

**2. LEMIEUX ISLAND WATER PURIFICATION PLANT IMPROVEMENT
PROJECT - ENDORSEMENT OF AMENDMENTS TO THE MISSISSIPPI-
RIDEAU SOURCE PROTECTION PLAN**

**PROJET D'AMÉLIORATION DE L'USINE DE PURIFICATION DE L'EAU DE
L'ÎLE LEMIEUX – APPROBATION DES MODIFICATIONS APPORTÉES AU
PLAN DE PROTECTION DES SOURCES DE MISSISSIPPI-RIDEAU**

COMMITTEE RECOMMENDATION

That Council approve the new water intake for the Lemieux Island Water Purification Plant as described in this report and carry the resolution provided in Document 3 regarding the endorsement of amendments to the Mississippi-Rideau Source Protection Plan, required pursuant to Section 34 of the *Clean Water Act*, to include the new intake for the Lemieux Island Water Purification Plant.

RECOMMANDATION DU COMITÉ

Que le Conseil approuve la nouvelle prise d'eau pour l'usine de purification de l'eau de l'île Lemieux, comme le précise ce rapport, et adopte la résolution présentée dans le document 3 quant à l'approbation des modifications apportées au Plan de protection des sources de Mississippi-Rideau, conformément à l'article 34 de *la loi de 2006 sur l'eau saine*, afin d'inclure la nouvelle prise d'eau pour l'usine de purification de l'eau de l'île Lemieux.

DOCUMENTATION

1. Director's Report, Infrastructure Services, Planning, Infrastructure and Economic Development Department, dated 3 February 2021 (ACS2021-PIE-IS-0002).

Rapport de la Directrice, Service de l'infrastructure, Direction générale des services de la planification, de l'infrastructure et du développement économique, daté le 3 février 2021 (ACS2021-PIE-IS-0002).

2. Extract of Draft Minutes, Standing Committee on Environmental Protection, Water and Waste Management, 16 February 2021.

Extrait de l'ébauche du procès-verbal, Comité permanent de la protection de l'environnement, de l'eau et de la gestion des déchets, le 16 février 2021.

**STANDING COMMITTEE ON
ENVIRONMENTAL PROTECTION,
WATER AND WASTE MANAGEMENT**

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**COMITÉ PERMANENT DE LA
PROTECTION DE
L'ENVIRONNEMENT, DE L'EAU ET
DE LA GESTION DES DÉCHETS
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**Report to
Rapport au:**

**Standing Committee on Environmental Protection, Water and Waste Management
Comité permanent de la protection de l'environnement, de l'eau et de la gestion
des déchets**

16 February 2021 / 16 février 2021

**and Council / et au Conseil
February 24, 2021 / 24 février 2021**

**Submitted on February 3, 2021
Soumis le 3 février 2021**

Submitted by

Soumis par:

Carina Duclos ,

Director / Directrice

Infrastructure Services / Services de la planification

**Planning, Infrastructure and Economic Development Department / Direction
générale de la planification, de l'infrastructure et du développement économique**

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**STANDING COMMITTEE ON
ENVIRONMENTAL PROTECTION,
WATER AND WASTE MANAGEMENT**

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**COMITÉ PERMANENT DE LA
PROTECTION DE
L'ENVIRONNEMENT, DE L'EAU ET
DE LA GESTION DES DÉCHETS
RAPPORT 14
LE 24 FÉVRIER 2021**

**REPORT 14
24 FEBRUARY 2021**

**Ward: CITY WIDE / À L'ÉCHELLE DE
LA VILLE**

File Number: ACS2021-PIE-IS-0002

**SUBJECT: Lemieux Island Water Purification Plant Improvement Project -
Endorsement of Amendments to the Mississippi-Rideau Source
Protection Plan**

**OBJET: Projet d'amélioration de l'usine de purification de l'eau de l'île
Lemieux – Approbation des modifications apportées au Plan de
protection des sources de Mississippi-Rideau**

REPORT RECOMMENDATION

That the Standing Committee on Environmental Protection, Water and Waste Management recommend that Council approve the new water intake for the Lemieux Island Water Purification Plant as described in this report and carry the resolution provided in Document 3 regarding the endorsement of amendments to the Mississippi-Rideau Source Protection Plan, required pursuant to Section 34 of the *Clean Water Act*, to include the new intake for the Lemieux Island Water Purification Plant.

RECOMMANDATION 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 la nouvelle prise d'eau pour l'usine de purification de l'eau de l'île Lemieux, comme le précise ce rapport, et adopte la résolution présentée dans le document 3 quant à l'approbation des modifications apportées au Plan de protection des sources de Mississippi-Rideau, conformément à l'article 34 de la loi de 2006 sur l'eau saine, afin d'inclure la nouvelle prise d'eau pour l'usine de purification de l'eau de l'île Lemieux.

BACKGROUND

Source Water Protection Legislative Requirements in Ontario

Under Ontario's *Clean Water Act*, 2006 every municipal residential drinking water supply in Ontario must have a delineated drinking water source protection zone; which includes Intake Protection Zones (IPZ) for surface water intakes and Wellhead Protection Areas (WHPA) for groundwater wells. The protection areas are identified in local Source Protection Plans, which contain policies to protect the drinking water source from contamination and depletion. Under Ontario's *Safe Drinking Water Act*, new and expanded municipal drinking water systems must have source protection technical studies completed prior to the issuance of the Drinking Water Works Permit/License. The new drinking water protection zone must be incorporated in the local Source Protection Assessment Report and Source Protection Plan prior to provision of water to the public from that system.

Lemieux Water Purification Plan Improvement Project

The City of Ottawa is undergoing a project to relocate the primary intake location for the Lemieux Island Water Purification Plan (WPP) within the Ottawa River. The Lemieux Intake Improvement Project was initiated due to issues related to frazil ice buildup at the existing intake. This frazil ice backup can block the intake pipe and screen resulting in unplanned WPP shutdowns or significantly restricted plant flows, putting the water supply at risk. The new intake will be located deeper in the Ottawa River and further from the Ontario border within the Quebec portion of the Ottawa River. The existing intake at the Lemieux Island WPP will be maintained as a backup supply, and thus its drinking water protection zone will remain in the Source Protection Plan.

Source protection technical work to delineate the Intake Protection Zone for the new Lemieux Island WPP intake must be completed, as per the Director's Technical Rules under the *Clean Water Act*, prior to issuance of the Drinking Water Works Permit. In addition, similar source protection technical studies are required to support the water taking permit in Quebec and the City is working with the Quebec Ministry of the Environment and the fight against Climate Change to fulfil the regulatory requirements in Quebec.

The process to initiate amendments to the Mississippi-Rideau Source Protection Plan and the Rideau Valley Source Protection Assessment Report was initiated under

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Section 34 of the *Clean Water Act*, following the submission of a Notice from the City requesting the amendment in February 2019.

This report outlines the process and legislative requirements to update the local Source Protection Assessment Report and Source Protection Plan to include the new intake for the Lemieux Island WPP.

DISCUSSION

Consultation Details

Amendments to the Rideau Valley Source Protection Assessment Report and the Mississippi-Rideau Source Protection Plan will be subject to notification and public consultation after Council endorsement, as prescribed by the *Clean Water Act*.

Official Plan designation

Schedule K of the Official Plan shows Drinking Water Protection zones, including Intake Protection Zones (IPZ) for surface water intakes and WHPA for groundwater wells, for all municipal drinking water systems in the City, and will require updating upon revisions being accepted to the Intake Protection Zone for the new Lemieux Island intake.

Lemieux Intake Improvement Project – *Clean Water Act* Requirements and Current Status

The *Clean Water Act, 2006*, is an important part of Ontario's multi-barrier approach to protecting drinking water. The *Clean Water Act* establishes Source Protection Areas and a process for the development of local Assessment Reports and Source Protection Plans within each area. Studies that delineate the location and extent of drinking water protection zones (including Intake Protection Zones around municipal surface water intakes and Wellhead Protection Areas around municipal wells) and identify potential significant threats to drinking water sources are summarized in an 'Assessment Report', while a 'Source Protection Plan' outlines policies to protect water sources within drinking water protection zones. Together, these documents identify areas vulnerable to contamination, they provide vulnerability scoring within those areas, identify where drinking water threats must be addressed and establish policies to address those threats. Conservation Authorities, where present, were designated as Source Protection Authorities and mandated to administer the Source Water Protection

Program, including the establishment of local Source Protection Committees and the development of Assessment Reports and Source Protection Plans.

The City of Ottawa initiated a project to relocate the primary intake location for the Lemieux Island WPP within the Ottawa River. The Lemieux Intake Improvement Project was started due to issues related to frazil ice buildup at the existing intake which can block the intake pipe and screen resulting in extended unplanned WPP shutdowns or significantly restricted plant flows, putting the water supply at risk. The new intake will be located deeper in the Ottawa River and further from the Ontario border within the Quebec portion of the Ottawa River. The existing intake at Lemieux will be maintained as a backup supply, and thus its drinking water protection zone will remain in the Source Protection Plan. The Lemieux Island Water Purification Plant Improvement Project was approved by [City Council on May 25, 2016](#). In [October 2020](#), an IPD was presented to the Standing Committee on Environmental Protection, Water and Waste Management (SCEPWWM) outlining a comprehensive Value Engineering Study for the Lemieux Island WPP Improvements.

Under the *Clean Water Act*, the Rideau Valley Source Protection Area Assessment Report and the Mississippi-Rideau Source Protection Plan must be amended to include the new municipal intake at Lemieux Island. Furthermore, the *Safe Drinking Water Act* establishes timelines for source protection studies for new and expanding drinking water systems. The *Act* identifies that source protection technical studies must be complete prior to issuance of the Drinking Water Works Permit/License and that the local Source Protection Plan must be amended and approved by the Ontario Ministry of the Environment, Conservation and Parks (MECP) prior to the provision of water to the public from new or expanding drinking water systems.

The City of Ottawa retained a consultant to complete source protection technical studies as per the *Clean Water Act*, to delineate the intake protection zone for the new intake at Lemieux Island (prepared by W.F. Baird & Associates Coastal Engineers Ltd.). The technical work consisted of updating the 2010 source water protection studies for the City's intakes in the Ottawa River; the studies included river flow modelling as well as overland flow and sewershed modelling on land, mapping and scoring of intake protection zones and the preparation of technical reports. Draft reports were reviewed by staff at the City, Source Protection Region and the MECP in November 2020. Final revised reports were submitted to the Source Protection Region on January 7, 2021.

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Note that the final report indicates that there are no changes to the drinking water protection zones on land, however a new intake protection zone (IPZ-1) has been identified in Ottawa River around the new intake, located completely on the Quebec side of the Ottawa River. Document 1 is a Notice from the Rideau Valley Source Protection Authority indicating that the source protection technical work for the new Lemieux Island Intake has been completed to their satisfaction (Notice as per O.Reg. 287/07, S. 48 1.1).

Section 34 of the *Clean Water Act* requires a Municipal Council resolution to endorse amendments to the Assessment Report and Source Protection Plan prior to public consultation or submission of amendments to the Ontario Ministry of the Environment, Conservation and Parks by the Source Protection Authority. This ensures that Council is aware of the extent of the new drinking water protection zones and policies that will apply within the zones, where applicable. The purpose of this report is to inform Council of the legislative requirements under the *Clean Water Act*, present a map of the new drinking water protection zone, identify policies that will apply within the intake protection zone and request a municipal resolution to support amendments to the Rideau Valley Source Protection Area Assessment Report and Mississippi-Rideau Source Protection Plan.

Document 2 (attached) provides a Notice from the Mississippi-Rideau Source Protection Region with the following information:

- New Intake Protection Zone mapping for the new Lemieux Island intake;
- List of policies that apply within the IPZ; and
- Request for Municipal Endorsement of amendments to the Rideau Valley Source Protection Assessment Report and Mississippi-Rideau Source Protection Plan (with a deadline of March 1, 2021).

Amendments to the Rideau Valley Source Protection Area Assessment Report and Mississippi-Rideau Source Protection Plan will be prepared by the Mississippi-Rideau Source Protection Authority, in consultation with the City. The reports will be subject to public notification and public consultation, as required in the *Clean Water Act*. Final amendments are anticipated by May 2020, they will be submitted to the Ministry of the Environment and Climate Change for review and approval.

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RURAL IMPLICATIONS

There are no rural implications associated with this report.

COMMENTS BY THE WARD COUNCILLORS

This is a city-wide report - not applicable.

LEGAL IMPLICATIONS

There are no legal impediments to Committee and Council's approval of the recommendations of this report.

RISK MANAGEMENT IMPLICATIONS

There are no specific risk management implications, as indicated in the report, the purpose of the legislation is to mitigate risks to municipal drinking water.

ASSET MANAGEMENT IMPLICATIONS

The resolution to endorse amending the Source Protection Plan for the new intake at the Lemieux Island Water Purification Plant reiterates and reinforces the City's Source Protection Program, which is implemented to ensure municipal drinking water sources are protected from contamination and depletion.

The recommendations documented in this report are consistent with the City's Comprehensive Asset Management (CAM) Program objectives. The new intake provides long-term sustainability of one of the City's primary drinking water sources to reduce risk and provide safe and reliable levels of service to community users. This is done in a socially, culturally, environmentally, and economically conscious manner.

FINANCIAL IMPLICATIONS

There are no financial implications associated with this report.

ACCESSIBILITY IMPACTS

There are no accessibility impacts associated with this report.

ENVIRONMENTAL IMPLICATIONS

There are no environmental impacts associated with this report.

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TERM OF COUNCIL PRIORITIES

This project addresses the following Term of Council Priority:

- Environmental Stewardship and Sustainable Infrastructure.

SUPPORTING DOCUMENTATION

Document 1 Notice from the Rideau Valley Source Protection Authority under Section 48 of the *Clean Water Act*; Acceptance of Technical Reports

Document 2 Notice from the Mississippi-Rideau Source Protection Region under Section 34 of the *Clean Water Act*; Summary of Source Protection Plan Amendments and Request for Municipal Endorsement

Document 3 Council Resolution for the Endorsement of Amendments to the Mississippi-Rideau Source Protection Plan

CONCLUSION

Legislative requirements for drinking water source protection are outlined in Ontario's *Clean Water Act* and all municipal residential drinking water systems must be included a local Source Protection Plan. The Mississippi-Rideau Source Protection Region is preparing amendments to the Rideau Valley Source Protection Area Assessment Report and the Mississippi-Rideau Source Protection Plan to include the new intake at the Lemieux Island Water Purification Plant. Intake Protection Zone mapping and a summary of applicable policies for the intake at Lemieux Island have been presented herein (See Document 2).

DISPOSITION

Legal Services will work with the Office of the City Clerk to forward the resolution to City Council.

Planning Operations Branch, Planning Services and Risk Management Official to forward the Council resolution to the Source Protection Region.

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**Document 3 – Council Resolution for the Endorsement of Amendments to the
Mississippi-Rideau Source Protection Plan**

WHEREAS, the City has directed improvements to Ottawa River intake for the Lemieux Island Water Purification Plant to avoid issues caused by frazil ice as approved by Council on May 25, 2016;

AND WHEREAS, the *Clean Water Act* makes Source Water Protection a requirement of all sources of municipal residential drinking water;

AND WHEREAS, a Municipal Council resolution endorsing amendments to a Source Protection Plan is required under Section 34 of the *Clean Water Act*, in acknowledgement of the designated vulnerable areas, potential drinking water threats, and policies established to protect the drinking water source;

THEREFORE be it resolved that the City of Ottawa Council acknowledges that the new Ottawa River intake for the Lemieux Island Water Purification Plant will have a designated Intake Protection Zone and vulnerability scores as established by the amended Rideau Valley Source Protection Area Assessment Report, and such drinking water system and associated Intake Protection Zone shall be subject to the policies outlined in the amended Mississippi-Rideau Source Protection Plan.