Date       June 11, 2019                             Report No. 2019-293

To       Chair and Members
         Committee of the Whole – Operations and Administration

From    E. (Beth) Goodger, General Manager
         Public Works Commission

1.0 Type of Report

Consent Item [X]
Item For Consideration [ ]

2.0 Topic    Mohawk Lake and Mohawk Canal Cleanup and Rehabilitation Project [Financial Impact - None]

3.0 Recommendation

THAT Report No. 2019-259 titled “Mohawk Lake and Mohawk Canal Cleanup and Rehabilitation Project [Financial Impact - None]”, BE RECEIVED.

4.0 Purpose and Overview

To provide Council with an update on the progress of the Mohawk Lake and Mohawk Canal Cleanup and Rehabilitation Project.

5.0 Background

Mohawk Lake is a valuable recreational and visual resource adjacent to Mohawk Park, a popular and historical park within the city. Mohawk Lake was constructed in the 1800s as part of the canal system to provide access for barges traveling through Brantford and to enable barges to turn around. In the
In the early 1900s, the lake and the surrounding parkland provided the community with large recreational opportunities to residents city-wide and continue to offer valuable natural heritage for the city. In the 1970s the inflow from the Grand River diverting flow to the canal was disconnected with the removal of a dam. Many years of stormwater drainage and a legacy of industrial discharges have resulted in the deterioration of the lake. Industrial discharges have been discontinued for many years, and recently upstream brownfield remediation has eliminated the migration of contaminants from former industrial lands adjacent to the canal.

Various studies have been completed since the 1970s to review the quality, volume and composition of the water and sediments within the canal and lake.

In May 2014, City Council received a report titled Mohawk Lake: Review of Past Reports and Studies (CD2014-070), which provided extensive information on the Mohawk Lake conditions and initiatives dating back to 1970s. At that time, Council passed the following resolutions:


B. THAT Staff BRING BACK a recommendation with cost estimates for the clean-up of Mohawk Lake as part of the 2015 Estimates Committee process.

Report No. CD2014-070 Mohawk Lake: Review of Past Reports describes the history of the lake and provides a summary of the past studies completed. Minor improvements to the lake over the past 50 years have included the addition of a control structure at the outlet and adjustment of lake/canal water levels. The lake now functions jointly as a large stormwater management pond and a community recreation area. However, it continues to accumulate sediment. Further, historical adjacent industrial land use over the past 100 years has impacted the sediments and water quality of the canal and lake.

In January 2015, Council passed a resolution that authorized staff to participate in the Mohawk Lake Working Group, which had been formed by Phil McColeman MP - Brant to oversee the potential future clean-up of Mohawk Lake and the canal. The Mohawk Lake Working Group includes representatives from the offices of MP – Brant and MPP – Brant, the City of Brantford, County of Brant, Six Nations of the Grand River, Grand River Conservation Authority, and Brant Waterways Foundation and various citizens.
It was documented, through various visioning workshops lead by the Mohawk Lake Working Group, in 2015 that water quality in the lake continues to be a concern for City residents. The lake is very shallow and highly turbid (cloudy). Summer conditions are often unsightly, and community input revealed that the lake conditions restricts the recreational enjoyment of the lake and surrounding park areas.

In June 2015, the Federal Government announced that multi-year grant funding would be made available to assist in the analysis and ultimately the remediation of the lake and canal. Since that time staff has secured the funding and necessary agreements.

In June 2017, Council gave approval to proceed with the project and enter into the necessary funding agreement (Report No. PW2017-024 titled Mohawk Lake Remediation Funding Agreement) and the following recommendations:

A. THAT Report No. PW2017-024 entitled “Mohawk Lake Remediation Project Funding Agreement” BE RECEIVED for information, and

B. THAT the General Manager of Public Works and Clerk BE AUTHORIZED to execute Amending Agreement #2 in a form satisfactory to the City Solicitor or their designate, and any future amendments as required between the City of Brantford and Her Majesty In Right of Canada (Canada) represented by the Federal Economic Development Agency for Southern Ontario to receive funding for the Mohawk Lake Remediation Project, and

C. THAT the City’s contribution to current and future costs associated with the Mohawk Lake Remediation Project ($4,550,000) BE FUNDED from Reserve Account RF556 Capital Funding Envelope.

On July 26, 2017, the General Manager of Public Works and the City Clerk signed the Mohawk Lake Remediation Project (MLRP) funding agreement with the Federal Economic Development Agency for Southern Ontario (Fed Dev).

The funding agreement outlines the work program and phasing of the Mohawk Lake and Mohawk Canal Cleanup and Rehabilitation Project, as follows:

- Characterization Study;
- Subwatershed Stormwater Plan;
- Environmental Assessment;
In February 2018, after completing a competitive procurement process for a request for proposals (RFP), staff procured the services of Aquafor Beech Limited, an environmental firm to undertake the Characterization Study phase of the Mohawk Lake and Mohawk Canal Cleanup and Rehabilitation Project.

In December 2018, following a second competitive procurement process for a request for proposals (RFP) the City procured the services of Wood, Environment & Infrastructure Solutions a Division of Wood Canada, an engineering firm, to proceed with the Functional Master Drainage and Restoration Study that covers the next three (3) project phases (Subwatershed Stormwater Plan, Environmental Assessment, and Master Plan).

6.0 Corporate Policy Context

The project supports key components of the mission statements of the Brantford Community Strategic Plan such as:

- High quality of life and caring for all citizens
- Managing growth and environmental leadership

The program is oriented to the goal of developing an infrastructure management strategy including sanitary and storm systems.

7.0 Input From Other Sources

Stakeholders from various divisions and departments throughout the City were an integral part of the project team and stakeholders list, which included:

- Public Works Commission, Environmental Services
- Public Works Commission, Engineering Services
- Public Works Commission, Facilities and Asset Management
- Corporate Services, Finance Department
- Corporate Services, Purchasing Division
- Community Development, Planning Division
This report was also circulated for comments to various City Departments. No comments were received.

City staff is working collaboratively with the technical team of the Mohawk Lake Working Group (MLWG) and continues the involvement with the MLWG. The MLWG received an update on the Project at its April 2019 meeting and a letter of support was received (attached as Appendix A).

8.0 Analysis

The Mohawk Lake and Mohawk Canal Cleanup and Rehabilitation Project consists of the following phases:

- Characterization Study (Completed);
- Subwatershed Stormwater Plan Phase (Ongoing);
- Environmental Assessment Phase (Ongoing);
- Master Plan Phase (Ongoing); and
- Design & Construction of the Cleanup and Remedial Work Phases (future phases).

This report provides a status update on the Project.

8.1 Characterization Study

In 2018, the City initiated the Characterization Study phase of the Mohawk Lake and Mohawk Canal Cleanup and Rehabilitation Project. The Characterization Study is considered to be the first phase of the Mohawk Lake and Mohawk Canal Cleanup and Rehabilitation Project that allows for examining the current conditions of the lake and canal thoroughly. A significant part of this phase included undertaking a comprehensive fieldwork analysis to confirm the magnitude of expected pollutants present and loadings and their impact on the overall ecosystem. This phase also comprises an inventory of the environmental and natural resources and an assessment of ecological and natural heritage systems, hydrologic and hydraulic modeling, water quality and sediment sampling and monitoring programs. The remediation program is built upon the characterization work to develop remediation activities.

The outcomes of the Characterization Study are an essential component of the subsequent project phases to restore the water quality and natural habitat in the
Mohawk Lake and canal based on the desired level of remediation to meet the community goals in a most cost-effective and sustainable way.

In October 2018, the consultant (Aquafor Beech Limited) submitted the draft characterization report. Concurrently, through the characterization phase, the City continues with some monitoring tasks for an additional eight months to mid-2019. The results of the monitoring will be used in updating the characterization report as necessary.

The study has identified and summarized the following key findings:

- Water quality concentration, varied, some parameters exceeded the guidelines at all monitoring stations. Some parameters slightly greater concentrations than those recorded in the 1994 report;

- Approximately 185,000m³ of unconsolidated sediment has accumulated within Mohawk Lake and the Canal. Sediment thickness within the canals ranged up to 1.5m whereas sediment thickness within Mohawk Lake ranged from up to 2.4m;

- Sediment Quality - twenty (20) locations within Mohawk Lake and Canal were completed to provide sediment loading and sediment accumulation history within the lake. The current sediment quality for Mohawk Lake is generally consistent with previously completed sediment quality investigations. Based upon results of Ontario Reg. 347 the lake sediments are deemed to be at/or exceeding Table 3 standards for Industrial/ Commercial land uses and some exceed Table 5 standards for Industrial/ Commercial land uses. Generally the sediment quality is still contaminated but not highly hazardous;

- Confirmed the presence of high quantities of organic mud/silt and very low dissolved oxygen (DO) levels;

- Potential non-point pollution sources within the City sewershed network;

- Identified a number of erosion sites;

- Observed and recorded a number of significant and designated wildlife habitat, species, vegetation and fish community with the lake area.

8.2 Functional Master Drainage and Restoration Study
Last year, in December 2018, the City completed a second request for proposals (RFP) procurement to proceed with a Functional Master Drainage and Restoration Study that covers the next three phases of the Mohawk Lake and Mohawk Canal Cleanup and Rehabilitation Project (Subwatershed Stormwater Plan, Environmental Assessment and Master Plan). Subsequently, the City procured Wood, Environment & Infrastructure Solutions to complete these three (3) phases including analysis of problem statement, modelling, impact assessment, development of constraints mapping, environmental assessment alternatives and evaluation of a set of management and restoration practices for the Mohawk Lake and Mohawk Canal. Once the alternative options associated with restoration/remediation are appropriately evaluated and vetted, the preferred solution will be advanced with cost estimation as part of the Environmental Assessment process.

For the Environmental Assessment Phase, the project team has initiated a consultation with the Ministry of the Environment, Conservation and Parks (MECP) to confirm the requirements for the consultation process. The Notice of Commencement of the project has been published, and a Public Information Centre (PIC) was held on June 5th, 2019 to introduce the project to the community, share information, inform and identify priorities and interests that should be considered in project planning and execution and to outline subsequent steps in the study process.


Another PIC will be organized in the fall of 2019 to present the proposed remediation alternatives and evaluation criteria to the public and project stakeholders.

### 8.2 Next Steps

An aggressive anticipated schedule for completion of the project phases as per the funding agreement for the milestones and completion dates, as follows:

- The Subwatershed Stormwater Plan, the Mohawk Lake Master Plan and the Environmental Assessment Milestones (includes the selection of preferred remediation/construction options) and are expected to be completed in the fourth quarter (Q4) of 2019 to identify a preferred solution.
The detailed design of the preferred solution, award of construction/remediation contract and completion of all short term remediation and construction activities are expected to be completed in the second quarter (Q2) of 2021.

The project team will continue with the consultation and engagement according to the requirements of the Environmental Assessment process.

The project deliverables including Design and Construction phases will be completed according to the ongoing Watershed Plan, Environmental Assessment, and Master Plan phases to satisfy the obligations of the Mohawk Lake Remediation Project (MLRP) funding agreement with the Federal Economic Development Agency for Southern Ontario (Fed Dev).

9.0 Financial Implications

While there are no changes to the financial impacts associated with this project, the City would be obligated to continue to allocate funds as part of the City’s Capital Budget based on the signed funding agreement with the Federal Economic Development Agency for Southern Ontario (Fed Dev). As presented in the report to the Council on June 13, 2017 (PW2017-024), the overall funding for the Project is estimated at $6.54M, which includes $4.5M in City Contribution and $2.0M in Federal Contribution.

Future remaining funds for the City’s financial contribution have been identified as $2.77 million in year 2020 of the 10-Year Capital Budget and Forecast. This funding is subject to Council approval.

10.0 Conclusion

Various community stakeholder meetings and vision sessions have occurred that also express the communities desire to make the Mohawk Lake and surrounding area a recreation and environmental showcase.

In order to effectively deliver this project, continued commitments to funding are required to complete the various phases of the work program. Based on the signed funding agreement with the Federal Economic Development Agency for Southern Ontario (Fed Dev), the City would be obligated to continue to allocate funds as part of the City’s Capital Budget, as presented at the Council report PW2017-024 entitled “Mohawk Lake Remediation Project Funding Agreement.”
To date, the Characterization Phase of the MLRP has been completed. The Functional Master Drainage and Restoration Study, which covers the next three phases of the project (Subwatershed Stormwater Plan, Environmental Assessment and Master Plan), is underway and is expected to be completed by the end of 2019. Design and construction will follow based on the preferred solutions identified through the Environmental Assessment process, pending Council approval, with scheduled completion of identified works by mid 2021.

R. Loukes, P.Eng., PTOE
Director, Engineering Services

E. (Beth) Goodger
General Manager
Public Works Commission

Wendy Teufel
Manager of Design & Construction

Attachments

Appendix A – Mohawk Lake Working Group Letter of Support, April 2019

In adopting this report, is a by-law or agreement required? If so, it should be referenced in the recommendation section.

By-law required [ ] yes [X] no

Agreement(s) or other documents to be signed by Mayor and/or City Clerk [ ] yes [X] no

Is the necessary by-law or agreement being sent concurrently to Council? [ ] yes [X] no
April 5, 2019

Mayor Kevin Davis
City of Brantford

Dear Mayor Davis,

The Mohawk Lake Working Group received a presentation from City staff on the Mohawk Lake Remediation Project at our April 5, 2019 meeting. Our Technical Working Group was pleased with the quality and level of detail in the characterization study that has been completed. We are looking forward to the kick-off of the Environmental Assessment in the coming months.

Project funding was discussed and the continued importance of the Federal and City of Brantford funding in completing the study and recommended remediation work that results from the Environmental Assessment. We also discussed the potential to seek Provincial funding and other funding partners, once specific measures are identified. This project would not be possible without the City’s significant financial investment of $4.5 million and the $2 million in Federal funding through to 2021.

The following motion was passed at the meeting to confirm our support for the Project and request the City to continue its funding:

That the Mohawk Lake Working Group continue to assist the City of Brantford in the completion of the Mohawk Lake Remediation Project and request that the City continue to give priority to the project in its ten year capital forecast.

We look forward to the next phase of the work and the City’s continued support of this important project for our community. It is a step closer in achieving the Mohawk Lake Working Group’s Vision Statement:

I will be the place of vibrancy I was yesterday.
I am the heart of our communities and our place for reflection, healing, and celebration.
I am both Mother Earth’s refuge and your family’s natural playground.
I am Mohawk Lake.

Regards,

Joel Doreen, Chair
Mohawk Lake Working Group