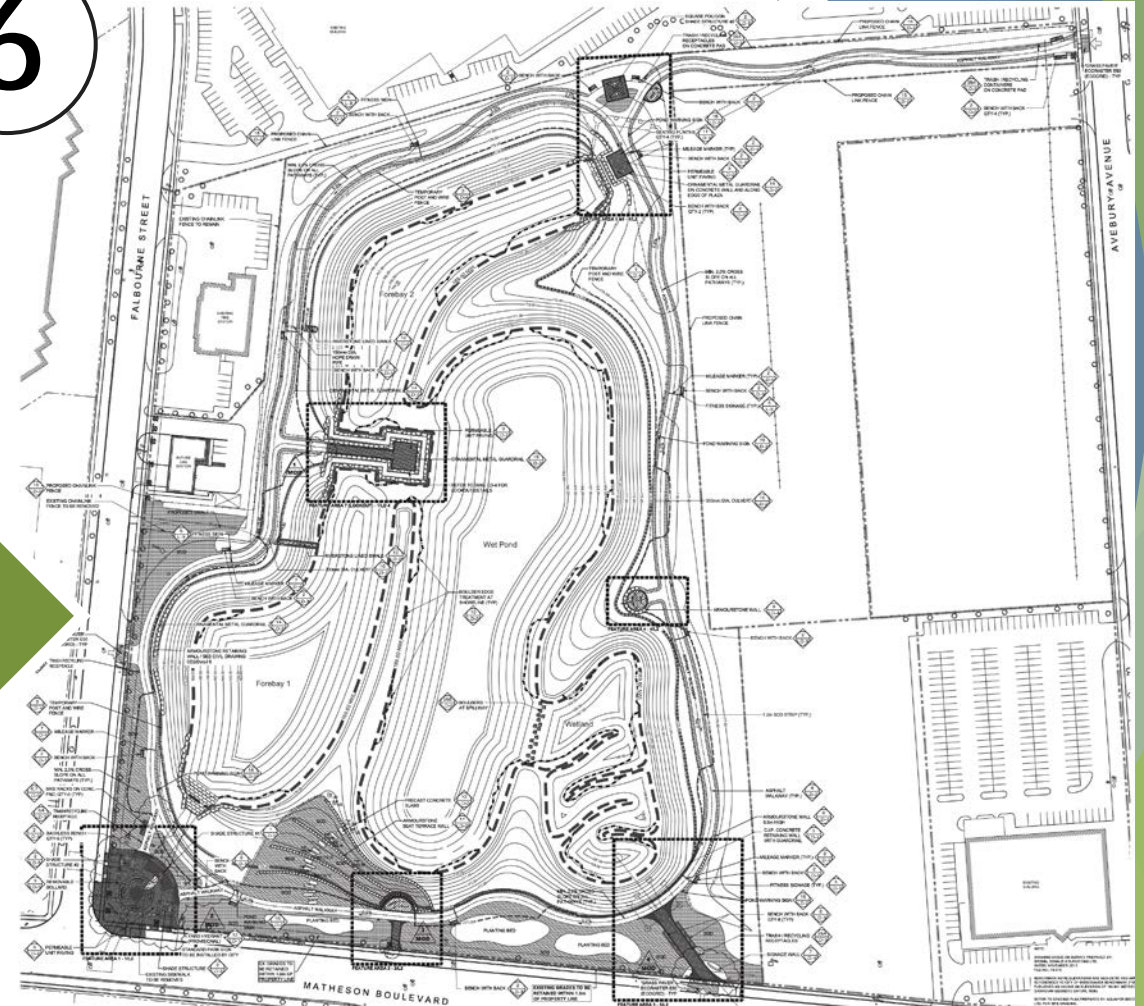
SWM Design Refinement

The Design Process

5



6



Conceptual Design Refinement

Detailed Design & Construction Documentation

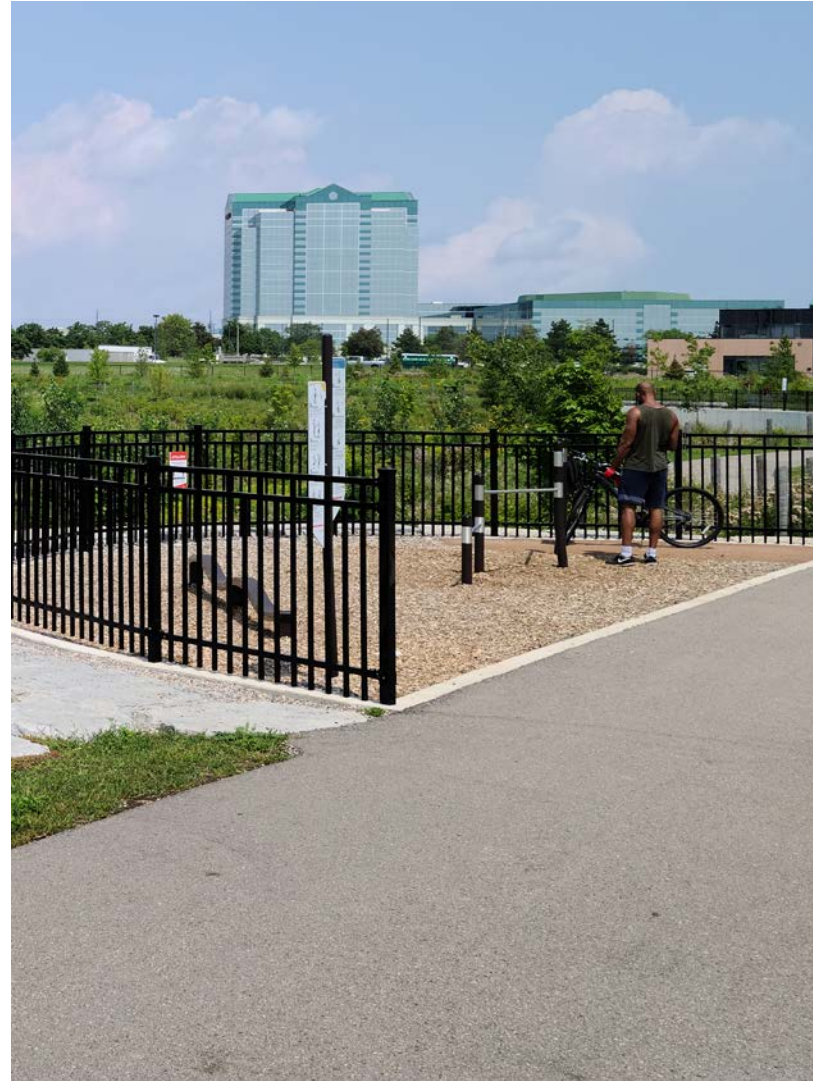


Design Components

Stormwater Infrastructure



Recreation & Streetscape Elements



Social Infrastructure



Public Art



Economic Considerations

- ▶ Parkland acquisition savings
- ▶ Mitigating Damage to Private Property
 - ▶ Average claim value for residential basement flooding caused by the 2013 event was \$40,000 (\$48,800 in 2022 dollars) (Intact, 2017)
 - ▶ Approximately 100 residential homes within the Creek's floodplain
 - ▶ Project ROI after 5 high intensity, short duration storm events
- ▶ Mitigate Damage to Public & Private Assets
 - ▶ Average annual cost of damages due to flooding in Cooksville Creek Watershed is approximately \$20 million (CVC, 2018)
 - ▶ Project ROI of 1.2 years



QUESTIONS ?

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