

The Vale of Avoca/Yellow Creek – 2023 Update and Next Steps

Date: June 8, 2023

To: Infrastructure and Environment Committee

From: General Manager, Parks, Forestry and Recreation

Wards: University-Rosedale - 11 and Toronto-St. Paul's - 12

SUMMARY

The Vale of Avoca is a highly valued parkland space consisting of approximately 16 hectares of ravine land surrounding Yellow Creek, a tributary of the Don River. It includes vital infrastructure such as trails, stairs, bridges, storm sewer infrastructure and other public facilities frequently found in ravines across Toronto.

The City of Toronto and the Toronto and Region Conservation Authority have invested in the Vale of Avoca for many years, undertaking work to maintain trails, protect stormwater infrastructure, address slope instability, and protect and restore the natural environment.

The purpose of this report is to provide an update on recent work in the Vale of Avoca and the next steps for capital investment projects to protect and maintain infrastructure, the natural environment and adjacent properties.

RECOMMENDATIONS

The General Manager, Parks, Forestry and Recreation recommends that:

1. The Infrastructure and Environment Committee receive this report for information.

FINANCIAL IMPACT

The next steps for the Vale of Avoca outlined in this report are for projects currently included in the 2023-2032 Council Approved Capital Budgets and Plans for Toronto Water and Parks, Forestry and Recreation. Toronto Water's 2023-2032 Capital Budget and Plan includes the ongoing Yellow Creek Geomorphic Systems Master Plan

Environmental Assessment within the Vale of Avoca, which is funded at \$0.150 million over 2023 to 2024 and is classified as a state of good repair project.

There are three capital projects, classified as state of good repair, included in Parks, Forestry and Recreation's 2023-2032 Capital Budget and Plan, in the Vale of Avoca, funded by debt. There is \$0.150 million over 2023 to 2024 for integration of the staircase design into the design for stream and slope stabilization work near Heath Street East (led by TRCA); \$0.150 million over 2025 to 2027 for the development of a trail plan in the City Wide Environmental Initiatives project; and \$1.270 million over 2030 to 2031 for the replacement and rehabilitation of the Health Crescent Staircase. Funding for ongoing maintenance of trail assets and natural area management in the Vale of Avoca is included in Parks, Forestry and Recreation's 2023 Council Approved Operating Budget.

Projects being led by the Toronto and Region Conservation Authority (TRCA), including the stream repair work along Yellow Creek below Summerhill Gardens and the stream and slope stabilization work near Heath Street East, will be funded through a combination of TRCA capital funding and federal grant funding through the Disaster Mitigation and Adaptation Fund. The TRCA is also seeking provincial funding through the Water Erosion Control Infrastructure program to partially fund components of this work. The TRCA 2023-2032 Council Approved Capital Budget and Plan includes a capital project classified as state of good repair, fully funded by Toronto Water over 2023 to 2025, that covers the cost of the channel and slope stabilization work near Heath Street East of \$1.600 million; and the stream repair in Summerhill Gardens of \$0.600 million.

Annual financial impacts and additional investments, including funding options, to advance state of good repair projects identified through the Yellow Creek Geomorphic Systems Master Plan Environmental Assessment and state of good repair and service improvement projects identified through the future trail plan for the Vale of Avoca will be submitted for consideration as part of future year budget processes.

Staff will also continue to identify funding opportunities through federal and provincial programs to raise external funds to advance this work.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial implications as identified in the Financial Impact section.

DECISION HISTORY

At its meeting on March 20, 2023, the Infrastructure and Environment Committee requested the General Manager Parks, Forestry and Recreation, in consultation with the General Manager Toronto Water and the Toronto and Region Conservation Authority, to report back on next steps for the Vale of Avoca (Yellow Creek ravine).

<https://secure.toronto.ca/council/agenda-item.do?item=2023.IE2.9>

At its meeting on January 29, 2020, City Council considered the key next steps to implement the Ravine Strategy over the next ten years and directed the General Manager, Parks, Forestry and Recreation in partnership with the General Manager, Toronto Water and the General Manager, Transportation Services to seek funding from other levels of government to advance the Ravine Strategy Implementation.

<https://secure.toronto.ca/council/agenda-item.do?item=2020.EX12.1>

At its meeting on January 31, 2018, City Council requested the General Manager, Parks, Forestry and Recreation to evaluate Yellow Creek in consultation with a working group and establish a timeline for the major works required.

<https://secure.toronto.ca/council/agenda-item.do?item=2017.PE23.3>

At its meeting of September 9, 2016, the Parks and Environment Committee requested the Deputy City Manager, Community and Social Services to report on the feasibility and process to develop a Master Plan for the Vale of Avoca (Yellow Creek).

<https://secure.toronto.ca/council/agenda-item.do?item=2016.PE13.6>

At its meeting on June 10, 2014, City Council confirmed key principles and a framework for watercourse management in Toronto, coordinated with the Toronto and Region Conservation Authority (TRCA).

<https://secure.toronto.ca/council/agenda-item.do?item=2014.PW31.14>

COMMENTS

Background

Toronto's ravines have significant ecological value, where people seek active and passive recreation, house critical grey and green infrastructure, and contribute significantly to the city's resilience. They contribute \$822 million in ecological and recreational services annually.

The ravines extend over 300 kilometres and cover 11,000 hectares or 17 per cent of Toronto's land area. Over half (5,700 hectares) of ravine system land is publicly owned parkland. This includes over 1,100 hectares within Rouge National Urban Park, under Parks Canada jurisdiction. The remaining 40 per cent is owned by a patchwork of landowners, including public institutions and private property owners, and includes approximately 30,000 private addresses.

In October 2017, City Council adopted the Toronto Ravine Strategy, which provides a long-term, system-based approach to protecting and managing the City's immense ravine system. The Strategy guides the management of the ravines and ensures the protection of these irreplaceable lands is balanced with their use and enjoyment so that they continue to bring nature to people and flourish for the next 100 years and beyond. In January 2020, City Council adopted the key next steps to implement the Ravine Strategy over the next ten years and directed staff to report every three years on the advancement of the Ravine Strategy's actions. The first of these update reports was adopted with amendments by City Council on June 15, 2022.

The Role of City Divisions and the Toronto and Region Conservation Authority in Ravines

Multiple City of Toronto divisions and the Toronto and Region Conservation Authority (TRCA) have a role in managing Toronto's ravines, including the Vale of Avoca.

Parks, Forestry and Recreation (PFR) invests significantly in amenities that draw people into the ravines, such as trails, lookouts, interpretive features, and erosion control to protect these assets. These investments increase the human-nature connection in ways that are both meaningful and beneficial. PFR also invests in forest and natural area management activities in ravines, including tree planting, control of invasive plant species and introduced pests (emerald ash borer and others), volunteer stewardship, monitoring, general maintenance, removal of illegally dumped materials, ravine by-law permit review and enforcement, and other restoration work.

Toronto Water makes significant investments to its infrastructure in the ravine system, including combined sewer overflow control works, stormwater management, stream restoration and erosion control works. In addition, Toronto Water also works in ravines doing state of good repair projects to protect and extend the life of key infrastructure elements. Using an engineering approach and working with natural channel systems, stream restoration projects aim to protect City infrastructure from future erosion impacts, improve channel hydraulics, water quality, aquatic and riparian habitat, and incorporate stormwater management.

The TRCA is a critical partner in monitoring and addressing erosion and flooding hazards, as well as watershed health (terrestrial and aquatic), and their watershed-focused activities tie the ravines and rivers of Toronto to their headwaters north of the city. Through their Erosion Risk Management Program, the TRCA identifies and remediates shoreline and valley land erosion hazards and encourages proactive prevention, protection, and management of erosion issues on private and public property. This work is done for the TRCA's erosion control structures and high-priority erosion hazard sites and on a cost-recoverable basis for various City divisions, including PFR, Transportation Services, and Toronto Water.

Interdivisional Capital Coordination in Ravines

The Ravine Strategy identified the importance of improving capital planning coordination, especially given the numerous cross-divisional investments and programs in ravines. Improved coordination of capital programs is vital for the system's ecological health, for maximizing the experiences of ravine users and provides the potential to identify savings and efficiencies.

This capital coordination approach is not new. The 2014 Coordinated Watercourse Management Plan staff report identified that design and construction should be carried out in collaboration with other potentially affected divisions and that costs for such work can be shared among divisions where there are mutual benefits. It also indicated that where stream erosion poses a risk to more than one owner group (division), the groups will continue the practice of bundling capital works, which has the following benefits to the City and ravines:

- Leveraging investments to realize other benefits for infrastructure, park users, and the environment;
- Improving outcomes for the natural environment by minimizing construction impacts on flora and fauna and coordinating restoration activities; and
- Accelerating some lower priority works to address the mutual needs of other divisions.

Through the adoption of the Ravine Strategy in 2017, City Council further strengthened the ongoing City-wide approach to coordination by directing the establishment of an interdivisional capital plan for the implementation of the Ravine Strategy. To develop this plan, an interdivisional Ravines Capital Planning and Design Coordination Working Group was established, which serves as a vehicle to move toward greater alignment between City divisions and with the TRCA and appropriate sequencing of projects, as well as coordinated budget requests and funding applications to the federal and provincial governments. The improved coordination of capital projects is leveraging investments and resources to maximize delivery of infrastructure while minimizing construction impacts on the natural environment, park access, use and enjoyment.

The Vale of Avoca

The Vale of Avoca is a highly valued parkland space consisting of approximately 16 hectares of ravine land surrounding Yellow Creek, a tributary of the Don River, located southeast of St Clair Avenue East and Yonge Street. Similar to many ravines across Toronto, the Vale of Avoca includes vital infrastructure such as trails, stairs, bridges, storm sewer infrastructure and other public facilities.

Yellow Creek enters the Vale of Avoca ravine from a culvert beneath Mount Pleasant Cemetery and flows through, mostly confined with stone and gabion basket armouring, until returning underground in the south end upstream of Mount Pleasant Road, where the water flows to the Don River. The Vale of Avoca is bounded by multiple private properties, predominantly residences, whose property lines extend onto the ravine slopes, in some cases reaching to or including the land through which Yellow Creek flows. The Vale of Avoca also includes the Vale of Avoca Environmentally Significant Area (ESA).

Recent work in the Vale of Avoca

PFR, Toronto Water and the TRCA have been involved in the management of the Vale of Avoca for many years, including maintenance of park features and natural areas, as well as urgent work and funded projects on a priority basis. A working group comprised of nearby residents' associations, City staff and TRCA staff was established in 2017 and facilitated by the former University-Rosedale Councillors' office to provide updates on projects and discuss concerns regarding erosion, slope stability, invasive species, trails and water quality.

Toronto Water

The first critical layer of work to be considered in planning capital investments in ravines, such as the Vale of Avoca, is the watercourse and any critical infrastructure.

Through studies known as Geomorphic Systems Master Plans (GSMPs), stream processes and current conditions impacting infrastructure within the ravine can be investigated, analysed and forecast to help predict future scenarios and/or impacts to that infrastructure. The results of these GSMPs can also inform what impacts or opportunities for collaboration may be to trails and other recreational amenities through the movement of the watercourse or capital investments to protect critical Toronto Water infrastructure.

In 2020, Toronto Water initiated the Yellow Creek Geomorphic Systems Master Plan (GSMP) Environmental Assessment (EA) to create a long-range plan for addressing Toronto Water's infrastructure at risk of erosion. Solutions can then be developed to help mitigate or prevent those future scenarios and ensure local storm sewers and watermains in Yellow Creek can continue operating and servicing residents and businesses.

This GSMP represents one of the six active GSMPs that Toronto Water is undertaking. The GSMPs currently underway include Yellow Creek, Mimico Creek, Burke Brooke, German Mills Creek, Newtonbrook Creek and the West Humber River. These GSMPs aim to assess erosion risks to Toronto Water's infrastructure across the city to develop a City-wide prioritization plan for addressing critically exposed sanitary sewers, watermains at-risk of erosion and eroded storm sewer outfalls.

Assessment of the ten Toronto Water infrastructure sites in Yellow Creek has noted that only storm sewer outfall and watermain infrastructure is present in Yellow Creek and that the erosion risks to this infrastructure are not as critical as those found in other watercourses, such as Highland Creek, Taylor-Massey Creek, Mimico Creek and Newtonbrook Creek, which all contain numerous critically exposed sanitary sewers, in addition to at risk storm sewer outfalls and watermain crossings.

Following completion of the Yellow Creek GSMP EA, anticipated in 2024, Toronto Water, PFR, and the TRCA will review the recommendations within their respective City-wide programs to assess prioritization and resource allocation and identify opportunities for coordination and collaboration as part of a long-range plan for Yellow Creek. For Toronto Water, this prioritization will be based on assessing erosion risk to all Toronto Water infrastructure from across the city, including within Yellow Creek.

Parks, Forestry and Recreation

While the Yellow Creek GSMP is ongoing, PFR continues to actively manage the Vale of Avoca to protect and enhance the natural environment.

PFR ravine management efforts within the Vale of Avoca includes:

- removing invasive plants such as Japanese knotweed
- treating large elm and ash trees to protect against Dutch elm disease and emerald ash borer
- pruning and removing dead trees to address tree hazards
- clearing debris in the watercourse to improve water flows and protect infrastructure (bridge, inlets)

- supporting a bioherbicide research trial for Norway maple and tree of heaven with test plots in the ravine

Trail maintenance and planning is also ongoing and includes the following:

- conducting annual inspections
- repairing above ground wood trail components
- collecting background data for future trail planning by mapping existing trails and conducting trail use counts

Urgent work

Urgent work and studies have also been undertaken in recent years by the TRCA and Toronto Water and supported by PFR. This includes work to address erosion and channel stability and protect existing critical assets and properties.

Urgent work recently completed within the Vale of Avoca includes:

- slope stabilization at 30-36 Rose Park Crescent
- channel stabilization of Yellow Creek below Summerhill Gardens
- storm sewer outfall replacement and watercourse work south of St. Clair Avenue East
- Summerhill Gardens Slope Stability and Erosion Risk Assessment
- Yellow Creek near Heath Street East Class EA to address slope stabilization and channel erosion

Next Steps for the Vale of Avoca/Yellow Creek

PFR, Toronto Water and the TRCA have outlined projects as the next steps for capital investments, included in Toronto Water, PFR and TRCA 2023-2032 Council Approved Capital Budgets and Plans to protect and maintain infrastructure, the natural environment and adjacent properties. Attachment 1: Next Steps - Planned Projects for the Vale of Avoca provides a summary of these projects, proposed to take place over multi-year timeframes due to their complexity and phased implementation.

Projects are planned to be implemented using the coordinated approach in ravines across Divisions and with the TRCA, where impacts from the watercourse are first identified, and then capital investments are coordinated and sequenced to leverage investments and minimize impacts. Urgent work related to slope stabilization will still be undertaken and is being coordinated with City Divisions. Capital funding allocations may be adjusted based on further opportunities for collaboration and integration of other projects or on emergency work prioritized in the system, which may advance or defer these projected funding allocations. It is possible that timeframes may change in the later years.

PFR's ravine management work, included in the PFR operating budget, which supports the ongoing maintenance of trail assets and natural area management in Toronto's ravine parkland, including in the Vale of Avoca, is planned to continue at current levels.

The City will continue to invest in the Vale of Avoca/Yellow Creek to protect and maintain infrastructure, the natural environment and adjacent properties. The current

Yellow Creek GSMP EA and future trail plan, as outlined in this report, will allow staff to identify a long-range plan for the ravine parkland and watercourse for future implementation. With support from the University-Rosedale Councillor's office, City staff will continue to engage and collaborate with the working group on next steps and key investments. PFR, Toronto Water and the TRCA will prioritize potential projects within their respective City-wide programs and will continue to identify opportunities and submit applications for intergovernmental funding to protect and enhance Toronto's ravines, including the Vale of Avoca.

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SIGNATURE

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ATTACHMENTS

Attachment 1: Next Steps - Planned Projects for the Vale of Avoca

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Timeframe	Planned Projects	Lead Division	2023-2032 Council Approved Capital Budget and Plan
2023 - 2024	Presentation of the draft Yellow Creek GSMP EA to resident groups and the impacted councillors through a community consultation meeting planned to take place in fall 2023. Study findings and proposed options to protect Toronto Water infrastructure will also be presented at this meeting.	TW	\$0.150 million
	The final version of the Yellow Creek GSMP EA, to protect Toronto Water infrastructure at-risk of erosion from Yellow Creek, in the Vale of Avoca, is anticipated to be completed in 2024.		
	Stream work below Summerhill Gardens, anticipated to be completed in 2024.	TRCA	\$0.600 million
	Design of staircase at Heath Crescent for future replacement.	PFR	\$0.150 million
2024 - 2025	Review of the findings of the Yellow Creek GSMP EA by staff from Toronto Water, the TRCA and PFR to determine if and where any work related to trails, access points, and bridges may be built in the future; taking into consideration the extent of any future work by Toronto Water as identified in the GSMP EA.	TW PFR TRCA	N/A
	Construction of stream and slope stabilization work near Heath Street, pending opt-in by any affected private landowners.	TRCA	\$1.600 million
	A community planting event, pending site condition suitability, to restore the site related to the TRCA stream work below Summerhill Gardens.	PFR	N/A (Operating)

Timeframe	Planned Projects	Lead Division	2023-2032 Council Approved Capital Budget and Plan
2025 - 2027	<p>Development of a plan with associated costing and timelines for proposed capital trail projects in the Vale of Avoca based on the review of the Yellow Creek GSMP EA, led by PFR, with input from other divisions and the TRCA. Community consultation will take place during the planning phase and review of the draft designs.</p> <p>Staff will identify opportunities to integrate and coordinate projects and cost share across divisions and identify opportunities for funding from other levels of government. Staff will report as part of the budget process (anticipated for 2027) to address the capital investment need for state of good repair and service improvements identified through this plan.</p>	PFR	N/A
2030 - 2031	PFR will lead the replacement and rehabilitation of the Heath Crescent staircase and has been timed to follow slope stabilization by the TRCA.	PFR	\$1.270 million