



Welcome to ULI's Coastal Forum

Spring Meeting - May 13, 2020



Coastal Forum

- **The Coastal Forum is a member-initiated network of leaders in real estate, land use, and climate resilience interested in sharing best practices for coastal development and investment protection in the face of climate change.**
- The Forum seeks to provide an opportunity for members to...
 - Meet and build a network with peers involved in coastal development and/or resilience
 - Provide a targeted group to exchange private sector input into new tools and resources
 - Provide an opportunity for leadership and resilient development expertise in coastal development and resilience initiatives
- The Coastal Forum convenes biannually to tour innovative waterfront development projects and share information.

Speakers

Jack Smith
Chair, Coastal Forum
Partner, Nelson Mullins



Ken Dion
Project Director
Port Lands Integration
Waterfront Toronto



Peter Preston
Civil Engineer/Associate
Arup



Don Forbes
Project Director
Soil Remediation & Earthworks
Waterfront Toronto



Mira Shenker
Senior Manager
Communications and Public
Engagement
Waterfront Toronto



Speakers

Jack Smith
Chair, Coastal Forum
Partner, Nelson Mullins



Ken Dion
Project Director
Port Lands Integration
Waterfront Toronto



Peter Preston
Civil Engineer/Associate
Arup



Don Forbes
Project Director
Soil Remediation & Earthworks
Waterfront Toronto



Mira Shenker
Senior Manager
Communications and Public
Engagement
Waterfront Toronto



A black and white photograph showing a wooden barn with a steep gabled roof partially submerged in floodwater. The water is turbulent and reaches up to the lower half of the barn's walls. In the background, there are trees and a fence line. The text "Flood Risks in Toronto" is overlaid in white on the right side of the barn.

Flood Risks in Toronto



urban flooding



rising lake levels



riverine flooding



THE HUMBER
VALLEY

THE DON RIVER
VALLEY

HIGH PARK AND
THE HUMBER BAY
ESTUARY

CENTRAL WATERFRONT

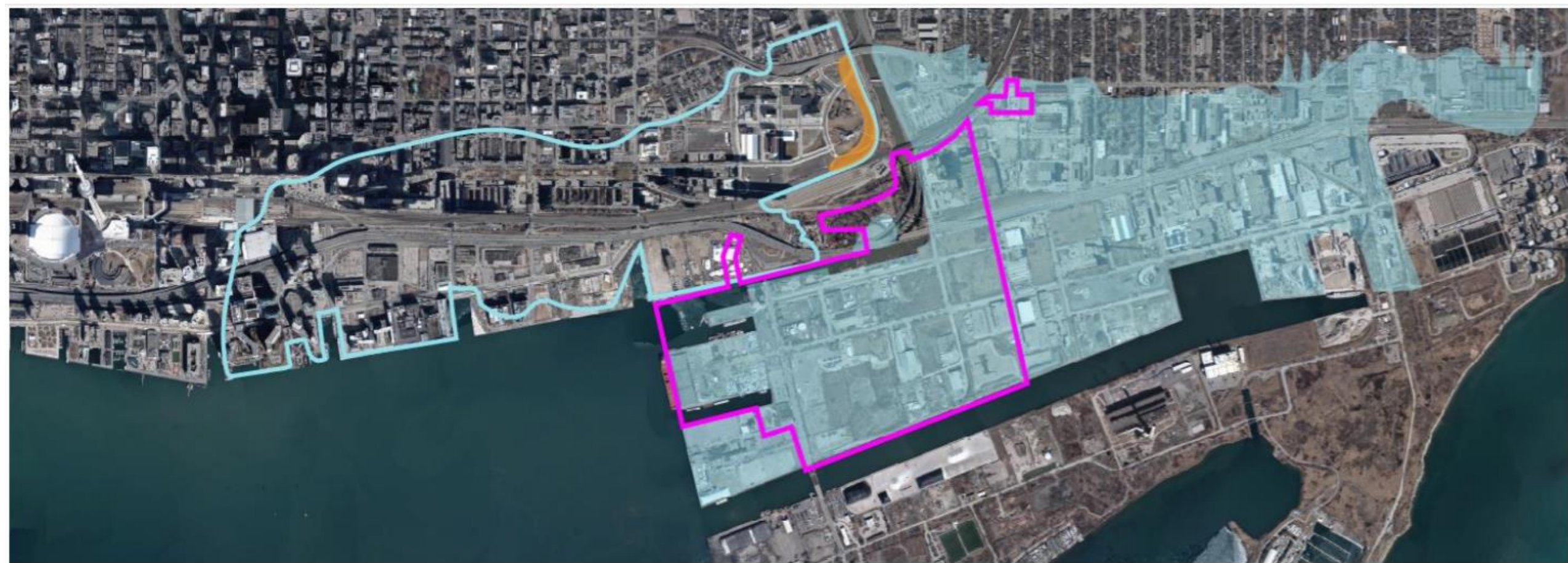
TOcore Green Circle

Ravine System Circle

Flood risk in Toronto



300 hectares already protected...290 to go



Flood Plain



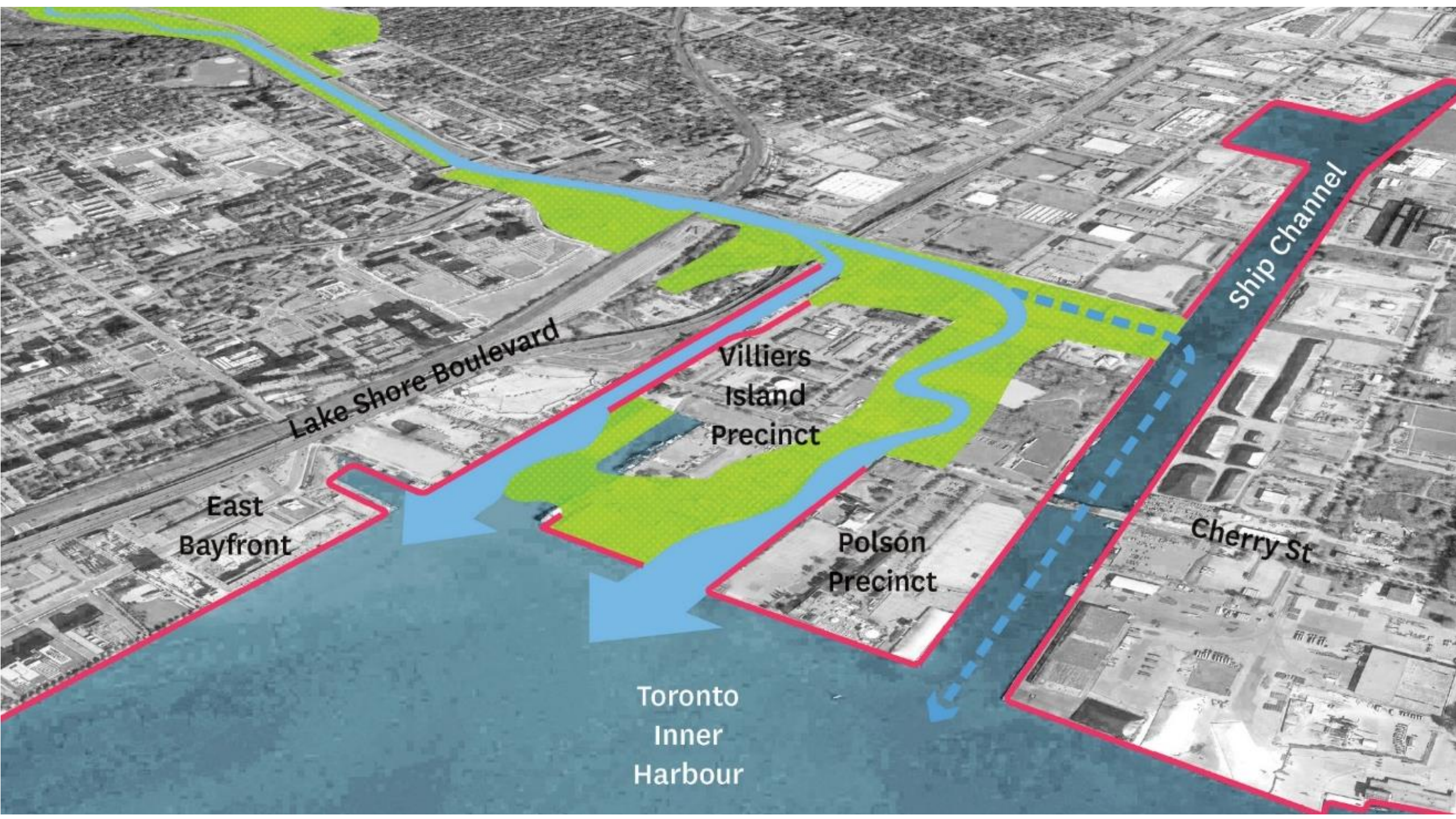
Flood Protected



Flood Protection
Landform

PLFPEI





East
Bayfront

Lake Shore Boulevard

Villiers
Island
Precinct

Polson
Precinct

Toronto
Inner
Harbour

Ship Channel

Cherry St



Baseflow

Speakers

Jack Smith
Chair, Coastal Forum
Partner, Nelson Mullins



Ken Dion
Project Director
Port Lands Integration
Waterfront Toronto



Peter Preston
Civil Engineer/Associate
Arup



Don Forbes
Project Director
Soil Remediation & Earthworks
Waterfront Toronto



Mira Shenker
Senior Manager
Communications and Public
Engagement
Waterfront Toronto





www.explorewaterfrontontario.ca

Corktown Common

Located in **Toronto, ON, Canada**

18 acres (7.3 ha)

Opened in **July 2014**

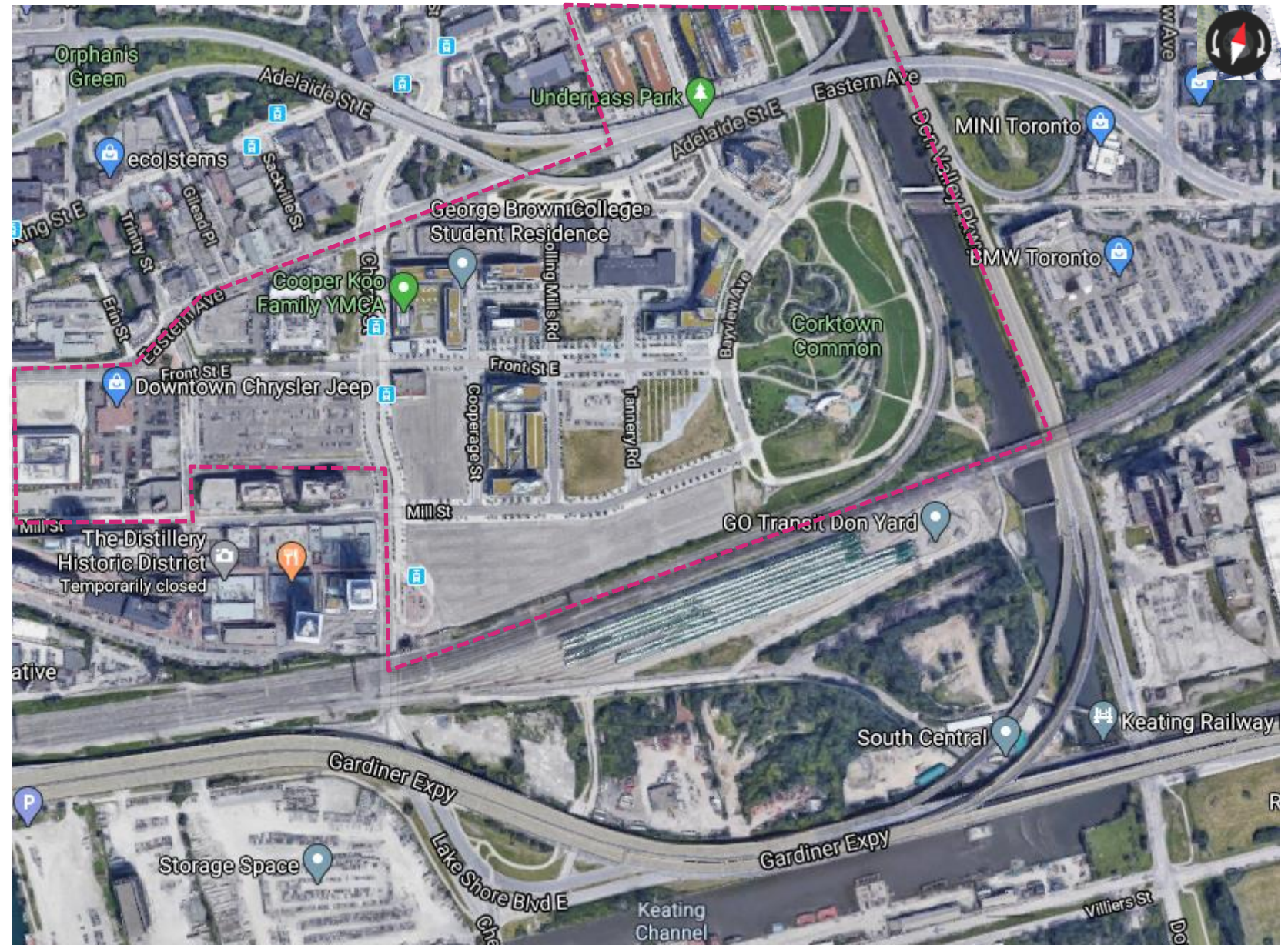
Developed by **Waterfront Toronto**

Designed by **Michael Van Valkenburgh Associates Inc**

Multi-disciplinary engineering services by **Arup**

Constructed by **Eastern Construction Company Ltd**

Construction cost **\$16m**



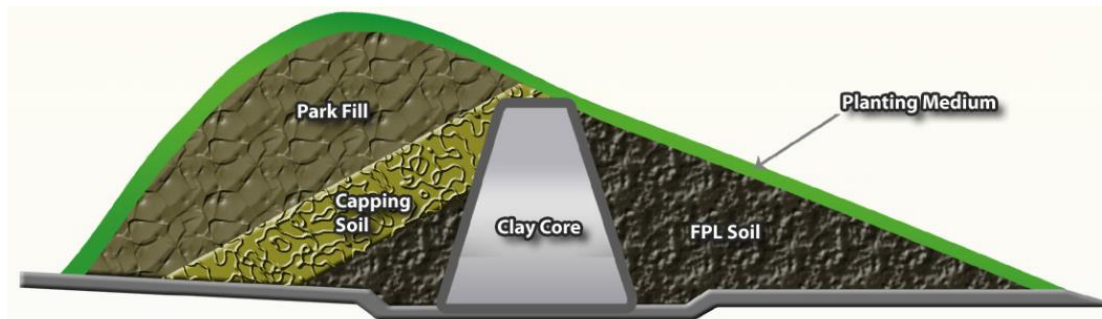
An Instrument of Flood Protection

The Corktown Common site in the West Don Lands was once **a brownfield with a large risk of flooding** from the Don River.

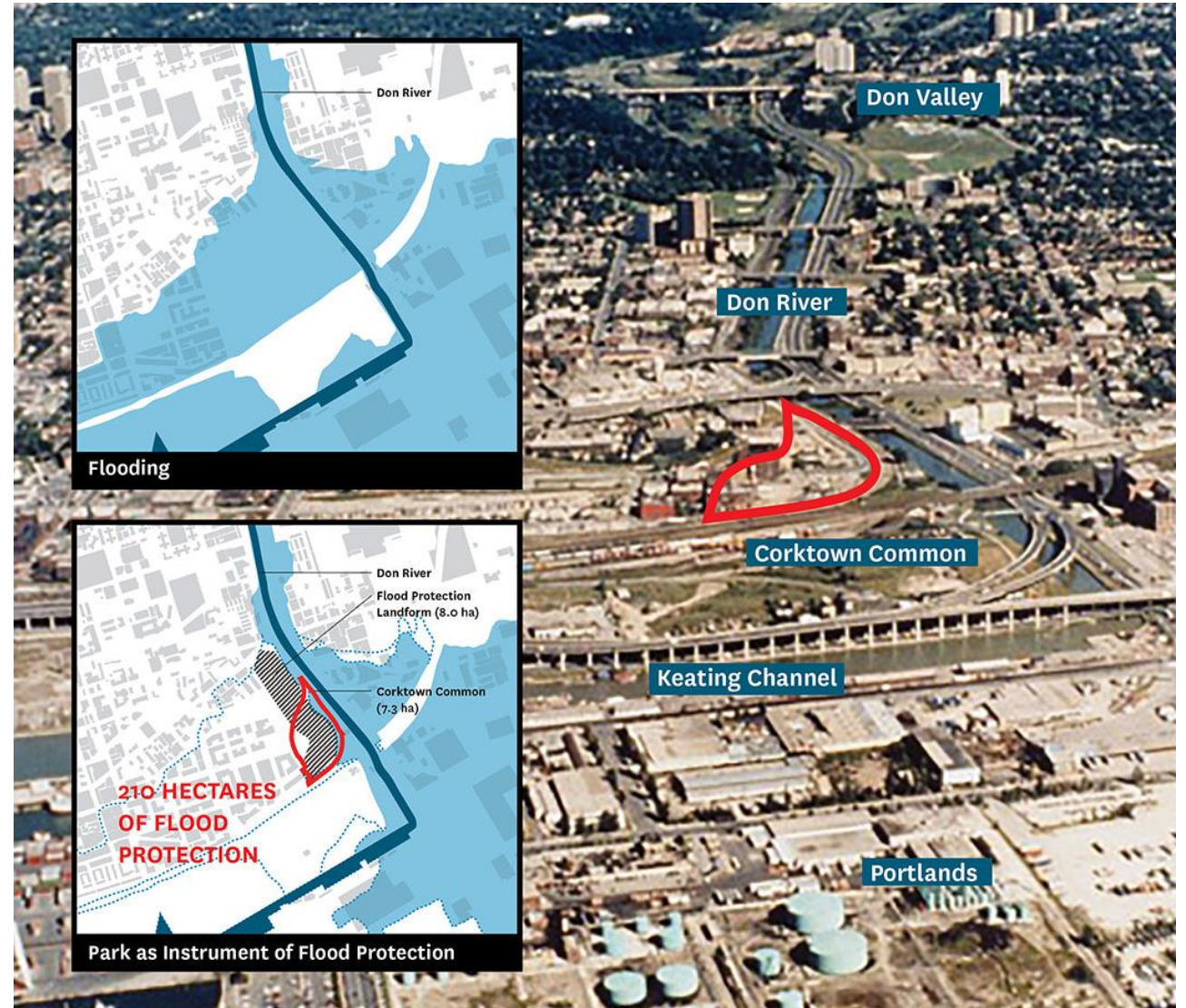
Before any revitalization of the West Don Lands could occur, the area needed to be protected from flooding.

The solution: a **flood protection landform**.

Completed in 2012, the flood protection landform removed 210 hectares of land from the Don River flood plain.



<https://portlandsto.ca/flood-protection-in-corktown-common/>



<https://www.asla.org/2016awards/172397.html>

An Instrument of Flood Protection

The flood protection landform was developed by **Infrastructure Ontario** and the **Toronto and Region Conservation Authority** with design and construction assistance from **AECOM** and **Elite Construction, Inc.**

Up to **4 metres** high, the flood protection landform sits above the regulatory flood depth of **Hurricane Hazel**, Canada's worst hurricane, which struck Toronto in 1954.

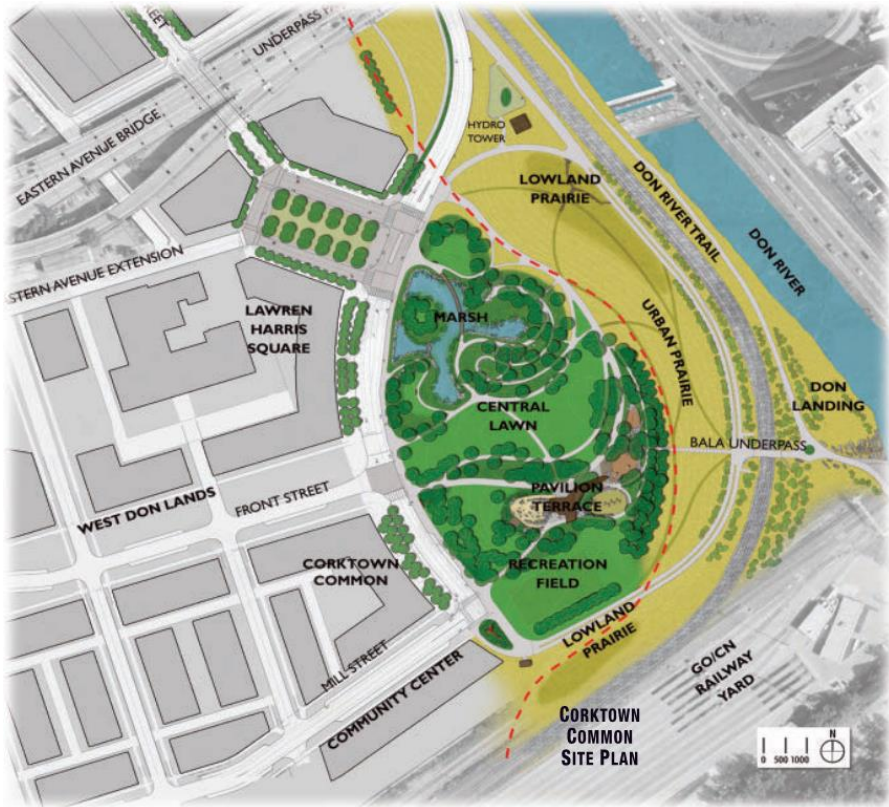
At the heart of the flood protection landform runs a **clay core** which prevents water from penetrating through it.



<https://www.canadianarchitect.com/parks-and-regeneration/>

Building on High Ground

The flood protection landform enabled the development of the West Don Lands, including the park known as the “**dry side**” of the Corktown Common site.



Michael Van Valkenburgh Associates Inc (<https://www.mvvainc.com/project.php?id=8>)



American Society of Landscape Architects (<https://portlandsto.ca/flood-protection-in-corktown-common/>)

The Corktown Common Water Story



Acknowledging water as a valuable resource...

Minimize potable water use. Reuse greywater for irrigation and marsh supply.



Returning water to the earth...

Minimize impermeable surfaces. Support living marshland.



Supplying water for life...

Irrigate the plant life. Improve microclimate. Foster biodiversity.



Protecting from floods...

Safeguard the area from flooding in extreme storm events.



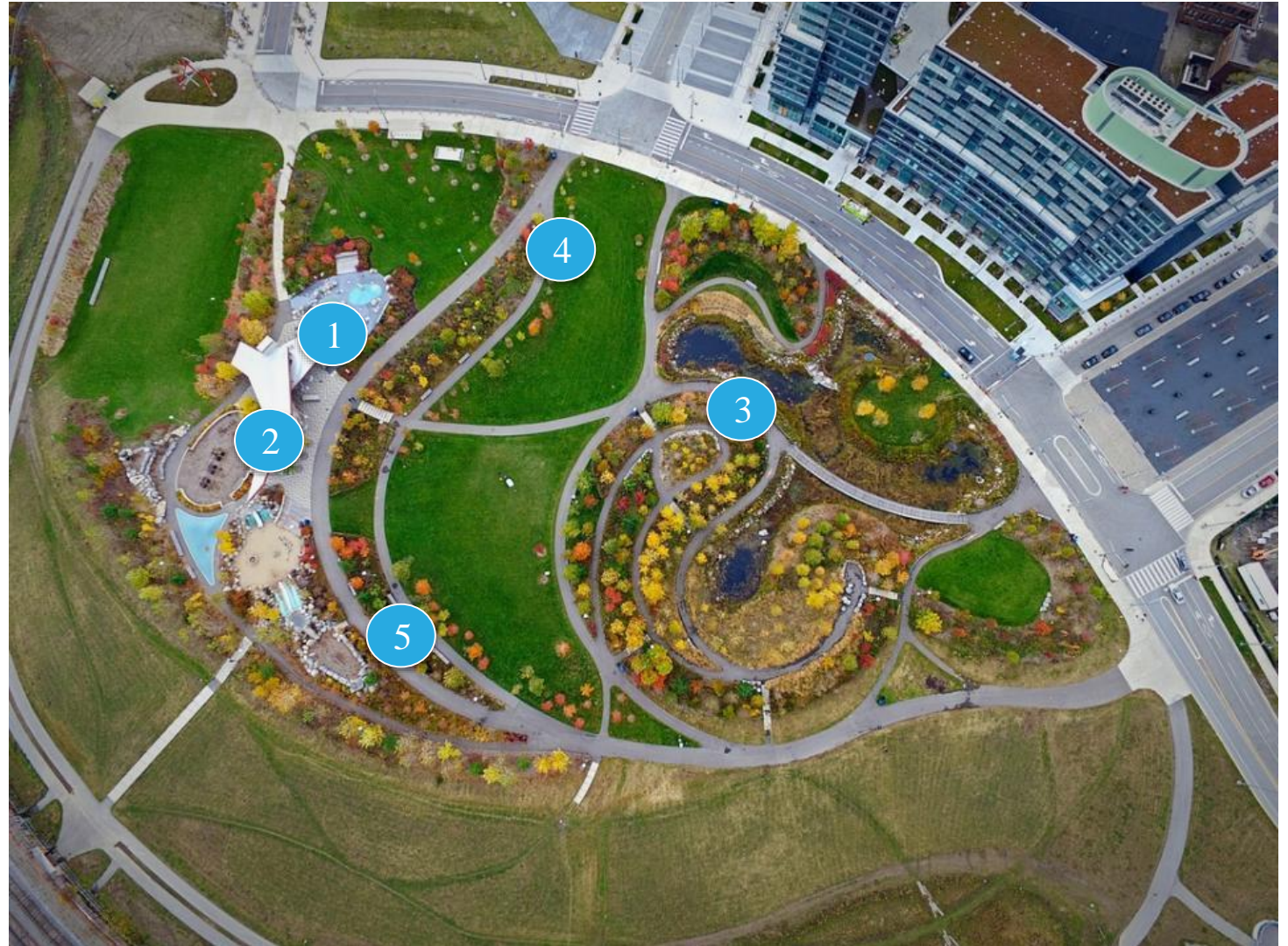
Reconnecting people with water...

Provide legacy infrastructure offering recreational and educational benefits.



The Corktown Common Water Story

- (1) **Water Play Area:** fountains and splash pads for children to enjoy, supplied by potable water. Greywater from splash pads is captured and treated on-site before being conveyed to park's marsh and irrigation system.
- (2) **Water Treatment:** Microfilters and UV sterilization system beneath park pavilion.
- (3) **Living Marsh:** An ecologically flourishing environment that receives and treats stormwater and greywater, functioning as a tertiary water treatment system.
- (4) **Cistern:** Underground storage cells to store treated water for re-use in irrigation.
- (5) **Stormwater Network:** Catchbasins and underground pipes collect stormwater runoff across the site and send it to the marsh.



<https://urbantoronto.ca/news/2015/11/photo-day-corktown-common>



We shape a better world

Peter Preston P.Eng
Peter.preston@arup.com

Arup

121 Bloor Street W
Suite 900
Toronto ON
M4W 3M5 Canada

t: +1 416 515 0915

ARUP

Speakers

Jack Smith
Chair, Coastal Forum
Partner, Nelson Mullins



Ken Dion
Project Director
Port Lands Integration
Waterfront Toronto



Peter Preston
Civil Engineer/Associate
Arup



Don Forbes
Project Director
Soil Remediation & Earthworks
Waterfront Toronto



Mira Shenker
Senior Manager
Communications and Public
Engagement
Waterfront Toronto



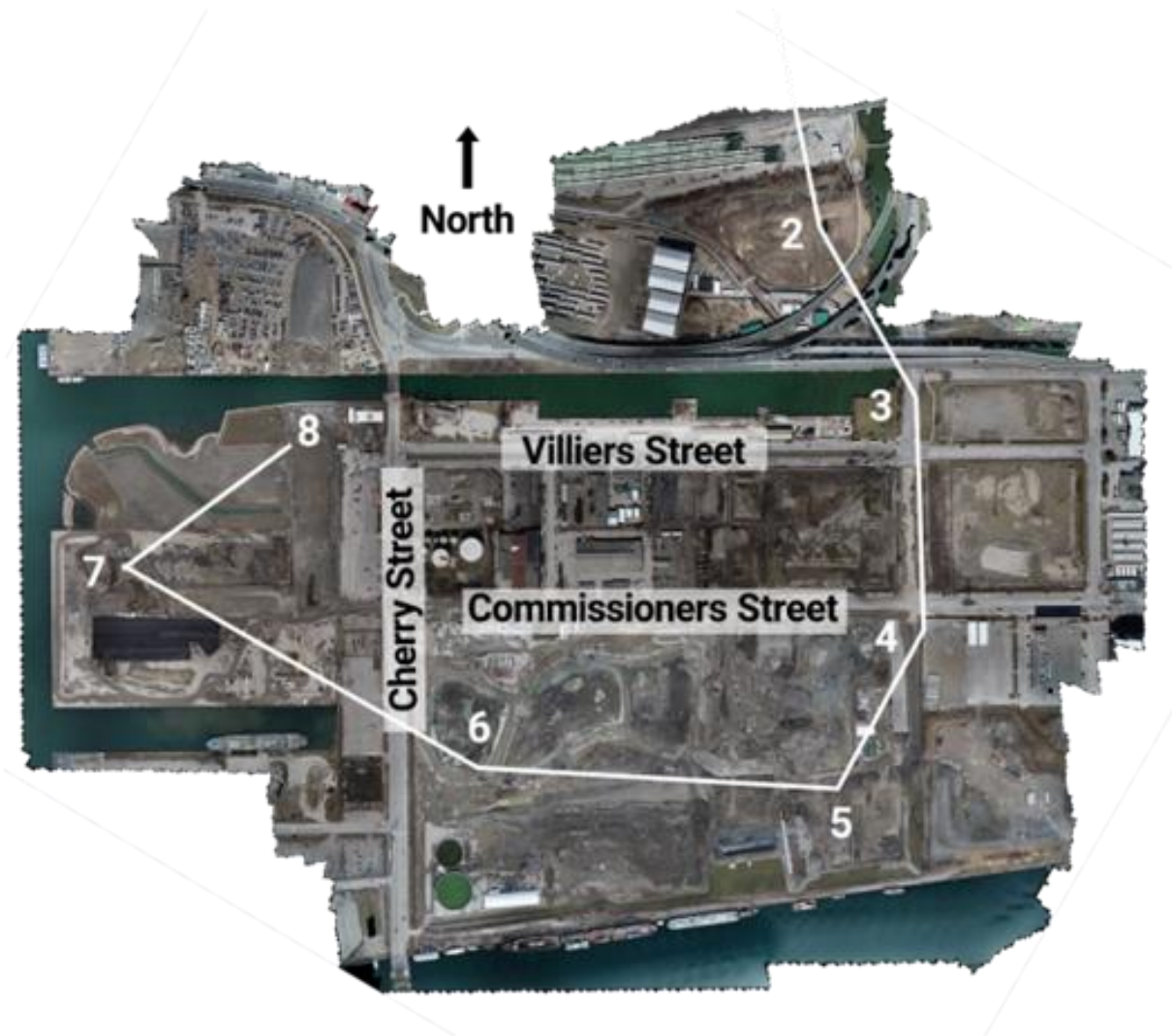
Let's Walk





1. Corktown Common
2. Sediment & Debris Management Area
3. Don Roadway at Keating Channel
4. Future River Valley
5. Don Greenway
6. River Valley Park, new river mouth
7. Promontory Park
8. New Cherry Street and Bridge

1. Corktown Common
2. Sediment & Debris Management Area
3. Don Roadway at Keating Channel
4. Future River Valley
5. Don Greenway
6. River Valley Park, new river mouth
7. Promontory Park
8. New Cherry Street and Bridge



1. Corktown Common
2. Sediment & Debris Management Area
3. Don Roadway at Keating Channel
4. Future River Valley
5. Don Greenway
6. River Valley Park, new river mouth
7. Promontory Park
8. New Cherry Street and Bridge

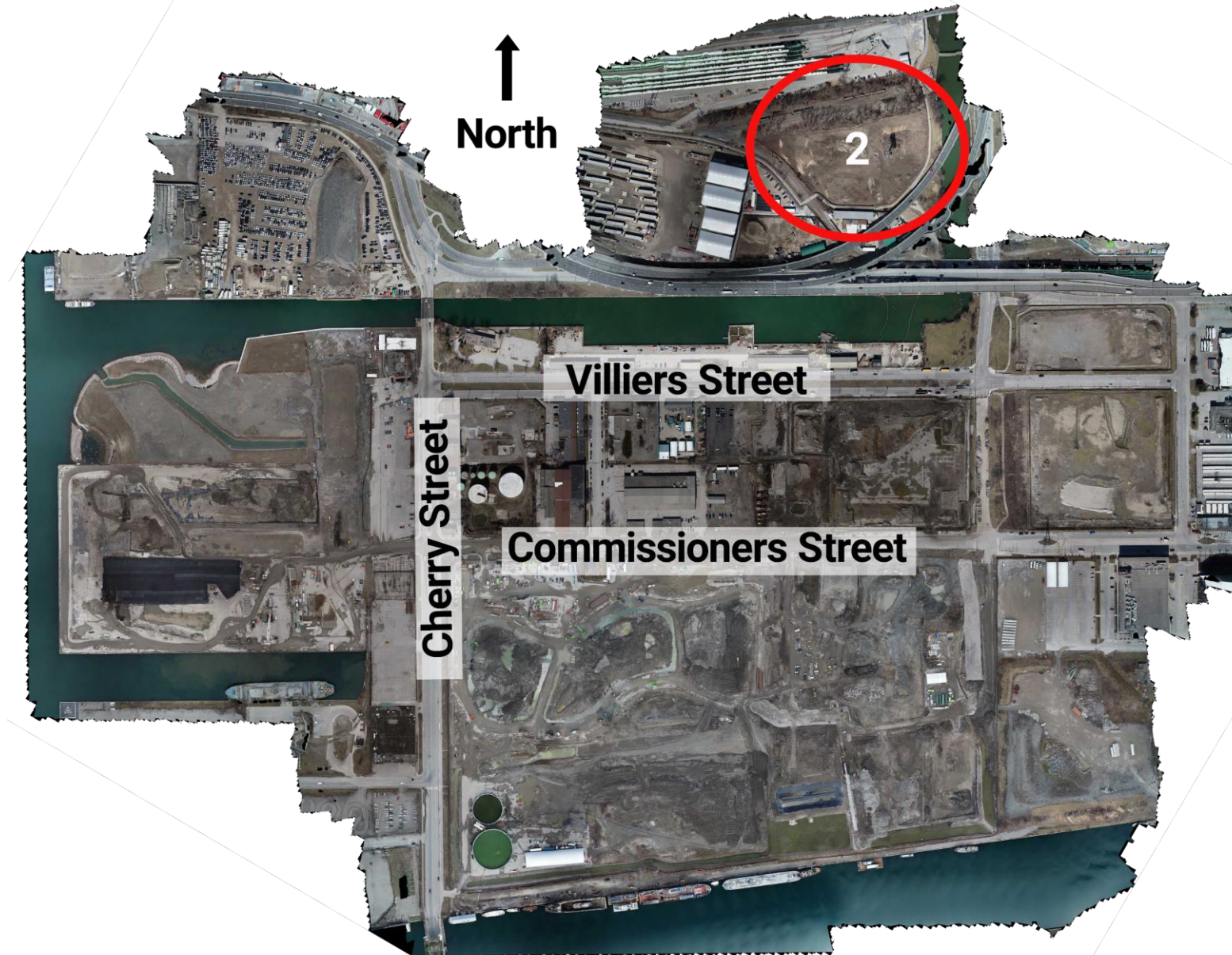


Stop 1: Corktown Common



- 360 degree views on Google Maps:
<https://www.google.ca/maps/@43.6538924,-79.3527272,17z>

Stop 2: Sediment and Debris Management Area

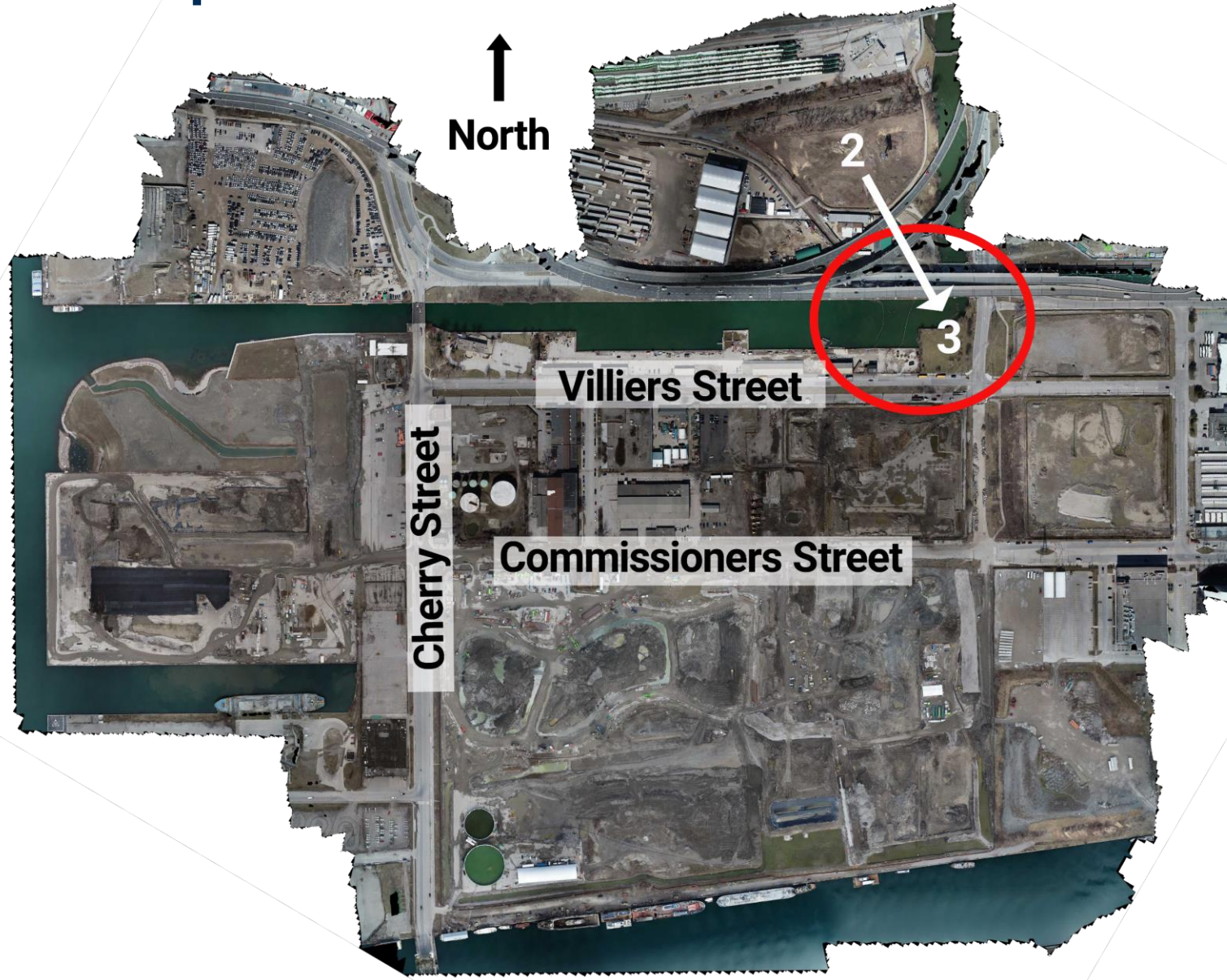




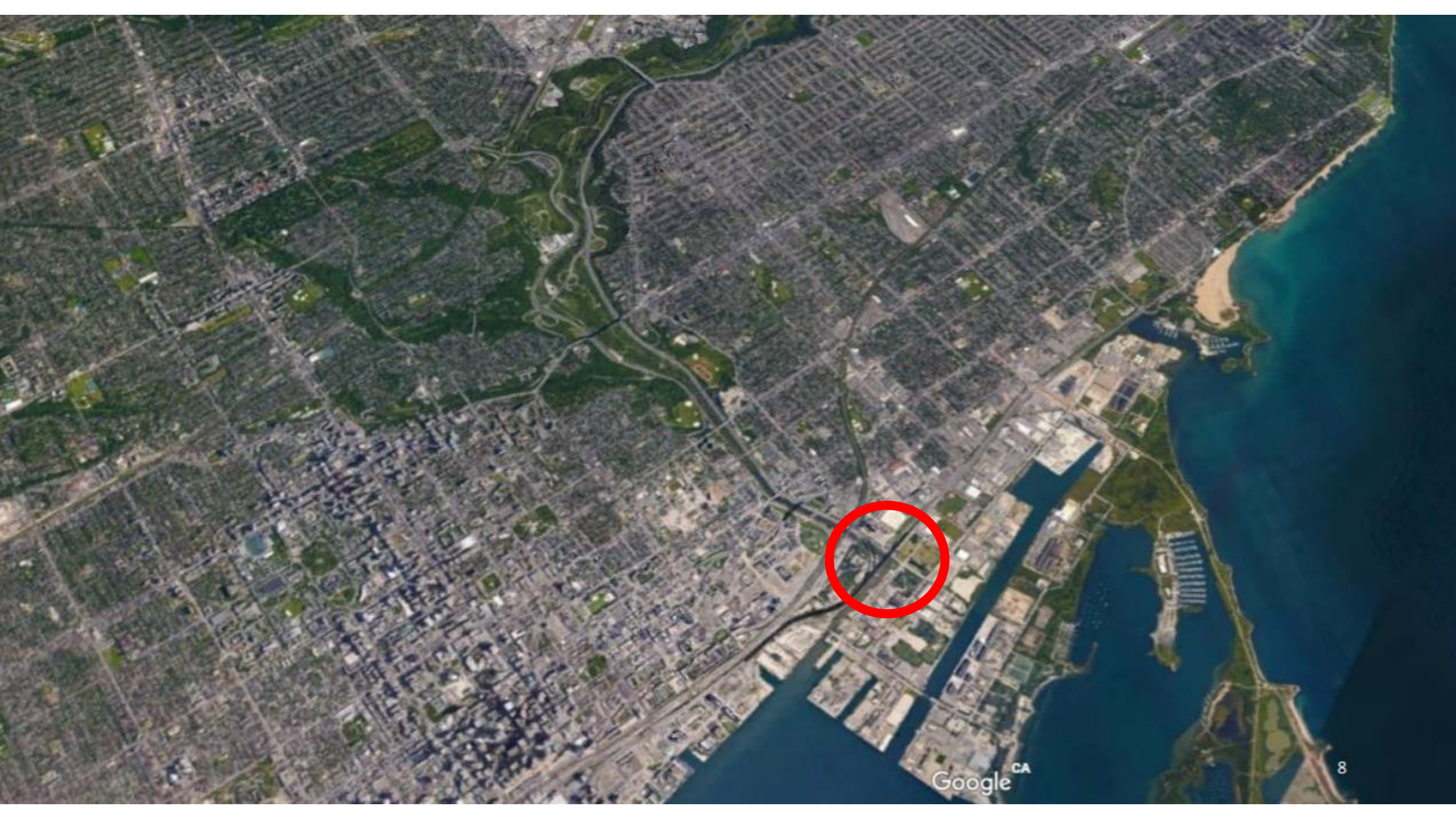
Keating Channel

aving the Gardiner
JarvisToCherry

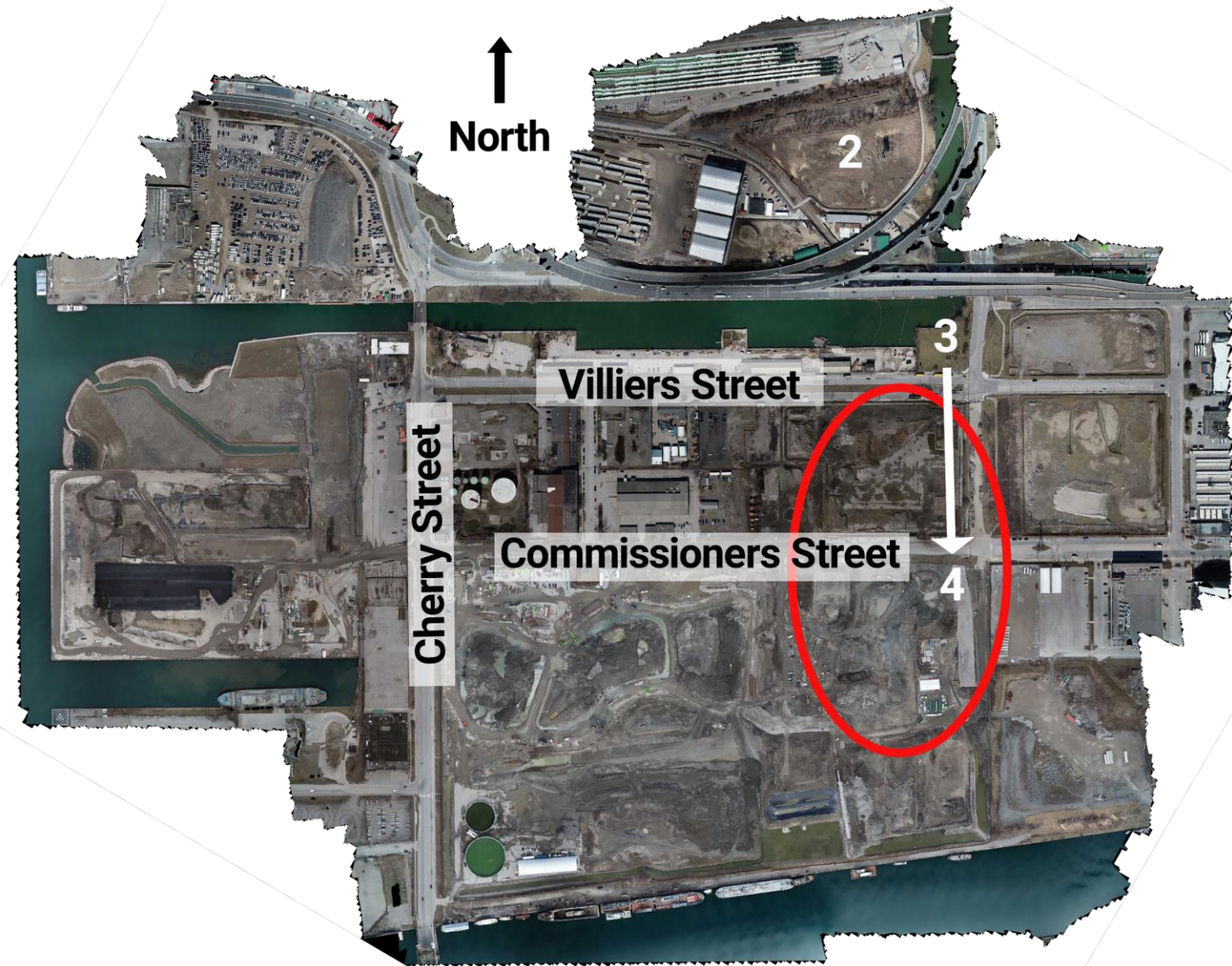
Stop 3: Don River and Keating Channel

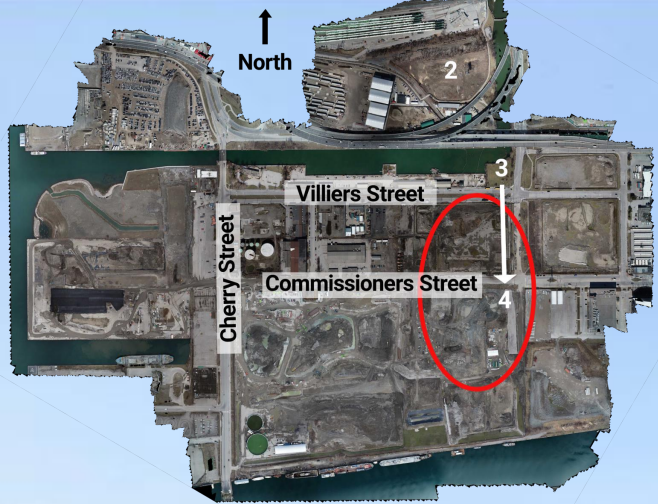


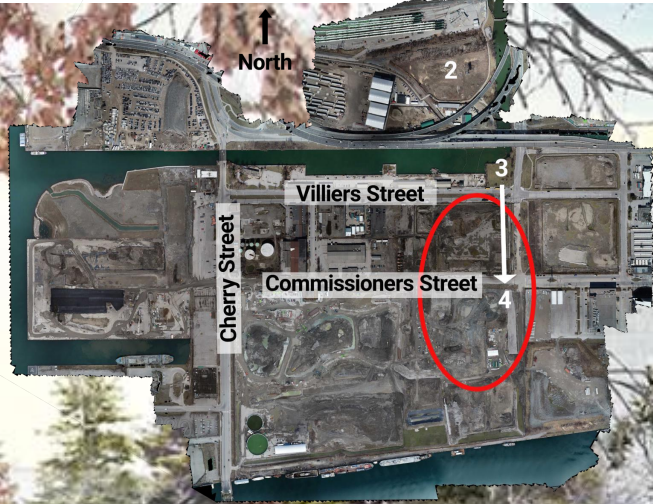




Stop 4: Future River Valley

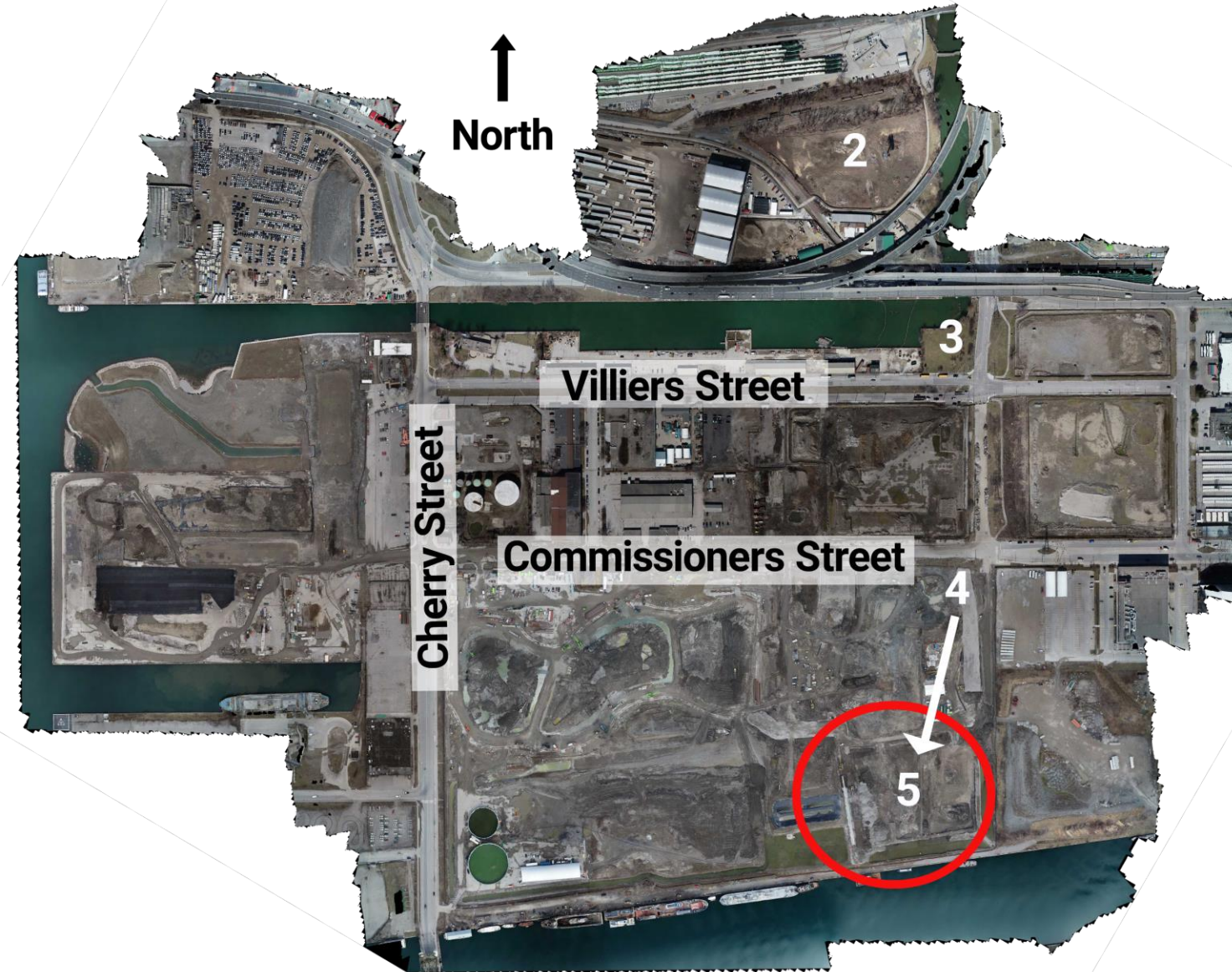




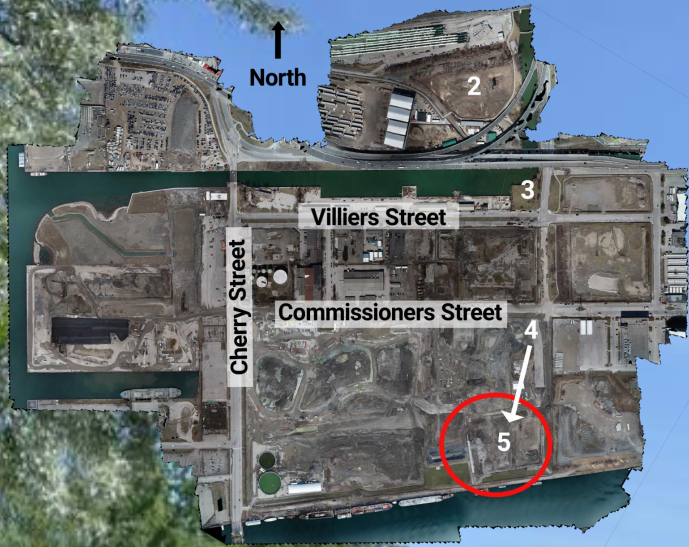


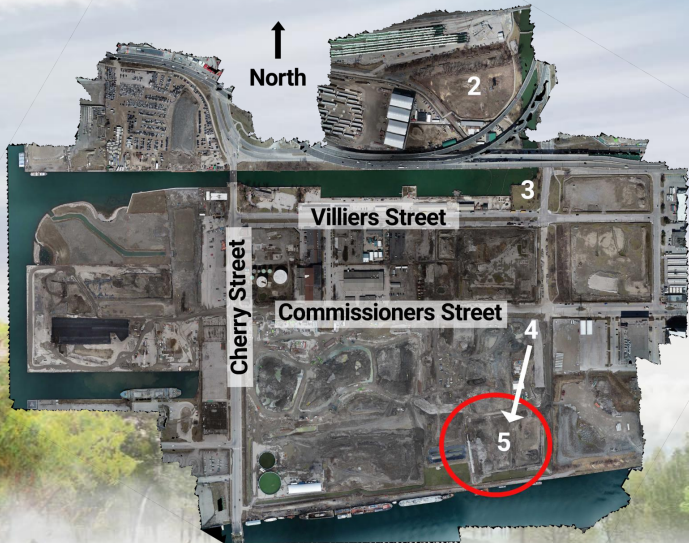


Stop 5: Don Greenway/Spillway









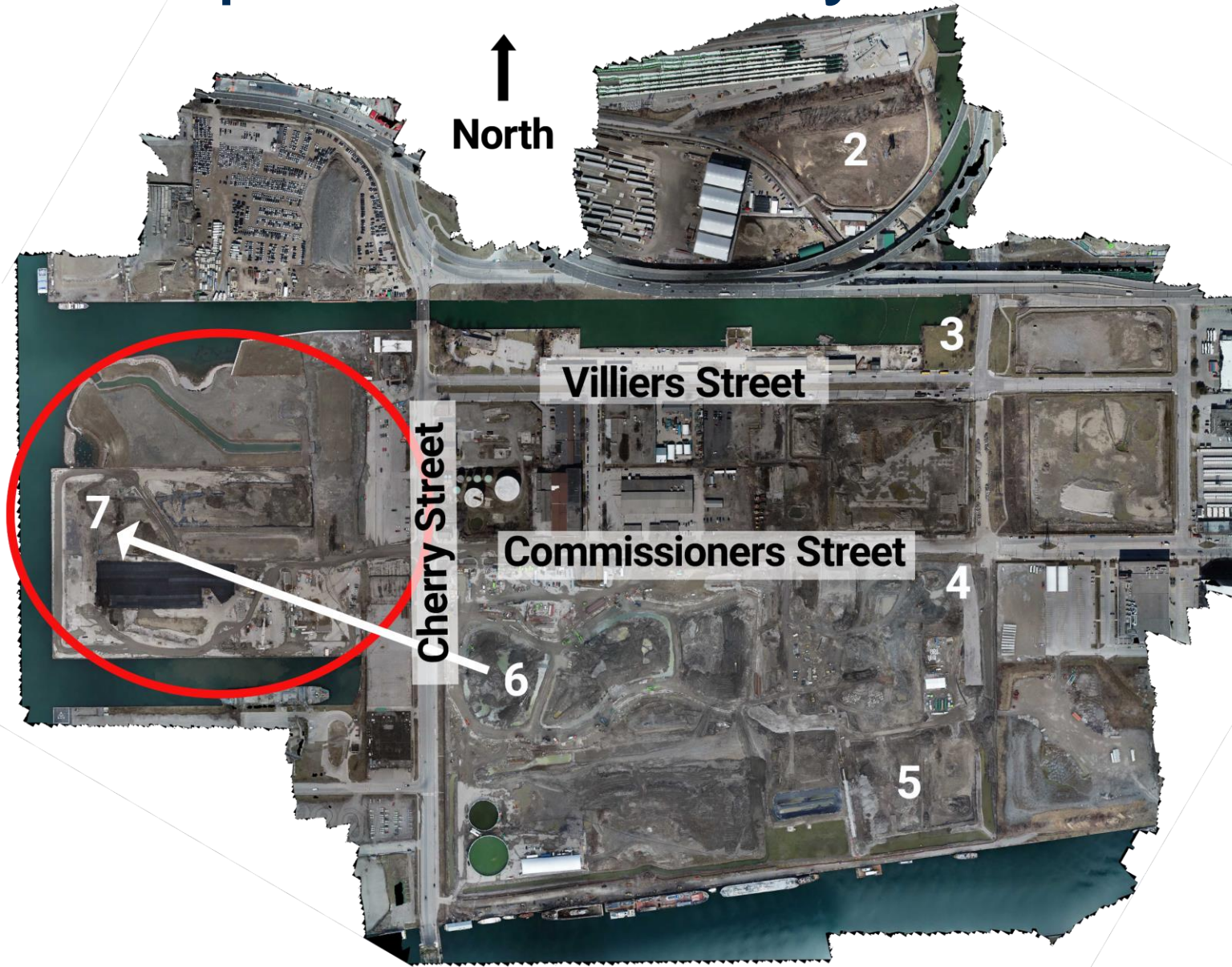








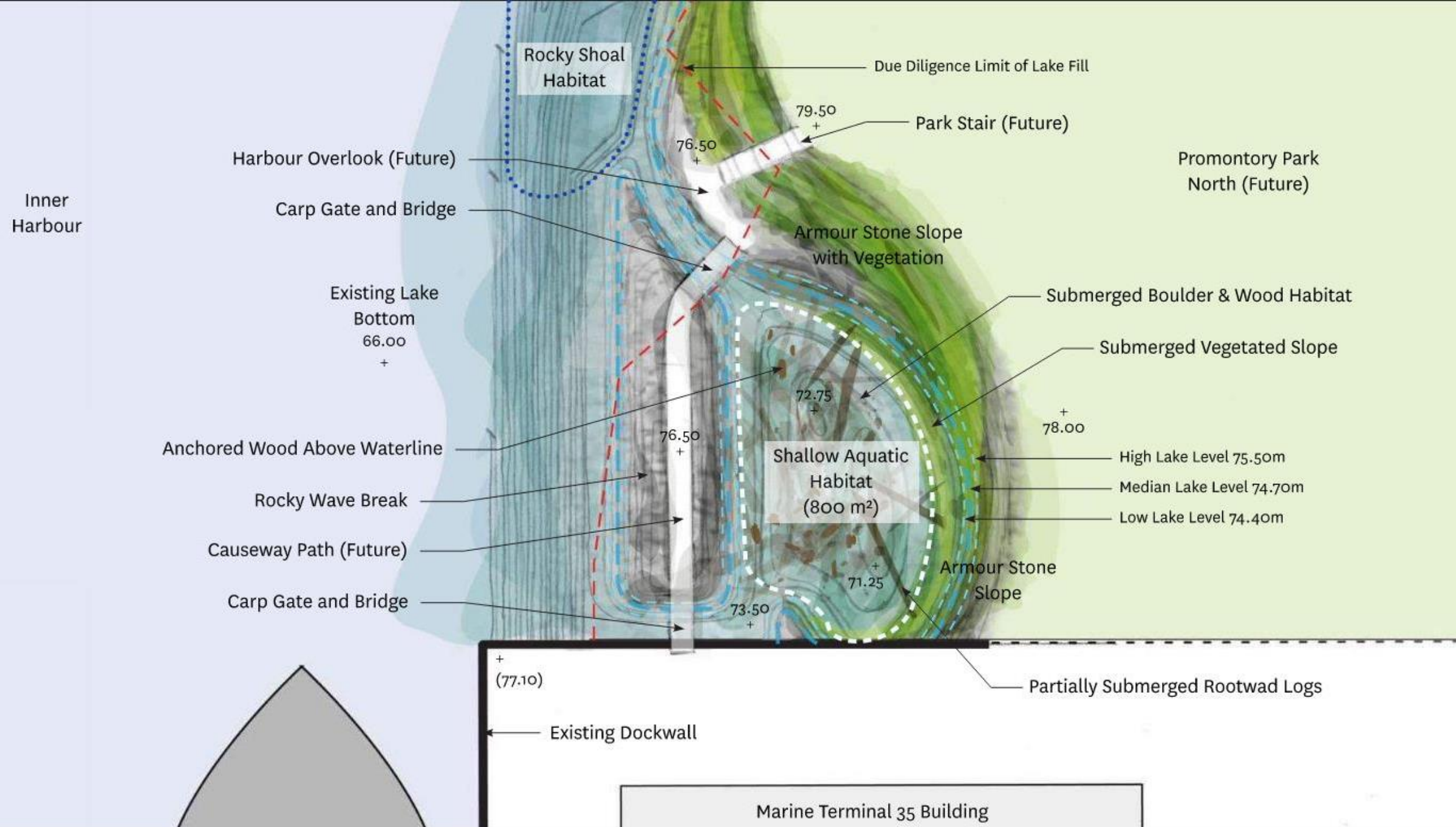
Stop 7: Promontory Park





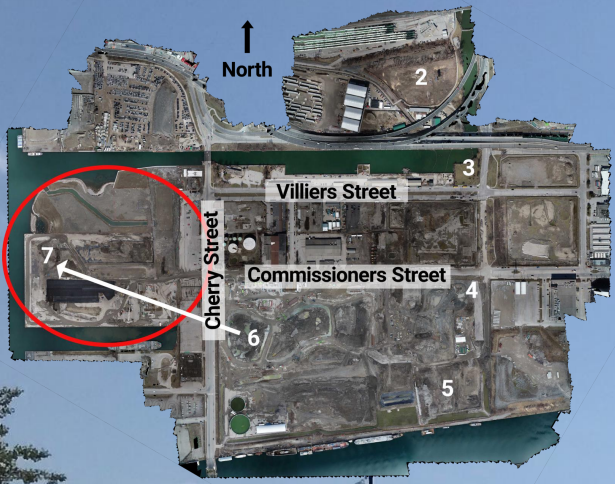
Cherry Street





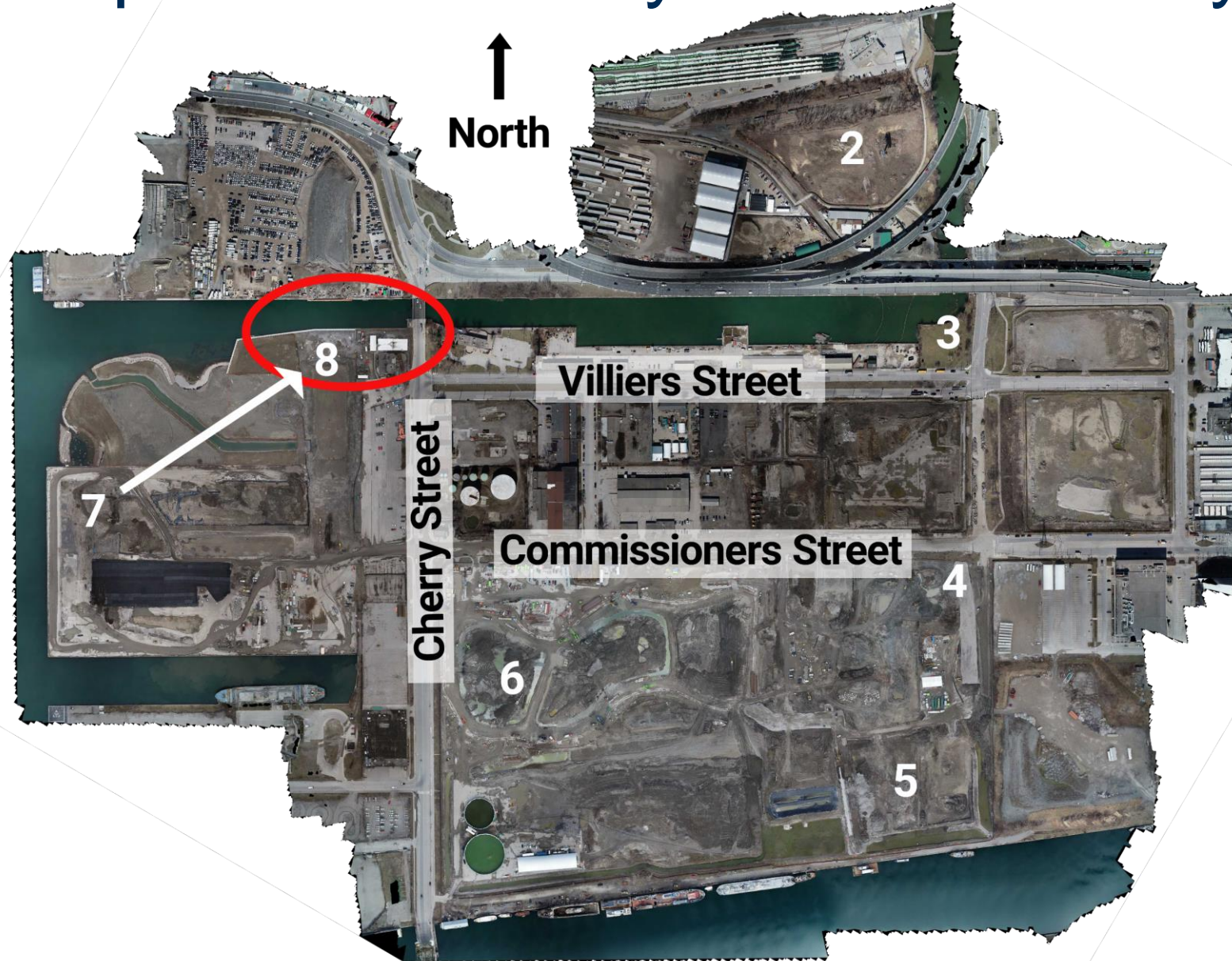
West Habitat Cove Enlargement



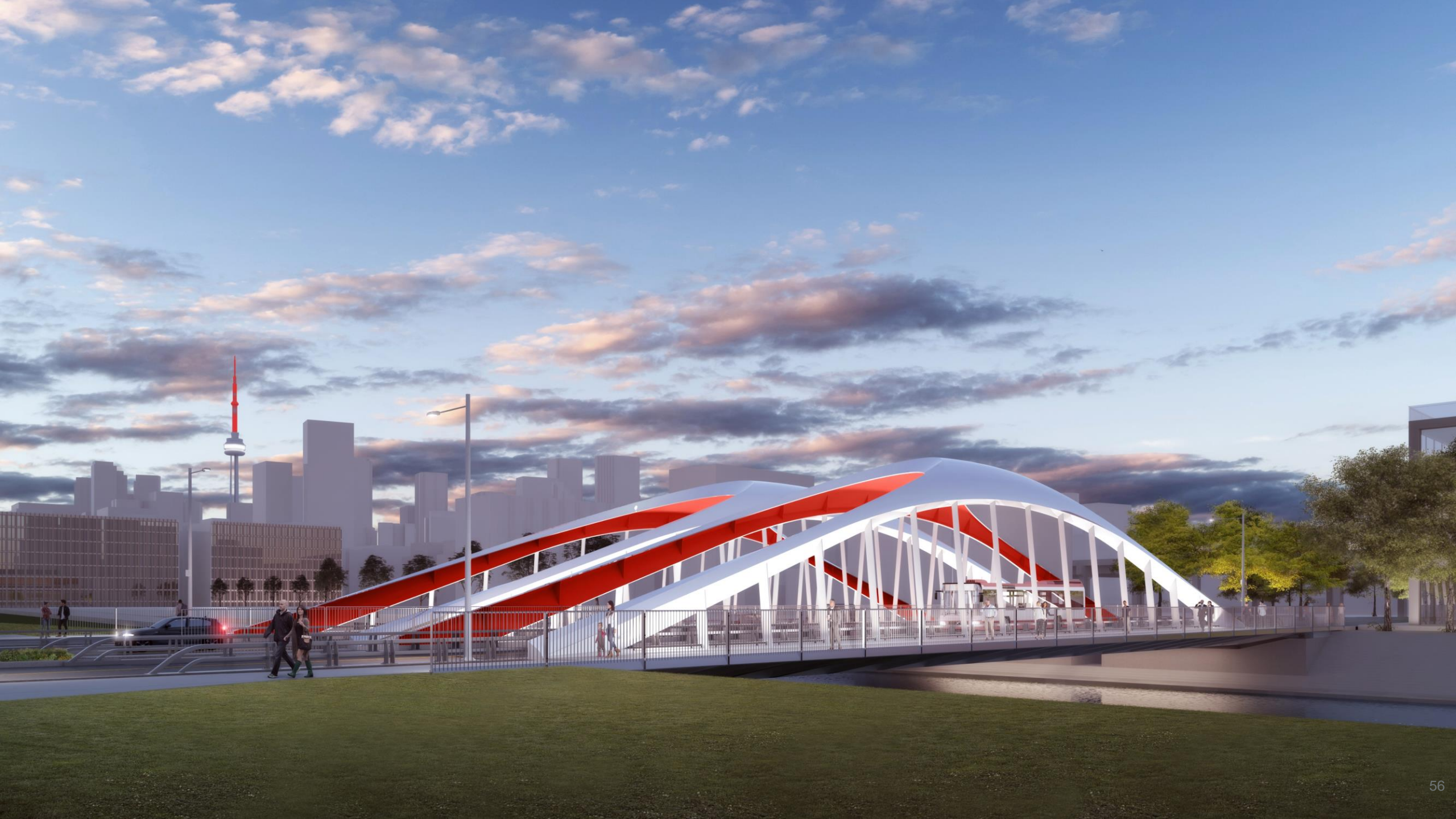




Stop 8: New Cherry Street & Cherry Street Bridge





















a waterfront for everyone

Moderated Discussion

Jack Smith
Chair, Coastal Forum
Partner, Nelson Mullins



Ken Dion
Project Director
Port Lands Integration
Waterfront Toronto



Peter Preston
Civil Engineer/Associate
Arup



Don Forbes
Project Director
Soil Remediation & Earthworks
Waterfront Toronto



Mira Shenker
Senior Manager
Communications and Public
Engagement
Waterfront Toronto



QUESTIONS and COMMENTS?

Note to Coastal Forum:

What projects could you highlight in our next session on coastal resilience?

Please offer any suggestions by email to Jack Smith and Leah Sheppard (Leah.Sheppard@uli.org).

THANK YOU!