



To: **Emily Stahl** Company: **City of Guelph**
 From: **Sam Ziemann** Our File: **75-41-151088**
 Cc: **Wayne Galliher, Tracy Patterson** Date: **24 November 2015**
 Subject: **Final Business Research Report**

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City of Guelph Water Efficiency Strategy Update

BUSINESS RESEARCH REPORT

C3 WATER INC.

24 November 2015

VERSION	DATE	DESCRIPTION OF REVISIONS	REVISED BY	REVIEWED BY
1	November 9, 2015	Draft Business Research Report	Tracy Patterson Andrea Williams	Sam Ziemann
2	November 24,2015	Final Business Research Report	Andrea Williams	Sam Ziemann

Table of Contents

Description	Page
1.0 EXECUTIVE SUMMARY	1
1.1 Background & Context.....	1
1.2 Project Description	1
1.2.1 Research Objectives	1
1.2.2 Research Methodology.....	2
1.2.3 Research Sample.....	2
1.3 Research Findings	2
1.4 Summary.....	3
2.0 Background and Context	4
3.0 Project Description	4
3.1 Research Objectives	5
3.2 Research Methodology.....	5
3.3 Research Sample	6
4.0 RESEARCH FINDINGS.....	6
4.1 Themes	7
4.1.1 Constraints – Industrial, Commercial and Institutional.....	7
4.1.2 Opportunities – Industrial, Commercial and Institutional.....	8
4.1.3 Constraints – Builders/Developers.....	8
4.1.4 Opportunities – Builders/Developers.....	8
4.1.5 Constraints – Service Provider.....	9
4.1.6 Opportunities – Service Provider.....	9
5.0 Summary - Integrated Analysis	9

APPENDIX 1 Guiding Questions

APPENDIX 2 Themes

APPENDIX 3 Thematic Constraints and Opportunities

1.0 EXECUTIVE SUMMARY

1.1 Background & Context

The City of Guelph's (City) Water Supply Master Plan has identified water conservation as the most cost-effective and immediately available method of sustaining water supply capacity. The City has ranked water conservation as a top priority through various strategies and strategic plans. The Water Supply Master Plan (2014) recommends the City's demand reduction target be revised to achieve 19,750 cubic metres per day by 2038 (coinciding with the timelines of the City's Official Plan). Water Services is updating the 2009 Water Conservation and Efficiency Strategy to identify program resources for this next planning period.

Since 2006, 7,116 m³/day of water/wastewater capacity has been reclaimed enabling the City to delay the need for about \$35.6 million in additional water and wastewater infrastructure. The Industrial, Commercial and Institutional Capacity Buyback Program has been reported to have contributed 1,565 million litres of water savings between the years 2006 to 2012¹. While the Industrial, Commercial and Institutional Capacity Buyback and other water saving programs have provided savings for the City, their participation rates and water savings are beginning to plateau.

In preparation of the Water Efficiency Strategy Update, key informants in the business and industry sectors were asked to contribute via phone calls and online meetings. Their feedback on programming and future initiatives will continue to generate sustainable and economically beneficial water savings.

1.2 Project Description

Businesses in the industrial, commercial, and institutional sectors, including builders/developers, and relevant service providers (plumbers, landscaping contractors and retailers) in Guelph were invited to participate in market research for the Water Efficiency Strategy Update. From their responses, constraints and opportunities for future water efficiency programming were extracted.

1.2.1 Research Objectives

The objectives of the key informant interviews with industrial/commercial/institutional property owners/managers, builders/developers and service providers are as follows:

1. Determine opportunities and constraints for industrial/commercial/institutional property owners/managers to implement water efficiency practices and/or measures.
2. Determine opportunities and constraints for builders/developers to implement enhanced water efficiency measures in new construction.
3. Determine operational priorities of industrial/commercial/institutional property owners/managers that could influence their decisions concerning water efficiency measures and practices.
4. Identify sustainability/environmental policies and programs in place at industrial/commercial/institutional businesses, including the rationale for such policies and programs and to what degree, if any, they have

¹ City of Guelph: Assessing Effectiveness of Water Efficiency Strategy (January 22, 2014)

served or could serve as an impetus for water efficiency.

5. Determine the perceived value (and related insights) of the City’s Capacity Buyback Program to industrial/commercial/institutional property owners/managers.
6. Determine external initiatives – financial and non-monetary incentives, financing options and/or municipal policy, regulatory and operational changes – which could encourage higher uptake water efficiency practices and measures by residential (via service providers), industrial/commercial/institutional property owners/managers (and also via service providers), and builders/developers.
7. Determine the potential influence or role, if any, of service providers in landscaping, and plumbing in motivating uptake of water efficiency practices by industrial/commercial/institutional property owners/managers and/or single-family homeowners.
8. Identify and explore consistencies/inconsistencies with research findings from the best practices review.

1.2.2 Research Methodology

The project team identified priority business sectors/sub-sectors to target for the research based on securing a representative sample of Guelph-based businesses and ensuring higher water using customers were captured in the research sample.

The sixteen key informant interviews were selected from both the City’s Economic Development Department Business Listing and a listing of water using businesses operating in Guelph (determined through non-residential customer water demand analysis).

Interview summaries capturing key informants’ responses were generated upon completion of the interviews. Themes or consistencies in responses were identified and noted, as these are indicative of significant constraints or opportunities requiring more detailed analysis.

1.2.3 Research Sample

The research sample was comprised of property owners/managers in the industrial, commercial and institutional sector, including builders/developers, and service providers in plumbing and landscaping.

1.3 Research Findings

Numerous consistencies or themes arose from the interviews with key informants in the research sample. Table 1.1 groups the thematic constraints and opportunities by the following business categories: industrial/commercial/institutional, builders/developers and service providers found from the key informant interviews.

Table 1.1: Constraints and Opportunities

INDUSTRIAL/COMMERCIAL/INSTITUTIONAL	
Constraints	<ul style="list-style-type: none"> - The return on investment is too long (greater than 3 years) for implementing water efficiency measures. - Currently the focus is on energy saving investments due to acceptable payback periods. - There is an administrative burden of participating in the City’s Capacity Buyback Program. - Inconsistent and generic communications and engagement of businesses by City Capacity Buyback programming representatives.

Opportunities	<ul style="list-style-type: none"> - Corporate-level environmental commitment. - Reducing operating costs is a primary driver. - Willingness to make water saving investments (with a return on investment under 3 years).
BUILDERS/DEVELOPERS	
Constraints	<ul style="list-style-type: none"> - Remaining cost competitive. - Perception that buyers do not consider water efficiency a worthwhile upgrade. - Delays in approvals due to beyond code construction.
Opportunities	<ul style="list-style-type: none"> - Willingness to “push the envelope”. - Most Net Zero homes qualify as a bronze Blue Built Home. - Builders are receptive to implementing water efficient measures as long as they are profitable. - Reduction in approvals time was identified as a potential driver.
SERVICE PROVIDER	
Constraints	<ul style="list-style-type: none"> - Cost competitive services. - Competition with City subsidized “free” services. - Homeowners’ preconceived priorities of aesthetics focused on “big flowery plants” and upgrades on finishes that they “can see and touch”.
Opportunities	<ul style="list-style-type: none"> - High awareness of the latest technology/concepts in the marketplace. - Service all sectors, usually from being recommended. - Pursue further education and certification. - For service providers, the quality of service and cost competitiveness are major considerations/ drivers. - Service providers consider regional and municipal water conservation and efficiency initiatives as being developed in silos, but there is opportunity for collaboration and consistency of message (e.g. Region of Peel with Fusion Landscaping and City of Guelph with Healthy Landscapes).

1.4 Summary

Findings from research interviews conducted with key informants in the industrial, commercial and institutional sectors, including builders/developers, and service providers (plumbing and landscaping businesses) has been analysed separately and in combination with the findings from primary research with Guelph homeowners². A culmination of the research findings analysis will inform the direction for future water efficiency programming to be recommended in the Water Efficiency Strategy Update.

² City of Guelph Water Efficiency Strategy Update: Homeowner Research Report (Nov 5, 2015)

2.0 BACKGROUND AND CONTEXT

In 2006, City of Guelph Council endorsed the Water Supply Master Plan. Water conservation was identified as the most cost-effective and immediately available method of sustaining water supply and was ranked as the top priority. The Water Supply Master Plan included three reduction targets based on 2006 daily water production volumes:

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

To achieve these targets, the City developed the Water Conservation and Efficiency Strategy. Input and ideas provided by local businesses and residents set the direction for water conservation and efficiency programs set out in the strategy. The 2009 award winning strategy was endorsed by Council and positioned the City as a leader in water efficiency and conservation. It set the direction for policies, programs and initiatives to achieve an aggressive water use reduction target of 8,773 cubic metres per day by 2019.

In July of 2014, Guelph City Council endorsed the Water Supply Master Plan Update. Water capacity reclaimed through water conservation programs continues to be a top priority in achieving a sustainable and cost effective community water supply. The updated Master Plan recommends the City's demand reduction target be revised to achieve a total of 19,750 cubic metres per day by 2038 (coinciding with the timelines of the City's Official Plan) from the 2006 average day water use. Water Services is updating the 2009 Water Conservation and Efficiency Strategy to identify program resources for this next planning period.

Since 2006, the City has reclaimed 7,116 m³/day of water/wastewater capacity, enabling the City to delay the need for about \$35.6 million in additional water and wastewater infrastructure. The Capacity Buyback Program has been credited with saving 1,565 million litres of water between the years 2006 - 2012³. Other water conservation programs relating to the business sector include toilet and washing machine rebates. Even though these programs have provided savings for the City, their participation rate and water savings are approaching market saturation.

The 2015 Water Efficiency Strategy Update will identify preferred policies, programs and vehicles, including necessary supporting resources and monitoring protocols, to achieve the water demand reduction targets set out in the 2014 Water Supply Master Plan Update.

3.0 PROJECT DESCRIPTION

In preparation of the 2015 Water Efficiency Strategy Update, key informants in the business sector were again asked to contribute to the development of the strategy that will continue to generate sustainable and economically beneficial water savings.

³ City of Guelph: Assessing Effectiveness of Water Efficiency Strategy (January 22, 2014)

Businesses in the industrial, commercial and institutional sectors, including builders/developers, and relevant service providers (plumbers, landscaping contractors and retailers) in Guelph were invited to participate in market research for the Water Efficiency Strategy Update. Interviews were conducted in-person and on the telephone from August to October 2015.

3.1 Research Objectives

The objectives of the key informant interviews with industrial/commercial/institutional property owners/managers, builders/developers and service providers are as follows:

1. Determine opportunities and constraints for industrial/commercial/institutional property owners/managers to implement water efficiency practices and/or measures.
2. Determine opportunities and constraints for builders/developers to implement enhanced water efficiency measures in new construction.
3. Determine operational priorities of industrial/commercial/institutional property owners/managers that could influence their decisions concerning water efficiency measures and practices.
4. Identify sustainability/environmental policies and programs in place at industrial/commercial/institutional businesses, including the rationale for such policies and programs and to what degree, if any, they have served or could serve as an impetus for water efficiency.
5. Determine the perceived value (and related insights) of the City's Capacity Buyback Program to industrial/commercial/institutional property owners/managers.
6. Determine external initiatives – financial and non-monetary incentives, financing options and/or municipal policy, regulatory and operational changes – which could encourage higher uptake water efficiency practices and measures by residential (via service providers), industrial/commercial/institutional property owners/managers (and also via service providers), and builders/developers.
7. Determine the potential influence or role, if any, of service providers in landscaping, and plumbing in motivating uptake of water efficiency practices by industrial/commercial/institutional property owners/managers and/or single-family homeowners.
8. Identify and explore consistencies/inconsistencies with research findings from the best practices review.

3.2 Research Methodology

The project team identified priority business sectors/sub-sectors to target for the research based on securing a representative sample of Guelph-based businesses and ensuring higher water using customers were captured in the research sample.

Sixteen interviews with key informants was the original target for the business sector research with the provision that should there be significant inconsistencies in the information collected via the interviews, supplemental interviews with additional businesses would be undertaken.

The interviews targeted the industrial, commercial, and service sectors. Twenty commercial and industrial businesses were selected from both the City's Economic Development Department Business Listing and a listing of water using businesses operating in Guelph (determined through non-residential customer water demand analysis).

Guiding questions were developed for the key informant interviews with industrial/commercial property owners/managers, builders/developers and service providers. A copy of the guiding questions used for the

interviews is included in Appendix 1. The questions were reviewed and vetted by project personnel at the City. Although the guiding questions provided direction for the key informant interviews thereby ensuring the information sought from respondents was obtained, an open discussion approach to interviews was taken. This approach allowed the interviewer to follow a line of conversation and explore important areas of discussion in greater detail. All interviews were confidential. Confidentiality is an important aspect of research as it encourages a more open dialogue between the interviewer and the key informant.

Key informant interviews provide valuable insight into those facets of business functions – business models, priorities, operations, profit centres, prospecting, client support, environmental policies, etc. – that represent constraints or opportunities for uptake of water efficiency measures and practices by business owners/managers, and for promotion and application by service providers.

Interview summaries capturing key informants’ responses were generated upon completion of the interviews. Themes or consistencies in responses were identified and noted, as these are indicative of significant constraints or opportunities requiring more detailed analysis.

3.3 Research Sample

The research sample was comprised of property owners/managers in the industrial, commercial and institutional sector, including builders/developers, and service providers in plumbing and landscaping. Table 3.1 provides a listing of the businesses contacted and the key informants for those organizations who were interviewed.

Table 3.1: Business Research and Key Informants List

ORGANIZATION	KEY INFORMANT
Owens Corning Canada	Robert Nixon
Gay Lea Foods	Jeff Miller
LPP Manufacturing (A division of Linamar)	Mike Russell, John Banks and John Zardo
Blount International	Dan Lawson and Les Kuczynski
Primaris (A division of H&R REIT)	Michael Roberts
Skyjack	Zachary Oliveira
Schlegel Villages	Aaron Orrell
St Joseph's Health Centre	Anne Groulx and Tony Ferreira
Slot Construction	John Slot
Gemini Homebuilders	Laurie Belanger
The Landplan Collaborative Ltd	Owen Scott
Brydges Landscape Architecture Design	Paul Brydges
Royal City Nursery	Tanya Olsen
AquaMaster (ACi Distributing Inc.)	Kyle Hicks
Jim-L Plumbing & Heating Inc.	James Rice
Wellington Plumbing & Heating Ltd.	George Elgersma

4.0 RESEARCH FINDINGS

Numerous consistencies or themes arose from the interviews with key informants in the research sample. The most common or limiting factor for the uptake of water efficiency practices and measures identified by key informants across all groups is the long payback period associated with such investments. The greatest

opportunity for water efficiency resides in the fact that key informants in the industrial and commercial sectors, including builders/developers, indicated a willingness to address and/or promote water efficiency provided their efforts did not require significant investments with poor returns, undermine competitiveness, create delays (builders/developers), or result in long term maintenance costs/efforts.

A summary of findings from the key informant interviews with Guelph businesses is included in Appendix 2.

4.1 Themes

As discussed, responses provided by key informants to guiding questions about business operations and opportunities, and limiting factors to the uptake of water efficiency practices and measures were grouped and analysed to identify themes. Identifying general themes uncovers potential constraints and opportunities across business sectors. Themes are indicative of areas of focus for water efficiency planning by the City.

Thematic constraints and opportunities identified through interviews with key informants are summarized in tabular form in Appendix 3. Below are the main findings, by business category, from the key informant interviews.

4.1.1 Constraints – Industrial, Commercial and Institutional

Respondents in the industrial, commercial and institutional sectors were unified in the view that an extended payback period was the primary factor limiting implementation of water efficiency measures. Efficiency investments with payback periods in excess of two years were identified as unlikely to occur. Only in the case of major process changes, where longer term investments are planned, would water efficiency upgrades with paybacks up to three years be considered.

Investments in efficiency upgrades are primarily focused on energy due to the short payback period associated with such investments. Both the cost of energy and the incentives provided by energy utilities were cited as reasons for investments in alternative energy or energy saving measures and practices.

Respondents in the industrial, commercial and institutional sectors also identified the administrative burden associated with the City's Capacity Buyback Program as a significant constraint. In contrast, numerous respondents indicated that the incentives offered by the energy service companies were quite straight forward and involved minimal paper work and reporting requirements.

A final constraint identified by respondents pertained to a perceived lack of consistency in the communications from City staff. Respondents described being contacted via telephone and email, rarely by the same individual at the City and with little new to offer. The energy utilities' programs were held up as examples wherein the respondents dealt with one individual over a period of years. The utility representatives would meet regularly with the respondents, and would identify new incentives and/or new measures/technologies to reduce energy use and operating costs. Respondents identified this relationship with energy utility representatives as productive, indicating this was not always the case with the City.

4.1.2 Opportunities – Industrial, Commercial and Institutional

Several opportunities for water efficiency in the industrial, commercial and institutional sectors were identified through the interviews with key informants. Opportunities reside in the following areas:

- Most respondents indicated a corporate-level environmental commitment reflected in environmental and/or sustainability policies and practices.
- Reducing operational costs is a primary driver for the majority of industrial and commercial facilities represented in the research, and this is particularly true for manufacturing facilities and property management firms.
- Respondents are willing to make investments in water efficiency provided such investments offer a reasonable payback period of under three years.

4.1.3 Constraints – Builders/Developers

Builders/developers in Guelph, as in all other communities, must deal with increasing costs of land, construction (labour, materials and energy) and expenses associated with securing approvals. These costs must be recovered through sales/occupancy rents and fees, so keeping costs in line with what the market will bear and remaining cost competitive creates constraints associated with beyond building code requirements for water efficiency.

A second significant barrier is the perception amongst respondents that new home buyers do not consider water efficiency an upgrade worth the additional cost. Builders believe that the majority of homeowners do not value beyond-code building (i.e. water efficiency measures beyond the Ontario Building Code). Their perception is that the Guelph marketplace is not receptive to paying for water efficiency upgrades, especially when in competition with more traditional upgrades such as granite countertops.

Delays in approval times for construction projects that go beyond code can add significant costs and delay the time to market. New technologies or measures can create problems and/or delays in securing approvals from one or more reviewers who either lacks the expertise to evaluate or isn't familiar with the particular technology.

Some respondents indicated that the real opportunity for water efficiency resides with the existing housing market (read, not with the new home market).

4.1.4 Opportunities – Builders/Developers

There is a willingness amongst builders/developers to “push the envelope”, particularly in the area of energy efficiency. It is worth noting that most Net Zero homes qualify as a bronze Blue Built Home, provided they install the required appliances. Builders/developers are open to enhanced water efficiency in new construction provided these measures can be implemented with a net benefit to the bottom line. Lastly, reduction in approvals time was identified as a potential driver for beyond code water efficiency measures in new construction.

4.1.5 Constraints – Service Provider

Service providers in both plumbing and landscape design/installation must offer cost competitive services on par with other comparable service providers. If the cost of the product, service or measure is significantly higher, it is a difficult “sell” to a customer. Another constraint identified by respondents was direct competition with the services they offer that is also provided by the City which are subsidized “free” services.

A final challenge for water efficiency is the priorities of homeowners that meet preconceived aesthetics focused on “big flowery plants”, and upgrades on interior finishes “that [homeowners] can see and touch” over any water efficient value such upgrades could provide.

4.1.6 Opportunities – Service Provider

In general, the service providers interviewed were very aware of the latest technology/concepts in the marketplace for water efficiency. They service all sectors and receive the majority of work from recommendations made from former clients. Of those interviewed, some had participated in further education such as completing a Green Plumbers certification or working with the Water Quality Association on water softeners.

Quality of service and cost competitiveness are major considerations for service providers. Water efficiency products, designs, and services that maintain their cost competitiveness and offer quality to the customer would be embraced by service provider respondents.

In general, some service providers commented that regional and municipal water conservation and efficiency initiatives are being developed in silos and with different water efficiency campaigns, programs and messages being delivered simultaneously. They therefore saw an opportunity for collaborative programming and delivery of common and consistent messages.

5.0 SUMMARY - INTEGRATED ANALYSIS

Findings from research interviews conducted with key informants in the industrial, commercial and institutional sectors, including builders/developers, and service providers (plumbing and landscaping businesses) have been analysed separately and in combination with the findings from primary research with Guelph homeowners⁴. A culmination of the research findings analysis, including the results of the “Literature Review of Best Practices in Water Conservation and Efficiency”, will inform the direction for future water efficiency programming to be recommended in the Water Efficiency Strategy Update.

⁴ City of Guelph Water Efficiency Strategy Update: Homeowner Research Report (Nov 5, 2015)

**CITY OF GUELPH WATER EFFICIENCY STRATEGY
KEY INFORMANT INTERVIEW – GUIDING QUESTIONS
INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL PROPERTIES**

Key informant(s): _____

Company Name: _____

Type of Business: _____

QUESTIONS:

1. In your opinion, what are the most pressing issues facing your industry?
2. What if anything have you done to reduce operational expenses in your business?
3. What are your top 3 priorities for reducing operational expenses?
4. Does your company have any environmental or sustainability policies or initiatives in place?

Yes No

- a. If “yes”, briefly describe these policies or initiatives.
- b. If “yes”, what are the primary reasons for these policies/initiatives?
- c. If “no”, why not?

5. Is energy saving/conservation a consideration for your company?

Yes No

- a. If “yes”, why?
- b. If “no”, why not?

6. Is water saving/conservation a consideration for your company?

Yes No

- a. If “yes”, why?
- b. If “no”, why not?

7. Has your company previously participated in Guelph’s Capacity Buyback (CBB) program for water conservation?

a. If “yes”...

- i. How many months or years ago was your company audited?
- ii. Did your company implement any of the recommendations arising from the water audit of your facility? If “Yes”, briefly describe what was done. If “No”, please briefly explain why.
- iii. Do you feel the level of financial rebate offered by the city is appropriate?
- iv. What is your overall opinion of the City’s CBB program?
- v. What could be done to improve the program?

b. If “no”...

- i. Are you familiar with the City’s CBB program?
- ii. Were you ever contacted by the city to participate in this program? YES NO
- iii. If “No”, would you like to be contacted by the city to participate in this program?

8. Has your company ever participated in any City of Guelph water conservation program?

Yes No

a. If yes, briefly describe.

9. Is stormwater management a consideration for your company?

Yes No

a. If “yes”, why?

b. If “yes”, briefly describe what water efficiency practices/technologies you have implemented.

c. If “no”, why not?

10. Briefly describe what, if any, future plans do you have for improving water efficiency at your business.

11. What would encourage you to undertake (additional) water efficiency/conservation measures at your business?

On a scale of 1 to 10, rate the significance of the following to your business decisions (where 1 is low and 10 is high):

12. Operational expenses _____
 - a. Why did you give this rating?
13. Liabilities _____
 - a. Why did you give this rating?
14. Environmental performance _____
 - a. Why did you give this rating?
15. Flooding/damage due to flooding _____
 - a. Why did you give this rating?
16. Any other comments?
17. Others whom you think we should interview?

CITY OF GUELPH WATER EFFICIENCY STRATEGY
KEY INFORMANT INTERVIEW – GUIDING QUESTIONS
SERVICE PROVIDERS (Landscaping & Plumbing)

Key informant(s): _____

Company Name: _____

Type of Business: _____

Questions:

1. Do you service residential, commercial-industrial clients or both? Municipal clients?
2. Typically, how do projects come to you? Sole-source, bid, recommended...
3. What is/are the most significant factor(s) for potential clients in selecting your business for a project? (**Identify on if not mentioned:** design, cost (is it a lowest bid situation), sustainability, planning approval?)
4. As a service-provider business, what are the top three challenges in your industry? **Discuss:** primary source of business, prospecting, securing clients, value of installs/maintenance
5. Is water efficiency/conservation ever a consideration for your clients? Never, rarely, often? Why?
6. Is water efficiency/conservation ever a selling point for or promoted to potential clients?
Yes No
 - a) If “yes”, how and why?
 - b) If “no”, why not?
7. What do you consider the primary barriers to increasing water efficiency/conservation amongst your clients?
8. If you were charged with increasing water efficiency practices of your clients, what would you do to address or overcome these barriers?
9. **Specifics:** What could the City of Guelph do to increase water efficiency practices? Are there any incentives the City of Guelph could provide that might be effective? (**If not raised, ask about the potential value of incentive mechanisms:** tax breaks, policy/regulatory changes, expedited approvals for beyond code new building/permitted renovations)
10. Other comments?
11. Are there any companies or organizations you would suggest I contact for an interview?

QUESTIONS	INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL RESPONSES
1. In your opinion, what are the most pressing issues facing your industry?	
Themes	<ul style="list-style-type: none"> • Manufacturing companies are continually looking for ways to be cost effective to remain competitive in an ever-increasing global market. • Commercial businesses are very aware of operational costs and are progressively seeking to increase efficiencies, mostly energy, in their buildings. • Institutional operations have other priorities that make water efficiency low on the priority list. - "Most of the buildings are older and are not in good shape (some in terrible shape) and we're not building new buildings as quickly as we need to."
2. What, if anything, have you done to reduce operational expenses in your business?	
Themes	<ul style="list-style-type: none"> • Industrial and Commercial businesses are continually looking for ways to reduce operating expenses, mostly through energy savings. • Companies are progressive thinkers in that they are looking to new technologies for ways to become efficient. • Institutional has not shown to be as proactive, even with energy.
Other	<ul style="list-style-type: none"> • Conducted energy and water audits, reduction or elimination of irrigation. • Installed low flow toilet, automatic taps, LED lighting, heat exchangers, etc. • Improved labour productivity, reduction of energy consumption on a per unit basis, buying more off-shore parts. • "Focusing on higher value products ("saving ourselves rich") – higher value achieved through automation which reduces labour costs and therefore unit value is increased." • "We have reward program for employees (Ideas Program)."
3. What are your top 3 priorities for reducing operational expenses?	
Themes	<ul style="list-style-type: none"> • Reducing operational expenses is always a priority. • Most businesses prioritize reducing energy use (hydro and gas), then labour/equipment costs, then water.
Other	<ul style="list-style-type: none"> • "Have regular audits of our buildings through Building Owners and Managers Association and Risk Check."
4. Does your company have any environmental or sustainability policies or initiatives in place?	
Themes	<ul style="list-style-type: none"> • Most industrial and commercial businesses have environmental policies in place. • Institutional follows the government guidelines out of necessity.
Other	<ul style="list-style-type: none"> • "We share information on pilots. Operations teams get together and review projects and results. Pilot tests: One building has a garden on roof growing bamboo and using the bamboo for making furniture for use in our buildings." • "Yes, Policies – mandate to minimize impact on environment. Whatever is highest standard in the world is the standard held to for all facilities no matter where they are located – this is an on-going driver of sustainable practices." • ISO 14001 registered (Environmental Management), DOW Jones sustainability index, "net positive" company – triple bottom line accounting, Ontario Health and Safety Management Systems (OHSAS) 18001 company, file reports annually in accordance with sections 6 and 7 of the Green Energy Act, 2009. • "We also offer our employees financial rewards if they come up with a money-saving suggestion."

QUESTIONS	INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL RESPONSES
5. Is energy saving/conservation a consideration for your company?	
Themes	<ul style="list-style-type: none"> • Most companies view energy saving/conservation as priority for their company. • Companies pride themselves on being energy efficient by using phrases like "triple bottom line accounting", "reducing carbon footprint", "net-positive company" saying that it's "the right thing to do" and that "our involvement in the community is very important to us."
	<ul style="list-style-type: none"> • "Company policy is that we need a return on investment of six months or less before we undertake an improvement, but sometimes we extend that to a return on investment of one year." • "Being efficient is part of the DNA of the company."
6. Is water saving/conservation a consideration for your company?	
Themes	<ul style="list-style-type: none"> • Water saving is a consideration for most businesses interviewed. • Even though a consideration, water savings do not take priority - "We don't want to sacrifice performance to save water."
Other	<ul style="list-style-type: none"> • "Some of our properties use chiller systems. These systems use to run 24 hours/day, 365 days per year, now they are shut down at overnight. We are also changing out lighting to reduce the heat generated by the lighting which in turn reduces our air conditioning demands." • "We track our water use but we don't use very much." • "Everything is important but water efficiency is much less important than energy savings because the cost to us is so much less."
7. Has your company previously participated in Guelph's Capacity Buyback program for water conservation?	
Themes	<ul style="list-style-type: none"> • The majority of companies had not participated in the City's Capacity Buyback program. • Of those that had, they considered the rebate appropriate, but viewed the process as administratively onerous.
Other	<ul style="list-style-type: none"> • "Give option to perform assessment/audit and reporting internally." • "\$300 per m³/day of savings. We could save 10,000 L/day by installing new equipment which would be a \$3000 rebate but the equipment would cost us \$200,000 – so rebate is not enough. Like to have 12-month payback."
8. Has your company ever participated in any City of Guelph water conservation program?	
Themes	<ul style="list-style-type: none"> • None had participated in any City of Guelph water conservation program outside of the capacity buyback program.
Other	<ul style="list-style-type: none"> • "We changed from manual to sensor-operated flush valves on our urinals, but this was not part of the City program."
9. Is stormwater management a consideration for your company?	
Themes	<ul style="list-style-type: none"> • Not perceived to be an issue.
Other	<ul style="list-style-type: none"> • "We are testing green roofs in a few of our buildings which reduce energy demand but also captures rainwater falling on the roof." • "Yes, stormwater control to prevent it leaving our property with possible reuse. Have not implemented but are considering - if payback came down to 3 years would make it more viable."

QUESTIONS	INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL RESPONSES
10. Briefly describe what, if any, future plans do you have for improving water efficiency at your business.	
Themes	<ul style="list-style-type: none"> • Most companies had company-led plans for improving water efficiency. • Interested in piloting and researching new technologies - "We would like to look at options such as reusing the reverse osmosis reject water, greywater, or rainwater and alternative water source.", "[We] want investigate the potential of installing a rain water harvesting system."
Other	<ul style="list-style-type: none"> • "We are also looking at using dry cutting (mill or lathe) or minimum quantity lubrication as way to reduce costs. Not suitable for all parts but might be possible for some areas."
11. What would encourage you to undertake (additional) water efficiency/conservation measures at your business?	
Themes	<ul style="list-style-type: none"> • Financial incentives would be the main driver for uptake of programs in the ICI sectors.
Other	<ul style="list-style-type: none"> • "Concerned that rainwater harvesting may not be viable since all of the water we get from the city is discharged as wastewater and it would be difficult to measure, however we would be willing to install a meter on the discharge if it were needed. We might be willing to implement a rainwater harvesting system even if the payback for longer than 1 year if the city were willing to help fund this as a pilot project."
On a scale of 1 - 10 rate the significance of the following to your business decisions (where 1 is low and 10 is high)	
12. Operational expenses	
Themes	<ul style="list-style-type: none"> • Ranked highly important to all ICI sectors.
Other	<ul style="list-style-type: none"> • "Efficiency = cost reductions." • "Reducing operational costs is extremely important to the success of the business."
13. Liabilities	
Themes	<ul style="list-style-type: none"> • Important, but generally ranked lower than operational costs.
Other	<ul style="list-style-type: none"> • "We need to make sure that our product is safe for use in the field but we also want to make sure that our employees are kept safe when they come to work."
14. Environmental Performance	
Themes	<ul style="list-style-type: none"> • Ranked less than operational expenses and liabilities.
Other	<ul style="list-style-type: none"> • "Desire to be better than everyone else on the environmental performance." • "We would like to have a better environmental record however we must always consider the return on investment of any measure we want to implement. We may not sacrifice environmental performance because of a low return on investment but we won't pursue it." • "Efficiency goes hand in hand with environmental performance and reduced operational costs (e.g., reduced energy use)."
15. Flooding/Damage Due to Flooding	
Themes	<ul style="list-style-type: none"> • Lowest significance for business decisions.
Other	<ul style="list-style-type: none"> • "Not an issue." • "No chance of flooding."
16. Any other Comments?	
Themes	<ul style="list-style-type: none"> • Companies are looking for better communication/customer relationships from the City and less administration burden.
Other	<ul style="list-style-type: none"> • Sewer use by-law considerations a concern going forward with further process water use reductions. • "Not looking for an audit. Come see me every couple of months. Update me on what's new, where there are savings, might give 5 ideas and I'll take one."

QUESTIONS	BUILDER/DEVELOPER RESPONSES
1. What are the top three challenges facing your industry today?	
Themes	<ul style="list-style-type: none"> • Availability of land to build on. • Availability of skilled trade’s people. • Permitting process - too long, onerous.
Other	<ul style="list-style-type: none"> • Competitive marketplace - lower profit margin than 10 years ago.
2. Are energy savings/conservation a consideration for new construction for your company? If "yes", why?	
Themes	<ul style="list-style-type: none"> • Always a consideration - Energy Star builder. "More [home] buyers are aware of the benefits associated with Energy Star homes".
Other	<ul style="list-style-type: none"> • On-demand hot water circulation systems – "too expensive." Also receives complaints from customers of long wait times - "especially since pipes sizes are now larger in the home – takes longer to get hot water to fixtures."
3. Are water savings a consideration?	
Themes	<ul style="list-style-type: none"> • Water efficiency is "not really much of a concern". • Greywater and rainwater is not seen as a desirable feature for most home buyers compared to other finishes.
Other	<ul style="list-style-type: none"> • "Some people complain about the efficient toilets. Have to hold handle down." • "We looked at installing greywater reuse systems or rainwater harvesting systems in our new homes but the cost is very high and the homeowner would much rather pay for a granite countertop." • "We are putting a greywater system in this home. We have also built two other homes that have greywater systems." • "We already install dual-flush toilets, low-flow faucets, and efficient showerheads in our homes."
4. What do you think are the motivating factors of buyers when purchasing a home?	
Themes	<ul style="list-style-type: none"> • Luxury items - "20% [of homebuyers] want body jets in the en-suite shower." • Water efficiency is "not really much of a concern."
Other	<ul style="list-style-type: none"> • "Age and stay" options for seniors.
5. Is stormwater management a consideration? Do you offer landscape packages?	
Themes	<ul style="list-style-type: none"> • Most buyers choose sod, have put all their financial resources into the home. • 6 inches of topsoil provided by builders.
Other	<ul style="list-style-type: none"> • "Sometimes condos will want landscaping packages and not just grass."
6. Is your company familiar with building to LEED standards?	
Themes	<ul style="list-style-type: none"> • Familiar with LEED standards. Have chosen to build to Energy Star standard instead.
Other	<ul style="list-style-type: none"> • "Clients aren't looking for an efficient home; that is not the first thing that they are looking for. Efficiency is not part of the deal." • Building a net zero model home. They "will be the new standard - the way of the future."

QUESTIONS	BUILDER/DEVELOPER RESPONSES
7. Has your company previously participated in Guelph's Blue Built Home program?	
Themes	<ul style="list-style-type: none"> • Familiar with Blue Built Home program, but not participating. • Difficulty dealing with the City -"very frustrating for us and I expect that sometimes it is very frustrating for the City", "very bureaucratic".
Other	<ul style="list-style-type: none"> • "We have Energy Star as a trademark right now and we don't want to make it too confusing for the client by adding an extra logo." • Lack of consistency when dealing with the City's water conservation team (i.e. multiple personnel changes result in difficulty forming working relationships). • "The net zero home that we are building also qualifies as a Blue Built Home."
8. What would encourage you to undertake (additional) water efficiency/conservation measures at your business?	
Themes	<ul style="list-style-type: none"> • Rebates - "If the city wants greywater or rainwater systems installed they will have to offer larger rebates. These systems are a fairly big investment but how you can use the water is very restrictive." • Decrease administrative burden.
Other	<ul style="list-style-type: none"> • "It might make sense for us to provide rough-ins for some things like greywater if the cost of doing so wasn't too much." • "Interested in an expedited approvals process"
9. Other comments?	
Other	<ul style="list-style-type: none"> • "[Guelph has] a lot of high-quality builders, some have received national status for innovation, we tend to push the envelope in Guelph when it comes to building homes." • Support new ideas and simplify the processes - "I sometimes feel that I'm being penalized for being an innovator. Innovation should be encouraged not discouraged."

QUESTIONS	SERVICE PROVIDER RESPONSES
1. Do you service residential, commercial-industrial clients or both? Municipal clients?	
Themes	<ul style="list-style-type: none"> All service residential properties. Some specialize in certain sectors, e.g. Industrial/Commercial/Institutional, multi-residential.
Other	<ul style="list-style-type: none"> "We service residential, ICI customers, national parks, municipal parks, hotels, pretty much anything."
2. Typically, how do projects come to you? Sole-source, bid, recommended...?	
Themes	<ul style="list-style-type: none"> Mostly word of mouth - "Our customers come to us." Some projects awarded by bidding.
Other	<ul style="list-style-type: none"> "Most projects because of our reputation. Lots of repeat business."
3. What is/are the most significant factor(s) for potential clients in selecting your business for a project?	
Themes	<ul style="list-style-type: none"> Reputation most important. Potential clients look for quality products. Unique designs, solutions that work.
Other	<ul style="list-style-type: none"> "Pretty much every landscape we design for a municipal client has to be low maintenance. We sometimes design systems with rain gardens or soak-away pits. It was very rare before but now is becoming much more frequent, especially with institutional clients that have environmental policies that they need to follow." "Cost is biggest factor. Quality of work. Water efficiency not really a concern."
4. As a service-provider business, what are the top three challenges in your industry?	
Themes	<ul style="list-style-type: none"> Competition (undercutting - lower quality products are cheaper). Difficulty finding knowledgeable workforce. Municipal regulations. Low supply of water efficient products.
Other	<ul style="list-style-type: none"> "Only include licensed plumbers in City programs."
5. Is water efficiency/conservation ever a consideration for your clients?	
Themes	<ul style="list-style-type: none"> In landscaping, the primary concern is aesthetic. Secondly, customers look for low maintenance and the providers consider "water efficiency [as] part of low maintenance." Customers from the plumbing and water softening industry consider function their main concern. Awareness of water efficient measures within the service industry is very high.
Other	<ul style="list-style-type: none"> "We always try to use native or near native plants that will be more adapted to the environment." "About 65% of my clients are concerned about water efficiency and 35% are only interested in performance. Even clients that want efficient products also want products that work but now many of the efficient products work great – get both savings and efficiency."
6. Is water efficiency/conservation ever a selling point for or promoted to potential clients?	
Themes	<ul style="list-style-type: none"> About 50% - 50% for landscaping and plumbing. A main selling point for water softeners.
Other	<ul style="list-style-type: none"> "Aesthetics is more important." (landscaping) "Yes, water efficiency is a selling point because our customers want low maintenance landscapes." "Yes, I always use City of Guelph list of toilets – very good, list grams of performance."

QUESTIONS	SERVICE PROVIDER RESPONSES
7. What do you consider the primary barriers to increasing water efficiency/conservation amongst your clients?	
Themes	<ul style="list-style-type: none"> • Cost • Performance • City's existing program management. Too bureaucratic, difficult to work with.
Other	<ul style="list-style-type: none"> • "Not using rainwater (cisterns) for irrigation, but it is just too expensive." • "Most of my clients have no idea what the City's colour-coded watering restrictions mean." • "Too often designs just meet the minimum requirements for code. They don't take any extra effort to design an efficient system. They look at short-term costs over long-term costs."
8. If you were charged with increasing water efficiency practices of your clients, what would you do to address or overcome these barriers?	
Themes	<ul style="list-style-type: none"> • Increase promotion and education of water efficiency measures. • Incorporate professional service providers into the City's water efficiency programs. - "City should restrict their programs to only qualified licensed plumbers." • Increase rebates/financial incentives for innovative technology, e.g. rainwater harvesting, graywater systems.
Other	<ul style="list-style-type: none"> • Require irrigation systems to have a rain sensor, weather-based controller, central control system, and even a soil moisture sensor. • "People should be planting more shrubs and less turf."
9. What could the City of Guelph do to increase water efficiency practices? Are there any incentives the City of Guelph could provide that might be effective?	
Themes	<ul style="list-style-type: none"> • Offer more rebates, e.g. water softeners, rainwater systems. • Increase promotion and education of water efficiency measures. • Market the value/benefits of water efficiency more effectively, i.e. if you have a rainwater cistern, then you won't have to abide by the Outside Water Use Program restrictions.
Other	<ul style="list-style-type: none"> • Offer homeowners a plaque to put on their house to let others know that their home landscape is efficient. • "City could require a higher minimum standard for water softeners – work with Water Quality Association, or just identify a higher standard but not require it."
10. Any other Comments?	
Other	<ul style="list-style-type: none"> • "Currently in Guelph, the specification depth of topsoil below turf is less than the depth below planting beds – doesn't make sense. Developers like to sell some of the topsoil off the site to make extra money but enough should be left on site." • "We would love to have the City send staff to promote their programs". "Having City staff at our site will add a lot of credibility to the programs – the customers would know that these are truly Guelph programs. We would like to have more communication with the city and the city listen to us more closely." • "Municipalities need to stop working in silos. For instance, the local cities and regions are all essentially trying to do the same thing regarding efficient landscapes, but they are all working independently of each other in silos. I think it would be much more efficient if they work with each other, including Guelph." Province-wide, not municipality-wide message. • Green Plumbers Course - "we have installed some rainwater harvesting systems." • Opportunity in new construction for rainwater or greywater - "Put rain cistern under garage floor."

Table A3.1: Constraints for the Industrial, Commercial and Institutional Sectors.

A. Cost - need to stay competitive.
B. Energy is the top priority due to the higher cost for energy.
C. Water saving initiatives are competing for resources and capital budgets with energy conservation projects.
D. Companies require a short timeframe for return on investment on improvement projects, as little as 6 months in some cases.
E. Perception that their facility did not use very much water - "We are not a water intensive facility."
F. Perception that implementing water efficient technology/programs would negatively impact systems/production - "We don't want to sacrifice performance to save water."
G. Capacity buyback program is viewed as administratively onerous.

Table A3.2: Constraints for the Builder/Developer Sector.

A. Water efficiency is not a consideration for the homebuyer - "Their primary concern is how big the house is and the finishes – anything they can feel and touch."
B. Have a sense that the City does not support innovation - "I sometimes feel that I'm being penalized for being an innovator. Innovation should be encouraged not discouraged. Sometimes you do something that is innovative and then the building inspector shows up and they are not familiar with the innovation so you have to take the time to educate the inspectors."
C. A lack in customer understanding or interest in efficiency measures - "About 50% seem to understand what we are saying and use the features properly."

Table A3.3: Constraints for the Service Provider Sector.

A. Suppliers are not adequately stocking water efficient products.
B. Customer confusion over water efficiency branding and marketing - "too many names"
C. Lack of consistency in water efficiency bylaws across municipalities - difficult for service providers.
D. Most customers are only interested in aesthetics - "big flowery plants".
E. Competitive marketplace has companies always looking to reduce costs.
F. Energy savings are prioritized over water savings.
G. The service providers do not support the City's Healthy Landscapes and Royal Flush Programs.
H. Some water efficient technologies have too long of a return on investment - "Customers like the idea of rainwater cisterns for irrigation until they hear the cost and realize it might be 17 years before they get their money back".
I. Service providers feel that the City is too bureaucratic and not approachable/open to new ideas.

Table A3.4: Opportunities for the Industrial, Commercial and Institutional Sectors

A. Many businesses are growing.
B. Decisions are based on the company's bottom line.
C. Companies have a high level of awareness and proactive approach to energy efficiency.
D. Municipalities and Regions are perceived to work in silos in their approach to water conservation and efficiency.
E. Industrial and Commercial businesses are continually looking for ways to reduce operating expenses, mostly through energy savings.
F. Companies are progressive thinkers - looking to new technologies for ways to become efficient.
G. Ideas Program for Innovation where employees are rewarded for suggestions to improve efficiency.

H. Customers are becoming more environmentally aware and looking to buy from a company that operates sustainably.
I. Willing to participate in pilot testing.
J. Companies feel a sense of community within Guelph and want to see the City achieve its goals.
K. We share information on pilots. Operations teams get together and review projects and results. Pilot tests: One building has a garden on roof growing bamboo and using the bamboo for making furniture for use in our buildings."
L. Companies are participating in a variety of environmental policies and environmentally conscience practices; ISO 14001 registered (Environmental Management), DOW Jones sustainability index, "net positive" company – triple bottom line accounting, Ontario Health and Safety Management Systems (OHSAS) 18001 company, file reports annually in accordance with sections 6 and 7 of the Green Energy Act, 2009.
M. Environmental stewardship is viewed as "the right thing to do" by both the company and their customer.
N. Most companies view energy saving/conservation as priority for their company.
O. Companies pride themselves on being energy efficient by using phrases like "triple bottom line accounting", "reducing carbon footprint", and "net-positive company" saying that "our involvement in the community is very important to us".
P. Most companies are looking for a 2 - 3 year return on investment, sometimes even as little as 6 months.
Q. Companies still look for rebates as a way to offset the capital investment of the efficiency measure.
R. Companies realize that it's a dual cost savings; when water consumption is reduced, so is wastewater production. This is especially important for ICI businesses that are not allowed to discharge into the sewer system (requires further treatment).
S. Most businesses were receptive for the City to send someone to conduct an audit and look into different water saving measures for them, e.g. rainwater harvesting system, automatic irrigation system audit.

Table A3.5: Opportunities for the Builder/Developer Sector.

A. Predicting an increase in home retrofits – "I think you will find more people buying older properties with larger lots and then renovating the homes to bring them up to standard. Or even knocking down the old home and building a new one."
B. The net zero home that we are building also qualifies as a Blue Built Home."
C. Some builders have received national status for innovation – "We tend to push the envelope in Guelph when it comes to building homes."
D. Builders are interested in an expedited permitting process as an incentive for implementing water efficient measures.

Table A3.6: Opportunities for the Service Provider Sector.

A. The service industry works with all sectors, from residential to large scale industrial projects.
B. Most projects are awarded by reputation, relying on client recommendations and network of working relationships.
C. Municipalities and Regions are perceived to work in silos in their approach to water conservation and efficiency.
D. Green Plumbers course mentioned as a good course to have completed.
E. Work with Water Quality Association on water softeners - "City could require a higher minimum standard."