Regional Municipality of Waterloo
Planning and Works Committee

Agenda
Tuesday, March 3, 2020
9:00 a.m.
Regional Council Chamber
150 Frederick Street, Kitchener, Ontario

1. Declarations of Pecuniary Interest under The “Municipal Conflict Of Interest Act”

2. Delegations

Consent Agenda Items

Items on the Consent Agenda can be approved in one motion of Committee to save time. Prior to the motion being voted on, any member of Committee may request that one or more of the items be removed from the Consent Agenda and voted on separately.

3. Request to Remove Items from Consent Agenda

4. Motion to Approve Items or Receive for Information

4.1 University Avenue Improvements, Albert Street to Weber Street, City of Waterloo – Information Package in Advance of Public Consultation Centre #1 (Information)

4.2 Shingletown Wells Iron and Manganese Treatment Upgrades – Information Package in Advance of Public Consultation Centre #2 (Information)

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Should you require an alternative format please contact the Regional Clerk at Tel.: 519-575-4400, TTY: 519-575-4605, or regionalclerk@regionofwaterloo.ca

5.  Reports – Transportation and Environmental Services

5.1  **TES-DCS-20-05**, Project Approval - King Street East, Highway 401 Overpass to Freeport Bridge and Sportsworld Drive, King Street East to Gateway Park Drive

**Recommendation:**

That the Regional Municipality of Waterloo take the following actions with respect to the recommended improvements to King Street East (Regional Road 8) between the Highway 401 overpass and the Freeport Bridge and Sportsworld Drive (Regional Road 38) between King Street East and Gateway Park Drive in the City of Kitchener:

a) approve the Recommended Design Concept for King Street East (Regional Road 8) and Sportsworld Drive (Regional Road 38) as outlined in Report TES-DCS-20-05; and

b) approve an amendment to the Consultant Services Agreement with Associated Engineering (Ont) Ltd to provide engineering consulting services for preliminary design, detailed design, contract administration, and construction inspection services for the proposed improvements on King Street East and Sportsworld Drive to increase the upset limit fee by $468,584 plus applicable taxes to a revised total of $1,064,514 plus applicable taxes for preliminary design and detailed design, with contract administration and construction inspection services to be paid on a time basis.

5.2  **TES-DCS-20-07**, Fischer-Hallman Road Improvements Bleams Road to Plains Road, City of Kitchener – Project Update, Stage 4 Archaeological Study and Amendment to Consulting Services Agreement

**Recommendation:**

That the Regional Municipality of Waterloo select Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited to complete a Stage 4 Archaeological Assessment at an estimated cost of $1,600,000 as part
of a larger upcoming construction contract for a portion of Fischer-Hallman Road from Bleams Road to Strasburg Creek, and

That the Regional Municipality of Waterloo amend the Consulting Services Agreement with Associated Engineering (Ont.) Ltd to add additional fees in the amount of $400,000 plus applicable taxes for a revised total upset fee of $1,383,396 for design services as described in report TES-DCS-20-07, dated March 3, 2020.

5.3 **TES-TRS-20-05**, Grand River Transit U-Pass Contract Updates

**Recommendation:**

That the Regional Municipality of Waterloo enter into agreements with the Waterloo Undergraduate Students Association, the University of Waterloo Graduate Students Association, the University of Waterloo English Language Institute at Renison College, the Wilfrid Laurier University Students Union and the Wilfrid Laurier University Graduate Students Association to implement universal transit pass programs (U-Pass), in a form satisfactory to the Regional solicitor, as described in Report No. TES-TRS-20-05, dated March 3, 2020.

And that the Regional Municipality of Waterloo amend the Region’s Fees and Charges By-law 20-001 with respect to the U-Pass agreements with full-time students at the University of Waterloo and Wilfrid Laurier University, as described in Report TES-TRS-20-05, dated March 3, 2020 to increase U-Pass fees to $110.00 per school term for eligible students of the Waterloo Undergraduate Students Association and $103.20 for all other eligible students, effective September 1, 2020.

5.4 **TES-TRS-20-07**, Low Income Transit Program Implementation Update

**Recommendation:**

That the Regional Municipality of Waterloo defer the elimination of the “reduced monthly pass” and “reduced stored-value fare payment” from April 1, 2020 to July 1, 2020 to be implemented in conjunction with the approved 2% fare increase on July 1, 2020.

5.5 **TES-WAS-20-05**, 2019 Drinking Water Summary Report, Quality Management System Review and Infrastructure Maintenance Plan

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Recommendation:


6. Reports – Planning, Development and Legislative Services

6.1 PDL-CPL-20-02/COR-TRY-20-16, Brownfields Financial Incentive Program – Tax Increment Grant Application – 270 Spadina Road East, Kitchener

Recommendation:

That the Regional Municipality of Waterloo take the following actions regarding the property municipally known as 270 Spadina Road East in the City of Kitchener, as described in Report PDL-CPL-20-02/COR-TRY-20-16 dated March 3, 2020:

a) Approve a joint Tax Increment Grant, subject to the terms of an associated Tax Increment Grant agreement with the registered owner of the subject lands, with the Regional amount not to exceed $3,755,440 net of any other future brownfield assistance, to be financed from the incremental tax revenue for the property following remediation, redevelopment and reassessment; and,

b) Authorize the Region’s Commissioner of Planning, Development and Legislative Services and Commissioner, Corporate Services / Chief Financial Officer to execute any associated agreements, assignments, or other related documents with the registered owner of 270 Spadina Road East in the City of Kitchener, with the form and content of such Tax Increment Grant agreement(s), any subsequent assignments of the agreement, or other related documents to be satisfactory to both the Regional and City of Kitchener Solicitors.

7. Information/Correspondence

7.1 Council Enquiries and Requests for Information Tracking List
8. **Other Business**

8.1 Eric Saunderson, Senior Engineer re: OGRA 2019 Municipal Concrete Project of the Year Award: King Street (Regional Road 15) Uptown Waterloo Streetscape Construction, ION Tracks to Elgin Street.

9. **Next Meeting – March 24, 2020**

10. **Adjourn**
List of Upcoming Public Events

Shingletown Wells Iron and Manganese Treatment Upgrades – Public Consultation Centre #2

- **Thursday, March 5, 2020** - 5:00 – 7:00 p.m., Wilmot Recreation Complex, Meeting Room A, 1291 Nafziger Road, Baden

University Avenue Improvements, Albert Street to Weber Street, City of Waterloo – Public Consultation Centre #1

- **Tuesday, March 24, 2020** - 5:00 – 8:00 p.m., Wilfrid Laurier University, 75 University Avenue West, Waterloo
University Avenue Improvements
Albert Street to Weber Street
City of Waterloo
Public Consultation Centre #1
Information Package

What: The Regional Municipality of Waterloo is undertaking a Schedule “C” Municipal Class Environmental Assessment (Class EA) for improvements to the University Avenue (Regional Road 57) corridor.

Where: University Avenue from Albert Street to Weber Street in the City of Waterloo.

Why: To provide roadway and underground infrastructure, active transportation facilities and traffic operation improvements along the corridor.


Who: Region of Waterloo Project Manager
Andrew Doman, P. Eng.
Region of Waterloo
Phone: (519) 575-4757 Ext. 3183
Email: ADoman@regionofwaterloo.ca

Public Consultation Centre #1
Tuesday, March 24, 2020 from 5:00 p.m. to 8:00 p.m.
Wilfrid Laurier University
75 University Avenue West
Waterloo, Ontario

There is a comment sheet at the back of this package. Please fill it out and share your comments with us.
1. **Why is the Region considering this project?**

The 2018 Regional Transportation Master Plan has identified this section of roadway for major rehabilitation to address deteriorated pavement structure and provide active transportation and intersection improvements. Also, the City of Waterloo’s watermain and sanitary sewer systems require replacement.

The Transportation Master Plan has identified the road section on University Avenue from King Street to Weber Street for cycling infrastructure installation to complete cycling network connectivity in this area.

2. **Who is directing this project?**

The planning and design for this project is being directed by staff from the Region of Waterloo and City of Waterloo, along with City of Waterloo Mayor and Region of Waterloo (Waterloo) Councillor Dave Jaworsky and City of Waterloo (Ward 6) Councillor Jeff Henry. The consulting engineering firm IBI Group has been retained by the Region of Waterloo to provide planning and preliminary design services during the study phase of this project, as well as detailed design, contract administration, and inspection services through the construction phase.

3. **How is this project being planned?**

This project is being planned in accordance with the requirements of the Municipal Class Environmental Assessment (Class EA) process. The Municipal Class EA process is a planning and decision-making process approved under the Environmental Assessment Act that is used by municipalities to plan public infrastructure projects in order that potential environmental impacts are considered before a project is approved. It requires consultation with the public, involved stakeholders, and agencies in consideration of alternatives and their potential impacts on the project environment.

This project is being planned as a Schedule ‘C’ Class EA project which applies to larger, more complex projects with the potential for significant environmental impacts (natural, social, cultural and economic) and requires multiple opportunities for public input.

This project is in the early phase of the Class EA process and this initial Public Consultation Centre is being held for members of the public to become aware of the project and to provide input into the project for further development of alternatives and their environmental impacts.

Under a separate study the City of Waterloo is undertaking a Gateway Strategy to define potential ideas to establish University Avenue from Highway 85 to Westmount Road as a gateway corridor with an enhanced public streetscape and place-making.

In addition, the Region of Waterloo has implemented a Separated Bike Lane Pilot Project in the Fall of 2019 to assess the performance, maintenance and user feedback of a variety of separation treatments. This pilot project is expected to be in place until the Fall of 2020.
Both the Gateway Strategy and the Separated Bike Lane Pilot Project will be providing valuable information and feedback into this project.

4. What is the purpose of this Public Consultation Centre?

The purpose of this Public Consultation Centre is to have interested groups and individuals learn about and provide input on:

a) The needs and opportunities for improvements on University Avenue;

b) The project environment (natural, social, cultural/heritage, and economic);

c) The alternative solutions for improvements being considered by the Project Team;

d) How the alternative solutions for improvements will be evaluated and how a preferred alternative will be identified; and

e) Future public input opportunities planned.

Region and project consultant staff are available at this Public Consultation Centre to answer any questions you may have. We request that you fill out the Comment Sheet attached to the back of this Information Package and either put it in the Comment Box at the Public Consultation Centre or send it to the address noted on the Comment Sheet. To complement this Class EA process, the Region of Waterloo’s will use it’s EngageWR online survey platform in effort to reach out to a large spectrum of the public for input into this project. Your comments will be considered by the Project Team in conjunction with all other relevant information in recommending a preferred alternative for this project.

5. What alternatives are being considered for this project?

The alternative solutions for improvements currently being considered by the Project Team are listed below and are included in Appendix A:

1) **Do Nothing** – this alternative would include reconstructing the road in its current cross-section configurations.

2) **On-road Buffered Bike Lanes** – this alternative maintains on-road bike lanes between Albert Street and King Street and add bike lanes from King Street to Weber Street on both sides of the roadway. These bike lanes would be separated by a painted buffer space.

3) **Separated Bike Lanes with Enhanced Sidewalk** – this alternative would provide an enhanced 2.1m wide sidewalk where possible and separated bike lane facilities on both sides of the roadway.

   - Option 3 includes flexible bollards; and
   - Option 3a includes setting the bike lane off the roadway platform.
6. **Do the improvements include active transportation facilities?**

Yes, various options for active transportation improvements are being considered as described in section 5.

The Transportation Master Plan has identified the road section on University Avenue from King Street to Weber Street for cycling infrastructure installation to complete cycling network connectivity in this area.

The Context Sensitive Regional Transportation Corridor Design Guidelines (CDG) is a planning policy document that guides the design of Regional roads. The CDG identifies design parameters for necessary features within the road allowance such as vehicle lanes, cycling facilities, sidewalks, and boulevards. In accordance with the CDG, University Avenue is identified as a “Neighbourhood Connector – Avenue”. Designing University Avenue to facilitate the movement of a large volume of people and goods with vehicular and active transportation modes is a fundamental character of this road classification.

Transit (GRT & Metrolinx) bus routes improvements are planned for the future and will also be considered in this study.

The Regional Transportation Master Plan and Corridor Design Guidelines all support complete and continuous pedestrian facilities on this section of University Avenue for the full length of this project. Completion of cycling infrastructure and connectivity, along with pedestrian facility enhancements would satisfy that requirement.

Existing and planned active transportation facilities in the surrounding area are shown in Appendix C.

7. **Who will be responsible for the winter maintenance of the new multi-use trails, sidewalks, and/or separated bike lanes?**

Maintenance of active transportation facilities along Regional roads is the responsibility of the City of Waterloo. Responsibility for winter maintenance of sidewalks is the responsibility of the adjacent property owner under City of Waterloo bylaw.

8. **Will the posted speed be changed?**

The existing posted speed limit is 50km/hr along University Avenue between Albert Street and Weber Street. No change to the posted speed is being considered at this time in order to maintain a uniform and consistent posted speed along the entire corridor.

9. **Are noise attenuation measures being considered for this project?**

There is no widening for additional vehicle through travel lanes planned for this project and most properties are front-lotted. As such, there is no recommendation to consider additional physical noise attenuation along University Avenue from Albert Street to Weber Street at this time.
10. **Is any private property required for this project?**

One of the goals of the planning and design process for this project is to minimize the impact on adjacent properties and the need to acquire private property. An initial review of the existing road allowance indicates that along the road corridor the width between King Street and Regina Street of the road right-of-way may not be sufficient for all options being considered.

The Region may also need to obtain temporary access at some locations along the right-of-way limit for construction grading activities. Identification of property needs will be completed during the evaluation of alternatives as the study proceeds and will be confirmed during detailed design, following completion of the study.

In areas where property acquisition or temporary access is required, the property owner will be contacted directly by the Region of Waterloo. Compensation for land acquisitions would be provided at fair market rates based on recent similar area sales. Please refer to Appendix B for further information on the property acquisition process.

11. **How is the natural environment being considered?**

As part of the environmental inventory for the project, a Natural Environment Impact Study (EIS) has been initiated with completion of a Background Review Summary documenting the natural features and wildlife within the study area. Included within the EIS are: amphibian and reptile road mortality surveys, turtle surveys, amphibian call surveys, vegetation community surveys and boundary delineation, and bat habitat assessment. The review determined that there are no Core Environmental Features, Areas of Natural and Scientific Interest (ANSI), wildlife movement corridors, or provincially designated areas within the study area. Based on available background information candidate “suitable habitat” for one significant species was identified at the project outset within the study area. None of these species were detected during field work. Field studies also focused on identifying existing wildlife movement across the road to determine the need for road mortality mitigation. The need for such mitigation was not identified. Given the urbanized nature of the corridor and because the proposed undertaking is likely to be confined to the disturbed University Avenue right-of-way, it is not anticipated that wildlife or their habitats will be impacted by the proposed undertaking.

A tree assessment was completed in the Summer of 2019 to inventory the various trees within the Study Area. The trees will be assessed for overall health and significance in order to develop mitigation and protection plans for any trees to be retained. Where trees may be impacted or removed, a compensation strategy will be developed as part of the tree management and landscaping design.

12. **How is the cultural/heritage/archaeological environment being considered?**

A Cultural Heritage Resource Assessment was completed in July 2019. A review of available cultural heritage resource inventories revealed that there are three (3) designated cultural
heritage resources within the study area, including two properties listed on the unofficial municipal inventory. No additional resources were identified through field review. Impacts and mitigation measures for cultural heritage resources will be assessed as part of the evaluation of alternatives.

A Stage 1 Archaeological Assessment (Background Research and Property Inspection) was completed in July 2019. The Stage 1 Background Research indicated that two (2) previously registered sites are within the Study Area, but do not retain archaeological potential. The remainder of the Study Area does not retain archaeological potential due to prior deep and extensive land disturbance.

13. What is the estimated cost of this project?

The cost of this project will depend on the approved improvement alternative, as well as necessary infrastructure relocations and property acquisitions. Funding of $3.27 million for improvements on University Avenue is included in the Region's 2020 10-Year Transportation Capital Program. This includes an allocation of $485,000 for active transportation facilities. The cost of various alternatives will be considered during their evaluation.

14. What is the project schedule and what are the next steps for improvements on University Avenue?

The Project Team will review the public comments received from this Public Consultation Centre and use them as input for assessment of the potential impacts of each alternative on the project environment. The Project Team will evaluate the alternatives for presentation of a Preferred Alternative for improvements at a second Public Consultation Centre to be held later in 2020 for further public review and input. After consideration of the technical information completed and all public input received, the Project Team will present a recommendation to Regional Council in 2021 for approval of an improvement alternative that best meets the needs of the public while minimizing the impact on the project environment.

Pending project approval by Regional Council, detailed design and property acquisition (if required) is funded in the 2020 Region Transportation Capital Program to be completed throughout 2021, with utility relocations in 2022, and construction commencing in 2023.

15. How will I receive further notification regarding this project?

Property owners and tenants abutting the project site and members of the public registering at this Public Consultation Centre will receive all forthcoming public correspondence, and will be notified of all future meetings.

16. How can I provide my comments?

The Region of Waterloo encourages members of the public, stakeholder groups, and agencies to actively participate in this study by attending public consultation opportunities and/or contacting staff directly with comments or questions. If you wish to be added to the project
mailing list, or would like further information on the project and any future project meetings, please visit our website at www.regionofwaterloo.ca or contact:

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17. How can I view project information following the PCC?

All of the PCC display materials and other relevant project information, notifications of upcoming meetings and contact information are available for viewing at the Region of Waterloo municipal office as identified above. Alternatively, you may visit the Region’s website at www.regionofwaterloo.ca.
Comment Sheet
Regional Municipality of Waterloo
University Avenue Improvements
Public Consultation Centre #1 – Tuesday, March 24, 2020

Please complete and hand in this sheet so that your comments can be considered for this project. If you cannot complete your comments today, please take this home and mail, fax, or email your comments by Tuesday, April 14, 2020 to:

Andrew Doman, P. Eng.  
Senior Engineer  
Region of Waterloo  
150 Frederick Street, 6th Floor  
Kitchener, ON N2G 4J3  
Telephone: 519-575-4757 Ext. 3183  
Fax: 519-575-4430  
Email: ADoman@regionofwaterloo.ca

Kelly Cobbe, P. Eng.  
Consultant Project Manager  
IBI Group  
410 Albert Street, Suite 101  
Waterloo, ON, N2L 3V3  
Telephone: 519-585-2255  
Email: kcobbe@ibigroup.com

Comments regarding this project:

________________________________________________________________________

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________________________________________________________________________

Name:
Address:
Postal Code:
Phone:     Email:

Collection Notice:

All comments and information received from individuals, stakeholder groups, and agencies regarding these projects and meetings are being collected to assist the Region of Waterloo in making a decision. Under the “Municipal Act”, personal information (such as name, address, telephone number, and property location) which may be included in a submission becomes part of the public record. Questions regarding the collection should be forwarded to the staff member noted above.
Appendix A – Design Alternative #1
Do Nothing (Maintain Existing Conditions)

Appendix A – Design Alternative #2
Separated Bike Lane with Painted Buffer

Appendix A – Design Alternative #3
Separated Bike Lane with Flexible Bollards
Appendix A – Design Alternative #3a

Separated Bike Lane with Physical Barrier
Appendix B

Property Acquisition Process Information Sheet

The following information is provided as a general overview of the property acquisition process and is not legal advice. Further, the steps, timing, and processes can vary depending on the individual circumstances of each case.

Once the Class Environmental Assessment is complete and the Environmental Study Report outlining the Recommended Design Concept has been approved, the property acquisition process and the efforts of Regional Real Estate staff will focus on preparation for acquiring the required lands to implement the approved design. Regional staff cannot make fundamental amendments or changes to the approved design concept.

Property Impact Plans

After the project has been approved and as it approaches final design, the project planners will generate drawings and sketches indicating what lands and interests need to be acquired from each affected property to undertake the project. These drawings are referred to as Property Impact Plans (PIP).

Initial Owner Contact by Regional Real Estate Staff

Once the PIPs are finalized and available, Regional Real Estate staff will retain an independent appraiser to provide preliminary valuations of the land requirements and their effect on the value of the property. As this process nears completion Real Estate staff will contact the affected property owner/s by telephone and mail to introduce themselves and set-up initial meetings to discuss the project, appraisals, and proposed acquisitions.

Initial Meetings

The initial meeting is attended by the project engineer and the assigned real estate staff person to brief the owner on the project, what part of their lands are to be acquired or will be affected, what work will be undertaken, when, with what equipment, etc. and to answer any questions. The primary purpose of the meeting is to listen to the owner and identify issues, concerns, effects of the proposed acquisition on remaining lands and businesses that can be feasibly mitigated and/or compensated, and how the remaining property may be restored. These discussions may require additional meetings. The goal of staff is to work with the owner to reach mutually agreeable solutions.

Goal – Fair and Equitable Settlement for All Parties

The goal is always to reach a fair and equitable agreement for both the property owner and the Region. Such an agreement will provide compensation for the fair market value of the lands and address the project impacts (such as repairing or replacing landscaping, fencing, paving, etc.) such that the property owner will receive the value of the lands acquired and the restoration of their remaining property to the condition it was prior to the Project.
The initial meetings will form the basis of an initial offer of settlement or agreement of purchase and sale for the required lands or interests.

**Steps Toward Offer of Settlement or Agreement of Purchase and Sale**

The general steps toward such an offer are as follows:

1. The Region will obtain an independent appraisal of the fair market value of the lands and interests to be acquired, and an appraisal of any effect on the value of the rest of the property resulting from the acquisition of the required lands and interests;
2. Compensation will be estimated and/or works to minimize other effects will be defined and agreed to by the property owner and the Region;
3. Reasonable costs of the owner will be included in any compensation settlement;
4. An offer with a purchase price and any other compensation or works in lieu of compensation will be submitted to the property owner for consideration; and
5. An Agreement will be finalized with any additional discussion, valuations, etc. as may be required.

Depending on the amount of compensation, agreements may require the approval of Council. The approval is undertaken in Closed Session which is not open to the public to ensure a level of confidentiality.

**Expropriation**

Due to the time constraints of these projects, it is the practice of the Region to commence the expropriation process in parallel with the negotiation process to ensure that lands and interests are acquired in time for commencement of the Project. Typically, over 90% of all required lands and interests are acquired through the negotiation process. Even after lands and interests have been acquired through expropriation an agreement on compensation can be reached through negotiation, this is usually referred to as a ‘settlement agreement’.

Put simply, an expropriation is the transfer of lands or an easement to a governmental authority for reasonable compensation, including payment of fair market value for the transferred lands, without the consent of the property owner being required. In the case of expropriations by municipalities such as the Region of Waterloo, the process set out in the Ontario *Expropriations Act* must be followed to ensure that the rights of the property owners provided under that *Act* are protected.

For information on the expropriation process, please refer to ‘Expropriation Information Sheet’.
The following information is provided as a general overview of the expropriation process and is not legal advice. For complete information, reference should be made to the Ontario Expropriations Act as well as the more detailed information in the Notices provided under that Act.

Expropriation Information Sheet

What is Expropriation?

Governmental authorities such as municipalities, school boards, and the provincial and federal governments undertake many projects which require them to obtain land from private property owners. In the case of the Regional Municipality of Waterloo, projects such as the construction or improvement of Regional Roads sometimes require the purchase of land from private property owners. In many cases, the Region of Waterloo only needs a small portion of the private property owner’s lands or an easement for related purposes such as utilities, although in certain instances, entire properties are required.

Usually the governmental authority is able to buy the land required for a project through a negotiated process with the affected property owners. Sometimes, however, the expropriation process must be used in order to ensure that the land is obtained within a specific timeline. Put simply, an expropriation is the transfer of lands or an easement to a governmental authority for reasonable compensation, including payment of fair market value for the transferred lands, without the consent of the property owner being required. In the case of expropriations by municipalities such as the Region of Waterloo, the process set out in the Ontario Expropriations Act must be followed to ensure that the rights of the property owners provided under that Act are protected.

Important Note: The Region of Waterloo tries in all instances to obtain lands needed for its projects through a negotiated agreement on mutually acceptable terms. Sometimes, the Region of Waterloo will start the expropriation process while negotiations are underway. This dual approach is necessary to ensure that the Region of Waterloo will have possession of all of the lands needed to start a construction project on schedule. However, it is important to note that Regional staff continues to make every effort to reach a negotiated purchase of the required lands on mutually agreeable terms while the expropriation process is ongoing. If agreement is reached, expropriation proceedings can be discontinued and the land transferred to the Region of Waterloo in exchange for payment of the agreed-upon compensation.

What is the process of the Region of Waterloo under the Expropriations Act?

- Regional Council considers a request to begin an application under the Expropriations Act to obtain land and/or an easement for a specific Regional project. No decision is made at this meeting to expropriate the land. This step is simply direction for the Region of Waterloo to provide a “Notice of Application for Approval to Expropriate” to affected property owners that the process has started to seek approval to expropriate the land.
• As stated in the Notice, affected property owners have 30 days to request a Hearing to consider whether the requested expropriation is “fair, sound and reasonably necessary in the achievement of the objectives” of the Region of Waterloo. This Hearing is conducted by a provincially-appointed Inquiry Officer. Prior to the Hearing, the Region of Waterloo must serve the property owner with a Notice setting out its reasons or grounds for the proposed expropriation. **Compensation for lands is not determined at this Hearing.** The Inquiry Officer can order the Region of Waterloo to pay the property owner up to $200.00 as compensation for the property owner’s costs in participating in this Hearing, regardless of the outcome of the Hearing.

• If a Hearing is held, a written report is provided by the Inquiry Officer to the property owner and the Region of Waterloo. Council must consider the Report within 90 days of receiving it. The Report is not binding on Council and Council may or may not accept the findings of the Report. After consideration of the Report, Council may or may not approve the expropriation of the land or grant approval with modifications. A property owner may wish to make written and/or verbal submissions to Council at the time that it is considering the Report.

• If no Hearing is requested by the property owner, then Council may approve the expropriation of the land after expiry of a 30 day period following service of the Notice of Application for Approval to Expropriate.

• If Council approves the expropriation then, within 3 months of this approval, the Region of Waterloo must register a Plan at the Land Registry Office that describes the expropriated lands. The registration of this Plan automatically transfers title of the lands to the Region of Waterloo, instead of by a Deed signed by the property owner.

• Within 30 days of registration of the Plan, the Region of Waterloo must serve a Notice of Expropriation on the affected property owner advising of the expropriation. Within 30 days of this Notice, the property owner may serve the Region of Waterloo with a Notice of Election selecting the valuation date under the *Expropriations Act* for calculation of the compensation.

• In order to obtain possession of the expropriated lands, the Region of Waterloo must also serve a Notice of Possession setting out the date that possession of the land is required by the Region of Waterloo. This date has to be 3 months or more from the date that this Notice of Possession is served on the affected property owner.

• Within 3 months of registration of the Plan, the Region of Waterloo must provide the affected property owner with payment for the full amount of the appraised fair market value of the expropriated land or easement and a copy of the appraisal report on which the value is based. If the property owner disagrees with this amount, and/or claims other compensation and/or costs under the *Expropriations Act*, the compensation and/or costs matter may be referred to a provincially-appointed Board of Negotiation in an effort to reach a mediated settlement and/or an appeal may be made to the Ontario Municipal Board (OMB) for a decision. In any event, the Region of Waterloo continues in its efforts to reach a negotiated settlement with the affected property owner prior to the OMB making a decision.
Appendix C – City of Waterloo – Existing and Proposed Cycling Network

Legend:
- Trail (Boulevard or Off Road)
- Separated Bike Lane
- Bike Lane
- Separated Bike Lane Pilot
- Constrained Corridor - Bike Lane Desirable
- * Dashed is Proposed *

Region of Waterloo

Regional Road 57 (University Avenue)
Existing and Proposed Cycling Network
City of Waterloo
Shingletown Wells Iron and Manganese Treatment Upgrades

Schedule “C” Class Environmental Assessment

Public Consultation Centre #2

Thursday, March 5, 2020- Time: 5:00pm – 7:00pm
Location: Wilmot Recreation Complex, Meeting Room A
1291 Nafziger Rd, Baden

Please Sign In
Welcome!

Goals of this Public Consultation Centre

- Provide background information on the Shingletown Wells
- Provide the evaluation criteria for the treatment alternatives
- Evaluate alternatives for iron and manganese treatment
- Present treatment facility location requirements and potential locations
- Answer any questions you may have and provide an opportunity to get involved in the project

Comments received during this study will be used to help identify a preferred approach for providing iron and manganese treatment for the Shingletown Wells
Shingletown wells iron and manganese treatment upgrades project overview

What are we doing?
Planning upgrades to the Shingletown Wells to provide treatment to reduce iron and manganese. This study will look at the best way to complete these upgrades.

What does it mean to you?
These upgrades will require a new facility for the treatment equipment. It is expected additional property at the Region’s existing water supply site, or a new site will be required. There is no change in the amount of water being taken from the Shingletown Wells.

Why are we doing it
Lower aesthetic drinking water objectives for manganese are expected in the near future. The Shingletown Wells have been identified as requiring upgrades to meet these future aesthetic objectives. We are taking steps now to ensure we are ready to meet these objectives.

Aesthetic objectives are parameters that may impact taste, odour, and colour of water.
Evaluation criteria

Criteria scoring
The iron and manganese treatment processes will be evaluated according to the criteria shown below, with each of the four categories being considered equally. The highest score will identify the preferred alternative.

Technical Criteria
- Provides reliable service
- Meets current and future needs
- Aligns with existing and planned infrastructure
- Aligns with existing and future land uses
- Aligns with approval and permitting process
- Manages and minimizes construction risks
- Ability to adapt to climate change

Financial Criteria
- Provides low lifecycle costs

Social Criteria
- Protects health and safety
- Minimizes impacts to residents and businesses related to noise, odour, traffic, and aesthetics
- Minimizes impacts to businesses
- Manages and minimizes construction impacts
- Protects cultural heritage features
- Protects archaeological features

Natural Environment Criteria
- Protects environmental features
- Protects wildlife and species at risk
- Protects groundwater, streams, and rivers
- Minimizes climate change impacts
Potential alternatives were screened to develop a short-list of options for detailed evaluation. Alternatives that were screened out did not meet the project objectives.

<table>
<thead>
<tr>
<th>Screened out alternatives</th>
<th>Short-listed alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do nothing</td>
<td>Lime or soda addition</td>
</tr>
<tr>
<td>Iron and manganese sequestration</td>
<td>Oxidation and conventional filtration</td>
</tr>
<tr>
<td>In situ removal</td>
<td></td>
</tr>
<tr>
<td>Ion exchange softening</td>
<td>Membrane filtration</td>
</tr>
<tr>
<td>Biological filtration</td>
<td></td>
</tr>
</tbody>
</table>
Short listed alternative 1: Lime or soda addition

Description: Adding either lime or soda ash into the water to raise the water’s pH, causing the iron and manganese to be formed into a solid and separate from the water.

Advantages:
• This is a reliable process in removing iron and manganese.

Disadvantages:
• A large footprint is required for this alternative to account for chemical storage, clarifiers, and residual management.
• Additional chemicals increase operational complexity, risk of spills and operator health and safety hazards.
• Lagoons required for residual management may be less resilient to extreme weather events.

Estimated Comparative Lifecycle Cost: $45 Million
Short listed alternative 2: Conventional filtration and oxidation

**Description:** Adding a chlorine solution to the water to oxidize the iron and manganese before being removed through filtration

**Advantages:**
- This is a reliable process in removing iron and manganese.
- This technology is currently being used at other facilities in the Region.
- No additional chemicals required since chlorine solution is already used at the existing facility. Operation of technology will not negatively impact operator health and safety.
- Treatment facility will be resilient to extreme weather events.

**Disadvantages:**
- A medium sized footprint is required for this alternative, to account for the new filters, backwash systems and residual management.

**Estimated Comparative Lifecycle Cost:** $16 Million
Short listed alternative 3: Membrane filtration

**Description:** Adding an oxidant to oxidize the iron and manganese, before being pumped under pressure through a membrane filtration system.

**Advantages:**
- This is a reliable process in removing iron and manganese.
- This alternative has the smallest footprint of the three alternatives.
- Treatment facility will be resilient to extreme weather events.

**Disadvantages:**
- Additional chemicals are required for maintenance, which increases cost, operational complexity, risk of spills and operator health and safety hazards.
- Disposal of large volumes of residuals is difficult with no sanitary and storm sewer connection in the study area.

**Estimated Comparative Lifecycle Cost:** $26 Million
## Evaluation of treatment alternatives

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Lime or soda addition</th>
<th>Oxidation and filtration</th>
<th>Membrane filtration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical</strong></td>
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<tr>
<td>Provides reliable service</td>
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<tr>
<td>Meets existing and future needs</td>
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<tr>
<td>Aligns with existing and planned infrastructure</td>
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<tr>
<td>Aligns with existing and future land use</td>
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<tr>
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<tr>
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<tr>
<td>Ability to adapt to climate change</td>
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<tr>
<td><strong>Natural environment</strong></td>
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<tr>
<td>Protects environmental features</td>
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<tr>
<td>Protects wildlife and species at risk</td>
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<tr>
<td>Protects groundwater, streams and rivers</td>
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<tr>
<td>Minimizes climate change impacts</td>
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<tr>
<td><strong>Social/cultural</strong></td>
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<tr>
<td>Minimizes impacts to residents related to noise, odour, traffic, and aesthetics</td>
<td>▲</td>
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<tr>
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<tr>
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<tr>
<td>Protects health and safety</td>
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<tr>
<td><strong>Financial</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Provides low lifecycle costs (estimated 50-year lifecycle)</td>
<td>▲</td>
<td>▲</td>
<td>▲</td>
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<tr>
<td><strong>Overall Score</strong></td>
<td>▲</td>
<td>▲</td>
<td>▲</td>
</tr>
</tbody>
</table>

### Legend

- ▼: Very low alignment with criteria
- ▲: Not well aligned with criteria
- ▲: Somewhat aligned with criteria
- ▲: Well aligned with criteria
- ▲: Very well aligned with criteria
Preferred treatment approach

Oxidation and filtration had the best score in each of the four evaluation categories and is the preliminary preferred treatment approach. This option has the lowest lifecycle cost and this treatment approach is successfully used for iron and manganese treatment at other facilities in the Region.
The next step in the process is to develop residual management systems for the wastewater produced.

The backwash volumes produced are expected to contain small concentrations of iron and manganese. After adequate settling time, most of the remaining water could separate as “supernatant”. The solids would gradually thicken to a liquid “settled solids” suspension.
How to manage residuals under the preferred alternative

Potential residuals management alternatives were considered for the preferred treatment alternative. Residual management alternatives that were screened out did not meet the project objectives.

<table>
<thead>
<tr>
<th>Screened out alternatives</th>
<th>Short-listed alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagoons with supernatant to the environment</td>
<td>Backwash equalization tank with recycling of supernatant back to the treatment plant and settled solids haulage</td>
</tr>
<tr>
<td>Storage tanks with supernatant to the environment</td>
<td>Backwash equalization tank with pumping to a sanitary collection system 9 km away</td>
</tr>
<tr>
<td>Combination of lagoons and storage tanks with supernatant to the environment</td>
<td></td>
</tr>
</tbody>
</table>

**Backwash Water:** Water used to clean a filter by flowing in reverse of the typical direction of flow.

**Supernatant:** Clear liquid that lies above the settled solids after settling. Backwash water separates into supernatant and settled solids.
Short-listed residual management alternative 1: Backwash equalization tank with recycling of supernatant and settled solids haulage

Description: A backwash equalization tank to hold the backwash water while it settles to supernatant and solids. The supernatant would be recycled back to the start of the treatment and settled solids would be hauled by truck to a septage receiving station.

Advantages:
• This alternative has been used for other plants within the Region and aligns with infrastructure.
• Treatment facility will be resilient to extreme weather events.

Disadvantages:
• This process would require a truck to haul the settled solids every one or two weeks.

Estimated Comparative Lifecycle Cost: $3 Million
### Short-listed residual management alternative 2: Backwash equalization tank with pumping to a sanitary collection system

<table>
<thead>
<tr>
<th>Description:</th>
<th>A backwash equalization tank to hold the backwash water before pumping the residuals to a sanitary collection system.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages:</strong></td>
<td></td>
</tr>
<tr>
<td>•</td>
<td>There’s no truck haulage required for this alternative.</td>
</tr>
<tr>
<td>•</td>
<td>Treatment facility will be resilient to extreme weather events.</td>
</tr>
<tr>
<td><strong>Disadvantages:</strong></td>
<td></td>
</tr>
<tr>
<td>•</td>
<td>The closest sanitary collection system with potential capacity is in Kitchener, located approximately 9 km away from the Shingletown Wells.</td>
</tr>
<tr>
<td>•</td>
<td>Construction of the piping is expensive and would have a greater impact on the community.</td>
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<td>•</td>
<td>Length of piping and potential pumping station requirements increases operation and maintenance complexity</td>
</tr>
</tbody>
</table>

### Estimated Comparative Lifecycle Cost: $24 Million
## Evaluation of residual management alternatives

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Backwash equalization tank with recycling of supernatant and hauling of settled solids</th>
<th>Pumping backwash to sanitary sewer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provides reliable service</td>
<td>🍃</td>
<td>🌿</td>
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<tr>
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</tr>
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</tr>
<tr>
<td>Provides low lifecycle costs (estimated 50-year lifecycle)</td>
<td>🍃</td>
<td>🌿</td>
</tr>
</tbody>
</table>

### Overall Score

- **Backwash equalization tank with recycling of supernatant and hauling of settled solids**: 🍃
- **Pumping backwash to sanitary sewer**: 🌿

### Legend

- 🍃: Very low alignment with criteria
- 🌿: Not well aligned with criteria
- 🍃: Somewhat aligned with criteria
- 🌿: Well aligned with criteria
- 🌿: Very well aligned with criteria
A **backwash equalization tank with supernatant recycling and haulage of settled solids** had the best score in each of the four evaluation categories and is the preliminary preferred residual management approach. This option has the lowest lifecycle cost, is currently in use by the Region at other facilities and is water efficient.

The settled solids would be hauled off site on a weekly or bi-weekly basis, depending on how much is produced.
Requirements for potential treatment site location

There is not enough space on the existing site for a new treatment facility. Potential options for a new site were identified based on:

- Land size for new building and driveway
- Vehicle access to the new site
- Distance to the existing Shingletown Wells and watermains
- Environmental features, cultural heritage features, and areas of archaeological potential
- Current and potential future land uses
Short-list of potential locations

Legend

Possible location
Existing site
Property line
GRCA Regulated Area
Next steps

Review background information
- Collect data, review existing conditions and identify project constraints and opportunities

Public Consultation Centre #1
- Introduce the project

Develop and evaluate alternatives
- Develop and evaluate alternatives to meet the Shingletown Wells needs including treatment approach and key site requirements

Identify preferred alternative
- Identify the preferred alternative based on the evaluation process (the preferred alternative is the option that is considered the best overall solution)

Public Consultation Centre #2
- Obtain input on the preferred treatment approach

Develop and evaluate alternative design concepts
- Develop and evaluate the design of the preferred alternative including the facility location and site considerations

Public Consultation Centre #3
- Obtain input on the facility location and size

Reporting
- Prepare the Environmental Study Report to document project information and the decision-making process

Region of Waterloo Council will provide approval to file the Environmental Study Report for a 30 day review period for public comment.
Thank you for your participation!

Get engaged!
Do you have questions, comments, or want to stay up to date?

Please contact:

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Tel: 519-575-4757 ext. 3682
Email: nsapeta@regionofwaterloo.ca

Kirk Worounig, P. Eng, PMP
Project Manager
R.V. Anderson Associates Limited
2001 Sheppard Avenue East, Suite 300
Toronto, Ontario M2J 4Z8
Tel: 416-497-8600 ext. 1246
Email: kworounig@rvanderson.com

More information, including copies of project notices and Public Consultation Centre materials can be found at: https://www.regionofwaterloo.ca/waterprojects
Region of Waterloo

Transportation and Environmental Services

Water Services

To: Chair Tom Galloway and Members of the Planning and Works Committee

Date: March 3, 2020

File Code: E06-05/REPORTING-P&W

Subject: Source Protection Plan Annual Report 2019

Recommendation:

For information.

Summary:

The Grand River Source Protection Plan (Plan) contains policies to protect Waterloo Region’s drinking water sources. The Region and area municipalities are responsible for implementing a range of Plan policies and are required to report on the progress of implementation of these policies to the Grand River Conservation Authority in their role as the Source Protection Authority (SPA) by submitting two reports annually - a municipal report and a report by the Region’s Risk Management Official. The submission of the required information to the Grand River Conservation Authority fulfills the Region’s and area municipalities reporting requirements under the Clean Water Act. This report provides a summary of the activities reported to the Grand River Conservation Authority that Region and area municipal staff are undertaking to help protect the Region’s drinking water supply sources.

In 2019, the Region and area municipal staff continued implementation of the 50 Plan policies, ranging from broad land use planning to property-level tools to education and awareness programs, that address significant drinking water threat activities. 15 policies are considered implemented, while some progress has been made on an additional 34.

The Region continued to track sodium, chloride, nitrate, and the industrial solvent trichloroethylene (TCE) concentrations in 12 water supply systems that are identified in
the Plan as having elevated and/or increasing trends. Eight of the 12 well systems show increasing sodium and/or chloride concentrations related to the application of winter de-icing chemicals on roads, parking lots, and sidewalks. **No change in trends or a decreasing concentration was identified for the seven systems with nitrate and/or TCE concentrations.** Concentrations of nitrate and TCE in these systems are less than the Ontario Drinking Water Standard.

The Region’s Risk Management Official continued implementation of the policies related to the negotiation of Risk Management Plans (RMP) on properties within well head protection areas. A total of 30 RMPs were negotiated and signed in 2019, of which 15 were required to negotiate as part of the development and building approvals process with the majority addressing de-icing salt application activities related to new or expanding parking lots and vehicle access ways. Approximately 675 Notices of Source Protection Plan Compliance were issued through the Region’s internet-based screening tool for properties applying for development and building approvals where an RMP was not required.

The Risk Management Official also continued to negotiate RMPs for existing activities with the emphasis on application of de-icing salt. There were 15 RMPs signed, while an additional 164 RMPs are in varying stages of negotiation. It is important to note that the number of RMPs needed to reduce chloride loading to the supply wells with chloride issues will take many more years to negotiate, and once in place will take years to decades to potentially mitigate chloride levels in the supply wells.

It is anticipated that 2019 will represent the final reporting year of the current Plan. As presented in report TES-WAS-19-09 the Region has requested approval for an amended Plan, which will likely come into effect in late 2020. The amended Plan will include altered/expanded wellhead protection areas, additional wellfields with elevated and/or increasing trends of sodium, chloride, and TCE concentrations, and more threats subject to Plan policies. As such, the 2020 Source Protection Annual Report will summarize the implementation progress of the amended Plan.

**Report:**

**Region Submits Source Protection Plan Annual Reports**

To protect the quality and quantity of drinking water sources, the ‘Clean Water Act’ (2006) established a process to create locally-developed Source Protection Plans for each watershed in Ontario. The Grand River Source Protection Plan (Plan) contains policies to protect Waterloo Region drinking water sources and became effective on July 1, 2016.
The Region and area municipalities are responsible for implementing a range of Plan policies and are required to report on the progress of implementation of these policies to the Grand River Conservation Authority in their role as the Source Protection Authority (SPA) by submitting two reports annually:

- **Municipal Annual Report**: This report presents the status of policies that the Region and area municipalities are required to implement, including, but not limited to, septic inspections, planning approval and building permit processes, and municipal operations.

- **Risk Management Official (RMO) Annual Report**: This report presents the status of implementation of policies under the jurisdiction of the Region’s Risk Management Official, including but not limited to, the number of Risk Management Plans (RMPs) negotiated and/or refused, the number of inspections completed, and any required enforcement action i.e. order an RMP to be established on a property.

The Plan came into effect in 2016 with a requirement that the SPA submit a first Municipal Annual Report to the Ministry of the Environment, Conservation and Parks (MECP) by May 1, 2019. The SPA had initiated a pilot reporting program requesting municipalities submit implementation information to the SPA for the two years preceding the submission of the first report to MECP, and has asked that the Region provide information on behalf of the Region and area municipalities. The information presented in report TES-WAS-20-04 represents a summary of implementation progress in 2019 submitted by the Region to the SPA.

The RMO was appointed in 2014, triggering a requirement for annual submission of an RMO Report. As the Plan was not in effect in 2014 or 2015 there were no actions to report. The information presented in report TES-WAS-20-04 is a summary of the RMO activities for 2019.

The RMO Annual Report and the Municipal Annual Report to the SPA is in the form of multiple tables within a database, as required by MECP. The information is submitted electronically through a web application facilitated by the SPA.

**Region’s implementation approach focuses on highest priorities**

The Plan policies affect many properties within Waterloo Region, and with current staff resources, full-scale implementation has been planned over a ten-plus year period. Accordingly, implementation is focused on a number of priorities including: policies with specific reporting time requirements e.g. septic inspections; screening of development and building permit applications for RMP requirements; and negotiating RMPs for existing properties close to municipal supply wells and in areas of higher vulnerability for
wells with drinking water quality issues. A summary of these activities for each of the municipal and RMO reports is provided below.

Plan Implementation by the Region and area municipal staff included:

- Forty-nine of the 50 policies that address significant drinking water threat activities in the Plan are considered implemented or in progress. Implemented policies primarily include those addressing new threats, as processes are in place to manage those activities as they are proposed. The one policy where progress has not been made relates to design of an incentive program for storm water management features not regulated under Environmental Compliance Approvals. This policy is considered lower priority, in part because Kitchener and Waterloo already have storm water rebate programs, and implementation has not been initiated.

Municipalities completed most septic system inspections in well head protection areas to meet the August, 2017 deadline requirement in the Building Code (more than 600 systems were inspected since 2015). The Building Code stipulates that septic systems be inspected every five years after the initial inspection, and as such municipalities are planning to re-initiate the next inspection cycle in 2020-2022. As outlined in report TES-WAS-20-01, Region staff have recommended that incentives be provided to eligible small septic system owners to cover a portion of the cost to pump-out the system, which is necessary prior to inspection.

- The Plan identified 12 well systems with elevated levels and/or increasing trends of sodium, chloride, nitrate and/or trichloroethylene (TCE, an industrial solvent) in the source water quality. For each of these systems an Issue Contributing Area was required to be delineated to identify the overall area where risk reduction is required. Concentrations in eight of these systems show increasing sodium and chloride trends in 2019 related to the application of winter de-icing salt on roads, parking lots and sidewalks.

Region staff recognize that on their own policies in the Plan are not enough to reverse these trends, and that additional action is required. As reported in TES-WAS-20-03 staff have worked with the Lake Erie Region Source Protection Committee on recommendations and actions to change the overall Provincial framework toward mitigating the impact of winter maintenance chemical (salt) application.

Sodium in some drinking water supplies across the Region are above the Provincial standard of 20 mg/L, which triggers notices to doctors so patients on salt restricted diets can consider sodium in drinking water. And while chloride is
not a health concern, high concentrations of both sodium and chloride can cause the water to taste salty. No change in trends or a decreasing concentration was identified in 2018 for the seven systems with nitrate and/or TCE concentrations. Concentrations of nitrate and TCE in these systems are less than the Ontario Drinking Water Standard.

Plan implementation by the RMO included:

- Planning and building permit applications continued to be screened using the Region’s screening tool (taps.regionofwaterloo.ca), allowing applicants to self-identify the proposed activities related to their applications that may require an RMP. This streamlined process reduces time and stress for residents, developers, and municipal staff. Staff continue to actively monitor system usage, and provide guidance and training to municipal staff when required.

Approximately 675 Notices of Source Protection Plan Compliance were issued to developers/property owners in 2019. Staff have also implemented several enhancements to the software application, which should improve service level to the public and increase staff efficiency in managing the database and application workflows. Additional work on the application is proposed in 2020 to ensure compliance with the amended Plan.

- There were 15 properties that submitted development and building permit applications that were required to negotiate an RMP before proceeding with the application. The RMP requires and commits applicants to manage activities in ways that will protect water sources. Seven of these RMPs addressed application and/or storage of winter de-icing chemicals on the properties, two addressed chemical handling and storage, one addressed agricultural related activities, one addressed storm water management, and four were provisional - indicating that a full RMP would be negotiated at a future development stage.

- Staff have negotiated an additional 15 RMPs for existing activities on 35 properties, and are currently negotiating RMPs for an additional 164 properties. The focus of these negotiations are properties where an RMP is required for de-icing salt application on parking lots and sidewalks, including properties owned by Cambridge, Kitchener, Waterloo, and the Region. The stages of negotiation vary from collection of information on current activity practices to the development of draft RMPs for further negotiation with property management staff and/or property owners. Properties closest to municipal wells are being prioritized for negotiation.

- Inspections are on-going, and in 2019 Region staff completed 79 inspections on 69 properties to confirm activities, document practices and site characteristics,
and to ensure compliance with negotiated RMPs. Region staff continue to explore opportunities to engage property owners and/or managers engaged in managed activities to encourage compliance through proactive means, including traditional site visits as well as frequent email and phone call communication.

Approval to the Amended Source Protection Plan Planned for 2020:

As noted in report TES-WAS-19-09, Region staff have updated the Plan to reflect changes in well head protection areas, vulnerability scoring, and activity inventory arising from the completion of the water quantity process as required under the ‘Clean Water Act’, and have requested approval. It is anticipated that the amended Plan will come into effective in late 2020. The amended Plan will impact implementation timelines, as more activities will be subject to policies under the Plan. The 2020 Source Protection Annual Report will summarize the implementation progress of the amended Plan.

Corporate Strategic Plan:

The implementation of the Plan supports the Region’s 2019-2023 Strategic Plan Strategic Objective 3.4: Protect our water resources (drinking water and wastewater treatment).

Financial Implications:

The approved 2020 Water Capital Budget includes $156,000 for ‘Clean Water Act’ Implementation (Project #4165), of which $42,120 (27%) is funded from Regional Development Charges and $113,880 (73%) is funded from the Water Capital Reserve Fund.

Other Department Consultations/Concurrence:

Staff from Planning, Development and Legislative Services provided support and input during Plan development, implementation, and reporting process.

Attachments

Nil

Prepared By: Eric Thuss, Risk Management Official

Approved By: Thomas Schmidt, Commissioner, Transportation and Environmental Services
Region of Waterloo
Transportation and Environmental Services
Design and Construction

To: Chair Tom Galloway and Members of the Planning and Works Committee
Date: March 3, 2020
File Code: T04-20(A) / 05487H
Subject: Project Approval - King Street East, Highway 401 Overpass to Freeport Bridge and Sportsworld Drive, King Street East to Gateway Park Drive

Recommendation:

That the Regional Municipality of Waterloo take the following actions with respect to the recommended improvements to King Street East (Regional Road 8) between the Highway 401 overpass and the Freeport Bridge and Sportsworld Drive (Regional Road 38) between King Street East and Gateway Park Drive in the City of Kitchener:

a) approve the Recommended Design Concept for King Street East (Regional Road 8) and Sportsworld Drive (Regional Road 38) as outlined in Report TES-DCS-20-05; and

b) approve an amendment to the Consultant Services Agreement with Associated Engineering (Ont) Ltd to provide engineering consulting services for preliminary design, detailed design, contract administration, and construction inspection services for the proposed improvements on King Street East and Sportsworld Drive to increase the upset limit fee by $468,584 plus applicable taxes to a revised total of $1,064,514 plus applicable taxes for preliminary design and detailed design, with contract administration and construction inspection services to be paid on a time basis.

Summary:

In 2017, the Region of Waterloo initiated a planning and design study to determine what improvements to the transportation infrastructure within King Street East and
Sportsworld Drive in the City of Kitchener are required and how they should be implemented. Improvements are required to address the deteriorated pavement structure and lack of active transportation facilities. The study area limits are shown in Appendix A.

In June 2018, Regional Council endorsed the proposed route for Stage 2 of the ION Light Rail Transit project which will link service from Kitchener to Cambridge. The approved route includes King Street East between the Highway 8 and Highway 401 overpasses where a centre running two-way track configuration will be implemented.

A Public Consultation Centre (PCC) was held on May 2, 2019 to present the Preliminary Design Concept for the improvements to King Street East and Sportsworld Drive for public review and comment. Approximately 45 members of the public and property/business owners attended and 20 comment sheets and subsequent emails were received.

The Project Team reviewed the public comments and the implications of the future Stage 2 ION construction and has developed a Recommended Design Concept consisting of the following elements;

- Reconstruction of the existing road pavement structure
- Replacement of selected sections of the existing storm sewer and construction of a new sanitary sewer
- Construction of concrete sidewalks where none currently exist
- Construction of an asphalt multi-use trail within the project limits
- Access and intersection reconfiguration
- Traffic signal modernization and installation of enhanced street-lighting to current standards
- Construction of a raised centre median that would be removed in the future to accommodate the installation of light rail tracks when implementation of Stage 2 ION is undertaken

Subject to approval of the Recommended Design Concept by Regional Council, detailed design of the proposed works, property acquisition and utility relocation are planned to begin immediately. Construction of the first phase of construction on King Street East between Sportsworld Drive and Highway 401 is scheduled in 2021.

The total estimated cost for the Region’s share of the project is $17,195,000. Funding in this amount has been included in the Regions 2020 Transportation Capital Program (TCP). The City of Kitchener will be responsible for the cost of the construction of the proposed sanitary sewer and sections of the storm sewer replacement in an estimated amount of $400,000.

Public notification letters advising of the recommendations contained in Report TES-
DCS-20-05 were mailed during the week of February 10, 2020 to all those who provided comments on the project, and to all property owners and residents in the study area.

Based on the Recommended Design Concept, additional engineering design services not included in the existing engineering assignment will be required to accommodate future Stage 2 ION, to design a grade separated crossing of the proposed multi-use trail at the existing Highway 8 on-ramp, to design a proposed multi-use trail on Maple Grove Road and to design new sanitary sewers on behalf of the City of Kitchener. Therefore, staff recommend that the existing agreement with Associated Engineering (Ont) Ltd be extended by $468,584.00 plus HST to a revised upset limit of $1,064,514 plus HST for preliminary design and detailed design with contract administration and construction inspection services continuing to be paid on a time basis.

Report:

1. Background

The Region of Waterloo is considering improvements to the transportation infrastructure within King Street East between the Highway 401 overpass and Freeport Bridge and Sportsworld Drive between King Street East and Gateway Park Drive in the City of Kitchener. The study area limits are shown on the Key Plan included in Appendix A.

An Environmental Assessment and Preliminary Design Study was initiated in 2017 to determine what improvements should be implemented within the project limits. A Project Team consisting of staff from the Region of Waterloo and City of Kitchener and City of Kitchener Councillor John Gazzola is directing the planning process for the proposed improvements. The Region has hired the consultant engineering firm, Associated Engineering (Ont) Ltd, to prepare the Environmental Assessment and Preliminary Design Study.

The improvements being considered will not change the use, capacity or location of the existing roads and are expected to have minimal long term impacts on the environment. Therefore, the project is classified as a Schedule A+ undertaking in accordance with the Municipal Class Environmental Assessment planning and design process. Any proposed improvements are approved under the Environmental Assessment Act subject to notification of the Public respecting the proposed work.

2. Infrastructure Requirements

King Street East provides an important transportation link connecting the industrial areas located on Maple Grove Road with Highway 401 and the residential and commercial areas on King Street East and Sportsworld Drive with the City’s of Kitchener and Cambridge.
King Street East between Highway 401 and the Highway 8 overpass consists of a four lane urban cross-section with a centre left-turn lane and turning lanes at key intersections and a raised centre median between Sportsworld Drive and Deer Ridge Drive. Between the Highway 8 overpass and the Freeport Bridge the road consists of a two lane rural cross-section with roadside ditches. Sportsworld Drive from King Street East to Gateway Park Drive consists of a four lane urban cross-section with turning lanes at intersections. Pedestrian facilities are discontinuous on King Street East. On-road cycling lanes are available on Sportsworld Drive east of the study area limits. The overpass structures and associated access ramps at Highway 401 and Highway 8 are under the jurisdiction of MTO.

King Street East and Sportsworld Drive within the study area limits were last reconstructed in 1984. King Street East was resurfaced in 2001. Storm sewers, sanitary sewers and watermains were installed on both roads in 2000. The Region’s 2015 Road Condition Survey determined that due to the age and condition of the pavement structure of King Street East and Sportsworld Drive it is necessary to completely reconstruct both roads. Annual spot repairs have been done to extend the life of the pavement until full reconstruction can be undertaken.

A safety and operational assessment of the existing roadway corridor within the project limits revealed two issues to be addressed by potential improvements. The configuration of the Highway 8 eastbound off-ramp to King Street southbound creates a situation where high speed traffic exiting from Highway 8 must merge with lower speed traffic on the through lanes of King Street at a location where sight distances are insufficient. In addition, several existing commercial driveway entrances on King Street East were noted to be aligned at an acute angle to the road which does not encourage drivers to slow down as they exist the roadway. The preferred alignment of a perpendicular driveway will cause drivers to slow down as they turn into the driveway which increases the safety of pedestrians and cyclists who may be traversing the driveway at the same time.

The Region’s 2018 Transportation Master Plan does not identify a need to widen King Street East or Sportsworld Drive to provide additional long term vehicular traffic capacity. Current traffic projections to the year 2031 indicate that widening of either road to more than the existing four lanes is not required.

The Transportation Master Plan does not identify a need for cycling facilities on King Street East between the Highway 8 and 401 overpasses. However, a future boulevard multi-use trail on King Street north of the Highway 8 overpass is identified. The construction of active transportation facilities within the study area limits would provide system connectivity with the future facilities on King Street and the existing facilities on Sportsworld Drive/Maple Grove Road.
The Region’s Corridor Design Guidelines identify King Street East south of Sportsworld Drive and Sportworld Drive east of King Street as Community Connectors. King Street East north of Sportsworld Drive is identified as a Neighbourhood Connector. This distinction is meant to reflect the differing road environment as King Street transitions from primarily moving vehicles as efficiently as possible between Highway 401 and the industrial/commercial land-uses to the east of the study area to a more balanced setting incorporating active transportation approaching the residential areas west of the project area and north of Freeport Bridge.

In June 2018, Regional Council endorsed the proposed route for Stage 2 of the ION Light Rail Transit project which will link service from Kitchener to Cambridge. The approved route includes King Street East between the Highway 8 and Highway 401 overpasses where a centre running two-way track configuration will be implemented. In addition, an ION station is proposed to be constructed on King Street East at the Sportsworld Crossing Road intersection. The timing for construction of the Stage 2 ION project is currently unknown. It is desirable for the proposed improvements on King Street East and Sportsworld Drive to make accommodations for the future installation of light rail infrastructure in order to minimize the need for future relocation or reconstruction.

The Ministry of Transportation (MTO) completed the reconstruction and widening of Highway 401 between Highway 8 in the City of Kitchener and Hespeler Road in the City of Cambridge in 2019. In 2020, the MTO will begin the reconstruction and widening of the Highway 401 Grand River bridge west of Highway 8 and the rehabilitation of the King Street overpass. This work is expected to be completed by 2024.

The Region intends to rehabilitate the Freeport Bridge in 2023. This work is not included in the King Street East Environmental Assessment and Preliminary Design Study.

The City of Cambridge and the landowner are moving ahead with plans for the development of the North Cambridge Business Park east of King Street East and north of the Highway 8 overpass. A Class Environmental Assessment Study was completed in 2017 for the construction of municipal services within these lands including a new North-South Collector Road between King Street and Middle Block Road. The initial phase of development is expected to occur by 2020.

3. Preliminary Design Concept development and Public Consultation

The Project Team developed a Preliminary Design Concept which addressed the identified operational and infrastructure deficiencies within the study area. The elements of the Preliminary Concept included full depth pavement structure reconstruction, storm sewer replacement, construction of active transportation facilities, traffic signal
modernization, installation of enhanced roadway illumination and access and intersection reconfiguration.

A Notice of Study Commencement was circulated to property owners in the area and advertised in the local newspapers in June 2018. A Public Consultation Centre (PCC) was held on May 2, 2019 to present the Preliminary Design Concept for the potential improvements to King Street East and Sportsworld Drive. Notices of the PCC were mailed out to property owners in the vicinity of the study area. The Grand Hill Village Community Association and Settlers Grove Community Association were notified in writing of the PCC. Notices were also placed in the local newspaper and on road-side signs. Staff from the Region of Waterloo and Associated Engineering (Ont) Ltd were available at the PCC to discuss the potential improvements.

The Consultation Centre was attended by approximately 45 local property and business owners. A total of 20 written comments regarding the project were submitted at and following the PCC for consideration by the Project Team. General support from the public was provided for the need to reconstruct King Street East, the need for active transportation facilities and the provision of an interim corridor for future use for Stage 2 ION to minimize the need for future reconstruction of the road.

The comments are summarized as follows;

3.1 Access must be available to all residential and commercial properties during construction. Maintaining one lane of traffic in each direction may not be adequate.

Project Team Response – The need for continuous access to all properties during construction is recognized. Options to maintain access and minimize resulting traffic congestion will be considered during detailed design. These may include maintaining two lanes in one or both directions where space is available by constructing temporary lanes within the existing median or boulevards. The possibility of diverting northbound through traffic around the construction site via Gateway Park Drive and Sportsworld Crossing Drive will also be investigated.

3.2 Much of the traffic congestion on King Street would be eliminated if a southbound to westbound ramp were available between Highway 8 and Highway 401.

Project Team Response – Staff have consulted with MTO regarding the timing of the planned ramp between Highway 8 and Highway 401 and have been advised that work is not currently scheduled prior to 2040.
3.3 The lane configuration of Baxter Place at the King Street/Sportsworld Drive intersection should be changed to allow easier access from Baxter Street to King Street

Project Team Response – The configuration of the western leg of the King Street East/Baxter Place intersection is made difficult by the close proximity of the Pioneer Tower Road/Baxter Place intersection. This limits the storage length available for left-turning vehicles at the King Street intersection and creates numerous potential conflict points between turning vehicles approaching the intersection. Regional staff will work with the City of Kitchener to consider potential lane reconfigurations at both intersections during the detailed design process.

3.4 Speeding vehicles from the Highway 8 off-ramp merging onto King Street impact the safety of the Deer Ridge Drive at King Street East intersection

Project Team Response – The proposed reconfiguration of the lane transition from the Highway 8 off-ramp to King Street East to eliminate the need for these vehicles to merge will improve safety in the immediate area. This will also result in fewer vehicles changing lanes as they approach Deer Ridge Drive.

3.5 Active transportation facilities should be extended on King Street East south of the study area to connect with Shantz Hill Road

Project Team Response – The extension of the proposed multi-use trail within the eastern boulevard of King Street south of the study area would require that the trail be constructed across the ramps at the Highway 401 interchange and under the overpass structure. Regional staff met with MTO to discuss the possibility of constructing a pedestrian or cyclist facility under the overpass structure. The existing structure has less than 1.2m of width available between the edge of pavement and bridge abutment for such a facility based on the existing lane configuration. The overpass will require reconstruction to accommodate an appropriate pedestrian or cyclist facility. MTO staff advised that reconstruction of the overpass would not be considered for a period of at least 20 years.

4. Recommended Design Concept

Following the Public Consultation Centre, updated information was obtained regarding the planned Stage 2 ION project, the rehabilitation of the Highway 401 overpass and the need for local sanitary sewer infrastructure as the design of these projects was
advanced.

In consideration of the comments provided by the public at the PCC and the subsequent updated information provided to the Project Team, the Preliminary Design Concept has been refined. A typical cross-section of the Recommended Design Concept for King Street showing the proposed multi-use trail and central corridor for future use for Stage 2 ION is shown in Figure 1.

![Figure 1 – Recommended Design Concept Cross-section](image)

The Recommended Design Concept includes the following elements:

4.1 Pavement Structure Reconstruction

Full depth reconstruction of King Street East and Sportsworld Drive to a four lane urban standard is required between the Highway 8 and 401 overpasses. Full depth reconstruction of King Street East to a two lane urban standard from the Highway 8 overpass to the Freeport bridge is also required. Existing and future traffic volumes north and south of the Highway 8 access ramps are significantly different due to vehicles entering/exiting Highway 8.

The Recommended Design Concept includes a reduction of the existing four lane cross-section at the Highway 8 overpass to two though lanes (one in each direction) to take advantage of the decreased traffic volumes north of the overpass. With this configuration, the traffic entering King Street East from the Highway 8 off-ramp south of the overpass will enter a dedicated lane without the need to merge with through traffic on King Street.

As the geometric requirements for Stage 2 ION were developed, the preliminary design concept was revised to ensure that future construction of the light rail tracks would not require replacement or reconstruction of the King Street East roadworks. The road alignment has been revised to conform with the proposed Stage 2 ION geometrics. In addition, all existing and proposed underground utilities and servicing infrastructure will be relocated.
from under the future light rail corridor. This has resulted in the need for a widened road platform requiring additional property acquisition beyond that originally anticipated.

The centrally located Stage 2 ION corridor is proposed to be constructed on an interim basis as a temporary continuous raised median between the Highway 8 and Highway 401 overpasses. Median openings will be constructed at strategic locations to ensure that vehicular access to all abutting properties remains available. The surface of the centre median will be removed in the future to allow construction of the Stage 2 Ion tracks in the future.

The City of Kitchener has recently completed a servicing feasibility study of the King Street corridor from the Freeport Bridge to Highway 401 to investigate the need to construct sanitary sewer infrastructure to service commercial properties in the corridor which are not currently serviced. City staff have advised that they intend to proceed with the installation of a sanitary sewer as part of the reconstruction of King Street East.

4.2 Active Transportation facilities

The construction of a multi-use trail within the eastern boulevard of King Street East and southern boulevard of Sportsworld Drive within the study area is recommended. Based on the geometry of the King Street to Highway 8 access ramp, a grade separated crossing of the ramp is recommended at this location to avoid conflicts between motor vehicles and cyclists. It is proposed that the multi-use trail be constructed under the access ramp.

Within the western boulevard of King Street East (south of the Highway 8 overpass) and the northern boulevard of Sportsworld Drive, the construction of a concrete sidewalk is proposed at locations where an existing sidewalk is not present.

The Recommended Design Concept was presented to the Regions Active Transportation Advisory Committee on January 21, 2020 for input regarding the proposed pedestrian and cyclist facilities. The Committee endorsed the Recommended Design Concept.

4.3 Access and Intersection reconfiguration

The installation of a multi-use trail within the eastern boulevard of King Street East will require the reorientation of the Gateway Park Drive intersection. The skewed angle of the existing intersection will be eliminated by the reconstruction of the approach to a perpendicular orientation with King Street
East. In addition, the existing skewed driveways between Tu Lane Street and Sportsworld will be similarly reconstructed.

4.4 Traffic signal modernization and installation of enhanced roadway illumination

All traffic control equipment at the signalized intersections within the project limits will be updated to current Regional standards. Turning lane configuration will be assessed during the detailed design process to determine where operational improvements can be made.

The existing single sided street lighting system will be upgraded to current standards and lighting provided on both sides of the reconstructed roads in order to meet required lighting levels with the addition of the proposed active transportation facilities

4.5 Construction phasing

The construction schedule for the rehabilitation of the Highway 401 overpass structure by MTO will extend from 2020 to 2024. This work will require periodic access ramp closures and lane restrictions on King Street East. In order to consolidate such traffic restrictions, it is recommended that the first phase of reconstruction of King Street be from Highway 401 to Sportsworld Drive. Funding for this first phase of construction is included in the 2020 TCP for 2021. Preliminary staging of construction for this first phase indicates that it may be possible to maintain two lanes of southbound traffic and one lane of northbound traffic on King Street during reconstruction. Final staging of construction requirements will be determined during the detailed design process.

The second phase of reconstruction of King Street will be from Sportsworld Drive to the Freeport bridge and the third phase would include Sportsworld Drive. Staff recommend that the Maple Grove Road multi-use trail be constructed as part of the third phase of construction.

During construction, vehicular traffic will be maintained in both directions on King Street and Sportsworld Drive. Access to adjacent businesses and residential areas will be maintained at all times. Phasing of the construction will allow access from alternative directions to ensure continuous access for emergency vehicles, customers and delivery vehicles. Co-ordination of the timing of the proposed roadworks with the rehabilitation of the Highway 401 overpass will be required to minimize traffic impacts in the area.
5. Estimated Project Cost

The Regions approved 2020 Transportation Capital Program includes funding totalling $17,195,000.00 for design and construction as follows:

- Project #5487 – King Street, Highway 401 to Sportsworld Drive – road reconstruction and traffic signal modernization, construction of cycling facilities and sidewalks, storm sewer repairs (2020).
- Project #5693 – Sportsworld Drive, King Street to Gateway Park Drive - road resurfacing and traffic signal modernization, construction of cycling facilities and sidewalks (2023)
- Project #5932 – King Street, Sportsworld Drive to Freeport Bridge – road resurfacing and traffic signal modernization, construction of cycling facilities and sidewalks (2022)
- Project #7594 – Maple Grove Rd. Multi-Use Trail between King St. E. to Fountain St. N. (2024)

The estimated cost to construct the new sanitary sewer proposed by the City of Kitchener as part of the King Street East Reconstruction project is approximately $300,000. The City’s share of the cost of storm sewer replacement is approximately $100,000.

6. Next Steps

Subject to approval of the Recommended Design Concept by Regional Council, detailed design of the proposed works, property acquisition and utility relocation are planned to begin immediately. Construction of the first phase of reconstruction of King Street East between Sportsworld Drive and Highway 401 is scheduled for 2021.

7. Additional Scope Added to Consulting Assignment

The original consulting engineering assignment for the preparation of the Environmental Assessment and Preliminary Design Study, Detail Design, Construction Inspection and Contract Administration Services was awarded to Associated Engineering (Ont.) Ltd in July 2017. Significant changes to the scope of work have occurred since then due primarily to the approval of the routing for Stage 2 of the ION Light Rail Transit project in June 2018. In order to proceed with the detailed design for the recommended design concept for the reconstruction of King Street East and Sportsworld Drive, additional engineering services will be required.

Associated Engineering staff have prepared an estimate of the additional fees required for the extra work in response to a request from the Region. The additional fees are summarized below;

a) Preliminary Design Revisions
Changes are required to the preliminary road reconstruction geometry to accommodate light rail transit design standards including preparation of revised cross-sections, additional property impact plans, median design development, additional utility relocation plans and coordination of work with MTO.

Additional fee $42,800 plus HST

b) Detailed Design of Stage 2 ION track profile within project limits

In order to ensure that the proposed reconstruction of King Street East between the Highway 8 and Highway 401 overpasses does not negatively impact the future installation of light rail tracks within the centre of the road, detailed design for the tracks within the project limits must be completed now and coordinated with the design of the roadworks. In this way, all aspects of the King Street East roadworks can be located to accommodate future construction of the tracks without the need for extra costs for relocation or reconstruction.

Additional fee $226,680 plus HST

c) Detailed Design of Multi-Use Trail grade separation

The construction of a grade separated crossing of the proposed multi-use trail on King Street East at the existing Highway 8 on-ramp has been identified as part of the recommended design concept as a result of discussions with MTO staff. An at-grade crossing was determined to be undesirable due to the high motor vehicle speeds on the on-ramp and limited sight distance for cyclists and motorists due to the configuration of the Highway 8 overpass. Additional fees are required to prepare the detailed design and obtain approvals from MTO for the grade separation.

Additional fee $109,896 plus HST

d) Preliminary and Detailed Design of Maple Grove Road Multi-use Trail

The construction of a multi-use trail on Maple Grove Road from Gateway Park Drive to Fountain Street is identified in the approved 2020 Transportation Capital Program as project number 7594. Total funding in the amount of $570,000 for design and construction of the facility has been allocated. An amount of $60,000 is available for detailed design. Associated Engineering has prepared a fee estimate in the amount of $49,836 plus HST for the detailed design. Staff recommend that this work be added to Associated Engineering’s original scope of work for the King Street East and Sportsworld Drive project.

Additional fee $49,836 plus HST

e) Detailed Design of local sanitary sewers
The City of Kitchener’s recently completed Sanitary Servicing Feasibility Study determined that approximately 800m of new sanitary sewer are required within the King Street corridor. The City of Kitchener has requested that the detailed design of these sewers be included in Associated Engineering’s scope of work. Fees for this will be recovered from the City of Kitchener upon completion of the detailed design.

Additional fee $39,372 plus HST

The total estimated fee for the additional scope of work is $468,584 plus HST

Section 21(g) of the Regions Purchasing Bylaw 16-032 allows for the “extension of an existing or previous contract where it would prove more cost effective for the Region”. Council approval of such an extension is required where the value is greater than $150,001. It is more cost effective to extend the existing contract with Associated Engineering than to hire a separate consulting engineering firm to do the additional work within the existing study area. Staff recommend that the existing agreement with Associated Engineering (Ont) Ltd for preliminary design, detailed design, contract administration and construction inspection services related to the reconstruction of King Street East and Sportsworld Drive be extended by $468,584 plus HST to a total revised upset limit of $1,064,514 plus HST for services related to preliminary and detailed design, with contract administration and construction inspection services continuing to be paid on a time basis.

Corporate Strategic Plan:

The proposed reconstruction of King Street East and Sportsworld Drive supports the strategic objectives listed under Focus Area #2 – Sustainable Transportation of the 2019-2023 Strategic Plan by continuing detailed planning for Stage 2 ION to Cambridge and constructing new active transportation facilities.

Financial Implications:

The Region’s approved 2020-2029 Transportation Capital Program includes a total budget of $17,195,000 for the reconstruction of King Street East and Sportsworld Drive (Project #s 05487, 05693, 05932 and 07594) to be funded from the Federal Gas Tax Reserve Fund (61%, $10,502,000), the Roads Rehabilitation Reserve (28%, $4,785,000) and from the Regional Development Charges Reserve Fund (11%, $1,908,000). The final project funding allocations from the Roads Rehabilitation and Federal Gas Tax reserves will ultimately be determined by the actual eligible federal gas tax costs incurred.
Other Department Consultations/Concurrence: The Finance Department (Purchasing and Procurement) was consulted regarding the extension of the existing consultant agreement.

Attachments:

Appendix A – Study area drawing

Appendix B – Record of comments received at Public Consultation Centre and Project Team responses

Prepared By: Peter Linn, Senior Project Manager, Design & Construction

Approved By: Thomas Schmidt, Commissioner, Transportation & Environmental Services
Appendix A

KING STREET EAST (REGIONAL ROAD 8)
HIGHWAY 401 WESTBOUND OFF RAMP TO FREEPORT BRIDGE
AND
SPORTSWORLD DRIVE (REGIONAL ROAD 38)
KING STREET EAST TO GATEWAY PARK DRIVE
Appendix B

<table>
<thead>
<tr>
<th>Comment</th>
<th>Response</th>
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<tbody>
<tr>
<td>The inclusion of cycling facilities within the project limits is supported.</td>
<td>Acknowledged</td>
</tr>
<tr>
<td>The cycling facilities should be extended across the Freeport Bridge to Fairway Drive</td>
<td>There is currently insufficient room on the Freeport Bridge for cycling lanes.</td>
</tr>
<tr>
<td>The proposed cycling and pedestrian facilities should extend from the project limits under the Highway 401 overpass to Shantz Hill Road</td>
<td>The existing bridge structure at the Highway 401 overpass does not have enough space for a pedestrian or cyclist facility. The available space between the edge of the King Street road surface and the bridge abutment is less than 1.2 metres. Installing a guiderail to protect cyclists and pedestrians would leave approximately 0.6 metres for a sidewalk. MTO staff have indicated that any work to change the configuration of King Street to create room for a sidewalk would have to wait until after their work is done to rehabilitate the overpass in 2024. Reconstruction of the overpass may be required for Stage 2 ION on King Street.</td>
</tr>
<tr>
<td>The current merge from the Highway 8 (eastbound) to King Street (southbound) through lane is dangerous</td>
<td>The Recommended Design Concept has addressed this by eliminating an existing through lane on King Street at this location. Vehicles on the ramp will no longer need to merge with traffic on King Street as the ramp will direct traffic into a separate lane.</td>
</tr>
<tr>
<td>The existing configuration of lanes at the King Street/Sportsworld Drive/Baxter Place intersection creates operational difficulties for vehicles attempting to access Baxter Place. Left turning movements from Baxter Place are difficult and sometimes lead to vehicles blocking the intersection of Pioneer Tower Road</td>
<td>Staff will work with the City of Kitchener to consider solutions to the difficulties being encountered by drivers at this intersection. Physical changes to the intersection may be included in the reconstruction of King Street.</td>
</tr>
<tr>
<td>There is nothing wrong with the King Street/Sportsworld Drive/Baxter Place intersection</td>
<td>The existing configuration of the intersection does not allow sufficient storage for vehicles turning on to King Street. See above comment.</td>
</tr>
<tr>
<td>Comment</td>
<td>Response</td>
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<tr>
<td>Additional vehicular traffic on Limerick Drive is unacceptable</td>
<td>The proposed central median on King Street for future use when the light rail infrastructure is built for Stage 2 ION will block left turn access to Limerick Drive. Right-in and right-out access will remain available. There is no consideration being given to relocating the access to the adjacent commercial plaza to Limerick Drive.</td>
</tr>
<tr>
<td>If the road must be reconstructed, do not spend funds on a study</td>
<td>The Environmental Assessment and Preliminary Design Study is required in order to consider alternative solutions and determine the safest and most cost-effective solution.</td>
</tr>
<tr>
<td>Can bus bays be installed instead of having buses block traffic in the curb lane</td>
<td>It is not standard practice to install bus bays on Regional roads. Grand River Transit staff will be consulted during the detailed design process to see if alternatives are available. Upon construction of Stage 2 ION, bus routes in this area will be reviewed and modified to improve customer access to transit.</td>
</tr>
<tr>
<td>When will the southbound Highway 8 to westbound Highway 401 ramp be built? The King Street project is premature until the westbound access ramp to Highway 401 is built. Once the ramp is built, King Street only needs two lanes.</td>
<td>MTO staff have advised that funding is not currently available for the westbound Highway 401 access ramp and construction is not expected in the next 20 year horizon.</td>
</tr>
<tr>
<td>The intersection of King Street/Riverbank Drive south of the Freeport bridge should be made right-in and right-out only</td>
<td>Traffic volumes on King Street between the Freeport bridge and the Highway 8 overpass are lower than south of the Highway 8 overpass. From a traffic operations point-of-view, the delay to left turning vehicles at this intersection is not significant. The imposition of left turn prohibition at this intersection will result in minimal benefits.</td>
</tr>
<tr>
<td>Providing a central area in the middle of King Street for future use by Stage 2 ION is a waste of money until funding is in place for Stage 2 ION</td>
<td>Staff are of the opinion that the incremental cost to provide sufficient space now for future light rail transit infrastructure will be less than completely reconstructing King Street in the future to accommodate this infrastructure.</td>
</tr>
<tr>
<td>Enhanced landscaping should be included in the project</td>
<td>Enhanced landscaping within the constraints of the project budget will be considered during the detailed design process.</td>
</tr>
<tr>
<td>King Street needs to be reconstructed as soon as possible as it is falling apart and is becoming unsafe</td>
<td>The proposed reconstruction schedule for King Street has been prepared to address the worst road section with the highest current traffic volumes first (Highway 401 to Sportsworld Drive).</td>
</tr>
<tr>
<td>Comment</td>
<td>Response</td>
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<tr>
<td>The elimination of left-in/left-out access to my commercial property is a concern</td>
<td>Left-in and left/out access will be impacted by the future construction of Stage 2 ION. The central area designated for future use for light rail transit infrastructure will include left-in access at strategic locations and the ability to do u-turns at signalized intersections.</td>
</tr>
<tr>
<td>The elimination of left-in/left-out access to the commercial properties on King Street will improve safety for all drivers.</td>
<td>Acknowledged</td>
</tr>
<tr>
<td>The reconstruction of King Street between the Highway 8 overpass and Freeport bridge should be completed first</td>
<td>The proposed reconstruction schedule for King Street has been prepared to address the worst road section with the highest current traffic volumes first (Highway 401 to Sportsworld Drive) and to coordinate with MTO work at the 401 overpass.</td>
</tr>
<tr>
<td>Access to Deer Ridge Drive must remain available during the reconstruction of King Street.</td>
<td>Access to all intersections and properties will be maintained during construction. It will be particularly important to maintain access to Deer Ridge Drive given that alternative access to this large residential development is limited. Construction staging will be developed during the detailed design process.</td>
</tr>
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Region of Waterloo
Transportation & Environmental Services
Design & Construction

To: Chair Tom Galloway and Members of the Planning and Works Committee
Date: March 3, 2020
File Code: 7122H/7145H

Subject: Fischer-Hallman Road Improvements Bleams Road to Plains Road, City of Kitchener - Project Update, Stage 4 Archaeological Study and Amendment to Consulting Services Agreement

Recommendation:

That the Regional Municipality of Waterloo select Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited to complete a Stage 4 Archaeological Assessment at an estimated cost of $1,600,000 as part of a larger upcoming construction contract for a portion of Fischer-Hallman Road from Bleams Road to Strasburg Creek, and

That the Regional Municipality of Waterloo amend the Consulting Services Agreement with Associated Engineering (Ont.) Ltd to add additional fees in the amount of $400,000 plus applicable taxes for a revised total upset fee of $1,383,396 for design services as described in report TES-DCS-20-07, dated March 3, 2020.

Summary:

The proposed Fischer-Hallman Road improvements include the reconstruction and widening of the existing roadway, construction of new twin box culverts and installation of sewers and watermains to service adjacent developments.

This report provides an update of the proposed 2020 road improvements and archaeological work as well as an update on the overall project schedule. The roadway design is currently at an advanced state of completion. Staff anticipates that major construction will commence in 2020 subject to receipt of all approvals, land dedications and some utility relocations and will proceed in four major phases, with final completion tentatively planned in 2025.
In 2019, Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited was hired to complete a Stage 3 Archaeological Assessment which netted approximately 965 indigenous artifacts along the west side of Fischer-Hallman Road. Also, Wood found evidence that a First Nation village and longhouse extends across the west ditch line and appears to extend further under the paved road towards the east ditch line. As a result, a Stage 4 Archaeological Assessment will be required, including full hand excavation of the area to identify, document and salvage all archaeological artifacts. Clearance from the Ministry of Heritage, Sport, Tourism and Culture Industries will be required to continue with any construction within the limits identified for further investigation. The Stage 4 Archaeological Assessment is estimated to take about 6 to 7 months. First Nations field liaison representatives are required to be present during the entire field investigation. It is recommended that the Region select Wood to conduct the Stage 4 Archaeological Assessment due to their familiarity with the site and their prior work at the site with the First Nations field liaison representatives. Because most of the Archaeological Assessment work must be completed after the existing roadway has been removed by a construction contractor, it is recommended that Wood perform the Archaeological Assessment as a subcontractor to the Region’s road construction contractor. The estimated cost of the Archaeological Assessment, including Wood field archaeologists, First Nations field liaison representatives, documentation, and reporting to the Ministry of Heritage, Sport, Tourism and Culture Industries is estimated to be $1,600,000 excluding HST. The actual cost will be determined by the extent of investigation required based on the number of artifacts found and recovered.

In order to construct the twin box culverts and complete the Stage 4 Archaeological Assessment in 2020, Fischer-Hallman Road will need to be closed for most of the construction season.

The roundabout construction at Bleams Road will be completed in 2021 under a separate construction contract following planned utility relocations in the Fall/Winter of 2020.

Additional work will be required to complete the design and tendering for this project to address changes and additions to the project scope, including road design and construction staging revisions, streetlight design, stormwater management, preparation of additional tender documents, coordination with nearby developments and the Stage 4 Archaeological Study requirements. Therefore, staff recommends that the existing Consulting Services Agreement with Associated Engineering (Ont.) Ltd be amended to include additional fees in the amount of $400,000 plus applicable taxes.

Report:

1. Background

1.1 Project Area

The Fischer-Hallman Road Improvements Project (“the Project”) includes reconstruction
and widening of Fischer-Hallman Road from Bleams Road to Plains Road in the City of Kitchener. The project includes construction of twin box culverts and three new roundabouts on Fischer-Hallman Road at the intersections of Bleams Road, future Rosenberg Way and future Wallaceton Way. Please refer to Appendix A for a Key Plan showing the project limits and tentative construction phasing.

1.2 Existing and Future Conditions

Cross Section: The existing roadway has a two-lane rural cross section. The reconstructed roadway will have a four-lane urban cross section with raised centre medians and boulevard multi-use trails.

Utilities: The existing roadway allowance contains a number of utilities, including overhead hydro, natural gas, telephone and cable television. These will be preserved and/or relocated in conjunction with the project.

Development Servicing: The existing project area was primarily rural in nature; however, mixed-use commercial and residential development is ongoing and planned on both sides of the roadway for the entire length of the project. These developments include a number of accesses and servicing needs that the Region is working to incorporate into the road design as the development plans continue to evolve.

Strasburg Creek Crossing: Strasburg Creek currently crosses under Fischer-Hallman Road through a 900 mm diameter culvert pipe. This culvert must be replaced with a much larger twin concrete box culvert.

Sanitary Trunk Development: All development in the area is contingent on the construction of the City of Kitchener’s Middle Strasburg Trunk Sanitary Sewer (“MSTSS”). City of Kitchener staff are planning to commence construction of the MSTSS from its current endpoint on the Activa Development lands to their temporary pumping station at Bleams Road west of Fischer-Hallman Road in 2020. Draft plan conditions on developments west of Fischer-Hallman Road require that the MSTSS and the Strasburg Creek twin box culverts under Fischer-Hallman Road must both be operational before developments may seek full approval.

1.3 Class Environmental Assessment (EA) Status

The Class EA Study for the Bleams Road roundabout was completed and approved in February 2013. The Class EA Study for the remainder of the project was approved in April 2017.

2.0 Archaeological Studies

The Region hired Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited (Wood) to undertake all archaeological assessments on this project from Phase 2 onward. The Phase 2 Archaeological Assessment determined that indigenous
artifacts were present in the general area and concluded that a Phase 3 Archaeological Assessment was required. The Region and Wood have communicated with First Nations Communities since the beginning of the project, and the First Nations have been fully consulted and engaged since the conclusion of the Phase 2 Archaeological Assessment.

The Archaeology Act of Ontario requires that municipalities consult with First Nation Communities to complete any Stage 3 or Stage 4 Archaeological Assessments where indigenous artifacts may be present. Prior to commencing the Stage 3 Archaeological Assessment, First Nation Communities expressed their desire to have field liaison representatives on site proportionate to the number of consultant archaeologists working on site. The Ministry of Heritage, Sport, Tourism and Culture Industries has advised that any reports for Stage 3 and/or Stage 4 Archaeological Assessments on this project must be completed to the satisfaction of, and with the written confirmation that, each First Nation Community has been consulted and supports the recommendations in the report. The Ministry of Heritage, Sport, Tourism and Culture Industries will not review or accept any Stage 3 and/or Stage 4 Archaeological Assessment Report if the First Nation Communities do not support the recommendations or if they advise they are not satisfied with the level of consultation provided.

In Fall 2019 Wood, along with First Nations field liaison representatives, completed the Stage 3 Archaeological Assessment in consultation with three First Nation Communities and the Ministry of Heritage, Sport, Tourism and Culture Industries. Evidence found during the Stage 3 field work which netted approximately 965 indigenous artifacts along the west side of Fischer-Hallman Road. Also, Wood determined that a previously identified longhouse and First Nation village extends into the west ditch line and suggests that both may extend under the paved road toward the east ditch line. As a result, a Stage 4 Archaeological Assessment will be required, as part of the upcoming road construction including full hand excavation of the area to identify, document and salvage all archaeological artifacts.

Prior to commencing any construction within the Stage 4 Archaeological Assessment limits, staff and Wood are working with the Ministry of Heritage, Sport, Tourism and Culture Industries to obtain clearance in three phases. The first phase will involve slowly stripping the topsoil from the east ditch line with archaeological site representatives observing the work to search for potential non-disturbed areas under the topsoil layer. If there is any evidence that the longhouse or village may extend into the east ditch line, hand digging and salvaging of artifacts may be required. The second phase will involve removal of the existing roadway asphalt and excavating in layers to the underside of the roadway granulars (approximately 2.1 to 2.4 metres deep). Once the asphalt and granulars are removed, a methodical search for artifacts will be completed by hand digging. The extent of work required will depend on how far the longhouse and village extend into the roadway. Due to the depth of excavation and the methodology required, a full closure of Fischer-Hallman Road will be required to complete this second phase.
Once artifact recovery is complete and Ministry clearance is obtained in these first two phases, it will allow for roadway construction to proceed such that Fischer-Hallman Road can be re-opened to traffic as quickly as possible. The third and final phase of the Stage 4 Archaeological Assessment will involve the completion of hand digging and artifact salvaging in the ditch on the west side of the road where the Stage 3 Archaeological Assessment already confirmed the presence of the longhouse and village.

Considering the close proximity of the Stage 4 Archaeological Assessment work to the culvert work, and that both activities will require a full road closure, it is in the best interest of the Region and the travelling public that the Stage 4 archaeological field work be completed at the same time as the twin box culvert construction. Wood is best suited to complete this work due to their familiarity with the site and their prior work at the site with the First Nations field liaison representatives. Also, Wood has established a working relationship for this project with the Ministry of Heritage, Sport, Tourism and Culture Industries that will be beneficial to expedite the report review and acceptance during construction in 2020. Part VII of the Purchasing By-law, Purchase by Negotiation (g) states that the Chief Purchasing Officer may acquire any goods or services through negotiation where, the extension of an existing or previous contract would prove more cost effective or beneficial for the Region. In accordance with the Region’s Purchasing By-law Section 21 (1) (g) staff recommends that Wood’s services be acquired by negotiation as this will be more cost effective and beneficial for the Region. Because most of the archaeological assessment work must be completed after the existing roadway has been removed by a construction contractor, it is recommended that Wood perform the Archaeological Assessment as a subcontractor to the Region’s road construction contractor. The Stage 4 Archaeological Assessment work program is anticipated to require 6 to 7 months to complete; however, if the site extends further than anticipated more time will be required. Region staff are working with Wood and the Region’s engineering consultant (Associated Engineering) to coordinate construction staging to ensure that the road can be re-opened to two-way traffic as early in the Fall of 2020 as possible.

It is challenging to estimate the costs associated with the Stage 4 Archaeological Assessment field work as the duration will primarily depend on the extent of artifacts discovered. Based on discoveries to date and Wood’s familiarity with the site, it is currently estimated that costs for Wood to complete the Stage 4 Archaeological Assessment investigation, including Wood field archaeologists costs for First Nations field liaison representatives, documentation and reporting to the Ministry of Heritage, Sport, Tourism and Culture Industries will be in the range of $1,600,000. Please refer to Appendix B for an Archaeological Assessment Work Summary and cost estimate.

3.0 Construction Schedule
Four overall construction Phases are planned for the Fischer-Hallman Road improvements as follows:
• Phase 1: 2020 Construction – Full Road Closure – May to November
  o Stage 4 Archaeological Assessment (full excavation and hand digging of approx. 120m of Fischer-Hallman Road, just north of Strasburg Creek)
  o Install twin box culverts at Strasburg Creek
  o Fill and pre-grade the corners at Bleams Road and Fischer-Hallman Road to prepare for 2021 roundabout construction
  o Temporary widening and signal improvements at Bleams Road
  o Install a portion of local sanitary sewer extending from the City trunk sanitary main
• Phase 2: 2021 Construction
  o Roundabout at Bleams Road and Fischer-Hallman Road
  o Reconstruction and widening from Rockwood Road to approximately 700 metres south of Bleams Road
  o New roundabout at Rosenberg Way
• Phase 3: 2022 Construction
  o Reconstruction and widening from 2 approximately 700 metres south of Bleams Road to the south side of Huron Road.
• Phase 4: 2023 Construction
  o Reconstruction and widening from the south side of Huron Road to Plains Road.
  o New roundabout at Wallaceton Way

The limits of Phase 2, Phase 3 and Phase 4 may be adjusted depending upon the completed utility relocations and if the Rosenberg Way or Wallaceton Way roundabouts are required earlier.

Please refer to Appendix A for a figure showing the anticipated construction phases.

4.0 Options for Interim Temporary Pedestrian / Cycling Facility

In 2019, the Region paved a section of the shoulder on the west side of Fischer-Hallman Road from Seabrook Drive to the south side of Strasburg Creek. Due to the ongoing Archaeological Assessment, the section of shoulder on the west side of Fischer-Hallman Road could not be paved in 2019.

Upon completion of construction in 2020, the reinstated two-lane road will include a paved shoulder on both sides of Fischer-Hallman Road from south of Strasburg Creek to Bleams Road to be used as an interim pedestrian / cyclist facility from Seabrook Drive to Bleams Road and for traffic staging in future phases.

5.0 Consultant Effort and Additional Scope of Services

Regional Council approved Report E-14-050 dated April 29, 2014 recommending that the Regional Municipality of Waterloo enter into a Consultant Services Agreement with
Associated Engineering Limited to provide consulting engineering services for a Class Environmental Assessment, detailed design, contract administration and construction inspection for improvements to Fischer-Hallman Road from Bleams Road to Plains Road in the City of Kitchener at an upset fee of $613,396.00 plus applicable taxes for the Class Environmental Assessment and detailed design phases, with contract administration and construction inspection services to be paid on a time basis.

Regional Council subsequently approved Report TES-DCS-18-18 dated November 6, 2018 to amend the Consulting Services Agreement with Associated Engineering (Ont.) Ltd to add additional fees in the amount of $370,000 plus applicable taxes for a revised upset fee of $983,396 for design services.

The work required to amend the design to accommodate the Stage 4 Archaeological Assessment, and to refine and adjust the road design and construction staging to meet the needs of the City of Kitchener and area development efforts was not fully envisioned in the scope of the original Consulting Services Agreement, nor at the time that the November 2018 increase was requested. Additional work by Associated Engineering is now required to complete the detailed design of this project including:

- Revisions to roadway design (plan, profile, drainage, etc.) to re-establish an interim two-lane roadway for the Phase 1 2020 construction following completion of the Archaeological Assessment.
- Revisions to Phase 1 2020 construction staging related to the Stage 4 Archaeological Assessment.
- Revisions to the design to incorporate temporary traffic signals and interim intersection improvements at Bleams Road to prepare for 2021 construction.
- Additional services to prepare the streetlight designs.
- Additional services to prepare quotations, drawings and inspect tree removals in advance of construction.
- Additional services to support resolving ongoing property acquisition negotiations through expropriation.
- Additional services to prepare additional tenders for future stages of construction.
- Additional services for ongoing project management up to tender.
- Additional coordination with City of Kitchener.
- Additional coordination with utility relocations.
- Additional coordination with developers.

Associated Engineering has provided an estimate of additional fees required in the amount of $400,000 plus applicable taxes. Staff have reviewed this fee estimate and determined that it is reasonable and fair based on the additional effort required. Part VII of the Purchasing By-law, Purchase by Negotiation (g) states that the Chief Purchasing Officer may acquire any goods or services through negotiation where, the extension of an existing or previous contract would prove more cost effective or beneficial for the
Region. In accordance with the Region’s Purchasing By-law Section 21 (11) (g) extension of the existing assignment with Associated Engineering (Ont.) Ltd would be more cost effective and beneficial for the Region. Please refer to Appendix C for a summary of Associated Engineering’s additional fees.

Corporate Strategic Plan:

The project aligns with the Region’s 2019 – 2023 Corporate Strategic Focus Area 2.3 to increase participation in active forms of transportation (cycling and walking), and Focus Area 2.4 to improve road safety for all users – drivers, cyclists and pedestrians, horse and buggies.

Financial Implications:

The Region’s approved 2020-2029 Transportation Capital Program includes $17,070,000 in Project 07122 Fischer-Hallman Road from Plains to approximately 500 metres south of Bleams Road to be funded from the Regional Development Charges Reserve Fund (65%, $11,070,000) and from Regional Development Charges supported debentures (35%, $6,000,000) and $10,285,000 in Project 07145 Fischer-Hallman Road from Bleams Road to approximately 500 metres south of Bleams Road to be funded from the Regional Development Charges Reserve Fund for design and construction of the improvements to Fischer-Hallman Road from Bleams Road to Plains Road including property acquisitions, utilities, road construction, storm sewer, twin box culverts and engineering. City of Kitchener staff has confirmed that the costs for the sanitary sewers (engineering, construction, contract administration, inspection services and project management) will be paid to the Region. City of Kitchener staff will manage all private funding for the sanitary services.

It is currently estimated that costs for Wood to complete the Stage 4 Archaeological Assessment investigation and final report, including costs for First Nations field representatives will be in the range of $1,600,000.

Associated Engineering’s consultant services agreement currently provides approved funds of $983,396 plus applicable taxes for the design phase. The additional design fees as estimated by Associated Engineering in the amount of $400,000 plus applicable taxes will extend the existing upset fee limit to $1,383,396 for the design phase, if approved by Regional Council.

Sufficient funds are available within the 2020 budget of $5,650,000 to fund both the estimated Stage 4 Archaeological Assessment costs and the increase in consulting fees outlined above.

Other Department Consultations/Concurrence:

Planning, Development and Legislative Services and Finance (Procurement) was consulted in the development of this Report TES-DCS-20-07.
Attachments

Appendix A  Key Plan and Tentative Construction Staging
Appendix B  Stage 4 Archaeological Assessment Work Summary
Appendix C  Associated Engineering Fee Summary

Prepared By:  Delton Zehr, Project Manager

Approved By:  Thomas Schmidt, Commissioner, Transportation and Environmental Services
Appendix A – Key Plan, Detour Plan and Tentative Construction Staging

FISCHER HALLMAN ROAD
(REGIONAL ROAD 58)
BLEAMS ROAD TO PLAINS ROAD /
DETOUR PLAN
CITY OF KITCHENER
## Appendix B – Stage 4 Archaeological Assessment Work Summary and Cost Estimate

This is a summary of the estimated work program requirements to complete the Stage 4 Archaeological Assessment.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of People</th>
<th>Timeline</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Ditch Topsoil Stripping Observation</td>
<td>2 Wood Staff 4 First Nation Field Liaison Representatives</td>
<td>One to Two weeks in May</td>
<td>$50,000</td>
</tr>
<tr>
<td>Remove Road and Complete Stage 4 field work in road subgrade</td>
<td>10 – 14 Wood Staff 4 – 5 First Nation Field Liaison Representatives</td>
<td>4 to 6 weeks (May to June)</td>
<td>$400,000</td>
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<tr>
<td>West Ditch Stage 4 field work</td>
<td>10 – 14 Wood Staff 4 – 5 First Nation Field Liaison Representatives</td>
<td>20 weeks</td>
<td>$975,000</td>
</tr>
<tr>
<td>Artifact Analysis &amp; Report</td>
<td></td>
<td></td>
<td>$175,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total (excluding HST)</td>
<td>$1,600,000</td>
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</tbody>
</table>
## Appendix C – Associated Engineering Fee Summary

Summary of additional work required and associated costs.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Design for 2020 construction staging, temporary signals at Bleams Road and WAM entrance</td>
<td>$120,000</td>
</tr>
<tr>
<td>Ongoing utility coordination</td>
<td>$20,000</td>
</tr>
<tr>
<td>Ongoing Support for Property Negotiations</td>
<td>$30,000</td>
</tr>
<tr>
<td>Ongoing Development Servicing Plan Reviews and Integration</td>
<td>$40,000</td>
</tr>
<tr>
<td>Coordination with City servicing works</td>
<td>$15,000</td>
</tr>
<tr>
<td>Illumination and Streetlight Design Plains Road including coordination with KW Hydro and Transportation</td>
<td>$70,000</td>
</tr>
<tr>
<td>Tree Removal Quotations and Inspection</td>
<td>$30,000</td>
</tr>
<tr>
<td>Allowance for Additional Future Tenders</td>
<td>$40,000</td>
</tr>
<tr>
<td>Ongoing Project Management</td>
<td>$35,000</td>
</tr>
<tr>
<td>Total (excluding HST)</td>
<td>$400,000</td>
</tr>
</tbody>
</table>
Region of Waterloo
Transportation and Environmental Services
Transit Services

To: Chair Tom Galloway and Members of the Planning and Works Committee

Date: March 3, 2020

File Code: D2-60(A)

Subject: Grand River Transit U-Pass Contract Updates

Recommendation:

That the Regional Municipality of Waterloo enter into agreements with the Waterloo Undergraduate Students Association, the University of Waterloo Graduate Students Association, the University of Waterloo English Language Institute at Renison College, the Wilfrid Laurier University Students Union and the Wilfrid Laurier University Graduate Students Association to implement universal transit pass programs (U-Pass), in a form satisfactory to the Regional solicitor, as described in Report No. TES-TRS-20-05, dated March 3, 2020.

And that the Regional Municipality of Waterloo amend the Region’s Fees and Charges By-law 20-001 with respect to the U-Pass agreements with full-time students at the University of Waterloo and Wilfrid Laurier University, as described in Report TES-TRS-20-05, dated March 3, 2020 to increase U-Pass fees to $110.00 per school term for eligible students of the Waterloo Undergraduate Students Association and $103.20 for all other eligible students, effective September 1, 2020.

Summary:

The Region’s existing U-Pass agreements with the Waterloo Undergraduate Students Association (WUSA), the University of Waterloo Graduate Students Association (UW GSA) and the English Language Institute at Renison College (Renison ELI), the Wilfrid Laurier University Students’ Union (WLUSU) and the Wilfrid Laurier University Graduate Students Association (WLU GSA) expire on August 31, 2020. Staff has worked with student representatives to develop new agreements that would be in effect until August
WUSA and Renison ELI would be able to implement proposed price changes for September 1, 2020 for the five year term ending August 31, 2025. The other student groups would require additional time to hold referendums in fall 2020. Staff therefore recommend that the existing agreements for groups other than WUSA and Renison ELI be extended for one year, and pending the outcomes of the referendums execute new agreements with these groups under the same terms as described in this report with a four year term ending August 31, 2025. The terms would include a price increase to the same rate as the WUSA agreement, effective September 1, 2021.

All agreements would have the mutual option to extend for a successive five years. Annual rates of fee increase would be 3% per year plus an adjustment based on Consumer Price Index of up to 2% per year.

The GRT 2022-2026 Business Plan would evaluate U-pass pricing and would recommend a U-Pass target price for the Region. Pending approval of the Business Plan by Regional Council, U-Pass agreements would then be reviewed by staff and students to update fees. In addition, fees would be collectively reviewed every three years during the life of the agreements.

Previous U-Pass agreements were for a five-year term and fee increases were fixed at 4.99% annually.

Current U-Pass program fees in Ontario vary from between $51.28 per term and $212.71 per term. The average price in Ontario is currently $118.23 per term. The Region’s current U-Pass fee is $98.60 per term. Appendix A provides a summary table of Ontario U-pass fees by term and for the full year.

Report:

The Region currently maintains Universal transit pass programs (U-Pass) agreements with the Waterloo Undergraduate Students Association (WUSA), the University of Waterloo Graduate Students Association (UW GSA) and the English Language Institute at Renison College (Renison ELI), the Wilfrid Laurier University Students’ Union (WLUSU), and the Wilfrid Laurier University Graduate Students Association (WLU GSA). These agreements will expire on August 31, 2020.

WLU Undergraduate Students were the first to partner with Grand River Transit (GRT) to provide a U-Pass in September 2005. In September 2007, the UW Federation of Students and WLU GSA successfully launched their U-Pass programs. The UW GSA voted for a U-Pass starting in September 2010, and the Renison ELI joined the program in 2015. Since 2014, U-Pass riders have accounted for approximately 25 percent of
GRT’s ridership, which in 2019 represented approximately 5.7 million rides.

Since 2008, the Region’s U-Pass programs have been annual. Passes are valid year-round and fees are paid at term enrollment. This arrangement allows students to access the transit system while in the Region on work terms.

Since late 2019, Staff has been in discussion with representatives from each student group to develop draft terms for new agreements that would support continuation of the program. Key updates to the agreements would address the terms of the agreement and U-Pass fees.

If approved, the U-Pass fee would increase to $110 for September 1, 2020, with fees increasing by 3% per year thereafter. The annual rate of increase would also be adjusted by up to 2% per year based on the Consumer Price Index, for a net annual increase of between 3% and 5%.

The WUSA U-Pass agreement and the agreement with Renison ELI would include this increase effective September 1, 2020. The other student associations would need time to allow student referendums to take place in fall 2020 before the proposed increase can be approved. Staff proposes to extend the current agreements with these groups for one year under the existing terms that would include a 4.99% increase effective September 1, 2020, and pending successful referendums execute new agreements with these groups under the same terms as described in this report that would include a price increase to the same rate as the WUSA and Renison ELI agreements, effective September 1, 2021.

U-Pass fees for these years would be:

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>WUSA and Renison ELI Fee per Student per Term</th>
<th>UW GSA, WLU GSA and WLUSU U-Passes Fee per Student per Term</th>
<th>Student Term Price including Maximum 2% CPI adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Fee</td>
<td>$ 98.60</td>
<td>$ 98.60</td>
<td>-</td>
</tr>
<tr>
<td>01-Sep-20</td>
<td>$ 110.00</td>
<td>$ 103.52</td>
<td>-</td>
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<tr>
<td>01-Sep-21</td>
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<td>01-Sep-23</td>
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<td>$ 120.20</td>
<td>$ 127.34</td>
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<tr>
<td>01-Sep-24</td>
<td>$ 123.81</td>
<td>$ 123.81</td>
<td>$ 133.71</td>
</tr>
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</table>
The proposed U-Pass agreement includes a clause which enables a new U-Pass target price to be established through the new GRT Business Plan process in year three (September 2022) of the agreement. The implementation timing of the new target price would be negotiated with student representatives. The benefits of establishing the new U-Pass target price through the business plan process is that it would enable more opportunity to evaluate pricing options in relation to service, financial and ridership growth objectives of the new plan. Student groups would be consulted during the development of the U-Pass target price.

To provide a stable long-term program, staff proposes the agreements have either the four or five year term, with the mutual option to extend the agreements if the student associations and Region agree to do so. Initial extension would be for an additional five years, and if all parties continue to support the agreements through an annual review they could continue without further amendment. All parties would retain the ability to terminate their respective agreements with 180 days notice.

U-Pass programs are offered with most universities in Ontario. The average U-Pass price per term in Ontario is $118.23. A summary of Ontario U-Pass program fees is included as Appendix A.

Staff have on-going discussions with Conestoga College students about the potential to re-introduce the College U-Pass program that could not be implemented as approved and scheduled in September 2019 because of the Provincial Government’s Student Choice Initiative. The Federation of Students successfully challenged the Student Choice Initiative by initiating a court action, however, the provincial government is currently in the process of appealing the Divisional Court decision to the Ontario Court of Appeal. The result of this appeal will determine if the Region and Conestoga College students could again begin a process to establish a College U-Pass program, and it is uncertain of how long the appeal decision will take to be rendered by the court. Furthermore, depending on the result of the Ontario Court of Appeal decision, the Provincial government could further appeal the decision to the Supreme Court of Canada. The College student representatives also indicated that a new student referendum would be required. In light of the ongoing appeal of the Divisional Court decision and the need for a new student referendum, the earliest a College U-Pass program could be implemented would be September 2021.

The previously approved fee for the College U-Pass was $137 per semester for September 2019. A review of current revenues generated by Conestoga College students suggests the price for a College U-Pass would need to be more than $137 per semester in September 2021. The difference in price between a potential College U-Pass and the new U-Pass at UW and WLU would be evaluated during the business plan process to establish the new U-Pass price target.
Corporate Strategic Plan:

By supporting ridership increases, U-Pass programs support Strategic Objective 2.1: Enhance the transit system to increase ridership and ensure it is accessible and appealing to the public.

Financial Implications:

The Region’s Approved 2020 Grand River Transit Operating Budget includes an estimated U-Pass contractual increase of 5%. U-Pass programs would be expected to generate an average revenue of $11,500,000 per year through the first five years of the proposed agreements. This revenue would be factored into the annual GRT budgets and would help sustain current service levels and future service improvements in the university areas.

Other Department Consultations/Concurrence:

Staff from the Finance Division of Corporate Services and the Legal Division of Planning, Legislative and Development Services were consulted and are in concurrence with this report and its recommendations.

Attachments

Appendix A: University U-Pass Programs in Ontario

Prepared By: Gethyn Beniston, Project Manager

Approved By: Thomas Schmidt, Commissioner, Transportation and Environmental Services
### Appendix A: University U-Pass Programs in Ontario

<table>
<thead>
<tr>
<th>Municipality</th>
<th>University</th>
<th>Term Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ottawa</td>
<td>Carleton / University of Ottawa</td>
<td>$212.71</td>
</tr>
<tr>
<td>Guelph</td>
<td>University of Guelph</td>
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</tr>
<tr>
<td>Peterborough</td>
<td>Trent University</td>
<td>$147.32</td>
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<tr>
<td>Durham</td>
<td>University of Ontario Institute of Technology</td>
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<tr>
<td>London</td>
<td>University of Western Ontario</td>
<td>$131.46</td>
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<tr>
<td>Mississauga</td>
<td>University of Toronto (Mississauga)</td>
<td>$130.00</td>
</tr>
<tr>
<td>Hamilton</td>
<td>McMaster University</td>
<td>$108.37</td>
</tr>
<tr>
<td>St. Catharines</td>
<td>Brock University</td>
<td>$106.17</td>
</tr>
<tr>
<td>Sudbury</td>
<td>Laurentian University</td>
<td>$100.00</td>
</tr>
<tr>
<td>Waterloo</td>
<td>WLU/UW</td>
<td>$98.60</td>
</tr>
<tr>
<td>Brantford</td>
<td>WLU (Brantford)</td>
<td>$51.28</td>
</tr>
<tr>
<td>Kingston</td>
<td>Queens University</td>
<td>$45.90</td>
</tr>
</tbody>
</table>

**Average** $118.23
Region of Waterloo  
Transportation and Environmental Services  
Transit Services

To: Chair Tom Galloway and Members of the Planning and Works Committee  
Date: March 3, 2020  
File Code: D28-60  
Subject: Low Income Transit Program Implementation Update

Recommendation:

That the Regional Municipality of Waterloo defer the elimination of the “reduced monthly pass” and “reduced stored-value fare payment” from April 1, 2020 to July 1, 2020 to be implemented in conjunction with the approved 2% fare increase on July 1, 2020.

Summary:

NIL

Report:

The Low Income Transit (LIT) Program Report (TES-TRS-19-20/CSD-19-11) was discussed at the September 10, 2019 Planning and Works Committee meeting. The report recommended that the LIT program be implemented in phases including the elimination of the reduced monthly pass and reduced stored-value payment for youth and seniors in August 2021. Subsequently, Planning and Works Committee requested staff to provide information at the September 18, 2019 Regional Council meeting on the budget implications of advancing implementation of the LIT program to April 1, 2020.

At the Regional Council meeting of September 18, 2019, it was recommended that the 2020 operating budget reflect the cost of advancing the implementation of the LIT program to April 1, 2020. The approved 2020 Regional Budget reflects implementation of the LIT program on April 1, 2020.
Elimination of aged-based discount fare products, the “reduced monthly pass” and “reduce stored-value payment” would provide additional fare revenue to off-set some of the costs associated with the LIT program. Staff are recommending that the elimination of the aged-based discount fare products be deferred from April 1, 2020 to July 1, 2020 for the following reasons:

- High school students are able to complete their school year to the end of June 2020 at the reduced monthly pass or reduced stored-value fares.

- School boards have purchased five-month term passes (January to June 2020) at the reduced monthly pass rate.

- Communication of the 2% fare change details and the elimination of aged-based discount fare products would be aligned to the July 1, 2020 implementation date.

By eliminating reduced fare products July 1, 2020, all high school students would have access to the same fare products until that date.

The approved 2020 Regional Budget includes a 2% fare increase effective July 1, 2020. Staff will be submitting a fare change report to Planning and Works Committee in the spring recommending the approved 2% fare increase to be implemented July 1, 2020.

The LIT program will be referred to as the Affordable Transit Program (ATP) going forward and the implementation of the program is underway. Existing TRIP customers will begin transitioning to ATP beginning March 1, 2020 and other low income customers can access the program beginning in April.

**Corporate Strategic Plan:**

Transit programs and fares for people living with low-income meet the Strategic Objective 2.1: “Enhance the transit system to increase ridership and ensure it is accessible and appealing to the public” and Action 2.1.2: “Continue to evaluate and monitor alternative transit fare structures”.

**Financial Implications:**

Deferring the elimination of the “reduced monthly pass” and “reduced stored value fare payment” from April 1, 2020 to July 1, 2020 would impact the 2020 budget with an estimated $120,000 reduction in passenger revenues. If the deferred implementation date were approved, staff would report back through the periodic financial reporting process whether this variance could be accommodated in the overall Transit operating budget. Should the Transit operating variance be insufficient, staff would review and recommend the utilization of an appropriate reserve to cover the shortfall. The annualized budget impact of the LIT program, when fully implemented, remains the same.
Other Department Consultations/Concurrence:
Staff from Corporate Services were consulted and provided input to this report.

Attachments
NIL

Prepared By: Peter Zinck, Director Transit Services

Approved By: Thomas Schmidt, Commissioner Transportation and Environmental Services
Region of Waterloo

Transportation and Environmental Services

Water Services

To: Chair Tom Galloway and Members of the Planning and Works Committee

Date: March 3, 2020     File Code: E04-80

Subject: 2019 Drinking Water Summary Report, Quality Management System Review and Infrastructure Maintenance Plan

Recommendation:


Summary:

This report provides an overview of the 2019 Summary Report as required by Ontario Regulation 170/03, the results of the annual management review and a summary of the infrastructure maintenance plan.

Report:

Background

Ontario Regulation 170/03 requires Water Services staff to inform Regional Council with the provisions that follow:

1. An annual summary report (issued by March 31, 2020) that includes:
   a. A statement identifying compliance with relevant legislation and The Ministry of the Environment, Conservation and Parks (MECP) orders,
b. Details of non-compliances with any requirement(s) including duration,
c. A summary of water quantities and flow rates, and
d. A comparison of water quantities and flow rates to system approval levels.

2. A report on the annual management review identifying deficiencies, action items, and an evaluation of the quality management system. The status of actions from previous management reviews and staff suggestions are also reviewed.

3. A report on the infrastructure maintenance plan highlights any changes from the previous year.

Overview of Summary Report

In 2019, the MECP performed 20 inspections of the Region’s water supply systems and the water supply and distribution systems in the Townships of Wellesley and North Dumfries. A Drinking Water System Inspection Report (DWSIR) was issued after each inspection commenting on all regulatory issues, non-compliance corrective actions and/or best management practices. All non-compliance issues identified through the MECP inspections and any other relevant legislation are included in this report with corrective action or mitigating measures.

The key findings from the 2019 Summary Report (Attachment A) identified minor incidents that were detected and corrected and 1 incident related to raw water flows. The Region’s Water Services has initiated plans to address all best management and non-compliance issues identified in the inspections. The MECP Chief Drinking Water Inspector’s report was released in December 2019 and included 21 Region systems with an average compliance rating of 99.5 per cent, with 18 of the 21 inspections receiving 100%. In summary, the water quality meets the Safe Drinking Water Act requirements.

A copy of the 2019 Summary report will be placed in the Councilor’s Library after the Council meeting on March 11, 2020. Copies of the report are available free of charge from Water Services and the report will be posted on the Region’s website at www.regionofwaterloo.ca/water.

Annual Management Review for Compliance with the Drinking Water Quality Management System (DWQMS)

The management review occurred November 27, 2019, at the Mannheim Water Treatment Plant with operations management staff and top management. The top management are defined in the Quality Management System (QMS) procedure as Thomas Schmidt – Commissioner, Transportation and Environmental Services; Nancy Kodousek – Director, Water Services, and Olga Vrentzos – Manager, Operations and
Maintenance. The Commissioner was unable to attend and was provided an update after the meeting. Chris Komorowski from Public Health was also invited to attend the meeting.

The QMS is evaluated for suitability, adequacy and effectiveness; outstanding issues from previous management reviews and staff suggestions; and reviews the status of management action items identified throughout the year. There were no major non-conformances identified during the 2019 internal or external audits. The minutes from the management review along with the identified deficiencies, decisions, and action items can be found in Attachment B: QMS Management Review 2019 Meeting Minutes.

**Infrastructure Management Plan**

The operational plan requires an annual review of the adequacy of the infrastructure necessary to operate and maintain the water system. The review confirms the necessary infrastructure and reports on the infrastructure condition. Any changes are to be documented and communicated to the owner. The report also includes an assessment on the effectiveness of the maintenance program.

The preventative maintenance program is based on industry standards, regulatory requirements, past performance, manufacturers’ recommendations, and risk analysis. A summary of the preventative maintenance being performed can be found in the 2019 Summary Report Section 5.0.

The Region of Waterloo is in the midst of a multi-year Asset Management System Implementation Project (AMSIP). The project is comprised of implementing the work management system and the decision support system. The work management system implementation (Lucity) is an enterprise level software product to be used by all asset-owning Divisions at the Region of Waterloo to perform maintenance and all other work on assets. Water Service’s implementation of Lucity was completed in early 2019.

With the implementation of Lucity, several required work orders were not generated as required with the new system causing non-compliances. Alteration of the asset management system schedule was required and a manual verification step was implemented to ensure the work order generation was operating as expected.

Due to limitations with the currently implemented version the new asset management system (Lucity) several work orders did not generate as required, resulting in regulatory non-compliance.

**Corporate Strategic Plan:**

The 2019 Annual Summary Report, the DWQMS Management Review and the Infrastructure Maintenance Plan supports Focus Area 3.4: Protect our water resources (drinking water and wastewater treatment).
Financial Implications:

All costs associated with operating and maintaining the water systems are covered by the approved Water User Rate.

Other Department Consultations/Concurrence:

The Public Health Department has reviewed this report.

Attachments:

Attachment A: 2019 Summary Report for Integrated Urban and Rural Water System - (no tables or appendices)

Attachment B: 2019 Management Review Meeting Minutes

Prepared By: Olga Vrentzos, Manager, Water Operations and Maintenance

Approved By: Thomas Schmidt, Commissioner, Transportation and Environmental Services
2019 Summary Report – Region of Waterloo Water Services

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2019 Summary Report – Region of Waterloo Water Services

1. Overview & Background

This report addresses the requirements as defined under the Safe Drinking Water Act and the Drinking Water Quality Management System.

1.1 Safe Drinking Water Act

Schedule 22-2 of Ontario Regulation 170/03 states that owners of municipal drinking water systems shall ensure that, no later than March 31 of each year, a summary report is prepared for the preceding calendar year and presented to the members of municipal council. This report includes:

(1) A list of the requirements in the Act, the regulations, the system’s approval, drinking water works permit, municipal drinking water license, and any order applicable to the system that was not met at any time during the period covered by the report;
(2) for each requirement in (1) specify the duration of the failure and the measures that were taken to correct the failure;
(3) a summary of the quantities of flow rates of water supplied during the period covered by the report, including monthly average and maximum flows;
(4) a comparison of the summary referred in (3) to the rated capacity flow rates in the system’s approval, drinking water works permit or municipal drinking water license.

This summary report represents all the drinking water supply systems in the Region and the distribution systems in North Dumfries and Wellesley. The water supply for the Region is from two sources: approximately 75 percent is from ground water wells and 25 percent is from the Grand River (Mannheim Water Treatment Plant).

This report captures non-compliance issues and corresponding corrective action(s) or mitigating measure(s). Any Adverse Water Quality Incidents (AWQIs) not captured in the 2019 Annual Water Quality Report (issued February 28th) are identified in Appendix A.

1.2 Drinking Water Quality Management System (QMS) Conformance and Municipal Drinking Water Licensing Program

To obtain and maintain a Municipal Drinking Water License (MDWL), the Region must hold: a valid Drinking Water Works Permit (DWWP), a valid Permit to Take Water (PTTW) for each water source, operational plans as approved by the Ministry of the Environment, Conservation and Parks (MECP), operating authority accreditation (based on a third party audit of the DWQMS 21 Elements), and financial plans approved by Regional Council. Each Municipal Drinking Water License and each Financial Plan must be renewed every 5 years. Operating authority accreditation was successfully obtained in 2016, and 14 new MDWLs were issued. Third party reaccreditation was successfully obtained again in 2019, in preparation for MDWL renewals in 2021.
2019 Summary Report – Region of Waterloo Water Services

Management Review
The management review must be conducted annually to evaluate the suitability, adequacy, and effectiveness of the Quality Management System (QMS) with the results being communicated to Regional Council as the system owner. The management review provides evidence of continued endorsement and commitment to the QMS from Top Management.

The QMS annual management review was conducted on November 27, 2019 and included discussion of non-compliance issues and corresponding corrective/preventative action(s). The 2019 management review minutes, identified deficiencies, decisions and action items, are included in Appendix B. There were no major non-conformances identified with the QMS.

Infrastructure Review
DWQMS (Element 14 and 15) requires that the operational plan document a summary, and monitor the effectiveness of the Operating Authority’s infrastructure maintenance, rehabilitation and renewal programs and to communicate these programs and any updates to the Owner. Asset management and maintenance programs are established and maintained to ensure repair and replacement of water system infrastructure. An overview of the infrastructure maintenance is found in section 5.

2. Health Related Notifications – Boil Water Advisories (BWA)/Drinking Water Advisories (DWA)
The Region of Waterloo Water Services Division, in collaboration with the Public Health Department, ensures a safe water supply. There were no BWA or DWA issued during 2019.

3. Regulatory Compliance
The MECP’s annual drinking water system inspections focus on compliance with the SDWA and related regulations. The following legislative requirements apply to municipally owned and operated drinking water systems:

• proper documentation;
• sampling and analytical testing;
• adverse water quality incident reporting (AWQI);
• proper treatment and maintenance;
• corrective actions;
• Municipal Drinking Water Licenses;
• Drinking Water Works Permits;
• accreditation
• continuous water quality monitoring;
2019 Summary Report – Region of Waterloo Water Services

- flow monitoring;
- calibration/verification of flow meters and instrumentation and,
- certified operators.

The 2018-19 MECP Chief Drinking Water Inspector’s report, released in December 2019, identifies 21 inspection reports with an average compliance rating of 99.5% for the Region of Waterloo, with 18 of 21 inspections receiving 100%.

During 2019, twenty (20) drinking water system inspections were completed. Three (3) inspections were completed as part of the 2018/2019 inspection period, and seventeen (17) inspections were completed as part of the 2019/2020 inspection period. The MECP inspections for the 2019/2020 period not included in this report will be captured in the 2020 Annual Summary Report. Chart 1 below compares the average MECP inspection compliance ratings over the past 5 years and Appendix C summarizes the ratings for this inspection year.

Chart 1 – MECP Average Inspections Ratings
# 2019 Summary Report – Region of Waterloo Water Services

Table 1 – Summary of Non-Compliance Issues under the Safe Drinking Water Act (SDWA), Municipal Drinking Water Licenses (MDWL), Drinking Water Works Permits (DWWPs), Permits to Take Water (PTTW) and the Ontario Water Resources Act (OWRA)

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Root Cause</th>
<th>Preventative/Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 19, 2019</td>
<td><strong>Mannheim WTP</strong></td>
<td>While performing electrical upgrades, power was inadvertently shut down to the regulatory chlorine analyzer.</td>
<td>Manual readings initiated.</td>
</tr>
<tr>
<td>08:48-08:58</td>
<td>Primary disinfection data not collected for greater than 5 minutes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(duration ~ 10 minutes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>August 16, 2019</td>
<td><strong>New Hamburg</strong></td>
<td>Ineffective notification of communication loss event. During WTP upgrades, two analyzers on two different iFix software platforms.</td>
<td>Reminder sent to staff referencing the Communication Loss SOP, specifically the requirement to provide notifications.</td>
</tr>
<tr>
<td>09:10-09:16</td>
<td>Primary disinfection data not retrieved following a communication loss event.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(duration ~ 6 minutes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>September 9th, 2019</td>
<td><strong>Erb Street Reservoir</strong></td>
<td>A power outage impacted the regulatory chlorine analyzer at the reservoir building. The off-site wells remained running.</td>
<td>Adjust program to stop wells if communication with the regulatory chlorine analyzer is lost.</td>
</tr>
<tr>
<td>14:12-14:19</td>
<td>Primary disinfection data not captured for greater than 5 minutes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(duration ~ 7 minutes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>August 12, 2018</td>
<td><strong>Turnbull WTP</strong></td>
<td>Following a WREPNET outage impacting numerous facilities, data retrieval and review was overlooked for one facility.</td>
<td>Data retrieval and review process revised to include an additional verification step when several facilities are impacted.</td>
</tr>
<tr>
<td>00:00-00:24</td>
<td>Primary disinfection data not captured following a communication loss event.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>00:53-00:58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01:11-02:01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(duration ~ 79 minutes)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 2019 Summary Report – Region of Waterloo Water Services

#### Permit to Take Water (PTTW)

<table>
<thead>
<tr>
<th>Date</th>
<th>Well BM2</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 11, 2019</td>
<td>Well BM2</td>
<td>Permitted instantaneous flow rate exceeded.</td>
</tr>
<tr>
<td>10:34-10:46 (duration - 12 minutes)</td>
<td></td>
<td>During WTP upgrades including commissioning of new controllers, and iFix software, the PTTW was exceeded by 0.02 L/sec for greater than 10 minutes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>System-wide controller upgrades will include programming to shut off wells if instantaneous flow limits are exceeded.</td>
</tr>
</tbody>
</table>

#### MDWL – Schedule E, UV Sensor Calibration

<table>
<thead>
<tr>
<th>Date</th>
<th>Wells K24, K26</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>April, June, &amp; July, 2019</td>
<td>Wells K24, K26</td>
<td>Monthly UV sensor verifications were not performed in the required timeframe.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Due to limitations with the currently implemented version of the new asset management system (Lucity) the monthly UV sensor calibration workorders did not generate as required.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Altered the asset management system (Lucity) schedule and initiated a manual verification step. Software upgrades are planned to address workorder triggering issues.</td>
</tr>
</tbody>
</table>

#### MDWL – Schedule C, UV Off-Spec Summary

<table>
<thead>
<tr>
<th>Date</th>
<th>Well K26</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 12, 13, 28, 2018 (total duration - 21 minutes)</td>
<td>Well K26</td>
<td>Several brief spikes above the validated flow range of the UV unit were not included in the monthly off-spec UV report.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flow was not included in the off-spec UV screening criteria. UV dose, intensity, transmittance and turbidity were included.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flow rates above UV unit validated ranges will be flagged in a daily flow report and added to the off-spec UV screening criteria.</td>
</tr>
</tbody>
</table>

#### MDWL – Schedule B, Alterations to Drinking Water System

<table>
<thead>
<tr>
<th>Date</th>
<th>New Hamburg</th>
<th>Requirement to complete the Form 3 was overlooked.</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 3, 2019</td>
<td>New Hamburg</td>
<td>Requirement to complete the Form 3 was overlooked.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reminder sent to relevant group to ensure required documentation is completed before alterations are made to the Drinking Water System.</td>
</tr>
</tbody>
</table>
## 4. Hydraulic Performance

A summary of the monthly average and maximum flow rates of water supplied are identified in Appendix D.

The Region of Waterloo Drinking Water systems have 37 Permits to Take Water (PTTW), 13 Municipal Drinking Water Licenses (MDWL) and 13 Drinking Water Works Permits (DWWP). Refer to Appendix E for a full list of PTTW, MDWLs and DWWPs.

## 5. Preventative Maintenance Programs

Elements 14 and 15 of the DWQMS require that the operational plan documents a procedure for the annual review of infrastructure necessary to operate and maintain the system. Element 14 requires that the operating authority carry out the review and report to the owner. This ensures that the owner is regularly informed of infrastructure needs and can plan accordingly. Element 15 is about documenting a summary of the maintenance, rehabilitation and renewal programs for the infrastructure. These summaries must be updated as changes occur, and must be communicated to the owner. Monitoring the effectiveness of the maintenance program is achieved by periodically reviewing the maintenance program and confirming the effectiveness of the program.

In 2019, the Water Services Division adopted a new Corporate wide Enterprise Asset Management System (Locity) which replaced the previous computerized maintenance management software (Avantis). Locity is a system that manages the installation, maintenance and replacement of infrastructure, equipment and components at water facilities. The system is used to develop, monitor, and report on preventative maintenance plans for the equipment. Preventative maintenance is based on industry standards, regulatory requirements, past history, manufacturers’ recommendations and risk analysis. As of 2019, the following preventative maintenance programs exist:

- As per the MDWL and/or Reg. 170/03, instrumentation is calibrated and/or verified in accordance with manufacturer’s instructions with the exception of the billing meters; a third party calibrates and/or verifies the billing meters annually.
2019 Summary Report – Region of Waterloo Water Services

- Instrumentation such as ultraviolet sensors, ultraviolet transmittance, chlorine, and turbidity analyzers, ozone monitors, and other equipment are calibrated and/or verified in-house as per manufacturer’s recommendations.
- A software program monitors the status of the SCADA RPU communication system.
- Process and Instrumentation Diagrams (P&IDs) are reviewed and maintained as needed.
- Electrically, the UV ballasts are run to failure and the UV lamps are replaced as per manufacturer’s instructions.
- Canadian Standards Association (CSA) guidelines have specific requirements for diesel generators, such as an annual load bank test, run under load for rated power, oil changes, coolant, filters, electrical test of alternator, test oil for engine problems and efficiency. There is a contract with a third party to ensure CSA requirements are met.
- In house backup diesel generators are run monthly under load and preventative maintenance is conducted in accordance with CSA guidelines.
- Sub Station Maintenance, involving visual inspections, are performed several times per year.
- All other electrical components are replaced as required.
- Mechanically, chlorine injectors are rebuilt monthly at all sites except the Mannheim WTP, booster pumps are maintained as required, chemical pumps are checked monthly and rebuilt as required. Piping and valve work is done as required. Air chambers are checked yearly and pumped out as required and Process Flow Diagrams (PFDs) are updated as required.
- Distribution system maintenance for North Dumfries and Wellesley Townships includes annual water main flushing and hydrant maintenance. All valves are operated over a 5 year span. Water main repairs, service leaks, meter replacement, and locates occur as required.
- Distribution maintenance, including water main repairs on the trunk mains are performed by the cities, townships or a third party contractor. Programs exist and vary by city for leak detection analysis, locates, and flushing. A more enhanced program continues to be developed to ensure that valves are exercised and remain operational.

6. Well Maintenance

Wells are maintained in accordance with Reg. 903, (Ontario Water Resources Act) and O. Reg. 170/03 (Schedule 1). Routine well inspections indicated production wells and monitoring wells were in compliance.

7. Asset Management and Capital Infrastructure Replacement Program
2019 Summary Report – Region of Waterloo Water Services

The Region's overall objective is to support the achievement service levels goals, managing risk, while minimizing lifecycle costs. Risk events, such as an asset failure, are events which may compromise the delivery of the Region's strategic objectives.

The Region's asset risk assessment takes into account potential losses to services, financial loss, and potential safety hazards. All assets are considered according to the impact of asset failure against these criteria and the likelihood of that failure occurring based on asset age, condition and performance.

Renewal work involves replacing assets or components of assets to avoid service failure or interruption. For those assets with a higher risk profile, renewal works are timed to minimize any risk of failure, while obtaining the longest economic and service life from the assets. The objective is to replace critical assets before condition deteriorates into a poor or very poor state (which would increase the risk of failure).

The predominant drivers of renewals investment are as follows:

• Current condition and performance: The Region regularly inspects its assets to monitor their condition and performance, according to Water Service's Inventory and Condition Assessment Protocol and supporting data template.
• Rate of deterioration: Examination of the rate of deterioration over time based on current condition, compared to expected service life.
• Renewals intervention point: Establishing a renewals intervention point based on the level of service required and its risk categorization.

Asset renewal requirements are bundled into capital projects based on the type of renewal required and the required timing. Asset Management has also defined a prioritization framework to help define project priority. Project prioritization criteria, ranked between 1 to 10, include the following:

• Project to address capacity deficiency or to support planned growth
• Project that improves climate change resiliency
• Project to address compliance requirements (Design / Regulatory)
• Project that will reduce energy consumption / greenhouse gases
• Project with funding from higher orders of government with defined timelines
• Project that addresses corrective maintenance requirements / reliability concerns
• Project to provided needed redundancy
• Project to undertake a time-sensitive rehab to extend service life
• Project to address asset condition / end-of-life

The above framework has established the foundation upon which asset management and capital infrastructure replacement decisions are made. In addition, regular
2019 Summary Report – Region of Waterloo Water Services

preventative maintenance is also performed to maintain the condition of assets and help ensure expected service lives are achieved.

In 2019, key asset management activities included:

• Implementation of a new Corporate Work Management System: Lucity.

The Region of Waterloo is in the midst of a multi-year Asset Management System Implementation Project (AMSIP). The project is comprised of two primary components:

1. Work Management System Implementation (Lucity) - an enterprise level software product to be used by all asset-owning Divisions at the Region of Waterloo to perform maintenance and all other work on assets. Water Service’s Implementation of Lucity was completed in early 2019.

2. Decision Support System acquisition and implementation (PowerPlan) - a set of correlated tools that work with the Work Management System in an integrated fashion to facilitate decision making for determining the appropriate rehabilitation, restoration, replacement, or maintenance strategies for optimal Asset performance. Initial stages of implementation began in 2019 and is on-going.

Integrated with other key corporate systems, these systems will enable staff to make better decisions related to asset maintenance, help forecast capital works, improve efficiencies through enhanced work planning and scheduling, provide consistent metrics for comparing assets across Divisions and allow better reporting to help Council make more informed decisions.

• Launch of an online Project Tracking Tool: PeTey.

PeTey is a web-based application used to identify and track water and wastewater projects. Project Managers within Water Services have been provided this tool to track project scope, budget, spending and prioritization of capital projects. PeTey strives to provide a consolidated list of capital projects as well as support monitoring of spending against approved budgets.

• Project Requests Tracking System: Bitrix.

Bitrix is an online application used to track all water and wastewater capital project requests, with the objective of improving consistent and transparent review of new capital project requests as well as communication. In 2019, 48 project requests were submitted by staff, 29 have since been reviewed and approved for the capital budget.
2019 Summary Report – Region of Waterloo Water Services

others are still in review or were not approved for the capital budget. Project requests approved in Bitrix are incorporated into the Project Tracking Tool – PeTey, for input into the capital program.

• Water Facility Inventory, Condition, and Capital Planning Assessments

These assessments are performed to recognize/update all major building, process, and site works assets and components, as well as to assess the current physical and performance (capacity, suitability, quality, quantity, and cost or energy efficiency). This information is then used to support a 10-year capital renewal plan and long term forecast (25-year) for the facility. Assessments were completed for the following water systems:
  o Mannheim Water System
  o Greenbrook Water System
  o Middleton Water System
  o Ayr Water System
  o Erb Street Water System

• Annual review, and coordination of watermain replacements: Watermain replacement requirements are reviewed based on the age, material, and condition (break history and leakage reports where available) and are coordinated with both Regional and Local transportation capital programs.

• Creation of a Watermain Working Group

A significant effort has been placed over the last few years on a number watermain related activities that support asset planning, management, and reporting such as the following:
  o Development of a Regional Water GIS data schema and Water Infrastructure GIS Data Sharing Guidelines with local municipalities. Staff from each municipality participated in the development of the data standard, and are participating in data sharing to support the creation of single data set that contains Local, Dual and Region owned water transmission/distribution infrastructure.
  o Development of an “all pipes model” to support hydraulic analysis of the Regional water system.
  o Criticality Analysis of Water Distribution Infrastructure. The Region, in collaboration with the Cities of Cambridge, Kitchener, and Waterloo completed a criticality analysis of the Integrated Urban System (IUS) water
2019 Summary Report – Region of Waterloo Water Services

distribution infrastructure to evaluate and classify the criticality of the IUS system elements.

- Annual coordination meetings with the Cities of Cambridge, Kitchener, and Waterloo to coordinate watermain capital works.
- Improvements to processes and communication to coordinate watermain capital works with transportation capital projects.
- GIS integration with the Region’s Work Management System – Lucity. This provides a single source of information to be utilized across the Region. This supports continuous improvement with data and information, as staff in the field are able to identify and communicate errors for correction.

While there have been significant improvements made to support the management of linear water infrastructure, continued improvements can still be made. As such, a Watermain Working Group was formed to continue to focus improvement efforts in the following areas:

- Asset Inventory and Attribute Management – reviewing the process and timelines for incorporating as-built drawings in GIS as well as formalizing the redline process for communicating and updating data when errors are identified.
- Condition & Risk Assessment – Review and improve upon the process for assessing watermain condition and renewal requirements, as well as develop an approach for assessing watermain criticality in the rural systems.
- Watermain Capital Project Delivery - Develop project identification and delivery process workflow(s), defining key milestones, stakeholders, communications and roles and responsibilities.
- Encroachment Standards Review – Review and update documented procedures for construction in proximity to a watermain.
- Watermain Break Response – Review and update documented emergency response plans and procedures.

The watermain working group, formed in 2019, will continue efforts in 2020.

- Elevated Tank Program.

  - Elevated Tank Inspections: The Region undertakes an annual tank inspection program to examine ladders, landings, handrails, appurtenances, venting and overflow screens. These inspections meet or exceed the recommended requirements set out in the AWWA Standard M42-Steel Water Storage Tanks.
2019 Summary Report – Region of Waterloo Water Services

- Reservoir cleaning and re-coating: The Region is currently working on an optimized capital program for elevated water storage tanks, incorporating levels of services, and better alignment of inspections, coating replacement/rehabilitation or maintenance work with other capital projects. The overall program objective is to define service levels goals, managing risk, minimize lifecycle costs, and improved alignment with other capital projects to minimize downtime. Other elevated tank assets such as cathodic protection, lightning protection systems and communications equipment are also evaluated and will be captured in the capital program assessment.

- Asset Management Planning

In January 2018, the Province of Ontario enacted O.Reg 588/17 ‘Asset Management Planning for Municipal Infrastructure’ under the Infrastructure for Jobs and Prosperity Act, 2015. The regulation requires that every municipality prepare its first strategic asset management policy by July 1, 2019 and shall review and, if necessary, update it at least every five (5) years. The regulation also requires that every municipality prepare an asset management plan for its core municipal infrastructure assets by July 1, 2021, and for all of its other municipal infrastructure assets by July 1, 2023. The Region has committed to a four (4) year interval to align with new Regional Council and Strategic Planning.

In 2019 The Corporate Asset Management Policy was updated and approved by Council in June 2019. The update to the 2016 Asset Management Plan was initiated; it will be presented to council in 2020.

The Asset Management Plan (AM Plan) is a long range planning document that is used to provide a rational framework for managing the Region’s assets. The Region’s AM Plan contains consolidated information that is currently available for the Region’s assets to provide both a short term (10 years) and a long term (100 years) focus. The AM Plan is a written representation of proposed risk reduction programs and strategies for the Region’s assets based on understanding of customer requirements, regulatory compliance, and the ability of the assets to meet required levels of service. This AM Plan identifies future costs and assists in predicting future problems that may hinder service delivery. This creates opportunities for the Region’s asset managers and operators to remove physical, financial and political barriers before they negatively impact customer levels of service.
2019 Summary Report – Region of Waterloo Water Services

Appendix A – Adverse Water Quality Incidents (AWQI) for Regional Distribution Facilities (IUS)

<table>
<thead>
<tr>
<th>AWQI</th>
<th>Date</th>
<th>Location</th>
<th>Parameter</th>
<th>Result</th>
<th>Unit</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No IUS Distribution Facility AWQI occurred in 2019</td>
</tr>
</tbody>
</table>
2019 Summary Report – Region of Waterloo Water Services

Appendix B – QMS Management Review

DATE: November 27, 2019
TIME: 1:30pm – 4:30pm
PLACE: Mannheim Training Room

PRESENT:
Peter Clarke          Nancy Kodousek          Olga Vrentzos          Dale Wiens
Frank Infante        Kathy Taylor           Chris Komorowski (PH)

REGRETS:
Thomas Schmidt       Sandy Stevens (PH)

1) QMS MANAGEMENT REVIEW PROCESS
    A summary was provided of the Management Review purpose and objectives - to evaluate the effectiveness and appropriateness of the QMS and to address any deficiencies.

2) QMS POLICY REVIEW AND APPROVAL
    The QMS policy (DOCS#381423) was reviewed and continues to be appropriate.

3) DWQMS MANAGEMENT REVIEW REQUIREMENTS
    Required Management Review agenda items were discussed in accordance with the procedure DOCS#500605.

4) ROUNDTABLE DISCUSSION
    Management Review discussion conducted as per presentation (DOCS#3165158) and agenda (DOCS#3162953).

5) PREVIOUS ACTION ITEMS - FOLLOW-UP
    Reviewed 2018 Management Review action status:
    
    I. Provide Standard of Care Training to New Council
    
    Investigate bringing course in-house for new Regional Council and open up training for lower tier Councillors as well.
    
    Action: Director, Water Services & Supervisor, Process and Compliance
2019 Summary Report – Region of Waterloo Water Services

II. Mannheim Filters – Extended Terminal Subfluidization Wash (ETSW)

Programming to be installed after Tech Memo completed. Optimum backwash flows/durations to be incorporated.

Action: Supervisor, Process & Compliance

Timeline: Complete

III. Protocol for Operating Hidden Valley and the K80s Wells During Grand River Watershed Upsets

A peer review of the current procedure is underway. Workshops and Protocol changes are planned for 2019/2020.

Action: Manager, Operations and Maintenance

Timeline: Ongoing (Spring 2020)

IV. Develop Standard Operating Procedure for Greenbrook WTP

Health Canada’s proposed MAC of 50 µg/L for 1,4-Dioxane may impact the Region’s current target level of 10 µg/L. Online continuous peroxide dosage monitoring now in place.

Action: Supervisor, Process & Compliance

Timeline: Procedure is Drafted

V. Review/Implement 2018 Internal Audit Findings

Zero (0) non-conformance issues were identified. Fifteen (15) opportunities for improvement (OFI) were identified, implementation to be assessed and decided by management staff.

Action - Supervisor, Process and Compliance

Timeline – Complete

6) INCIDENTS OF REGULATORY NON-COMPLIANCE REVIEW

Eight (8) regulatory non-compliance issues occurred in 2019. For most non-compliance issues a corrective/preventative action was implemented (see Management Review Presentation Slides #18-27, DOCS#3165158 for details).
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7) **Operational Plans and Municipal Drinking Water Licenses**
   - Zero (0) new MDWL and DWWPs were issued in 2019.
   - Conestoga Plains/West Montrose Waterworks and MDWL end dated.

8) **General Discussion**
   - Implementation of the new Lucity system has the potential to impact the QMS. Specifically, Element 15 - Infrastructure Maintenance, Rehabilitation, and Renewal.
   - Discussed impacts of the Jet fuel spill near highway 401 on the operation of the Shades Mill GUDI wells. Public Health received questions about recreational impacts related to swimming and fishing in the Shades Mill reservoir.
   - Extreme Weather Conditions – Emergency Response SOP exists to address Climate Change impacts. The SOP generally references existing Emergency Response SOPs.
   - O&M to investigate potential measures to expedite returning Mannheim WTP to service following a chemical spill in the Grand River. The peer review of the Hidden Valley Low Lift Operation SOP currently underway may include these measures.
   - Public Health is in the process of updating their AWQI response protocol. A copy of O&M’s AWQI response SOP will be provided as an FYI.
   - Several changes to Health Canada Water Quality Guidelines were recently released. Potential impacts to Water O&M will be discussed at Research and Innovation Committee meetings. If capital or infrastructure upgrades may be required, the Bitrix system should be used for tracking.
   - Participated in an ultrasonic research study for algal bloom mitigation in the Hidden Valley Highlift Reservoir. Based on study results, the potential exists for ultrasonic technology to replace Blue Frog mixers as an algal bloom control measure.
   - Mannheim WTP Optimization Study is underway. Results have the potential to impact the QMS. Operational challenges include Ozone off gassing and plate settler plugging. Sodium hypochlorite drip system was utilized to compensate for Side 1 ozone system. New polymer trial scheduled.

9) **Action Items**

   I. **Apply to renew 12 Municipal Drinking Water Licenses**
      - Submission requirements include an updated Financial Plan, Permits to Take Water, Third Party Operating Authority Accreditation (achieved 2019), Drinking Waterworks Permits, and approved Operational Plans. Raw water characterization,

      **Action:** QMS Team
      **Timeline:** Summer 2020
2019 Summary Report – Region of Waterloo Water Services

II. REVIEW/IMPLEMENT 2019 INTERNAL AND EXTERNAL AUDIT FINDINGS

- Two (2) non-conformance issues were identified.
- Thirty (30) opportunities for improvement were identified, implementation to be assessed and decided by management staff.

Action: Supervisor, Process and Compliance
Timeline: Summer 2020

III. FINALIZE STANDARD OPERATING PROCEDURE FOR GREENBROOK WTP

- Health Canada’s proposed MAC of 50 µg/L for 1,4-Dioxane may impact the Region’s current target level of 10 µg/L. Online continuous peroxyde dosage monitoring now in place. Procedure has been drafted.

Action: Supervisor, Process and Compliance
Timeline: Early 2020

IV. REVISE PROTOCOL FOR OPERATING HIDDEN VALLEY AND THE K80S WELLS DURING GRAND RIVER WATERSHED UPSETS

- A peer review of the current procedure is underway.

Action: Manager, O&M
Timeline: Spring 2020

10) NEXT STEPS

- External (NSF) Surveillance Audit scheduled for week of February 17th, 2020
- Develop Non Conformance corrective action plans as applicable
- Amend DWQMS procedures as applicable
Region of Waterloo
Planning, Development and Legislative Services
Community Planning
Corporate Services
Treasury Services

To: Chair Tom Galloway and Members of the Planning and Works Committee

Date: March 3, 2020 File Code: F25-20

Subject: Brownfield Financial Incentive Program – Tax Increment Grant Application – 270 Spadina Road East, Kitchener

Recommendation:

That the Regional Municipality of Waterloo take the following actions regarding the property municipally known as 270 Spadina Road East in the City of Kitchener, as described in Report PDL-CPL-20-02/COR-TRY-20-16 dated March 3, 2020:

a) Approve a joint Tax Increment Grant, subject to the terms of an associated Tax Increment Grant agreement with the registered owner of the subject lands, with the Regional amount not to exceed $3,755,440 net of any other future brownfield assistance, to be financed from the incremental tax revenue for the property following remediation, redevelopment and reassessment; and,

b) Authorize the Region’s Commissioner of Planning, Development and Legislative Services and Commissioner, Corporate Services / Chief Financial Officer to execute any associated agreements, assignments, or other related documents with the registered owner of 270 Spadina Road East in the City of Kitchener, with the form and content of such Tax Increment Grant agreement(s), any subsequent assignments of the agreement, or other related documents to be satisfactory to both the Regional and City of Kitchener Solicitors.
Summary:

The Region of Waterloo received a Tax Increment Grant (TIG) application for the remediation and redevelopment of 270 Spadina Road East in the City of Kitchener (Attachment A - Location Map). The 0.583 hectare site was part of the former Canadian Blowers/Canada Pumps properties and a six-storey apartment building was constructed in the 1950s, prior to any regulatory standards. A Record of Site Condition was obtained on July 12, 2019 and development approvals for the site permit a second six-storey building containing 90 residential units and a new underground parking lot beneath the existing parking lot (Attachment B - Concept Plan).

If approved, this TIG would represent the ninth successful joint TIG application in the City of Kitchener. The redevelopment represents a significant increase in assessed value and tax assessment with an estimated total current value assessment increase of $20,437,500. Based on a detailed assessment of the anticipated remediation costs from the remedial work plan, a total of $5,419,105 in direct remediation costs are considered eligible for Brownfield Financial Incentives. With a 10 per cent allowance for indirect costs afforded under the TIG program ($541,910), the total maximum potential TIG (not including any deductions for other brownfield financial assistance) is $5,961,015. It is anticipated that the applicant will apply for and meet eligibility requirements of a Brownfield Regional Development Charge (RDC) Exemption under RDC By-law 19-037 grandfathering provisions. Based on preliminary development plans for this site, Brownfield RDC exemptions in the range of $1.5 - $2 million are anticipated.

The Region’s maximum calculated share of the eligible costs for this application could range from $3,755,440 (63% of $5,961,015, which is the Region’s portion of property taxes on the site, if all costs were submitted as a joint TIG and cost-shared with the Area Municipality) to $6,502,926 ($5,419,105 estimated direct costs + 20% allowance for indirect costs), if there was sufficient redevelopment on the site to claim all of the remediation costs through a Brownfield RDC exemption which is funded 100% by the Region. Based on the current redevelopment plans and approvals for the site, staff are estimating that the Region’s financial commitment could ultimately be closer to $3 million with $1.5 - $2 million from RDC exemptions and the balance from the Region’s portion of the TIG as the current redevelopment plans for the site will not result in the full remediation costs being recovered by the Applicant.

Final TIG amounts will be calculated once MPAC completes an assessment of the developed property. Any future Brownfield RDC exemption funding will be netted off the final TIG. TIG payments are expected to last the entire ten years and the first payment could start as early as 2023, depending on the timing of completed construction and occupancy.

City of Kitchener Council considered and approved the joint TIG application on February 24, 2020.
Report:

Background – Tax Increment Grant

The Brownfield Financial Incentive Program (BFIP) contains the joint TIG and RDC exemption that assist with the cost of remediating brownfield sites. On June 26, 2019 Regional Council approved refinements to this program. The joint TIG is offered in Area Municipalities where Community Improvement Plans (CIP) have been approved for the purposes of encouraging brownfield remediation and redevelopment (currently in the Cities of Cambridge, Kitchener, and Waterloo and in the Township of Wellesley). The RDC exemption for eligible brownfield sites is available region wide through RDC By-law 19-037. Applicants must satisfy a number of criteria to receive these incentives.

An approved TIG is not paid until after remediation, redevelopment and reassessment of the property. The actual amount of the TIG is the lesser of:

- The Council approved maximum total potential TIG established when the application is approved;
- The final allowable costs net of all other brownfield assistance; or,
- Ten years of tax increment payments (the final annual tax increment multiplied by 10).

The applicant submitted a complete joint TIG application to City and Region Staff prior to September 1, 2019, therefore the applicant is grandfathered under the previous TIG program and is eligible for an additional 10% allowance for indirect costs, as per the TIG terms and conditions prior to September 1, 2019.

TIG Application – 270 Spadina Road East, Kitchener

On December 17, 2018, the Region of Waterloo received a Tax Increment Grant (TIG) application from Peritus Environmental Consultants Inc. (on behalf of 270 Spadina Kitchener Inc. - the Applicant) for the remediation and redevelopment of 270 Spadina Road East in the City of Kitchener (Attachment A - Location Map). The site was originally part of the Canadian Blowers/Canada Pumps Ltd. property on 90 Woodside Avenue, which was a subsidiary of the Buffalo Forge Company. Located approximately 40 metres east of the intersection of Spadina Road East and Highland Road East, the former industrial site had a foundry and manufactured heating and ventilating equipment, air conditioners, and various air and machine pumps. A six-storey apartment building was constructed in the 1950s, prior to regulatory standards that would have required a record of site condition (RSC) to change the land use from industrial to residential. Contaminants of concern were identified in the soil and groundwater of this 0.583 hectare property during the Phase One and Phase Two Environmental Site Assessment (ESA) work. Based on these findings, the Applicant completed a remedial work plan dated November 30, 2018 and the site obtained a Record of Site Condition on July 12, 2019.
The redevelopment of the subject site supports the Region’s intensification and transit oriented development objectives. The site is in close proximity to the ION Kitchener Market Station and Downtown Kitchener Urban Growth Centre as well as GRT bus stops at Spadina/Highland. The site has development approvals that permit a second six-storey building and a new underground parking lot beneath the existing parking lot on the property. The new building will contain 90 residential units (Attachment B - Concept Plan).

**Environmental Remediation and Accepted Costs**

A Phase One ESA dated April 28, 2017 (updated October 24, 2018) and Phase Two ESA dated November 13, 2018 have been completed by Peritus Environmental Consultants Inc. The Phase One ESA identified the following potentially contaminating activities:

- Imported fill material of unknown quality;
- Gasoline and associated products storage in fixed tanks;
- Operation of dry cleaning equipment;
- Ink manufacturing, processing, and bulk storage;
- Metal fabrication; and
- Transformer manufacturing, processing and use.

As part of the Phase Two ESA work, many contaminants of concern were identified in the soil or groundwater beneath the site. The results of soil samples reported elevated concentrations of acenaphthylene, antimony, arsenic, barium, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, cadmium, copper, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, lead, mercury, total methylnaphthalene, molybdenum, PHC F3, zinc, EC and SAR that were above the applicable Ministry of the Environment Conservation and Parks (MECP) Table 2 regulatory standards. The results of groundwater samples reported levels of trichloroethylene (TCE) and selenium above the applicable MECP Table 2 regulatory standards. Some of these contaminants of concern are considered volatile and were of concern with respect to soil vapour intrusion. A vapour intrusion assessment was conducted and concluded that none of the contaminants were volatilizing into the soil vapour at concentrations exceeding the soil vapour criteria developed by the MECP for the protection of human health. Based on these findings to date, a remedial work plan dated November 30, 2018 was prepared to address the identified soil and groundwater impacts.

City of Kitchener and Regional staff reviewed the Remedial Work Plan for the site. Risk management measures include a soil management/excavation plan, a health and safety plan, capping, a parking garage, and a non-potable groundwater use restriction. A Risk Assessment (No. 1638-17) has been accepted by the Ministry of the Environment, Conservation and Parks and there is an applicable Certificate of Property Use (No. 7462-B8VSC6) registered on title to support the RSC (No. 225764) that was filed to the
Environmental Site Registry on July 12, 2019. All eligible direct remediation costs will be submitted to the City and Region once these remedial activities are completed.

Based on estimated costs identified in the TIG application and Remedial Work Plan, an estimated total of $5,419,105 in direct remediation costs was accepted by the City and Regional staff. This amount plus a 10 per cent allowance for indirect costs afforded under the joint TIG program ($541,910) results in a net maximum eligible joint TIG of $5,961,015.

The applicant has submitted the documentation required to qualify for the grandfathering provision in the Region’s RDC By-law which allows for 120% of eligible remediation costs to be recovered through RDC exemptions with no prescribed maximum per site. It is anticipated that the applicant will apply for a Brownfield Regional Development Charge (RDC) Exemption upon completion of the requirements under RDC By-law 19-037. These requirements include receipt of a RSC, eligible remediation costs and invoices submitted and deemed acceptable, and a financial audit of costs, along with all other required information under the applicable RDC by-law. If the requirements in the RDC By-law are met and the application is complete, it is anticipated that a future RDC exemption will substantially reduce the amount of maximum potential joint TIG. If approved, the joint TIG amount could be reduced by $1-2 million based on the current concept plan. The maximum amount of RDC exemption could reach $6,502,926 ($5,419,105 estimated direct costs + 20% allowance for indirect costs), if all costs are claimed through a Brownfield RDC exemption which is funded 100% by the Region.

Joint TIG Calculations and Payment Schedule

The estimated payment schedule for the joint TIG is based on the following information:

- The Municipal Property Assessment Corporation (MPAC) assessment value of the property before remediation and redevelopment;
- An MPAC estimate of the assessed value of the property after remediation and redevelopment. This is an estimated increase in Regional and City taxes (tax increment) based on the difference between the ‘before’ and ‘after’ assessed value of the site; and,
- An estimated total net eligible remediation costs (including a 10 per cent allowance for indirect remediation costs) less any other government financial assistance received. In the case of 270 Spadina Road East, the final net eligible remediation costs are not completely known but the remediation cost estimates included in the Remedial Work Plan and TIG application form were used to calculate the maximum potential joint TIG amount.

The joint TIG is paid to the Applicant on an annual basis for a maximum of 10 years, or until the net eligible remediation costs have been recovered or the Council approved
maximum has been paid, whichever comes first. The joint TIG is cost-shared between the Region and the City of Kitchener, with grant proportions determined by each municipality’s share of the municipal taxes levied on the property in the year the application was submitted (2018).

Using 2018 property tax rates, approximately 63% of the joint TIG would be provided by the Region and the remaining 37% would be provided by the City of Kitchener. Before taking into account any other financial assistance for the site, the total maximum eligible remediation costs is estimated to be $5,961,015 which sets the net maximum eligible joint TIG amount. Payment of the TIG is calculated as the incremental property taxes levied over a maximum period of 10 years up to a cumulative total of the approved TIG. For this application, should the total incremental property taxes over the 10 year period be less than $5,961,015 then the lesser amount would apply.

It should be noted that while City and Regional taxes on the property will be increasing, the proposed redevelopment will likely not increase property taxes enough to allow the applicant to recover all of the remediation costs within the 10 year window for TIG payments permitted by the program. Based on the current redevelopment plans for the site, staff are estimating, for planning purposes, that the Region’s financial commitment could ultimately be closer to $3 million. This amount is a combination of an anticipated Brownfield RDC exemption and joint TIG payments.

Impact of the Joint TIG Program in Kitchener

The infusion of private investment in the redevelopment of brownfield properties which is supported by the Region’s Brownfield Financial Incentive Program is helping to ensure the efficient use of existing infrastructure, as well as helping to achieve the Region’s broader economic development, transit supportive, and land use planning objectives.

If approved, this TIG would represent the ninth successful joint TIG application in the City of Kitchener. Across Waterloo Region, these grants are contributing to the anticipated development of more than 4,300 residential units, more than 2,000,000 square feet of office and retail space, and an estimated total assessment increase of over $1 billion.

Once the 270 Spadina Road East redevelopment project is complete, MPAC estimates it will have a total assessed value of $21,339,000 compared to $901,500 in 2019.

Next Step – Executing a Tri-Partite Agreement

As a condition of approval under the joint TIG program, a Tri-Partite Remediation and Redevelopment Agreement (“Agreement”) for the development is required between the Applicant, the Region of Waterloo, and the City of Kitchener. This Agreement establishes a number of conditions including, but not limited to, the following:

- The owner must pay all property taxes levied upon the property during remediation
and redevelopment (failure to pay and keep in good standing all municipal property
taxes will deem the owner in default);

- The owner must submit a Record of Site Condition, prepared by a Qualified Person, to
  the Ontario Ministry of the Environment, Conservation and Parks and have it be
  accepted and registered on title; and,

- The owner must demonstrate that the remediation and redevelopment of the site has
  resulted in a minimum $100,000 increase in the assessed value of the property.

In the case of the 270 Spadina Road East redevelopment project, once the
redevelopment and assessment is complete and verified, the executed Agreement will be
finalized and have a new payment schedule inserted into it as a “New Schedule”. This
New Schedule will include the final TIG payment schedule based on the actual
remediation costs, the actual reassessment value of the redeveloped property as
determined by MPAC, and subtracting any other financial assistance (e.g., Brownfield
RDC exemption) that has been received prior to the calculation of the TIG payment
schedule.

Area Municipal Consultation/Coordination

City of Kitchener and Regional staff have jointly reviewed the application and are satisfied
that the application meets the eligibility and application requirements. City of Kitchener
Council considered and approved the joint TIG application on February 24, 2020. City and
Regional staff concur with the recommendations in this report.

Corporate Strategic Plan:

Providing brownfield financial assistance for this site is consistent with the 2019-2023
Corporate Strategic Focus, which directs the Region to: Promote the efficient use of
urban land, and protect and enhance agricultural and natural areas (Strategic Objective
3.5).

Financial Implications:

If approved, the Region’s maximum calculated share of the joint TIG for the 270 Spadina
Road East redevelopment project is capped at $3,755,440 or $375,500 for each year over
10 years. Regional Staff anticipate that the Applicant will apply for a Brownfield RDC
exemption once the requirements of RDC by-law 19-037 are completed. Therefore, the
Region’s maximum calculated share of the eligible costs for this application could range
from $3,755,440 (63% of $5,961,015, which is the Region’s portion of property taxes on
the site, if all costs were submitted as a joint TIG and cost-shared with the Area
Municipality) to $6,502,926 ($5,419,105 estimated direct costs + 20% allowance for
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remediation costs through a Brownfield RDC exemption which is funded 100% by the
Region. Based on the current redevelopment plans and approvals for the site, staff are estimating that the Region’s financial commitment could ultimately be closer to $3 million with $1.5 - $2 million from RDC exemptions and the balance from the Region’s portion of the TIG as the current redevelopment plans for the site will not result in the full remediation costs being recovered by the Applicant.

The final TIG amounts will be reduced by any Brownfield RDC exemption assistance or other brownfield financial assistance received by the Applicant for eligible remediation costs. The first payment could start as early as 2023, depending on the timing of completed construction and occupancy. The final TIG payment schedule will be determined when the redevelopment is completed and has been reassessed by MPAC.

Under the funding model for joint TIGs adopted by Regional Council in 2013, the annual TIG payments would be funded from the increased tax revenue on the property occurring in the same year. In other words, the tax revenue resulting from the increased assessment following the redevelopment of a brownfield property is used to fund the annual TIG payment.

A listing of the current approved TIGs and the applicable funding sources, as per the 2020–2029 Capital Program, is attached as Attachment C. Subject to Council’s approval, this TIG will be reflected in the Region’s 2021-2030 Capital Plan. Staff will review the timing of the TIG payments as part of future budget development and will make adjustments as required.

Other Department Consultations/Concurrence:

Staff from Community Planning, Finance, Economic Development, and Legal Services were involved in the review of the joint TIG application and the preparation of this report, and are in support of the staff recommendation.

Attachments:

Attachment A – Location Map
Attachment B – Concept Plan
Attachment C – Listing of Approved TIGS and Funding Sources (2020 Preliminary Capital Budget)

Prepared By: Peter Ellis, Principal Planner, Community Planning
Cathy Deschamps, Director, Treasury Services / Deputy Treasurer

Approved By: Rod Regier, Commissioner, Planning, Development and Legislative Services
Craig Dyer, Commissioner, Corporate Services / Chief Financial Officer
Attachment A – 270 Spadina Road East Location Map
Attachment B – Concept Plan

PROPOSED 6 STOREY RESIDENTIAL BUILDING B’
(30 Residential Units)

BUILDING AREA = 972.63 m²
S.F.A. = 3265.58 m²

EXISTING TREE TO BE REMOVED
REFER TO LANDSCAPE PLAN FOR
NEW TREES

MINIMUM REQUIREMENTS
STRICTLY INDIQUEENT WITH
DASHED LINE

DISTANCE TO BE DETERMINED
REFER TO LANDSCAPE PLAN FOR
NEW TREES

EXISTING HOUSE
REMOVAL PATTERN TO
RESUBDIVISION PLAN FOR
NEW TREES

EXTERIOR FACE OF
3.00m DEPTH DASHED, 1:77

CONC. PAVEMENT
CARRIAGeway
GARAGE/PORT

EXTERIOR FACE OF
2.50m DEPTH DASHED, 1:77

NEW ACCESSIBLE SWING ENTRANCE

REAR STAIRS FROM
UNDERGROUND
PARKING STRUCTURE
## Brownfield Financial Incentive Program

### Ten Year Capital Budget and Forecast (Thousands)

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<th>EXPENDITURE</th>
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<td>99057 130 Water (South Parcel) Brownfield Incentives</td>
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<tr>
<td>99078 19 Guelph (Parcel B) Brownfield Incentives</td>
<td>178 178 178 178 178 178 890 296 1,186</td>
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<tr>
<td>99080 70 King Street Brownfield Incentives</td>
<td>2,500 2,500 664 79 5,743 5,743</td>
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<tr>
<td>99081 119 Roger Street Brownfield Incentives</td>
<td>1,500 1,500 1,500 374 374 374 4,122 1,227 5,349</td>
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<tr>
<td>99083 64 Grand Avenue Brownfield Incentives</td>
<td>764 764 1,528 2,025 3,553</td>
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<tr>
<td>TOTAL EXPENDITURE</td>
<td>717 6,198 6,915 10,725 6,407 4,938 3,885 32,871 10,902 43,773</td>
</tr>
</tbody>
</table>

### FUNDING & FINANCING

<table>
<thead>
<tr>
<th>Grants / Subsidies / Recoveries</th>
<th>2020 - 2029</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants &amp; Subsidies</td>
<td></td>
</tr>
<tr>
<td>Property Taxes</td>
<td></td>
</tr>
<tr>
<td>Reserves and Reserve Funds</td>
<td></td>
</tr>
<tr>
<td>3980140 Brownfield Incentive Program Reserve</td>
<td>124 1,198 1,322 3,225 3,907 4,938 3,885 17,278 10,902 28,179</td>
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<tr>
<td>3980150 Regional Development Charge Exemption</td>
<td>5,000 5,000 7,500 2,500 15,000 15,000</td>
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<td>3980180 Water Capital Reserve</td>
<td>198 198 198</td>
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<tr>
<td>Other Reserves</td>
<td>198 198 198</td>
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<tr>
<td>TOTAL FUNDING &amp; FINANCING</td>
<td>717 6,198 6,915 10,725 6,407 4,938 3,885 32,871 10,902 43,773</td>
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</tbody>
</table>
## Council Enquiries and Requests for Information
### Planning and Works Committee

<table>
<thead>
<tr>
<th>Meeting date</th>
<th>Requestor</th>
<th>Request</th>
<th>Assigned Department</th>
<th>Anticipated Response Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-Jun-19</td>
<td>G. Lorentz</td>
<td>Waste Enforcement options with Local Municipalites</td>
<td>Waste</td>
<td>Winter 2020</td>
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</tbody>
</table>