# Agenda Including Addeds
# Civic Works Committee

The 2nd Meeting of the Civic Works Committee

January 11, 2022, 12:00 PM

Virtual Meeting during the COVID-19 Emergency

Please check the City website for current details of COVID-19 service impacts.

Meetings can be viewed via live-streaming on YouTube and the City website

Members

Councillors E. Peloza (Chair), M. van Holst, J. Helmer, P. Van Meerbergen, J. Fyfe-Millar, Mayor E. Holder

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Pages

## 5. Deferred Matters/Additional Business

5.1. Deferred Matters List 100

## 6. Adjournment

# Cycling Advisory Committee

# Report

1st Meeting of the Cycling Advisory Committee
December 15, 2021
Advisory Committee Virtual Meeting - during the COVID-19 Emergency
Please check the City website for current details of COVID-19 service impacts.

Attendance

PRESENT: B. Hill (Acting Chair), D. Doroshenko, J. Jordan, M. Mur, E. Raftis, and T. Wade; A. Pascual (Committee Clerk)

ABSENT: I. Chulkova, C. DeGroot, and J. Roberts

ALSO PRESENT: J. Bos, G. Dales, J. Gardiner, D. Hall, L. Maitland, D. MacRae, A. Miller, M. Pletch, and B. Westlake-Power

The meeting was called to order at 4:01 PM; it being noted that the following Members were in remote attendance: D. Doroshenko, B. Hill, J. Jordan, M. Mur, E. Raftis, and T. Wade.

## 1. Call to Order

1.1 Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

## 2. Scheduled Items

2.1 Mobility Master Plan

That it BE NOTED that the presentation, as appended to the agenda, from D. MacRae, Director, Transportation and Mobility, with respect to the Mobility Master Plan, was received.

2.2 Preliminary Design Briefs: Bradley, Central and Queens

That it BE NOTED that the presentation, as appended to the agenda, from D. Hall, Active Transportation Program Manager, with respect to the Preliminary Design Briefs: Bradley, Central and Queens, was received.

## 3. Consent

3.1 10th Report of the Cycling Advisory Committee

That it BE NOTED that the 10th Report of the Cycling Advisory Committee, from its meeting held on November 17, 2021, was received.

3.2 Notice of Planning Application - Official Plan and Zoning By-law Amendments - 600 Oxford Street West

That it BE NOTED that the Notice of Planning Application dated November 24, 2021, from A. Riley, Senior Planner, related to Official Plan and Zoning By-law Amendments for the property located at 600 Oxford Street West, was received.

3.3 Notice of Planning Application - Official Plan and Zoning By-law Amendments - 1407-1427 Hyde Park Road

That it BE NOTED that the Notice of Planning Application dated December 1, 2021, from B. Debbert, Senior Planner, related to Official Plan and Zoning By-law Amendments for the property located at 1407-1427 Hyde Park Road, was received.

3.4 Dundas Place Traffic Changes

That it BE NOTED that the memo dated December 7, 2021, from J. Dann, Director, Construction and Infrastructure Services, with respect to the Dundas Place Traffic Changes, was received.

## 4. (ADDED) Deferred Matters/ Additional Business

4.1 (ADDED) Advisory Committee Review Update

That it BE NOTED that the verbal update from B. Westlake-Power, Deputy City Clerk, with respect to the Advisory Committee Review, was received.

## 5. Adjournment

The meeting adjourned at 5:32 PM.

# Report to Civic Works Committee

**To:** **Chair and Members**
**Civic Works Committee**
**From:** **Kelly Scherr, P.Eng., MBA, FEC**
**Deputy City Manager, Environment & Infrastructure**
**Subject:** **Award of Engineering Services to Complete *Environmental Protection Act* and Other Approvals for the Proposed Expansion of W12A Landfill**
**Date:** **January 11, 2022**

## Recommendation

That, on the recommendation of the Deputy City Manager, Environment and Infrastructure, the following actions be taken with respect to the studies and documentation required to obtain approval for the Proposed Expansion of the W12A Landfill once the Environmental Assessment Study Report has been submitted to the Ministry of Environment, Conservation and Parks:

a) Golder Associates Ltd. **BE APPOINTED** to complete the studies and documentation required to obtain Environmental Compliance Approvals for the Proposed Expansion of the W12A Landfill Site under the *Environmental Protection Act* for Waste and Air and under the *Ontario Water Resource Act* for the Stormwater Management Ponds, in the total amount of $454,177.80 including a contingency of $75,696.30 and excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;

b) Dillon Consulting Ltd. **BE APPOINTED** to complete the studies and documentation required to obtain Environmental Compliance Approvals for the Proposed Expansion of the W12A Landfill Site under the *Ontario Water Resource Act* for the leachate pumping station, in the total amount of $102,832.00 including a contingency of $17,139.00 and excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;

c) AECOM Canada Ltd. **BE APPOINTED** to carry out the studies and documentation required to obtain approvals under the *Endangered Species Act* for the protection of Species of Risk identified and listed in the Environmental Assessment Study Report for the Proposed Expansion of the W12A Landfill, and to provide the documentation required with respect to preservation of the Natural Environment to obtain Environmental Compliance Approvals, in the total amount of $99,028.73 including a contingency of $14,678.44 and excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;

d) Comcor Environmental Ltd. **BE APPOINTED** to carry out preparation of supporting documents as part of the Design and Operation Report for the Environmental Compliance Approval – Waste application, and to carry out detailed design for the initial landfill gas collection system expansion construction, in the total amount of $102,354.00 including a contingency of $17,059.00 and excluding HST, in accordance with Section 15.2 (g) of the City of London's Procurement of Goods and Services Policy;

e) the financing for the work identified in (a), (b), (c) and (d) above**, BE APPROVED** in *accordance* with the "Sources of Financing Report" attached hereto as Appendix "A";

f) Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with these purchases; and

g) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

## Executive Summary

It is expected that approval of the Environmental Assessment (EA) for the proposed expansion of the W12A Landfill will take six to 18 months longer than originally anticipated. Most of the delay is associated with slower consultation processes due to the pandemic, longer review times by some government agencies, and a longer approval time for the Terms of Reference (ToR) by the Ministry of Environment, Conservation and Parks (MECP). It should be noted that the average time to complete an EA in Ontario over the last twenty years has been about eight years; staff still anticipate completing the EA for W12A in under six years.

The expected life of the W12A Landfill has been reduced by about one year since the start of the EA and the landfill is projected to be filled in 2024, versus 2025 as originally anticipated. The change is largely due to increased amounts of London's industrial, commercial, and institutional waste (IC&I waste) coming to the W12A Landfill as opposed to being shipped to private landfills. The proposed landfill expansion accounts for a continued increase in IC&I waste quantities.

In addition to the *Environmental Assessment Act* approval, there are several additional approvals required before the landfill can expand including approvals under the *Environmental Protection Act*, *Ontario Water Resource Act*, *Endangered Species Act, Planning Act, Ontario Heritage Act* and possibly the *Conservation Authorities Act.* Some of these approvals may take up to two years complete and staff are recommending they proceed concurrently to the Province's consideration of the EA itself.

This report seeks approval to proceed with these concurrent consultant assignments using many of the same consultants that worked on the EA in accordance with the Procurement of Goods and Services Policy Section 15.2 g. Subject to Council approval of this report, work on the concurrent studies would commence soon as the Environmental Assessment Study Report (EASR) has been submitted to the MECP for approval late January 2022.

Based on the work completed to date on the EA and comments received from reviewers, starting the additional technical studies concurrent to the consideration of the EA by the Provinceposes very little risk. The work identified in this report is required and the scope of the work is clear and unlikely to change through the EA approval period. All work to be completed will be fully consistent with the EA and the schedules include appropriate pauses where a check-in with provincial leads can occur.

The risk of not proceeding early means increased schedule pressure to complete the concurrent studies after the approval of the EA, which would not be a desirable position for City staff, technical consultants or provincial staff.

## Linkage to the Corporate Strategic Plan

Municipal Council continues to recognize the importance of solid waste management and the need for a more sustainable and resilient city in the development of its 2019-2023 Strategic Plan for the City of London. Specifically, London's efforts in waste management address the three following areas of focus:

- Building a Sustainable City
- Growing our Economy
- Leading in Public Service

On April 23, 2019, the following was approved by Municipal Council with respect to climate change:

> *Therefore, a climate emergency be declared by the City of London for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change.*

Both the Resource Recovery Strategy and Residual Waste Disposal Strategy (including the EA) address various aspects of climate change mitigation and climate change adaptation. These elements are requirements that must be addressed as part of EA documentation.

# Analysis

## 1.0 Background Information

### 1.1 Previous Reports Related to this Matter

Relevant reports that can be found at www.london.ca under City Hall (Meetings – Council and Standing Committees) include:

- Proposed Expansion of the W12A Landfill Site – Updated Environmental Assessment Engineering Consulting Costs (January 19, 2021 meeting of the Civic Works Committee (CWC), Item #2.2)
- Proposed Expansion of the W12A Landfill Site – Updated Environmental Assessment Engineering Consulting Costs (September 22, 2020 meeting of the CWC, Item #2.2)
- Proposed Expansion of the W12A Landfill Site: Updated Environmental Assessment Engineering Consulting Costs (September 22, 2020 meeting of the CWC, Item #2.12)
- Proposed Expansion of the W12A Landfill Site: Updated Environmental Assessment Engineering Consulting Costs (October 22, 2019 meeting of the CWC, Item #2.12)
- Appointment of Consulting Engineer for Various Technical Studies as part of the Environmental Assessment Process for the Proposed Expansion of the W12A Landfill Site (July 17, 2017 meeting of the CWC, Item #6)
- Update and Next Steps – Resource Recovery Strategy and Residual Waste Disposal Strategy as Part of the Environmental Assessment Process (February 7, 2017 meeting of the CWC, Item #10)
- Appointment of Consulting Engineer Long Term Solid Waste Resource Recovery and Disposal Plans (May 24, 2016 meeting of the CWC, Item #10)

### 1.2 Context

Work on the Environmental Assessment for the expansion of the W12A Landfill began in the Spring of 2017. The first step was the development of a Terms of Reference (ToR) which becomes the framework (work plan) for completing the EA. The ToR was approved by the Minister of the Environment, Conservation and Parks on July 30, 2019. Work on the EA began in August 2019 and resulted in the selection of a vertical expansion over the existing waste footprint.

Unlike Class EAs, individual EAs must have their EASR approved by the Minister of Environment, Conservation and Parks. The Prescribed Deadlines (Ontario Regulation 616/98) requires the approval process to be completed in 30 weeks however the process often takes longer and a decision by the Minister after 30 weeks is still valid.

Other approvals in addition to the EA approval will be required before the landfill can be expanded. These approvals include:

- *Environmental Protection Act* (EPA) approval of a waste and air Environmental Compliance Approval (ECA)
- *Ontario Water Resources Act* (OWRA) approval of an ECA for the stormwater management ponds and leachate pumping station
- *Planning Act* approval to rezone the land being added to the landfill's buffer area
- *Ontario Heritage Act* requires a letter of concurrence from the Ministry of Heritage, Sport, Tourism and Culture Industries
- *Endangered Species Act* approval of Notice of Activity or Overall Benefit Permit.
- Conservation Authorities Act may require Section 28 approval given the landfill abuts Fill Regulation Limits

ECAs approval under the EPA and OWRA are expected to take the longest time. It is estimated that preparation of the reports and documentation to support the applications could take up to a year in addition to the application review period with the MECP which could take one year or longer.

## 2.0 Discussion and Considerations

### 2.1 Approval Timeline

As previously discussed, there are several additional approvals required before the landfill can be expanded, even after the Province has approved the EA. These approvals must be completed over a very short time period.

When the EA process began in 2017, the W12A Landfill was expected to be filled by the beginning of 2025. Currently, less industrial, commercial and institutional (IC&I) waste generated in London is going to private landfills in Ontario and Michigan and instead is going to the W12A Landfill. The amount of waste being received at the W12A Landfill has increased from 258,500 tonnes in 2016 to 342,700 tonnes in 2020. This has resulted in the expected life of the W12A Landfill being reduced by about one year (beginning of 2024). It should be noted the landfill expansion accounts for the increase in IC&I waste quantities.

Approval of the EA by the MECP is expected to be completed by Fall 2022. The EA, from start to anticipated approval, will have taken approximately 5.5 years, or about six to 18 months longer than originally anticipated. Most of this delay is associated with longer-than-anticipated time spent on consultation due to the impacts of Covid, longer review times by government agencies and a longer approval time for the ToR by the MECP. It should be noted that the average time to complete an EA in Ontario over the last twenty years has been about eight years.

In summary, the time remaining to complete the remaining approvals is about 2.5 years less than originally anticipated. In order to gain back some of the lost time, it is proposed to start work on the other approvals prior to receiving EA approval from the MECP.

As noted previously, ECA approvals under the EPA and OWRA are expected to take the longest time and work on these studies and submissions should begin as soon as possible.

It is proposed that the studies that will be conducted concurrently to consideration of the EA by the Province use many of the same consultants that worked on the EA approval and in accordance with the Procurement of Goods and Services Policy Section 15.2 g. Specifically, using these consultants will be to the financial advantage of the City and will also expedite the project because the work can commence immediately. No time will be lost seeking and reviewing alternative proposals. These consultants also have specific knowledge of the site whereas other consultants would need time to review the W12A Landfill site specific details. Considering this, key consultants who work on the EA for the proposed expansion of the W12A Landfill were invited to submit proposals to complete specific tasks for the ECA and other required approvals as discussed below.

### 2.2 Golder Associates Ltd.

Golder Associates Ltd (Golder) provided a proposal to complete the ECA Approvals (EPA and OWRA) for the expansion of the W12A Landfill. This engineering consulting work includes:

- Preparation of ECA level designs of the upgraded perimeter leachate collection system, leachate mound control system, stormwater management system, small vehicle drop-off area, perimeter roads, screening berms and overall site plan.

- Preparation of the Design and Operations Report, Stormwater Management Design Report, Leachate Collection and System Disposal Report, Emission Summary and Dispersions Modelling (ESDM) Report and Acoustic and Assessment Report (AAR).

- Incorporating information from other consultants working on the project into the above-mentioned reports including the ECA level design of the leachate pumping station and landfill gas collection system as well as required information from the natural environment approvals (Environmental Impact Study, *Endangered Species Act*).

- Preparing applications for the ECAs.

The ECA level design work will be a continuation of the work (conceptual level) completed by Golder at the EA stage. Some of the reports to be prepared (ESDM Report and AAR) are expected for the most part to be a repackaging of the results of the detailed assessments completed by Golder for the EA.

City staff have reviewed the fee submissions in detail considering the hourly rates provided for each consultant staff member. City staff have confirmed that hourly rates are consistent with those submitted through competitive processes. City staff also reviewed the time allocated to each project related task. Staff can confirm that the amount of time allocated to each project task is consistent with prior projects of similar nature that have been awarded through a competitive process.

In accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy, Civic Administration is recommending Golder be authorized to carry out engineering services for the expansion of the W12A Landfill for the proposal estimate of $454,177.80 (excluding HST). The estimate includes a contingency of $75,696.30 (20%). This contingency is larger than normal projects due to the uncertainty of proceeding with the required approvals prior to receiving EA approval.

### 2.3 Dillon Consulting Ltd.

Dillon Consulting Ltd (Dillon) provided a proposal to prepare an ECA level design of the main leachate pumping station. Dillon was involved in the EA for the landfill including the preparation of the background reports for groundwater and surface water and Transportation Assessment and therefore has a complete understanding of what is proposed in the EA. Dillon designed the most recent expansion of the leachate collection system and completed the work on the upgrades to pumping station 701 (most recent work on pumping stations at the landfill).

City staff have reviewed the fee submissions in detail considering the hourly rates provided for each consulting staff member. City staff have confirmed that hourly rates are consistent with those submitted through competitive processes. City staff also reviewed the time allocated to each project related task. Staff can confirm that the amount of time allocated to each project task is consistent with prior projects of similar nature that have been awarded through a competitive process.

In accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy, Civic Administration is recommending Dillon be authorized to carry out engineering services for the expansion of the W12A Landfill for the proposal estimate of $99,848.00 (excluding HST). The estimate includes a contingency of $16,641.00 (20%). This contingency is larger than normal projects due to the uncertainty of proceeding with the required approvals prior to receiving EA approval.

### 2.4 Comcor Environmental Ltd.

Comcor Environmental Ltd. (Comcor) provided a proposal to prepare an ECA level design of Landfill Gas (LFG) collection system infrastructure and a detailed design for the first phase of the construction.

Comcor Environmental Limited (Comcor) has specialized experience in the field of design, installation and operation of LFG collection systems. Comcor currently operates and maintains over 20 landfill gas collection, flaring and/or utilization facilities across Canada, with 16 of these projects being located in Ontario. Comcor has also completed design work, on-site supervision and commissioning as associated with the majority of these facilities.

Comcor completed the design and oversaw installation of the existing LFG collection and flaring system and several LFG collection system expansions at the W12A Landfill site. Comcor is also currently under contract by the City to operate and maintain the existing LFG flaring station and is working on the expansion of the landfill's existing flaring station.

City staff have reviewed the fee submission in detail considering the hourly rates provided for each consultant staff member. City staff have confirmed that hourly rates are consistent with those submitted through competitive processes. City staff also reviewed the time allocated to each project related task. Staff can confirm that the amount of time allocated to each project task is consistent with prior projects of a similar nature that have been awarded through a competitive process.

In accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy, Civic Administration is recommending Comcor be authorized to carry out engineering services for the expansion of the W12A Landfill for the proposal estimate of $102,354.00 (excluding HST). The estimate includes a contingency of $17,059.00 (20%). This contingency is larger than normal projects due to the uncertainty of proceeding with the required approvals prior to receiving EA approval.

### 2.5 AECOM Canada Ltd.

AECOM Canada Ltd (AECOM) provided a proposal to complete:

- an Environmental Impact Study (EIS) which will be used to support rezoning of the additional lands that will be included in the buffer of the expanded landfill;

- prepare an Environmental Mitigation and Monitoring Plan for wildlife which will be incorporated into the Design and Operations Report being prepared by Golder;

- documentation for approval under the *Endangered Species Act*. It is expected the site will need an Overall Benefit Permit because of the Species at Risk living at the landfill; and

- assist in identifying any requirements under section 28 of the OWRA in consultation with the Upper Thames Conservation Authority and the Kettle Creek Conservation Authority.

AECOM completed the technical Biology Existing Conditions and Impact Assessment Report for the EA and is knowledgeable of the existing biological characteristics at the landfill site. It is expected that the information from the Biology Report will be used in completing each of the above tasks. Therefore, there is an advantage to the City that AECOM would commence the tasks immediately upon City Council's approval without putting extra efforts to review the relevant background information from the EA phase.

City staff have reviewed the fee submissions in detail considering the hourly rates provided for each consultant staff member. City staff have confirmed that hourly rates are consistent with those submitted through competitive processes. City staff also reviewed the time allocated to each project related task. Staff can confirm that the amount of time allocated to each project task is consistent with prior projects of a similar nature that have been awarded through a competitive process.

In accordance with Section 15.2 (g) of the Procurement of Goods and Services Policy, Civic Administration is recommending AECOM be authorized to carry out engineering services for the expansion of the W12A Landfill for a fee estimate of $99,028.73 (excluding HST). The fee includes a contingency of $14,678.44 (20%). This contingency is larger than normal projects due to the uncertainty of proceeding with the required approvals prior to receiving EA approval.

### 2.6 Risk of Concurrent Study Work

Based on the work completed to date on the EA and comments received from reviewers, starting the additional technical studies concurrent to the Province's consideration of the EA itself poses very little risk. The work identified in this report is required. All work to be completed will be fully consistent with the EA and the schedules will include appropriate pauses where a check-in with provincial leads can occur.

Should additional work be required during the final review stage, City staff would immediately address this with the technical consultants to determine next steps. It could result in the need to use the contingency budget or, for any significant items, a budget amendment to cover the new work.

The risk of not proceeding concurrently means that there is an increased pressure for City staff, technical consultants and provincial staff to complete the post-EA approvals in a shorter period of time.

## 3.0 Financial Impact

The funding to proceed with these awards as recommended by staff is available within the existing Waste Management capital accounts that were established to fund landfill development and expansion work, as outlined in the Source of Financing included as Appendix A. As noted in each section for the technical consultants, a larger contingency budget has been assigned to each major undertaking. Use of the contingency budget can only proceed with prior approval from City staff.

## Conclusion

Expansion of the W12A Landfill site requires additional approvals under various Acts before construction is permitted. ECA approvals under the EPA and OWRA are expected to take the longest time. It is recommended to start work on the other approvals prior to receiving EA approval from the MECP and use many of the same consultants that worked on the EA approval to expediate the approval process.

| | |
|---|---|
| **Prepared by:** | **Mike Losee, B.SC**<br>**Division Manager, Waste Management** |
| **Submitted by:** | **Jay Stanford, MA, MPA**<br>**Director, Climate Change, Environment & Waste Management** |
| **Recommended by:** | **Kelly Scherr, P. Eng., MBA, FEC**<br>**Deputy City Manager, Environment and Infrastructure** |

Appendix A – Source of Financing

**Appendix "A"**

**#22004**
January 11, 2022
(Appoint Consulting Engineers)

Chair and Members
Civic Works Committee

RE: Technical Landfill Design Studies for the Proposed Expansion of the W12A Landfill Site
(Subledger LF180002)
Capital Project SW6051 - Municipal Waste Study
Dillon Consulting Ltd. - $102,832.00 (excluding HST)
AECOM Canada Ltd. - $99,028.73 (excluding HST)
Comcor Environmental Ltd. - $102,354.00 (excluding HST)
Capital Project SW601420 - W12A Ancillary
Golder Associates Ltd. - $454,177.80 (excluding HST)

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## Finance Supports Report on the Sources of Financing:

Finance Supports confirms that the cost of this project can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing is:

| Estimated Expenditures | Approved Budget | Committed To Date | This Submission | Balance for Future Work |
|---|---|---|---|---|
| **SW6051 - Municipal Waste Study** | | | | |
| Engineering | 2,549,129 | 1,881,544 | 309,569 | 358,016 |
| City Related Expenses | 188,200 | 65,203 | 0 | 122,997 |
| Other Expenses | 70,309 | 70,309 | 0 | 0 |
| **SW6051 Total** | 2,807,638 | 2,017,056 | 309,569 | 481,013 |
| **SW601420 - W12A Ancillary** | | | | |
| Engineering | 462,171 | 0 | 462,171 | 0 |
| Construction | 520,456 | 463,652 | 0 | 56,804 |
| **Total SW601420** | 982,627 | 463,652 | 462,171 | 56,804 |
| **Total Expenditures** | $3,790,265 | $2,480,708 | $771,740 | $537,817 |

**Appendix "A"**

**#22004**
January 11, 2022
(Appoint Consulting Engineers)

Chair and Members
Civic Works Committee

RE: Technical Landfill Design Studies for the Proposed Expansion of the W12A Landfill Site
(Subledger LF180002)
Capital Project SW6051 - Municipal Waste Study
Dillon Consulting Ltd. - $102,832.00 (excluding HST)
AECOM Canada Ltd. - $99,028.73 (excluding HST)
Comcor Environmental Ltd. - $102,354.00 (excluding HST)
Capital Project SW601420 - W12A Ancillary
Golder Associates Ltd. - $454,177.80 (excluding HST)

| **Sources of Financing** | **Approved Budget** | **Committed To Date** | **This Submission** | **Balance for Future Work** |
|---|---|---|---|---|
| **SW6051 - Municipal Waste Study** | | | | |
| Drawdown from Solid Waste Renewal Reserve Fund | 2,807,638 | 2,017,056 | 309,569 | 481,013 |
| **SW601420 - W12A Ancillary** | | | | |
| Drawdown from Solid Waste Renewal Reserve Fund | 252,588 | 0 | 195,784 | 56,804 |
| Canada Community-Building Fund (Federal Gas Tax) | 730,039 | 463,652 | 266,387 | 0 |
| **SW601420 Total** | 982,627 | 463,652 | 462,171 | 56,804 |
| **Total Financing** | $3,790,265 | $2,480,708 | $771,740 | $537,817 |

| **Financial Note - Charges per Award:** | **Dillon** | **AECOM** | **COMCOR** | **Total SW6051** |
|---|---|---|---|---|
| Contract Price | $102,832 | $99,029 | $102,354 | $304,215 |
| Add: HST @13% | 13,368 | 12,874 | 13,306 | 39,548 |
| Total Contract Price Including Taxes | 116,200 | 111,903 | 115,660 | 343,763 |
| Less: HST Rebate | -11,558 | -11,131 | -11,505 | -34,194 |
| Net Contract Price | $104,642 | $100,772 | $104,155 | $309,569 |

| **Financial Note - Charges per Award Continued:** | **Golder SW601420** | **Total Awards** |
|---|---|---|
| Contract Price | $454,178 | $758,393 |
| Add: HST @13% | 59,043 | 98,591 |
| Total Contract Price Including Taxes | 513,221 | 856,984 |
| Less: HST Rebate | -51,050 | -85,244 |
| Net Contract Price | $462,171 | **$771,740** |

Jason Davies
Manager of Financial Planning & Policy

HB

## Report to Civic Works Committee

**To:** **Chair and Members**
**Civic Works Committee**
**From:** **Kelly Scherr, P.Eng., MBA, FEC**
**Deputy City Manager, Environment and Infrastructure**
**Subject:** **Appointment of Consulting Engineer for the Kilally Infrastructure Works Detailed Design**
**Date:** **January 11, 2022**

## Recommendation

That on the recommendation of Deputy City Manager, Environment and Infrastructure, the following actions **BE TAKEN** with respect to the appointment of consulting services for the Kilally Infrastructure Works project:

(a) Stantec Consulting Ltd. **BE APPOINTED** consulting engineers to complete the detailed design for the Kilally Infrastructure Works project in accordance with the estimate, on file, at an upset amount of $719,535 (including 20% contingency), excluding HST, in accordance with Section 15.2 (e) of the City of London's Procurement of Goods and Services Policy;

(b) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached, hereto, as Appendix 'A';

(c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this project;

(d) the approval given, herein, **BE CONDITIONAL** upon the Corporation entering into a formal contract; and

(e) the Mayor and City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

## Executive Summary

### Purpose

This report recommends the appointment of Stantec Consulting Ltd. to complete the detailed design for the Kilally Infrastructure Works project. A project location map is provided in Appendix 'B'. This project is required to provide integrated water, stormwater, and transportation infrastructure for approximately 130 hectares of future neighbourhood development lands.

### Context

The project includes detailed design of an infrastructure system, including water, sanitary, and stormwater connections, road upgrades, and stormwater management facilities. This design project is to be a comprehensive, implementable, and integrated design for 2023 construction that will support future road upgrades scheduled for 2030. This project will include an environmental mitigation and compensation plan with specific consideration for impacts to the adjacent natural environment during the 2023 works and as well as consideration of future impacts associated to the construction of the Clarke Road Bridge scheduled for construction in 2033.

## Linkage to the Corporate Strategic Plan

This recommendation supports the following 2019-2023 Strategic Plan areas of focus:

- Building a Sustainable City:
    - London's infrastructure is built, maintained, and operated to meet the long-term needs of our community by replacing aged and failing infrastructure with new materials and sizing new infrastructure to accommodate future

development;

- Londoners can move around the city safely and easily in a manner that meets their needs by incorporating cycling infrastructure and safety enhancements; and
- London has a strong and healthy environment by incorporating stormwater management quantity and quantity controls to protect downstream waterways.

# Analysis

## 1.0 Background Information

### 1.1 Previous Reports Related to this Matter

- Civic Works Committee – September 25, 2018 – Appointment of Consulting Services for Municipal Class Environmental Assessment, Kilally South, East Basin;
- Civic Works Committee – August 11, 2020, Kilally South, East Basin Municipal Class Environmental Assessment: Notice of Completion;
- Strategic Priorities and Policy Committee – May 18, 2021, 2022 Growth Management Implementation Strategy (GMIS) Update.

## 2.0 Discussion and Considerations

### 2.1 Work Description

This assignment includes the detailed design of the Kilally Infrastructure Works to support development in northeast London as identified by the Growth Management Implementation Strategy (GMIS). This includes watermain construction (A30-Ph.2), road profile grading of approximately 2 km of Kilally Road from Webster Street to Clarke Road, and the Kilally South, East Basin SWM 1 regional stormwater pond and outlet. General extents and key components are identified in the Appendix ‘B’ project map.

In addition to the municipal road, water, and stormwater design, a developer-funded private sanitary servicing design will be included in the project scope to maximize coordination and minimize construction disturbance in the area. The overall infrastructure design will consider future infrastructure requirements and provide a comprehensive, implementable, and integrated stormwater management design as identified within the completed Municipal Class Environmental Assessment Kilally South, East Basin: (Ecosystems Recovery, 2021) and the City’s GMIS. The construction of the developer funded private forcemain will be included in the overall construction and funded by the Developer. Design and construction fees will be recovered by the developer in advance of construction.

An Environmental Management Plan will be completed as part of the detailed design to support the construction and surrounding natural environment areas with consideration for the cumulative impacts of the proposed works and the future Clarke Road Bridge project scheduled for 2033.

### 2.2 Public Communications

This assignment will utilize a similar public communications approach to the City’s Infrastructure Renewal Program and will include project letters that will be sent to area residents and electronic presentations that will be prepared and posted on the City’s website. This communication material will inform residents about the project prior to construction and will include project contact information. The communication material will include graphics depicting what the ultimate road corridor will look like, as well as a summary of the necessary work that residents should expect to see (e.g. tree removals, channel excavation, etc.).

## 3.0 Financial Impact/Considerations

### 3.1 Procurement Process

The engineering consultant selection procedure for the assignment utilized a two-stage procurement process. This two-stage grouped procurement is in accordance with Section 15.2(e) of the Procurement of Goods and Services Policy.

The first stage of the process is an open, publicly advertised Request for Qualifications (RFQUAL). Statement of Qualifications submissions were received from a province wide group of prospective consultants. The Statement of Qualifications were evaluated by the Environment and Infrastructure Service Area resulting in a short-list of four engineering consulting firms.

The second stage of the process is a competitive Request for Proposal (RFP). Consultants from the short-listed group are invited to submit a formal proposal to undertake the assignment. An evaluation of the proposals was undertaken by the Environment and Infrastructure Service Area, including both a technical and cost component. Engineering consultants are recommended based on their knowledge and understanding of project goals, their experience on directly related projects, their project team members, capacity and qualifications, and overall project fee.

The construction administration fee has not been included as part of the current assignment as it cannot be reasonably estimated prior to the start of the design.

Stantec was found to provide the best value to the City through the two phase RFQUAL and RFP selection process for consulting services for the detailed design of Kilally Infrastructure Works. The Stantec team has a demonstrated ability to complete the detailed design tasks required for this project, as well as successful consultation and engagement, and demonstrated a solid understanding of this project in their proposal. It is recommended that Stantec Consulting Ltd. be awarded this assignment.

## Conclusion

The proposed consulting team, Stantec Consulting Inc., has demonstrated its understanding of the integrated infrastructure requirements, ability to execute a multi-disciplinary design, and is well-qualified to undertake the detailed design. Based on the review by the evaluation team, it is recommended that retaining Stantec is in the best financial and technical interests of the City. It is recommended that Stantec be awarded this consulting assignment.

| | |
|---|---|
| **Prepared by:** | **Shawna Chambers, DPA, P.Eng., Division Manager, Stormwater Engineering** |
| **Submitted by:** | **Scott Mathers, MPA, P.Eng., Director, Water, Wastewater, and Stormwater** |
| **Recommended by:** | **Kelly Scherr, P.Eng., MBA, FEC, Deputy City Manager, Environment and Infrastructure** |

**CC: A.Sones, S. Mollon, J. Paul Consultant**

Appendix ‘A’ – Sources of Financing

Appendix ‘B’ – Location Map

**Appendix "A"**

**#22002**
January 11, 2022
(Appoint Consulting Engineer)

Chair and Members
Civic Works Committee

RE: Kilally Infrastructure Works Detailed Design
(Subledger SWM22001)
Capital Project ESSWM-KILSE - SWMF 1 - Kilally South East Basin
Capital Project EW3694 - Kilally Road Watermain (A30) Phase 2
Capital Project TS144621 - Road Networks Improvements
Stantec Consulting Ltd. - $719,535 (excluding HST)

---

**Finance Supports Report on the Sources of Financing:**
Finance Supports confirms that the cost of this project can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing is:

| **Estimated Expenditures** | **Approved Budget** | **Committed To Date** | **This Submission** | **Balance for Future Work** |
|---|---|---|---|---|
| **ESSWM-KILSE - SWMF 1 - Kilally South East Basin** | | | | |
| Engineering | 1,043,800 | 209,756 | 396,391 | 437,653 |
| Construction | 4,606,157 | 0 | 0 | 4,606,157 |
| **ESSWM-KILSE Total** | 5,649,957 | 209,756 | 396,391 | 5,043,810 |
| **EW3694 - Kilally Road Watermain (A30) Phase 2** | | | | |
| Engineering | 750,115 | 0 | 167,904 | 582,211 |
| Construction | 700,000 | 229,558 | 0 | 470,442 |
| **EW3694 Total** | 1,450,115 | 229,558 | 167,904 | 1,052,653 |
| **TS144621 - Road Networks Improvements** | | | | |
| Engineering | 1,000,000 | 301,343 | 167,904 | 530,753 |
| Construction | 13,650,497 | 1,243,495 | 0 | 12,407,002 |
| City Related Expenses | 483 | 483 | 0 | 0 |
| **TS144621 Total** | 14,650,980 | 1,545,321 | 167,904 | 12,937,755 |
| **Total Expenditures** | $21,751,052 | $1,984,635 | $732,199 | $19,034,218 |
| **Sources of Financing** | | | | |
| **ESSWM-KILSE - SWMF 1 - Kilally South East Basin** | | | | |
| Drawdown from City Services - Stormwater Reserve Fund (Development Charges) (Note 1) | 250,000 | 209,756 | 40,244 | 0 |
| Debenture Quota (Note 2) | 5,399,957 | 0 | 356,147 | 5,043,810 |
| **ESSWM-KILSE Total** | 5,649,957 | 209,756 | 396,391 | 5,043,810 |
| **EW3694 - Kilally Road Watermain (A30) Phase 2** | | | | |
| Drawdown from City Services - Water Reserve Fund (Development Charges) (Note 1) | 1,450,115 | 229,558 | 167,904 | 1,052,653 |
| **TS144621 - Road Networks Improvements** | | | | |
| Capital Levy | 3,194,196 | 0 | 0 | 3,194,196 |
| Debenture By-law No. W.-5673-150 | 939,460 | 0 | 0 | 939,460 |
| Drawdown from Capital Infrastructure Gap Reserve Fund | 1,510,874 | 0 | 0 | 1,510,874 |
| Federal Gas Tax | 9,006,450 | 1,545,321 | 167,904 | 7,293,225 |
| **TS144621 Total** | 14,650,980 | 1,545,321 | 167,904 | 12,937,755 |
| **Total Financing** | $21,751,052 | $1,984,635 | $732,199 | $19,034,218 |

**Appendix "A"**

**#22002**
January 11, 2022
(Appoint Consulting Engineer)

Chair and Members
Civic Works Committee

RE: Kilally Infrastructure Works Detailed Design
(Subledger SWM22001)
Capital Project ESSWM-KILSE - SWMF 1 - Kilally South East Basin
Capital Project EW3694 - Kilally Road Watermain (A30) Phase 2
Capital Project TS144621 - Road Networks Improvements
Stantec Consulting Ltd. - $719,535 (excluding HST)

| **Financial Note:** | **ESSWM-KILSE** | **EW3694** | **TS144621** | **Total** |
|---|---|---|---|---|
| Contract Price | $389,535 | $165,000 | $165,000 | $719,535 |
| Add: HST @13% | 50,640 | 21,450 | 21,450 | 93,540 |
| Total Contract Price Including Taxes | 440,175 | 186,450 | 186,450 | 813,075 |
| Less: HST Rebate | -43,784 | -18,546 | -18,546 | -80,876 |
| Net Contract Price | $396,391 | $167,904 | $167,904 | $732,199 |

**Note 1:** Development Charges have been utilized in accordance with the underlying legislation and the approved 2019 Development Charges Background Study and the 2021 Development Charges Background Study Update.

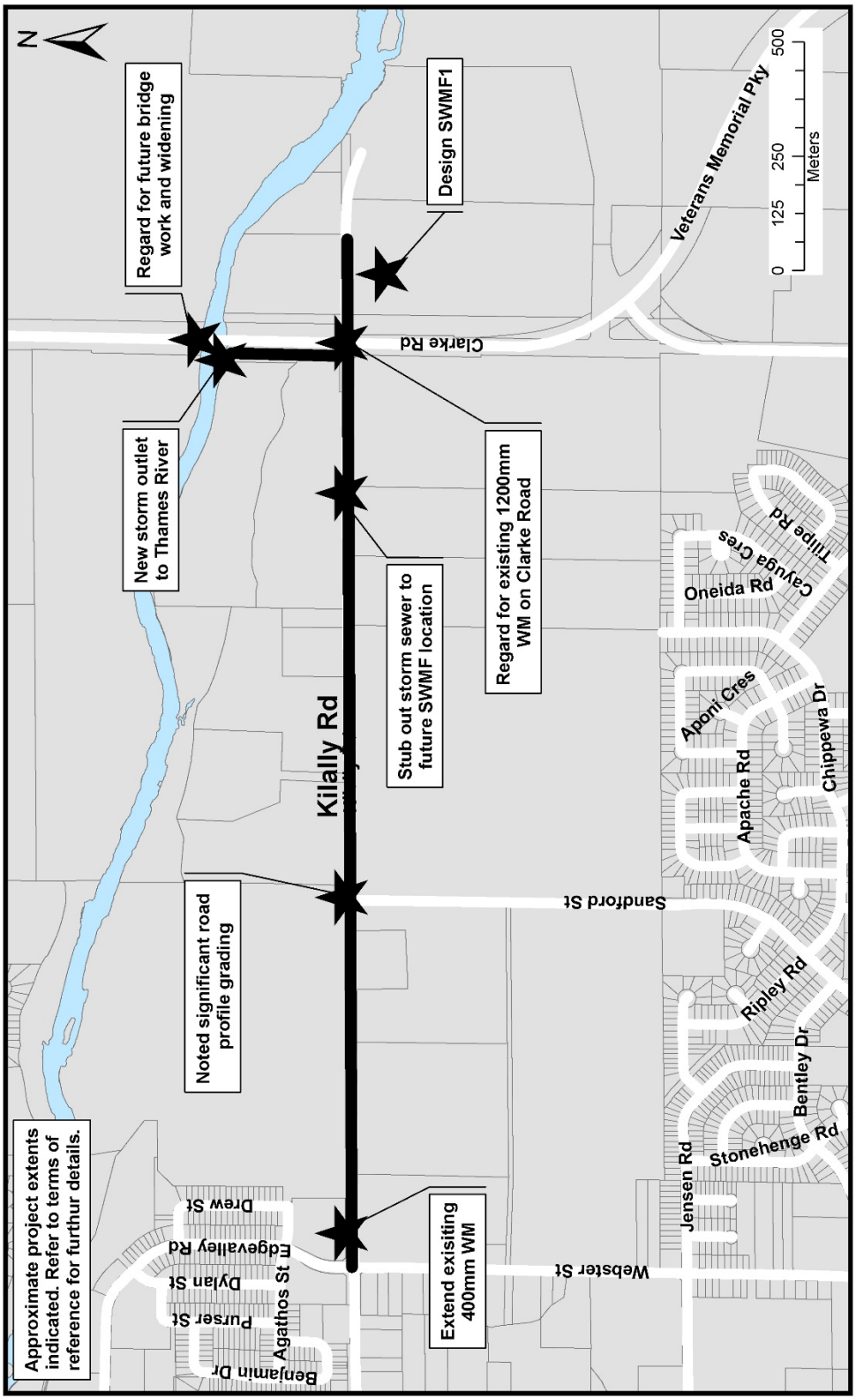
**Note 2: Note to City Clerk:** Administration hereby certifies that the estimated amounts payable in respect of this project does not exceed the annual financial debt and obligation limit for the Municipality from the Ministry of Municipal Affairs in accordance with the provisions of Ontario Regulation 403/02 made under the Municipal Act, and accordingly the City Clerk is hereby requested to prepare and introduce the necessary by-laws.

An authorizing by-law should be drafted to secure debenture financing for project ESSWM-KILSE - SWMF 1 - Kilally South East Basin for the net amount to be debentured of $5,399,957.00.

Jason Davies
Manager of Financial Planning & Policy

jg

# Appendix 'B' – Project Map



## Report to Civic Works Committee

**To:** **Chair and Members**
**Civic Works Committee**
**From:** **Kelly Scherr, P.Eng., MBA, FEC**
**Deputy City Manager, Environment & Infrastructure**
**Subject:** **Upper Thames River Conservation Authority and City of London Flood Protection Projects: West London Dyke - Phase 7 Increase to Consulting Fees**
**Date:** **January 11, 2022**

## Recommendation

That, on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions **BE TAKEN** with respect to increasing the existing contract for the Phase 7 West London Dyke project:

(a) The Upper Thames River Conservation Authority **BE AUTHORIZED** to carry out the added consulting and detailed design works for Phase 7 of the West London Dyke on behalf of the City by increasing the City's share by $72,174.66 including contingency, excluding HST;

(b) the financing for this project **BE APPROVED** as set out in the Sources of Financing Report attached, hereto, as Appendix 'A';

(c) the Civic Administration **BE AUTHORIZED** to undertake all the administrative acts that are necessary in connection with this work;

(d) the approvals given, herein, **BE CONDITIONAL** upon the Corporation entering into a formal contract with the consultant for the project; and,

(e) the Mayor and the City Clerk **BE AUTHORIZED** to execute any contract or other documents, if required, to give effect to these recommendations.

## Executive Summary

### Purpose

This report seeks Council approval to increase the City's share of the West London Dyke Phase 7 consulting and detailed design costs, administered by the Upper Thames River Conservation Authority, due to field challenges and scope changes.

### Context

The City of London owns flood and erosion control structures throughout the watershed that are maintained by the Upper Thames River Conservation Authority (UTRCA) under the terms of a Memorandum of Understanding (MOU). The MOU defines a collaborative approach to operation and maintenance and capital improvements to the flood and erosion control structures in which the City and UTRCA share an interest.

As the regulator of the floodplain, the UTRCA is in the best position to coordinate work on these structures and can also access funding from the provincial and federal governments for maintenance and capital improvement of these structures that is not available to municipalities.

Because of the importance of the flood and erosion control structures to both the City and UTRCA, there is a long history of cooperation on the construction and maintenance of these structures. The City of London annually provides funding to the UTRCA to complete necessary dyke and dam capital and maintenance works.

Phase 7 of the West London Dyke Reconstruction projects spans from St. Patrick's Street to north of the Oxford Street bridge.

## Linkage to the Corporate Strategic Plan

This project supports the 2019-2023 Strategic Plan through the following: Building a Sustainable City, Build infrastructure to support future development and protect the environment, Improve London's resiliency to respond to future challenges, and Maintain or increase current levels of service; manage the infrastructure gap for all assets.

## Analysis

### 1.0 Background Information

#### 1.1 Previous Reports Related to this Matter

Civic Works Committee – September 21, 2021 – Increase in Contract Award: West London Dyke, Norman Bradford Bridge Concrete Repairs

Civic Work Committee – August 31, 2021 – Increase Contract Award: West London Dyke Reapplication of Anti-Graffiti Coating to Phases 1 and 2

Civic Works Committee – November 17, 2020 – West London Dyke – Phase 7 and Fanshawe Dam Safety Study PO Boost

Civic Works Committee – July 14, 2020 – Upper Thames Conservation Authority and City of London Flood Protection Projects: West London Dyke Phase 7

Civic Works Committee – March 10, 2020 – Upper Thames River Conservation Authority and City of London Flood Protection Projects

Civic Works Committee – August 12, 2019 – Upper Thames River Conservation Authority and City of London Flood Protection Projects

Civic Works Committee – June 18, 2018 – Upper Thames River Conservation Authority and City of London Flood Protection Projects

Civic Works Committee – July 17, 2017 – Water and Erosion Control Infrastructure (WECI) Program: 2017 Provincially Approved Project Funding (Sole Sourced)

Civic Works Committee – August 22, 2016 – Water and Erosion Control Infrastructure (WECI) Program: 2016 Provincially Approved Project Funding (Sole Sourced)

Civic Works Committee – February 2, 2016 – West London Dyke Master Repair Plan Municipal Class Environmental Assessment Study

Strategic Priorities and Policy Committee – January 28, 2016 – Downtown Infrastructure Planning and Coordination

### 2.0 Discussion and Considerations

#### 2.1 West London Dyke – Phase 7 Design Changes

Phase 7 of the West London Dyke reconstruction project spans from St. Patrick's Street to north of Oxford Street. Work for this phase commenced in July 2020. There were many challenges and design changes that were required in this phase, including:

- Work related to the dyke reconstruction in the vicinity of the Ann Street siphon which required added geotechnical investigations and wall design changes to include two new return walls to allow for future maintenance;

- Work related to the dyke reconstruction in the vicinity of the CP rail abutment which required various design changes, CP permit delays and encroachment agreements;
- Work related to the dyke reconstruction for the underpass beneath Oxford Street Bridge including unknown infrastructure discovered under the bridge and added geotechnical monitoring to ensure structural integrity of the bridge was not compromised during excavation methods;
- Work related to road reconstruction works on Argyle Street including design changes to include added infrastructure; and
- Work related to dyke alignment as requested by UTRCA to minimize encroachment which led to multiple submissions for permitting.

## 3.0 Financial Impact/Considerations

A total cost of $108,624.44 is required to fund the above noted scope and design changes. Additionally, the UTRCA required added project management fees to support the design changes. The federal Disaster Mitigation and Adaptation Fund (DMAF) is available to support 40% of the costs associated with the WLD project. The table below outlines the City's contribution to cover the cost of the added works.

**Table 1 – Cost sharing for the West London Dykes**

| | **Added Fees Amount** | **DMAF Funding** | **London Share** |
|---|---|---|---|
| West London Dyke Phase 7 - Detailed Design and Contract Administration PO Boost | $ 108,624.44 | $43,449.78 | $65,174.66 |
| West London Dyke Phase 7 - Added UTRCA Project Management Fees | $ 7,000.00 | - | $ 7,000.00 |
| Total | $ 115,624.44 | $43,449.78 | $72,174.66 |

There are available funds to finance the City's share of West London Dyke – Phase 7 PO increase of $72,174.66 including contingency, excluding HST.

## Conclusion

It is recommended that the City's share for the West London Dyke Phase 7 consulting and detailed design fees that are administered by UTRCA, be increased to cover the costs of the added works and scope changes.

**Prepared by:** **Shawna Chambers, P.Eng., DPA, Division Manager, Stormwater Engineering**

**Submitted by:** **Scott Mathers, MPA, P. Eng., Director, Water, Wastewater and Storm Water**

**Recommended by:** **Kelly Scherr, P. Eng., MBA, FEC**
**Deputy City Manager, Environment & Infrastructure**

**Attachments:** Appendix 'A' – Source of Financing
Appendix 'B' – West London Dyke Phase Map

**CC:** John Freeman
Gary MacDonald
Alan Dunbar
Jason Davies
Monica McVicar

**Appendix "A"**

**#22003**
January 11, 2022
(Increase to Consulting Engineer Fees)

Chair and Members
Civic Works Committee

RE: Upper Thames River Conservation Authority and City of London Flood Protection Projects: West London Dyke - Phase 7
(Subledger SWM20001)
Capital Project ES2474 - UTRCA Remediating Flood Control Works within City Limits
Upper Thames River Conservation Authority - $72,174.66 (excluding HST)

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**Finance Supports Report on the Sources of Financing:**
Finance Supports confirms that the cost of this project can be accommodated within the financing available for it in the Capital Budget and that, subject to the approval of the Deputy City Manager, Environment and Infrastructure, the detailed source of financing is:

| **Estimated Expenditures** | **Approved Budget** | **Committed To Date** | **This Submission** | **Balance for Future Work** |
|---|---|---|---|---|
| Engineering | 6,608,931 | 6,535,486 | 73,445 | 0 |
| Construction | 14,173,187 | 6,151,442 | 0 | 8,021,745 |
| City Related Expenses | 80,859 | 80,859 | 0 | 0 |
| **Total Expenditures** | $20,862,977 | $12,767,787 | $73,445 | $8,021,745 |
| **Sources of Financing** | | | | |
| Capital Sewer Rates | 1,000,000 | 1,000,000 | 0 | 0 |
| Debenture By-law No.-W.5610-251 | 2,750,000 | 0 | 0 | 2,750,000 |
| Drawdown from Sewage Works Renewal Reserve Fund | 17,061,232 | 11,716,042 | 73,445 | 5,271,745 |
| Other Contributions | 51,745 | 51,745 | 0 | 0 |
| **Total Financing** | $20,862,977 | $12,767,787 | $73,445 | $8,021,745 |

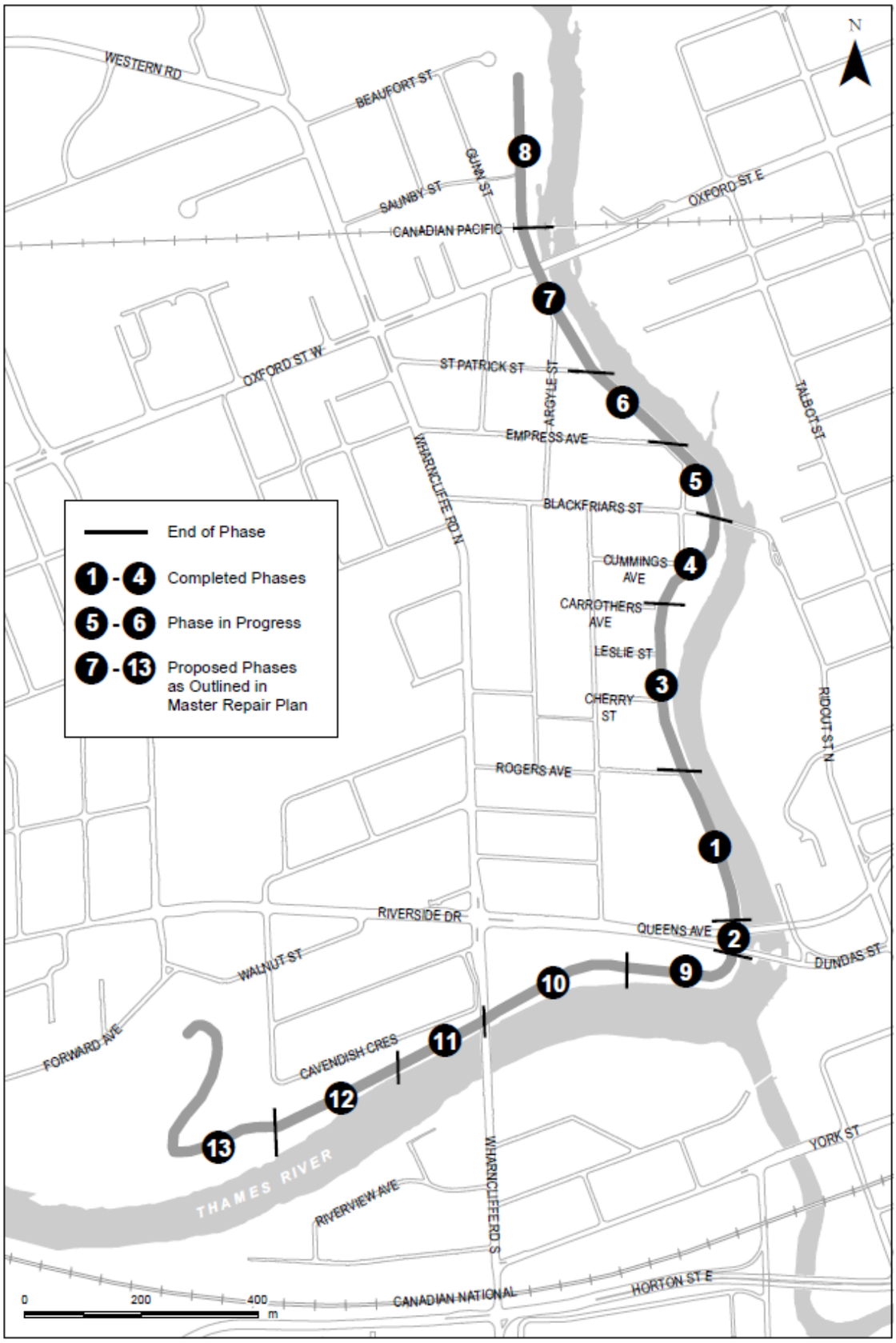
**Financial Note:**

| | |
|---|---|
| Contract Price | $72,175 |
| Add: HST @13% | 9,383 |
| Total Contract Price Including Taxes | 81,558 |
| Less: HST Rebate | -8,113 |
| Net Contract Price | $73,445 |

Jason Davies
Manager of Financial Planning & Policy

jg

## Appendix B – West London Dyke Reconstruction Phase 7



## Report to Civic Works Committee

**To:** **Chair and Members**
**Civic Works Committee**
**From:** **Kelly Scherr, P.Eng., MBA, FEC**
**Deputy City Manager, Environment & Infrastructure**
**Subject:** **Report on Emergency Repairs to Pumps at Wonderland Pumping Station**
**Date:** **January 11, 2022**

## Recommendation

That, on the recommendation of the Deputy City Manager, Environment and Infrastructure, the following report and source of financing **BE RECEIVED** with respect to emergency repairs to the Wonderland Pumping Station pumps that were undertaken without competitive procurement but in accordance with Section 14.2 of the Procurement of Goods and Services Policy.

## Executive Summary

### Purpose

This report informs Council of emergency repairs to pumps from the Wonderland Pumping Station that were undertaken without a competitive procurement process.

### Context

The Wonderland Pumping Station is the City's second-largest pumping station, providing wastewater servicing to a large portion of south London. Typically, it operates with up to four pumps at a time, with a fifth on standby. In October, multiple concurrent pump failures led to a situation where only one pump was operational. Immediate repairs were required to avoid overflows or property damage.

## Linkage to the Corporate Strategic Plan

The emergency repairs undertaken support the Corporate Strategic Plan through Building a Sustainable City – Protect and enhance waterways, wetlands and natural areas.

## Analysis

### 1.0 Background Information

#### 1.1 Previous Reports Related to this Matter

Civic Works Committee, May 11, 2021 – Contract Award – Dingman Creek Pumping Station Construction Tender T21-19

Civic Works Committee, May 9, 2017 – Single Source for Pump Replacement at the Wonderland Pumping Station

### 2.0 Discussion and Considerations

The Wonderland Pumping Station was built in 2009 to provide servicing to a large portion of south London, including the White Oaks area, Lambeth and industrial areas south of the Highway 401. It is the City's second-largest pumping station, with a firm rated capacity of over 550 litres per second. This station is also subject to high grit loads that contribute to increased pump wear.

Multiple pump failures in the fall of 2021 culminated in a situation where, of five total

pumps installed, only one was operational. This resulted in a significant loss of capacity and presented a high risk of overflow activity. City crews worked to retain flows at the Dingman Creek storage facility and keep flows below what the single pump was able to convey, but there was no standby capacity. A rental pump was sourced from Xylem to match the existing pumps and provide some relief, but that solution was still far short of providing the requisite service level.

One pump was sent to Xylem for repair, but the lead times from that vendor were very long. At the time of writing of this report, the cost or projected completion date for repair of that pump still has not been received. City staff then approached a local vendor, Nevtro, who was able to complete repairs that enabled the remaining three pumps to be returned to duty.

There is no contract in place with Nevtro, and no other vendors were approached to establish competitive pricing. However, staff had previously established that Nevtro is the only local vendor capable and willing to do this work on large submersible pumps, and the emergency nature of the situation warranted pursuit of the fastest return to service possible, so the repair work was authorized by City staff. Invoices have been received for this repair work, and the rates are found to be reasonable given the scope of work required.

The construction of the new facility at Dingman Creek Pumping Station that is currently underway will significantly reduce the grit load that contributes to accelerated pump wear at Wonderland Pumping Station. Therefore, it is expected that the likelihood of multiple concurrent pump failures in the future will be significantly reduced.

## 3.0 Financial Impact/Considerations

Costs of this repair activity were paid from an existing capital account intended for repair and upgrade work at the City's wastewater pumping stations. The total paid to Nevtro for the repair of three pumps was $67,650.59. Costs owing to Xylem are not yet established but are expected to be in line with those from Nevtro. Budget is available to cover these costs, so no further financial impacts are expected.

The severe impact to the operational capacity of Wonderland Pumping Station rendered this situation an emergency and necessitated quick action on the part of Wastewater Treatment Operations staff to avoid the need to overflow raw sewage to the environment. Section 14.2 of the Procurement of Goods and Services Policy considers such a situation and enables staff to proceed as required to maintain operations through an emergency, with reporting to Council following the event. This report ensure compliance with Section 14.2 of the Policy.

## Conclusion

The failure of multiple pumps at the Wonderland Pumping Station necessitated emergency repairs that could not wait for a competitive procurement process. The repair work was completed by a local vendor familiar to the City, but with whom no service contract existed. This report informs Council of these actions that were undertaken in accordance with the emergency procurement provisions described in Section 14.2 of the Procurement of Goods and Services Policy.

| | |
|---|---|
| **Prepared by:** | **Kirby Oudekerk, MPA, P.Eng., Division Manager, Wastewater Treatment Operations** |
| **Submitted by:** | **Scott Mathers, MPA, P.Eng., Director, Water, Wastewater and Stormwater** |
| **Recommended by:** | **Kelly Scherr, P.Eng., MBA, FEC<br>Deputy City Manager, Environment and Infrastructure** |

**CC: John Freeman, Manager III, Purchasing and Supply**
**Steve Mollon, Manager I, Purchasing Operations**

**Appendix "A"**

**#22006**
January 11, 2022
(Emergency Repairs)

Chair and Members
Civic Works Committee

RE: Report on Emergency Repairs to Pumps at Wonderland Pumping Station
(Subledger FSPWLNT)
Capital Project ES515021 - Pumping Station Optimization & Renewal

**Finance Supports Report on the Sources of Financing:**
Finance Supports confirms that the cost of this project can be accommodated within the financing available for it in the Capital Budget and that the detailed source of financing be received:

| **Estimated Expenditures** | **Approved Budget** | **Committed To Date** | **This Submission** | **Balance for Future Work** |
|---|---|---|---|---|
| Engineering | 174,406 | 174,406 | 0 | 0 |
| Construction | 488,168 | 0 | 0 | 488,168 |
| City Related Expenses | 25,438 | 25,438 | 0 | 0 |
| Vehicles & Equipment | 321,977 | 253,136 | 68,841 | 0 |
| **Total Expenditures** | $1,009,989 | $452,980 | $68,841 | $488,168 |
| **Sources of Financing** | | | | |
| Capital Sewer Rates | 1,009,989 | 452,980 | 68,841 | 488,168 |
| **Total Financing** | $1,009,989 | $452,980 | $68,841 | $488,168 |

**Financial Note:**

| | |
|---|---|
| Contract Price | $67,651 |
| Add: HST @13% | 8,795 |
| Total Contract Price Including Taxes | 76,446 |
| Less: HST Rebate | -7,605 |
| Net Contract Price | $68,841 |

Jason Davies
Manager of Financial Planning & Policy

lp

# Report to Civic Works Committee

**To:** **Chair and Members**
**Civic Works Committee**
**From:** **Kelly Scherr, P.Eng., MBA, FEC, Deputy City Manager, Environment and Infrastructure**
**Subject:** **Strategic Plan Variance Report**
**Date:** **January 11, 2022**

## Recommendation

That, on the recommendation of the Deputy City Manager, Environment and Infrastructure, the following report on the Strategic Plan Progress Variance **BE RECEIVED** for information.

## Executive Summary

As part of the Strategic Plan reporting cycle, variance reports are completed for any actions identified as ‘caution’ or ‘below’ plan in the Semi-Annual Progress Report. These reports are submitted to the appropriate Standing Committee following the tabling of the May and November Progress Reports. This report provides an overview of the actions relating to the Civic Works Committee.

## Linkage to the Corporate Strategic Plan

Council’s 2019-2023 Strategic Plan includes the Strategic Area of Focus ‘Leading in Public Service’. This includes the Expected Result ‘The City of London is trusted, open, and accountable in service of our community’ and the Strategy ‘Improve public accountability and transparency in decision making’.

## Analysis

### 1.0 Background Information

#### 1.1 Previous Reports Related to this Matter

Strategic Priorities and Policy Committee (SPPC): November 25, 2019, June 23, 2020, November 17, 2020, July 28, 2021, November 30, 2021.

### 2.0 Discussion and Considerations

#### 2.1 Background

On April 23, 2019, Council set the 2019-2023 Strategic Plan for the City of London. This is a critical document that identifies Council’s vision, mission, and the strategic areas of focus for 2019-2023. It identifies the specific outcomes, expected results and strategies that Council and Civic Administration will deliver on together over the next four years.

The Strategic Plan also includes a commitment to report regularly to Londoners on the implementation of the Strategic Plan, demonstrating progress being made and how this work is having an impact in the community.

As part of the Strategic Plan reporting cycle, variance reports are completed for any actions identified as ‘caution’ or ‘below’ plan in the Semi-Annual Progress Report. These reports are submitted to the appropriate Standing Committee following the tabling of the May and November Progress Reports.

### 2.2 Discussion

This report outlines the actions corresponding to the Civic Works Committee that, as of November 2021 that were identified as ‘caution’ or ‘below plan’. This report covers two milestones that were flagged as ‘caution’.

Overall Strategic Plan Progress
As of November 2021, 542 (92.1%) of all actions are complete or on target. 17 (2.9%) actions were marked as ‘caution’ (actions behind by one quarter or three months or actions that are in progress or not yet started that are flagged as possibly not being completed by the target end date). There were no actions that were noted as ‘below plan’.

Variance Explanations

1. Strategic Area of Focus: Building a Sustainable City
   Outcome: Londoners can move around the city safely and easily in a manner that meets their needs.
   Expected Result: Increase access to transportation options.
   Strategy: Continue to expand options and programs to increase mobility.
   Action: Undertake background details, community engagement, potential stakeholder engagement and develop Business Case for Bike Share.
   - Current End Date: 9/30/21
   - Revised End Date: 3/31/22
   - Rationale and Implications: Community engagement on a potential pilot project with e-scooters alongside a bike share system has delayed the release of a request for proposal for a service provider. The next step will be a report to the Civic Works Committee containing one or two implementation approaches for these micro mobility options. Council will then be in a position to decide which option, if any, would go into the request for proposals for a service provider.

2. Strategic Area of Focus: Building a Sustainable City
   Outcome: Londoners can move around the city safely and easily in a manner that meets their needs.
   Expected Result: Increase access to transportation options.
   Strategy: Develop a strategic plan for a future with connected and autonomous vehicles.
   Action: Develop and finalize Strategy.
   - Current End Date: 9/30/21
   - Revised End Date: 12/31/22
   - Rationale and Implications: Progress on the development of the strategy continues but with a modified completion date due to prioritization of resources to TIMMS implementation and pandemic-related reallocation of resources by partners.

## Conclusion

The Semi-Annual Progress Report is an important tool that allows the community, Council and Administration to track progress and monitor the implementation of Council’s Strategic Plan. In some cases actions have been delayed due to shifting priorities, emerging circumstances, or the ongoing impacts of the COVID-19 pandemic. The Strategic Plan Variance Reports are intended to provide Council with a more in-depth analysis of these delays. Information included in this report can support Council in strategic decision making and inform the work of Civic Administration.

| | |
|---|---|
| **Recommended by:** | **Kelly Scherr, P.Eng., MBA, FEC, Deputy City Manager, Environment and Infrastructure** |
| cc. | Lynne Livingstone, City Manager<br>Senior Leadership Team<br>Strategic Thinkers Table |

## Report to Civic Works Committee

**To:** **Chair and Members**
**Civic Works Committee**
**From:** **Kelly Scherr, P.Eng., MBA, FEC**
**Deputy City Manager, Environment and Infrastructure**
**Subject:** **Ontario Regulation (O.Reg.) 406/19**
**On-Site and Excess Soil Management**
**Date:** **January 11, 2022**

## Recommendation

That, on the recommendation of the Deputy City Manager, Environment and Infrastructure, the following report on Ontario Regulation (O.Reg.) 406/19 (On-site and Excess Soil Management), **BE RECEIVED** for information.

## Executive Summary

### Purpose

The purpose of this report is to provide Council with an overview of a new Regulation being implemented by the Ontario Ministry of Environment, Conservation and Parks (MECP) entitled O.Reg. 406/19 “On-Site and Excess Soil Management”. This report will focus on the status of this new Regulation, its potential impact on City-led construction projects, and options to manage the Regulation within the context of City projects.

### Context

Excess soil is material that is excavated during construction activities and is moved off-site for reuse or disposal because it cannot or will not be reused at the site from which it was generated. City of London capital and operational projects engage in construction activities for water, wastewater, stormwater, solid waste, and transportation projects which have the potential to generate large quantities of excess soil. Most excess soil can be reused safely, however, some excess soil may contain contaminants which must be addressed when determining suitable soil reuse and/or disposal locations.

In December 2019, the MECP released a new Regulation under the Environmental Protection Act (EPA), titled “On-Site and Excess Soil Management” to attempt to support improved management of excess construction soil. City Staff have been working on interpretating the Regulation and evaluating the potential impacts on City-led projects. City staff have maintained continued dialogue with MECP Staff, to clarify aspects of the Regulation which appear to be relevant to the City.

## Linkage to the Corporate Strategic Plan

This recommendation supports the following 2019-2023 Strategic Plan areas of focus:

1. Building a Sustainable City:
    - London’s infrastructure is built, maintained, and operated to meet the long-term needs of our community
    - London has a strong and healthy environment, including protection and enhancement of waterways, wetlands, and natural areas

## Analysis

# 1.0 Background Information

### 1.1 Previous Reports Related to this Matter

No previous reports have been generated regarding this Regulation.

# 2.0 Discussion and Considerations

### 2.1 Excess Soil Regulation and Regulatory Amendments

The MECP views O.Reg. 406/19 as a step to support proper management of excess soils, by promoting the beneficial reuse of excess soils through rules and guidelines on managing and reusing excess soil. As part of the new Regulation, the MECP has developed and adopted new risk-based soil quality standards to facilitate local beneficial excess soil reuse. Key elements of the Regulation include:

- Excess soil reuse rules and clarity around when excess soil is not a waste;
- Specifications for when excess soil can be reused and provides regulatory rules for certain low-risk soil management activities;
- Reuse planning requirements for larger (i.e., greater than 2,000 $m^3$) and riskier sites (e.g. gas stations and industrial sites), including tracking, registration, an assessment of past uses, and if necessary, soil sampling and characterization;
- Assurances that reuse sites are not receiving waste soil and requiring larger reuse sites (i.e., 10,000 $m^3$ or larger) to register and develop procedures to track and inspect soil received; and
- Restrictions on landfilling clean soil that is suitable for reuse at a sensitive site (e.g., school, agricultural site).

The new Regulation is being implemented over time, to allow larger projects and Project Leaders to adapt to the changes in the environmental framework. Broadly, the timeline for implementation is as follows:

- Phase 1 - January 1, 2021: reuse rules, including risk-based standards, waste designation and approvals.
- Phase 2 - January 1, 2022: testing, tracking and registration.
- Phase 3 - January 1, 2025: restrictions on landfilling soils.

Since the release of this Regulation, Staff within the Environment and Infrastructure Service Area have established an internal working group to guide the Corporation's response to this Regulation and help Project Leaders navigate the requirements listed under the Regulation. The City's internal working group have been moving towards compliance with Phase 2 of the Regulation as of January 1, 2022.

The Regulation will require more stringent oversight and will focus on the following key areas, amongst others:

- Responsibility of the Owner of the Project and Project Leaders:
    - There will now be greater responsibility by project owners, such as the Municipality, to ensure that excess soils reach the appropriate receiving sites. Currently in the City of London, the testing, transportation and disposal of excess soil generated on capital and operations projects is typically completed by consultants and contractors working under contract with the City. The new Regulation requires Project Leaders to be more active for the oversight of any excess soil removed from projects, regardless of the responsibilities delegated through contracts.

- Sampling and Testing Requirements:

    - The Regulation specifies requirements for increased soil quality testing, based on the amount of excess soil a project is anticipated to generate during construction. In most cases, this will require adjustments to project schedule and budgets, to account for the increased testing requirements.

- Oversight and Compliance through a Qualified Person:
    - A Qualified Person will be responsible for preparing or overseeing all documentation including the assessment of past uses, sampling and analysis plan, soil characterization report and excess soil destination report.

- Documentation, Tracking and Registration:
    - Individual projects will be responsible for tracking each load of excess soil from the source site to the receiving site and uploading this information to the Ministry's on-line Registry.

It should be noted that certain elements of the Regulation remain unclear at this time and have the ability be interpreted several different ways. City staff have maintained continued dialogue with MECP Staff, to clarify aspects of the Regulation which appear to be relevant to the City.

One particular aspect of the Regulation which is relevant to City projects is exemption language pertaining to "maintaining infrastructure in a fit state of repair". Municipalities and construction industry stakeholders have been seeking clarity from the MECP on the extent of the exemption. These clarification discussions are on-going, however based on preliminary discussions it appears that at least a portion of the City's infrastructure projects may be able to take advantage of this exemption. If applicable, projects would be exempt from the planning requirements (assessment of past uses, sampling if required, registration, etc.) but would still be responsible for the other regulatory requirements around ensuring an appropriate quality standard for reuse, hauling records and waste designations.

As this new Regulation has evolved, City Staff have also engaged with local industry stakeholders (i.e., engineering consultants and contractors), on several occasions, to communicate the City's expectations with respect to managing the Regulation and to collaboratively develop a strategy that can successfully be implemented through the established Purchasing and Procurement Policies applicable to the Corporation. It is anticipated that these discussions will continue to evolve through the implementation timeline of the Regulation.

## 2.2 City of London Management Options for Excavated Soil – Short Term (1 year to 2 year) Strategic Options

There are two categories of work that will be impacted by this legislation:

1) Short duration emergency repair (e.g., operational) projects; and
2) Larger planned infrastructure (e.g., Infrastructure Renewal) and growth projects.

Short term strategies have been developed for these scenarios, recognizing the City and industry are adapting to this new legislation in real time and these strategies are likely to evolve with experience throughout the following one to two construction seasons.

### 2.2.1 Emergency Repair and Operational Projects

Operational projects are likely exempt from certain aspects of the Regulation, including generating certain planning documents; however, any potential re-use of excess soil

generated from City projects and the ultimate destination of excess soil being managed on behalf of the City would be required to comply with Regulation requirements.

Currently the City of London relies on a select group of contractors to accept and dispose of unsuitable excess material excavated from project areas. This contract expires on June 1, 2022. It is recommended that the current contract be continued under a grandfathering provision outlined in the Regulation. This has required working with consultants and contractors currently accepting excess material on behalf of the City to implement short-term measures, to limit or minimize the City's potential risk exposure. As a result, the City has retained an environmental consultant to complete routine testing of excess soil generated through Operational projects to ensure receiving facilities are only accepting soil for which they are permitted (in terms of soil quality).

If testing results indicate that soil quality is not consistent with a receiving facility's permit, an appropriate short-term contingency plan (e.g., disposal at W12A Landfill as daily cover or waste) has been established. Prior to the expiry of the current contract, City Staff will revise tender documents with language consistent with the Regulation for future contracts which address the management of excess soil.

### 2.2.2 Planned Infrastructure and Growth Projects

A subset of planned infrastructure projects are anticipated to be subject to the Regulation. For these projects, City Staff will have the ability to carefully plan for the required sampling, analysis, and potential re-use of excess soil generated from project areas.

Consistent with several other municipalities across Ontario, Staff are recommending an initial approach that balances the insight of up-front sampling during design with the flexibility of saving some additional testing to be completed under the construction contract. Project managers will be required to use consulting and contracting resources to implement the requirements under the Regulation on behalf of the City. Language will be included in the proposal and tender documents which clearly outlines the City's expectations and the responsibilities of consultants and contractors as it relates to the Regulation.

Proposals for infrastructure projects will require a portion of the necessary sampling to be completed by consultants and sub-consultants during the investigation/detailed design stage to inform the tender documents. This approach is intended to provide contractors with sufficient information to bid on City projects, while at the same time allowing staff and their consultants time to determine the specific Regulatory requirements applicable to the project.

As part of the Tendering process, the City will request that contactors bidding on the tender identify potential re-use sites for excess soil generated as part of the project, based on the results of the initial soil sampling. Any additional sampling required to conform with the Regulation would then be the responsibility of the contractor and executed under the construction contract. This provides contractors the flexibility to identify their planned reuse sites and tailor their sampling needs accordingly.

Contractors would be required to retain their own Qualified Person to direct and analyze any additional sampling as required to satisfy the re-use destination. Similar to shorter duration and operational projects, consideration for the responsibilities with respect to the hauling, tracking, and sign-offs required under the Regulation will need to be evaluated.

To ensure that the owner of potential re-use site(s) have agreed to accept to any material generated from City of London projects, a formal sign-off will also be required.

In the situations described above, the responsibility to implement the requirements under Regulation can be delegated to consultants and contractors working under contract on behalf of the Municipality, but the liability remains with the Corporation. Therefore, any potential long-term risk remains with the owner of any given project (i.e., the City of London).

### 2.3 City of London Management Options for Excavated Soil – Potential Long-Term Strategic Options

As a short-term solution for the scenarios described above, the City is delegating consultants and contractors to implement certain aspects of the requirements under the Regulation. The anticipated financial impacts of this new arrangement are not yet known, and it will take time for the industry to adapt to the new Regulation. Further, having third parties manage excess soil on behalf of the City may carry additional risk in terms of trailing environmental liability.

A possible long-term approach may be to consider managing all, or a portion of excess soil generated from City-led projects internally. While this alternative is considered desirable from a project cost, risk and potential liability perspective, this approach would require significant financial and staffing resources. It is recommended that as the industry adapts to the new financial implications of this Regulation, that this option be reassessed in the future.

## 3.0 Financial Impact/Considerations

### 3.1 Project Cost Implications

Staff are currently attempting to manage the financial impact of the Regulation by reviewing current processes, amending construction contracts, developing partnerships and evaluating strategic considerations as noted above; however, the cost implications of this new Regulation are not yet known. It is anticipated that as the industry adapts to the requirements of the Regulation, the anticipated or actual costs to specific projects will be better defined during the planning and design process.

Although the financial impacts to projects that are not exempt from the planning aspects of the Regulation are difficult to assess, recent project examples have identified relatively significant budgetary implications for the implementation of the testing and sampling requirements specified under the Regulation for larger projects.

In the interim it may be beneficial for Project Leaders to carry extra contingency costs, particularly for larger projects, to properly manage the requirements under the Regulation. Once the actual cost implications are known to City Staff, it is expected that future Capital and Operations budgets will need to account for the increased costs anticipated for managing excess soil in accordance with MECP requirements.

### 3.2 Schedule Implications

Infrastructure Renewal and growth projects have become increasingly complex in recent years with servicing partners seeking to align multiple renewal needs, utility coordination and integration of complete street elements all of which can impact the length of a construction contract. As is, most of these projects require a full construction season to complete. The addition of completion of excess soil planning requirements including sampling and testing prior to the actual start of construction has the potential to add weeks to an already constrained construction season.

Through the City's discussion and consultation process, industry stakeholders have raised concerns for potential backlogs at environmental testing laboratories and potential shortages in available Qualified Persons. As with costs, the schedule implications of excess soil sampling on City contracts is untested until the industry has experienced a minimum of one to two construction seasons. In an effort to buffer projects from these possible delays, City Staff are reviewing options to shorten the timeline for awarding contracts in an effort to recover as much time as possible for contractors.

## Conclusion

Municipalities and construction industry stakeholders across Ontario are all simultaneously attempting to plan for the requirements listed under O.Reg. 406/19. Navigating the requirements under this Regulation has been a challenge given the MECP's delayed delivery of information that is critical to the interpretation of certain aspects of the Regulation. This information delay has been a common theme identified as an obstacle amongst the City's internal working group and industry stakeholders.

It is anticipated that as the Regulation becomes implemented and clarifying information is released by the MECP, that the industry will adjust to the requirements and cost implications will be better defined. As a result, City Staff are prepared to report back to Council as needed throughout the implementation process of the Regulation to provide regulatory updates and estimated budgetary and project schedule impacts.

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|---|---|
| **Prepared by:** | **Jeff Hachey ,M.Sc.E., P.Eng., Hydrogeologist/Environmental Engineer, Stormwater Engineering Division** |
| **Concurred by:** | **Jennie A. Dann, P.Eng., Director, Construction & Infrastructure Services** |
| **Concurred by:** | **Scott Mathers, MPA, P. Eng., Director, Water, Wastewater & Stormwater** |
| **Recommended by:** | **Kelly Scherr, P. Eng., MBA, FEC Deputy City Manager, Environment & Infrastructure** |

**CC: D. MacRae, J. Stanford**

# Report to Civic Works Committee

**To:** **Chair and Members**
**Civic Works Committee**
**From:** **Kelly Scherr, P.Eng., MBA, FEC**
**Deputy City Manager, Environment & Infrastructure**
**Subject:** **Environmental Assessment Study Report (EASR) – Environmental Assessment of the Proposed W12A Landfill Expansion**
**Date:** **January 11, 2022**

## Recommendation

That, on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions be taken with respect to the Environmental Assessment Study Report for the Environmental Assessment of the Proposed W12A Landfill Expansion:

a) the Environmental Assessment Study Report **BE APPROVED**; and,

b) Civic Administration **BE AUTHORIZED** to submit the Environmental Assessment Study Report to the Ministry of Environment, Conservation and Parks for approval by the Minister of the Environment, Conservation and Parks.

## Executive Summary

The Environmental Assessment (EA) for the proposed expansion of the W12A Landfill was completed in accordance with the Terms of Reference (ToR) and recommends that the W12A Landfill be expanded vertically over the existing waste footprint. The vertical expansion will increase the maximum height of the landfill by 26 metres and the disposal volume of the landfill by 13,800,000 $m^3$. It is expected the landfill expansion will accommodate 9,900,000 tonnes of waste and take 25 years to fill.

All aspects of the EA process need to be documented in an Environmental Assessment Study Report (EASR) and submitted to the Ministry of the Environment, Conservation and Parks (MECP) for approval. A draft EASR was circulated to the Government Review Team (GRT), Indigenous Communities, various City divisions, general public and other stakeholders to receive feedback prior to finalizing the document. The draft EASR was revised to address the comments received.

A public meeting to receive feedback on the final EASR has been scheduled to occur at the same meeting as the submission of this report and prior to Council approving submission of the EASR to the MECP. It is noted that the submission to the MECP requires a Notice of Completion be placed in a local newspaper (The Londoner) to advise the general public and stakeholders. The Notice of Completion was also sent to First Nations within the consultation area. The MECP will be accepting comments on the EASR for a seven-week period following the issue of the Notice of Completion before making a decision on whether or not to approve the EASR.

## Linkage to the Corporate Strategic Plan

Municipal Council continues to recognize the importance of solid waste management and the need for a more sustainable and resilient city in the development of its 2019-2023 - Strategic Plan for the City of London. Specifically, London's efforts in solid waste management address three Areas of Focus, at one level or another; Building a Sustainable City, Growing our Economy and Leading in Public Service.

On April 23, 2019, the following was approved by Municipal Council with respect to climate change:

> *Therefore, a climate emergency be declared by the City of London for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change.*

Both the Resource Recovery Strategy and Residual Waste Disposal Strategy (including the EA) address various aspects of climate change mitigation and adaptation. These elements are also a requirement that must be addressed as part of EA documentation.

# Analysis

## 1.0 Background Information

### 1.1 Previous Reports Related to this Matter

Some relevant reports that can be found at www.london.ca under Council and Committees meetings include:

- Proposed Draft Environmental Assessment Study Report for the Expansion of the W12A Landfill (March 30, 2021 meeting of the Civic Works Committee (CWC), Item #2.15)
- Environmental Assessment Process – Updates and Preferred Method to Expand the W12A Landfill (September 22, 2020 meeting of the CWC, Item 2.11)
- Proposed Terms of Reference - Environmental Assessment of the Proposed W12A Landfill Expansion (September 25, 2018 meeting of the CWC, Item #3.1)
- Draft Proposed Terms of Reference – Environmental Assessment of the Proposed W12A Landfill Expansion (April 17, 2018 meeting of the CWC, Item #3.3)

Some relevant reports that can be found at www.london.ca under City Hall (Meetings – Advisory and other Committee Meetings) include:

a) Proposed Draft Environmental Assessment Study Report for the Expansion of the W12A Landfill (March 16, 2021 meeting of the Waste Management Working Group (WMWG), Item #4.1)
b) Environmental Assessment Process (August 13, 2020 meeting of the WMWG, Item #4.2)
c) Environmental Assessment Process (December 18, 2019 meeting of the WMWG, Item #4.2)
d) Proposed Terms of Reference (August 15, 2018 meeting of the WMWG, Item #2.1)
e) Proposed Amended Terms of Reference (April 18, 2019 meeting of the WMWG, Item #3.2)

## 2.0 Discussion and Considerations

### 2.1 Background

An EA under the *EA Act* is a planning study that assesses environmental effects and advantages and disadvantages of a proposed project. The environment is considered in broad terms to include the natural, social/cultural and economic aspects of the environment. There are different classes (types) of EAs depending on the type and complexity of the undertaking (project). The most rigorous EA is an Individual EA. An Individual EA is less prescribed than the more common class EAs and is used for large-scale projects like landfill sites.

The first phase of the Individual EA process is the development and approval of a ToR by the Minister of the Environment, Conservation and Parks. Development of the ToR began in March 2017. The ToR becomes the framework or work plan for the preparation and review of the Individual EA. The ToR allows the proponent to produce an EA that is more

direct and easier to be reviewed by interested persons. The Amended ToR for the proposed expansion of the W12A Landfill was approved on July 30, 2019.

The second phase of the Individual EA process is completion and approval of an EA. The proponent completes the EA in accordance with the approved ToR. All aspects of the EA process are documented in the EASR. The EASR is submitted to the MECP for approval by the Minister of Environment, Conservation and Parks.

## 2.2 EASR Terminology

The EASR has a different title depending how far along it is in the approval process. For clarity these various titles are listed in Table 1.

**Table 1 - EA Terminology**

| Title | Definition |
|---|---|
| Preliminary Draft EASR<br>(completed December 2020) | An early draft of the Draft EASR.<br>The MECP does a preliminary screening of the Preliminary Draft EASR to ensure all documentation requirements have been met. The MECP provided 17 comments in February 2021. Most of the comments were minor requests to add further details. |
| Draft EASR<br>(completed March 2021) | Comments from the MECP on the Preliminary Draft EASR have been addressed.<br>Council approves release of the Draft EASR to Government Review Team (GRT), general public and other stakeholders for feedback. About 200 comments were received from seven GRT members, various City divisions, four residents/companies and two Indigenous communities. |
| **EASR**<br>**(current stage)** | **Public comments, along with comments from Indigenous Communities, the GRT, and stakeholders and on the Draft EASR have been addressed.**<br>**Council considers submission of the EASR to the MECP for approval.** |
| Amended EASR | The MECP may ask for revisions to the EASR to address comments and/or concerns prior to MECP staff submitting the EASR to the Minister for approval. These comments/concerns may come from the MECP or be received by the MECP from other stakeholders during their consultation period. |
| Approved EASR (or Approved Amended EASR) | EASR as approved by the Minister of Environment, Conservation and Parks. |

## 2.3 Draft EASR Feedback

The development process from Draft EASR to EASR is summarized in Table 2 and began with the release of the Draft EASR to the GRT (18 Ministries and agencies), Indigenous communities (8 communities), various City divisions, W12A Public Liaison Committee (PLC), public (including residents within 2 kilometers of the landfill) and other stakeholders (e.g., TREA, Urban League, etc.) for review and comment.

**Table 2 – Overall EA Development and Schedule**

| Date in 2021 | Event | Comment |
|---|---|---|
| April 26 | Draft EASR released to GRT, Indigenous communities, general public and stakeholders. | Start of 30-day review period |
| May 26 | Original end date for comments | |
| May 26 to July 29 | Additional comments received | Some GRT members requested additional time |
| June 17 | Meeting with MECP EA Branch Project Officer | Discussion on comment response template |
| June 22 | Meeting with MECP EA Branch Project Officer | Discussion on approach to technical comments received |
| June 28 | Virtual meeting with Chippewas of the Thames First Nation (COTTFN) | Provided overview of EASR followed by discussion |
| June 28 | Meeting with resident | Discussion on screening and property value protection |
| June 29 | Virtual meeting with MECP Environmental Permissions Branch (noise reviewer) of MECP | Discussion on noise assessment |
| June 30 | Virtual meeting with MECP Technical Support Section, Southwest Region | Discussion on air assessment |
| September 21 | Virtual meeting with MECP Resource Recovery Policy Branch | Discussion on residual waste projections |
| November 4 | Virtual meeting with Chippewas of the Thames First Nation (COTTFN) | Review of City responses to comments from COTTFN |
| November 12 | Virtual meeting with the London District Catholic School Board | Discussion of operational aspects of proposed expanded site and long-term plans for Regina Mundi School |
| November 12 | Virtual meeting with the Corporation Diocese of Roman Catholic Episcopal | Discussion of operational aspects of proposed expanded site and long-term plans for use of property owned at 5150 Wellington Rd S. |
| December 14 | Virtual meeting with Oneida Nation of the Thames | Provided overview of EASR followed by discussion |

During feedback stage, the City received about 200 comments from seven members of the GRT (MECP; Ministry of Natural Resources and Forestry, Ministry of Heritage, Sports, Tourism and Culture Industries; Ontario Ministry of Agriculture, Food and Rural Affairs; Middlesex-London Health Unit; Upper Thames River Conservation Authority and the Kettle Creek Conservation Authority), various City of London Divisions, two Indigenous community (Chippewas of the Thames First Nation and Oneida Nation of the Thames) and the general public. It was expected that most organizations would not have comments given the previous opportunities to provide feedback. Verbal comments were provided by the W12A PLC at its meetings in 2021.

A summary of the comments received is provided in Table 3. Discussions were held with some of the responders to seek clarification on their comments.

**Table 3 - Summary of Feedback and Comments Received on the Draft EASR**

| Commenter | Summary of Comments Received |
|---|---|
| MECP | • MECPs Environmental Assessment Branch requested additional clarity and rationale for the selection of criteria and indicators for each Project component studied, as well as advised on site-specific monitoring requirements related to potential impacts from contaminants-of-concern on surface water.<br>• MECPs Southwest Region Technical Support Air Quality Analyst provided comments related to effective monitoring and on-going assessment of mitigation measures related to odour and requested additional information regarding background air quality concentrations and requested consideration of worst case scenario for the air quality impact assessment.<br>• MECPs Environmental Permissions Branch provided comments on the assessment of predicted noise.<br>• MECPs Southwest Region Technical Support section provided comments on the assessment of groundwater, leachate collection and proposed groundwater monitoring program.<br>• MECPs EA Program Support - Indigenous Advisor provided comments regarding clarification on consultation with Indigenous Communities and arrangements made during the various consultation events.<br>• MECPs Species at Risk Branch advised that the Project is subject to approval requirements under the *Endangered Species Act, 2007* and that consideration be made in the EA for adherence to best management practices for bank swallow.<br>• MECPs Southwest Region Environmental Officer advised on operational considerations for regular monitoring and control of odour, procedures for dealing with mud and dust on roads and side slope stability to minimizing the release of gas and leachate to surface waters.<br>• MECPs Resource Recovery Policy Branch provided comments on the waste policy elements of the Residual Waste Projections and Landfill Capacity Assessment. |
| Ministry of Natural Resources and Forestry (MNRF) | • MNRF did not have any comments to provide but did note the potential removal of unevaluated wetlands if a different 'Alternative Method' had been identified as preferred and expressed interest in reviewing any future studies on wetland evaluation, if necessary, to assess their level of significance. |
| Ministry of Heritage, Sports, Tourism and Culture Industries (MHSTCI) | • MHSTCI provided comments related to cultural heritage and archaeological resources and recommendations made to clarify sections of the assessment report. MHSTCI also advised the need for an added Project commitment for the unanticipated discovery of archaeological resources. |
| Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) | • OMAFRA provided comments on potential impacts on agricultural land as a result of the Project with relation to provincial policy for agricultural systems and requested more details on consultation with the agricultural stakeholders during the EA. |

| Commenter | Summary of Comments Received |
|---|---|
| Middlesex-London Health Unit (MLHU) | • MLHU advised that they did not have an opportunity to review the EASR in great detail due to staff capacity during the COVID-19 pandemic and advised the City to proceed with EASR finalization. |
| Upper Thames River Conservation Authority (UTRCA) | • UTRCA advised that the Project is subject to regulation under Section 28 of the *Conservation Authorities Act* and necessary approvals will be required prior to any site alteration and construction, and requested to stay engaged on the Project. |
| Kettle Creek Conservation Authority (KCCA) | • KCCA provided the following comments on the draft EASR:<br>o Need to keep the KCCA informed in case a Section 28 Permit under the *Conservation Authorities Act* is required;<br>o Suggested additional background information sources;<br>o Update pond design summaries to demonstrate how 80% TSS removal will occur;<br>o Monitor the site to confirm the effect from alteration to the drainage area is negligible;<br>o Alterations to the SWM pond system and the rate of discharge into Dodd Creek should be made only if the effects of climate change have been taken into consideration; and<br>o Consider implementing a long-term water quality monitoring program for the three surface water features that convey runoff from the W12A Landfill property to downstream receiving water systems within the Dodd Creek subwatershed. |
| City of London | • Various divisions within the City of London provided comments.<br>• The City's Transportation Planning and Design Division noted no concerns with respect to the assessment of traffic.<br>• The City's Planning and Development Divisions provided comments pertaining to Land Use, Agriculture, Biology, and Cultural Heritage including:<br>o It was noted that a Zoning review would need to be undertaken during the detailed design stage of Project;<br>o Provided comments related to the assessment of vegetation communities, species at risk and significant wildlife habitat; and<br>o Provided comments on the long-term protection and avoidance of registered archaeological sites.<br>• The City's Stormwater Engineering Division provided comments on the Stormwater Management Approach and requested some additional assessment in alignment with the Dingman Creek Subwatershed Stormwater Servicing Study Master Plan as well as inclusion of assessment of the effects of a Hurricane Hazel equivalent event. |
| Chippewas of the Thames First Nation (COTTFN) | • COTTFN provided comments related to the following:<br>o Accessibility and accommodation expectations;<br>o Consideration of planning policies and goals in relation to population growth;<br>o Expressed concerns related to air quality, climate change, the production of greenhouse gases (GHGs) and management of landfill gas (LFG) including the methane component; |

| Commenter | Summary of Comments Received |
|---|---|
| | o Expressed concerns that landfill gas was not being turned into an energy source such as renewable natural gas;<br>o Expressed concerns that the City had not yet implemented a Green Bin program;<br>o Surface water impacts on the Thames River from the Greenway WWTP;<br>o Socio-cultural sensitivities;<br>o Geotechnical slope stability; and<br>o Changes in land use and future cultural heritage and archaeological assessment. |
| W12A PLC and various public comments | • Comments received from the public included:<br>o Particulate matter;<br>o Blowing garbage;<br>o Odour;<br>o Social impacts;<br>o Land use designation of the surrounding area;<br>o Visual impacts; and<br>o Status of City owned properties;<br>• Eligibility for first right of refusal program. |

Further information of the comments received can be found in the consultation log of the EASR (Volume V of the EASR) which contains a list of all the comments, the response to the comment and the changes made to the EASR to address the comment (if required). In addition, a redline copy of the EASR showing all changes to the Draft EASR will be available for review for the public meeting and the future MECP review period.

Most of the comments received did not require a change to the EASR. Many other comments only required additional details/clarification be provided or a minor rewording of existing information. Some comments required additional assessment or changes to the original assessment. These changes were:

- Include consideration of Dingman Creek Subwatershed Stormwater Servicing Study Master Plan in assessment of stormwater management;
- Inclusion of the effects of a Hurricane Hazel equivalent event in the assessment of stormwater management and climate change impacts; and
- Changes to the comparative assessment of noise impacts for three landfill alternatives; comparison to be focused on noise compliance guidelines.

Appendix A contains the edits and revisions (via track changes) to the Executive Summary to illustrate what is required throughout the document. The entire EASR consisting of five volumes will be provided to committee members under separate cover. The EASR documents are finalized except for information on consultation that took place in late November which will be added to the documents prior to submission to CWC.

It is important to note that it is not the end of the overall comment period. The MECP will be accepting comments on the EASR from stakeholders for a seven-week period following the issue of the Notice of Completion before making a decision on whether or not to approve the EASR. These comments will also be shared with city staff.

### 2.7 Next Steps

The next steps and tentative timetable for approval of the EASR is presented below.

**Table 4 – Tentative Timetable for EASR Approval**

| Date | Step |
|---|---|
| January 11, 2022 | • CWC to hold public participation meeting for EASR.<br>• CWC to consider recommending submission to MECP. |
| January 25, 2022 | • Council approval of CWC recommendation. |
| February 3, 2022 | • Formal submission of Proposed EASR to MECP (includes notice to all stakeholders). |
| Early February 2022 to late March 2022 | • MECP provides a seven-week review period for stakeholders to provide comments to the MECP. |
| Late March 2022 to September 2022 or later | • MECP evaluates EASR submission and makes recommendation to the Minister.<br>• Minister makes Decision to Approve or Reject.<br>• Prescribed Deadlines (Ontario Regulation 616/98) requires MECP process to be completed in 30 weeks, but the process often takes longer. |

## Conclusion

All aspects of the EA process to expand the W12A Landfill need to be documented in an EASR and submitted to the MECP for approval. A draft EASR was released to stakeholders to receive feedback prior to the formal submission to the MECP.

The EASR was updated as necessary to address the feedback received. Most of the comments received did not required a change to the EASR. Many other comments only required additional details/clarification be provided or a minor rewording of existing information. Some comments required additional assessment or changes to the original assessment

It is recommended that the CWC approve the EASR and submission of it to the MECP for approval by the Minster of Environment, Conservation and Parks.

| | |
|---|---|
| **Prepared by:** | **Mike Losee, B.Sc.**<br>**Division Manager, Waste Management** |
| **Prepared and Submitted by:** | **Jay Stanford, MA, MPA**<br>**Director, Climate Change, Environment & Waste Management** |
| **Recommended by:** | **Kelly Scherr, P. Eng., MBA, FEC**<br>**Deputy City Manager, Environment & Infrastructure** |

c. Wesley Abbott, Project Manager, Oakridge Environmental

Appendix A Executive Summary of Proposed Environmental Assessment Study Report

Volumes 1 to 5 of the Proposed Environmental Assessment of the Proposed W12A Landfill Expansion are available on-line at
www.getinvolved.london.ca/whywastedisposal/widgets/50223/documents

# Appendix A
## Executive Summary of EASR

**ENVIRONMENTAL ASSESSMENT OF THE PROPOSED W12A LANDFILL EXPANSION CITY OF LONDON**

## Executive Summary

### Introduction

This document is the environmental assessment study report (EASR) for the environmental assessment (EA) of the proposed expansion of the W12A Landfill site (the Project) being undertaken by the City of London (the City). This is an individual EA completed under the provincial *Environmental Assessment Act* (EAA).

The W12A Landfill is located at 3502 Manning Drive in the south end of the City of London, Ontario. The landfill has been in operation since 1977 and operates under Environmental Compliance Approval (ECA) #A042102. The residual waste disposed at the landfill is generated from an existing service area consisting of the City, the Municipality of Thames Centre, the two water treatment plants that serve the City located outside the City and a privately owned recycling facility. The site also receives Municipal Hazardous or Special Waste (MHSW) from residents and small quantity generators (businesses with limited amounts of MHSW) from within the City and from the Counties of Middlesex and Elgin; this waste is sent off-site for recycling, reuse or disposal. The landfill is expected to reach its approved capacity by 2024.

The existing W12A Landfill site has a 107 hectare (ha) fill area and is located on a 142 ha property. The average height of the landfill above ground surface is about 9 to 12 metres (m). The peak elevation is approximately 17 m above the ground surface. In summary, the currently approved W12A Landfill can be described as having a large footprint area and a low height above grade. The total approved site capacity is 12,500,000 cubic metres ($m^3$). The site is approved to receive up to 650,000 tonnes per year of solid non-hazardous waste, noting that over the past 10 years the site typically receives between 230,000 and 320,000 tonnes of waste per year. The landfill site is located in a favourable geologic setting, underlain by a deposit of low permeability clay till that provides a natural barrier to downward groundwater (and landfill leachate) movement. The landfill has been developed in two phases. Phase 1 comprises the eastern portion of the waste footprint; the waste rests directly on the clay soil and is surrounded by a perimeter leachate collection system (LCS). Phase 2, comprising the western portion, is underlain by a continuous granular leachate collection layer/system. The collected leachate is conveyed off-site via a forcemain and municipal sanitary sewer system for treatment at the Greenway Wastewater Treatment Plant (WWTP). Completed areas of the landfill have a landfill gas (LFG) collection system; the collected LFG is sent to an on-site enclosed flare for combustion.

The W12A Landfill has had groundwater, surface water, leachate, water well and LFG monitoring programs since 1976. A summary of the results of the 2019 monitoring programs indicates that the landfill is performing acceptably and in accordance with provincial requirements in terms of potential effects of leachate on groundwater and surface water, as well as in terms of LFG migration in the subsurface.

Additional detail on the site history, design, operations and performance is provided in Sections 1.3 and 5.13 of the EASR.

## Description of the Project

To plan for the future, the City has commenced the development of two long-term waste management strategies: the Resource Recovery Strategy, and the Residual Waste Disposal Strategy. The Resource Recovery Strategy involves the development of a plan to maximize waste reduction, reuse, recycling, resource recovery, energy recovery and/or waste conversion in an economically viable and environmentally responsible manner. The current residential diversion rate is 45%. The Resource Recovery Strategy is scheduled to be completed in 2022. As an interim step, in 2018 the City completed the 60% Waste Diversion Action Plan that includes the development of programs and an implementation schedule for specific activities to increase the City's diversion rate to 60% for residential waste.

The Residual Waste Disposal Strategy involves the development of a long-term plan to manage residual waste, which will require obtaining additional residual disposal capacity. Several ways of satisfying this need have been assessed (referred to as 'Alternatives To' the undertaking). The assessment of these 'Alternatives To' has been completed by the City using a previously completed long term waste management planning study, as described in Section 4 of the approved Amended ToR and summarized in Section 2.5 of this EASR. The preferred 'Alternative To' included the expansion of the W12A Landfill, which is the subject of this EA.

The purpose of the EA study is to seek approval for additional waste disposal capacity because the existing W12A landfill is reaching its approved total disposal capacity by 2024. The planning period for this EA is 25 years, so from the beginning of 2024 through to the end 2048.

To estimate the quantity of residual waste from the existing service area requiring disposal over this planning period, the City proposes to implement the Resource Recovery Strategy such that 60% residential diversion will be achieved by the end of 2022. It is projected that the expanded W12A Landfill will require disposal capacity for 9,400,000 tonnes of residual waste from the existing service area over the 25 year planning period.

In addition, the City is proposing to assist neighbouring municipalities with their future residual waste management needs by having a larger service area for the expanded landfill. Based on interest expressed, the regional service area is proposed to consist of the City of London plus Elgin County, Middlesex County, Huron County, Lambton County and Perth County. In 2017, these municipalities annually disposed of approximately 86,000 tonnes of residual waste and had an overall residential diversion rate of 38%. Based on information about the life remaining in their existing landfills, proposed expansions of their landfills and various diversion scenarios, it is projected that an additional 500,000 tonnes of residual waste from the neighbouring municipalities could require disposal over the 25 year planning period.

Having available residual waste disposal capacity for municipalities outside of London from the proposed regional service area municipalities does not mean that London is obligated to accept waste from these municipalities in the future. City Council will have the authority to determine which, if any, municipalities or businesses outside of London can use any City facilities and under what conditions they are allowed to do so. For example, the City may require

municipalities and businesses to demonstrate that their diversion rate matches or exceeds the City's diversion rate to be allowed to dispose of residual waste at the W12A Landfill.

As such, it is proposed that the W12A Landfill expansion should be designed to dispose of 9,900,000 tonnes of waste between 2024 and 2048, which corresponds to 13,800,000 cubic metres ($m^3$) of additional airspace. It is also proposed for the expansion that the annual maximum waste receipt be reduced from 650,000 to 500,000 tonnes per year.

## Methodology

The EA was carried out in accordance with the approach described in the approved Amended ToR, which was approved on July 30, 2019. The EA was undertaken in a series of nine steps as described below. Additional details about each step are further described in Section 3.0 of this EASR.

- Step 1 – Outline the aspects of the environment considered and characterize the existing environmental conditions;
- Step 2 – Identify the 'Alternative Methods' of landfill expansion (and incorporate conceptual design mitigation measures);
- Step 3 – Qualitative and quantitative, where possible, evaluation of 'Alternative Methods';
- Step 4 – Compare the 'Alternative Methods' for landfill expansion and identify the preferred alternative;
- Step 5 – Describe the preferred 'Alternative Method' for landfill expansion;
- Step 6 – Refine the mitigation measures and determine the net effects of the preferred alternative;
- Step 7 – Consideration of climate change;
- Step 8 – Cumulative impact assessment; and
- Step 9 – Preparation of the EASR.

The environmental, socio-economic and technical components were identified in the approved Amended ToR and reviewed by the public at Open House #2 during the ToR phase of the EA. At commencement of the EA no changes to the components used to evaluate the Undertaking were identified. Likewise, the indicators and criteria to assess the effects of the proposed Undertaking were identified during the ToR phase of the project, reviewed during the EA and no changes were proposed.

## Consultation

Consultation with the public, agencies, Indigenous Communities and other stakeholders was ongoing throughout the EA process. A variety of consultation events and activities were used during the EA process. The consultation program for the EA was presented in the approved Amended ToR.

The consultation activities carried out during the EA consisted of:

- Letter and email correspondence distributed to the public, interested stakeholders (e.g. businesses using the landfill, environmental groups, etc.), Government Review Team (GRT), and Indigenous communities;
- Meetings, presentations and tours with Indigenous Communities;
- Notices published in local newspapers;
- Notices on the EA project website (https://getinvolved.london.ca/WhyWasteDisposal);
- Two open houses in the local community;
- Presentations and discussions to the existing W12A Landfill Public Liaison Committee (PLC);
- Media releases;
- Meetings and telephone calls between the City, the EA consultants, and the Ministry of the Environment, Conservation and Parks (MECP);
- Informal meetings, telephone calls and discussions with Indigenous Communities, local politicians, business owners, community organizations and neighbours to the existing W12A Landfill on an as needed basis throughout the EA; and
- The draft EASR was made available to the GRT, Indigenous Communities and public comment for a four week review period prior to finalization and submission of the Proposed EASR to the MECP.

A complete list of issues and concerns raised and responses was compiled and is included in Volume V – Consultation Record; a summary of these issues, responses and how each was addressed in the EA is provided in Section 4.7 of the EASR. The input received during various consultation events was carefully considered and incorporated into the EA, where applicable. The following are some of the questions and concerns raised during the EA process:

- Proposed regional service area and conditions under which the neighbouring municipalities should be allowed to use the W12A Landfill;
- Landfill and other traffic;

- Height of expanded landfill – visual impacts and effects on wind;
- Beneficial use of collected LFG;
- Importance of noise and odour control;
- The importance of expanding waste diversion and resource recovery programs in addition to additional landfill capacity;
- Visual screening of landfill operations;
- Potential groundwater impacts – impacts to groundwater quality and influence of fractures in upper portion of clay soil underlying the landfill;
- The approach to technical design of the proposed stormwater management pond modifications;
- The method used to assess potential noise impacts associated with the expansion;
- Future cultural heritage and archaeological assessments; and
- Eligibility for inclusion in aspects of the W12A Landfill Community Enhancement and Mitigation Measure Program.

In addition, the City held two workshops that were attended by interested Indigenous Communities. The first workshop focused on the groundwater assessment work plan and resulted in modifications being made to the work program. The second workshop described the proposed expansion and the results of impact assessment for specific environmental and socio-economic components of interest. These consultation activities are described in Section 4.7.4 of the EASR.

Responses to comments received on the draft EASR are provided in Volume V Appendix I.

## Description of the Environment Potentially Affected

Section 5.0 of the EASR provides a description of the environmental, socio-economic, and technical components, which together are defined as the existing environment that may be affected by the undertaking. The environmental component includes atmosphere, hydrogeology, surface water and biology. The socio-economic component includes socio-economic, land use and cultural heritage. The technical component includes design and operations and transportation aspects of the environment.

Section 5.1 provides an overview of the study areas (Site, Site-vicinity and Wider study areas) to provide context for the assessment. Appropriate study areas for each component were determined based on the potential extent of the effects from the proposed expansion and along the main haul route to the landfill site.

The existing conditions for the environmental, socio-economic and technical components are detailed for each component in Volume IV, Appendices D.01 through D.12 and summarized in Sections 5.2 to 5.13 of the EASR.

The Site Study Area (or Site Area when referring to the preferred approach to expansion) is the existing landfill property and adjacent lands to the north and east where expansion could occur. This Site Study Area is occupied by the existing landfill, stormwater management (SWM) ponds and ancillary landfill operations and diversion facilities and the potential expansion areas. The general area surrounding the landfill are currently characterized by a mix of agricultural uses, with some rural residential uses. The City owns a majority of the parcels within a 500 m Site-vicinity Study Area to the east of the Site Area, as well as a number of parcels to the west and north of the Site Area.

The Haul Route Study Area consist of the haul routes associated with the landfill, specifically Manning Drive between Wellington Road South and Highway 401 and Wellington Road South between Dingman Drive and Manning Drive; also, Wonderland Road South between Decker Drive and Manning Drive.

## Description of the 'Alternative Methods' of Landfill Expansion

'Alternative Methods' are different ways that the proposed expansion of the W12A Landfill could be implemented to provide an additional 13,800,000 $m^3$ of disposal capacity over the 25 year planning period. As described in the approved Amended ToR, because of the physical constraints associated with the configuration of the existing waste footprint and geometry on the existing landfill site property, the 'Alternative Methods' are limited to vertical expansion above the existing waste footprint and/or lateral expansion to the north and/or east within the Site Study Area.

In the development of the landfill expansion alternatives, site-specific factors were considered, consisting of 1) site design requirements as set out in O. Reg. 232/98 (MECP, 1998); 2) existing leachate and LFG control and management systems, and SWM system; 3) conceptual mitigation measures for the landfill expansion; and 4) engineered system requirements.

Based on the above factors, three 'Alternative Methods' for expansion of the W12A Landfill were developed. These alternatives are referred to as:

- Alternative 1 – Vertical Expansion Over Existing Footprint
- Alternative 2 – Horizontal Expansion to the North and Vertical Expansion Over Part of the Existing Footprint
- Alternative 3 – Horizontal Expansion to the East and Vertical Expansion Over Part of the Existing Footprint

Alternative 1 consists of vertical expansion over the whole of the existing 107 ha landfill footprint, with a peak waste elevation of 317.65 metres above sea level (masl) along a west to east ridge in the south-central part of the footprint. Allowing 0.75 m for the final cover, this

maximum elevation corresponds to a peak elevation that is approximately 25 m higher than the current landfill peak and 43 m higher than the average ground surface elevation. The design provides 4H:1V sideslopes upward from the existing sideslopes and a 5 % top slope; it is noted a majority of the waste footprint area (about 60 %) will be at the gradual 5 % top slope. With this alternative, it is proposed to move the northern property line of the landfill site to Scotland Drive, creating a north buffer width of approximately 300 m (noting that this land is all currently owned by the City).

Alternative 2 consists of a 200 m wide horizontal expansion to the north, increasing the waste footprint area from 107 to 134 ha. This will involve 2,040,000 $m^3$ of excavation to form the cell and management of the excavated soil. To provide the required airspace, this alternative has a peak waste elevation of 309.8 masl along a west to east ridge in the central part of the footprint. Allowing 0.75 m for the final cover, the maximum peak elevation is approximately 18 m higher than the current landfill peak and corresponds to a height above average ground surface elevation of about 35 m, some 8 m lower than Alternative 1. The design provides 4H:1V sideslopes on the north side and upward from the existing sideslopes on much of the east and west sides, and a 5 % top slope on the area of vertical expansion above the existing footprint area.

Alternative 3 consists of a 300 to 550 m wide horizontal expansion to the east, increasing the waste footprint area from 107 to 135 ha. This will involve about 821,400 $m^3$ of excavation to form the cell and management of the excavated soil. To provide the required airspace, this alternative has a peak waste elevation of 311.80 masl along a west to east ridge in the north end of the footprint, with the majority of the fill area having a 5 % top slope. Allowing 0.75 m for the final cover, this maximum elevation is approximately 20 m higher than the current landfill peak and corresponds to a height above average ground surface elevation of about 37 m, between Alternative 1 (higher) and Alternative 2 (lower). The design provides 4H:1V sideslopes on the horizontal expansion area and upward from the existing sideslopes on the north side and much of the east and west sides, and a 5 % top slope on the area of vertical expansion above the existing footprint. With this alternative, as with Alternative 1, it is proposed to move the northern property line of the landfill site to Scotland Drive, creating a north buffer width of approximately 300 m (nothing that this land is all currently owned by the City).

## Evaluation and Comparison of Landfill Expansion Alternatives

For each of the three proposed expansion alternatives, the potential for environmental effects was assessed based on the broad definition of the environment within the Act, using a set of evaluation criteria. The evaluation criteria consist of components, sub-components and indicators; the components represent a high level aspect of the environment, each of the sub-components represents a specific aspect of the environment, and the indicators represent a potential effect of the Project.

For each sub-component, the potential effects associated with each expansion alternative were identified and comparatively evaluated using either qualitative, quantitative or a combination of each method; as well, an assessment of advantages and disadvantages of each alternative

was completed. Based on the results, for each indicator the alternative methods were ranked as one of 'preferred', 'less preferred', 'least preferred', and 'equally preferred'. The next step was to compile the individual component comparative evaluations of the 'Alternative Methods' and select the overall preferred method of landfill expansion.

The detailed comparative assessment for each indicator is provided in Sections 7.2.1 to 7.2.12 of the EASR; the rationale for the selection of the overall preferred method of landfill expansion is provided in Section 7.4 of the EASR.

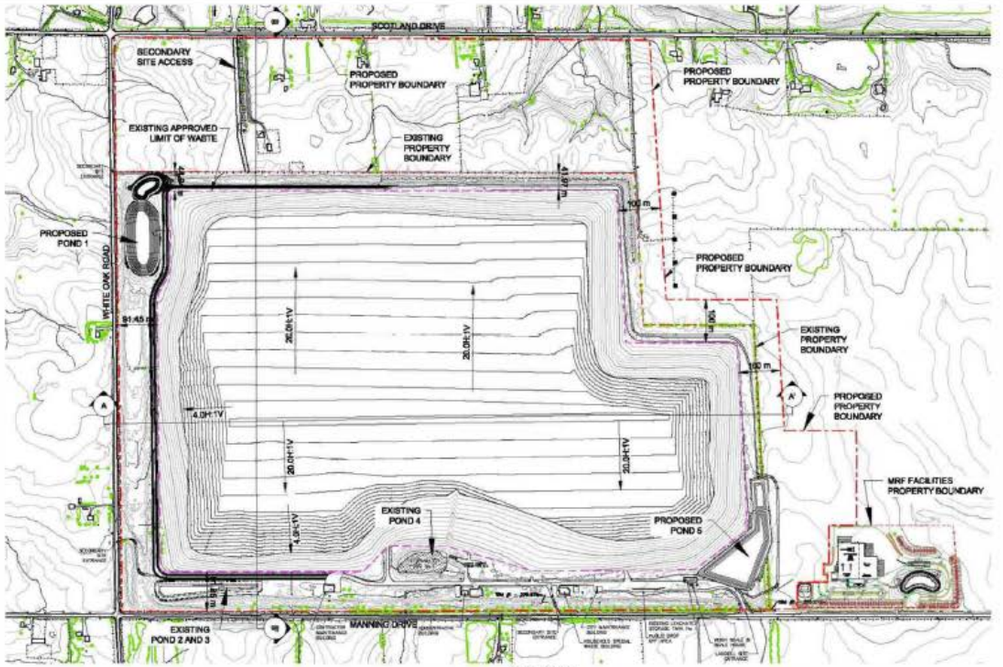
The comparative evaluation of 'Alternative Methods' of expanding the London W12A Landfill clearly identified Alternative 1 - vertical expansion over the existing footprint - as the preferred method of expanding the landfill. Alternative 1 was ranked as most preferred for 11 of the sub-components and least preferred for three. Some key advantages of this expansion alternative are that the same landfill footprint is utilized meaning that proximity to sensitive off-site receptors stays the same and most potential nuisance impacts are indicated to be less than associated with the other expansion alternatives, no aquatic features are destroyed as a result of construction, the thickest clay till aquitard is present offering the most protection to downgradient groundwater quality, the least modifications to the stormwater management system are required, limited loss of agricultural land and least capital cost for construction.

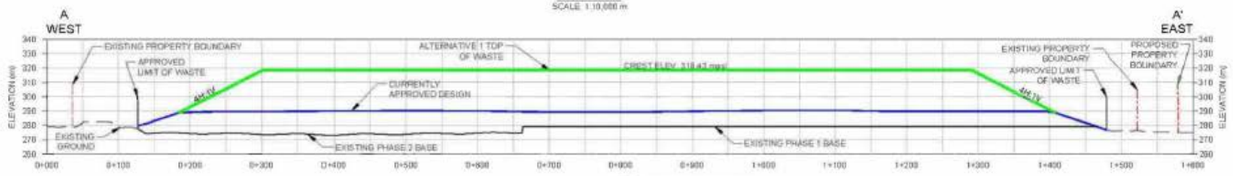
## Description of the Preferred Undertaking

Following the identification of Alternative 1 as the proposed expansion, the expansion design concept was further refined to carry out a detailed impact assessment. Details of the refined concept design are provided in Section 8 of the EASR and summarized as follows and shown on Figure ES-1:

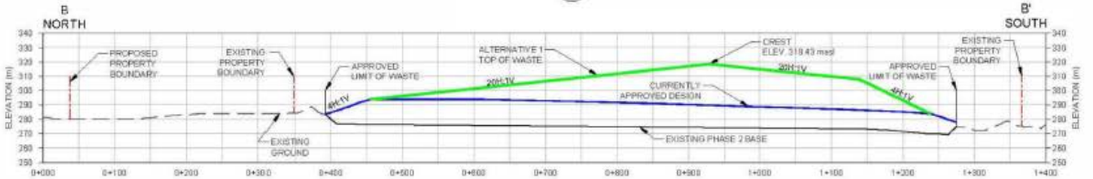
- To accommodate the final design in the northwest corner of the currently approved landfill, it was necessary to reduce the footprint in the northwest corner by 0.7 ha to 106.3 ha, comprised of the eastern approximately 59.1 ha of Phase 1 footprint and 47.2 ha of Phase 2 footprint. A design adjustment was also made regarding the currently approved limit of waste. To accommodate these changes while continuing to provide 13.8 million $m^3$ of airspace, the landfill contours were adjusted, resulting in an increase in the highest ridge elevation of waste of approximately 0.8 m, from elevation 317.65 masl to 318.43 masl.
- To accommodate future ancillary features and provide additional on-site buffer width compared to the existing landfill, the northern boundary of the landfill property will be adjacent to Scotland Drive and a 100 m buffer width will be provided on the east side of the landfill footprint and some additional area in the southeast corner to tie into the adjacent Material Recycling Facility (MRF) property line. This results in a 106.3 ha landfill footprint within a 192.4 ha landfill property.

- The landfill expansion will be developed sequentially in eight Phases, 1E through 8E, with four Phases in the southern part of the landfill and four Phases in the northern part of the landfill. Filling will start in the Phase in the southwest corner of the landfill and proceed to the adjacent northern Phase. Filling will then move eastward starting at the next southern Phase followed by the adjacent northern Phase. This process will continue until all Phases have been filled. The estimated duration of landfilling in each Phase corresponds to an average annual waste receipt of 370,000 tonnes per year over the 25 year planning period. It is estimated that each Phase will provide about 1.2 to 1.9 million $m^3$ of airspace and typically operate for a period of about 2.5 to 3.5 years.
- A separate cell dedicated for disposal of the non-decomposable portion of the waste stream (street sweepings, water treatment plant process residuals, sewage sludge ash and contaminated soil) will be provided in the southeastern area of the landfill expansion and utilized throughout the expansion operating period.




HORZ. SCALE: 1:5,000 m
VERT. SCALE: 1:3,000 m
A-A' CROSS-SECTION




HORZ. SCALE: 1:5,000 m
VERT. SCALE: 1:3,000 m
B-B' CROSS-SECTION

KEY MAP


NOTE(S)
1. ELEVATION CONTOURS SHOWN ARE TOP OF WASTE, masl.

REFERENCE(S)
BASE INFORMATION AND EXISTING CONTOURS AS PER CITY OF LONDON SURVEY DATED NOVEMBER 22, 2018.

NOT FOR CONSTRUCTION

DRAFT

0 100 200
1:5,000 METRES

0 250 500
1:10,000 METRES

CLIENT
CORPORATION OF THE CITY OF LONDON
LONDON, ONTARIO
CANADA

PROJECT
INDIVIDUAL EA OF THE PROPOSED W12A LANDFILL EXPANSION

TITLE
**LANDFILL EXPANSION FINAL CONTOUR PLAN AND CROSS-SECTIONS**

CONSULTANT
GOLDER

| | |
|---|---|
| YYYY-MM-DD | 2023-12-22 |
| DESIGNED | MLF |
| PREPARED | MLF |
| REVIEWED | PAS |
| APPROVED | PAS |

| PROJECT NO. | CONTROL | REV. | FIGURE |
|---|---|---|---|
| 1648176 | 0017 | B | ES-1 |

- To commence filling in each Phase, the existing cover material would be progressively stripped from an area large enough to accommodate the year's disposal, which is estimated to average approximately 4 ha. The area of exposed waste would be limited to that needed to spread, compact and cover the waste received on a daily basis. The active area would range from about 40 m by 25 m typically (1,000 square metres) to 50 by 30 m (1,500 square metres). The waste will be spread and compacted in lifts of about 0.6 m to a height of approximately 3 m. All waste will be covered daily.
- To reduce air emissions (for odour control purposes during landfilling operations and to increase the overall collection of landfill gases), horizontal LFG collection pipes will be installed progressively as waste is placed.
- For the southern Phases 1E, 3E, 5E and 7E the waste would be placed initially to build a berm along the south side of the Phase and will be covered with final cover soil and seeded to establish vegetation; the berm will screen the view of subsequent filling operations north of the berm from off-site vantage points to the south. The south side perimeter waste berm would be raised sequentially and filled in behind until the peak elevation is reached.
- For the portion of the proposed vertical expansion that will involve placement of additional waste above the Phase 2 area, the existing LCS will continue to be used to collect and remove leachate from the area. For the vertical expansion above the Phase 1 area, it is proposed to replace the existing perimeter LCS with a new perimeter LCS that will serve the same functions as the existing system. To control the potential for leachate seeps along the perimeter sideslopes that could occur as a result of leachate mounding in Phase 1, it is proposed to construct granular finger drains around the north, east and south sides of the exterior perimeter of the Phase 1 area.
- It is proposed to consider options to provide temporary leachate storage on the W12A Landfill site during storm events of significant magnitude that could result in discharge of the mixed leachate/sewage to Dingman Creek or the Thames River if the WWTP is in a by-pass situation. Although the W12A leachate represents only a small percentage of the total flow within the sewer system, the objective is to minimize the discharge of untreated leachate to these water courses. The temporarily stored leachate would be pumped off-site for treatment after the by-pass event is over.
- The leachate collected from the Phase 1 and Phase 2 LCS is currently routed through the main leachate pumping station and pumped off-site through a leachate forcemain to the Dingman Drive pump station, where it combines with municipal sewage and enters the municipal sanitary sewer system to the Greenway WWTP. Following treatment at the WWTP, the effluent is discharged to the Thames River. An assessment of the ability of this City owned, operated and maintained infrastructure to continue to manage leachate from the W12A landfill expansion was completed and the results show that this can be continued for the W12A Landfill expansion and be expected to perform acceptably during

expanded site operations and post-closure. All components of this system are part of City owned, operated and maintained infrastructure, and are accessible for repair, upgrade or replacement if and as needed in the future.

- For LFG management, vertical LFG extraction wells will be installed to collect gas from within the expanded waste mass as part of the progressive construction of the final cover system following completion of filling within each Phase. The collected LFG will ultimately be combusted via blowers and flares. To reduce air emissions (for odour control purposes during landfilling operations and to increase the overall collection of landfill gases), it is proposed that a number of horizontal LFG collection pipes will be installed progressively as waste is placed and connected to the flare.
- Stormwater management will utilize the existing four stormwater management ponds, which will be upgraded and modified to manage and control the release of surface water runoff from the expanded landfill.
- It is proposed that many of the existing ancillary facilities at the site will be progressively upgraded or replaced during the expansion. In addition, it is proposed that in the vacant southeast corner area between the landfill and the MRF there will be a new scale and scalehouse, a grade-separated small vehicle drop-off for waste materials, a grade-separated small vehicle drop-off for recyclable materials (such as tires, scrap metal, ceramics, Blue Box materials, clean wood, electronics), an area for drop-off of brush, a large item drop-off area, and a new HSW depot.
- The landfill Phases will be progressively closed after the final waste contours have been reached and landfill operations have proceeded into the next Phase(s). The final cover on the landfill will consist of 600 mm of soil, topped with 150 mm of soil capable of sustaining vegetation.

## Impact Assessment and Net Effects

Section 9.0 of the EASR presents an overview of the predicted effects of the proposed expansion on each of the components. These assessments were conducted in accordance with the requirements set out in the approved Amended ToR (Volume II) and detailed in Work Plans (Volume III Appendix B). Additional details on the impact assessments are provided in Volume IV Appendix D.

### Atmosphere

The Atmosphere environment component comprises two sub-components: air quality (including dust, odour, greenhouse gas (GHG)) and noise. The details of the impact assessment for the Atmosphere Environment (air and noise) are provided in Volume IV Appendix D.01 and Appendix D.02, respectively.

Air Quality

The effects of the Project on air quality were identified for different phases of the expansion and involved the following three steps:

- Calculating representative emissions rates for each of the significant sources;
- Carrying out atmospheric dispersion modelling to predict off-site concentrations of the indicator compounds; and
- Comparison of predicted concentrations to existing conditions and the Applicable Guidelines.

The emission estimation methods followed accepted MECP practices including, where applicable, guidance in the Ontario MECP document *Procedure for Preparing an Emission Summary and Dispersion Modelling Report Version 4.1* (MECP, 2018b).

To determine potential effects of the proposed project on air quality and odour, the predicted concentrations of indicator contaminants were compared to Ontario's Ambient Air Quality Criteria (AAQC) (MECP 2020) and the Canadian Ambient Air Quality Standards (CAAQSs) (CCME 2014).

The maximum cumulative concentrations of all indicator compounds are below the relevant guidelines for all indicator compounds, with the exception of $NO_2$ on a 1-hour basis related to the CAAQS but $NO_2$ meets the AAQC standard. Although the AAQC is less conservative for $NO_2$, it is technically more appropriate for the situation being considered.

The predicted compound concentrations associated with the expansion are predicted to meet the relevant air quality criteria.

In addition to the assessment of the effects of the Project on ambient air quality and odour, consideration was given to an evaluation of compliance by determining whether an Environmental Compliance Approval (ECA) for air and noise under Section 9 of the *Environmental Protection Act* (EPA) could be obtained based on whether the facility is in compliance for those sources regulated under O. Reg. 419/05. At the landfill, this would include landfill gases and materials handling emissions. All mobile equipment is exempt from compliance requirements under O. Reg. 419/05. The assessment indicates that the proposed facility will be in compliance with Schedule 3 of O. Reg. 419/05.

Noise

The methodology used for the noise assessment was based on the MECP publications *"Noise Guidelines for Landfill Sites"* (Landfill Guidelines) (MECP 1998) and NPC-300 (MECP 2013). These guidelines outline the sound level limit criteria for evaluating landfilling operations and ancillary facilities (i.e., stationary noise sources).

The noise assessment was carried out at the representative points of reception (PORs) identified within the Site-vicinity Study Area. All representative PORs identified in this noise

assessment are conservatively described as being located in a Class 3 area, as defined in NPC-300 as a rural area with an acoustical environment that is dominated by natural sounds.

Noise predictions of landfilling operations, ancillary equipment, and off-site haul routes were each assessed independently against the MECP guidelines (where applicable).

The results of the assessment indicate that mitigation measures are required when landfilling within an area of the south portion of the landfill so that the Project does not result in an adverse effect on noise (i.e., a moderate or high magnitude rating) at a specific existing receptor.

**Geology and Hydrogeology**

The details of the impact assessment for long-term groundwater quality and quantity are provided in Volume IV Appendix D.03.

The groundwater quality assessment was carried out using the contaminant transport model POLLUTE (Rowe et. al., 1994) and results were compared to the MECP Reasonable Use Guideline (RUG) B-7 (MECP, 1994), noting that this guideline establishes a quantitative benchmark for protecting off-site groundwater quality for drinking water purposes.

The soil stratigraphy at the landfill was simplified for the model which consisted of the Surficial Aquitard (silty clay), Upper Aquifer (sand), Lower Aquitard (silty clay) and White Oak Aquifer (lower sand aquifer). The fractures that were studied in the upper portion of the Surficial Aquitard were accounted for in the modelling. As required in O.Reg. 232/98 (MECP, 1998) the model assessed the impact of groundwater contaminants benzene, cadmium, chloride, lead, 1,4-dichlorobenzene, dichloromethane, toluene and vinyl chloride from the expanded landfill on the receiving groundwater.

The direction of groundwater flow on and in the area of the W12A Landfill can be generally described as north to south. Water supply wells in the area obtain their water supply from both the Upper Aquifer and White Oak Aquifer. The modelling demonstrated no groundwater quality impacts on the White Oak Aquifer for the groundwater contaminants of interest. In the Upper Aquifer, all RUG were met over the 1,000 year modelling time frame except for chloride that is predicted to have a peak impact of 129 mg/L, which is slightly above the allowable RUG of 128 mg/L in the Upper Aquifer. As a result, additional design mitigation measures were evaluated for off-site groundwater quality protection. The addition of incorporating leachate collection into the design of a first tier of horizontal landfill gas collector trenches required over the top surface of the Phase 1 area prior to vertical expansion was considered. With this additional mitigation design, the modelling demonstrated all groundwater quality impacts were below the RUG for the groundwater contaminants of interest in the Upper Aquifer.

Because of the existing landfill's location overlying the Surficial Aquitard, its presence does not affect the recharge of the groundwater system and has no effect on groundwater levels or groundwater quantity in the Upper and White Oak Aquifers beneath the landfill or off-site further to the south of the landfill site. With the proposed landfill expansion consisting of a vertical expansion above the existing landfill footprint, the expansion will not have an effect on

downgradient groundwater levels or groundwater quantity off-site to the south of the landfill site.

**Surface Water**

The details of the impact assessment for surface water quality and quantity are provided in Volume IV Appendix D.04.

The existing drainage network in the vicinity of the landfill is currently divided into four general areas with a system of berms, slopes and perimeter drainage ditches directing runoff generated within the W12A Landfill Operations Area to four separate stormwater management (SWM) ponds. During landfill expansion, surface drainage from potentially contaminated areas, i.e., originating from active landfilling areas, will be contained locally within berms and will discharge into the waste and eventually into the leachate management system. Hence there is no anticipated change to surface water quality as a result of contact with landfill expansion waste. Surface drainage from non-contaminated areas such as road areas and areas with interim or final landfill cover will be conveyed to the SWM ponds via the internal drainage ditches.

To update the design of the existing SWM ponds under changed conditions from the landfill expansion (peak of the landfill shifting, sideslopes of the landfill that are longer and steeper in some locations, and movement of some of the ancillary features on the site), the model Visual Otthymo was used to evaluate changes to water quantity. As a requirement of the MECP SWM Planning and Design Manual (MECP, 2003) the updated designs to the SWM ponds required Enhanced Level Protection (80% total suspended solids (TSS removal)) and matching post-expansion outlet flows from the ponds to corresponding pre-expansion flows for selected storm events.

Because of the required quality and discharge quantity controls for the SWM ponds (e.g., larger ponds, new control structures, etc.), there is not expected to be an adverse impact on off-site surface water quantity or quality. A summary of SWM pond modifications is provided as follows:

- SWM Pond 1: the pond will be expanded to the north, increasing the size of the main pond and forebay. The outlet structure will be modified such that flows will match or be less than pre-development flows. The new outlet pipe for the pond is designed as a submerged reverse sloped pipe to promote separation/floating of oils, providing potential for spilled material to be recovered prior to off-site release occurring. An orifice will be used to control the pond outflow for the baseflow storage and 25 mm storm. The outlet structure will be modified to match or be less than pre-development flows resulting from the smaller pre-development area that was initially directed to the Dingman Creek subwatershed. The existing outlet structure for the pond has an existing sluice gate to allow emergency closure to assist in spill / leachate containment activities, if needed. A 600 mm diameter pipe with a ditch inlet grate will be provided to provide discharge control for larger storm events. In addition, an overflow weir is provided for storm events greater than the 1:100 return period

design storm. The updated permanent pool volume of SWM Pond 1 exceeds the required permanent pool volume to achieve the Enhanced Level Protection (80% TSS removal).

- SWM Pond 2/3: the landfill expansion will result in a decreased drainage area to this pond; however, to meet the Enhanced Level Protection (80% TSS removal) as defined by the MECP Stormwater Management Planning and Design Manual (MECP, 2003) the permanent pool depth will be increased and some modifications will be made to the existing outlet structure. A minimum sized orifice of 75 mm will be used to control the pond outflow for the baseflow storage and 25 mm storm. The outlet pipe for the pond is designed as a submerged reverse sloped pipe to promote separation/floating of oils, providing potential for spilled material to be recovered prior to off-site release occurring. The existing outlet structure for the pond will be modified and used and fitted with a valve to allow emergency closure to assist in spill / leachate containment activities, if needed. An overflow weir with 3.2 m bottom width, 3H:1V sideslopes with rip-rap covering is proposed to provide discharge control for larger storm events. The updated permanent pool volume provided in the proposed wet pond of SWM Pond 2/3 exceeds the required permanent pool volume to achieve the Enhanced Level Protection (80% TSS removal).
- SWM Pond 4: under proposed expansion conditions Pond 4 would receive stormwater runoff from a smaller total drainage area. The existing permanent pool and active storage is sufficiently sized to meet the Enhanced Level Protection (80% TSS removal) as defined by the MECP Stormwater Management Planning and Design Manual (MECP, 2003). The existing outlet structure will be modified with an appropriately sized orifice to control discharge and the existing double inlet catchbasin would be maintained for larger storm events. An overflow weir would be added for storm events larger than the 1:100 year return period design storm. The existing outlet structure will be modified with an orifice for the quality control 25 mm design storm and will have a 600 mm outlet pipe with a ditch inlet grate and re-use the existing inlet grate in the maintenance hole for the controlled discharge of large storm events. The existing secondary outlet structure will have the overflow weir elevation modified for storm events larger than the 1:100 year return period design storm. The existing outlet from the downstream ditch is fitted with a sluice gate to allow emergency closure to assist in spill / leachate containment activities, if needed.
- SWM Pond 5: under proposed expansion conditions, Pond 5 would receive stormwater runoff from a larger total drainage area. The Pond would be expanded to the east and north to increase both the permanent pool and active storage capacities. The existing outlet structure orifice and weir will be modified to match pre-development peak flows. The existing outlet structure for the pond will be fitted with a valve to allow emergency closure to assist in spill / leachate containment activities, if needed. In addition, an overflow weir will be installed for storm events larger than the 1:100 year return period design storm. The provided permanent pool volume in the proposed wet pond exceeds the required permanent pool volume to meet the Enhanced Level Protection (80% TSS removal) requirement.

The proposed works are predicted to result in surface water quality conditions that are comparable or better to existing conditions and meet MECP PWQO (MOEE, 1994) requirements. Post-closure, the pond operations will continue such that surface water quality downstream of the site remains protected.

**Biology**

The Biology environment component comprises two sub-components: aquatic ecosystems and terrestrial ecosystems. The details of the impact assessment on the Biology component (aquatic and terrestrial ecosystems) are provided in Volume IV Appendix D.05.

The impact assessment considers the potential direct and indirect impacts of the W12A Landfill preferred expansion alternative on the aquatic and terrestrial ecosystems within the Site and Site-vicinity Study Areas for the construction, operations and closure stages of the landfill expansion.

The proposed expansion of the W12A Landfill avoids many potential impacts by situating the future expansion on the existing landfill fill area.

Aquatic Ecosystems

Direct Impacts:

- Because the proposed modification to SWM pond weirs and outlets will all occur within the landfill area, and there are no physical alterations to the downstream SWM infrastructure, including the ditches, culverts, or other downstream watercourses, no direct impacts to aquatic species or habitat are anticipated from the proposed modifications to SWM system. Similarly, there are no anticipated direct impacts to aquatic ecosystems during the Operations Stage and during closure and post-closure activities related to the expansion of the W12A Landfill.

Indirect Impacts:

- No indirect impacts to aquatic species or habitat are anticipated during the Construction Stage, since there are no proposed modifications to the SWM pond weirs and outlets for existing structures that convey discharged pond water to downstream watercourses.
- Although the proposed works associated with the Operations Stage for the proposed expansion are not expected to result in direct impacts to aquatic ecosystems, there will be changes to drainage areas and the resulting water balance (i.e., reduced water drainage to Dodd Creek; increased surface water drainage to Dingman Creek). The changes in drainage area are expected to have a negligible effect on runoff and drainage downstream of the site in both the Dingman and Dodd Creek subwatersheds. Further, modifications to the existing SWM infrastructure, along with mitigation measures (i.e., erosion and sediment control), are expected to result in surface water quality conditions that are comparable to existing conditions and meet the MECP PWQOs.

- Potential indirect impacts associated with closure and post-closure activities are limited to the management of leachate and stormwater management within the landfill. With the continued operation of the leachate control system and the proposed SWM ponds, indirect impacts as a result of landfill closure are not anticipated.

Terrestrial Ecosystems

Direct Impacts:

- Direct impacts are anticipated for Confirmed Significant Wildlife Habitat for Monarch and Species at Risk Habitat for grassland birds (i.e., Eastern Meadowlark and Bobolink) during construction and operational stages on the existing landfill. Impacts related to the removal of habitat will be temporary in nature as they will be revegetated when vertical capacity is reached to mimic habitat conditions currently present (e.g., grassland species, common milkweed). The direct impacts to these areas during the construction stage are not considered to be significant and may be avoided.
- Should stripping of existing vegetation for the new diversion and drop-off facilities in the southeastern corner occur during the breeding bird window (April 1st to August 31st), there is potential for impacts to nesting birds and may contravene the *Migratory Birds Convention Act*.
- Other potential direct impacts during construction may include common wildlife species that may occupy areas of the existing landfill site; these may include groundhogs, Killdeer, common snake species, etc.
- Accidental destruction of nests, stockpiling of stripped material creating nesting opportunities for birds, or wildlife mortality may occur as part of the operations stage. These occurrences can be avoided through the implementation of standard operational measures, the continuation of measures implemented during the construction stage, and potential compensation for SAR Habitat.
- Activities associated with landfill closure include the addition of topsoil and plantings of native vegetation; as such, the project closure will result in no net loss of natural heritage features and functions despite short term impacts to natural communities during construction and operations.

Indirect Impacts:

During the construction and operations stages of the expansion of the W12A Landfill, potential indirect impacts to terrestrial ecosystems are likely to be limited to the following types of impacts:

- Dust deposition on vegetation in adjacent vegetation communities during construction.
- Dust and airborne waste deposition in natural habitat during operations.

- Noise related impacts to wildlife in adjacent habitat.
- Introduction of invasive plant species via construction equipment.
- Accidental injury or mortality of wildlife or vegetation (i.e., adjacent trees) from construction equipment and/or vehicles.

The indirect impacts during construction and operations are not considered significant and are mitigatable with standard measures. Indirect impacts as a result of landfill closure are not anticipated.

To avoid or minimize impacts to SAR and wildlife related to the construction stage, a detailed Environmental Mitigation and Monitoring Plan (EMMP) will be developed. Vegetation removal associated with the construction stage and with the operations stage will have to avoid direct impacts to the SAR Birds, including Bobolink and Eastern Meadowlark; all habitat removal should occur outside of the bird nesting season (April 1 to August 31) unless first assessed by an ecologist. The preparation and implementation of a SAR and Wildlife Observation Protocol will also be required.

Compensation for habitat loss will be required as regulated under the ESA (O. Reg. 242/08), to determine appropriate compensation measures for Bobolink and Eastern Meadowlark. Compensation for Significant Wildlife Habitat for Monarch will be achieved at project closure with the implementation of native plantings which are recommended to include common milkweed, a host plant for the species.

**Land Use**

The details of the impact assessment on land use are provided in Volume IV Appendix D.06.

The W12A Landfill is zoned "Waste and Resource Management (WRM) Zone 1". This zoning permits the waste management facility that currently operates on the site, as well as the MRF adjacent to the east side of the landfill.

A variety of studies were completed to assess impacts to surrounding uses. Of particular relevance to the assessment of impacts to sensitive land uses in the Site Area and Site-vicinity Study Area is the noise, odour and air assessments. Generally, it is concluded in these associated studies that the proposed landfill expansion is expected to meet all Provincial criteria with respect to noise, odour and air quality and is not expected to result in impacts in excess of these criteria to the public. These studies recommended various mitigation and monitoring programs to help minimize potential impacts associated with landfill operations following implementation of the Project.

The proposed landfill expansion does not result in the limits of waste being extended towards any of the sensitive land uses as defined by Guideline D-4 (Land Use on or Near Landfills and Dumps). Provided the recommended impact mitigation for noise and air quality (i.e., odour) are implemented, the proposed expansion is not expected to have significant adverse impacts on

these uses. Further, in light of the intended use of the Site Area, it is determined that the landfill expansion would be compatible with the existing land uses within the Site-Vicinity Study Area.

It is not anticipated that sensitive land uses would be constructed in the vicinity of the W12A Landfill site within the 2035 planning horizon defined for the City's new Official Plan. Accordingly, it is determined that the Project should not adversely impact on future land uses within the Site-vicinity Study Area.

No significant impacts or adverse effects are expected with respect to the surrounding land uses, no mitigation or monitoring is required at this time from a land use perspective. Notwithstanding, the measures recommended in conjunction with this EA should be implemented to mitigate any potential impacts (noise, odour, dust) to land uses proximate to the existing landfill facility and to protect natural heritage features and functions.

**Agriculture**

The details of the impact assessment on agriculture are provided in Volume IV Appendix D.07.

Agricultural uses within this defined area are characterized by conventional agricultural production that is in keeping with regional and provincial trends (e.g., cash crop production, livestock operations).

The assessment of impacts on agricultural land and operations within the Site-vicinity Study Area was based on the Province's draft Agricultural Impact Assessment Guidelines (released March 2018) (OMAFRA 2018).

As an outcome of the agricultural impact assessment, the Project is expected to generate minimal land use impacts on agricultural land and/or operations in the Site-vicinity Study Area. Notwithstanding, mitigation and monitoring programs associated with the expanded landfill operations recommended in conjunction with this EA should be implemented to minimize any potential impacts on local agricultural activities and the larger agricultural system.

**Archaeology**

The details of the impact assessment on potential archaeological resources are provided in Volume IV Appendix D.08.

Several archaeological assessments were completed to identify known archaeological resources within the Site Study Area.

The Stage 1 background studies determined that portions of the Site Study Area had archaeological potential and, as such, would require Stage 2 Archaeological Assessment to identify archaeological sites that may be present. The Stage 2 assessments involved a combination of pedestrian survey at 5 m intervals and shovel test pit survey at 5 m intervals, and resulted in the identification of seven archaeological locations in one area of the Site Study Area and an additional six artifact-producing locations in another distinct area of the Site Study Area. Following identification of the preferred landfill expansion design, one location was

considered to have cultural heritage value or interest and recommended to be subject to a Stage 3 Archaeological Assessment.

The results of the Stage 3 Archaeological Assessments identified the presence of one site with archaeological potential in the Site Area (White Oak 1 site), located on the north side of the western portion of the existing landfill footprint. The presence of high artifact-yielding test units (e.g., ≥10 artifacts) indicates that the White Oak 1 site has further cultural heritage value or interest and will require Stage 4 mitigation prior to development. This conclusion is consistent with Section 3.4.1, Standard 1a of the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI)'s *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). There are no further concerns for impacts to archaeological sites in the remainder of the Site Study Area. This White Oak 1 site plus a 10 m buffer requires avoidance during construction, operation and closure of the Project and this can be accomplished without disruption to the Project.

The MHSTCI reviewed the results and recommendations presented in the Stage 3 Archaeological Assessment Report and accepted this report into the Provincial Register of archaeological reports, and issued a standard letter of compliance with the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licensing.

**Built Heritage Resources and Cultural Heritage Landscapes**

The details of the impact assessment on potential built heritage resources are provided in Volume IV Appendix D.09.

Seven properties in the Site-vicinity Study Area were identified as requiring cultural heritage assessment to determine if any of the properties had cultural heritage value or interest (CHVI) in accordance with *Ontario Heritage Act Regulation 9/06* (Ontario, 1990b). They were identified for study because they are properties with buildings or structures 40 or more years old and evaluated as having potential cultural heritage value or interest (CHVI) if they met one or more of the criteria prescribed in *Ontario Heritage Act Regulation 9/06* or was a part of a potential cultural heritage landscape. One additional property with buildings or structures 40 or more years old was also identified but evaluated to not meet at least one criterion for CHVI prescribed in O. Reg 9/06 (Ontario 1990b).

No built heritage resources of value or interest were identified within the Site-vicinity Study Area that could potentially be impacted by the proposed W12A Landfill expansion and no further cultural heritage studies or monitoring of any properties is recommended.

**Socio-economic**

The Socio-economic component comprises two sub-components: local economy; and residents and community. The details of the socio-economic impact assessment are provided in Volume IV Appendix D.10.

Local economy

The Project is not expected to create any new jobs in the community during operation, the existing landfill workforce is deemed sufficient. New jobs during construction activities are expected. It is estimated that with the additional infrastructure operations associated with the expansion, the annual operating cost could increase approximately 10% to $5 million. Several stop-controlled approaches along the haul routes are forecast to operate at a poor level of traffic control in the future (2048) conditions. However, traffic signals, if warranted, would be due to the projected increase of background traffic volume and/or movement of this background traffic and not the traffic associated with the landfill expansion. Other businesses (excluding farms as these were assessed within the agriculture component) in the Site-vicinity Study Area are not anticipated to be affected negatively or positively as a result of the landfill expansion. In terms of the local economy, no changes to employment or use of local vendors is anticipated and over time the landfill is expected to have increased costs and generate additional revenue for the City.

In terms of capital costs, the proposed expansion design has an estimated budget of $55 to $90 million, with a midpoint estimate of approximately $72 million (in 2020 dollars).

Residents and Community

The W12A Landfill site is located in a largely agricultural area with few socio-economic features of note. The most likely potential impact to the socio-economic environment is from nuisance effects such as litter, noise, odour or dust, which can affect use and enjoyment of private properties or outdoor spaces. The presence of the landfill and proposed changes to it associated with the expansion are not expected to result in any out-migration of existing residents who are accustomed to living in an area where agricultural and industrial noise is commonplace. Adherence to applicable municipal and provincial guidelines and use of best management practices at the W12A Landfill site related to control and mitigation of effects such as litter, noise, dust or odour will assist in reducing potential effects to local residents. Continued use of a complaints protocol will be key tools in monitoring socio-economic effects and ensuring good community relations during construction and operations.

**Visual**

The details of the impact assessment for visual are provided in Volume IV Appendix D.11.

The visual impact of the proposed landfill expansion on existing residential properties within 3,500 m of Site-vicinity Study Area was assessed. This was done by calculating a visual effect rating using relevant factors that affect the visual impact from different viewpoints in private outdoor areas and from public rights of way within the Site-vicinity Study Area.

For the majority of the viewpoints, the visual effect is moderate to very low. However, the landfill expansion will have a very high visual impact on four properties and have a high visual impact on two properties. Three of the six properties with high to very high visual impacts are owned by the City and three properties are privately owned.

The most obvious views of the proposed landfill expansion are from the south. To reduce the visual impact of daily operations, the site development plan proposes that waste would be placed initially to build a berm along the south side of the landfill's waste disposal area and will be covered with final cover soil and seeded to establish vegetation. This berm will screen the view of subsequent filling operations north of the berm from off-site vantage points to the south.

The existing perimeter berms with trees on the south, west, north and a portion of the east sides of the landfill are effective at visually screening the existing landfill from traffic beside the landfill on Manning Drive and White Oak Road and are expected to continue to screen the view of the expanded landfill, but not from Scotland Drive or Wellington Road South. With the proposed expansion, the landfill property boundary will be moved northward to Scotland Drive and new berms with tree plantings will be constructed along the new property boundary (White Oak Road northward to Scotland Drive, Scotland Drive) to visually screen the landfill expansion from traffic beside the landfill on Scotland Drive.

The City will seek feedback on appropriate roadside view-mitigation measures from area residents when it updates its Community Enhancement and Mitigative Measure (CEMMP) Program. The first step in updating the CEMMP is seeking stakeholder feedback on how the program can be improved, including what are appropriate visual screening measures for individual residential properties. The project to update the CEMMP started in November 2020.

**Transportation**

The details of the impact assessment on transportation are provided in Volume IV Appendix D.12.

Taking into account the additional vehicles generated by the W12A Landfill, as well as applying the projected 1.0% annual growth rate for background traffic across the Site-vicinity Study Area, operational analyses along the haul routes were completed.

The two signalized intersections, found along Wellington Road at both Dingman Drive and Manning Drive, continue to operate with minor increases reported to the volume to capacity (v/c) ratio, delays, and 95th percentile queues. All movements at these two intersections, as well as the overall intersection performance, are forecast to remain at a good to reasonable level of service (LOS). Critical movements are not expected to occur by the 2048 horizon year at either of these intersections.

The remaining intersections and site accesses within the Site-vicinity Study Area operate under a stop-control condition. Compared to the existing conditions analyses, most stop-controlled intersections are not anticipated to see any significant changes to operations with a few notable exceptions: Wonderland Road (Highway 4) at both ramp terminals from Highway 401; Wellington Road at Scotland Drive; Wellington Road at Westminster Drive. These stop-controlled approach exceptions along the haul routes are forecast to operate at a poor level of traffic control in the future (2048) conditions. However, traffic signals, if warranted, would be due to the projected increase of background traffic volume and/or movement of this background traffic and not the traffic associated with the landfill expansion.

An assessment carried out on the effects of temporary major road closures and resultant use of Emergency Detour Routes (EDR) as related to the W12A Landfill traffic indicates that, depending on the road that is closed and the closure location along either Highway 401 or 402, the rerouted traffic could potentially combine with landfill traffic. If Manning Drive is closed in front of the W12A Landfill, alternate site access to and from both White Oak Road and Scotland Drive would be readily available.

**Design and Operations**

The details of the assessment of impacts associated with the design and operations of the proposed expansion are provided in Volume IV Appendix D.13.

The Description of the Preferred Landfill Expansion (see Section 8 of the EASR) covered off the proposed expanded landfill phasing and development; estimated leachate generation and on-site leachate management; estimated LFG generation and on-site management; and geotechnical assessment. In addition, a soil balance for the proposed expansion was completed as well as an estimate of probable capital and operational costs.

A soil balance estimates the volume of soil materials available on site for potential use in constructing various components of the expansion compared to the types and volumes of soil materials required for their construction. With the continued use of alternative daily cover materials and stripping of the existing final cover prior to placing waste for the vertical expansion, it is estimated that following construction of the final cover using on-site soils there will a surplus of 162,000 $m^3$, which can readily be accommodated within the expanded landfill site property limits.

It is estimated that the capital costs of implementing the expansion (including engineering and contingencies) are in the range of $55 to $90 million, with a midpoint estimate of approximately $72 million (in 2020 dollars). The current annual operating cost, including both staff and the operations, is approximately $4.5 million (in 2020 dollars). It is estimated that with the additional infrastructure operations associated with the expansion, the annual operating cost could increase to $5 million.

In terms of potential impacts associated with site design and operations:

- Phasing and Development: The design of the expansion phasing and the approach to development of each phase will reduce potential visual impacts (i.e., view of ongoing site landfilling operations) from off-site vantage points to the south, from where the site operations are most visible for the greatest number of existing residences. For landfilling, the area from which the existing final cover will be stripped prior to placement of waste and the active area used for waste disposal will be kept as small as practical to minimize the potential for odours and litter.
- Management of Leachate: The management of leachate will continue to rely on the same LCS approaches that have proven effective in preventing impacts on off-site groundwater resources and surface water quality. In addition, the design will provide sufficient

temporary leachate storage to minimize the potential for untreated leachate release due to storm events that are sufficiently large to cause overflows from the off-site pumping station and WWTP.

- Management of LFG: The expansion will continue to utilize an active LFG collection system (installed both during landfill operations and progressively with the final cover as expansion phases are completed) to capture and flare LFG and thereby control odour and greenhouse gas releases.
- Geotechnical Considerations: Geotechnical analysis demonstrates that the proposed expansion will be stable in terms of overall stability of the waste, and that settlement of the underlying clay till deposit due to the weight of the vertical expansion of waste will not adversely affect the operation and performance of the underdrain LCS below the Phase 2 area.
- Soil Balance: The expansion is expected to use a combination of available on-site stockpiled soil and alternative daily cover consisting of off-site waste materials. It is anticipated that there will be an overall soil surplus at the end of the expansion period. The expansion will require aggregates and asphalt for infrastructure construction and maintenance; otherwise, the expansion is not expected to consume off-site soil resources from licensed pits or other borrow sources.
- Capital and Operational Costs: The capital costs associated with the expansion can be planned within the municipality's annual capital expenditures budgeting process. The operating costs are comparable to but somewhat higher than the current operating costs. These cost components are not expected to impact municipal finances.

## Climate Change Considerations

The document entitled "Considering Climate Change in the Environmental Assessment Process" (MECP, 2019) was used as a guide for incorporating measures in the landfill expansion design that reduce both the potential impact of climate change on the landfill (i.e., climate change adaptation) and its potential impact on climate change (i.e., climate change mitigation).

In terms of potential impacts from climate change on the landfill expansion, it is expected that the planned 25 year operational period of the landfill expansion, i.e., through 2048, will be too short to be significantly affected by impacts from climate change. However, during the post-closure period, longer term changes in precipitation and temperature could possibly affect the vegetative cover growth on the closed landfill and/or runoff of surface water from the landfill final cover and the performance of the components that comprise the SWM system. The proposed stormwater pond designs were assessed to predict conditions during the 1:250 year return period storm and Regional Storm (Hurricane Hazel) events to evaluate potential climate change effects. It is expected that the ponds will perform acceptably under such storm conditions. The potential impacts from climate change related to precipitation will also be taken

into account in the final design of site infrastructure components related to leachate collection and temporary storage on-site. Adjustments to landfill operations can be made, as required, in future to mitigate potential effects from temperature extremes and winds associated with climate change.

In terms of potential impacts from the landfill expansion on climate change, the two main ways that a landfill expansion could affect climate change are the generation of GHG that enters the atmosphere, and reduction of GHG sequestration by removal of forested areas. For the proposed vertical expansion of the W12A Landfill above the existing footprint, there will not be any clearing of forested areas, and therefore no associated adverse effects related to GHG sequestration. The annual GHG emission rates in tonnes per year for each activity for the existing landfill and the proposed expanded landfill were estimated. GHG generated from the landfill expansion, which will peak in 2049 and then decline over time, will be controlled by an active LFG collection and flaring system. The system will have a LFG collection efficiency that is expected to significantly improve by 2049 in comparison to 2020 and this will result in decrease GHG emissions annually.

## Cumulative Impact Assessment

A cumulative impact assessment of the potential effects of the proposed landfill expansion in combination with past, present and reasonably foreseeable future activities, where possible, was carried out following a framework often used in federal EA processes and is described in Section 11 of the EASR.

The cumulative effects analysis involved a scoping phase and an analysis of effects phase. For the scoping phase, the components that had residual negative effects (after mitigation) from the proposed landfill expansion were identified. After this, other projects or activities in the area that may affect the same components were identified.

During the analysis of effects phase, the other projects or activities were evaluated to assess if their effects would overlap in timing or spatial extent with the effects of the Project, accounting for and including the proposed landfill expansion mitigation. The nature and extent of the possible cumulative effects were then identified along with any possible mitigation and/or monitoring strategies.

The identified environmental, socio-economic and technical components from the proposed landfill expansion with identified residual, negative effects are: atmosphere (air/odour, GHG and noise); hydrogeology; surface water (quantity); biology; land use; agriculture; socio-economic, transportation and visual. The existing zoning and land use in the vicinity of the site was considered in determining the other projects and activities to include in this cumulative assessment. It was determined that the effects from the landfill expansion would not overlap with those from other projects or activities for the hydrogeology, surface water, agriculture or visual components. For the remaining components, the landfill expansion will utilize operating procedures, monitoring programs and mitigation measures such that the landfill complies with provincial requirements. Potential remaining cumulative effects are described. In light of the

existing zoning and the associated Official Plan policy framework, it is considered unlikely that new sensitive land uses would be introduced in close proximity to the landfill.

## Monitoring and Contingency

The proposed expansion of the W12A Landfill has been designed to incorporate mitigation measures to minimize the potential for unacceptable environmental effects. Following the identification of mitigation measures, the environmental effects of the proposed expansion were evaluated. Although, efforts have been made to conservatively estimate potential impacts associated with the proposed W12A Landfill expansion, there is always some potential for variability between predicted and actual conditions. Effective monitoring and contingency measures are intended to address this potential variability and confirm the assumptions used in this assessment.

An effective monitoring program provides results to: indicate whether the facility is working as expected and that the assumptions used in the assessment were correct; assess on an ongoing basis whether mitigation measures as designed and operated are effective; and identify unforeseen problems so they can be addressed in a timely manner. The proposed monitoring program for the proposed W12A Landfill expansion is summarized in Section 12.0 of the EASR and details are provided in the D&O Report (Volume IV, Appendix D.13) and includes requirements for air quality, GHG, noise, groundwater quality, surface water quality and quantity, LFG and biology.

The final details will be determined in consultation with the MECP and incorporated in the ECA amendments for the proposed expansion.

In the event that the ongoing groundwater or surface water monitoring programs detect unexpected problems, it may be necessary to implement contingency measures to further reduce the potential for any adverse environmental effects associated with the proposed expansion of W12A Landfill. The current ECA for the W12A Landfill has a trigger mechanism that requires prescribed actions to be taken should the monitoring results indicate that certain thresholds are reached, whereby additional investigations and assessments are undertaken to confirm the monitoring results and determine if it is necessary to implement contingency measures to prevent non-compliance with the RUG for groundwater, or to prevent leachate-impacted waters from accessing the stormwater management ponds. As part of the ECA amendment application process for the expanded landfill, the trigger mechanisms and contingency measures will be reviewed and modified, if required.

An overview of the proposed contingency measures that could be put into effect are described in Section 12.2 of the EASR.

## Summary of Commitments and Other Approvals

Section 13.0 of the EASR lists the commitments made by the City during the ToR process, how they have been considered in the preparation of the EASR and their current status. Generally, these commitments relate to a committed target of 60% residential residual waste diversion by the end of 2022, the preparation of work plans for technical studies as identified in the ToR, assessment of 'Alternative Methods' of expansion and detailed description of the preferred alternative, completing a cumulative effects assessment, preparing a draft EA for public review and ensuring public consultation events and availability of the draft and final main body of the EASR to the public, holding workshops based on interest indicated by stakeholders, engaging with Indigenous Communities, and refining the purpose statement (if required).

Commitments made by the City during the EA study process are also listed in Section 13.0. The City will report on the status of these commitments via compliance monitoring to the MECP annually until such time as all commitments are completed or addressed/superseded in EPA/*Ontario Water Resources Act* (OWRA) conditions of approval. Generally, these commitments relate to effects monitoring requirements, design of site components, operating procedures, mitigation measures and best management practices.

Following approval of the W12A Landfill expansion EA by the Minister of the Environment, Conservation and Parks, approval under the EPA and the OWRA will then be required; these approvals will take the form of amendments to the existing landfill ECAs. Approvals will also be required under the *Ontario Heritage Act* to implement the expansion and under several pieces of legislation for specific matters related to the natural environment. Approval under the *Planning Act* related to rezoning of a portion of the expanded landfill property is also expected.

# Environmental Assessment Study Report

# Expansion of the W12A Landfill

**Presentation Outline**

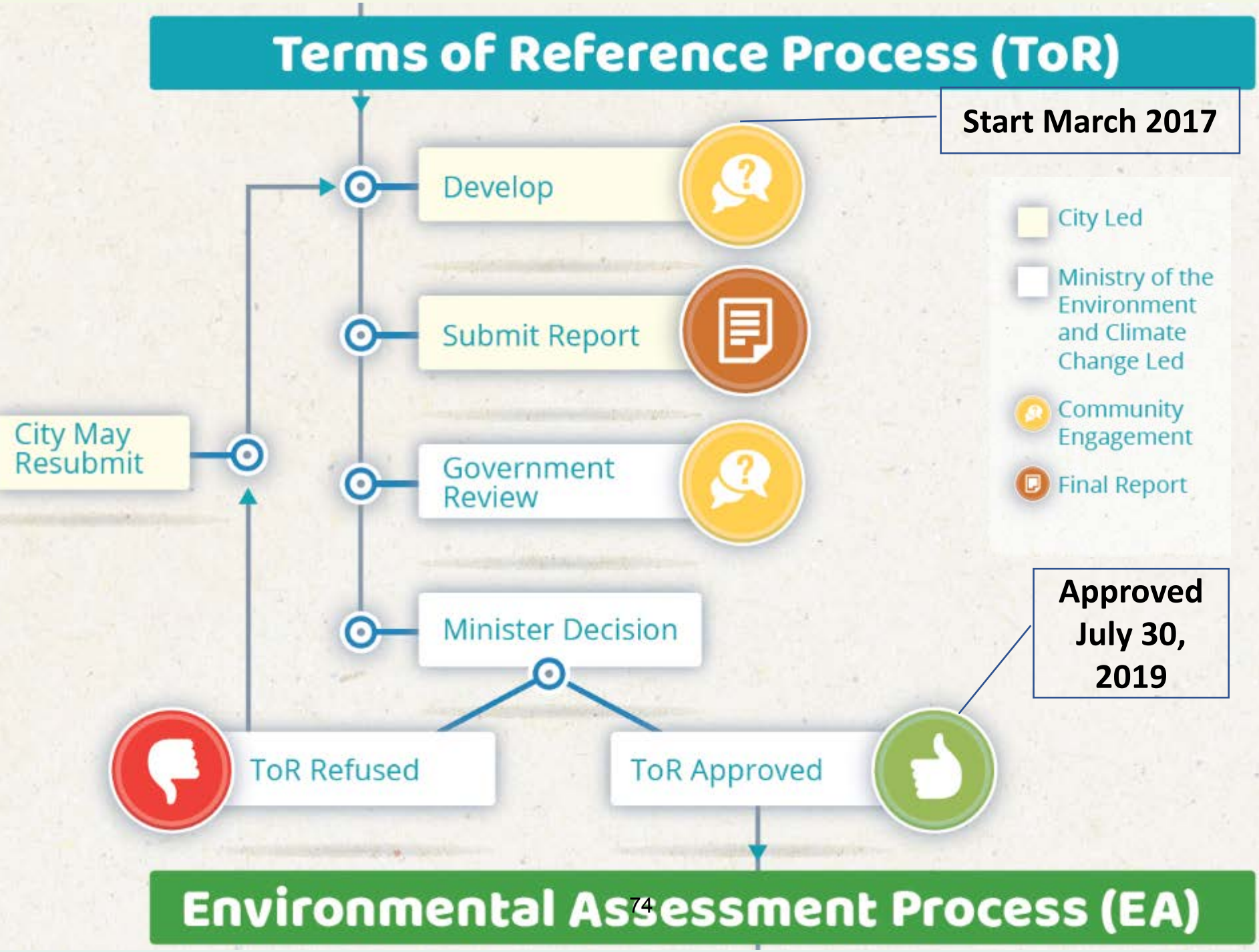
1. **Overview of EA Process**
2. **Summary of Recent Comments**
3. **Other Updates**

## Civic Works Committee

## January 11, 2022

# Section 1 - Overview

## Environmental Assessment Process for the Proposed Expansion of the W12A Landfill


Terms of Reference Process (ToR)
Start March 2017
Develop
Submit Report
Government Review
Minister Decision
City May Resubmit
ToR Refused
ToR Approved
Approved July 30, 2019
City Led
Ministry of the Environment and Climate Change Led
Community Engagement
Final Report
Environmental Assessment Process (EA)

# 1a. ToR Overview

| Key Parameters | Description |
|---|---|
| Planning period | 25 years |
| Waste diversion | 60% of residential waste by end of 2022 |
| Service area | Regional for less than 5% of capacity (Council controlled) |
| Annual tonnage | Reduce from 650,000 to maximum of 500,000 tonnes per year |

# 1b. EA Overview
# Complete Studies and Finalize EA

Initial EA Development & Studies — **August 2019 to December 2020**

Preliminary Draft Proposed EASR — **January to February 2021**

Draft Proposed EASR — **March to November 2021**

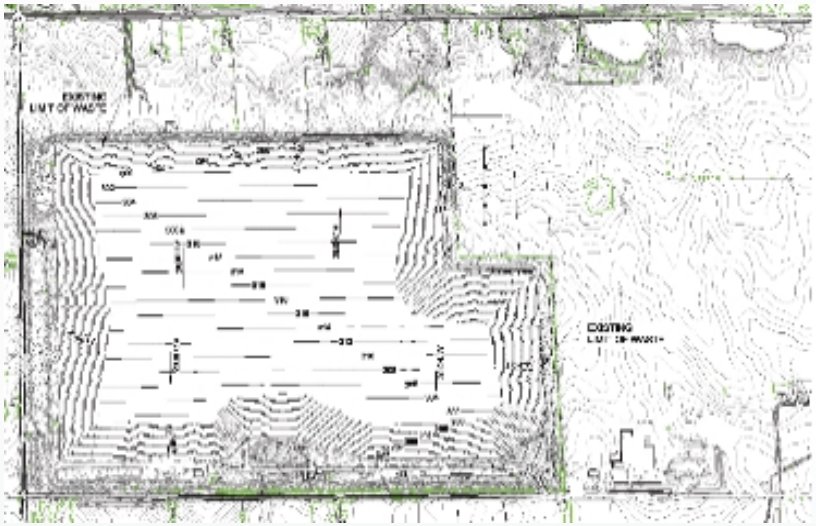
Proposed EASR — **We are here**

**Submit after PPM at CWC and Council (January 2022)**

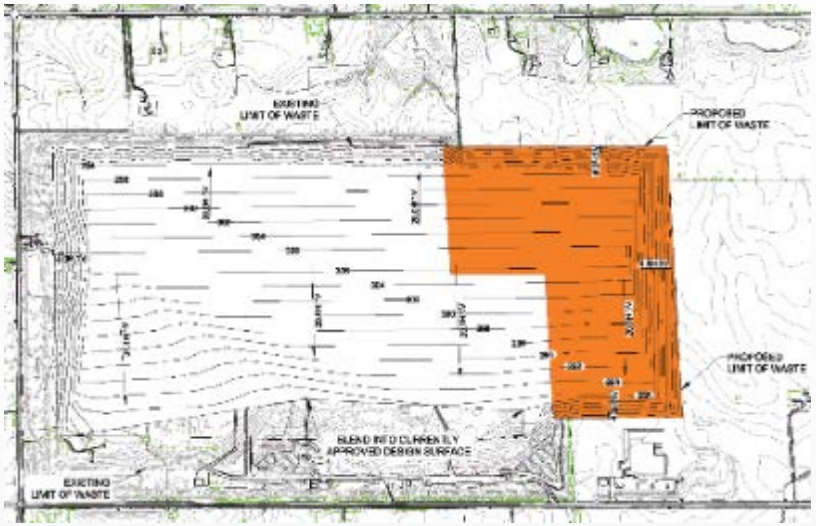
EASR Final Approval Steps — **Early 2022 to Fall 2022**

City Led | MECP Led

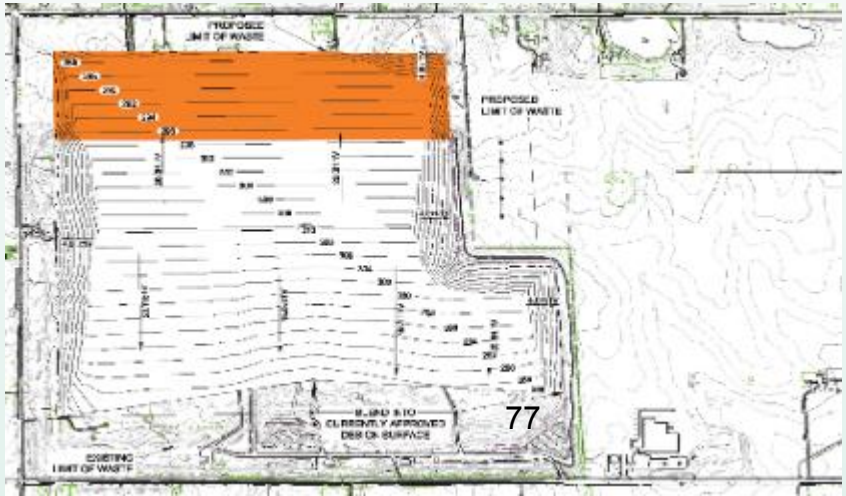
# 1b. EA Overview
# Landfill Alternatives Considered



Increase height



Increase height and fill 300 metres to the east



Increase height and fill 200 metres to the north

# 1b. EA Overview Technical Studies

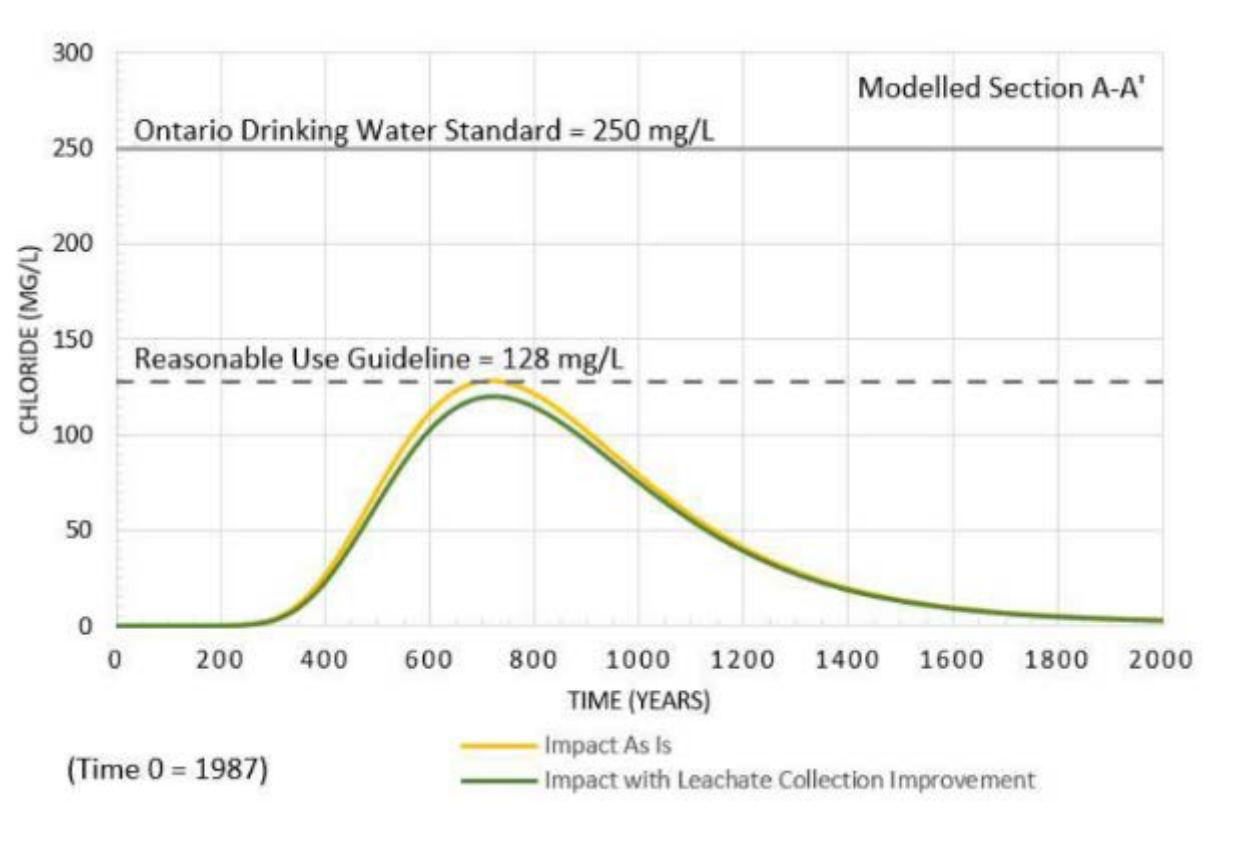
| Category | Proposed Environmental Components | |
|---|---|---|
| | Environmental Component | Environmental Sub-components |
| Environmental | Atmosphere | • Air quality (including dust, odour and greenhouse gases)<br>• Noise |
| | Biology | • Aquatic ecosystems<br>• Terrestrial ecosystems |
| | Geology & Hydrogeology | • Groundwater quality |
| | Surface Water | • Surface water quality<br>• Surface water quantity |
| Social | Agriculture | • Agriculture |
| | Archaeology | • Archaeology |
| | Culture | • Cultural heritage landscapes<br>• Cultural heritage resources (including built heritage) |
| | Land Use | • Current and planned future land uses |
| | Socio-economic | • Local economy<br>• Residents and community |
| | Visual | • Visual |
| Technical | Design and Operations | • Technical Considerations<br>• Financial Considerations |
| | Transportation | • Traffic |

# 1b. EA Overview
# Community Engagement

- Two Open Houses
- Project Website
- Direct Mailings (e.g., residents within 2 km of Landfill, project mailing list, etc.)
- Community requests for meetings
- Waste Management CLC, W12A Landfill PLC, First Nations & GRT
- Traditional & Social Media
- PPM at CWC

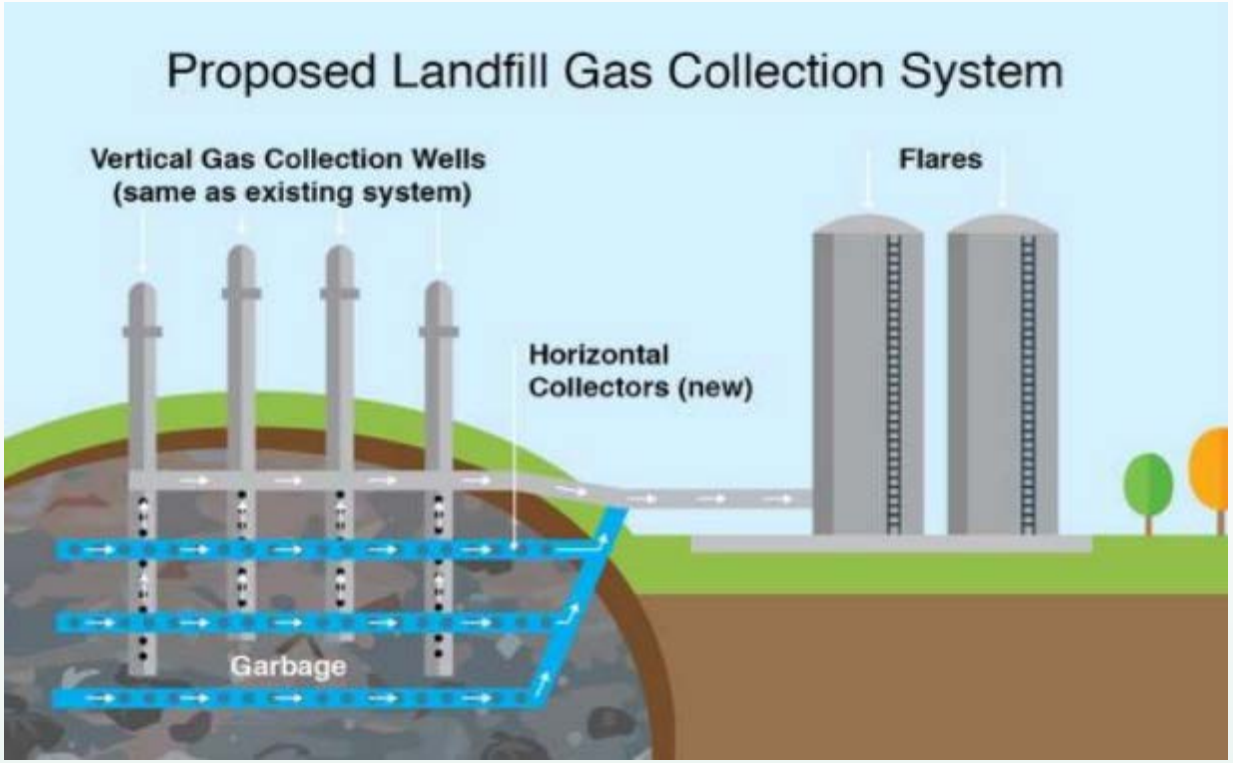

# 1b. EA Overview
## Groundwater Protection Measures

- Incorporate additional leachate collection measures into the landfill design such as:
  - French (finger) drains
  - granular-lined interceptors
  - horizontal collectors



# 1b. EA Overview
## Atmosphere Measures

- Enhanced gas collection system with horizontal collection
- Review and update the odour management plan and complaints response protocol




- Prepare a fugitive dust management plan and complaints response protocol

# 1b. EA Overview
## Archaeology Measures

- No construction or other activities will take place within 10 metres of site with cultural heritage value or interest (First Nations) located in the northern buffer area

# 1b. EA Overview
## Climate Change Measures

Climate change adaptation - potential for more rain. Include the possibility of increased leachate generation in:

- the design of the proposed replacement perimeter leachate collection system
- the design of the replacement for the main leachate pump station on the W12A Landfill site

# 1b. EA Overview
# Other Design Features

- Additional on-site leachate storage (addresses First Nation concern)
- Stormwater management pond upgrades
- Upgrade, expand or new on-site buildings (including additional heath and safety features)
- Expand and improve (e.g., experience, safety) public drop-off area for waste diversion
- Preliminary capital cost estimate range for landfill is $55 million to $90 million ($5.5 to $9 per tonne); $79 million has been allocated in Budget

# 1b. EA Overview
# Key Operating Features

- Sequencing of garbage to maximize screening
- Waste placed in sequential phases 1E to 8E
- Southern phases (waste) placed strategically to provide screening for northern filling activities

# Section 2
## Summary of Recent Comments

| Stakeholder | | Comments | |
|---|---|---|---|
| | | # | Main Subject(s) |
| Government | MECP (EA) | ~ 60 | EA Process/Air/Noise/GW/etc. |
| | MHSTCI | 5 | Archaeology/Built Heritage |
| | OMAFRA | 15 | Agricultural |
| | UTRCA | 1 | Fill approval requirements |
| | KCCA | 7 | SWM ponds |
| | City (internal divisions) | ~ 40 | Surface Water, Biology, Land use, Agricultural, Cultural |
| Other | COTTFN | ~ 70 | GHG, lack of LFG use, lack of Green Bin, climate change |
| | General Public (6 persons/ organizations) | 17 | Nuisance impacts, CEMMP |
| Total | | >200 | |

# 2. Summary of Recent Government Comments

| Type of Change/Adjustment | Approximate Percentage |
|---|---|
| No change to minor change/ adjustment | 70% |
| Additional details/clarification | 26% |
| Change to technical assessments | 3% |
| Minor changes to expansion | 1% |

# 2. Summary of Recent Comments (COTTFN)

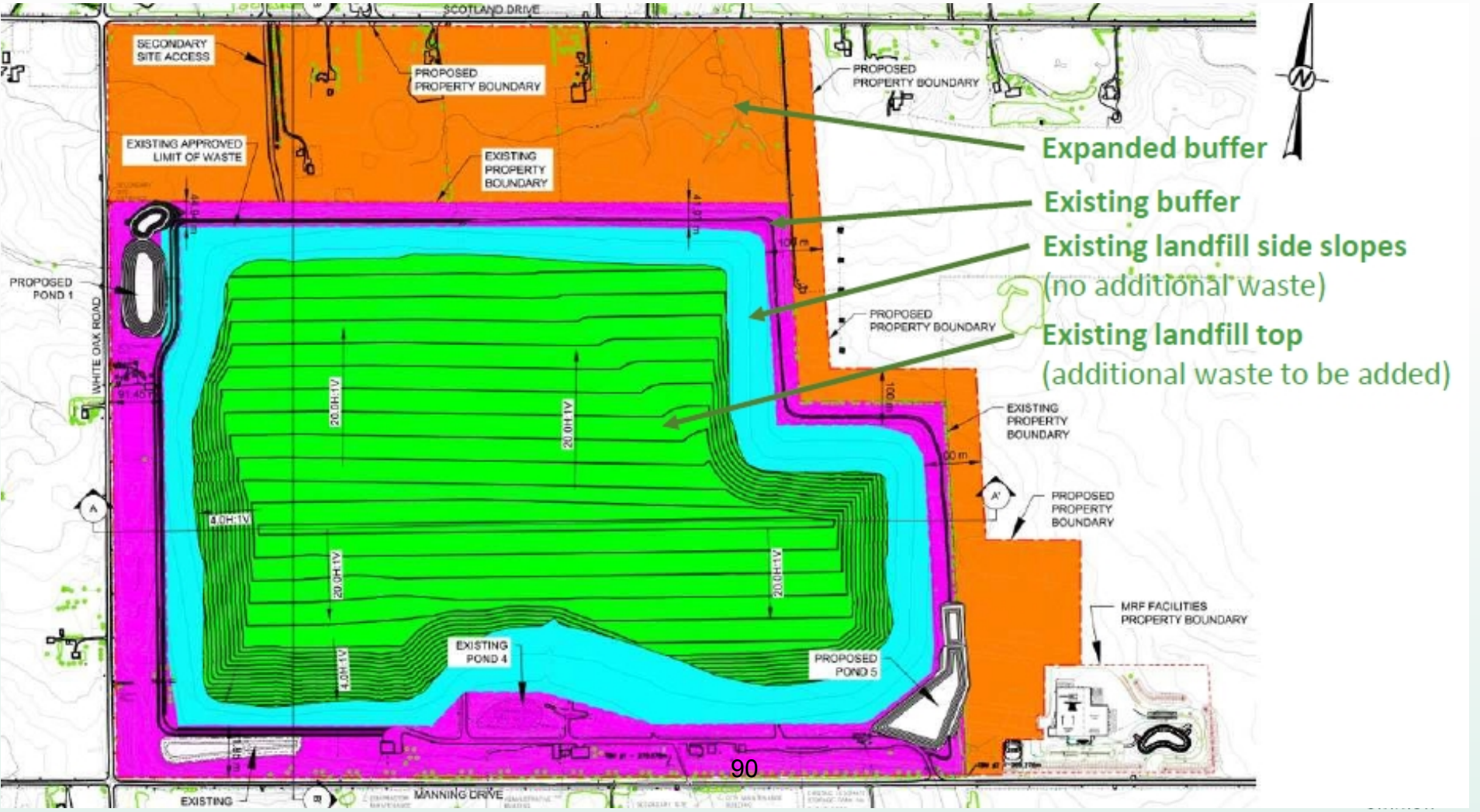
- Accessibility and accommodation expectations
- Planning policies and goals in relation to population growth
- Concerns related to air quality, climate change,  GHG and management of landfill gas (LFG)
- Concern that LFG was not being turned into an energy source such as renewable natural gas
- Concern that the City had not yet implemented a Green Bin program
- Concern about surface water impacts on the Thames River from the Greenway WWTP
- Socio-cultural sensitivities
- Geotechnical slope stability
- Changes in land use and future cultural heritage and archaeological assessment

# 2. Summary of Recent Comments (General Public)

- Concerns over nuisance impacts, e.g.:
  - odours
  - visual
  - particulate matter (dust)
  - blowing garbage
- Other concerns over nuisance impacts, e.g.:
  - Social impacts
  - Land use designation of the surrounding lands
- Status of City owned properties
- Eligibility for first right of refusal program

# 2. Summary of Recent Comments Layout/Size of Proposed Expansion

***No Changes***



# Section 3: Other Updates

## W12A Landfill Community Enhancement and Mitigative Measures Program (CEMMP)

Additional (recent) comments include:

- Request for screening measures
- Nuisance impacts (e.g., wind, turkey vultures, etc.)
- Right of First Refusal program qualifications
- Need for commitment to enhance management of City properties near landfill
- Funding added to continue neighborhood benefit programs approved via CEMMP (e.g., point of source water treatment program)

# Other Updates

## COTTFN Consultation Commitments

- Meet twice per year to discuss W12A Landfill
- Further engagement on long-term Resource Recovery Plan
- Further engagement on renewable natural gas (RNG) development at landfill
- Use City's Climate Change Lens Process relative to RNG, transportation of waste and landfill

# Other Updates

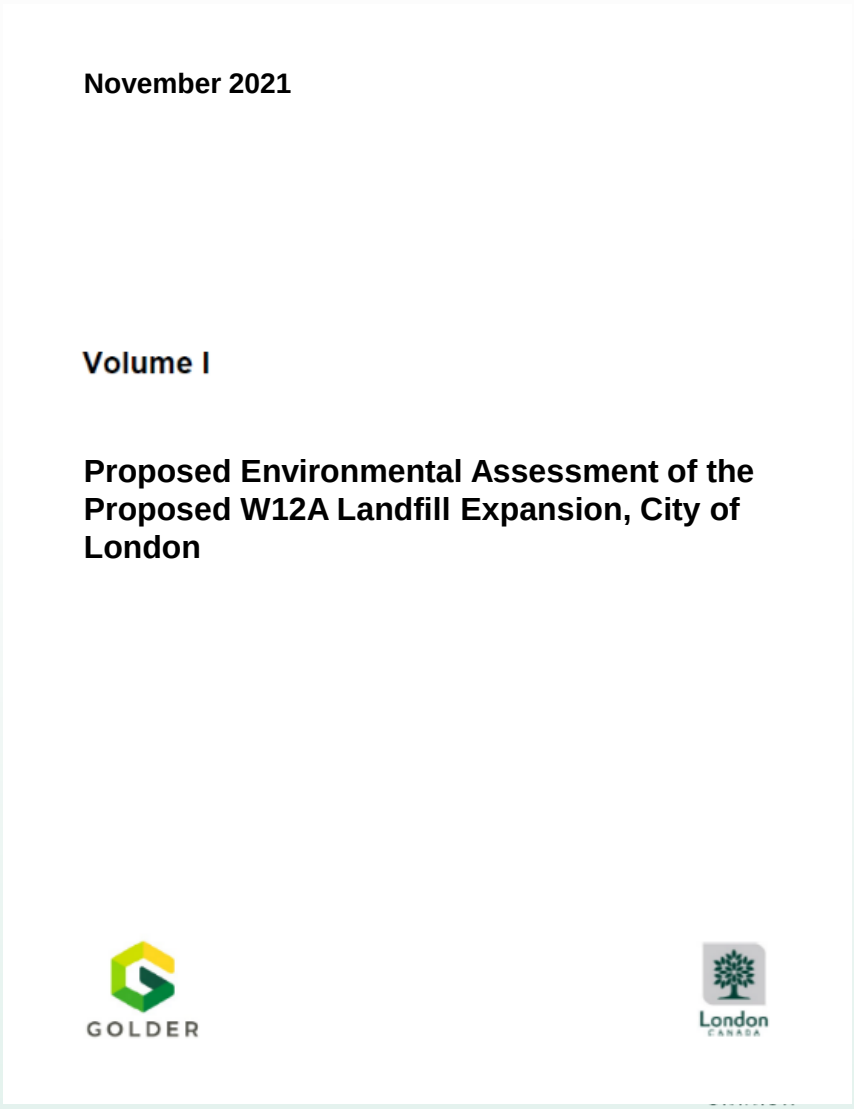
## Upcoming Reports to CWC (Q1)

| Timeframe | Item |
|---|---|
| March 2022 | • Review, proposed revisions, rationale and recommendations for CEMMP |
| March/April 2022 | • Proposed policies for operating the expanded W12A Landfill |
| March/April 2022 | • Next steps on Green Bin implementation<br>• Next steps on other waste diversion policies, actions and activities (many related to the Climate Emergency Action Plan) |

# Recommendation

That, on the recommendation of the Deputy City Manager, Environment & Infrastructure, the following actions be taken with respect to the Environmental Assessment Study Report for the Environmental Assessment of the Proposed W12A Landfill Expansion:

a) the Environmental Assessment Study Report **BE APPROVED**; and,
b) Civic Administration **BE AUTHORIZED** to submit the Environmental Assessment Study Report to the Ministry of Environment, Conservation and Parks for approval by the Minister of the Environment, Conservation and Parks.



# Report to Civic Works Committee

**To:** **Chair and Members**
**Civic Works Committee**
**From:** **Kelly Scherr, P. Eng., MBA, FEC, Deputy City Manager, Environment & Infrastructure**
**Subject:** **Investing in Canada Infrastructure Program: Public Transit Stream Intake 3**
**Date:** **January 11, 2022**

## Recommendation

That on the recommendation of the Deputy City Manager, Environment & Infrastructure, the Civic Administration **BE DIRECTED** to submit the projects identified herein to Intake 3 of the Public Transit Stream of the Investing in Canada Infrastructure Program (ICIP).

## Linkage to the Corporate Strategic Plan

The following report supports the 2019–2023 Strategic Plan through the strategic focus areas of Building a Sustainable City, Growing Our Economy and Leading in Customer Service by contributing to improved mobility options with a complete streets lens and a focus on climate change mitigation and adaptation. This funding program and report recommendation promotes projects that create an efficient, inclusive, and connected active transportation network.

## Analysis

### 1.0 Background Information

#### 1.1 Previous Reports Related to this Matter

- Civic Works Committee – June 19, 2012 – London 2030 Transportation Master Plan
- Planning and Environment Committee – June 13, 2016 – The London Plan
- Civic Works Committee – September 7, 2016 – London ON Bikes Cycling Master Plan
- Civic Works Committee – March 10, 2020 – Cycling Master Plan Technical Amendments
- Strategic Priorities and Policy Committee – March 20, 2019 – ICIP Public Transit Stream Transportation Projects List for Consideration
- Strategic Priorities and Policy Committee – October 28, 2019 – ICIP Public Transit Stream Approved Projects
- Civic Works Committee – March 30, 2021 – ICIP Public Transit Stream Approval of Transfer Payment Agreement
- Civic Works Committee - Active Transportation Infrastructure Plan - Nov 17, 2020

### 2.0 Discussion and Considerations

#### 2.1 Purpose

This report recommends a list of projects for submission to the Public Transit Stream of the Investing in Canada Infrastructure Program (ICIP).

## 2.2 Discussion

On June 1, 2021, the launch of the next application process, Intake 3, for funding under the Public Transit Stream of the ICIP was announced. Intakes 1 and 2 were launched in 2019 and were targeted at municipalities located inside and outside of the Greater Toronto and Hamilton Area (GTHA). The City of London participated in the previous intake and was approved for funding of ten transit and active transportation projects.

Intake 3 is open for all eligible municipalities located both inside and outside the GTHA to utilize the balance of federal and provincial funding available to each municipality. The intake will be open for much longer to enable municipalities to submit projects that better align with their timelines and readiness. Intake 3 will remain open until March 28, 2024. Projects must be substantially completed by October 31, 2027.

Projects eligible for the Public Transit Stream (PTS) will be assessed using an outcomes-based approach. To be considered for funding, a project must be aligned with at least one of the following transit improvement outcomes. The fourth outcome is a new addition to the program.

- Improved capacity of public transit infrastructure
- Improved quality and/or safety of existing or future transit systems
- Improved access to a public transit system
- Improved capacity and/or quality of pathways and/or active transportation infrastructure

## 2.3 Proposed Projects

The City of London received a provision of PTS funding from the federal and provincial governments, of which a portion ($29.3 million) has not yet been submitted and approved through the previous intake or committed to other capital projects. Use of the City's unallocated PTS funding would require the identification of a matching municipal contribution in accordance with the program requirements (40% Federal, 33% Provincial, 27% Municipal). This correlates to a $40 M total value of capital projects.

At the current time, projects supporting the fourth outcome related to pathways and/or active transportation infrastructure are the most "shovel-ready" and suitable for this funding. The projects identified below are anticipated to be considered eligible under the Public Transit Stream and are recommended for submission.

**Table 1: Projects Recommended for Submission**

| Project Name | Description | Estimated Capital Value ($) |
|---|---|---|
| New On-Road Cycling Facilities | New cycling lanes in the road right-of-way as a first/last mile solution that increases transit's catchment area. Initial locations may include Bradley Avenue, Boler Road, Sarnia Road, Cheapside Street, Central Avenue and Pond Mills Road. | 14,000,000 |
| New Pedestrian Crossings | Implementation of improved street pedestrian crossings to improve transit connectivity. Improvements include pedestrian crossovers and signals as appropriate. | 1,500,000 |

| | | |
|---|---|---|
| Boulevard Bike Lane Renewal | Renewal of aging boulevard bike paths along transit routes such as Wonderland Road and Adelaide Street. | 4,000,000 |
| Intersection Accessibility Compliance | Reconstruction of six to nine traffic signals to address signal compliance with the Accessibility for Ontarians with Disabilities Act (AODA) and create improved walking and cycling crossings. Locations will be in proximity to transit routes with higher pedestrian volumes. | 4,300,000 |
| Active Transportation Improvements across Bridge Pinch Points | Widening of bridges during near-term planned renewal projects to improve the quality and safety of pedestrian and cycling connections. Cost-efficiency is realized by implementing during required life-cycle rehabilitation. Locations may include Wharncliffe Road over Thames River, Kensington Bridge, Dundas Street over Pottersburg Creek and Queens Avenue Bridge over Thames River. | 11,500,000 |
| Bike Parking | Implementation of secured bicycle parking in proximity to rapid and conventional transit stops. | 200,000 |
| South Branch Thames Valley Parkway Extension (Old Victoria Hospital Lands Growth Area) | Extension of the Thames Valley Parkway and urban park promenade east from Wellington Street to Maitland Street through the Old Victoria Hospital Lands. | 4,500,000 |
| **Total** | | **40,000,000** |

The above list was derived from a longer list of potential projects. The additional projects include new streetlighting, new sidewalks, traffic signal bicycle detection, more intersection accessibility, more bridge widening locations and more new pathways.

### 2.4 Financial Considerations

City staff have identified capital projects in the Transportation and Parks capital budgets that could facilitate funding the City's contribution.

The projects recommended for submission will result in additional operating costs due primarily to increased maintenance required for operations like snow plowing, sweeping and signal maintenance. Preliminary estimates indicate the combined total operating costs for all identified projects will be in the order of $830,000 annually, however the costs will be refined upon completion of design of each individual project. Based on the ensuing growth of the active transportation network, these costs would likely be addressed through annual assessment growth requests made at the appropriate time depending on the timing of project completion. It should be noted that assessment growth allocations are subject to availability of assessment growth revenues. Assessment growth allocations are also a highly competitive process and are reviewed relative to the merits of other business cases submitted at that time.

## Conclusion

The ICIP Public Transit Stream funding presents an opportunity to construct infrastructure that supports Council's Strategic Plan. In particular, the recent addition of a fourth program outcome related to active transportation indicates more support for active transportation projects. The current intake is open until March 2024. The projects identified in this report for near-term submission would provide economic and equity benefits to the transportation system by improving multi-modal connectivity, giving London residents more transportation choices across a variety of neighbourhoods.

The projects identified are deliverable with current resources and have matching funding identified in the relevant capital budgets. There will be increased operating costs associated with these projects to be addressed through future assessment growth requests.

| | |
|---|---|
| **Submitted by:** | **Doug MacRae, P. Eng., MPA, Director, Transportation & Mobility** |
| **Recommended by:** | **Kelly Scherr, P. Eng., MBA, FEC, Deputy City Manager, Environment & Infrastructure** |

December 21, 2021/

c: Anna Lisa Barbon, Finance Supports
Alan Dunbar, Financial Planning & Policy
Garfield Dales, Transportation Planning and Design
Shane Maguire, Traffic Engineering
Jay Stanford, Environmental Programs
Jeff Bruin, Parks Planning and Design
Adam Thompson, Government and External Relations

**From:** Abe Oudshoorn
**Sent:** Thursday, January 6, 2022 10:07 AM
**To:** CWC <cwc@london.ca>
**Subject:** [EXTERNAL] Re: Investing in Canada Infrastructure Program: Public Transit Stream Intake 3

To the Civic Works Committee,

In the list of considered projects for this Jan 11th item I couldn't help but notice "Renewal of aging boulevard bike paths along transit routes such as Wonderland Road and Adelaide Street." I ride these routes regularly and I just wanted to impress how important this is. I end up just taking the road if traffic is not too bad because the surfaces are so poor and the transitions at intersections are bad or non-existent.

This will be a valuable investment and I hope it is supported.

This letter may be included in the public agenda.

--
Abe Oudshoorn, RN, PhD
Associate Professor
Arthur Labatt Family Chair in Nursing Leadership in Health Equity
Arthur Labatt Family School of Nursing
Room 2304, FIMS & Nursing Building
Western University
London, ON, N6A 5B9
Managing Editor, International Journal on Homelessness

**DEFERRED MATTERS**

**CIVIC WORKS COMMITTEE**

**as of December 23, 2021**

| File No. | Subject | Request Date | Requested/Expected Reply Date | Person Responsible | Status |
|---|---|---|---|---|---|
| 1. | **Rapid Transit Corridor Traffic Flow**<br>That the Civic Administration BE DIRECTED to report back on the feasibility of implementing specific pick-up and drop-off times for services, such as deliveries and curbside pick-up of recycling and waste collection to local businesses in the downtown area and in particular, along the proposed rapid transit corridors. | December 12, 2016 | Q1, 2022 | K. Scherr<br>J. Dann | |
| 2. | **Garbage and Recycling Collection and Next Steps**<br>That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, with the support of the Director, Environment, Fleet and Solid Waste, the following actions be taken with respect to the garbage and recycling collection and next steps:<br>ii) an Options Report for the introduction of a semi or fully automated garbage collection system including considerations for customers and operational impacts. | January 10, 2017 | Q1, 2022 | K. Scherr<br>J. Stanford | |
| 3. | **Bike Share System for London – Update and Next Steps**<br>That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the potential introduction of bike share to London:<br><br>that the Civic Administration BE DIRECTED to finalize the bike share business case and prepare a draft implementation plan for a bike share system in London, including identifying potential partners, an operations plan, a marketing plan and financing strategies, and submit to Civic Works Committee by January 2020; it being noted that a communication from C. Butler, dated August 8, 2019, with respect to the above matter was received. | August 12, 2019 | Q1, 2022 | K. Scherr<br>J. Stanford | |

| File No. | Subject | Request Date | Requested/Expected Reply Date | Person Responsible | Status |
|---|---|---|---|---|---|
| 4. | **Best Practices for Investing in Energy Efficiency and GHG Reduction**<br>That Civic Administration BE REQUESTED to develop a set of guidelines to evaluate efficiency and Greenhouse Gas reduction investments and provide some suggested best practices. | June 18, 2019 | Q1, 2022 | K. Scherr<br>J. Stanford | |
| 5. | **MADD Canada Memorial Sign**<br>That the following actions be taken with respect to the memorial sign request submitted by Shauna and David Andrews, dated June 1, 2020, and supported by Mothers Against Drunk Driving (MADD) Canada:<br><br>a) the Civic Administration BE DIRECTED to engage in discussions with MADD Canada regarding MADD Canada Memorial Signs and bring forward a proposed Memorandum of Understanding with MADD Canada for Council's approval;<br><br>it being noted that MADD will cover all sign manufacturing and installation costs;<br><br>it being further noted that the Ministry of Transportation and MADD have set out in this Memorandum of Understanding ("MOU") the terms and conditions for the placement of memorial signs on provincial highways which is not applicable to municipal roads;<br><br>it being further noted that MADD provides messages consistent with the London Road Safety Strategy; and,<br><br>b) the Civic Administration BE DIRECTED to work with MADD Canada to find a single permanent location in London for the purpose of memorials. | July 14, 2020 | Q3, 2022 | D. MacRae<br>A. Salton | |
| 6. | **Updates - 60% Waste Diversion Action Plan Including Green Bin Program**<br>d) the Civic Administration BE DIRECTED to:<br>i) continue to prioritize work activities and actions that also contribute to the work of the London Community Recovery Network; and, | November 17, 2020 | Q1, 2022 | K. Scherr<br>J. Stanford | |

| File No. | Subject | Request Date | Requested/Expected Reply Date | Person Responsible | Status |
|---|---|---|---|---|---|
| | ii) submit a report to the Civic Works Committee by June 2021 that outlines advantages, disadvantages, and implementation scenarios for various waste reduction and reuse initiatives, including but not limited to, reducing the container limit, examining the use of clear bags for garbage, mandatory recycling by-laws, reward and incentive systems, and additional user fees. | | | | |
| 7. | **Green Bin Program Design - Community Engagement Feedback**<br>That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer the following actions be taken with respect to the staff report dated March 30, 2021, related to the Green Bin Program Design and Community Engagement Feedback:<br><br>e) the Civic Administration BE DIRECTED to report back at a future meeting of the Civic Works Committee on the outcome of the procurement processes and provide details on the preferred mix of materials to collect in the Green Bin and any final design adjustments based on new information; and,<br><br>f) the Civic Administration BE DIRECTED to report back to the Civic Works Committee by September 2021 on municipal programs options, advantages, disadvantages and estimated costs to address bi-weekly garbage concerns. | March 30, 2021 | Q1, 2022 | K. Scherr<br>J. Stanford | |
| 8. | **3rd Report of the Cycling Advisory Committee**<br>b) the following actions be taken with respect to a City of London PumpTrack:<br><br>ii) the Civic Administration BE REQUESTED to report back on the process and fees associated with a feasibility study with respect to the establishment of a pumptrack facility in the City of London; it being noted that the communication, as appended to the agenda, from B. Cassell and the delegation from S. Nauman, with respect to this matter, was received | May 11, 2021 | TBD | K. Scherr, S. Stafford | |

| File No. | Subject | Request Date | Requested/Expected Reply Date | Person Responsible | Status |
|---|---|---|---|---|---|
| 9. | **Blackfriars Bridge**<br>That consideration of the Blackfriars Bridge remaining closed to vehicles indefinitely BE REFERRED to a future meeting of the Civic Works Committee in order for the Civic Administration to complete the required usage study as required in the Provincial EA, provide the related report to council, and allow for a more fulsome public engagement with respect to this matter. | November 2, 2021 | TBD | K. Scherr, D. MacRae | |