



**PUBLIC AGENDA  
SASKATOON ENVIRONMENTAL  
ADVISORY COMMITTEE**

**Thursday, June 8, 2017, 11:30 a.m.  
Committee Room A, Second Floor, City Hall  
Committee Members:**

**Ms. K. Aikens, Chair  
Mr. B. Sawatzky, Vice-Chair  
Ms. E. Akins  
Ms. A. Bugg  
Ms. K. Engele-Carter  
Ms. A. Garg  
Councillor S. Gersher  
Ms. S. Harrison  
Mr. S. Homenick  
Dr. D. McGrane  
Ms. K. Palmer**

**Pages**

**1. CALL TO ORDER**

**2. CONFIRMATION OF AGENDA**

**Recommendation**

That the agenda be confirmed as presented.

**3. ADOPTION OF MINUTES**

**Recommendation**

That the minutes of meeting of the Saskatoon Environmental Advisory Committee held on May 11, 2017, be approved.

**4. UNFINISHED BUSINESS**

**4.1 CASH GRANTS PROGRAM - ENVIRONMENTAL COMPONENT [CK. 1871-1]**

*Verbal Update - K. Palmer*

This item was deferred from the May 11, 2017 meeting.

The Committee at its meeting held January 12, 2017, resolved that Kathryn Palmer serve as the Saskatoon Environmental Advisory

Committee representative for 2017 Assistance to Committee Groups - Cash Grants Program.

**Recommendation**

That the information be received.

**4.2 STATEMENT OF EXPENDITURES [CK. 1704-5] 5 - 5**

This item was deferred from the May 11, 2017 meeting.

Attached for the Committee's information is a current Statement of Expenditures for April and May 2017.

**Recommendation**

That the information be received.

**5. REPORT OF THE CHAIR [CK. 175-9]**

*Verbal Update - K. Aikens*

**Recommendation**

That the information be received.

**6. COMMUNICATIONS**

**6.1 South West Sector Afforestation Areas [CK. 4000-1] 6 - 6**

A request to speak from Julia Adamson, c/o Stewards of the Richard St Barbe Baker Afforestation Area, dated May 19, 2017, is provided.

**Recommendation**

That the information be received.

**6.2 Student Action for a Sustainable Future (SASF) [CK. 1870-1] 7 - 7**

Attached for the Committee's information is a letter received from Deb Hockley, SASF Program Coordinator, Student Action for a Sustainable Future, dated May 16, 2017, regarding a funding request.

**Recommendation**

That the Committee provide direction.

**6.3 School of Environment and Sustainability (SENS) U of S [CK. 175-9] 8 - 18**

Attached for the Committee's information is a partner letter, project agreements, and a request for proposal form received from the School of Environment and Sustainability at the University of Saskatchewan, dated

May 18, 2017, regarding a request to partner on student projects.

**Recommendation**

That the Committee provide direction.

**6.4 Publication [CK. 175-9]**

Planning and Design Newsletter, Spring/Summer 2017 edition.

This publication can be accessed on the City's website at:  
[https://www.saskatoon.ca/sites/default/files/documents/community-services/planning-development/planning-plus-design/planning\\_design\\_spring\\_2017\\_web.pdf](https://www.saskatoon.ca/sites/default/files/documents/community-services/planning-development/planning-plus-design/planning_design_spring_2017_web.pdf)

Hard copies are available upon request.

**Recommendation**

That the information be received.

**7. REPORTS FROM ADMINISTRATION**

**7.1 Environmental & Corporate Initiatives [CK. 7550-1]**

*Verbal Update - B. Wallace*

**Recommendation**

That the information be received.

**7.2 Elk Point Neighbourhood Concept Plan - Wetland Policy [CK. 4131-33, x 4110-38] 19 - 26**

Attached is a report of the General Manager, Community Services, dated June 8, 2017, which was considered at the Standing Policy Committee on Planning, Development & Community Services meeting held on May 1, 2017; it was resolved, in part, that the wetland section of the report be forwarded to the Saskatoon Environmental Advisory Committee for its feedback before the report goes to City Council.

**Recommendation**

That the Committee provide feedback on the wetland section of the report of the General Manager, Community Services, dated June 8, 2017, before the report goes to City Council.

**7.3 Initiatives to Support Energy-Efficient Building Standards in Residential Construction [CK. 540-1] 27 - 44**

Attached for the Committee's information is a Resolution package from

the Standing Policy Committee on Environment, Utilities & Corporate Services meeting held on May 8, 2017.

**Recommendation**

That the information be received.

**7.4 Aquatic Invasive Species - Potential Local Impacts [CK. 7550-1, x 277-1] 45 - 54**

Attached for the Committee's information is a Resolution package from the Standing Policy Committee on Environment, Utilities & Corporate Services meeting held on May 8, 2017.

**Recommendation**

That the information be received.

**7.5 Waste Diversion Opportunities [CK. 7830-1] 55 - 63**

Attached for the Committee's information is a Resolution package from the Standing Policy Committee on Environment, Utilities & Corporate Services meeting held on May 8, 2017.

**Recommendation**

That the information be received.

**8. GREENHOUSE GAS EMISSIONS SUBCOMITTEE [CK. 375-4]**

*Verbal Update*

**9. ADJOURNMENT**

01-5536-103 - SASKATOON ENVIRONMENTAL ADVISORY COMMITTEE - 2017 BUDGET - \$6,800								
DATE	NUMBER	DESCRIPTION	DEBIT	CREDIT	BALANCE	GL	TOTAL SPENT	BUDGET REMAINING
		Beginning Balance						\$6,800
		Total					0	

<b>2017 Budget</b>		
Student Action for a Sustainable Future (SASF) program		1,800
Public Education/Information Gathering		5,000
<b>2017 Total</b>		<b>6,800</b>
<b>2017 Forecast</b>		<b>6,800</b>
<b>2017 Forecasted Variance</b>		<b>0</b>
<b>2017 Actuals</b>		
<b>2017 Budget</b>		<b>6,800</b>
<b>2017 Variance (Under)</b>		<b>-6800</b>

4000-1

**From:** City Council  
**Sent:** May 19, 2017 10:57 AM  
**To:** City Council  
**Subject:** Form submission from: Write a Letter to Council



Submitted on Friday, May 19, 2017 - 10:57  
Submitted by anonymous user: 207.47.244.233  
Submitted values are:

Date: Friday, May 19, 2017  
To: His Worship the Mayor and Members of City Council  
First Name: Julia  
Last Name: Adamson  
Address: 210 appleby court  
City: Saskatoon  
Province: Saskatchewan  
Postal Code: S7m 4b3  
Email: djadamson@sasktel.net  
Comments:

Hi there  
I am contacting you in regards to protecting the environment.

There is now \$87,000 in the Environmental Damages Fund. I have not started up a not profit group on my own, and was wondering if Saskatchewan Environmental Society would support the three South West Sector afforestation areas ~ the Richard St. Barbe Baker Afforestation Area, the unnamed afforestation area, and the afforestation area formerly named George Genereux Urban Regional Park with an application? The Government of Canada office advised me of the fund last year, and said when there would be funds available in it, it would be perfect for the afforestation areas, as it acumulates from the Environmental TIPPS hotline and fines levied for environmental violations.

Application deadline: July 28, 2017  
Location: Saskatchewan  
Funds available: \$87,000  
Use restriction: For projects aimed at preventing pollution and/or protecting the environment. Priority will be given to projects in proximity to Saskatoon.

The project could be vehicle restriction barriers and signage to prevent pollution, and to protect the environment and possibly also the clean up of afforestation area formerly named George Genereux Urban Regional Park

I would like five minutes to speak to Saskatoon's environment advisory committee

Please Advise.  
Kind Regards  
Julia Adamson  
c/o Stewards of the Richard St Barbe Baker Afforestation Area



# STUDENT ACTION FOR A SUSTAINABLE FUTURE

*An action- and inquiry-based Education for Sustainable Development program for grades 5–8*

May 16, 2017

Debby Sackmann, Committee Assistant, City Clerk's office

Via email, debby.sackmann@saskatoon.ca

Request for the following information to be received at the June 8, 2017 SEAC meeting.

The SASF committee requests from SEAC \$1800 for the 2017/18 SASF program year. This financial support will allow teachers and students the opportunity to move forward with their classroom ideas, campaigns, and actions for a sustainable future.

The Student Action for a Sustainable Future program connects Saskatoon classrooms to SEAC and Saskatoon City Council. Understanding the role of City Council and its various boards and committees is extremely important when creating action plans that involve city bylaws and budgets.

Education and action, along with SEAC's financial support, allows the SASF program assist the City of Saskatoon in reaching their sustainability goals.

Thank you for your support.

Sincerely,

Deb Hockley  
SASF Program Coordinator  
Saskatchewan Environmental Society

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## PARTNERS





UNIVERSITY OF SASKATCHEWAN

School of Environment  
and Sustainability

USASK.CA/SENS

School of Environment and  
Sustainability

Room 323, Kirk Hall  
117 Science Place  
Saskatoon, SK S7N 5C8  
Telephone: (306) 966-1985  
E-mail: sens.projects@usask.ca

May 18, 2017

Dear Sir or Madam,

The School of Environment and Sustainability (SENS) at the University of Saskatchewan invites you to consider a partnership with us. Students in the Master of Sustainable Environmental Management (MSEM) and the Master of Water Security (MWS) programs are required to complete a research project (ENVS 992). Projects are intended to permit students to investigate applied topics in environment and sustainability/water security, and engage them in active, hands-on learning. Projects may include scientific, technical, social, economic, cultural, institutional, or other appropriate attributes of environmental and sustainability challenges. The School invites you to consider submitting a request for proposal to be considered for a student project.

The learning model the School has adopted for the project is “service learning.” This form of experiential learning is practiced at several other universities in Canada and is supported by the Canadian Alliance for Community Service-Learning ([www.communityservicelearning.ca](http://www.communityservicelearning.ca)). The goal of this partnership is to give students an opportunity to apply insights gained in their courses to a partner organization. Students thereby gain valuable practical experience, while building the host organization’s capacity and providing a worthwhile service to that institution. For further information on the envisioned partnership, please see the attached “Student/Advisor/Partner Organization Agreement.” To facilitate efficient and equitable delivery of the course, and to adhere to the service learning framework, the School invites projects of a not-for-profit nature. We invite partnerships with the private sector where individual projects may also have a community-service orientation.

The MSEM and MWS programs are one-year programs. We invite you to complete the attached request for proposal form; up to three projects per organization can be submitted. As the school year begins, the School will match students and organizations according to their stated interests. A meeting in October will allow students and organizational representatives to become acquainted. Meetings will take place as needed early next year, as students complete needs assessments and project proposals, and present their proposals during the SENS Symposium Day in March. After courses are completed, students will join the organization for approximately 250 hours between May and August, including the completion of the final deliverables of the project.

Additional features of the ENVS 992 project are:

- Students working with partner organizations will do so under the supervision of a project advisor from the School whose expertise overlaps with the project, a co-advisor appointed by the partner organization, and the program director from the School.



- Neither the student nor the School will be paid for the work provided. However, if there are anticipated and direct project costs that could be covered by the organization, this would enhance project success.
- The student will prepare a mutually agreed-upon deliverable that meets the organization's needs. This will reflect the student's knowledge and skills, and incorporate project-oriented background re-search and observations.
- The student will submit a final report to the faculty advisor and to the co-advisor from the partner organization. Your feedback will be sought regarding both the process and the outcome of the project.

If you are interested, please submit the completed request for proposal form to the Graduate Secretary, Irene Schwalm, by June 18th, 2017. The forms can be sent by e-mail to: [sens.projects@usask.ca](mailto:sens.projects@usask.ca). Thank you for considering this opportunity. We look forward to the possibility of working with your organization.

Sincerely,

Vladimir Kricsfalusy, PhD  
Associate Professor AP  
Program Director, Master of Sustainable Environmental Management

Andrew Ireson, PhD  
Assistant Professor  
Program Director, Master of Water Security



Student/Advisor/Partner Organization Project Agreement

This Project Agreement is intended to provide clarity with respect to the roles of the Master of Sustainable Environmental Management (MSEM) student, the faculty advisor, and the partner organization participating in an ENVS 992 project. For further information, please contact the MSEM Program Director Dr. Vladimir Kricsfalusy (vladimir.k@usask.ca or 966-6642).

Table with 2 columns and 4 rows: Name of Student, Name of Faculty Advisor, Name of Partner Organization, Tentative Title of Project

Roles and Responsibilities

The ENVS 992 project is an important component of the MSEM degree. Projects should be interdisciplinary in scope, and should allow students to further develop academic and professional skills as they investigate environmental problems through service learning. Through their projects, students are able to investigate an applied topic in environment and sustainability; these topics have been identified as areas in need of investigation by partner organizations and/or faculty members affiliated with the School of Environment and Sustainability (SENS). Thus, the students' projects will be of immediate use to the partner organizations, and the students will gain useful practical experience. Faculty advisors provide guidance for students, while ensuring that the project work meets the standards of a six-credit 900-level graduate course.

While each project will be unique in many aspects, the roles and responsibilities of the student, the partner organization, the faculty advisor and the program director can be generalized as follows:

The MSEM student is a junior colleague in a relationship of mutual respect with the partner organization, faculty advisor and MSEM program director. The student makes a commitment to the ENVS 992 project, applying himself or herself to completing the project within the determined timeframe, in accordance with the policies and regulations of the partner organization, the School, and the University. The student is entitled to mentorship, advice, and guidance from the partner organization, faculty advisor, and MSEM program director. The MSEM student is responsible for:

- Being accessible to, and maintaining regular and frequent communication with, the partner organization, faculty advisor, and MSEM program director including providing progress updates;
Being aware of and adhering to policies, regulations, expectations, and standards of the partner organization, the School of Environment and Sustainability, the College of Graduate Studies and Research, and the University of Saskatchewan;
Interacting professionally and respectfully with the partner organization, faculty advisor, and MSEM program director, including being sensitive to time commitments and resource demands. This includes allowing reasonable time for review of submitted work and the consideration of advice provided by the partner organization and faculty advisor;
In consultation with the partner organization and faculty advisor, establishing a timeline and milestones for the project, and meeting those deadlines;
Striving for excellence and taking full responsibility for their project work, including the systematic, complete, and honest documentation of their research;

- Providing copies of a finished and professionally-executed product in a timely fashion;
- Using resources thoughtfully and responsibly.

**The Faculty Advisor** serves as a mentor, advisor and senior colleague for the MSEM student, and ensures that the ENVS 992 project meets the academic standards required by the School of Environment and Sustainability. The advisor works in an atmosphere of respect for the student and the partner organization, and is responsible for:

- Working with the student and partner organization to set a timeline to completion, including milestones, for the ENVS 992 project;
- Being accessible for and encouraging regular meetings with the student and partner organization;
- Providing expectations, criteria, and evaluation for the ENVS 992 project in a timely fashion;
- Informing the student of policies, regulations, expectations, and standards of the partner organization, the School of Environment and Sustainability, the College of Graduate Studies and Research, and the University of Saskatchewan;
- Ensuring the eligibility of the ENVS 992 project for grading, and preparing the student for the project proposal presentation;
- Arranging for suitable advising in the event of an absence.

**The Partner Organization** will identify a project co-advisor who will work with the MSEM student and faculty advisor. The project co-advisor will mentor and advise the student in an atmosphere of respect. The project co-advisor and partner organization are responsible for:

- Working with the student and faculty advisor to set a timeline to completion, including milestones, for the ENVS 992 project;
- Working with the student and faculty advisor to establish a research project that will offer positive learning outcomes;
- Being accessible for and encouraging regular meetings with the student and faculty advisor;
- Informing the student and the faculty advisor of policies, regulations, expectations, and standards of the partner organization;
- Allowing the student to observe and experience what the organization does on a daily basis to achieve its goals;
- Providing feedback on the student project performance over the course duration;
- Ensuring the project co-advisor role is filled in the event of an absence.

**The MSEM Program Director** serves as the course coordinator for ENVS 992 project. He is a mentor, advisor, and senior colleague, and provides an atmosphere of respect for the student and encourages the student throughout the project. The program director is responsible for:

- Working with the student's faculty advisor and partner organization to guide the student's project, including timeline to completion, and milestones;
- Assisting the student in identifying a project and a faculty advisor;
- Scheduling and facilitating regular meetings with the student;
- Providing expectations, criteria, and evaluation for written work, including the ENVS 992 project, in a timely fashion;
- Informing of policies, regulations, expectations, and standards of the School, the College of Graduate Studies and Research, and the University with respect to course work, research, scholarship, intellectual property, academic integrity, safety, ethics, collaborative work, authorship, acknowledgements, conference presentations, and professionalism;
- Ensuring eligibility of the ENVS 992 project for grading;
- Provide letters of recommendation on the student request, in a timely fashion.

### **Confidentiality**

Students and faculty advisors may be privy to confidential and proprietary information belonging to the partner organization during the course of this project. Students and faculty advisors agree that such information will not be released nor divulged, whether directly or indirectly, unless authorized by the partner organization policy, required by law, or through the express written consent of the partner organization given under the hand of the proper officer with authority to give such consent.

Under the Province of Saskatchewan's Local Authority Freedom of Information and Protection of Privacy Act and the University of Saskatchewan's data use policy, the University:

*is bound to protect the right of all students to their privacy and to ensure the confidentiality of their student records. Information collected by the University is to be used only for the purposes for which it has been collected, and must not be released to others without the express written consent of the student except in certain limited circumstances which are set out in The Local Authority Freedom of Information and Protection of Privacy Act. Information such as whether or not a student is registered, their grades, student number, date of birth, membership in a designated equity group, address and telephone number, etc., are all*

considered to be private. These matters should not be discussed with or confirmed or released to others, including members of the student's family, unless the student has given the University prior permission in writing to release the information, or if one of the exceptions outlined in The Local Authority Freedom of Information and Protection of Privacy Act applies. Students can give third party authorization through the Request to Release Information form.<sup>1</sup>

**Timeline**

The project timeline is set out in the ENVS 992 course outline and School of Environment and Sustainability Graduate Handbook. Students are to complete a 250-hour placement with the partner organization between May and July, based on the developed project proposal. Items indicated below are of particular relevance for the partner organization and faculty advisor:

- Matching students and organizations – September
- Advisory committee meeting – October
- Client meeting (needs assessment) – January
- Background preparation – February
- Client meeting (background review) – February
- Project presentation – March
- Project proposal – Late April
- Draft project report – Mid-July
- Project report due – Late July

**Budget**

Insert wording that is relevant to each particular partner organizations, Examples include:

- The Partner Organization agrees to cover costs incurred directly by the student up to a maximum of \$\_\_\_\_\_.
- The Partner Organization will provide the following in-kind contributions: \_\_\_\_\_.

By signing this document, each party acknowledges that they understand their roles and responsibilities with respect to this project, including the importance of regular communication and setting and meeting milestones.

**Signed:**

\_\_\_\_\_  
Signature of Student

\_\_\_\_\_  
Signature of Faculty Advisor

\_\_\_\_\_  
Student's Name (Printed)

\_\_\_\_\_  
Faculty Advisor's Name (Printed)

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Signature of Partner Organization Liaison

\_\_\_\_\_  
Signature of MSEM Program Director

\_\_\_\_\_  
Partner Organization Liaison's Name (Printed)

\_\_\_\_\_  
MSEM Program Director's Name (Printed)

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Date Signed

<sup>1</sup> University of Saskatchewan. Student and Enrolment Services Division. 2012. "Protecting Our Students' Privacy." Available at: <http://www.usask.ca/sesd/info-for-instructors/instructor-handbook/index.php> Accessed November 26, 2012.



Student/Advisor/Partner Organization Project Agreement

This Project Agreement is intended to provide clarity with respect to the roles of the Masters in Water Security (MWS) student, the faculty advisor, and the partner organization participating in an ENVS 992 project. For further information, please contact the MWS Program Director Dr. Andrew Ireson (andrew.ireson@usask.ca, 306 9668020)

Table with 2 columns and 4 rows: Name of Student, Name of Faculty Advisor, Name of Partner Organization, Tentative Title of Project

Roles and Responsibilities

The ENVS 992 project is an important component of the MWS degree. Projects should be interdisciplinary in scope, and should allow students to further develop academic and professional skills. Through their projects, students are able to investigate an applied topic which has been identified as an area of need by partner organizations and/or faculty members affiliated with the School of Environment and Sustainability (SENS) and the Global Institute for Water Security (GIWS). The students' projects will be of immediate use to the partner organizations, and the students will gain useful practical experience. Faculty advisors provide guidance for students, while ensuring that the project work meets the standards of a six-credit 900-level graduate course.

While each project will be unique in many aspects, the roles and responsibilities of the student, the partner organization, the faculty advisor and the program director can be generalized as follows:

The MWS student is a junior colleague in a relationship of mutual respect with the partner organization, faculty advisor and MWS program director. The student makes a commitment to the ENVS 992 project, applying himself or herself to completing the project within the determined timeframe, in accordance with the policies and regulations of the partner organization, the School, and the University. The student is entitled to mentorship, advice, and guidance from the partner organization, faculty advisor, and MWS program director. The MWS student is responsible for:

- Being accessible to, and maintaining regular and frequent communication with, the partner organization, faculty advisor, and MWS program director including providing progress updates;
• Being aware of and adhering to policies, regulations, expectations, and standards of the partner organization, the School of Environment and Sustainability, the College of Graduate Studies and Research, and the University of Saskatchewan;
• Interacting professionally and respectfully with the partner organization, faculty advisor, and MSEM program director, including being sensitive to time commitments and resource demands. This includes allowing reasonable time for review of submitted work and the consideration of advice provided by the partner organization and faculty advisor;
• In consultation with the partner organization and faculty advisor, establishing a timeline and milestones for the project, and meeting those deadlines;
• Striving for excellence and taking full responsibility for their project work, including the systematic, complete, and honest documentation of their research;
• Providing copies of a finished and professionally-executed product in a timely fashion;
• Using resources thoughtfully and responsibly.

**The Faculty Advisor** serves as a mentor, advisor and senior colleague for the MWS student, and ensures that the ENVS 992 project meets the academic standards required by the School of Environment and Sustainability. The advisor works in an atmosphere of respect for the student and the partner organization, and is responsible for:

- Working with the student and partner organization to set a timeline to completion, including milestones, for the ENVS 992 project;
- Being accessible for and encouraging regular meetings with the student and partner organization;
- Providing expectations, criteria, and evaluation for the ENVS 992 project in a timely fashion;
- Informing the student of policies, regulations, expectations, and standards of the partner organization, the School of Environment and Sustainability, the College of Graduate Studies and Research, and the University of Saskatchewan;
- Ensuring the eligibility of the ENVS 992 project for grading, and preparing the student for the project proposal presentation;
- Arranging for suitable advising in the event of an absence.

**The Partner Organization** will identify a project co-advisor who will work with the MWS student and faculty advisor. The project co-advisor will mentor and advise the student in an atmosphere of respect. The project co-advisor and partner organization are responsible for:

- Working with the student and faculty advisor to set a timeline to completion, including milestones, for the ENVS 992 project;
- Working with the student and faculty advisor to establish a research project that will offer positive learning outcomes;
- Being accessible for and encouraging regular meetings with the student and faculty advisor;
- Informing the student and the faculty advisor of policies, regulations, expectations, and standards of the partner organization;
- Allowing the student to observe and experience what the organization does on a daily basis to achieve its goals;
- Providing feedback on the student project performance over the course duration;
- Ensuring the project co-advisor role is filled in the event of an absence.

**The MWS Program Director** serves as the course coordinator for ENVS 992 project. He is a mentor, advisor, and senior colleague, and provides an atmosphere of respect for the student and encourages the student throughout the project. The program director is responsible for:

- Working with the student's faculty advisor and partner organization to guide the student's project, including timeline to completion, and milestones;
- Assisting the student in identifying a project and a faculty advisor;
- Scheduling and facilitating regular meetings with the student;
- Providing expectations, criteria, and evaluation for written work, including the ENVS 992 project, in a timely fashion;
- Informing of policies, regulations, expectations, and standards of the School, the College of Graduate Studies and Research, and the University with respect to course work, research, scholarship, intellectual property, academic integrity, safety, ethics, collaborative work, authorship, acknowledgements, conference presentations, and professionalism;
- Ensuring eligibility of the ENVS 992 project for grading;
- Provide letters of recommendation on the student request, in a timely fashion.

### **Confidentiality**

Students and faculty advisors may be privy to confidential and proprietary information belonging to the partner organization during the course of this project. Students and faculty advisors agree that such information will not be released nor divulged, whether directly or indirectly, unless authorized by the partner organization policy, required by law, or through the express written consent of the partner organization given under the hand of the proper officer with authority to give such consent.

Under the Province of Saskatchewan's Local Authority Freedom of Information and Protection of Privacy Act and the University of Saskatchewan's data use policy, the University:

*is bound to protect the right of all students to their privacy and to ensure the confidentiality of their student records. Information collected by the University is to be used only for the purposes for which it has been collected, and must not be released to others without the express written consent of the student except in certain limited circumstances which are set out in The Local Authority Freedom of Information and Protection of Privacy Act. Information such as whether or not a student is registered, their grades, student number, date of birth, membership in a designated equity group, address and telephone number, etc., are all considered to be private. These matters should not be discussed with or confirmed or released to others, including members of the student's family, unless the student has given the University prior permission in writing to release the information, or if one*

of the exceptions outlined in The Local Authority Freedom of Information and Protection of Privacy Act applies. Students can give third party authorization through the Request to Release Information form.<sup>1</sup>

**Timeline**

The project timeline is set out in the ENVS 992 course outline and School of Environment and Sustainability Graduate Handbook. Items indicated below are of particular relevance for the partner organization and faculty advisor:

- Matching students and organizations – September
- Advisory committee meeting – October
- Client meeting (needs assessment) – January
- Background preparation – February
- Client meeting (background review) – February
- Project presentation – March
- Project proposal – Late April
- Draft project report – Mid-July
- Project report due – Late July

**Budget**

Insert wording that is relevant to each particular partner organizations, Examples include:

- The Partner Organization agrees to cover costs incurred directly by the student up to a maximum of \$\_\_\_\_\_.
- The Partner Organization will provide the following in-kind contributions: \_\_\_\_\_.

By signing this document, each party acknowledges that they understand their roles and responsibilities with respect to this project, including the importance of regular communication and setting and meeting milestones.

**Signed:**

\_\_\_\_\_  
Signature of Student

\_\_\_\_\_  
Signature of Faculty Advisor

\_\_\_\_\_  
Student's Name (Printed)

\_\_\_\_\_  
Faculty Advisor's Name (Printed)

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Signature of Partner Organization Liaison

\_\_\_\_\_  
Signature of MWS Program Director

\_\_\_\_\_  
Partner Organization Liaison's Name (Printed)

\_\_\_\_\_  
MWS Program Director's Name (Printed)

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Date Signed

<sup>1</sup> University of Saskatchewan. Student and Enrolment Services Division. 2012. "Protecting Our Students' Privacy." Available at: <http://www.usask.ca/sesd/info-for-instructors/instructor-handbook/index.php> Accessed November 26, 2012.

# ENVS 992: Research Project

## A Request for Proposal (RFP)

### 1.0 Background

Students in the Master of Sustainable Environmental Management (MSEM) and Master of Water Security (MWS) programs in the School of Environment and Sustainability at the University of Saskatchewan are required to complete ENVS 992, a six-credit unit research project. These projects permit students to investigate applied topics in environment and sustainability or water security using a service learning model. Organizations are invited to submit requests for proposals to be considered for ENVS 992 projects.

### 2.0 Contact Information

Name of Organization	<input type="text"/>
Postal Address	<input type="text"/>
Primary Contact Name	<input type="text"/>
Primary Contact E-mail	<input type="text"/>
Primary Contact Telephone	<input type="text"/>
Secondary Contact Name	<input type="text"/>
Secondary Contact E-mail	<input type="text"/>
Secondary Contact Telephone	<input type="text"/>

### 3.0 Statement of Work

Please provide a paragraph outlining the proposed project. Include any qualifications the student must have (technical skills, computer skills, etc.).



#### **4.0 Scope of Work**

Students will be matched with projects in September. Meetings with organizations will occur in January and February, as the students scope the projects through needs assessments and background preparation. Final proposals will be completed by late April. Final project deliverables are due in mid-July. Some students may opt to complete their programs in two years, which may affect the project timeline.

#### **4.1 Tasks**

Please outline the major tasks that you anticipate will be part of the proposed student project.

#### **4.2 Deliverables**

Please describe the major deliverables for this proposed project.

### **4.3 Budget**

Please provide information about any costs associated with the project (i.e., travel costs, survey costs, etc.). Also indicate if your organization is able to provide funding for these expenses.

Should you require any further information about the ENVS 992 project, please contact Graduate Secretary, Irene Schwalm, at [sens.projects@usask.ca](mailto:sens.projects@usask.ca).

**RFP should be submitted no later than June 18th, 2017.**

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## Elk Point Neighbourhood Concept Plan – Wetland Policy

### Recommendation

That the information be received.

### Topic and Purpose

The purpose of this report is to provide information on the Wetland Mitigation Plan identified in the proposed Elk Point Neighbourhood Concept Plan.

### Report Highlights

1. The Elk Point Neighbourhood Concept Plan (Concept Plan) proposes the construction of three wetland ponds and one traditional storm pond.
2. A Wetland Assessment Report was completed and contains a Wetland Mitigation Plan, which was used to form the Elk Point Wetland Policy Demonstration Project. The results of this project helped frame the implementation of City of Saskatoon's (City) Wetland Policy No. C09-041 (Wetland Policy).
3. The Elk Point Neighbourhood Concept Plan meets the intent of the Wetland Policy.

### Strategic Goal

The Elk Point Neighbourhood Concept Plan supports the City's Strategic Goal of Environmental Leadership through recommendations related to conserving and constructing wetlands in an urban context.

### Background

Elk Point will be the second neighbourhood to be developed in the Blairmore Sector. The proposed residential neighbourhood consists of a total land area of 233.25 ha/571.69 acres. Upon completion, the neighbourhood will be home to approximately 10,000 residents (see Attachment 1).

Preparation of the Concept Plan began in 2012, as part of the City's accelerated land development program, in order to ensure an adequate supply of serviced land for the market. Since that time, market demand has decreased and the inventory of serviced land has stabilized. Approval of the Concept Plan is being pursued to formalize the design and preliminary servicing work that has gone into preparing the Concept Plan, and will allow for development of the neighbourhood to begin quickly once the Kensington neighbourhood is substantially built out, in accordance with the phasing provision of Official Community Plan Bylaw No. 8769.

At its May 1, 2017 meeting, the Standing Policy Committee on Planning, Development and Community Services resolved, in part, that:

- “2. The wetland section of the report be forwarded to the Saskatoon Environment Advisory Committee for their feedback before the report goes to City Council.”

## **Report**

### Concept Plan

The Concept Plan will incorporate constructed wetlands for stormwater management that are integrated within the linear park system. Relevant sections from the Concept Plan report are included in Attachment 2. The Concept Plan identifies three constructed wetland ponds throughout the neighbourhood and one traditional stormwater management pond located in the southern portion of the neighbourhood, as identified in Attachment 1.

The stormwater management pond, which was completed in conjunction with the development of the Kensington neighbourhood, provides stormwater relief for the north portion of that neighbourhood.

### Elk Point Wetland Assessment and Mitigation Plan

On November 4, 2013, City Council adopted the Wetland Policy. Prior to adoption of the policy, in conjunction with the Planning and Development Division, the Saskatoon Land Division undertook a Wetland Demonstration Project for the Elk Point Neighbourhood. This demonstration project provided for the evaluation of the Wetland Policy provisions for conserving wetlands in an urban context.

A summary of the studies and work completed for the wetlands mitigation plan for Elk Point Neighbourhood is included in Attachment 3.

### Wetland Policy

Through AMEC Environment & Infrastructure's Wetland Assessment Report, existing wetlands in Elk Point were classified using the Steward and Kantrud, 1971, wetland classification system. Additionally, a functional assessment of the wetlands was undertaken using the City of Calgary's (Calgary) wetland criteria (Criteria for Assessing the Environmental Significance of Wetlands for Designation as Environmental Reserves) in order to assess the significance of wetland environmental, biological, physical, and socio-economic functions. It is noted that the City of Saskatoon's Wetland Policy requires the use of the Minnesota Routine Assessment Method (MnRAM) functional assessment. However, the Concept Plan, including the Wetland Demonstration Project, was largely developed prior to approval of the Wetland Policy. Through participation in the Wetland Demonstration Project, the experience in Elk Point was intended to help form the Wetland Policy. Also, prior to adoption of the Wetland Policy, the Terms of Reference for the demonstration project referenced Calgary's wetland criteria and, therefore, the Saskatoon Land Division's use of this system was not accidental. Based on the timing of the application and the general consistency between the functional assessment outputs from Calgary's criteria in Elk Point with typical functional assessment outputs using the MnRAM, the Administration supports use of Calgary's functional assessment method for this application.

The Wetland Mitigation Plan, prepared for the Concept Plan, meets the intent of the Wetland Policy that was adopted by City Council on November 4, 2013.

**Official Community Plan Bylaw No. 8769**

The City's objectives for Wetlands Conservation and Management, as outlined in Official Community Plan Bylaw No. 8769, is to achieve the responsible stewardship of wetland resources as part of a holistic approach to urban development that balances the need for conservation with other considerations, including compact development, transportation and connectivity, financial feasibility, and quality of life. The proposed Elk Point Neighbourhood Concept Plan meets these objectives.

**Public and/or Stakeholder Involvement**

Comments from internal divisions and outside agencies were solicited twice throughout the review process.

A public open house was held on May 27, 2014, and on February 11, 2015.

**Environmental Implications**

As outlined in this report.

**Other Considerations/Implications**

There are no options, policy, financial, privacy, or CPTED implications or considerations; a communication plan is not required at this time.

**Due Date for Follow-up and/or Project Completion**

No follow-up is required at this time.

**Public Notice**

Public notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

**Attachments**

1. Elk Point Neighbourhood Concept Plan
2. Elk Point Neighbourhood Concept Plan Inset – Wetlands Assessment
3. Elk Point Wetland Summary

**Report Approval**

Written by: Jason Sick, Planner, Planning and Development

Reviewed by: Lesley Anderson, Director of Planning and Development

Approved by: Randy Grauer, General Manager, Community Services Department

S/Reports/2017/PD/SEAC – Elk Point Neighbourhood Concept Plan – Wetland Policy/lc

# Elk Point Neighbourhood Concept Plan

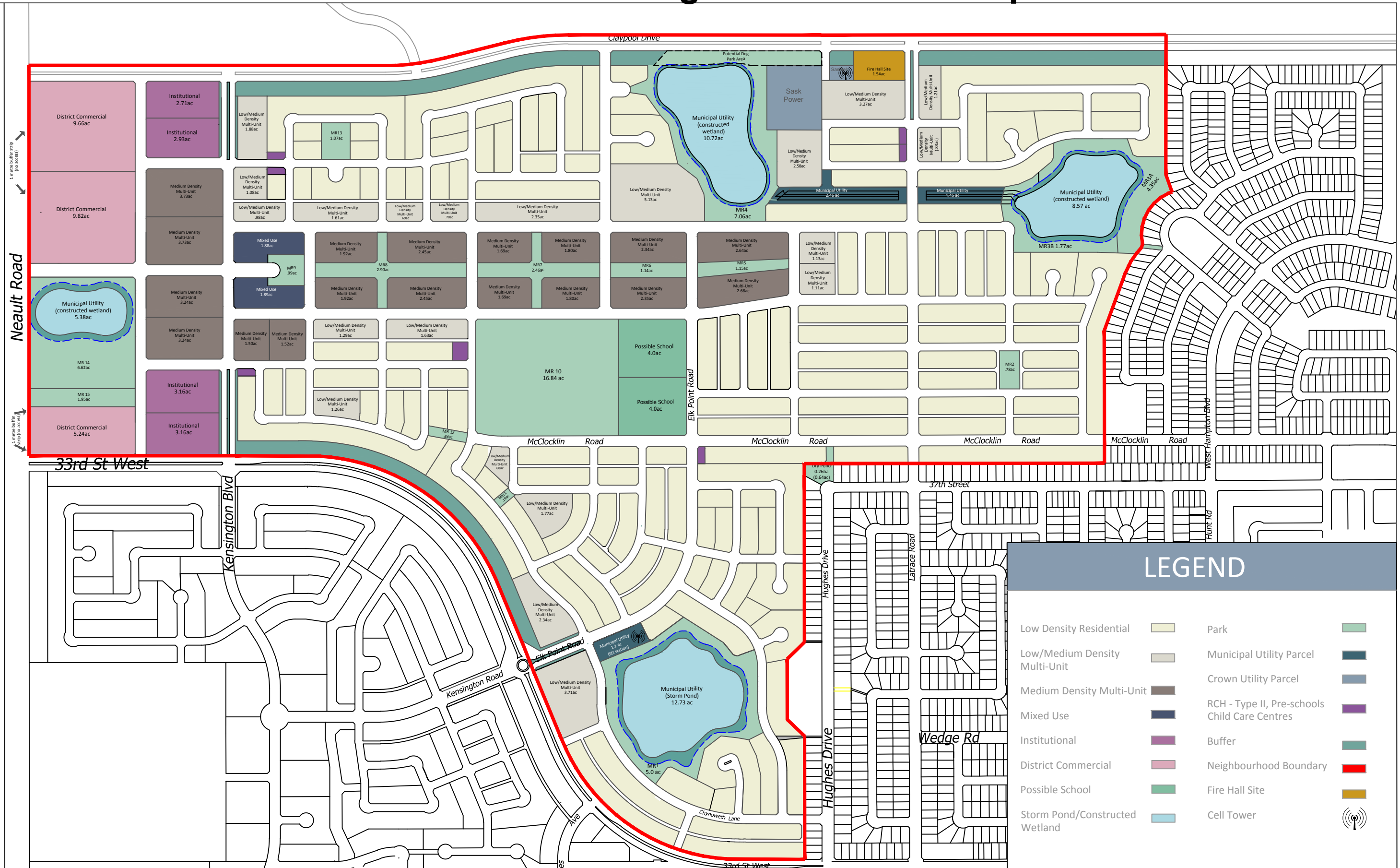
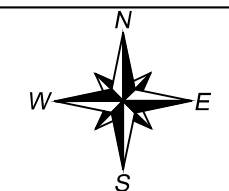


Figure 3  
Land Use Concept Plan

REVISIONS			DATE			BY		

LAND DEVELOPMENT		Saskatoon Land	
Kelle Grant	PLANNER 21	Brad Murray	PROJECT MANAGER
Brad Murray	PROJECT MANAGER	Frank Long	Director
DRAWN BY	KG	DRAWN BY	Kelle Grant
DATE		DATE	22
CHECKED BY		CHECKED BY	
DATE		DATE	



## Elk Point Neighbourhood Concept Plan Inset - Wetlands Assessment

# WETLANDS ASSESSMENT



On November 4, 2013, City of Saskatoon, City Council adopted Council Policy # C09-41 (Wetland Policy). Prior to the adoption of the policy, in consultation with the Planning and Development Division, Saskatoon Land agreed to undertake a Wetland Demonstration Project for the Elk Point Neighbourhood. This would allow for the evaluation of the Wetland Policy provisions for conserving wetlands in an urban context.

As a result, AMEC Environment & Infrastructure (AMEC) was contracted to assess the wetlands within the area of the proposed neighbourhood. The report, completed in December of 2012, provides baseline data for use in neighbourhood design and development. The report indicates how the wetlands will be impacted by development and outlines a Wetland Mitigation Plan.

The wetlands within the study area were classified as prairie potholes. Prairie potholes are linked to local and regional groundwater systems but are not associated with stream channels. Water levels in prairie potholes fluctuate with precipitation, runoff from spring melt, storm events, and groundwater inflow. AMEC conducted an assessment of the wetlands within the neighbourhood boundary in the summer of 2012.

Using historical data such as historical aerial photographs, AMEC compared water levels in the wetlands during a range of wet to dry years. The wetlands were classified using the Steward and Kantrud (1971) wetland classification system, and ranked in terms of significance according to Criteria for Assessing the Environmental Significance of Wetlands for Designation as Environmental Reserves as stated in the City of Calgary's 2004 Wetland Conservation Plan. A total of 56 wetlands covering 35.4 ha were surveyed within the project area from mid-June to August 2012.

Table 2 below, (Table 4-1 of the Wetland Assessment Report) summarizes the classification and size of these wetlands.

**Table 2 - Wetland Permanence Class and Disturbance Area**

Wetland Class	Number	Pre-existing Disturbance (ha)	Total Wetland Area (ha)
I	17	0	2.3
II	10	.26	1.8
III	12	0	5.9
IV	4	0	3
V	13	.35	22.4
<b>Wetland Total</b>	<b>56</b>	<b>.61</b>	<b>35.4</b>

## Wetlands Assessment Continued:

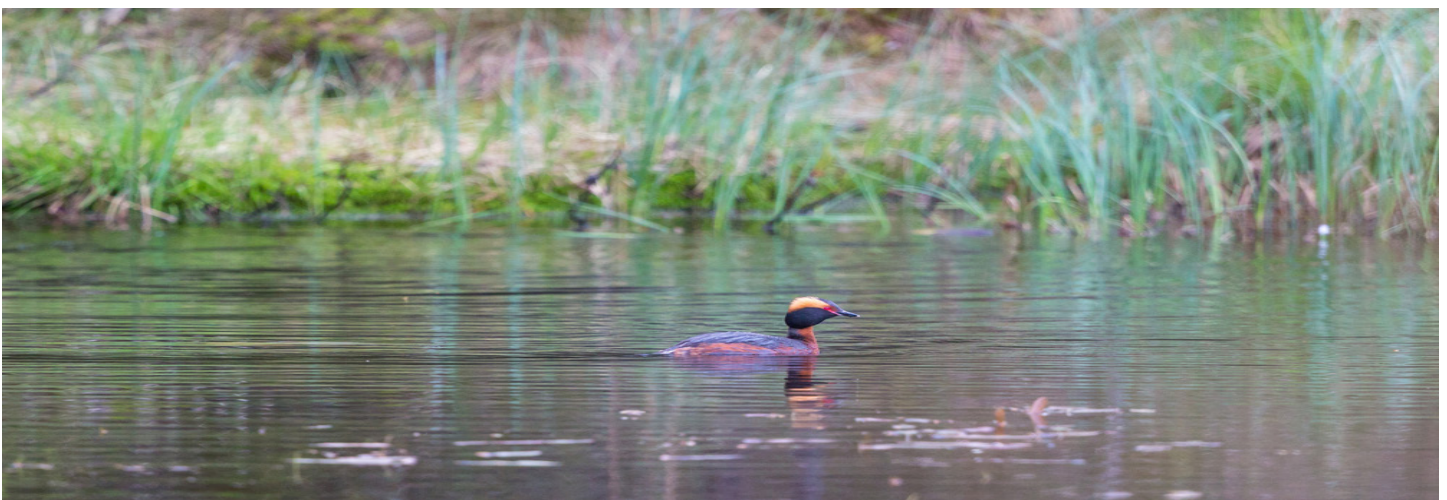
The report ranks the significance of the wetlands according to the City of Calgary's Criteria for Assessing the Environmental Significance of Wetlands for Designation as Environmental Reserves. Wetlands within the neighbourhood were ranked based on criteria including disturbance, flora, fauna, flood and erosion control, hydrological function, cultural, recreational and educational potential, and urban design potential and assigned a significance ranking of supporting, major, or significant.

Nine wetlands were ranked as significant, 31 as major, and 16 as supporting. Figure 4.1 in Appendix C from the AMEC Wetland Assessment Report shows the location and rankings of wetlands in the study area. It should be noted that wetlands 49 and 19 fall almost entirely outside the neighbourhood boundary and wetland 19 will be bisected by the future extension of Claypool Drive. Refer to the AMEC Wetland Assessment Report (Appendix C) for a full explanation and summary of the wetland significance ranking process and discussion. Section 5.0 Discussion and Recommendations of the AMEC Report recommends that "To minimize negative effects, all wetlands potentially affected either directly or indirectly should be mitigated or compensated by avoiding any disturbance if possible."

The report states that if disturbance is necessary, wetlands should be mitigated following proper Best Management Practices (BMPs) such as salvaging wetland soils in order to re-establish wetlands, cleaning equipment prior to entering wetlands, etc. Wetlands that are currently disturbed or have a low significance rank (i.e. "supporting" versus "major" versus "significant" wetlands) should be chosen over more significant wetlands. Saskatoon Land and Dream have drafted a Wetlands Demonstration Project Report which outlines how existing significant wetlands can be integrated into the proposed neighbourhood. This report is attached as Appendix D to this report.

## Historical Resources

A review of the Province of Saskatchewan's Ministry of Tourism, Parks, Culture and Sport confirms that the neighbourhood has no known archaeological significance. No further heritage impact assessments are required.





## ELK POINT WETLAND SUMMARY

### 1.0 Background Information

Saskatoon Land and Dream Development initiated design of the Elk Point Neighbourhood Concept Plan in 2011, prior to the implementation of City of Saskatoon Council Policy C09-041 (Wetland Policy), which was approved by City Council on November 4, 2013.

The developers agreed to participate in a wetland demonstration project for the Elk Point Neighbourhood to help demonstrate how the principles of wetland conservation can be applied in an urban context. Ultimately, the results of the wetland demonstration project were intended to form the basis for final recommendations for the City's Wetland Policy.

To assist in the completion of the demonstration project and the development of a comprehensive storm water management strategy for Elk Point, the developers, in conjunction with Saskatoon Water, undertook a number of studies as outlined below:

a) *AMEC Environment & Infrastructure's Wetland Assessment Report (December 2012)*: This study assessed selected functions of wetlands within the proposed Elk Point Neighbourhood Concept Plan. Specific criteria related to the biological, physical and socio-economic functions of existing wetlands within Elk Point were used to evaluate the environmental significance of the wetlands.

b) *AMEC Environment & Infrastructure's Hydro-geological Assessment for the Blairmore II (Elk Point) Subdivision (March 2013)*: The intent of this study was to characterize the hydro-geological and soil conditions within the Elk Point neighbourhood to help assess the construction implications that those conditions may have on the development of the Elk Point neighbourhood.

c) *CH2MHILL Wetland Design Guidelines (March 2014)*: This document provides a set of guidelines for developers and designers to aid in siting and design requirements for constructed wetlands.

These studies helped identify which significant wetlands can be integrated into the Elk Point storm water management system as receiving bodies, with the use of pre-treatment Best Management Practices (BMPs) focused on ensuring wetland sustainability. Primary wetland mitigation measures in Elk Point are addressed through the creation of three constructed wetlands as shown in Figure 1.

In addition to the three constructed wetlands, Elk Point also features a fourth storm water management pond, located in the southern portion of the neighbourhood, which was completed in conjunction with development of the Kensington neighbourhood. This pond provides storm water relief for the north portion of the Kensington neighbourhood. While designed as a conventional storm pond, the pond will feature naturalized vegetation similar to Trounce Pond in the Lakewood Suburban Centre.

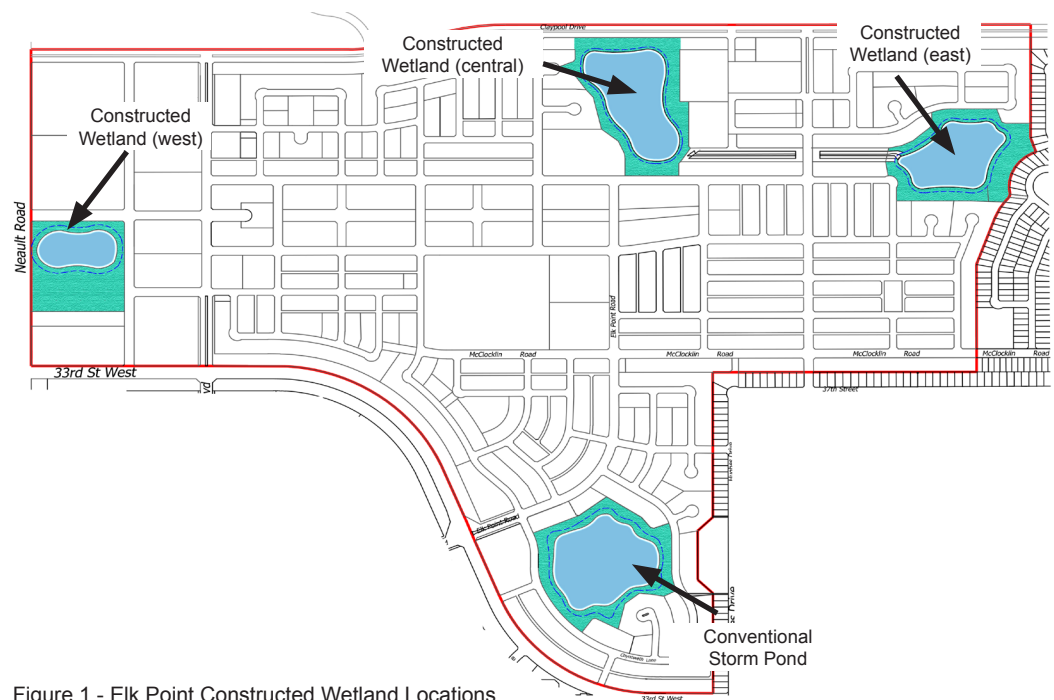


Figure 1 - Elk Point Constructed Wetland Locations

## 2.0 Land Development Impacts

Through the course of typical land development activities, two major items cause the wetlands to be impacted:

- a) Area grading will change the topography of the land, and therefore change each wetland's watershed;
- b) With land development, more of the area will become impervious surface, due to construction of streets, sidewalks, and buildings. The storm water generated from this increased runoff will need to be captured and conveyed to a centralized retention area before being released into the existing City storm system. Without discharging this storm water into each individual wetland, the existing wetlands would likely dry up.

## 3.0 Constructed Wetland Concept

Due to the topography and perviousness impacts associated with land development, the significant wetlands identified for preservation will be altered to constructed wetland storm water retention ponds. The identified wetlands will need to be constructed at a lower elevation than what currently exists. This is mainly due to the low grade relief across the neighbourhood and the distances storm water must travel through the piped system before entering the constructed wetlands. For these reasons, discharge outlets will be at a significantly lower elevation than the existing wetlands.

The constructed wetlands will feature many characteristics inherent with those of a natural wetland, including native grasses, and re-vegetation using stock-piled seed banks. The constructed wetlands will be located in areas that currently have naturally occurring wetlands and will generally mimic the function and intent these naturally occurring wetlands, with aquatic vegetation and plantings surrounding the constructed wetland serving to filter and clean storm water run-off before it enters the ponds. Sediment basins will be included at the outlets of all pipes that discharge into the constructed wetlands. These basins will trap heavier sediments before the storm water migrates into the larger wetland area. This process results in the discharge of excess water into the City's storm sewer system and eventually the South Saskatchewan River being cleaner than when it entered into the wetlands.

Saskatoon Land hired Associated Engineering to complete conceptual and detailed landscaping designs for the central and east constructed wetlands. These designs were completed by a team of landscape architects and biologists drawing upon the findings and recommendations from the studies outlined in Section 1.

The constructed wetland landscaping design incorporates a number of educational, cultural and recreational amenities, including educational signage and placards, boardwalks, viewing platforms, etc. Through the inclusion of these features, educational opportunities exist with potential schools in the neighbourhood to learn about the native and natural forms of landscaping found in and around the constructed wetlands.

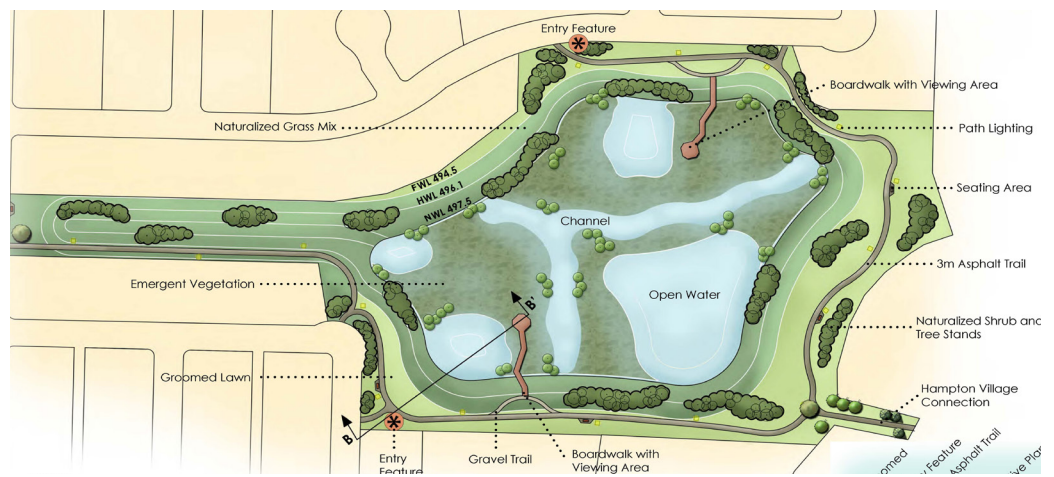


Figure 2 - Constructed Wetland (East) Conceptual Landscaping Design



Trounce Pond - Lakewood Suburban Centre

**PUBLIC RESOLUTION  
STANDING POLICY COMMITTEE ON ENVIRONMENT,  
UTILITIES AND CORPORATE SERVICES**

**Main Category:** 7. REPORTS FROM ADMINISTRATION

**Sub-Category:** 7.1. Delegated Authority Matters

**Item:** 7.1.3. Initiatives to Support Energy-Efficient Building Standards in Residential Construction [Files CK. 540-1 and PL. 4350-242-14]

**Date:** May 8, 2017

*Any material considered at the meeting regarding this item is appended to this resolution package.*

---

A request to speak from Bill Madder, CEO, Association of Saskatchewan REALTORS, dated May 3, 2017; and a letter submitting comments from Chris Guerette, CEO, The Saskatoon & Region Home Builders' Association, dated May 8, 2017 were provided.

Mr. Madder addressed the Committee on behalf of the Association of Saskatchewan REALTORS expressing support in moving the project forward and for the recommendations in the proposal.

**Moved By:** Councillor Gersher

1. That the information be received; and
2. That the report of the General Manager, Community Services, dated May 8, 2017, be forwarded to the Saskatoon Environmental Advisory Committee for information.

In Favour: Councillor Loewen, Councillor Gough, Councillor Gersher and Mayor C. Clark

**CARRIED UNANIMOUSLY**

**From:** City Council  
**Sent:** May 03, 2017 9:08 AM  
**To:** City Council  
**Subject:** Form submission from: Write a Letter to Council



Submitted on Wednesday, May 3, 2017 - 09:07  
Submitted by anonymous user: 142.165.167.219  
Submitted values are:

Date: Wednesday, May 03, 2017  
To: His Worship the Mayor and Members of City Council  
First Name: Bill  
Last Name: Madder  
Address: 2811 Estey Dr  
City: Saskatoon  
Province: Saskatchewan  
Postal Code: S7J2V8  
Email: bmadder@saskatchewanrealestate.com

Comments:

I have participated in some of the meetings of the Energy Efficiency Working Group and would like to speak to the report at the meeting of the Environment, Utilities and Corporate Services Committee on Monday May 8th.

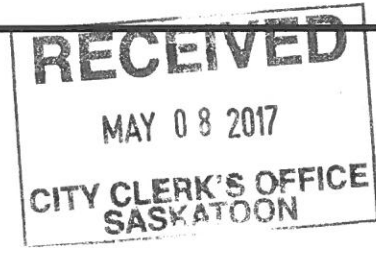
The Association of Saskatchewan REALTORS® are supportive of measures to improve energy efficiency in new as well as existing housing and are pleased to have been involved in this process to date. We are in agreement with the vast majority of the report and will be happy to work with the Committee to improve awareness and literacy around energy performance. We strongly agree that the best way to achieve energy efficient performance gains is through literacy and incentivizing energy performance programs as stated in the recommendations.

We would like to make it clear however, that we would oppose any proposal for mandatory requirements for energy ratings or other similar measures prior to the sale of existing homes. As mentioned, we support the recommendations in the report and think it is important to move in this direction. I would be happy to expand on this as well as on our concerns at the Committee meeting. Thanks again for the opportunity to participate in this project.

Sincerely,  
Bill Madder  
CEO  
Association of Saskatchewan REALTORS®

The results of this submission may be viewed at:  
<https://www.saskatoon.ca/node/398/submission/166646>

540-1



From: City Council  
Sent: May 08, 2017 8:00 AM  
To: City Council  
Subject: Form submission from: Write a Letter to Council

Submitted on Monday, May 8, 2017 - 08:00  
Submitted by anonymous user: 24.114.222.202  
Submitted values are:

Date: Monday, May 08, 2017  
To: His Worship the Mayor and Members of City Council  
First Name: Chris  
Last Name: Guérette  
Address: 2-3012 Louie Street  
City: Saskatoon  
Province: Saskatchewan  
Postal Code: S7J 3L8  
Email: cguerette@saskatoonhomebuilders.com

Comments:  
Being out of the province on work-related meetings, we are unable to present to the committee but wanted to make sure our comments were passed on. The formal copy of this letter was sent as well, but please find a copy of the wording below.

Thank you again to the Building Standards team.

---

Environment, Utilities & Corporate Services Committee  
City of Saskatoon  
City Hall  
222, 3rd Avenue North  
Saskatoon, SK S7K 0J5

RE: 7.1.3 Initiatives to Support Energy-Efficient Building Standards in Residential Construction [CK. 540-1 and PL. 4350-242-14]

Dear Members of Committee,

The Saskatoon & Region Home Builders' Association wanted to congratulate City of Saskatoon staff on getting this one right.

As you were aware, until recently, Saskatchewan was the only province left to not have the Energy Code, section 9.36 of the National Building Code, adopted for its province. The Province of Saskatchewan is now adopting the 2015 National Energy Code for Buildings by skipping the adoption of the 2011 NECB completely, which would currently make Saskatchewan the 2nd province in

Canada to adopt the 2015 NECB. We have been working with Building Standards through Kara Fagnou and are quite happy with the timeline for the proposed adoption of the 2105 NECB.

With an adoption date of July 1, 2017 and coming into force on January 1, 2019, the Building Standards team is also allowing an educational process to happen as to inform builders and bridge the gap that some may have. Building Standards also took the time to present this suggested plan to our Builder Industry Liaison Committee as well as our Builder sub-group and both were received very well. Although simple, this is a great example of a working relationship on an initiative between the city and industry, that is working well for both parties and delivering results.

There is still more to be developed to promote energy efficient buildings in both new and current housing stock, and we will look forward to our shared efforts and consultations with Building Standards.

If you have any questions or comments, please do not hesitate to contact us.

Sincerely,

Chris M. Guérette  
CEO

The results of this submission may be viewed at:  
<https://www.saskatoon.ca/node/398/submission/167448>

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# Initiatives to Support Energy-Efficient Building Standards in Residential Construction

## Recommendation

That the information be received.

## Topic and Purpose

The purpose of the report is to provide a summary of the progress to date of the energy efficiency working group, an update on the status of the provincial adoption of energy codes, and an overview of the next steps toward achieving energy efficiency performance gains in residential construction.

## Report Highlights

1. An energy efficiency working group (working group) was established to evaluate and identify opportunities to achieve sustainable energy-efficient performance gains for new and existing residential construction.
2. In collaboration with a broad range of stakeholders, the Administration has developed possible solutions to achieve energy-efficient performance gains in new residential construction, while supporting the needs of industry.
3. Provincial adoption of the National Energy Code of Canada for Buildings 2015 (NECB 2015) and National Building Code of Canada 2015 (NBC 2015), Section 9.36 Energy Efficiency, are proposed for July 1, 2017, with full implementation on January 1, 2019.
4. Proposed solutions for achieving energy-efficient performance gains within the residential sector will be addressed through existing initiatives and, where appropriate, through separate reports.

## Strategic Goal

This report supports the City of Saskatoon's (City) Strategic Goal of Environmental Leadership by providing information related to the development of programs and practices that support energy-efficient building practices.

## Background

The Building Standards and Environmental and Corporate Initiatives Divisions provided information reports to City Council on September 28, 2015, and to the Standing Policy Committee on Environment, Utilities and Corporate Services on April 11, 2016, related to energy-efficient building standards in new dwelling construction, building code adoption, the effectiveness of energy rating programs, and energy efficiency retrofit program options.

The working group, comprised of members from the Saskatoon & Region Home Builders' Association (Home Builders' Association), SaskPower, SaskEnergy, the

Saskatoon Region Association of Realtors, the Association of Saskatchewan REALTORS®, and the City's Environmental and Corporate Initiatives and Building Standards Divisions, was formed with the goal of creating a sustainable energy program aligned with the City's energy performance goals and supported by the industry as they relate to new residential construction.

### **Report**

#### Working Group Review

The overall goal of the working group is to evaluate and identify opportunities to achieve building energy efficiency performance gains for new dwelling construction in Saskatoon, while:

- a) providing alignment with the City's energy performance goals;
- b) minimizing barriers to the building industry; and
- c) ensuring compatibility with future residential building energy retrofit opportunities.

#### Possible Solutions to Achieve Goals

The working group engaged in discussions with a broad range of stakeholders to identify possible solutions. A summary of the discussions and possible solutions has been prepared in Attachment 1.

The Administration reviewed the solutions and ideas provided by stakeholders and prepared a summary detailing how proposed solutions can be addressed through existing initiatives, while others will be addressed through separate reports (see Attachment 2).

#### Energy Code Adoption and Builder Capacity

The Government of Saskatchewan recently announced that adoption of the NECB 2015 and NBC 2015, Section 9.36 Energy Efficiency, is proposed for July 1, 2017, with full implementation on January 1, 2019. The Building Standards Division is working with industry partners and has developed an implementation plan to support the building industry (see Attachment 2).

#### Proposed Solutions to be Addressed through Separate Reports

1. Energy Performance Literacy – Consumer demand for energy efficiency is currently considered a niche market. Stakeholders agreed there is a role for the City in a program of education and technical assistance. Program options will be explored in a report to the Standing Policy Committee on Environment, Utilities and Corporate Services in the fall of 2017.
2. EnerGuide Rating Systems and Incentivized Energy Performance Programs - As outlined in Attachment 2, the Environmental and Corporate Initiatives Division will report on the effectiveness of various environmental incentive programs in the fall of 2017.



**Public and/or Stakeholder Involvement**

The working group met on a monthly basis and participated in several engagement opportunities within the building construction and real estate industries as well as participating in learning opportunities related to energy rating systems.

Engagement opportunities were held for members from the Home Builders' Association, Saskatoon Region Association of Realtors, and Association of Saskatchewan REALTORS®. These engagements provided members with the opportunity to share perspectives on the residential construction and real estate market in relation to building energy performance and to collaboratively identify possible solutions to achieve building energy efficiency performance gains for new dwelling construction in Saskatoon. Over 75 stakeholders participated in the membership discussions.

Stakeholders included representatives from:

- a) land developers;
- b) residential builders;
- c) residential and commercial realtors;
- d) utility providers; and
- e) Natural Resources Canada.

Stakeholders were also provided with the option of meeting individually with the Administration to share their perspectives or submit comments in writing.

**Other Considerations/Implications**

There are no policy, financial, environmental, privacy, or CPTED implications or considerations; a communication plan is not required at this time.

**Due Date for Follow-up and/or Project Completion**

Individual aspects of the Energy Efficiency Working Group Summary will be addressed in a variety of separate reports as indicated or incorporated into reporting on other initiatives.

**Public Notice**

Public notice, pursuant to Section 3 of Public Notice Policy No. C01-021, is not required.

**Attachments**

- 1. Energy Efficiency Working Group Summary
- 2. Proposed Solutions for Achieving Energy Efficiency Performance Gains

**Report Approval**

Written by: Kara Fagnou, Director of Building Standards  
Brenda Wallace, Director of Environmental and Corporate Initiatives  
Reviewed by: Catherine Gryba, General Manager, Corporate Performance Department  
Approved by: Randy Grauer, General Manager, Community Services Department

City of Saskatoon

# Energy Efficiency Working Group Summary

March 2017

## Table of Contents

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2.2 Identifying Possible Solutions .....	4

## 1.0 Introduction

### 1.1 Energy Efficiency Working Group

The Energy Efficiency Working Group (working group) was formed in May 2016. The working group is a collaborative partnership comprised of members from the Saskatoon & Region Home Builders' Association (Home Builders' Association), SaskPower, SaskEnergy, Saskatoon Region Association of Realtors, Association of Saskatchewan REALTORS®, and the City of Saskatoon's (City) Environmental and Corporate Initiatives and Building Standards Divisions.

### 1.2 Goals of the Working Group

The overall goal of the working group is to evaluate and identify opportunities to achieve building energy efficiency performance gains for new dwelling construction in Saskatoon, while:

- providing alignment with the City's energy performance goals;
- minimizing barriers to the building industry; and
- ensuring compatibility with future residential building energy retrofit opportunities.

## 2.0 Engagement Opportunities

The working group met on a monthly basis to share perspectives and identify possible solutions to achieve building energy efficiency performance gains for new dwelling construction. The working group participated in several engagement opportunities within the building construction and real estate industries and participated in learning opportunities related to energy rating systems.

Engagement opportunities were held for members from the Home Builders' Association, Saskatoon Region Association of Realtors, and Association of Saskatchewan REALTORS® that provided members with the opportunity to share perspectives on the residential construction and real estate market in relation to building energy performance, and to collaboratively identify possible solutions to achieve building energy efficiency performance gains in Saskatoon. Over 75 stakeholders participated in the membership discussions.

In addition, or as an alternative, to attending engagement meetings, stakeholders were provided with the option of meeting individually with the Administration to share their perspectives or submit comments in writing.

The working group engaged in discussions with Natural Resources Canada (NRCan) to gain a better understanding of the NRCan EnerGuide Rating System and ENERGY STAR® for new homes program.

- NRCan EnerGuide Rating System - developed to help homeowners, industry, and other stakeholders, become “energy literate” regarding homes and the decisions related to them. Through the home energy rating program, homeowners are provided with specific, readily-accessible energy performance information to support decision making in designing, constructing, purchasing, operating, or renovating a home. NRCan has established partnerships with industry stakeholders who utilize the EnerGuide Rating System as part of energy performance incentive programs, and shared information on how the EnerGuide Rating System is being use across Canada.
- ENERGY STAR program - contains more than 70 products. A “new home” product was developed by home builders for home builders and has existed in Saskatchewan since 2008. This “turnkey-approach” program is managed by a licensed delivery network and accommodates a prescriptive path (the choice of 80% of builders today) or a performance path to achieving energy performance that is 20% better than the National Building Code of Canada (NBC). By comparison, the R2000 program attempts to target 50% or better and Net Zero means there is a balance between energy use and production to achieve a net energy consumption of zero.
  - Prescriptive path – the builder chooses from a list of minimum requirements for fenestration (ratio and placement of window/door openings), air tightness, insulation, and heating/air-handling systems. The ENERGY STAR label is applied once construction is complete.
  - Performance path - the builder works with an energy advisor from the home-design phase onward and models the design with the goal of achieving a specific prescribed energy target. A blower-door test is used once construction is complete to confirm achievement of the target. The ENERGY STAR label is applied once the home passes the test.

This engagement summary is intended to summarize the key points of discussion through formal engagement opportunities and conversations with stakeholders.

Stakeholders included representatives from:

- land developers;
- residential builders;
- residential and commercial realtors;
- utility providers; and
- NRCan.

## 2.1 Engagement Summary

Members attending an engagement meeting were asked to share their perspective on opportunities to achieve energy performance gains for new home construction in Saskatoon related to minimum energy code requirements, energy performance literacy, builder capacity, and EnerGuide Rating System and labelling programs, including any barriers or challenges that may affect successful outcomes. Those in attendance were also asked to identify some of the key considerations in determining what a successful energy program may look like. The following is a summary of what we heard.

### **Energy Performance Literacy**

- Across the entire spectrum of stakeholders, increased energy performance literacy is needed.
- Lenders, appraisers, the building and real estate industries, regulators, and energy providers need to work together to increase homeowner education and awareness in relation to energy performance, including energy consumption, building costs, and homeowner costs.
- Create energy/awareness in the marketing of homes as this is perceived to be the biggest barrier (e.g. consumers are not prioritizing energy performance in their buying decisions).
- Lenders and appraisers need to be involved in the discussion.
- Create opportunities to showcase the success of industry leaders.
- Consider opportunities to integrate the EnerGuide Rating System as an educational tool.

### **Minimum Energy Code Requirements and Builder Capacity**

- Minimum energy code requirements for energy performance will assist in raising the minimum requirements for buildings.
- Adoption of Section 9.36 of the NBC throughout the province is the preferred minimum standard.
- Build-in time is needed for the industry to adapt and increase technical knowledge and expertise.
- The industry indicated it would like to work to develop several compliance options.
- EnerGuide Rating System should be explored as one potential compliance option.
- Industry leaders are motivated to keep pushing the envelope in design, provided the gap between regulated minimum standards and their design is not too big.
- Consider a balanced approach, utilizing regulated minimum standards, education, and voluntary incentivized energy performance programs.
- Should minimum energy code regulations in Saskatoon exceed provincial requirements, builder costs should be taken into consideration.

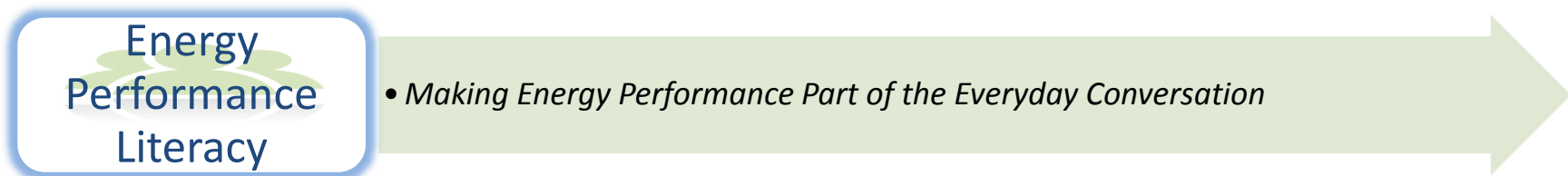
- Should new home construction be required to achieve a higher energy performance level in Saskatoon than the province, then retrofit requirements for existing dwellings need to be considered at the same time.
- Developing builder capacity is needed to support implementation of Section 9.36 of the NBC.
- Upon increasing their technical knowledge, several builders indicated that they were closer than they thought to achieving the minimum energy performance requirements of Section 9.36 of the NBC.
- Building capacity has the opportunity to reduce potential building costs and to create innovative building designs.
- Industry indicated interest in creating partnerships related to building builder capacity.

### EnerGuide Rating System and Home Labelling Programs

- All stakeholders identified benefits associated with utilizing the EnerGuide Rating System and home labelling programs.
- The EnerGuide Rating System is readily available, developed, administered, supported, and marketed by NRCan.
- The EnerGuide Rating System is the industry standard used across Canada.
- The preference is that the EnerGuide Rating System be phased in to City programs through energy code compliance options, increased education to highlight benefits, and a component in voluntary incentivized energy performance programs for new and existing home construction.
- The ENERGY STAR program could be incentivized on a voluntary basis and should not be required immediately as a mandatory program. It is preferred that this program be used to encourage builders to exceed minimum energy code.

## 2.2 Identifying Possible Solutions

Stakeholders were asked to identify some of the barriers and challenges in achieving each of the project goals, and to propose options and solutions to overcome these barriers and challenges. The following is a summary of what was heard.



**Summary:** Many of the challenges associated with achieving energy performance gains in new residential construction relate to increased building costs, construction challenges, and, in particular, home-buyer market readiness. It was noted that there are industry

leaders who successfully build and market energy-efficient homes. The potential that increased costs associated with energy performance requirements may drive the home-buyer market toward the existing housing stock.

A collaborative approach to increasing energy performance literacy was a preferred option. It was suggested that partnerships between the City and key stakeholders be explored to harmonize education within the financial, appraiser, and real estate industries. It was recommended that the City could undertake opportunities to promote the use of the EnerGuide Rating System. It was noted that work toward all homes being provided with an EnerGuide Rating would increase energy performance literacy, with a preference that mandatory programs not be the first step.

Barrier/Challenge	Option/Solution
<ul style="list-style-type: none"> <li>Increased building costs tough sell for builder</li> </ul>	<ul style="list-style-type: none"> <li>Harmonize education with lenders, appraisers, and real estate to assist builders in marketing energy-efficient homes; and</li> <li>Homeowner and home-buyer education.</li> </ul>
<ul style="list-style-type: none"> <li>Competing with existing housing stock</li> </ul>	<ul style="list-style-type: none"> <li>Find opportunities to level the market; consider implementing mandatory retrofit programs; and</li> <li>Require energy rating for all homes at time of resale.</li> </ul>

## Energy Code and Capacity

- Create supportive processes for implementation of Section 9.36 of the NBC
- Create technical learning opportunities for builders

**Summary:** Many of the challenges associated with utilizing energy code regulation to achieve energy performance gains relate to potential increased construction costs and challenges. The development of industry-supported implementation practices and compliance options to support the energy code that are consistent throughout the province was also noted as a challenge.

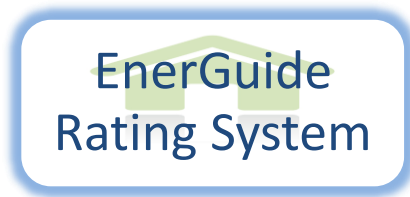
Adopting energy code regulations at the municipal level to achieve energy performance gains that exceed the minimum requirements of Section 9.36 of the NBC was also discussed. In addition to the challenges noted above, some stakeholders also felt that a potential increased shift in the housing market to existing housing stock and to our regional partners may occur.

The industry is supportive of adopting and implementing Section 9.36 of the NBC within the recently proposed provincial adoption timelines of July 1, 2017, and coming into force on January 1, 2019. It was noted that builders want to be engaged in the process



changes to implement the new energy code requirements. It was suggested that the City lead technical energy code training sessions with the industry to build capacity and understanding related to minimum energy code requirements. It was also suggested that industry partnerships be explored to highlight innovative energy performance construction techniques and products to encourage industry to go beyond minimum code. It is preferred that incentivized options are explored to encourage energy performance gains beyond Section 9.36 of the NBC.

Barrier/Challenge	Option/Solution
<ul style="list-style-type: none"> <li>• Technical energy performance knowledge</li> <li>• Need for innovative industry solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Partnering with the industry to develop opportunities to highlight innovative energy performance construction techniques and products, as well as showcase industry leaders.</li> <li>• City shall provide technical energy code training.</li> </ul>
<ul style="list-style-type: none"> <li>• Energy code adoption, implementation, and process changes related to building permit processes</li> <li>• Develop compliance options aligned with province</li> </ul>	<ul style="list-style-type: none"> <li>• Work with builders to phase in the adoption of the energy code.</li> <li>• Create supportive building permit practices for the industry and engage industry in the development of process changes.</li> <li>• City shall provide technical energy code training.</li> <li>• Learn from our neighbouring provinces to build a successful framework. Work with the province to consider the EnerGuide Rating System as a potential compliance option.</li> </ul>
<ul style="list-style-type: none"> <li>• Increased building costs</li> </ul>	<ul style="list-style-type: none"> <li>• Industry education as a whole is needed (some potential solutions identified above).</li> <li>• Help builders identify potential costs early so that they have time to prepare for a new energy code.</li> </ul>
<ul style="list-style-type: none"> <li>• Encouraging industry to build beyond the minimum energy code</li> </ul>	<ul style="list-style-type: none"> <li>• The minimum energy code could be elevated to a higher minimum standards through a building bylaw.</li> <li>• Incentivize building through other mechanisms, incentives, grants, and rebates.</li> </ul>



• *Integrate EnerGuide Rating system into incentivized energy performance programs*

**Summary:** The industry is supportive of the use of the EnerGuide Rating System. Cost and lack of education on the benefits of the system were identified as the two main barriers to wide-spread use of the system.

Proposed solutions focused on integrating the use of the EnerGuide Rating System into incentivized energy performance programs and developing opportunities to increase homeowner knowledge of the benefits of the system. Partnering with energy and power providers to create educational opportunities was suggested. Preference is that a phased approach to increasing the profile, benefits, and usage of the EnerGuide Rating System be undertaken using an incentive-based approach.

Barrier/Challenge	Option/Solution
<ul style="list-style-type: none"> <li>• Benefits of system not widely known across the stakeholder spectrum</li> <li>• Cost</li> </ul>	<ul style="list-style-type: none"> <li>• Partner with energy and power providers to create educational opportunities.</li> <li>• Integrate into the Home Builders' Association's parade of homes.</li> <li>• Spotlight EnerGuide-rated homes.</li> <li>• Integrate EnerGuide Rating Systems into incentivized energy performance programs for existing and new homes.</li> </ul>

## Proposed Solutions for Achieving Energy Efficiency Performance Gains

Proposed Solution	What does it address?	What can we do about it?	How will we address it?
<p>Provincial adoption of the National Energy Code of Canada for Buildings 2015 (NECB 2015) and National Building Code of Canada 2015 (NBC 2015), Subsection 9.36 Energy Efficiency, are proposed for July 1, 2017, with full implementation on January 1, 2019</p>	<p>The solution establishes a minimum level of energy compliance for new construction.</p> <p>The proposed adoption timeline addresses industry concerns related to builder and home-buyer market readiness.</p>	<p>The Building Standards Division is working with the construction industry to develop a supportive implementation plan that will include:</p> <ul style="list-style-type: none"> <li>• providing a free plan review for prescriptive path energy requirements beginning the summer of 2017;</li> <li>• working with the province and energy performance service providers to identify performance compliance path requirements and potential opportunities to integrate the use of the EnerGuide Rating System;</li> <li>• providing technical training to the building industry; and</li> <li>• seeking opportunities to partner with the industry to increase builder capacity.</li> </ul>	<p>The Building Standards Division is currently working on this initiative.</p>
<p>Energy Performance Literacy</p>	<p>This solution addresses home-buyer market readiness and encourages competition among builders by showcasing industry leaders.</p>	<p>The goal of an energy literacy program will be to educate residents when buying a new home on how energy is used in their home, helping them make an informed purchasing decision. New programming must be both informative as well as influential. Information can be made available through a speaker series, tours of green buildings, demonstration sites, and campaigns using social and traditional advertising, videos, interactive online games and calculators, factsheets, infographics, tradeshow displays, blogs and articles, and more.</p>	<p>Separate report.</p>

Proposed Solution	What does it address?	What can we do about it?	How will we address it?
Incentivized energy performance programs related to new and existing homes	This solution encourages builders to build and renovate beyond the minimum energy code.	<p>The Environmental and Corporate Initiatives Division is researching the effectiveness of various environmental incentive programs. Incentive mechanisms may include:</p> <ul style="list-style-type: none"> <li>• property tax abatements;</li> <li>• grants or rebates;</li> <li>• preferred-rate loans through third party lenders;</li> <li>• direct sale of land; and</li> <li>• Density or other development bonuses.</li> </ul>	Separate report.

**PUBLIC RESOLUTION  
STANDING POLICY COMMITTEE ON ENVIRONMENT,  
UTILITIES AND CORPORATE SERVICES**

**Main Category:** 7. REPORTS FROM ADMINISTRATION  
**Sub-Category:** 7.2. Matters Requiring Direction  
**Item:** 7.2.2. Aquatic Invasive Species - Potential Local Impacts  
[Files CK. 7550-1 X 277-1 and CP. 7556-001]  
**Date:** May 8, 2017

*Any material considered at the meeting regarding this item is appended to this resolution package.*

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The Committee expressed interest in receiving a report on how the City would fund infrastructure mitigation impacted.

**Moved By:** Councillor Gersher

That the report of the General Manager, Corporate Performance Department, dated May 8, 2017, be forwarded to City Council and the Saskatoon Environmental Advisory Committee for information.

In Favour: Councillor Loewen, Councillor Gough, Councillor Gersher and Mayor C. Clark

**CARRIED UNANIMOUSLY**

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## Aquatic Invasive Species - Potential Local Impacts

### Recommendation

That the report of the General Manager, Corporate Performance Department, dated May 8, 2017, be forwarded to City Council for information.

### Topic and Purpose

This report is a response to a Standing Policy Committee on Environment, Utilities and Corporate Services inquiry for more detail about specific local impacts and resources required for management of aquatic invasive species.

### Report Highlights

1. Invasive species have not yet been detected in Saskatchewan. Diefenbaker Lake and the South Saskatchewan River are high risk for infestation.
2. Public awareness and education is critical in preventing mussel infestation.
3. Formal impact assessments have not yet been carried out in Saskatchewan. Impacts can be predicted based on experiences in other jurisdictions.
4. Appropriate management measures and costs will vary depending on the extent of the infestation.

### Strategic Goals

This report supports the Strategic Goal of Asset and Financial Sustainability by supporting programs that protect our drinking water source and our municipal water infrastructure. The report also supports the Strategic Goal of Quality of Life by protecting our primary service of providing affordable, high quality drinking water to our citizens.

### Background

At its meeting of November 14, 2016, the Standing Policy Committee on Environment, Utilities, and Corporate Services resolved:

- “1. That the report of the General Manager, Corporate Performance Department, dated November 14, 2016, be forwarded to City Council for information;
2. That the Administration provide a report containing more detail in terms of specific local impacts and resources required; and
3. That the report of the General Manager, Corporate Performance Department, dated November 14, 2016, be referred to the Saskatoon Environmental Advisory Committee to review and report back to the Standing Policy Committee on Environment, Utilities, and Corporate Services with input.”

### **Report**

#### Risk Assessment

Invasive mussel species were introduced into Canada's Great Lakes in the late 1980s. Today, invasive mussels have been detected in most of the jurisdictions bordering Saskatchewan including Manitoba, North Dakota, and Montana. They have not yet been found in Alberta or the Northwest Territories nor in Saskatchewan itself.

The province has identified that the lakes and rivers in our watershed are high risk for infestation by invasive mussels. Lake Diefenbaker, upstream of Saskatoon, is specifically at risk because of the many out-of-province boats that visit the lake for recreational purposes. If mussels do become established in Lake Diefenbaker, it is likely they would be carried downstream by the South Saskatchewan River, in addition to being transported by human activities. Attachment 1 contains additional information about aquatic invasive species in general, and mussels in particular.

#### Prevention/Awareness

Invasive mussels are often transported by attaching to recreational watercraft. Public awareness and education is, therefore, critical in preventing mussel infestations. The province has launched the "Clean, Drain, Dry" education campaign targeting recreational boaters and is actively monitoring for adult and larval mussels in high risk water bodies in the province. Attachment 2 contains more information about provincial initiatives related to invasive mussels.

#### Impact Assessment

Formal impact assessments have not yet been carried out by provincial government agencies nor by City Administration. Based on experience in other jurisdictions, the following municipal infrastructure and activities could be impacted:

- River water intake systems for the water treatment plant;
- Water treatment processes;
- River water intakes for irrigation of parks and golf courses;
- Weir infrastructure (future hydro-electric facility);
- Bridge footings and boat docks in water;
- Storm outfalls in water;
- Storm ponds and related piping infrastructure;
- Wastewater effluent discharge piping;
- Local beaches and sand bars used for recreation; and
- Recreational activities involving watercraft (e.g. Dragon Boat races).

#### Mitigation Planning

Appropriate management measures for invasive mussels will vary depending on the extent of the mussel infestation. In a worst case scenario, impacts will need to be managed by multiple operating groups, and costs could range from hundreds of thousands of dollars for annual operating budgets, to millions of dollars for capital infrastructure upgrades. Attachment 3 contains information about current municipal initiatives for managing invasive species for comparison purposes.

## **Aquatic Invasive Species – Potential Local Impacts**

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Currently, the most cost-effective investment is in public awareness campaigns to prevent or reduce infestations. The Administration has supported provincial education campaigns by installing additional highway signage within city limits and ensuring that potentially impacted operating groups receive training about mussels and how to monitor for their presence.

The City also continues to support public awareness and education about invasive mussels via membership in the South Saskatchewan River Watershed Stewards (SSRWSI), the Saskatchewan Invasive Species Council (SISC), and the Meewasin Valley Authority (MVA).

### **Public and/or Stakeholder Involvement**

Stakeholders have been informed about the potential impacts of invasive mussels and are participating in education and monitoring initiatives.

The City is represented on the provincial invasive mussel task force via membership in non-governmental organizations including the SSRWSI, the SISC, and the MVA.

### **Other Considerations/Implications**

There are no policy, financial, environmental, privacy, or CPTED implications or considerations and a communication plan is not required.

### **Due Date for Follow-up and/or Project Completion**

Further information about aquatic invasive mussels will be provided in the Environmental Protection Annual Report.

### **Public Notice**

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

### **Attachments**

1. Aquatic Invasive Species (AIS)
2. Provincial AIS Initiatives
3. Municipal AIS Initiatives

### **Report Approval**

Written by: Twyla Yobb, Watershed Protection Manager, Environmental & Corporate Initiatives

Reviewed by: Jeff Boone, Pest Management Supervisor, Parks  
Tim Bushman, Water Treatment Plant Manager, Saskatoon Water  
Amanda Conway, Wastewater Treatment Plant Manager, Saskatoon Water  
Riwaj Adhikari, Operations Engineer, Construction & Design  
Kevin Hudson, Metering & Sustainable Electricity Manager, Saskatoon Light & Power  
Brenda Wallace, Director of Environmental & Corporate Initiatives



## Aquatic Invasive Species – Potential Local Impacts

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Approved by: Jeff Jorgenson, General Manager, Transportation and Utilities  
Randy Grauer, General Manager, Community Services  
Catherine Gryba, General Manager, Corporate Performance

Aquatic Invasive Mussels – Potential Local Impacts.docx

## **Aquatic Invasive Species (AIS)**

### **Aquatic Invasive Species**

Aquatic invasive species (AIS) are organisms that move into ecosystems beyond their natural or historic range. Their presence may harm native ecosystems, thereby impacting human commercial, agricultural, or recreational activities. Invasive species can include plants, animals, insects, invertebrates, fungi, bacteria, and diseases.

### **Regulation of Aquatic Invasive Species**

Aquatic invasive species are currently regulated both federally and provincially. Federally, the *Aquatic Invasive Species Regulations* of the *Fisheries Act* prevents the introduction of AIS into Canadian waters and, if introduced, controls and manages their spread. In Saskatchewan, the Ministry of Agriculture's *Weed Control Act* and the Ministry of Environment's *Fisheries Act*, along with their associated regulations, list aquatic invasive species that are prohibited from entering the province and those that are identified for eradication and control.

Municipalities must comply with both federal and provincial legislation for AIS. There are currently several initiatives in Saskatoon that deal with these species. For more information refer to Attachment 3.

### **Invasive Mussels**

Zebra and Quagga mussels originated in Eastern Europe and were transported to Canada via international ships that entered the Great Lakes region. Both of these mussels are freshwater filter feeders that attach to hard surfaces with special tough threads. Each female adult mussel can produce up to a million offspring (larvae), which are carried along by water currents until a suitable surface for attachment is encountered.

Larvae will attach to a wide variety of surfaces, including boat hulls, floats for planes, and recreational equipment including canoes/kayaks, paddleboards, jet skis, paddles, hip waders, hiking boots, etc. They can live up to 30 days out of water. Transportation by humans is the main mode of infestation for aquatic invasive mussels.

### **Impacts of Invasive Mussels**

Once mussels are established within a water body, they are almost impossible to eliminate. Large colonies of mussels will form in favorable conditions and tend to change local ecosystems via their feeding and excretion habits. Impacts are environmental, social, and economic for native species and any human activities that are dependent on them. Examples are provided in the following table:

Environmental	Social	Economic
Displacement of native species, reduced diversity	Reduced productivity in fishing, forestry, agriculture resulting in job loss	Unemployment
Alteration/destruction of fish habitat	Sport fishing unavailable	Reduced tourism
Changes to water quality	Potable water fouling	Increased cost of water treatment
Formation of adult colonies on hard surfaces	Reduced supplies to water users or higher costs for potable water	Obstruction of water intake and hydro-electric infrastructure Increased prevention and maintenance costs
Accumulation of hard, sharp shells of dead mussels ("sharp shores")	Reduced access to public and private beaches	Reduced property values, decreased attraction for tourism Increased maintenance costs
All of the above	Protectionism, barred access to waterways	Reduced tourism and recreational opportunities

### Risk Assessment

Invasive mussels require certain environmental conditions for survival of larvae and establishment of adult mussel colonies. The province has assessed conditions in lakes and rivers throughout Saskatchewan; the surface waters in our watershed are considered to be favorable mussel habitat.

Mussels have been detected in Manitoba, North Dakota, and Montana. In Manitoba, the mussels have been found in the Red River, as well as in Lake Winnipeg.

The main mode of transport for mussels is attachment to watercraft. Lake Diefenbaker, upstream of Saskatoon, is specifically at risk for infestation because of the many out-of-province boats that visit the lake for recreational purposes.

Based on environmental conditions, proximity to jurisdictions where mussels have already been detected, and the occurrence of human activities that lend themselves to transportation of mussels, the province considers the South Saskatchewan River watershed to be at high risk of infestation.

The Meewasin Valley Authority has identified invasive mussels as a significant future threat to the hydro-riparian resources of our River Valley.<sup>1</sup>

<sup>1</sup> Meewasin Valley Authority. Valley-Wide Resource Management Plan. 2017.

## Provincial AIS Initiatives

### **Aquatic Invasive Species (AIS) Programming**

Saskatchewan has been involved with federal and provincial invasive species organizations since the late 2000s. Aquatic invasive species, including mussels, became a focal point in 2014 with the appointment of a special coordinator. In 2015, legislation was enacted that gave the province the right to inspect, quarantine, and decontaminate watercraft known or suspected to contain aquatic invasive species.

### **Clean, Drain, and Dry Campaign**

This program targets boat owners transporting recreational craft into and within the province. Components of the campaign include:

- Educational materials to promote awareness of invasive mussels, including highway and boat launch signage.
- Two mobile decontamination units that can be used at border crossings.
- Hotline for the public to report suspicious watercraft.

### **Adult Invasive Mussel Monitoring (AIMM)**

This program utilizes volunteers to visually monitor approximately 140 stations on 50 water bodies.

### **Veliger (larvae) Monitoring**

Where the risk of infestation is high, the province obtains water samples to test for the presence of mussel larvae. The University of Saskatchewan is developing methods to detect larvae earlier and more accurately using environmental DNA (eDNA) technology.

### **Western Agreement on Aquatic Invasive Species**

In June 2016, the government of Saskatchewan signed an agreement with Alberta, British Columbia, Manitoba, and the Yukon Territory to form a coordinated regional approach to aquatic invasive species. The agreement is intended to promote resource sharing and collaborative planning for prevention and response to AIS.

### **Aquatic Invasive Species Strategy**

The strategy outlines a framework for prevention, response, and management of aquatic invasive species. The document is in final draft and is anticipated to be completed in spring 2017.

### **Task Force**

In early 2017, the province spearheaded the formation of a task force, consisting of provincial agencies and non-governmental organizations, to coordinate education/awareness, prevention, and planning.

The City is represented on this task force via membership in several non-governmental organizations including the South Saskatchewan River Watershed Stewards, the Meewasin Valley Authority, and the Saskatchewan Invasive Species Council.

## Municipal Aquatic Invasive Species (AIS) Initiatives

### Administration of the *Weed Control Act*

The Parks Division manages invasive species listed in the provincial *Weed Control Act*. Administration employs two Weed Inspectors who are trained to recognize and deal with invasive species within the city, and supports corporate membership with the Saskatchewan Invasive Species Council.

Currently, only two aquatic invasive plant species have been found in Saskatoon.

- Purple loosestrife is a non-native plant that is considered to be a noxious weed. There are several isolated infestation of purple loosestrife in Saskatoon. Control efforts have involved hand removal of plants and/or seed heads, herbicide application (with a special provincial permit), and release of herbivorous beetles.
- Yellow floating heart is a prohibited weed that has twice been discovered for sale at local garden centers. Unsold plants were bagged and buried at the landfill, and any plants that had been sold were destroyed.

Costs of administration of the *Weed Control Act* vary depending on the need identified each year. The total annual operating budget for work related to both terrestrial and aquatic plants and animals is estimated at \$50,000. Of this amount, only about 10%, or \$5000, is spent on control of aquatic species in any given year.

There is currently a gap in funding for action on terrestrial invasive species, specifically with respect to invasive insects and diseases that impact the urban forest (e.g. Dutch Elm Disease, cottony ash psyllids), and with respect to terrestrial weed control. Information about current programs linked to these invasive species can be found in reports presented to the Standing Policy Committee on Planning, Development, and Community Services.

- Dutch Elm Disease Response Plan Update (PK 4110-1) July 18, 2016
- Annual Weed Inspection Report (PK4190-1) Mar. 6, 2017

### Administration of the *Fisheries Act*

There is no centralized responsibility for management of other aquatic invasive species under the federal and provincial *Fisheries Act*. Individual operating groups are responsible to manage invasive species as they are encountered.

#### Koi and Goldfish

Water & Waste Stream manages man-made storm ponds. These ponds are designed to hold storm water during a significant rain event and slowly drain to the river over time. Residents sometimes release non-native pet fish into the ponds, where they can survive and make their way to the river. During the summer of 2016, Water & Waste Stream assessed two storm ponds and discovered various sizes of koi and goldfish, both of which are considered to be invasive.

In 2017, Water & Waste Stream plans to undertake control measures for invasive koi and goldfish in the two ponds. They are also developing educational materials for

residents to discourage the release of aquatic pets into the storm system. The annual operating budget for control of koi and goldfish is approximately \$35,000.

**PUBLIC RESOLUTION  
STANDING POLICY COMMITTEE ON ENVIRONMENT,  
UTILITIES AND CORPORATE SERVICES**

**Main Category:** 7. REPORTS FROM ADMINISTRATION  
**Sub-Category:** 7.2. Matters Requiring Direction  
**Item:** 7.2.5. Waste Diversion Opportunities [Files CK. 7830-1 and CP. 7542-006]  
**Date:** May 8, 2017

*Any material considered at the meeting regarding this item is appended to this resolution package.*

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**Moved By:** Mayor C. Clark

That the report of General Manager, Corporate Performance Department, dated May 8, 2017, be forwarded to City Council and the Saskatoon Environmental Advisory Committee for information.

In Favour: Councillor Loewen, Councillor Gough, Councillor Gersher and Mayor C. Clark

**CARRIED UNANIMOUSLY**

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## Waste Diversion Opportunities

### Recommendation

That the report of General Manager, Corporate Performance Department, dated May 8, 2017, be forwarded to City Council and SEAC for information.

### Topic and Purpose

This report provides a summary of waste diversion opportunities.

### Report Highlights

1. It is estimated that 66% of waste generated in the City of Saskatoon (City) is derived by the Industrial, Commercial, Institutional (ICI) generators and 34% is residential.
2. A short list of community waste diversion opportunities was identified by Dillon Consulting Ltd as part of the process of developing a draft Waste Diversion Plan. These included:
  - a. A mandatory city-wide organics program was identified as the program option with the greatest diversion potential for single-family households.
  - b. A strategy for diverting ICI waste will play a critical component of increasing Saskatoon's waste diversion rate.
3. Next steps in creating the Waste Diversion Plan include further evaluation and community engagement.
4. In response to the opportunities identified, the Administration has prepared a report on A Waste Utility for Saskatoon recommending further investigation.
5. The Administration will also prepare two discussion papers on Organics and ICI Waste for consideration in August. All of these reports will help inform the review of civic waste management services and will provide information important to the community engagement process.

### Strategic Goal

This report supports the Strategic Goal of Environmental Leadership through the four-year priorities of promoting and facilitating city-wide composting and recycling to reduce the rate and volume of waste sent to the landfill and implement energy-efficient practices in City buildings, transportation, and operations. It also supports the long-term strategy to reduce greenhouse (GHG) gas emissions tied to City operations.

### Background

In October 2015, the Administration issued a Request for Proposals (RFP) for the characterization of municipal solid waste generated in Saskatoon and development of a draft Waste Diversion Plan based on the characterization. In February 2017, a report on the preliminary summary of the 2016 comprehensive, community-wide Waste Characterization was brought forward.

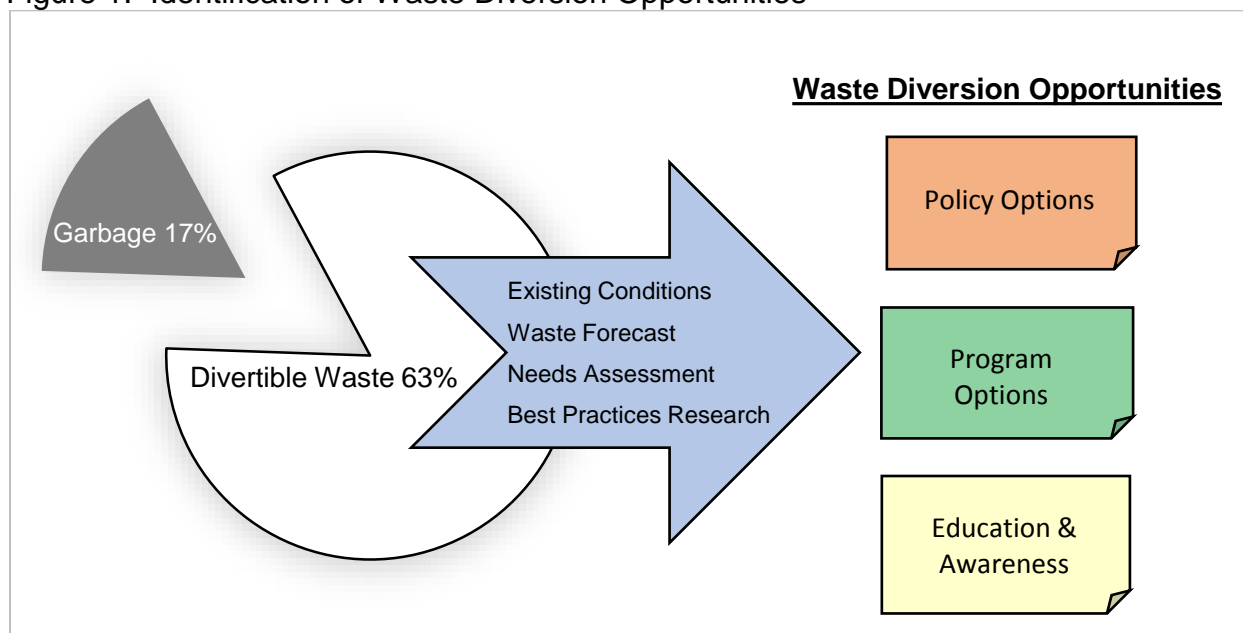


**Report**

Waste Diversion Opportunities

To achieve the Performance Target of 70% waste diversion and to begin to align Saskatoon with the objectives of the National Zero Waste Council, work has begun on a Waste Diversion Plan. The initial step in this process involved working with a consultant, Dillon Consulting Ltd, to identify the most impactful and suitable waste diversion opportunities for Saskatoon. Using the results of the 2016 Waste Characterization and the methodology described in Figure 1, a list of opportunities for improved waste diversion were identified under three categories – policy changes, new programs, and opportunities for improved education and awareness.

Figure 1: Identification of Waste Diversion Opportunities



Note: Garbage (Other Material) - includes diapers and sanitary products, pet waste, textiles, rubber items, bulky wastes, and other waste that is difficult to classify. Divertible Waste - could be diverted from the landfill if new programs are made available.

The first phase of this work involved looking at the results of the 2016 Waste Characterization and identifying the waste categories that represented the largest portion of the waste generated in Saskatoon.

An estimate of the total solid waste in Saskatoon (including private waste disposal and recycling) indicated that 66% was being generated by businesses and organizations in the ICI sector and 34% is residential. Table 1 identifies the amount of waste (in tonnes) generated within each municipal solid waste stream.

## Waste Diversion Opportunities

Table 1: Estimated Waste Disposed per Waste Generator per Year

Generator	Tonne/Year
Single-family	51,900
Multi-family	14,200
Self-Haul	17,100
ICI	147,800*
C&D	16,100*
<b>Total</b>	<b>247,100</b>

\* Refers to amounts that were inferred from Statistics Canada

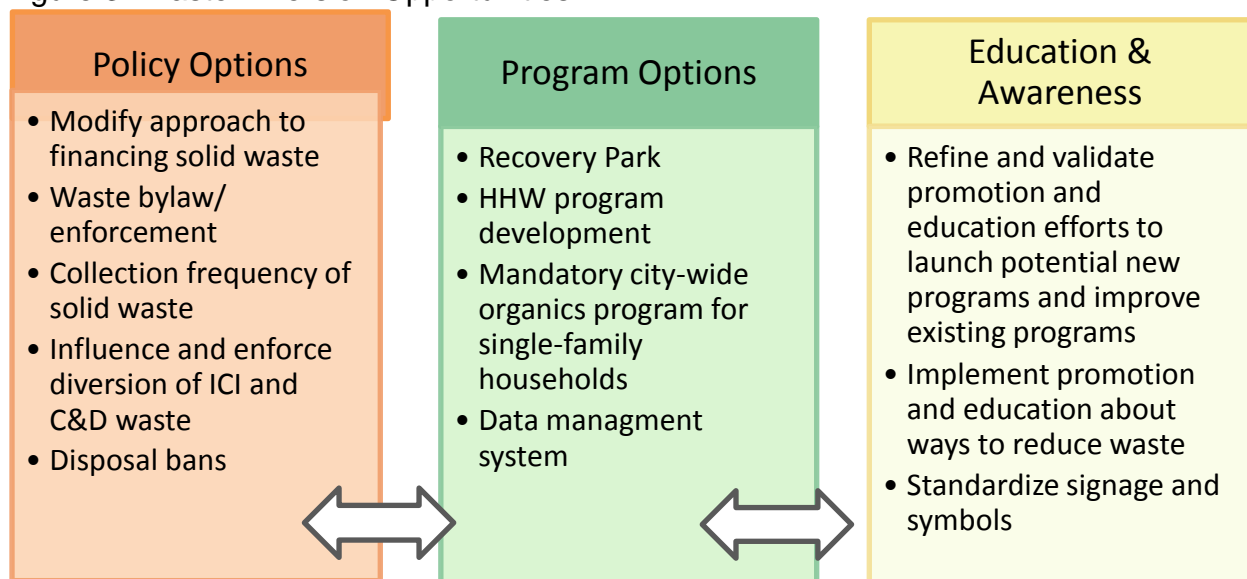
Attachment 1 provides further information about the total estimated waste composition for all generators.

The study also considered:

- existing conditions that impact how waste is currently processed in the Saskatoon Region,
- a future forecast of waste over the next ten years,
- a consolidation of existing system information and target areas that could be changed or improved; and
- best practices from other Cities that may reasonably apply to Saskatoon

Using these combined study methods, the most significant waste diversion opportunities identified by the consultant among a long list of considered options are shown in Figure 3. It is important to note that some of the identified actions are dependent on each other (i.e. a new program may require policy changes to be made). Education and awareness are critical in the success of both policy and programs.

Figure 3: Waste Diversion Opportunities



### Policy Options

Initial findings support the development of a new financing framework for solid waste (i.e. transition toward waste as a utility). A program of data management (i.e. the system and process changes necessary to enable a new financing framework for waste) must be in place as it is a critical component of any options involving a utility. The Administration will now further investigate solid waste financing options as the Waste Diversion Plan continues to develop and as part of the civic waste management review currently underway. A discussion paper on key considerations associated with a solid waste utility will be prepared by summer.

The City does not currently offer waste solutions to the ICI sector, yet this sector generates the most significant volume of waste in the community. Policy approaches identified by the consultant include disposal bans and mandatory recycling for businesses as these have the greatest diversion potential for Saskatoon. Recovery Park also provides an opportunity to improve waste diversion options available to the ICI sector. Other initiatives such as development of an organics facility (either by the private sector or the City itself), will also be important for this sector.

The Administration is currently identifying potential roles for the City in ICI waste management and will prepare a discussion paper on key considerations associated with these initiatives.

### Program Options

A mandatory city-wide organics program was identified as the program option with the greatest diversion potential for single-family households. 58% of the waste sampled in residential black carts was organic waste. 27% of this was food waste and 31% was yard waste. The Administration has previously studied this program and is updating the information for a discussion paper on key considerations associated with a city-wide organics program.

As Recovery Park is already being developed, consultant recommendations involved additional considerations related to design, managing risk, and the future evolution of Household Hazardous Waste (HHW) program options. An update on Recovery Park is forthcoming in May.

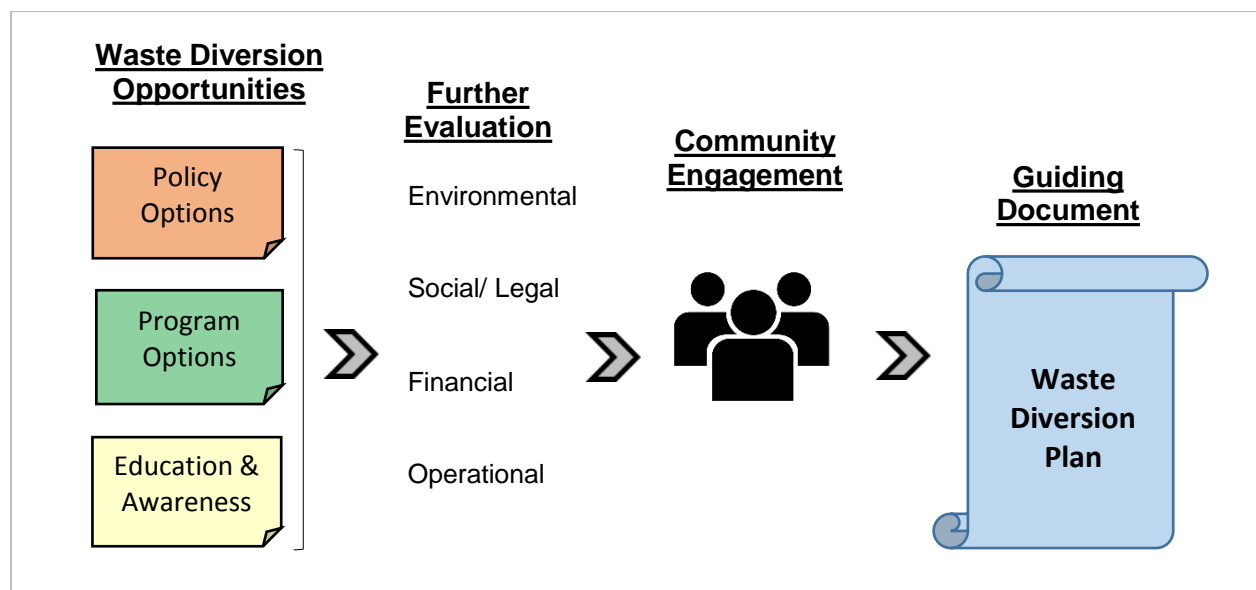
### Education and Awareness

Promotion and education efforts are important to increasing waste diversion. The City already has a number of strong waste education and awareness initiatives underway. Opportunities for improvement include expanding the use of standardized signage and symbols throughout the community, better signage at disposal and collection points, and different communication options for reaching a broader range of demographics. It was noted that education and awareness are a critical component of any new program and also as a tool to improve existing programs.

Next Steps in Developing a Waste Diversion Plan

Based on the waste diversion opportunities identified in this report, the Administration will bring forward several discussion papers that provide further evaluation of the following critical opportunities identified as having the greatest waste diversion potential:

- i. **Organics** – this report will look at key considerations that would affect a program(s) to divert organic waste from the landfill.
- ii. **ICI Waste** – this report will discuss the current role of the City in ICI waste management and specific opportunities for future programs that target this portion of solid waste.
- iii. **Solid Waste as a Utility** – this report looks at the design of waste financing and the implications associated with user fees and property taxes.



**Public and/or Stakeholder Engagement**

Completion of the Study involved engagement with a number of waste-industry stakeholders. Further community engagement is planned as the Waste Diversion Plan is developed. As an initial step in the engagement process, a technical advisory panel of local experts will be established to provide an early review of the waste diversion opportunities report, various discussion papers (as described in this report or resulting from the review of civic waste management services), and communication materials prepared to support community engagement.

**Communication Plan**

Information from the Study will be used in a variety of waste-related communication efforts planned for 2017 including the City website, recycling education and awareness programs, Green Cart and compost depot materials, etc. The information will also be used for the proposed review of waste management services.

**Environmental Implications**

Greenhouse gas (GHG) emissions implications and other environmental protection measures will be estimated and reported on as the Waste Diversion Plan is developed.

**Other Considerations/Implications**

There are no policy, financial, privacy or CPTED implications or considerations.

**Due Date for Follow-up and/or Project Completion**

The consultant's report containing final study findings will be posted to the City web-site by the end of the May. As outlined in this report, the Administration will bring forward several further reports to advance the development of a Waste Diversion Plan. These will be provided to the Standing Policy Committee on Environment, Utilities and Corporate Services in August 2017 along with a plan for engagement.

**Public Notice**

Public Notice pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

**Attachment**

1. Summary of Saskatoon Waste Composition and Details on ICI Waste

**Report Approval**

Written by: Daniel Mireault, Environmental and Corporate Initiatives

Reviewed by: Amber Weckworth, Education and Environmental Performance  
Manager

Brenda Wallace, Director of Environmental and Corporate Initiatives

Approved by: Catherine Gryba, General Manager, Corporate Performance  
Department

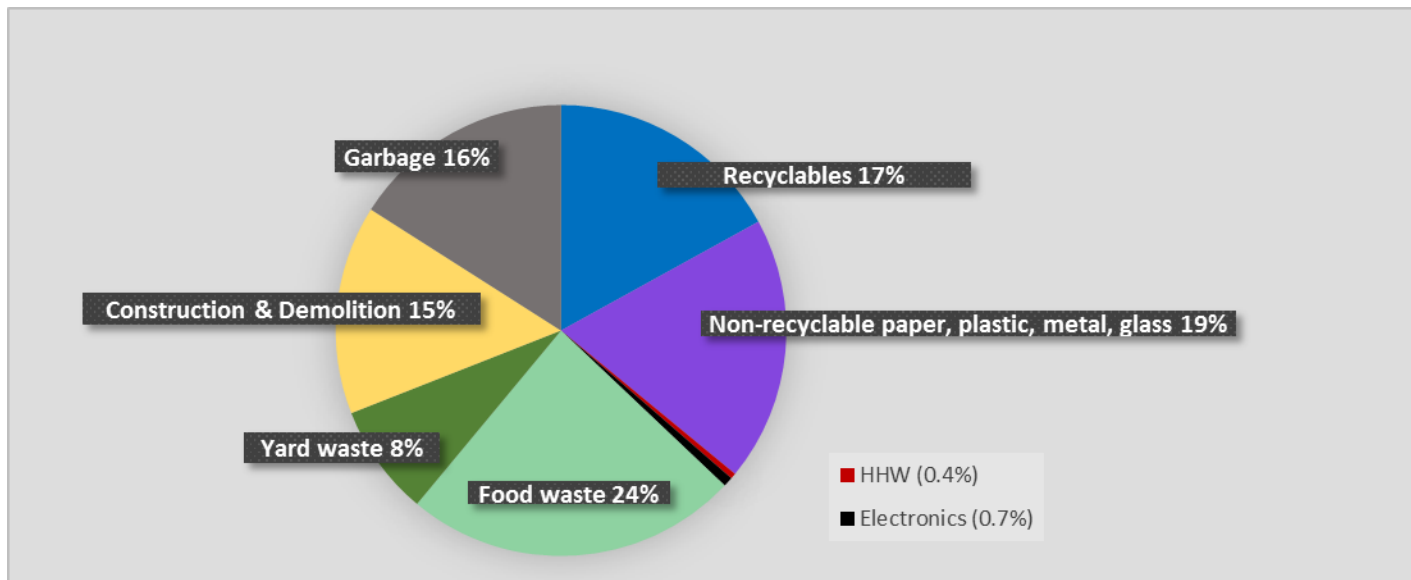
Waste Diversion Opportunities.docx

## Summary of Saskatoon Waste Composition and Details on Industrial, Commercial and Institutional (ICI) Waste

The weighted overall waste composition of the various municipal solid waste streams was calculated using a model based on data provided by the waste characterization, by the City, and from information derived from Statistics Canada

Figure 1 shows the total estimated overall waste composition for all generators.

Figure 1: Overall Waste Composition



The annual estimated waste disposal rates per generator are included in Table 1.

**Table 1: Estimated Waste Disposed per Waste Generator per Year**

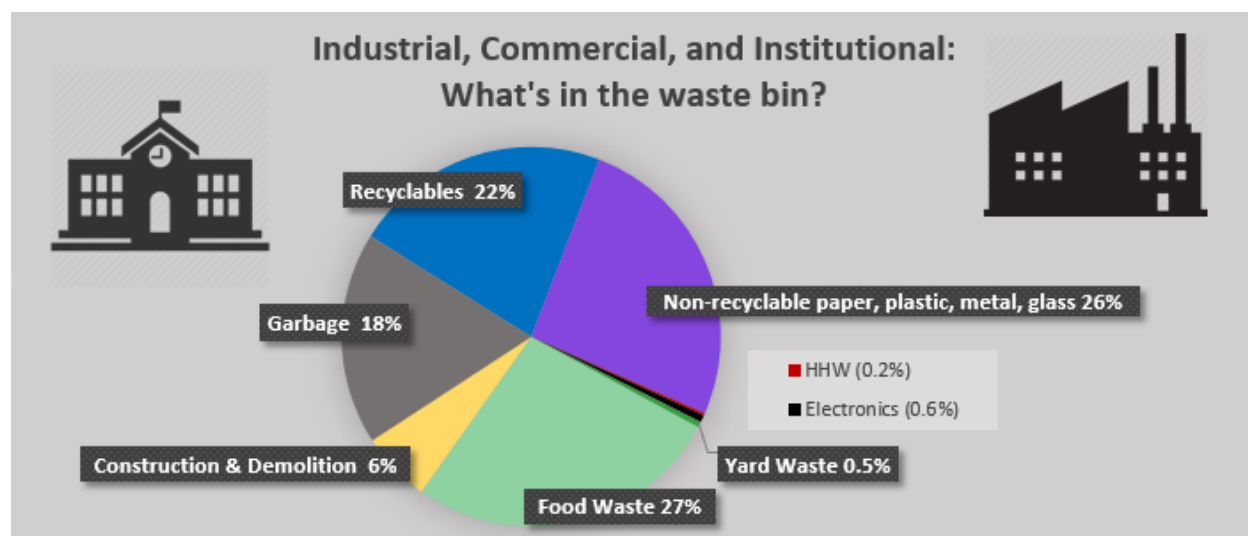
Generator	Tonne/Year
Single-family	51,900
Multi-family	14,200
Self-Haul	17,100
ICI	147,800*
C&D	16,100*
<b>Total</b>	<b>247,100</b>

\* Refers to amounts that were inferred from Statistics Canada

Data provided by the City included single-family, multi-family, and self-haul data. ICI data includes data provided by the City and estimated private sector quantities. Private sector managed ICI and Construction & Demolition (C&D) wastes were inferred from Statistics Canada waste disposal data.

Figure 2 shows the composition of waste generated by the ICI Sector.

Figure 2: Summary of ICI Waste



## DEFINITIONS

**Construction and Demolition waste:** primarily made up of wood (untreated/treated), gypsum wallboard, asphalt roofing shingles, industrial use metals, asphalt, concrete, bricks, and ceramics.

**Recyclable Material:** those materials currently accepted in the City of Saskatoon residential recycling programs.

**Garbage (Other Material):** includes diapers and sanitary products, pet waste, textiles, rubber items, bulky wastes, and other waste that is difficult to classify.

**Organics:** food and yard waste

**Food Waste:** Edible food waste consists primarily of the following categories; bakery, meat and fish, dried food, fruit and vegetables, and dairy. Inedible food includes items such as peelings, bones, and oil.

**Yard Waste:** includes grass (thatch and sod), leaves, other yard and garden debris, brush, and branches.