Springbank Dam Decommissioning & Bank Restoration

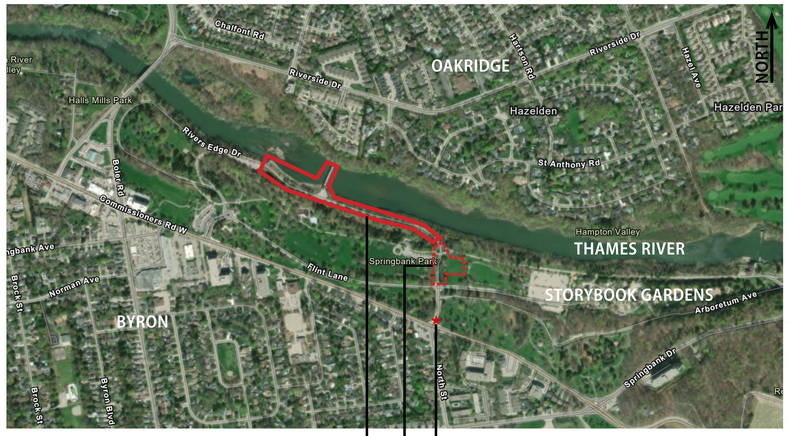
London CANADA

Stantec

Used this QR Code to access additional information on the City of London website

Project Location

SPRINGBANK PARK - CITY OF LONDON



Source: City of London online mapping

Area of primary construction activities including dam decommissioning, bank restoration, path restoration, etc.

Construction access to site

Area of secondary construction activities including parking, hauling, staging, etc.

Project Team

CITY OF LONDON

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A Brief History of the Dam

1929

The current Springbank Dam was constructed in 1929 to provide a **water reservoir** and to support **recreational opportunities** along the river upstream of the dam to the forks of the Thames area in downtown London. The dam was not designed to provide any flood attenuation.

2000

In 2000, during a heavy rainfall, debris **damaged the dam**. A review of the dam condition resulted in **recommendations to rehabilitate the dam** to meet current safety standards.

2008

In 2008 during testing of the new dam gates, a failure occurred which **locked the gates in the open position, and the dam has not operated since.**

2016

In 2016, the City, with the help of the London community, agencies and First Nations, developed a framework for a comprehensive strategy that would decide the **future of the Thames River** in London. This framework was for the **One River Master Plan & Environmental Assessment**.

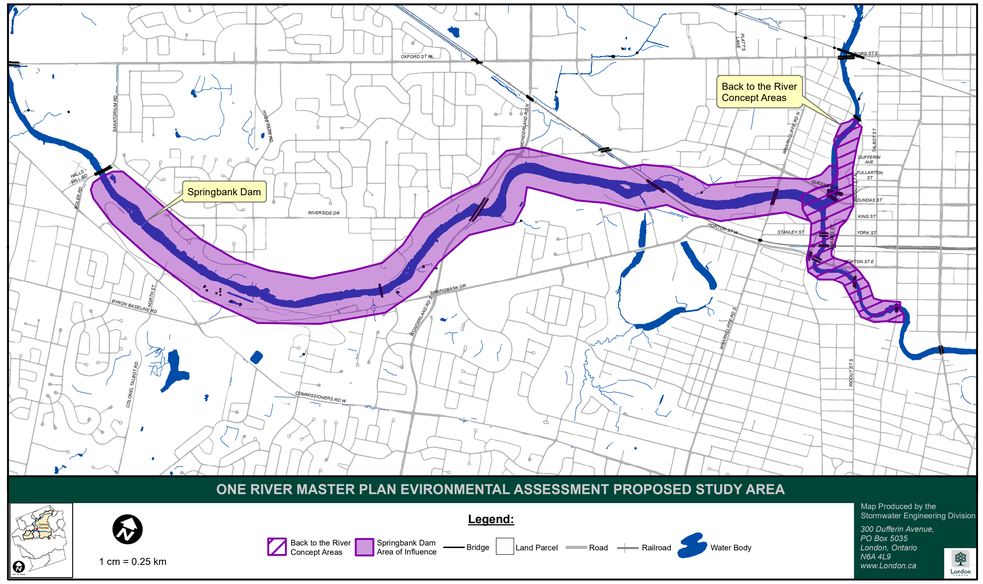
One River Master Plan

The overall goal of the One River Environmental Assessment was to improve the health of the Thames River and its social role in central London. **The first task was to evaluate options for the dam.**

2019

what to do with the dam?
- do nothing
- reinstate the dam
- allow the river to flow freely

how to let the river flow free?
- do nothing
- fully remove the dam structure
- partially remove the dam structure



Source: City of London One River Master Plan Study Area

Through consultation and detailed evaluation, it was determined that a **free flowing river** was the preferred option, and that **partial removal of the dam structure** was the preferred approach.

2023

The City of London, in partnership with Stantec Consulting, prepared conceptual plans to execute the decisions made in 2019. Conceptual plans were refined into detailed construction drawings and specifications to remove the hydraulic gates and mechanical features from the dam structure and restore the adjacent southern riverbank.

HERE WE ARE

2024

The City of London will be tendering the construction project in the spring of 2024, with plans for construction to begin in summer 2024

Construction Schedule and Activities

March 2024 - pre-construction tree removal

July 2024 - active construction will start

- **July/Aug 2024** - mobilization, dam decommisioning
- **Sept/Nov 2024** - path restoration and environmental restoration
- **Spring 2025** - project completion and demobilization



Source: Stantec

How Will Residents Who Use the Park be Affected?

How will the Thames Valley Parkway and Springbank Park be affected by construction?

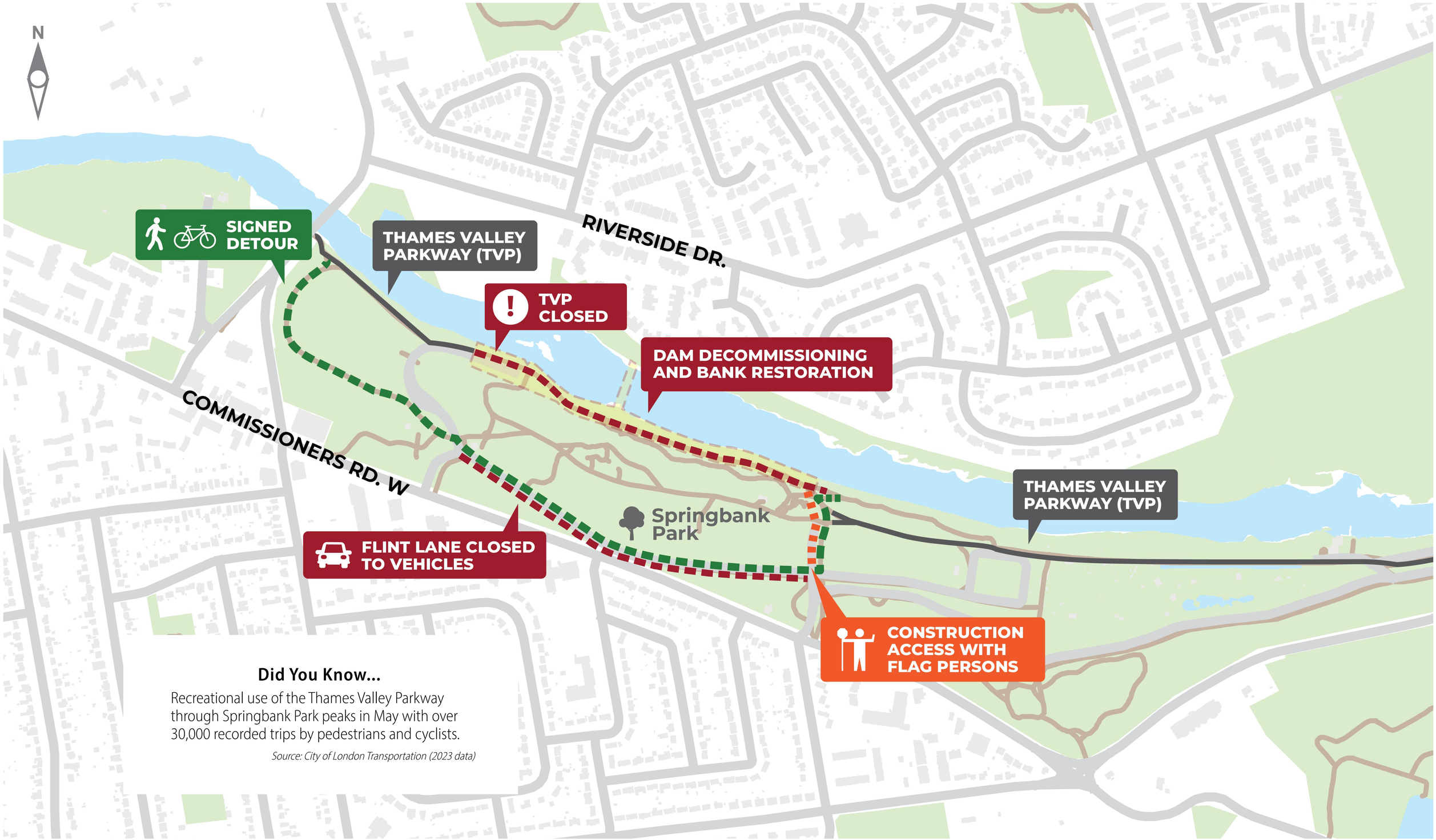
Detours will be expected from July 2024 to November 2024.
Signage will be posted along the Thames Valley Parkway and the shores of the Thames River to provide detour information for recreational users of the trail and river.

Thames Valley Parkway Detour Pedestrians will not have access to the section of the Thames Valley Parkway that runs parallel to the Thames River adjacent to the dam.

Parking Lot Closure Rivers Edge Drive and the associated parking lot will be fully closed to vehicular traffic and partially closed to pedestrians.

River Use Limitations Recreational use of the Thames River upstream of the dam and near the dam will be restricted.

Thames Valley Parkway Detour



Did You Know...

Recreational use of the Thames Valley Parkway through Springbank Park peaks in May with over 30,000 recorded trips by pedestrians and cyclists.

Source: City of London Transportation (2023 data)

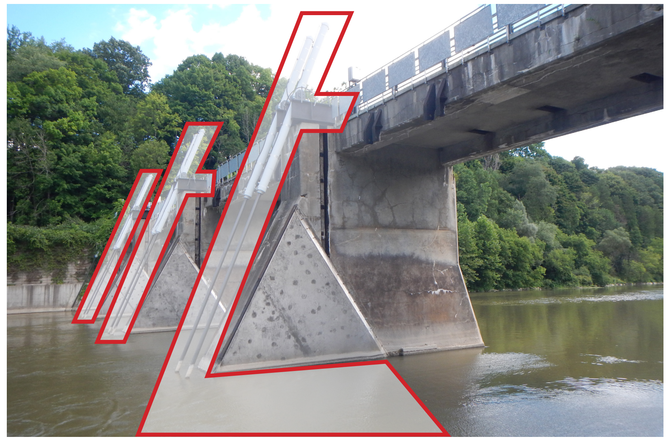
Source: City of London

What is being Removed?

Dam Components

The concrete superstructure of the dam will stay in place, while the mechanical components, control building, and steel gates that currently sit on the bed of the river will be removed. These removals will improve the free flow of the river.





Bank Armour

Approximately 175m of concrete bank armour will be removed from the southern riverbank downstream from the dam. Removal will allow the slope to be restored to a naturalized shoreline with native plantings and habitat improvements.





Select Trees

Select trees will be removed due to a combination of factors including existing structural defects, expected construction impacts, and undesirable/invasive species. These removals will mitigate risk and facilitate construction.



Tree ID #3



Tree ID #106



Tree ID #111



Tree ID #119

Source: (all photos this sheet) Stantec

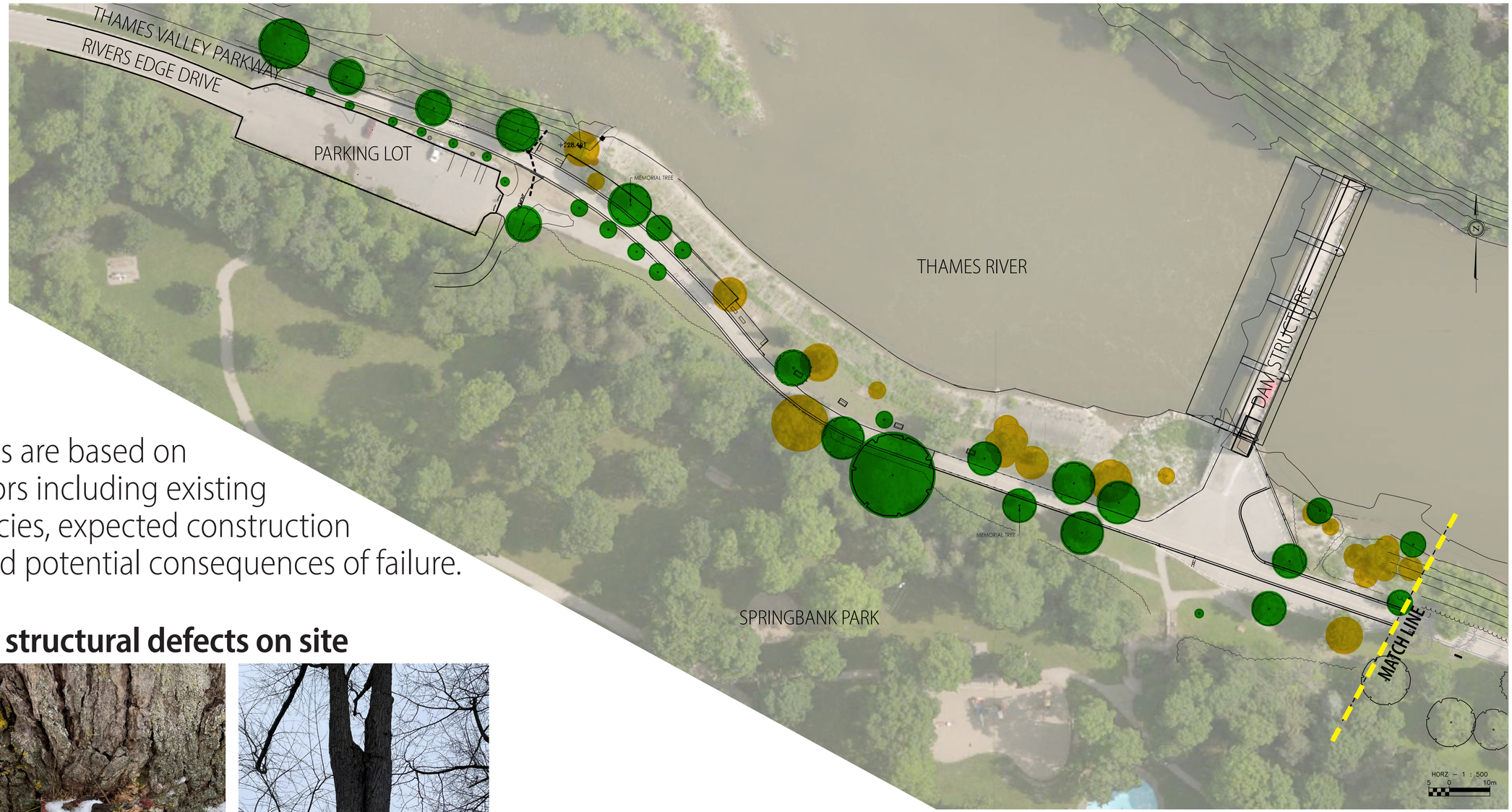
Tree Removal and Preservation

Legend

Tree recommended for removal

Tree recommended for preservation

Tree recommendations shown are current to date. Revisions to these recommendations may occur.



Tree recommendations are based on a combination of factors including existing structural defects, species, expected construction impacts and injury, and potential consequences of failure.

Examples of existing structural defects on site



Tree ID #106 - Silver Maple
Cavity at codominant union



Tree ID # 108 - Silver Maple
Fungal growth at base of tree



Tree ID # 117 - Silver Maple
Codominant union and upward facing cavity

Source: (all photos this sheet) Stantec

Construction Impacts on Trees

Construction impacts can include direct mechanical damage, intense vibration from heavy equipment, scalding from equipment exhaust, root loss, injury via reduction or clearance pruning, soil compaction, etc. These impacts can cause immediate or eventual failure. Complete or partial failure of large trees adjacent to a busy pedestrian path could have severe consequences.

Tree Removal and Preservation



Legend

Tree recommended for removal

Tree recommended for preservation

Tree recommendations shown are current to date. Revisions to these recommendations may occur.

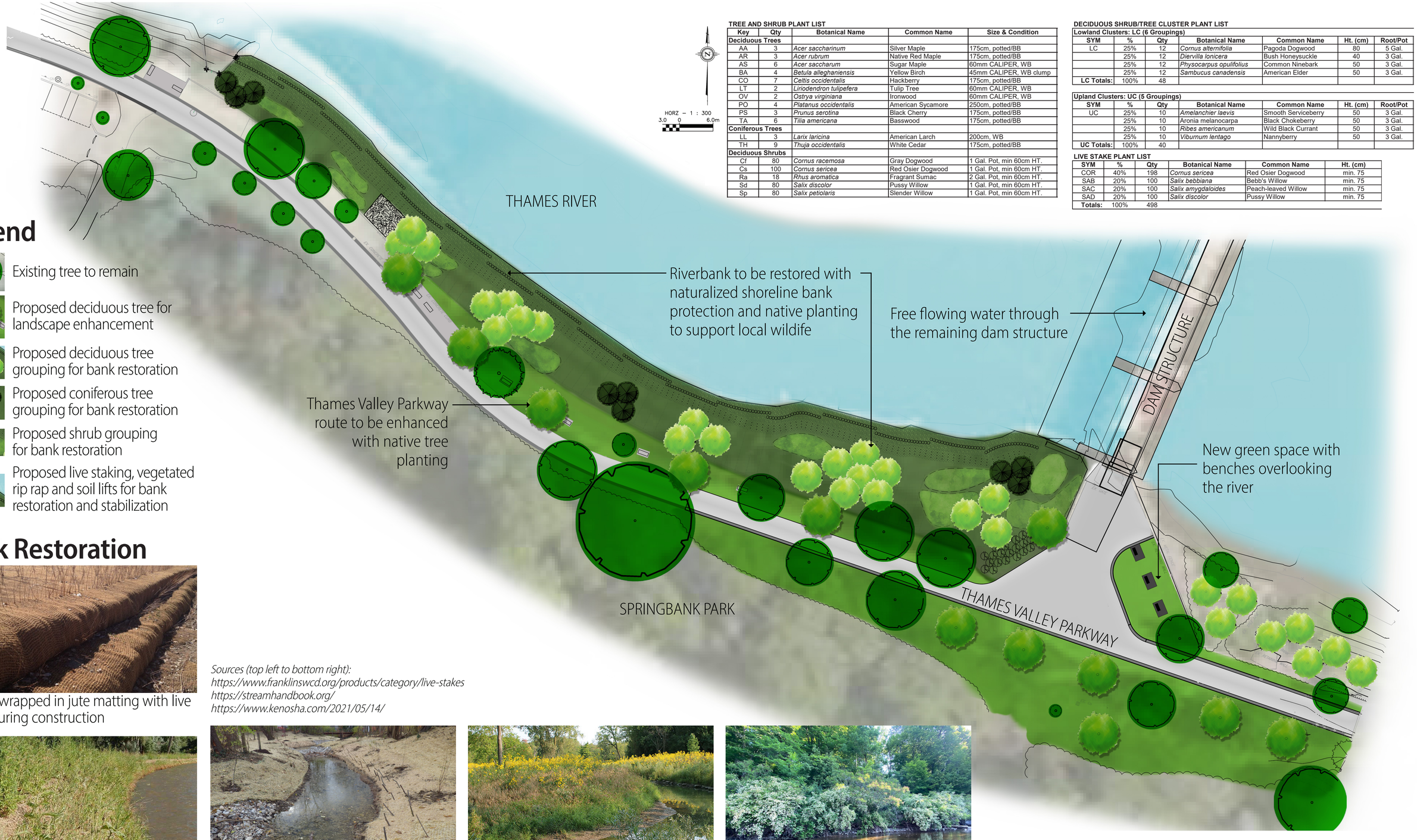
Consequences of construction impacts and structural defects

Complete tree failure

Partial tree failure

Source: (all photos this sheet) City of London, Forestry Operations

Landscape Restoration



Legend

- Existing tree to remain
- Proposed deciduous tree for landscape enhancement
- Proposed deciduous tree grouping for bank restoration
- Proposed coniferous tree grouping for bank restoration
- Proposed shrub grouping for bank restoration
- Proposed live staking, vegetated rip rap and soil lifts for bank restoration and stabilization

HORZ – 1 : 300
3.0 0 6.0m

TREE AND SHRUB PLANT LIST

Key	Qty	Botanical Name	Common Name	Size & Condition
Deciduous Trees				
AA	3	*Acer saccharinum*	Silver Maple	175cm, potted/BB
AR	3	*Acer rubrum*	Native Red Maple	175cm, potted/BB
AS	6	*Acer saccharum*	Sugar Maple	60mm CALIPER, WB
BA	4	*Betula alleghaniensis*	Yellow Birch	45mm CALIPER, WB clump
CO	7	*Celtis occidentalis*	Hackberry	175cm, potted/BB
LT	2	*Liriodendron tulipefera*	Tulip Tree	60mm CALIPER, WB
OV	2	*Ostrya virginiana*	Ironwood	60mm CALIPER, WB
PO	4	*Platanus occidentalis*	American Sycamore	250cm, potted/BB
PS	3	*Prunus serotina*	Black Cherry	175cm, potted/BB
TA	6	*Tilia americana*	Basswood	175cm, potted/BB
Coniferous Trees				
LL	3	*Larix laricina*	American Larch	200cm, WB
TH	9	*Thuja occidentalis*	White Cedar	175cm, potted/BB
Deciduous Shrubs				
Cf	80	*Cornus racemosa*	Gray Dogwood	1 Gal. Pot, min 60cm HT.
Cs	100	*Cornus sericea*	Red Osier Dogwood	1 Gal. Pot, min 60cm HT.
Ra	18	*Rhus aromatica*	Fragrant Sumac	2 Gal. Pot, min 60cm HT.
Sd	80	*Salix discolor*	Pussy Willow	1 Gal. Pot, min 60cm HT.
Sp	80	*Salix petiolaris*	Slender Willow	1 Gal. Pot, min 60cm HT.

DECIDUOUS SHRUB/TREE CLUSTER PLANT LIST

Lowland Clusters: LC (6 Groupings)

SYM	%	Qty	Botanical Name	Common Name	Ht. (cm)	Root/Pot
LC	25%	12	*Cornus alternifolia*	Pagoda Dogwood	80	5 Gal.
	25%	12	*Diervilla lonicera*	Bush Honeysuckle	40	3 Gal.
	25%	12	*Physocarpus opulifolius*	Common Ninebark	50	3 Gal.
	25%	12	*Sambucus canadensis*	American Elder	50	3 Gal.
LC Totals:	100%	48				

Upland Clusters: UC (5 Groupings)

SYM	%	Qty	Botanical Name	Common Name	Ht. (cm)	Root/Pot
UC	25%	10	*Amelanchier laevis*	Smooth Serviceberry	50	3 Gal.
	25%	10	Aronia melanocarpa	Black Chokeberry	50	3 Gal.
	25%	10	*Ribes americanum*	Wild Black Currant	50	3 Gal.
	25%	10	*Viburnum lentago*	Nannyberry	50	3 Gal.
UC Totals:	100%	40				

LIVE STAKE PLANT LIST

SYM	%	Qty	Botanical Name	Common Name	Ht. (cm)
COR	40%	198	*Cornus sericea*	Red Osier Dogwood	min. 75
SAB	20%	100	*Salix bebbiana*	Bebb's Willow	min. 75
SAC	20%	100	*Salix amygdaloides*	Peach-leaved Willow	min. 75
SAD	20%	100	*Salix discolor*	Pussy Willow	min. 75
Totals:	100%	498			

Bank Restoration

Soil lifts wrapped in jute matting with live stakes during construction

Soil lifts wrapped in jute matting with live stakes post construction

Sources (top left to bottom right):
https://www.franklinswcd.org/products/category/live-stakes
https://streamhandbook.org/
https://www.kenosha.com/2021/05/14/

Live stakes and shrubs in erosion control blanket along river bank at construction

Growth along river bank 1-5 years after construction

Growth along river bank 5-10 years after construction

Regulatory Agencies and Compliance

Dam decommissioning must be permitted by several regulatory agencies that govern **the protection of the environment**. These agencies examine and consider the proposed work and the potential impacts on species at risk (SAR), habitat, water resources, flooding and dam management.



DFO - Fisheries and Oceans Canada

Federal Ministry responsible for safeguarding Canadian waters and managing Canada's fisheries and oceans resources.

Transport Canada

The public right to travel on navigable waters is protected by law in Canada. Transport Canada is the federal institution responsible for enforcing that law and providing transportation policies and programs.

LRIA - Lakes and Rivers Improvement Act

Legislation that provides the Minister of Natural Resources and Forestry with the legislative authority to govern the design, construction, operation, maintenance and safety of dams in Ontario.

UTRCA - Upper Thames River Conservation Authority

Local public sector organization established by the Province and governed by the Conservation Authorities Act to protect, restore and effectively manage impacts on water resources such as lakes, rivers, streams and groundwater within its area of jurisdiction.

MECP - Ministry of Environment, Conservation & Parks

The provincial government ministry responsible for protecting and improving Ontario's air, land, water, species at risk (SAR) and their habitats. The MECP enforces the Endangered Species Act.

Source: https://oldcitywebservices.com/

Ecological Improvements

- Improved fish passage through the remaining dam structure
- Slope and shoreline naturalization
- Wildlife habitat improvement
- Native species planting
- Reuse of trees for bank stabilization

Sample of proposed native species to be planted along the riverbank:



Smooth Serviceberry
Amelanchier laevis



Common Ninebark
Physocarpus opulifolius



Pussy Willow
Salix discolor



American Elder
Sambucus canadensis

Sources (left to right):
https://www.thespruce.com/
https://en.wikipedia.org/wiki/Physocarpus
https://croneconfidence.com/
https://www.multiplants.ca/en/

Sample of local species at risk (SAR) that will be protected during construction:



Wavy-rayed Lampmussel
Lampsilis fasciola



Barn Swallow
Hirundo rustica



Spiny Softshell Turtle
Apalone spinifera



Silver Shiner
Notropis photogenis

Sources (left to right):
https://inaturalist.ca/
https://stevegettle.com/
https://www.ontario.ca/page/spiny-softshell-recovery-strategy
https://alleghenyfish.wordpress.com/

Invasive Species Management

Consistent with the **London Invasive Plant Management Strategy** and the **One River EA River Management Plan**, priority invasive species were addressed at this site in 2022-2023.

Sample of priority invasive species:



Japanese Knotweed
Fallopia japonica



Dog Strangling Vine
Vincetoxicum rossicum



Glossy Buckthorn
Frangula alnus

Sources (top left to right):
https://www.invasive.org/
https://www.postregister.com/farmandranch/
https://www.ontario.ca/page/dog-strangling-vine

Thank You

The Thames River

The Thames River is one of the largest river systems in Southern Ontario and is both a natural heritage resource that provides important habitat areas for many species of wildlife and a recreational and cultural resource that has been important to the London community for over a century.

Decommissioning of the dam is a big step forward within the framework of the One River Master Plan, and is a first step in creating opportunities to protect the sensitive habitat areas along the river and provide improvements to recreation opportunities.



Staying Informed

For ongoing information on project status, construction activities, Thames Valley Parkway detours, parking lot closures, etc., please refer to the City of London **'Get Involved'** website.
https://getinvolved.london.ca/springbankdam

Use this QR code to access additional and up to date information.

City Contact Information

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Thank you for joining us

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London CANADA



















Springbank Dam and Surroundings





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Sources (all photos this sheet):
City of London and Stantec