

SUBJECT: Ruisseau Park Ravine Rehabilitation, Class Environmental Assessment and Functional Design

File Number: ACS2022-PIE-IS-0003

Report to Standing Committee on Environmental Protection, Water and Waste Management **on 21 Jun 2022**

and Council 6 July 2022

Submitted on 21 Jun 2022 by Marilyn Journeaux, Director, Water Services, Infrastructure & Water Services Department

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Ward: INNES (2)

OBJET : Réfection du ravin du parc Ruisseau, évaluation environnementale de portée générale (ÉE) et conception fonctionnelle

Dossier : ACS2022-PIE-IS-0003

Rapport au Comité permanent de la protection de l'environnement, de l'eau et de la gestion des déchets **le 21 juin 2022**

et au Conseil le 6 juillet 2022

Soumis le 21 Jun 2022 par Marilyn Journeaux, Directrice, Services d'eau, Département des services d'infrastructure et d'eau

Personne ressource : Laurent Jolliet, Spécialiste de projet, gestion des eaux pluviales, Département des services d'infrastructure et d'eau

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Quartier : INNES (2)

REPORT RECOMMENDATION(S)

That the Standing Committee on Environmental Protection, Water and Waste Management Committee recommend Council approve the results of the Class Environmental Assessment Study for the Ruisseau Park Ravine Rehabilitation as detailed in Document 1 and direct staff to proceed with posting the Notice of Study Completion for a 30-day public review period in accordance with the *Ontario Municipal Class Environmental Assessment Schedule "B" process.*

RECOMMANDATION(S) DU RAPPORT

Que le Comité permanent de la protection de l'environnement, de l'eau et de la gestion des déchets recommande au Conseil d'approuver les résultats de l'évaluation environnementale de portée générale concernant le projet de réfection du ravin du parc Ruisseau, comme le précise le document 1, et de demander au personnel de déposer un avis d'achèvement de l'étude ouvrant une période d'examen public de 30 jours, conformément à la procédure prévue à l'annexe « B » de l'Évaluation environnementale municipale de portée générale de l'Ontario.

BACKGROUND

The Ruisseau Park ravine forms part of the Blue Willow stormwater management (SWM) facility, a stormwater quantity control facility built online to a small tributary of Mud Creek in the 1990's. Document 2 provides a location plan of the ravine and SWM facility.

Uncontrolled runoff from the SWM facility's 106-hectare catchment area discharges to the ravine at three locations. The absence of runoff quantity control has resulted in widening and movement of the channel, creating valley wall contacts. Continued erosion, if unchecked, is expected to threaten adjacent property.

In 2017, the ravine corridor at the back of 9 Sprucewood Place experienced a slope failure, which was addressed by Construction Services with the placement of rip rap material on the slope as a temporary emergency stabilization measure. A Class Environmental Assessment (Class EA) Study was then initiated to assess the existing conditions of the entire creek corridor, identify areas of concern, assess various alternative solutions and prepare a functional design for the preferred alternative to resolve erosion and slope stability problems within the ravine.

The objectives of this assignment are to:

- protect private and public property from slope instability concerns;
- minimize long-term maintenance requirements; and
- minimize impacts to existing natural features within the ravine.

DISCUSSION

This Class EA study has examined different alternatives to address erosion issues and protect private and public property from slope instability concerns. The following six alternatives have been assessed and compared:

- Do nothing (existing conditions);
- Implementation of stormwater management measures within the upstream existing development area;
- Creek realignment;
- Creek partial enclosure;
- Creek control structures;
- Channel hardening;

The evaluation of alternatives addressed four main criteria including: functional, natural, social and economic environment. The results from the assessment demonstrated that as standalone measures, the above alternatives do not provide an adequate solution to the existing creek erosion and slope stability issues. Therefore, three additional combined alternatives have been developed:

- Realignment, reshaping and hardening (hardening focus)
- Realignment, structures and hardening (structures focus)
- Realignment, structures and naturalization (adaptive management focus)

The “realignment, structures and hardening” alternative (structure focus) was identified as the preferred solution and includes:

- the construction of six weir-pool structures along the channel to dissipate the flow energy and reduce erosion;
- the realignment of the creek over a distance of 135 meters to move the channel away from the slopes of concerns;
- the filling and regrading of four slopes to provide stabilization; and
- the planting of new shrubs and trees to ensure the tree canopy that will be lost due to construction activities will be replaced with a diverse selection of native tree species.

The “structure focus” solution mitigates the risks to public and private property, while minimizing long-term maintenance requirements and limiting the impact to the natural environment.

The use of stormwater Low Impact Development (LID) measures within the upstream development area is also recommended in conjunction with the preferred solution to reduce the runoff conveyed to the Blue Willow SWM facility over the long term. LID retrofits can be considered when roads and services are replaced at the end of their life cycles.

Following the alternative assessment, a functional design was prepared (see Document 3). Detailed design of the recommended measures is expected to start by the end of 2022 with construction starting in late 2023.

FINANCIAL IMPLICATIONS

The total Class C capital cost estimate for the recommended alternative is \$2.6 million (2022 dollars), which includes engineering, contingencies and related City costs.

Funding to complete the detailed design of the recommended measures is available from 909815 - 2020 ORAP WES Phase 2. Funding to complete construction will be sought through the 2023 capital budget process.

LEGAL IMPLICATIONS

There are no legal impediments to the adoption of the recommendation in this report.

COMMENTS BY THE WARD COUNCILLOR(S)

Councillor Dudas is aware of this project and does not have any comments on the study or the recommended measures.

CONSULTATION

Public consultation and communication efforts undertaken included the following:

The Technical Advisory Committee (TAC) was comprised of City staff from a variety of departments, and representatives from the Ministry of the Environment, the Ministry of Natural Resources, and Rideau Valley Conservation Authority. The TAC met twice during the study - on February 12, 2021, and December 10, 2021 and provided advice and guidance to the study team on a range of issues. Meeting minutes are provided in Document 1.

Public Consultation: The results of the existing condition assessment were presented at a virtual public meeting on March 31, 2021. A second virtual public meeting was held on March 30, 2022 to present the results of the alternative assessment and the functional design for the recommended solution. Comments received at the 2021 and 2022 virtual public meetings are summarized in Document 4. The bilingual and AODA accessible boards from the presentations as well as an FAQ document were also posted on the City's website.

Public Notification: For both public meetings, a Notice of Public Meeting was published in the local newspaper and advertised on the Councillor's webpage. A geotargeted ad was also posted on Facebook and Twitter for a two-week period and an invitation letter was hand delivered to every home backing onto the ravine (43 homes). Approximately 10-15 people registered for both events.

Communication with Local Councillor: From the very beginning of the study, direct communication was established with Councillor Dudas, who attended both public meetings.

ACCESSIBILITY IMPACTS

The existing pathway running from the playground structure to Auburn Ridge Drive will be closed during construction. There are no other accessibility implications associated with this report.

ASSET MANAGEMENT IMPLICATIONS

The recommendations documented in this report are consistent with the City's Comprehensive Asset Management (CAM) Program ([City of Ottawa Comprehensive Asset Management Program](#)) objectives.

The Class Environmental Assessment Study for the Ruisseau Park Ravine Rehabilitation supports a forward-looking approach to provide long term protection to existing private and public properties and infrastructure. Operation, maintenance and capital renewal works associated with the proposed recommendations are consistent with current practice. The anticipated ongoing operation, maintenance and future renewal costs will be captured as part of future budget updates, Long Range Financial Plans and Asset Management Plans.

CLIMATE IMPLICATIONS

There are no climate implications associated with the project.

ENVIRONMENTAL IMPLICATIONS

The Ruisseau Park Ravine Rehabilitation project was classified as a Schedule B project which involved the identification of potential adverse environmental impacts and mitigation measures associated with each alternative. The implementation of the recommended measures will require significant tree removal in locations that will undergo significant alteration. During detailed design, Forestry Services will be consulted to identify the trees to be removed and ensure the tree canopy will be replaced with a diverse selection of native tree species.

RISK MANAGEMENT IMPLICATIONS

There are risk implications until the recommended measures are implemented. Of particular concern is the creek bank at the rear of 13 Sprucewood Place, where active erosion is threatening the stability of an existing retaining wall. To mitigate this risk, the City has retained the services of a geotechnical expert to monitor the areas of concern and report on any significant change. Interim protection measures may be implemented if the conditions in this area were to rapidly change. Implementation of the measures recommended in this report will reduce the risk of slope instability within the ravine and protect existing property and infrastructure.

RURAL IMPLICATIONS

There are no rural implications. The entirety of the proposed recommendations will be implemented within the urban boundary and will not have any effect outside the limits of the project.

TERM OF COUNCIL PRIORITIES

The project is consistent with the long-term sustainability goals for stormwater management. Implementation of the recommended measures will ensure that erosion risks are properly managed.

SUPPORTING DOCUMENTATION

Document 1: Ruisseau Park Ravine Rehabilitation, Class Environmental Assessment

Document 2: Study Area

Document 3: Functional Design

Document 4: Comments from the Public

DISPOSITION

Should Committee and Council approve the Ruisseau Park Ravine Rehabilitation Class Environmental Assessment and Functional Design, the report will be made available to the public for a 30-day review period in accordance with the Ontario Municipal Class Environmental Assessment Schedule "B" process. If no request is received within the review period specified in the Notice, the City will proceed to detailed design and construction of the project.

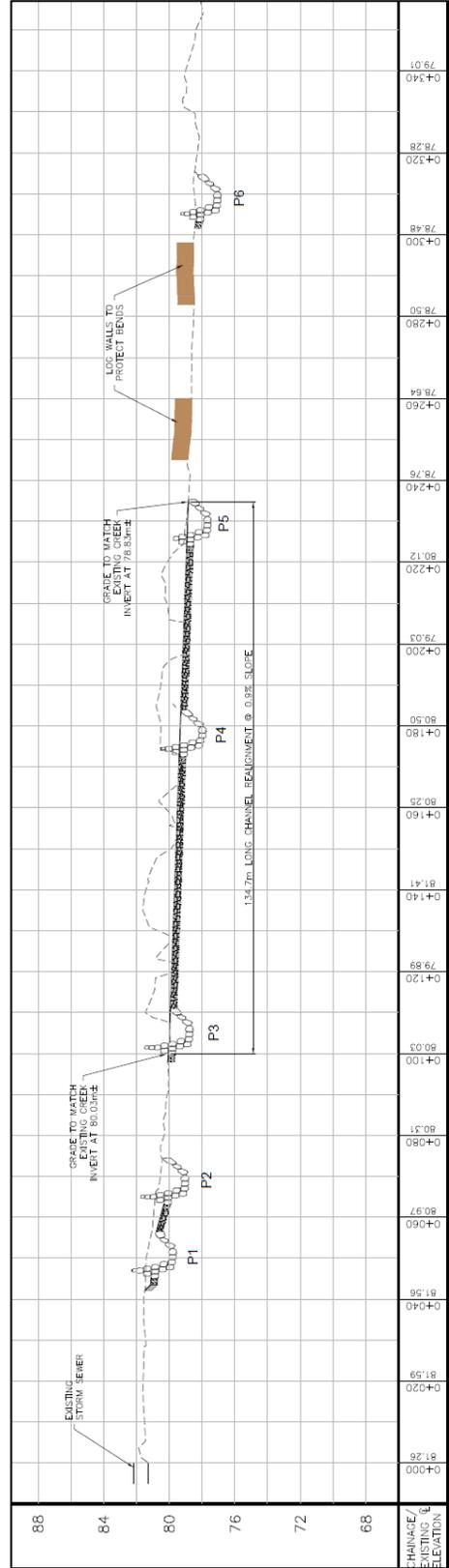
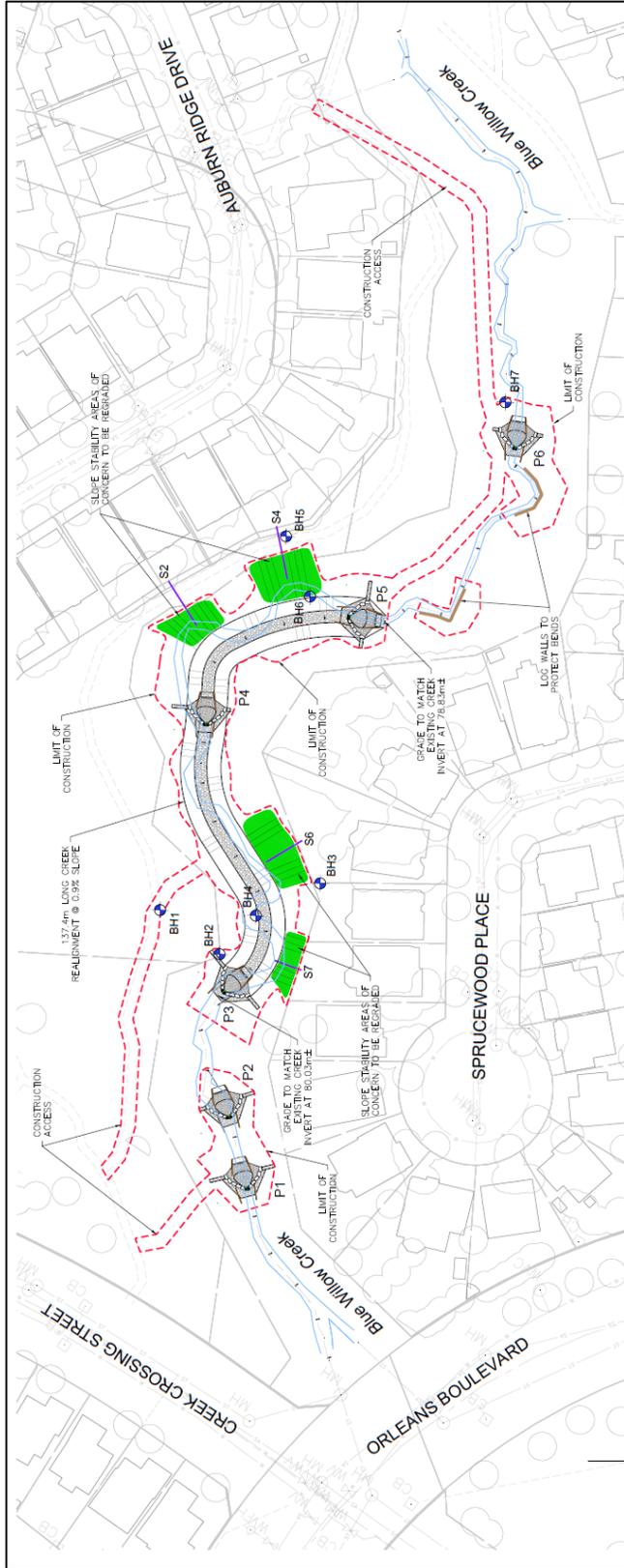
City staff will ensure the recommendations to minimize the disturbance to the natural environment are incorporated in the detailed design of the measures. City staff will also continue monitoring the areas of concern within the channel until the recommended measures are implemented.

Document 2 – Study Area

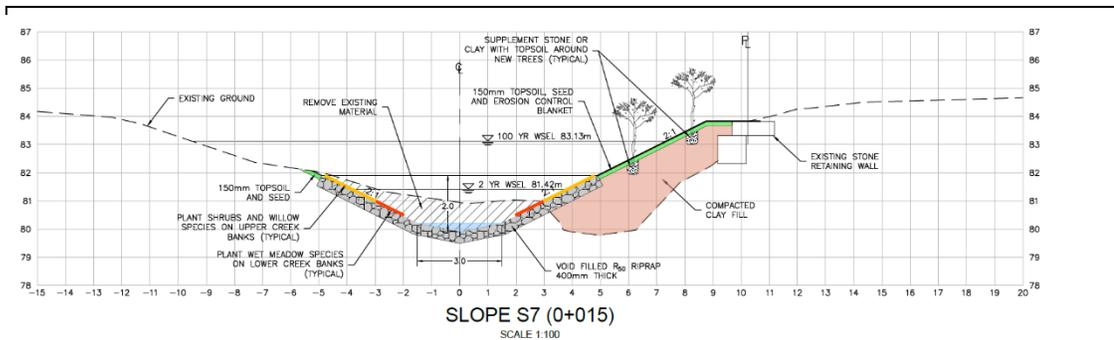
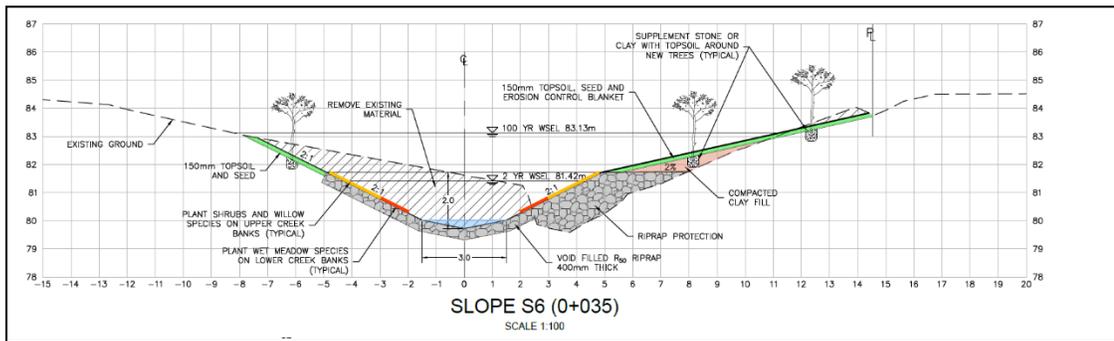
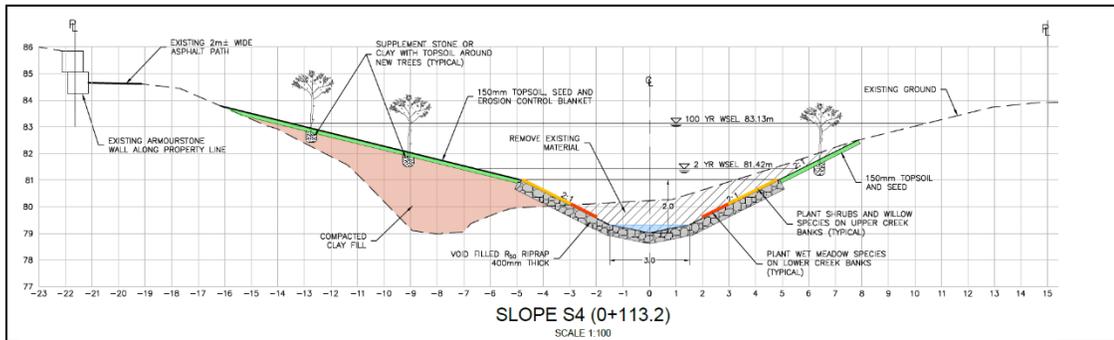
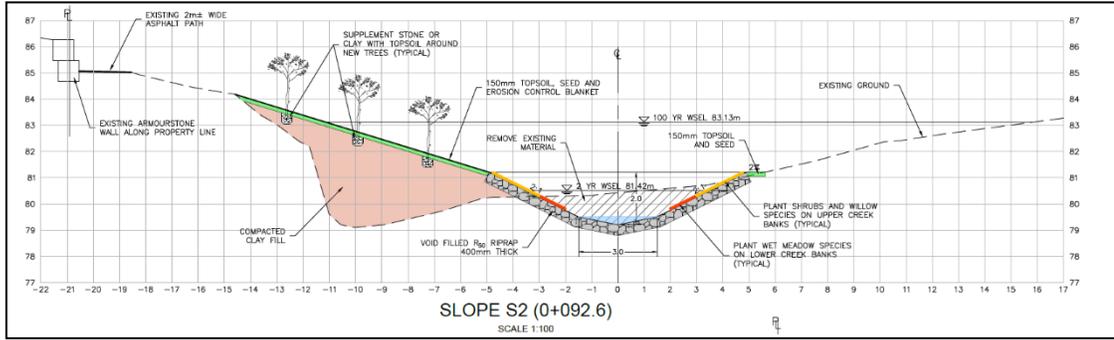


Document 3 – Functional Design

Plan and Profile



Sections



Document 4 – Summary of Public Comments and Responses:

A total of 21 and 31 comments were received as part of the first and second public meetings that took place on March 31, 2021 and March 30, 2022 respectively. Major themes heard from the public included the loss of vegetation and replanting, the impact to the existing pathways, the construction schedule and future public consultation opportunities.

Responses to key concerns and questions raised by the public were provided and are summarized below:

- **Loss of vegetation and replanting:** Tree removal is required to stabilize existing slopes, realign the channel and construct erosion control measures. The project team recognizes the value of existing mature trees and has prioritized minimizing the extent of tree removal. The number of trees to be removed will be confirmed during detailed design through consultation with Forestry Services. The existing tree canopy will be replaced with a diverse selection of tree species. Naturalization of the creek corridor is expected within 3-5 years with fast growing shrubs and grasses.
- **Impact to the existing pathway:** The existing pathway running from the playground structure to Auburn Ridge Drive will be closed during construction, however the current pathway alignment will remain unchanged after construction. It is not anticipated that a detour will be required during the closure of the pathway. The playground structure will likely remain open during construction activities with proper construction fencing around the work area to ensure public safety at all times.
- **Construction schedule:** For City construction projects, it is common to assume one year for detailed design and one additional year for construction. The intent is to start construction as soon as possible and to minimize the duration of construction. Meanwhile, the City has retained the services of geotechnical experts to observe and monitor the slopes of concern through regular site visits. Interim protection measures can be implemented if warranted.
- **Future public consultation opportunities:** After Council approval of the study recommendations, the Class Environmental Assessment report and functional design will be available for consultation for a 30-day review period. Construction

Services will also be advised of the significant public interest in the project and resident requests to remain updated during the next phases of the project.