

4. **Stormwater Management Design Criteria for the Pinecrest Creek/Westboro Area**
Critères de conception des installations de gestion des eaux pluviales
dans le secteur du ruisseau Pinecrest et Westboro

Committee recommendation

That Council approve the Stormwater Management Design Criteria for the Pinecrest Creek/Westboro Area as described herein and listed as Document 2.

Recommandation du Comité, telle que modifiée

Que le Conseil approuve les critères de conception des installations de gestion des eaux pluviales dans le secteur du ruisseau Pinecrest et Westboro présentés dans ce rapport et joints en tant que document 2.

Documentation/Documentation

1. Director's report, Infrastructure Services, Planning, Infrastructure and Economic Development Department, dated October 8, 2020 (ACS2020-PIE-IS-0002)

Rapport du Directeur, Service de l'infrastructure, Direction générale de la planification, de l'infrastructure et du développement économique, daté le 8 octobre 2020 (ACS2020-PIE-IS-0002)

2. Extract of draft Minutes, Planning Committee, November 10, 2020

Extrait de l'ébauche du procès-verbal du Comité de l'urbanisme, le 10 novembre 2020

**Report to
Rapport au:**

**Planning Committee
Comité de l'urbanisme
10 November 2020 / 10 novembre 2020**

**and Council
et au Conseil
25 November 2020 / 25 novembre 2020**

**Submitted on October 8, 2019
Soumis le 8 octobre 2019**

**Submitted by
Soumis par:
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**Infrastructure Services / Services de la planification
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**Ward: BAY (7) / BAIE (7) COLLEGE (8) / File Number: ACS2020-PIE-IS-0002
COLLÈGE (8) KNOXDALE-
MERIVALE (9) KITCHISSIPPI (15)
RIVER (16) / RIVIÈRE (16)**

**SUBJECT: Stormwater Management Design Criteria for the Pinecrest
Creek/Westboro Area**

**OBJET: Critères de conception des installations de gestion des eaux
pluviales dans le secteur du ruisseau Pinecrest et Westboro**

REPORT RECOMMENDATION

That Planning Committee recommend Council approve the Stormwater Management Design Criteria for the Pinecrest Creek/Westboro Area as described herein and listed as Document 2.

RECOMMANDATION DU RAPPORT

Que le Comité de l'urbanisme recommande au Conseil de prendre connaissance des critères de conception des installations de gestion des eaux pluviales dans le secteur du ruisseau Pinecrest et Westboro présentés dans ce rapport et joints en tant que document 2.

BACKGROUND

The Pinecrest Creek subwatershed and adjacent Westboro catchments that drain directly to the Ottawa River are fully urbanized and were built-out with little or no stormwater management (SWM). As a result, the creek is subject to ongoing erosion, and has poor water quality. The Sir John A. Macdonald Parkway is also subject to flooding as a result of the historical piping of the creek from just south of Carling Avenue to just upstream of the confluence with the Ottawa River.

The Pinecrest Creek/Westboro SWM Retrofit Plan, an Ottawa River Action Plan (ORAP) project, was prepared to provide a long-term plan to address these historical impacts. It was approved by Council in 2011 in report [ACS2011-ICS-PGM-0114](#) and is currently being implemented.

While the Pinecrest Creek/Westboro SWM Retrofit Plan aims to address the impacts of existing development, the study area continues to experience growth via infill and redevelopment. The SWM Design Criteria for the Pinecrest Creek/Westboro Area (SWM Design Criteria) have been prepared to ensure the impacts of continued growth do not result in further negative impacts to the creek and local reach of the Ottawa River. The SWM Design Criteria provide specific direction related to runoff volume, quality, and peak flow control that new development will be required to achieve.

DISCUSSION

The SWM Design Criteria have been developed specifically for the study area identified in Document 1. As noted above, this area has little or no SWM controls given the great majority of it was built out well before current SWM requirements were in place. The consequences of this historical lack of SWM include:

- Poor water quality in the Creek and the Ottawa River;
- Increased closures of Westboro Beach during wet weather;
- On-going erosion in the Creek that has impacted infrastructure and fish habitat; and
- High peak flows that make the Sir John A. Macdonald Parkway susceptible to flooding.

The direction provided by the SWM Design Criteria has been derived from detailed study documented in the following reports:

- 1) The Pinecrest/Centrepointe SWM Criteria Study (JFSA et. al., 2010); and
- 2) The Pinecrest Creek/Westboro SWM Retrofit Study (JFSA et. al., 2011).

The SWM Design Criteria provide subwatershed-specific design criteria for runoff volume, quality and peak flow controls that will apply to development subject to approvals under the *Planning Act*, and the City's own capital projects. Addressing all three criteria will ensure that:

- The impacts of infill and redevelopment on the physical condition of the watercourses are mitigated;
- In-stream water quality is not adversely affected;
- Flood risk along Pinecrest Creek is not increased; and
- The cumulative impacts of any new developments, infill projects, or redevelopments will not have an adverse effect on the overall health of Pinecrest Creek.

These criteria are to be met in addition to those outlined in the City of Ottawa Sewer Design Guidelines, with the most stringent requirements governing.

The proposed land use and development type will determine, in large part, which SWM measures [low impact development (LID)] are potentially most useful or applicable to a given site. The two main types of SWM measures that prevent or intercept runoff close to its source are lot level and conveyance measures.

- Lot level measures are on-site SWM practices and are also referred to as at-source controls. These measures can prevent pollutants from being picked up

by runoff and can minimize the amount of runoff that leaves the site. They are therefore considered to be the first line of protection for maintaining the health of a watershed. Though each lot (public or private) may be relatively small in size, the use of lot level practices on the sheer number of lots and properties in urbanized areas can combine to provide a powerful and effective means of controlling both the quantity and quality of water moving through an urbanized watershed.

- Stormwater conveyance systems direct or convey stormwater from one location to another. Conveyance measures include drainage ditches and storm sewers. SWM measures along the conveyance route can include stormwater exfiltration systems, grassed swales, SWM planters in the right of way, and street narrowing/reduced pavement width. Conveyance measures can be used in development/redevelopment sites which have laneways and roadways as part of the development. In these cases, SWM measures, such as swales, perforated pipe systems, in-line underground storage systems, etc., can be used on-site to provide water quantity, quality and volume control.

The type of development, soil permeability and where the development is located within the overall Pinecrest Creek/Westboro Area will govern the SWM measures that could be considered to address both water quality and quantity objectives.

Development, subject only to a building permit, will be exempt from the SWM Design Criteria. However, reduction of runoff volume from these developments is encouraged and examples of various SWM measures appropriate to these types of development are included in references supporting the SWM Design Criteria.

For City renewal projects, the SWM Design Criteria will be implemented where opportunities exist to reduce the impacts of uncontrolled stormwater runoff. Funding of incremental costs associated with City renewal projects is provided through the City's SWM Retrofit Program.

The draft SWM design criteria were considered as part of the planning of Stage 2 LRT, which runs through the watershed.

Regular maintenance of SWM measures by the property owner is required for the measures to operate at their design level. Different measures require different types and levels of maintenance. The regular maintenance for each type of SWM measure will need to be considered.

It is recognized that the additional SWM measures could have financial implications at the time of redevelopment for the developer. These will vary based on the type of development and SWM measures. However, costs to the developer are expected to be in line with site-specific stormwater management requirements in other parts of the City. Furthermore, not implementing the additional measures would also have financial and environmental implications, particularly in relation to the capacity of Pinecrest Creek to safely convey storm drainage and to sustain a healthy ecosystem.

Implementation of the SWM Design Criteria is not expected to have a significant impact on development review effort and costs.

The complete SWM Design Criteria document is provided in Document 2. Existing City standards are applicable to any designs completed based on these criteria.

RURAL IMPLICATIONS

The SWM Design Criteria apply only to specific lands located within the urban boundary. There are no rural implications.

CONSULTATION

City staff and representatives of the development industry were consulted throughout the development of the SWM Design Criteria via a Developers' Working Group, the former Engineering Liaison Subcommittee, a Workshop, the Development Review Subcommittee and the Urban Infill Council. A summary of the comments received, and responses, is provided below.

Consultation	Summary of Comments received	Response
September 6, 2011: Developers' Working Group Consultation No. 1	Concerns expressed about additional cost and whether impact of infill/redevelopment compared to existing (uncontrolled) development is significant; why should infill developers have to address SWM when existing development continues to	Notwithstanding impacts of historical development, the main objective of the Guidelines is to ensure that the cumulative impact of infill/redevelopment is mitigated; while negative impacts may seem small on a site by site basis, over the long term (50+ years)

	<p>have negative impacts?</p> <p>Noted that private industry will not take risks on new technology until it has been tested, typically on government buildings/properties</p>	<p>the cumulative impact would be significant.</p> <p>The City has implemented a number of LID measures on its own properties in recent years and is also subject to the Guidelines for its own capital projects, e.g., the Guidelines have been applied to the portion of Stage 2 LRT located within the study area.</p>
<p>February 29, 2012: Developers' Working Group Consultation No. 2</p> <p>July 4, 2012: Developers' Working Group Consultation No. 3</p>	<p>Concerns re: additional expense, lack of familiarity with SWM approaches (LIDs), delays in approvals</p>	<p>Since preparation of the Guidelines began, there has been a significant increase in the resources and training opportunities available to the consulting industry regarding the planning, design and construction of LID measures; a 3 day LID training session hosted by local Conservation Authorities was offered in November 2018 and was well-attended by both City staff and the consulting industry; continued training opportunities and reference to widely available design resources should mitigate any delays in approvals.</p>
<p>October 5, 2012: Engineering Liaison</p>	<p>City should provide examples on their own</p>	<p>The City has implemented a number of LID measures</p>

Subcommittee	<p>properties of how the SWM criteria can be achieved</p> <p>City should provide a plan as to how the Guidelines are to be implemented</p>	<p>on its own properties in recent years and will continue to implement SWM retrofits when infrastructure is renewed at the end of its life cycle as directed by the Pinecrest Creek/Westboro SWM Retrofit Plan.</p> <p>The Guidelines document explains in detail how the SWM criteria are to be applied within the study area and provides detailed examples of how the criteria could be met on different types of site plan applications (residential, commercial, etc.).</p>
June 27, 2013: Workshop for City staff and development industry to present SWM Guidelines	Concerns re: achieving targets in high density developments (e.g., townhouses)	More can be achieved when SWM planning is addressed early and integrated into site plan design; the Guidelines will assist in this approach.
May 8, 2019: Development Review Subcommittee	Concerns expressed re: targets being difficult to achieve and resulting in increased costs	Design examples have been included in the Guidelines to demonstrate how the targets can be achieved on typical site plans. With respect to increased costs, the Guidelines were developed

		in response to on-going problems (flooding, erosion, water quality degradation, etc.) that will worsen with increased development if appropriate measures are not taken.
November 7, 2019: Urban Infill Council	Concerns that internal conversions will become subject to the SWM Design Criteria Requirements for building permit applications	Internal conversions with no further site alterations do not require a stormwater management report so these situations would not be subject to the SWM Design Criteria. Clarifications made in Table 1 and text of SWM Design Criteria document: i)Downspouts/roof drainage to be directed to pervious surfaces, where possible ii) Amended topsoil, or a depth of topsoil up to 300 mm, encouraged (but not mandatory) as a best practice over all soft landscaped surfaces

COMMENTS BY THE WARD COUNCILLORS

Councillors Leiper, Chiarelli, Kavanagh, Egli and Brockington and Planning Committee Chair Councillor Harder are aware of this report.

LEGAL IMPLICATIONS

There are no legal impediments to the receipt of this report.

RISK MANAGEMENT IMPLICATIONS

There are no risk management implications associated with this report. The SWM Design Criteria provide direction to inform the design of SWM infrastructure that will mitigate the increased risk of flooding, erosion and water quality degradation that can occur when development proceeds without appropriate SWM controls in place.

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 SWM Design Criteria for the Pinecrest Creek/Westboro Area support a forward-looking approach to meet future challenges, including legislative and environmental factors. The anticipated ongoing operation, maintenance and future renewal costs of City-owned SWM infrastructure that will be implemented to meet these Design Criteria are captured as part our budget updates, Long Range Financial Plans and future Asset Management Plans.

FINANCIAL IMPLICATIONS

Incremental costs associated with implementing the SWM Design Criteria on City renewal projects will be funded through the City's Stormwater Management Retrofit Program. Costs associated with implementing the SWM Design Criteria on development projects will be funded by the developer.

ACCESSIBILITY IMPACTS

The SWM Design Criteria have no accessibility impacts per se. Accessibility impacts that may be associated with individual SWM infrastructure designs will be identified and addressed as they arise during implementation.

ENVIRONMENTAL IMPLICATIONS

Implementation of the SWM Design Criteria through the development process and for the City's own capital projects will ensure that the impacts of these activities on Pinecrest Creek and the local reach of the Ottawa River are mitigated.

TERM OF COUNCIL PRIORITIES

The SWM Design Criteria will support the 2019-2022 Term of Council priorities of Environmental Stewardship and Sustainable Infrastructure by requiring that infill, redevelopment and the City's own capital projects include appropriate impact mitigation to protect the local receiving watercourse as an integral part of the drainage system and a valued natural feature within the local community.

SUPPORTING DOCUMENTATION (distributed separately)

Document 1 Location Plan

Document 2 SWM Design Criteria for the Pinecrest Creek/Westboro Area

DISPOSITION

Following Committee and Council consideration, the SWM Design Criteria for the Pinecrest Creek/Westboro Area will be applied to new development and the City's capital projects within the prescribed study area.