



## **Staff Report for Committee of the Whole Meeting**

**Date of Meeting:** December 6, 2023

**Report Number:** SRIES.23.006

**Department:** Infrastructure and Engineering Services  
**Division:** Infrastructure Planning and Development Engineering

**Subject:** **SRIES.23.006 2023 Urban Master Environmental Servicing Plan Update**

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### **Purpose:**

To present the key findings and recommendations of the 2023 Urban Master Environmental Servicing Plan Update and seek Council adoption.

### **Recommendation(s):**

- a) That Council adopt the 2023 Urban Master Environmental Servicing Plan Update Study.

### **Contact Person:**

Dan Terziewski, Director Infrastructure Planning and Development Engineering, extension 6358.

Jeff Walters, Manager Engineering Subdivisions and Infrastructure Planning, extension 6380.

### **Report Approval:**

**Submitted by:** Paolo Masaro, Executive Director of Infrastructure and Engineering Services

**Approved by:** Darlene Joslin, City Manager

All reports are electronically reviewed and/or approved by the Division Director, Treasurer (as required), City Solicitor (as required), Commissioner, and City Manager. Details of the reports approval are attached.

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### Background:

**The Urban Master Environmental Servicing Plan is a strategic master plan that identifies the water and wastewater servicing infrastructure needed to support the planned build-out of the City's intensification areas**

The Urban Master Environmental Servicing Plan (UMESP) is a strategic master planning document that focuses on the intensification areas planned within the City of Richmond Hill to plan for the necessary water and wastewater infrastructure system improvements required to support the ultimate planned build-out of Richmond Hill based on the projected population and growth forecasts prescribed by the Province, Region of York, and the City's Official Plan

As a master planning document, the UMESP follows the Province's Municipal Class Environmental Assessment (MCEA) process for Master Plans. The document is reviewed and updated every 5 to 10 years, as appropriate

**The 2023 UMESP provides an update of the 2014 UMESP and is in alignment with key City, Regional, and Provincial Plans**

The 2023 UMESP is an update of the 2014 UMESP, and forms part of a larger municipal comprehensive review process that is currently underway for Richmond Hill, which also includes updates to the City's Official Plan as well as the City's Development Charges By-Law. The 2023 UMESP Update is guided by and aligns with the policies and updated population, growth, and land use projections prescribed for the City by the Provincial Growth Plans, 2022 Region of York Official Plan, and City's Official Plan Update. The recommendations of the 2023 UMESP Update will be used to inform the update of the City's Development Charge By-Laws.

### Approach:

The City retained Civica Infrastructure Inc. to provide consulting services to update the water and wastewater servicing components of the 2014 UMESP.

The primary intent of the 2023 UMESP Update is to validate or update the recommendations from the 2014 UMESP as well as identify any new growth related water and wastewater infrastructure improvements needed to support ultimate build-out of the City's growth and intensification areas.

#### Growth Forecasts and Project Horizons

The assessment for the UMESP Update included three horizons, 2041, 2051, an Ultimate Build-Out, based on the updated population, growth, and land use forecasts prescribed by the Province, Region of York, and through the City's Official Plan Update.

The Ultimate Build-Out goes beyond the horizon of the Official Plan Update, but was included to ensure that water and wastewater infrastructure is constructed to its ultimate

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size in order to avoid the need to upgrade this infrastructure before the end of its life expectancy (up to 100 years), and to minimize unnecessary disruptions to City residents resulting from these projects.

### Study Area

The focus of the UMESP Update was on the City's intensification centers and corridors, with emphasis on the following areas of the urban structure:

1. Richmond Hill Centre
2. Key Development Areas ( Yonge/Bernard, Yonge/16<sup>th</sup>)
3. Regional Corridors
4. Local Centres (Village Local Centre, Oak Ridges Local Centre)
5. Local Development Areas and Corridors

In addition, the study for the 2023 UMESP update was also expanded to including new emerging growth centres identified through the ongoing update of the City's Official Plan. These centres include the:

1. Newkirk GO Local Centre
2. Bathurst & Highway 7 Centre
3. East Beaver Creek & Highway 7 Centre

The study area comprises the network of centres and corridors which include the secondary plan areas for local centres, key development areas, and the Richmond Hill Centre urban growth centre, as well as the other remaining intensification areas identified within the Richmond Hill Official Plan. This UMESP update study area extends beyond these urban structure elements, where necessary, to ensure that the analyses and infrastructure recommendations account for any interdependencies with adjacent areas. The attached Appendix 1 shows the study area of this project which consists of even Official Plan (OP) land use intensification Areas in addition to 7 Emerging Growth Centres (EGC).

### Water and Wastewater System Models

The main study objectives for the UMESP were to

- Evaluate the City's existing water and wastewater systems and establish updated evaluation criteria;
- Confirm or update the recommended infrastructure improvements from the 2014 UMESP study.
- Identify any other required infrastructure improvements to support growth forecasts to support the full build-out of the City's planned growth and intensification areas
- Confirm timing of the identified water and wastewater improvements based on the 2041, 2051, and full build-out horizons

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In order to complete the evaluation for the objectives noted above, existing conditions system models were updated as follows:

- To reflect new development growth and wastewater and water system expansion/improvements that have occurred since 2014 UMESP.
- The wastewater model was calibrated using monitoring information collected by the City.
- The water model compared against the City's pressure test data to confirm accuracy.
- The use of Regional unit flow rates was reviewed and these rates were adopted consistent with input from Development Community through 2016 City Wide DC appeal and related minutes of settlement and Development Community input.

Future conditions models were then developed for the 2041, 2051 and ultimate build-Out horizons to:

- Determine the connection points to existing water and wastewater systems for the Ultimate Build-Out growth scenario;
- Determined water and wastewater system improvements (location and sizing) needed to service Ultimate Build-Out growth scenario; and
- Determine which parts of the Ultimate Build-Out system improvements are triggered by growth in 2041 and 2051
- Prepare an infrastructure implementation plan for 2041, 2051 and Ultimate Build-Out including estimated costing for the infrastructure improvements.

### Environmental Assessment Process and Public Consultation

As a Class EA Master Plan, the 2023 UMESP Update was required to satisfy Phase 1 and Phase 2 of the Municipal Environmental Assessment Process. Phase 1 of the EA process required the identification of the study problem or opportunity statement, while Phase 2 of the EA process requires public consultation with review agencies, key stakeholders, and the public regarding the proposed water and wastewater infrastructure projects identified through the process. A summary of the consultation completed as part of the UMESP Update is provided in **Table 1**.

A statutory public information centre was completed in July 2023, in accordance with requirements of the Municipal Class EA process, which garnered little feedback.

As such, further engagement was also conducted as part of the City's municipal comprehensive review, through the public open houses, PIC meetings, and stakeholders meeting undertaken as part of the City's Official Plan and DC By-law updates.

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The UMESP update process also involved internal stakeholder engagement, as well as external stakeholder engagement with key stakeholders groups such as the Region and the development industry.

**Table 1: 2023 UMESP Update Consultation**

<b>Engagement</b>	<b>Overview and Date</b>
Notice of Study Commencement	August 30, 2018
Technical Advisory Committee	Multiple meetings with external and internal stakeholder groups
Stakeholder Meetings	Various meetings with York Region staff to review and compare system models
Official Plan Open House and PIC Meetings	Public exposure as identified Master Plan Study to support OP growth and timing alignment
DC By-Law Update Stakeholders Meetings	Various meeting with development industry and other stakeholders
UMESP Public Information Center Meeting	July 20, 2023 to present recommended improvement projects to public (low attendance)
Notice of UMESP Study Completion	After Council Approval
30 Day Public Review of Final UMESP	After Council Approval

### **Key Recommendations:**

**Fifteen water and twenty wastewater infrastructure projects are required to support the full build-out of the City’s growth and intensification areas, and will be delivered in part or in whole based on their need**

After evaluation of alternatives, the study analysis identified 20 wastewater improvement projects and 15 water improvement projects to support the Ultimate Build-Out growth scenario. The analysis also identified which of these improvement projects are required to support the 2023 to 2041, 2041 to 2051 and 2051 to Ultimate growth scenarios. The analysis has identified that some of the Ultimate Build-Out projects will need to be implemented in full within in a specific growth period, while in other cases projects can be delivered in segments over multiple growth periods. These have been identified as full and partial projects in **Table 2** below, and in some cases one specific

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project will span over all three growth periods in segments. **Table 2** also includes the estimated cost associated with each growth scenario.

**Table 2: Proposed Water and Wastewater System Improvements and Costs**

	2023 to 2041	2041 to 2051	2051 to Ultimate	Total
<b># of Water Projects</b>	12 full projects 1 partial segment	1 full project 2 partial segments	2 partial segments	<b>15</b>
<b>Estimated Cost</b>	\$16M	\$4.5M	\$1.2M	<b>\$21.7M</b>
<b># of Wastewater Projects</b>	8 full projects 7 partial segments	3 partial segments	5 full projects 8 partial segments	<b>20</b>
<b>Estimated Cost</b>	\$17.6M	\$1.1M	\$22.4M	<b>\$41.1M</b>
<b>Total</b>	<b>\$33.6M</b>	<b>\$5.6M</b>	<b>\$23.6M</b>	<b>\$62.8M</b>

More details for the 20 recommended wastewater improvement projects are provided in **Appendix 2**, while locations of each project are included in **Appendix 3** for reference.

**Appendix 4** provides more details with respect to the 20 recommended wastewater improvement projects and the location of each project is included in **Appendix 5**.

### **Financial/Staffing/Other Implications:**

**A \$62.8 million investment in water and wastewater infrastructure is required to support the full build-out of the City’s growth and intensification areas**

The recommended 15 water and 20 wastewater improvement projects identified by the 2023 UMESP update represent a City investment of \$62.8 million (\$21.7 million for water and \$41.1 million for wastewater) to full build-out.

**Development charges will be used to fund a portion of the costs for projects planned to 2041**

The infrastructure projects identified through 2023 Urban MESP Study are primarily growth related, and therefore will be largely funded from development charges. As such, all of the infrastructure projects to 2041 that are fully or partially eligible for development charges funding will be incorporated into the City’s ongoing DC By-Law Update, to ensure appropriate collection of funds. This includes \$17.59M in sanitary collection, and \$16.03M in water distribution.

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Of the total amounts included in the DC Background Study for the Urban MESP approximately \$9.9M is attributed to benefit to existing component, which will be funded from the water and wastewater repair and replacement reserves.

It should be noted that projects beyond 2041 will also be identified in the DC By-Law Background Study, but their benefits are considered to be post-period. Development charge collection for these projects will occur in the future, once they fall within the prescribed time-frame.

Furthermore, as a result of new legislation brought forward via Bill 23, DC revenue collection for projects included in the Urban MESP will be insufficient, and will produce funding gap. This is mostly driven by the phase-in of new DC rates over 5 years, and numerous DC exemptions and discounts. Staff is committed to exploring other funding sources for the shortfall of DC collections.

### **The final delivery of UMESP infrastructure projects will be timed with actual growth and development in the City through the capital planning process**

While the infrastructure projects identified in the 2023 UMESP Update have been generally planned for 2041, 2051, or the Ultimate Build-Out horizons based on the growth forecasted from the City's Official Plan, the final delivery timing of these projects will coincide with actual needs, which is dependent on the when growth actually occurs and where it is occurring in the City. As such, the actual timing for these projects will be planned through the City Capital Plan forecast, and their delivery timing will be adjusted and prioritized annually through ongoing monitoring of water and wastewater system capacity, growth, and active development applications in the City. Furthermore, budget approval for these projects will only be secured when these projects are needed to be delivered, and will be completed through the City's annual Capital Budget process. As such, no budget approval is being requested at this time.

It should be noted that 2 wastewater improvements are identified in the City's current capital forecast for 2024 and 2025, and a budget request is being brought forward the planned 2024 project, as part of the 2024 Capital Budget. The remaining projects will be planned for through future capital forecasts, once the 2023 UMESP Update is adopted by Council.

### **Relationship to Council's Strategic Priorities 2020-2022:**

The UMESP study and related recommendations support the strategic priority of balancing growth and fiscal responsibility.

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### **Climate Change Considerations:**

The study analysis and calibrated model of the wastewater system takes into account the effects of severe rainfall events on system capacity.

### **Conclusion:**

The 2023 UMESP Update Study identifies 15 water and 20 wastewater improvements projects that are needed support the full build-out of the City's growth and intensification area, based on the planned growth and land use forecasts for these areas.

These projects represent a City investment of \$62.8 to full build-out. \$33.6 million of this cost will be included in the City's DC By-Law update for the projects planned up to 2041, with the intent to fund \$17.3 million of this cost from development charges. The remaining balance will be funding through water and wastewater reserves, as well as other potential sources of funding such as grants.

This includes 12 full and 1 partial water project as well as 8 full and 7 partial wastewater projects.

Staff recommend that Council adopt the 2023 UMESP Update Study and its recommendations, and more specifically the recommended water and wastewater improvement projects to support growth identified in the Official Plan.

### **Attachments:**

The following attached documents may include scanned images of appendixes, maps and photographs. All attachments have been reviewed and made accessible. If you require an alternative format please call the contact person listed in this document.

- Appendix 1 - Figure 4-4 Urban MESP Update Study Area
- Appendix 2 - Table 6-2 Recommended Wastewater Improvement Projects
- Appendix 3 - Figure 6-1 Wastewater Projects Location
- Appendix 4 - Table 6-3 Recommended Water Improvement Projects
- Appendix 5 - Figure 6-2 Water Projects Location



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### Report Approval Details

Document Title:	SRIES.23.006 Urban MESP Update Study.docx
Attachments:	<ul style="list-style-type: none"><li>- Appendix 1 Figures 4-4 Urban MESP Study Area.pdf</li><li>- Appendix 3 Figures 6-1 Wastewater Projects Location.pdf</li><li>- Appendix 5 Figure 6-2 Water Projects Location.pdf</li><li>- Appendix 2 Table 6-2 Recommended Wastewater Improvement Projects.pdf</li><li>- Appendix 4 Table 6-3 Recommended Water Improvement Projects.pdf</li></ul>
Final Approval Date:	Nov 15, 2023

This report and all of its attachments were approved and signed as outlined below:

**Dan Terziewski - Nov 15, 2023 - 4:42 PM**

**Paolo Masaro - Nov 15, 2023 - 4:49 PM**

**Darlene Joslin - Nov 15, 2023 - 5:14 PM**