

INFORMATION REPORT



TO City Council

SERVICE AREA Infrastructure, Development and Enterprise

DATE April 16, 2015

SUBJECT 2015 Water Efficiency Strategy Update

REPORT NUMBER

EXECUTIVE SUMMARY

SUMMARY OF REPORT

- Summarize the process to update the City's 2009 Water Conservation and Efficiency Strategy Update (WCES Update);
- Summarize the composition of the Community Liaison Committee (CLC), formed to assist the project team, and recruitment strategy for CLC formation.

KEY FINDINGS

The 2015 Water Efficiency Strategy Update will identify a set of preferred program alternatives, associated water savings, program implementation forecasts, and supporting program resources required to achieve the water demand reduction of the 2014 Water Supply Master Plan. Base tasks to be completed as part of the Strategy Update include the following:

- Community Engagement Plan
- Measurement and Quantification of WCES Progress and Impact
- Analysis of Total Water Demand and Consumption by Sector
- Identification, Evaluation, and Recommendation of Conservation and Efficiency Programs
- Development of a Strategy Implementation Plan

Consistent with the 2009 process, the public consultation process will be implemented with use of a Community Liaison Committee. The Community Liaison Committee (CLC) will provide a forum for community input and guidance to the Project Team during the review and update of the current Water Efficiency Strategy Update. Terms of Reference for the CLC are similar to those developed for the past Strategy, with modifications to address the City's current public engagement framework and to address necessary changes due to the passage of time (i.e. changes to current committees and environmental groups). Where available, past CLC members will be recruited to provide continuity.

FINANCIAL IMPLICATIONS

- Costs to update the 2009 WCES Study are included within the Council approved 2015 Non-Tax Supported Capital Development Charges Budget;
- The 2015 WCES Update Project will provide updated capital and operational costs for the water conservation and efficiency program over a 10 year planning horizon.

BACKGROUND

The City of Guelph strives to be a leader in water conservation and efficiency. As one of Canada's largest communities reliant on a finite groundwater source, our ability to reclaim precious water capacity through conservation initiatives offers numerous benefits to our community and local ecosystem.

In 2006 City Council endorsed the *Water Supply Master Plan (WSMP)*. This detailed Master Plan evaluated the water demand associated with projected growth over a 50 year planning horizon, as well as alternative sources of new water supply. Water conservation was identified as the most cost-effective and immediately available source of new water supply and was ranked as the top priority. The WSMP included three reduction targets based on 2006 daily water production volumes:

- Reduction of 10 per cent (5,300 m³/day) in average day water use by 2010;
- Reduction of 15 per cent (7,950 m³/day) in average day water use by 2017; and
- Reduction of 20 per cent (10,600 m³/day) in average day water use by 2025

Both the *2007 Community Energy Initiative* and the *2007 Council Strategic Plan* set sustainability performance goals of using "less water and energy per capita than any comparable Canadian city." These goals continue to guide our current water conservation activities and bring greater emphasis to the relationship between water supply and energy demand.

To achieve these targets, staff initiated the *Water Conservation and Efficiency Strategy (WCES) Update* in February of 2008. This award winning, 10-year strategy was endorsed by Council in May 2009 and identifies the preferred program, policy and resource recommendations to achieve a further reduction of 8,773 m³/day by 2019, as well as to achieve the aggressive reduction targets of the *Water Supply Master Plan*, *Water and Wastewater Master Servicing Study*, *Wastewater Treatment Master Plan*, *Community Energy Initiative*, and *Council's Strategic Plan*.

Since Council's approval of the 2006 Water Supply Master Plan, 7,116 m³/day of average day water/wastewater capacity has been reclaimed as a result of the City's Water Conservation Program, allowing the City to delay the need for close to \$35.6 million in additional water and wastewater infrastructure with an investment of

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approximately \$8.6 million in water conservation programming. This observed reduction to date places the City in a competitive position to reach its 2017 water reduction target. However, with the anticipated market saturation for some longer standing water conservation programs within the next 5 year planning horizon it is anticipated that the composition of City programing will require amendment to ensure future effectiveness and continued value.

In July of 2014 Guelph City Council endorsed the Water Supply Master Plan Update. Through update of this Master Plan, water capacity reclaimed through Water Conservation and Efficiency continued to be a top priority in achieving a sustainable and cost effective community water supply. Through the evaluation of the feasibility and value of multiple Water Conservation Program Scenarios, the final Master Plan recommended the City's demand reduction target be revised to achieve an addition 9,150m³ per average day of supply capacity by 2038, the planning period of the City's Official Plan. With reference to this new time based goal guiding the City's Water Efficiency Program, it is now necessary that Guelph Water Services revise its 2009 Water Conservation and Efficiency Strategy to identify preferred program resources for the next planning period.

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The 2015 Water Efficiency Strategy Update will identify a set of preferred program alternatives, associated water savings, program implementation forecasts, and supporting program resources required to achieve the water demand reduction of the 2014 Water Supply Master Plan. Base tasks to be completed as part of the 2015 Water Efficiency Strategy Update include the following action items:

1. Development and implementation of a community engagement plan to collect and incorporate public and agency input consistent with the City's Public Engagement Framework;
2. Measurement and Quantification of Water Conservation and Efficiency Program Progress and Impact to Date;
3. Analysis of Total Water Demand and Consumption by Sector;
4. Identification, evaluation and recommendation of municipal water conservation and efficiency programs to achieve the demand reduction targets of the Water Supply Master Plan;
5. Development of a Strategy Implementation Plan;
6. Development of Water Conservation and Efficiency Strategy Update Document.

The details are provided in the Terms of Reference for the WCES Update Project, which are provided in Attachment 1.

Through a competitive bid process, the consulting firm of C3 Water has been retained to implement this project.

Community Engagement:

An important component of the Water Efficiency Strategy Update is the public engagement program. Consistent with the City's Community Engagement Framework the Strategy Update engagement process will consist of numerous venues to attain valued stakeholder feedback including a Community Liaison Committee, public information centre meetings, and a residential and ICI market research study.

The Community Liaison Committee (CLC) will provide a forum for community input and guidance to the Project Team, during the review and update of the current WCES, including:

- Objectives and scope of the Strategy Update;
- Issues and opportunities to be addressed;
- Alternative solutions to be assessed;
- Evaluation method and criteria to be applied; and
- Preferred alternatives and go-forward strategy.

The Liaison Committee will also help the Project Team to ensure that community engagement efforts provide the public with a clear understanding of the project and encourage participation, in keeping with the our Community Engagement Framework. The Terms of Reference for the CLC, including the membership and recruitment process, are similar to those employed for the original project but have been updated to address our Community Engagement Framework and to address minor changes in the membership, for example, to address changes in local environmental groups. Where available, past CLC members will be recruited to provide continuity. The Terms of Reference for the CLC are provided in Attachment 2.

Public information centre meetings will also provide an opportunity to introduce the project to the general public and collect input and feedback on potential water efficiency programs as well as present project results. Scheduling of Public Information Centre meetings is still under coordination at this time, with further information regarding these events and other information on the Water Efficiency Strategy Update to be posted for reference at www.guelph.ca/wesu.

CORPORATE STRATEGIC PLAN

- 1.2 Develop collaborative work teams and apply whole systems thinking to deliver creative solutions.
- 2.1 Build an adaptive environment for government innovation to ensure fiscal and service sustainability.
- 2.3 Ensure accountability, transparency and engagement.
- 3.1 Ensure a well designed, safe, inclusive, appealing and sustainable City.
- 3.3 Strengthen citizen and stakeholder engagement and communications.

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DEPARTMENTAL CONSULTATION

A cross departmental project team of internal stakeholders has been formed for ongoing consultation throughout development of the Water Efficiency Strategy Update including: Building Services, Community Engagement, Community Energy, Corporate Communications, Engineering and Capital Infrastructure Services, Finance, Planning Services, Wastewater Services and Water Services.

COMMUNICATIONS

The Project will be implemented with an extensive public consultation program (see Attachments 1 and 2).

ATTACHMENTS

- ATT-1 Water Efficiency Strategy Update – Terms of Reference
- ATT-2 Guelph Water Efficiency Strategy Update – Community Liaison Committee – Terms of Reference

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Attachment 1

2015 Guelph Water Efficiency Strategy Update

Terms of Reference

The City of Guelph strives to be a leader in water conservation and efficiency. As one of Canada's largest communities reliant on a finite groundwater source, our ability to reclaim precious water capacity through conservation initiatives offers the benefits of reducing environmental impact on our water resources and decreasing utility operational and capital investments while facilitating the water needs of our growing community.

In 2006 City Council endorsed the City's first *Water Supply Master Plan (WSMP)*. This detailed Master Plan evaluated water demand associated with projected growth over a 50 year planning horizon as well as defined the sequencing of preferred water supply alternatives to meet the capacity needs of community growth. As part of this final Master Plan, Water conservation was identified as the top priority with three time based water reduction targets, based on 2006 daily water production volumes, endorsed through the plan:

- Reduction of 10 per cent (5,300 m³/day) in average day water use by 2010;
- Reduction of 15 per cent (7,950 m³/day) in average day water use by 2017; and
- Reduction of 20 per cent (10,600 m³/day) in average day water use by 2025

To achieve the above noted targets, staff initiated the *Water Conservation and Efficiency Strategy (WCES) Update* in February of 2008. This award winning, 10-year strategy was endorsed by Council in May 2009 and identifies the preferred program, policy and resource recommendations to achieve a further reduction of 8,773 m³/day by 2019, as well as to best position the City to meet the long-term demand reduction targets of the *Water Supply Master Plan*, *Water and Wastewater Master Servicing Study*, *Wastewater Treatment Master Plan*, *Community Energy Initiative*, and *Council's Strategic Plan*.

This strategy was fully implemented in early 2012 and continues to offer a variety of industry leading water efficiency programs based in the municipal water efficiency best practices of:

- Public Education and Consumer Social Marketing
- Drought Response and Peak Demand Management

- Residential Water Efficiency Retrofit Incentives
- Industrial, Commercial and Institutional Audits and Retrofit Incentives
- Active Leak Detection of Municipal Distribution Systems
- New Residential Construction Water Efficiency Performance Standards and Certification
- Community Partnerships and Demonstration Projects
- Civic Facility and Operational Water Efficiency Upgrades
- Youth Engagement and Education
- Research and Development

As of December 31, 2013, the City's annual average day water production has decreased by 7,009 m³/day (14 per cent) since 2006, with an estimated direct savings of 5,914 m³/day attributed to community participation in the City's Water Conservation Programs. This observed reduction to date places the City in a competitive position to reach its 2017 water reduction target. However, with the anticipated market saturation for some longer standing water conservation programs it is anticipated that the mix of City programming will require amendment to ensure future effectiveness and continued value.

In July of 2014 Guelph City Council endorsed the Water Supply Master Plan Update. Through update of this Master Plan, water capacity reclaimed through Water Conservation and Efficiency continued to be a top priority in achieving a sustainable and cost effective community water supply. Through the evaluation of the feasibility and value of multiple Water Conservation Program Scenarios the final Master Plan recommended the City's demand reduction target be revised to achieve an additional 9,150m³ per average day of supply capacity by 2038, the planning period of the City's Official Plan. With reference to this new time based goal guiding the City's Water Efficiency Program, it is now necessary that Guelph Water Services revise its 2009 Water Conservation and Efficiency Strategy to identify preferred program resources for the next planning period.

2015 Water Efficiency Strategy Update Terms of Reference.

The Water Efficiency Strategy Update (WESU) is intended to identify a set of preferred program alternatives, associated water savings, program implementation forecasts, and supporting program resources required to meet the water reduction goals identified in the 2014 Guelph Water Supply Master Plan (WSMP) within a 10 year planning horizon (i.e. to at least 2025). Base tasks to be completed through development of the Guelph Water Efficiency Strategy Update include:

1. Development and implementation of a community engagement plan to collect and incorporate public and agency input consistent with the City's Public Engagement Framework.
2. Measurement and Quantification of Water Conservation and Efficiency Program Progress and Impact to Date
3. Analysis of Total Water Demand and Consumption by Sector
4. Identification, evaluation and recommendation of municipal water conservation and efficiency programs to achieve the demand reduction targets of the Water Supply Master Plan
5. Development of Strategy Implementation Plan
6. Development of Water Conservation and Efficiency Strategy Update Document

In parallel to the above tasks the Water Services and other City Departments are currently working to implement a series of project works related to the 2015 Water Efficiency Strategy Update. It is necessary that the strategy update encompass findings of these works and form linkages and/or supporting recommendations through final reporting, where appropriate. For reference these projects include the following:

- 2007 Community Energy Plan
- 2012 City of Guelph Strategic Plan
- 2014 Guelph Energy Efficiency Retrofit Strategy (GEERS)
- 2014 City Facility Water Efficiency Audits
- 2014 Region of Waterloo/City of Guelph Template Assisted Crystallization Technology Performance Study
- 2014 Water Conservation Market Research Study
- 2015 Water and Wastewater Rate Review
- 2015 Wastewater Treatment Master Plan Update
- 2015 Tier 3 Water Budget and Water Quantity Risk Assessment

The successful proponent should anticipate and cost for the number of meetings as indicated under each task. These meetings may be required to complete the task or be required as a regular progress update. The City will ONLY set up each meeting as required; the consultant will be responsible but not limited to, for recording all minutes of meetings and circulating copies to attendees and any and all other items required for the meetings indicated. All meetings (except the Council meeting which would be held after regular business hours) would be conducted during regular City business hours between 8:30 a.m. and 4:00 p.m., with in-person meetings held at a City facility. The City reserves the right to increase or decrease the number of meetings for any Task.

CORE TASKS

TASK 1 Development and implementation of a community engagement plan to collect and incorporate public and stakeholder feedback.

A Community engagement plan will be developed in coordination with the City's Community Engagement Team, to comply with Guelph's Community Engagement Policy. It is expected that community engagement will aid in the development of screening criteria for the evaluation of alternatives and the identification of preferred water conservation and efficiency alternatives

The public consultation and engagement process will be flexible and respond to input and concerns from the public and stakeholders.

The Water Efficiency Strategy Update public engagement process shall, at minimum, consist of:

1. Kick off meeting;
2. Community Liaison Committee Formation and Four (4) Community Liaison Committee Meetings;
3. Three (3) public meetings, and;
4. Stakeholder Market Research

Task 1.1 Community Liaison Committee Formation and Consultation

It is recommended that a Water Efficiency Strategy Update Community Liaison Committee (CLC) with broad representation from stakeholders as well as representation of the City's current Water Conservation and Efficiency Public Advisory Committee be established to provide support and advice to the Project Team. The CLC would be comprised of, but not be limited to, representatives from the community (business, industry, developers, etc.), agencies such as the Grand River Conservation Authority, members of the general public and local environmental interest groups. The development of the terms of reference for the CLC and the process to apply the CLC to the WESU will be the responsibility of the consultant. Furthermore, this task will also include the development of initial reporting to Guelph City Council to introduce the study and provide information on CLC membership prior to Committee implementation.

A CLC was used as part of the 2014 WSMP, and the consultant should consider the advantages of re-establishing the same members for the new CLC, if appropriate. It is expected that the CLC will form an important component of the Public Consultation Program for obtaining public input on the project and transferring information to and from the project and public. As a minimum, the CLC will meet at least four (4) times during the WCES project.

The consultant is required to provide appropriate technical and facilitation staff resources for each CLC meeting, with each meeting to be 3 hours in total length. The consultant will prepare agendas, presentations, meeting materials and minutes for each CLC meeting as well as produce physical copies of information (25 copies) for distribution at the events. In the interest of public accessibility, products must be developed in accordance with WCAG 2.0 Level A accessibility guidelines.

Deliverables:

- **Development of terms of reference for community liaison committee to water efficiency strategy update and recruitment of committee members**
- **Report to Guelph City Council introducing the Water Efficiency Strategy Update process and community liaison committee.**
- **Host of four (4) community liaison committee meetings, including technical and facilitation staff services, as well as meeting material (including agendas, presentations, displays and minutes) development and distribution.**
- **Final report summarizing the findings of community liaison committee consultation, including all materials, all group notes, comments and feedback.**

Task 1.2 Public Meetings

As a minimum, general public consultation shall consist of three public meetings and appropriate notification to the public. An initial public meeting will be used to introduce the project to the public and collect input from the public on potential alternatives and concepts for the project. A second meeting will be used to share new information and refinements stemming from initial consultation as well as share and gain feedback on the methodology by which program alternatives will be assessed through remaining portions of the project. A third and final project meeting will be conducted towards the end of the project to present the results of the project to the public and to collect and incorporate input from the public on the draft Water Efficiency Strategy Update.

The consultant is required to provide appropriate technical and facilitation staff resources for each public meeting, with each meeting to be 4 hours in total length. The consultant will prepare displays and materials for each public meeting as well as produce physical copies of information (50 copies per meeting) for distribution at the events. Furthermore, it is expected that the consultant would produce meeting minutes which will be posted for public reference following completion of the public meetings. Following the public meetings, the consultant will be responsible for developing supporting information which will be posted on the City's website to allow community members to provide input to the process in absence of attending the public meetings. In the interest of public accessibility, products must be developed in accordance with WCAG 2.0 Level A accessibility guidelines.

Deliverables:

- **Host of three (3) public information center meetings, including technical and facilitation staff services, as well as meeting material (including agendas, presentations, displays and minutes) development and distribution.**
- **Final report summarizing the findings of public information centers, including all materials, all group notes, comments and feedback.**

Task 1.3 Residential Market Research Study

Bids by the consultant shall include sufficient resources for the development and administration of a residential market research phone survey of 400 randomly selected homes in the City to assess opportunities and validate market potential for programming alternatives. The consulting team will be required to develop survey questions for the review and approval of Guelph Water Services and will be responsible for conducting the survey as well as analysis and computation of results attained. Recommendations for the timing of implementation of this survey, to best serve needs of the WESU process as a whole, should be outlined as part of engagement program defined within bidder submissions. Completion of the survey and its content will be at the sole discretion and final approval of Guelph Water Services.

Findings of the call survey will be presented in a WESU Residential Market Research Report to be posted for public reference on the City's website. In the interest of public accessibility the report shall be developed in accordance with WCAG 2.0 Level A accessibility guidelines.

Deliverables:

- **Development and implementation of a residential call survey of 400 households in City of Guelph stratified by population by City ward.**
- **Final report summarizing the findings of residential call survey developed in accordance with WCAG 2.0 Level A accessibility guidelines for post to the City's website.**

TASK 2 Measurement of Water Conservation and Efficiency Program Progress and Impact to Date

Task 2 shall include evaluation of program progress and other benefits experienced by the City resulting from implementation of the 2009 Water Conservation and Efficiency Strategy. At minimum, analyses to be completed as part of this task shall include the following:

- Quantification of program savings including progress towards demand reduction targets of the 2006 Water Supply Master Plan and per capita targets of the 2009 Community Energy Initiative.
- Evaluate program participation and progress towards defined goals of 2009 WCE strategy and anticipated program saturation points.
- Quantification of the net present value of water/wastewater capital investment deferral as a result of water demand reductions observed since 2006.
- Quantification of co-benefits of programming (water/wastewater energy investments vs. do-nothing) through evaluation of energy utility billing, and associated utility operations and maintenance costs over the period of program operation.
- Summary of changes to non-revenue water, and associated distribution loss based performance indicators, since time of 2006 Water Supply Master Plan.
- Evaluation of cost per cubic meter of capacity reclaimed through the program to date vs. financial thresholds of 2009 Water Conservation and Efficiency Strategy and anticipated construction & operation and maintenance costs of new infrastructure as

defined through the 2014 Water Supply Master Plan and 2009 Wastewater Treatment Master Plan.

Deliverable:

- **Completion of above stated analysis and production of written report summarizing Guelph Water Conservation Program progress and other benefits experienced by the City resulting from implementation of the 2009 Water Conservation and Efficiency Strategy.**

TASK 3 Analysis of Water Demand and Consumption by Sector

Task 3 shall include detailed evaluation of trends in total water demand within the City and by individual customer sector. For purposes of this analysis Guelph Water Services will provide the proponent with its 2013 Water Intensity Mapping Database and associated shape files, including utility customer billing data (2006-2013), local land use and built form information, program participation information by customer, as well as other information sources (as noted in the “reference materials” section of this tender document). At a minimum, the desired analyses to be completed as part of this task will focus on the period of 2006 to 2013 and include following:

Total Water Demand

- Water balance showing end uses of all customer sectors (Residential, Industrial, Commercial, Institutional, Municipal and Non-Revenue Water) versus total annual water production and associated changes in total water use since 2006
- Qualification of above by population growth and annual climatic conditions (precipitation received - wet year vs. dry year, seasonal temperature difference vs. water demand by sector)

Single Family Residential Sector

- trends in per capita demand
- geospatial trends in demand (such as assessment of water use “hot spots” by defined thresholds in water demand and evaluation of attributes shared amongst customers possessing such relationships).
- seasonal trends in demand and associated drivers
- consumption by vintage of homes (pre and post main building code water efficiency milestones)
- assessment of top users and associated attributes
- assessment of per capita demands versus Council approved municipal comparators
- Quantification of future potential, achievable and natural water savings anticipated by sector, in reference to above analysis.

Multi-family Residential Sector (medium and high density)

- trends in per capita demand
- geospatial trends in demand (such as assessment of water use “hot spots” by defined thresholds in water demand and evaluation of attributes shared amongst customers possessing such relationships).
- seasonal trends in demand and drivers
- consumption by vintage of building (pre and post main building code milestones)
- Consumption evaluation per residence for properties metered directly for water use versus those metered in bulk and associated annual changes in water demand since 2006.
- assessment of top users and associated attributes
- quantification of future potential, achievable and natural water savings anticipated by sector.

Industrial, Commercial and Institutional Sectors

- trends in top users’ (100 largest customers) demand on average day and seasonal basis with qualification by potential drivers (i.e. wet vs. dry season, recessionary economic pressures, known private efficiency improvements etc.).
- trends in consumption by nature of industry (NAICS classification)
- quantification of future potential, achievable and natural water savings anticipated by sector.

Non-Revenue Water

- Summarize results of annual water balance audits and associated performance indicators (UARL, CARL, ILI)).
- Define reclaimable Economic Level of Loss based on IWA best practice guidance materials.

Deliverable:

- **Completion of above stated analysis and production of written report summarizing City of Guelph Water Demand by Sector for the period of 2006-2013.**

TASK 4 Identify, evaluate, and recommend municipal water conservation and efficiency programs to achieve demand reduction targets of the 2014 Water Supply Master Plan.

The Consultant will review available literature and information regarding current municipal best practices in water conservation and efficiency to create a list of best practices for further review. The information gathering phase will also include consultations with the Project Team, CLC, the general public and interviews with North American experts in the field of municipal water efficiency and conservation.

The Consultant will develop an evaluation matrix through consultation with the project team and CLC that will be used to narrow down program options to a short list that will be considered feasible for implementation from 2016 to 2025. The evaluation matrix will outline the benefits and costs of each option, feasibility of implementation, potential participation rates, impacts on water user rates, impacts on infrastructure needs and other factors as necessary. In consultation with the Project Team, the Consultant will develop up to three program package options for review, discussion and input by the Community Liaison Committee and the general public as part of planned project meetings.

In addition to a general review of all best practices, bidders to the RFP should include sufficient resources to prepare technical memoranda discussing extent of current municipal practice, market potential and local feasibility of the following water conservation and efficiency technologies and programming approaches:

- Tech Memo #1: Residential Water Softening and Salinity/Water Use Reduction Technologies
- Tech Memo #2: Water Reuse and Demand Substitution Technologies
- Tech Memo #3: Industrial Consumptive Cooling Process and Water Conditioning Technology Efficiencies
- Tech Memo #4: Mass Fixture Retrofit Programs for Multi-residential settings
- Tech Memo #5: Private customer leak detection notification technologies
- Tech Memo #6: On-bill efficiency repayment systems, local improvement charges financing and other alternate incentive models for water efficiency programming
- Tech Memo #7: New construction based irrigation system design and construction standards

Deliverables:

- **A written report on the water efficiency and conservation best practices literature review including an appendix with copies (print or electronic) of referenced journal articles, case studies and articles, transcripts of any interviews and/or committee consultations conducted, and links to referenced web pages.**
- **Development of a program evaluation matrix in consultation with community liaison committee and City staff as well as evaluation of program alternatives identified through use of the matrix to determine 3 preferred program alternative scenarios for review and deliberation by the community liaison committee and City staff.**
- **A written report detailing program alternatives identified through the best practices review and stakeholder consultation, evaluation matrix development and supporting rationale as well as summarized results of evaluation of program alternative through use of the matrix to determine preferred program alternatives and associated rationale for program alternative disqualification where appropriate.**
- **Development of 7 Technical Memos in alignment with the topic areas stated above.**
- **Minimum of 2 Project team meetings**

TASK 5 Strategy Implementation Plan

This task will include the development of a detailed implementation plan identifying the preferred sequencing, timing and costs of recommended water conservation and efficiency program alternatives to meet water reduction requirements of the 2014 Guelph Water Supply Master Plan Update. Sequencing of programs and weighting of annual water reduction targets for the Implementation Plan will be informed through development of a financial model which will evaluate economic benefit to the City through deferral and/or avoidance of new servicing infrastructure and associated operational expenditures. This modelling exercise shall also assess affordability to local water rate payers when looking to annual utility revenue needs and impacts to water rates revenues proposed through the format and extent of annual savings to be derived through the implementation strategy

It is required that preferred project alternatives of the Implementation Plan be displayed within a 10 year forecast and identify total annual water savings per project, total forecasted water savings over the duration of the strategy, annual project costs, annual project maintenance and monitoring costs, total project forecasted costs over the duration of the strategy, annual project costs per m³ of expected water reclaimed, and forecasted overall strategy costs per m³ of expected water reclaimed over the duration of the strategy developed.

The finalized implementation strategy will serve as the primary financial planning reference tool for the City of Guelph's Water Efficiency Program and provide a clear business case for the addition of future program alternatives and related resources, where necessary.

Deliverable:

- **Development of a detailed 10 year water efficiency strategy update implementation plan identifying the preferred sequencing, timing and costs of recommended water conservation and efficiency program alternatives to meet water reduction requirements of the 2014 Guelph Water Supply Master Plan Update, in alignment with the requirements plan stated in the above task.**
- **Minimum of 2 Project team meetings**

TASK 6 Water Conservation and Efficiency Strategy Update Document

The results of the tasks above will be documented as a Water Efficiency Strategy Update Report to be submitted for approval by City Council. At a minimum, the strategy report will document the following:

- The need and justification for the Water Efficiency Strategy Update in reference to demand side management goals of the 2014 Guelph Water Supply Master Plan, 2009 Wastewater Treatment Master Plan, and 2009 Community Energy Initiative and community water supply quantity threats of the Grand River Watershed Source Water Protection Plan.
- Community business case for water efficiency program recommendations based on the net present value of infrastructure avoidance in reference to the 2014 Water Supply Master Plan, 2009 Wastewater Treatment Master Plan and the 2008 Water and Wastewater Servicing Master Plan.

- The public and agency consultation process and how input from the public was incorporated into the study
- Summary of the water demand reduction progress by the City in reference to the time-based goals of the 2006 Water Supply Master Plan, 2009 Wastewater Treatment Master Plan and 2007 Community Energy Plan as well as discussion of program implementation costs, the value of servicing capacity reclaimed by the City, the value of cost avoidance posed by the program to date, value of operational cost savings and other co-benefits experienced to date.
- Changes in water demand by sector, as well as overall and feasible water efficiency potential of residential, industrial, commercial and institutional sectors, respectively, based on best available information.
- Overview of municipal leak detection efforts currently underway by the City of Guelph, discussion of trends in distribution system water loss performance and opportunities for feasible water loss reduction improvements stemming from analysis completed through the 2014 Water Supply Master Plan Update and supplemental IWA water balance audits completed by the City.
- Overview of municipal facility water demand and recommended water efficiency projects stemming from 2014 facility audits conducted by City staff.
- Outline rationale for the program evaluation process and supporting background information for preferred program alternatives selected.
- A summary of supply demand forecasts and current firm capacity of the water supply system identified through the 2014 Guelph Water Supply Master Plan Update.
- Identification of water and wastewater treatment based co-benefits of water demand and loss reduction (i.e. potential deferred capital expansions, reduced treatment and inflow and infiltration volumes) with specific reference to associated performance targets of the Water Supply Master Plan Update, Water and Wastewater Master Servicing Plan, and the Wastewater Treatment Master Plan where applicable.
- A detailed strategy implementation plan identifying the sequencing, timing and costs of preferred water conservation and efficiency program alternatives to meet water reduction requirements of the 2014 Guelph Water Supply Master Plan Update and long-term business case for program recommendations with reference to the economics of the deferral and/or avoidance of new infrastructure and operational expenditures to the City.
- Glossary providing business cases for each individual preferred program identifying program based water savings, water savings per participant, annual expected participation, annual program costs, required program staff support, customer payback period, rebate amount (where applicable), annual monitoring costs and annual maintenance costs.

The Water Efficiency Strategy Update document would be prepared as a draft consultation document and would be circulated for public and stakeholder review. Following receipt of comments, the Plan would be finalized and submitted for Council approval. The consultant will be required to author a supporting report to the City's Infrastructure, Development and Enterprise Committee of Council as well as develop a 20 minute project summary presentation to Infrastructure, Development and Enterprise Committee as well as City Council, as required. Bids to this RFP should provide sufficient resources for the project manager's attendance at a minimum of two City Council meetings (totaling 6 hours, 3 hours each) to present findings of the WCES Update and address questions of Council.

Deliverable:

- **Minimum of 1 Project team meetings**
- **Development of Water Efficiency Strategy Update draft and final reports encompassing requirements stated in above task.**
- **Development of report and presentation for the summarizing strategy update process, input and recommendations.**
- **Project manager attendance at a City's Infrastructure, Development and Enterprise Committee meeting to present strategy update findings and address questions.**
- **Project manager attendance at a Council meeting to present strategy update findings and address questions.**

Timing

The selected consultant shall begin work on this project as soon as possible following award of the project. To meet 2016 annual budget requirements, it is necessary that a final draft of the WESU report be substantially completed by November 1, 2015. The consultant shall propose a reasonable schedule that will meet this timeframe.

Information Provided By or on Behalf of the City

Proponents are solely responsible for conducting their own research, due diligence, and any other analysis or investigations and for seeking any other advice necessary for the preparation of their Proposal.

No representation or warranty, express or implied, is made and no responsibility of any kind is accepted by the City, or its advisors, employees, consultants or agents, for the completeness or accuracy of any information provided in these Request for Proposal documents.

REFERENCE DOCUMENTS

As a minimum, the following documents are to be reviewed:

City of Guelph Water Conservation and Efficiency Strategy (Resource Management Strategies Inc, 2009)

<http://guelph.ca/plans-and-strategies/water-conservation-and-efficiency-strategy/>

City of Guelph Water Supply Master Plan (AECOM, et al, 2014)

<http://guelph.ca/plans-and-strategies/water-supply-master-plan/>

City of Guelph Wastewater Treatment Master Plan (CH2MHill, et al, 2009)

<http://guelph.ca/plans-and-strategies/wastewater-treatment-master-plan/>

City of Guelph Water and Wastewater Servicing Master Plan (Earth Tech Canada Inc, 2008)

<http://guelph.ca/plans-and-strategies/water-and-wastewater-servicing-master-plan/>

City of Guelph Community Energy Plan (Garforth, et al, 2007)

<http://guelph.ca/plans-and-strategies/community-energy-initiative/>

2014 City of Guelph Outside Water Use By-law Review

www.guelph.ca/owureview

The following documents are only available for review at Water Services. You must call to make arrangements to view. There will be no copying of these reports by any mechanical or electronic means. Any bidder doing so will have their submission rejected.

- 2013 Water Intensity Mapping Database (Canadian Urban Institute)
- 2012 City of Guelph Alliance for Water Efficiency Water Conservation Tracking Tool

As a minimum, the following documents are to be reviewed **during** the project which the City will provide to the successful bidder:

- 2013 Program Assessment Report (Gauley)
- 2013 Program Assessment Report (Fortin)
- 2012 City of Guelph Pricing Demand Elasticity (Renzetti, et al)
- 2010 City of Guelph Water Conservation and Efficiency Public Education Strategy (Copp Communications, et al)
- 2014 Water Loss Management Technical Memo (C3 Water, et al)
- 2012 Water Conservation Public Attitudes Survey (OraclePoll Inc)
- 2006-2013 City of Guelph IWA/AWWA Water Balance Audit Reporting

Attachment 2

Water Efficiency Strategy Update – Community Liaison Committee

Terms of Reference

Purpose

The Community Liaison Committee (CLC) provides a forum for community input and guidance to the Project Team, during the update of the Water Efficiency Strategy. This Committee will be established at the outset of the Project and will help the City understand and consider the aspirations and concerns of the community as they relate to our current water efficiency programs and future program requirements to meet Council approved water demand reduction targets of the 2014 Water Supply Master Plan.

Mandate

The mandate of the CLC is to provide an ongoing forum for consultation and feedback to the Project Team at key points throughout the development of the Guelph Water Efficiency Strategy Update, including:

- Objectives and scope of the Strategy Update
- Issues and opportunities to be addressed
- Alternative solutions to be assessed
- Evaluation method and criteria to be applied
- Preferred alternatives and go-forward strategy

The Liaison Committee will also help the Project Team ensure that Community Engagement efforts provide the public with a clear understanding of the project and encourage participation, in keeping with the City of Guelph's Community Engagement Framework.

Membership

The Community Liaison Committee consists of up to 20 key stakeholders, and includes members of the Project Team and the City's existing Water Conservation and Efficiency Public Advisory Committee. Participating members are drawn from a variety of stakeholder groups, and represent a balance of interests that reflect the range of perspectives in the community. To provide continuity and preserve previous learnings, Advisory Committee members of the initial Water Conservation and Efficiency Strategy – conducted in 2008 and 2009 – will be invited to participate on this new Committee. Table 1 lists the recommended make-up of the Committee.

Stakeholder Group	# Members (Up to)
Business/Industry	2
Home Builder/Developer	2
Environmental Interest	3

Academia	2
Conservation Authority	1
Public At Large/Residential Rate Payers	8
Guelph Chamber of Commerce	1
Social Assisted/Rental Housing	1

CLC members are expected to serve for the full extent of the study, with the mandate of committee completed upon Council's approval of the 2015 Water Efficiency Strategy Update. Membership is voluntary and open to participation from interested and eligible community members. It is required that CLC members must understand, and agree to the terms and conditions outlined in these Terms of Reference.

In addition, the Project Team may request representation on the CLC from other existing City advisory committees, City staff, other municipal and agency staff. Project and consultant team members would also be resources to the committee, as required.

Recruiting

The Project Team – working with appropriate organizations and City staff – will identify potential stakeholder group representatives for all categories listed above, except community at large. The Project Team will contact the stakeholder groups to determine interest and availability of individuals, starting with those members of the previous Public Advisory Committee.

Public at Large representation on the CLC will be fulfilled by the City's existing Water Conservation and Efficiency Public Advisory Committee. This representation is consistent with the terms of recruitment for this long standing Advisory Committee with further information available through the Water Conservation and Efficiency Public Advisory Committee's [Terms of Reference](#).

Role of the Chair

The Chair will plan meeting agendas, preside over meetings and coordinate activities of the Community Liaison Committee. The Chair will also assist the committee to develop and approve meeting process rules and other procedures related to committee effectiveness. The Chair will be supported by the Project Team in developing the details of the meeting protocols.

A Chair with extensive facilitation experience will be initially appointed from the project's Consultant Team to enable all members to participate fully in the discussion. The Community Liaison Committee can decide to appoint a replacement Chair – by way of vote – from its membership, if it so wishes.

CLC Meetings

It is anticipated that there will be a minimum of four (4) CLC meetings over the project duration. To facilitate a CLC meeting, a minimum of 11 members and/or alternate members is required. Meetings will be held at accessible locations in the evenings, such as City Hall – or as convenient to the majority of members – so as to encourage attendance at each meeting. All Committee meetings will be open to the public, with date, time and place of each meeting published on the City's website. Members of the public who wish to attend a Committee meeting should notify the Chair three days in advance of the meeting so that space and seating arrangements can be adjusted. The Chair will make every effort to accommodate members of the public, but cannot guarantee adequate space or seating if advance notification of attendance is not provided. Those seeking an opportunity to address the Committee should also make a request to the Chair three days prior to the meeting. Notification of attendance or requests to address the Committee can be made by telephone to 519-822-1260 x2106 or by email to wayne.gallagher@guelph.ca.

Decision-making

As an advisory body, the CLC should operate by consensus to the extent possible. Consensus is where participants openly discuss views and opinions, seeking to develop common ground and narrow areas of disagreement to the best of their ability. Where differing viewpoints and opinions exist, these will be noted in the CLC meeting reports.

The Liaison Committee may establish working groups or sub-committees to address specific issues if necessary. Membership on working groups may be open to other interested stakeholders, with the consent of the committee.

Minutes, Documentation and Administration

Community Liaison meeting notes will be taken by a representative of the Consultant Team, and will be circulated to the Committee members following each meeting for review and comment. Minutes of the meeting will be approved by the CLC at the following meeting.

All minutes and documentation produced or received by the Liaison Committee will be made accessible to the public through the City's website (i.e., <http://guelph.ca/plans-and-strategies/water-efficiency-strategy-update/>). All administrative services associated with the Committee will be the responsibility of the Project or Consultant Team.

Roles and Responsibilities

In addition to the Participant Responsibilities identified in the City's Community Engagement Framework (see Appendix A,) Community Liaison Committee members will:

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- Consider matters, issues or information provided by the Project Team relating to the Strategy Update process, and provide advice and recommendations as requested.
 - Liaise with the organization they represent (if applicable) to bring forward advice, issues or comments from their organization and to return information and results to the organization from the CLC.
 - Strive to operate in a consensus mode where participants openly discuss views and opinions and seek common ground.
 - Ensure that the results of CLC discussions are accurately recorded in the meeting records, or in any additional documents that the CLCs or the Project Team may determine are needed.
 - Embrace the City of Guelph's Guiding Principles for Community Engagement and Community Engagement Framework when providing advice or recommendations and when interacting with the Project Team.

In addition to the Employee Responsibilities identified in the City's Community Engagement Framework (see Appendix A,) Project Team members will:

- Strive to provide accurate, understandable information to CLC members, so they can contribute informed advice and recommendations.
- Ensure that appropriate City staff – or other resource people – are present at discussions on specific issues or components of the planning process.
- Ensure that advice, recommendations, and consensus positions from the CLC are fully considered in developing the Master Plan.
- Be open, receptive, and give careful consideration to advice and ideas received from CLC members, and strive to reflect consensus positions in the Master Plan.
- Embrace the City of Guelph's Guiding Principles for Community Engagement and Community Engagement Framework when interacting or planning to interact with the CLC.

Reporting Relationship

The CLC is an advisory body to the Project Team, and to City Council through the Project Team. All meeting minutes and recommendations from the Committee to the Project Team will be posted on the City's web site for review by Council and the public and will be included in the final Strategy Update documents.

By participating on this Committee, CLC members are not expected to waive their rights to the democratic process, and may continue to avail themselves of participation opportunities through delegation to committees of Council, and/or providing written briefs. Any positions taken by individual members are without prejudice.

Appendix A

Community Engagement Framework – Select Excerpts

Guiding Principles for Community Engagement

The following principles build on those approved by Guelph City Council in 1998. They have been updated to reflect emerging community engagement practices. Community engagement in the City of Guelph embraces these principles.

1. **Inclusive** – The City encourages participation by those who will be affected by a decision. The City builds relationships with stakeholders by using a range of tools to engage varied audiences.
2. **Early Involvement** – The City involves the public as early as possible in the community engagement process so stakeholders have time to learn about the issue and actively participate.
3. **Access to Decision Making** – The City designs processes that will give participants the opportunity to influence decisions.
4. **Coordinated Approach** – The City co-ordinates community engagement activities to use community and City resources effectively.
5. **Transparent and Accountable** – The City designs processes that are open and clear. Stakeholders will understand their role, the level of engagement and the outcome of the process.
6. **Open and Timely Communication** – The City provides information that is timely, accurate, objective, easily understood, accessible and balanced.
7. **Mutual Trust and Respect** – The City engages the community in a fair and respectful way that fosters understanding between diverse views, values and interests.
8. **Evaluation and Continuous Improvement** - The City commits resources to evaluating engagement processes to ensure engagement activities are effective.
9. **Equitable Engagement Process** – The City designs engagement processes that allow all community members a reasonable opportunity to contribute and to develop a balanced perspective.

Council Responsibilities

As key leaders within the City, the support of City Council is important for successful community engagement. Council is asked to:

- Review information gathered through community engagement processes to inform Council decisions.
- Consider appropriate project timelines and resources needed for community engagement.

Employee Responsibilities

City employees who are responsible for the design and implementation of community engagement processes will:

- Pursue community engagement with the belief that community involvement leads to better decisions
- Ensure that community engagement activities comply with the Community Engagement Framework and Policy, its processes, worksheets and tools
- Develop project charters or project plans that provide adequate timelines and resources for community engagement
- Notify the Community Engagement Team of any planned community engagement activities
- Design engagement processes that reflect the promise made to stakeholders according to the level of engagement
- Design engagement processes that reach out to vulnerable populations
- Ensure all community members who want to be involved are included
- Ensure all communication is clearly presented, balanced and understandable to the target audience
- Ensure that participants are aware of their responsibilities in the engagement process and support participants to fulfill those responsibilities
- Foster long-term relationships based on mutual trust and respect
- Ensure the project accurately reflects all the feedback received
- Ensure decisions and recommendations acknowledge the needs, values and desires of the community
- Ensure consultants or external organizations undertaking community engagement activities on behalf of a City department comply with the Community Engagement Framework and Policy

Participant Responsibilities

Successful community engagement processes require respectful and constructive contributions of participants. Participants are responsible to:

- Pursue community engagement with the belief that community involvement leads to better decisions
- Focus on the decisions to be made or the question to be answered
- Recognize the City must consider the needs of the whole community
- Strive to reach sustainable solutions

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- Request alternative ways of participating if required
 - Listen to understand the views of others
 - Identify concerns and issues early in the process
 - Participate openly, honestly and constructively, offering ideas, suggestions and alternatives
 - Work in the process in a transparent, respectful and cooperative manner
 - Stay abreast of the project, engagement activities and related issues
 - Provide input and feedback within project timelines
 - Encourage others to become engaged, and offer input to the project and engagement activities
 - Provide contact information as requested, to receive updates about the community engagement process