

## **Executive Committee**

Wednesday, June 10, 2020 2:00 PM

Henry Baker Hall, Main Floor, City Hall



#### OFFICE OF THE CITY CLERK

#### Revised Public Agenda Executive Committee Wednesday, June 10, 2020

#### **Approval of Public Agenda**

#### **Adoption of Minutes**

Minutes from the meeting held on May 13, 2020

#### **Administration Reports**

EX20-19 Buffalo Pound Water Treatment Plant Corporation - 2019 Annual Report

#### Recommendation

The Executive Committee recommends that City Council receive and file this report at its June 24, 2020 meeting.

#### EX20-20 COVID-19 Update

#### Recommendation

The Executive Committee recommends that City Council:

1. Approve the following:

#### COVID-19 Pandemic Bylaw:

Adopt the timelines and requirements set out in the bylaws identified the COVID-19 Pandemic Bylaw section of this report in the *COVID-19 Pandemic Bylaw*, 2020.

#### **Transit Services:**

- 1. That transit service be adjusted so that fare collection is re-instated on June 29, 2020.
- Delegate authority to the City Manager to negotiate and approve an amendment to the University of Regina Student Union U-Pass Agreement to suspend the program for the fall 2020 semester, or until a future date when the University of Regina provides courses primarily on-campus.



#### OFFICE OF THE CITY CLERK

#### Supporting Community Recovery:

- 1. Delegate authority to the City Manager to waive fees set out in *The Regina Traffic Bylaw* for street use permits for mobile food vending and outdoor restaurant seating.
- Direct the City Solicitor to prepare the necessary bylaw to incorporate the amendments as outlined in this report for the June 24, City Council meeting.
- 3. Approve these recommendations at its meeting on June 24, 2020.
- EX20-21 City of Regina and Regina Board of Education Central Collegiate Land Exchange

#### Recommendation

The Executive Committee recommends that City Council:

- Approve the Letter of Understanding (LOU) and the terms contained therein with the Regina Board of Education to resolve the Central Collegiate Land Exchange Agreement (CCLEA)
- 2. Authorize Administration to carry out the necessary steps to complete the land exchange
- 3. Require Administration to report back on any substantive changes to the terms and conditions of the LOU.
- 4. Approve the recommendations at its June 24 meeting.
- EX20-22 Municipal Economic Enhancement Program (MEEP) Funding Allocation

#### Recommendation

The Executive Committee recommends that City Council:

 Approve the City of Regina's \$30,916,844 allocation of Municipal Economic Enhancement Program (MEEP) funding to the following projects as further detailed in Option #1 in Appendix A of this report;

Residential Road Renewal (2020 Deferred Projects) - \$6.4 million Wascana Pool Renewal - \$12.0 million Outdoor Rink - \$0.7 million Energy Monitoring and Optimization Infrastructure - \$0.72 million Municipal Justice Building Redevelopment - \$7.5 million



#### OFFICE OF THE CITY CLERK

Permanent Pavement Markings - \$0.7 million Pedestrian Connectivity (Pasqua Street) - \$0.5 million Expand Bike Lanes and Pathways (Albert Street) - \$0.9 million Roof Replacement - \$1.5 million

- 2. Authorize the City Manager to apply for MEEP funding for the projects in recommendation #1;
- 3. Authorize the City Manager to review, negotiate, approve, and enter into any MEEP funding agreements with the Government of Saskatchewan for the projects under the MEEP program;
- 4. Authorize the City Clerk to execute the MEEP funding agreements that are required after review by the City Solicitor; and
- 5. Approve these recommendations at its June 24, 2020 meeting.

#### EX20-23 2021 Revaluation

#### Recommendation

The Executive Committee recommends that City Council:

- 1. Endorse the guidelines and principles for consulting on a commercial phase-in tax policy as outlined in this report.
- 2. Instruct Administration to continue the consultation with the business community on the options for a phase-in of tax changes for commercial property due to the 2021 Revaluation.
- 3. Bring forward a report on tax policy options in the first quarter of 2021.
- 4. Approve these recommendations at its June 24, 2020 Meeting.

#### **Adjournment**

### AT REGINA, SASKATCHEWAN, WEDNESDAY, MAY 13, 2020

AT A MEETING OF EXECUTIVE COMMITTEE

### HELD IN PUBLIC SESSION

#### AT 2:00 PM

These are considered a draft rendering of the official minutes. Official minutes can be obtained through the Office of the City Clerk once approved.

Present: Councillor Barbara Young, in the Chair

Mayor Michael Fougere

Councillor Lori Bresciani (Videoconference)
Councillor Sharron Bryce (Videoconference)
Councillor John Findura (Videoconference)
Councillor Jerry Flegel (Videoconference)
Councillor Bob Hawkins (Videoconference)
Councillor Jason Mancinelli (Videoconference)
Councillor Joel Murray (Videoconference)
Councillor Mike O'Donnell (Videoconference)
Councillor Andrew Stevens (Videoconference)

Also in City Clerk, Jim Nicol

Attendance: Deputy City Clerk, Amber Ackerman

City Solicitor, Byron Werry (Videoconference)

City Manager, Chris Holden

Exec. Dir., Citizen Experience, Innovation & Performance, Louise Folk

Exec. Dir., Citizen Services, Kim Onrait (Videoconference)

Exec. Dir., City Planning & Community Development, Diana Hawryluk

(Videoconference)

Exec. Dir., Financial Strategy & Sustainability, Barry Lacey

(Videoconference)

Director, People & Organizational Culture, Marlys Tafelmeyer

(Videoconference)

Manager, Social & Cultural Development, Emmaline Hill

(Videoconference)

(The City Clerk conducted a roll call and all 11 members were present at the meeting.)

#### APPROVAL OF PUBLIC AGENDA

Mayor Michael Fougere moved, AND IT WAS RESOLVED, that the agenda for this meeting be approved, as submitted, at the call of the Chair.

#### **ADOPTION OF MINUTES**

Councillor Bob Hawkins moved, AND IT WAS RESOLVED, that the minutes for the meeting held on March 11, 2020 be adopted, as circulated.

#### **ADMINISTRATION REPORTS**

#### EX20-11 Extension of Appointment of the Integrity Commissioner

#### Recommendation

The Executive Committee recommends that City Council:

- Delegate the authority to the City Solicitor to negotiate and approve the necessary amendments to the current agreement to extend the appointr of the Integrity Commissioner, Mr. Randall Langgard, for a further perioc up to four years;
- Authorize the City Clerk to execute any necessary amendments to the agreement with the Integrity Commissioner in a form approved by the Ci Solicitor; and
- 3. Approve these recommendations at its April 29, 2020 meeting.

Mayor Michael Fougere moved, that the recommendations contained in the report be concurred in.

The Clerk called the vote on the main motion.

Mayor Michael Fougere	Yes
Councillor Bob Hawkins	Yes
Councillor Andrew Stevens	Yes
Councillor Lori Bresciani	Yes
Councillor John Findura	Yes
Councillor Joel Murray	Yes
Councillor Sharron Bryce	Yes
Councillor Mike O'Donnell	Yes
Councillor Jason Mancinelli	Yes
Councillor Jerry Flegel	Yes
Councillor Barbara Young	Yes

The main motion was put and declared CARRIED.

EX20-12 2020 Special Events Major Grants - Canada Day Celebration

#### Recommendation

That the Executive Committee:

Approve the following community investment grant totalling \$25,000:

- 1. Fund up to \$25,000 in eligible expenses, beyond those covered by Canadian Heritage funds, to deliver a virtual Canada Day Celebration.
- 2. Funding for this grant will be provided from the General Operating Budget allocated for Other Executive Committee Grants.

Councillor Andrew Stevens moved that the recommendations contained in the report be concurred in.

Councillor Bob Hawkins moved, in amendment that the \$25,000 be reduced up to \$5,000 if necessary.

Councillor Bob Hawkins withdrew his motion.

Mayor Michael Fougere moved, in amendment, that the Administration prepare a supplemental report that includes information on the request of a budget to be provided to the May 27, 2020 City Council meeting and that report EX20-12 be forwarded to the May 27, 2020 City Council meeting for approval.

The Clerk called the vote on Mayor Fougere's amendment.

Mayor Michael Fougere	Yes
Councillor Bob Hawkins	Yes
Councillor Andrew Stevens	Yes
Councillor Lori Bresciani	Yes
Councillor John Findura	Yes
Councillor Joel Murray	Yes
Councillor Sharron Bryce	Yes
Councillor Mike O'Donnell	Yes
Councillor Jason Mancinelli	Yes
Councillor Jerry Flegel	Yes
Councillor Barbara Young	Yes

The main motion, as amended, was put and declared CARRIED.

EX20-13 Economic Development Regina Inc. (EDR) - Annual Submittals 2019

#### Recommendation

Executive Committee recommends that City Council:

- Authorize the Executive Director, Financial Strategy & Sustainability, as the City's proxy, to exercise the City of Regina's voting rights at the upcoming Economic Development Regina Inc. (EDR) annual general meeting as follows:
  - a. Approve the audited financial statements for the 2019 operating year (Appendix A);
  - b. Approve the 2019 Annual Report (Appendix B);
  - c. Approve the 2020 Business Plan (Appendix C);
  - d. Approve the 2020 Operating Budget (Appendix D); and

- e. Appoint MNP LLP as the auditor of EDR for the 2020 financial statement year, pursuant to section 149 of *The Non-profit Corporations Act, 1995 (Saskatchewan).*
- 2. Approve this report at its May 27, 2020 meeting.

John Lee, Kerri Mitchell and Kim Exner, representing Economic Development Regina, addressed the Committee.

Mayor Michael Fougere moved that the recommendations contained in the report be concurred in.

The Clerk called the vote on the main motion.

Mayor Michael Fougere	Yes
Councillor Bob Hawkins	Yes
Councillor Andrew Stevens	Yes
Councillor Lori Bresciani	Yes
Councillor John Findura	Yes
Councillor Joel Murray	Yes
Councillor Sharron Bryce	Yes
Councillor Mike O'Donnell	Yes
Councillor Jason Mancinelli	Yes
Councillor Jerry Flegel	Yes
Councillor Barbara Young	Yes

The main motion was put and declared CARRIED.

EX20-14 The Regina Exhibition Association Limited (REAL) 2019 Annual Report

#### Recommendation

The Executive Committee recommends that City Council:

- 1. Authorize the Executive Director, Financial Strategy & Sustainability, as the City's proxy, to exercise the City of Regina's voting rights at the upcoming Regina Exhibition Association Limited (REAL) Annual General meeting (AGM) as follows:
  - a) Approve the Annual Report and Audited Financial Statements for the 2019 operating year (Appendix A)
  - b) Approve the 2020 operating and capital budgets (Appendix B)
  - c) Approve the revisions to the long-term strategic plan as presented in the 15-Year Strategic Plan 2.0. (Appendix C)
  - d) Appoint MNP LLP as auditor for REAL for the 2020 financial statement year, pursuant to section 149 of *The Non-profit Corporations Act*, 1995 (Saskatchewan).

2. Approve this report at its May 27, 2020 meeting.

Tim Reid and Sandra Masters, representing Regina Exhibition Association Limited, addressed the Committee.

Councillor Sharron Bryce moved that the recommendations contained in the report be concurred in.

The Clerk called the vote on the main motion.

Councillor Sharron Bryce	Yes
Mayor Michael Fougere	Yes
Councillor Bob Hawkins	Yes
Councillor Andrew Stevens	Yes
Councillor Lori Bresciani	Yes
Councillor John Findura	Yes
Councillor Joel Murray	Yes
Councillor Mike O'Donnell	Yes
Councillor Jason Mancinelli	Yes
Councillor Jerry Flegel	Yes
Councillor Barbara Young	Yes

The main motion was put and declared CARRIED.

EX20-15 Regina Downtown Business Improvement District - 2020 Budget

#### Recommendation

Executive Committee recommends that City Council:

Approve this report at its May 27, 2020 meeting.

Judith Veresuk, representing Regina Downtown Business Improvement District, addressed the Committee.

Councillor Bob Hawkins moved that the recommendations contained in the report be concurred in.

The Clerk called the vote on the main motion.

Councillor Bob Hawkins	Yes
Mayor Michael Fougere	Yes
Councillor Andrew Stevens	Yes
Councillor Lori Bresciani	Yes
Councillor John Findura	Yes
Councillor Joel Murray	Yes
Councillor Sharron Bryce	Yes
Councillor Mike O'Donnell	Yes
Councillor Jason Mancinelli	Yes

Councillor Jerry Flegel Yes
Councillor Barbara Young Yes

The main motion was put and declared CARRIED.

EX20-16 Regina's Warehouse Business Improvement District - 2020 Budget

#### Recommendation

Executive Committee recommends that City Council:

Approve this report at its May 27, 2020 meeting.

Leasa Gibbons, representing the Regina Warehouse Business Improvement District, addressed the Committee.

Councillor Joel Murray moved, that the recommendations contained in the report be concurred in.

The Clerk called the vote on the main motion.

Councillor Joel Murray	Yes
Mayor Michael Fougere	Yes
Councillor Bob Hawkins	Yes
Councillor Andrew Stevens	Yes
Councillor Lori Bresciani	Yes
Councillor John Findura	Yes
Councillor Sharron Bryce	Yes
Councillor Mike O'Donnell	Yes
Councillor Jason Mancinelli	Yes
Councillor Jerry Flegel	Yes
Councillor Barbara Young	Yes

The main motion was put and declared CARRIED.

(Councillor Lori Bresciani declared a conflict of interest on items EX20-17, citing a family member with a financial interest in property in the Towns, abstained from discussion and voting, and temporarily left the meeting.)

EX20-17 The Towns Annual Report

#### Recommendation

It is recommended that Executive Committee:

Receive and file this report.

Councillor Andrew Stevens moved, that this report be received and filed.

The Clerk called the vote on the main motion.

Yes
Yes

The main motion was put and declared CARRIED.

(Councillor Bresciani returned to the meeting)

EX20-18 Supplementary Unemployment Benefit Plan

#### Recommendation

The Executive Committee recommends that City Council:

- 1. Approve not pursuing a Supplementary Unemployment Benefit Plan for City employees impacted by the COVID-19 pandemic.
- 2. Remove this item from the Outstanding Item List.
- 3. Approve these recommendations at its May 27, 2020 meeting.

Councillor Jason Mancinelli moved, that the recommendations contained in the report be concurred in.

The Clerk called the vote on the main motion.

Councillor Jason Mancinelli	Yes
Mayor Michael Fougere	Yes
Councillor Bob Hawkins	Yes
Councillor Andrew Stevens	Yes
Councillor Lori Bresciani	Yes
Councillor John Findura	Yes
Councillor Joel Murray	Yes
Councillor Sharron Bryce	Yes
Councillor Mike O'Donnell	Yes
Councillor Jerry Flegel	Yes
Councillor Barbara Young	Yes

The main motion was put and declared CARRIED.

#### **RESOLUTION FOR PRIVATE SESSION**

Councillor John Findura moved, AND IT WAS RESOLVED, that in the interest of the public, the remainder items on the agenda be considered in private.

#### **RECESS**

Councillor John Findura moved, AND IT WAS RESOLVED, that the Committee	Эе
recess for 15 minutes.	

The Committee recessed at 3:49	) p.m.		
Chairnerson	Se		
Chairperson	Se	ecretary	



## **Buffalo Pound Water Treatment Plant Corporation - 2019 Annual Report**

Date	June 10, 2020
То	Executive Committee
From	Financial Strategy & Sustainability
Service Area	Financial Services
Item No.	EX20-19

#### RECOMMENDATION

The Executive Committee recommends that City Council receive and file this report at its June 24, 2020 meeting.

#### **ISSUE**

The Buffalo Pound Water Treatment Corporation (BPWTC) was established as a non-profit corporation on January 1, 2016. BPWTC is responsible for the operation and maintenance of the Buffalo Pound Water Treatment Plant and provides the cities of Regina and Moose Jaw with a reliable and affordable supply of safe, high quality drinking water which meet the needs and expectations of consumers, and the water quality standards regulated by the Province of Saskatchewan. Under the terms of the *Unanimous Membership Agreement (UMA)*, BPWTC is owned jointly by the City of Regina (74 per cent) and the City of Moose Jaw (26 per cent).

Pursuant to the UMA, the BPWTC Directors have the authority to make strategic business decisions, including approval of the operating and capital budgets. This report is presented to City Council as information.

Page 1 of 4 EX20-19

#### **IMPACTS**

As Buffalo Pound Water Treatment Corporation is a municipal corporation of the City of Regina, the audited financial statements have been consolidated into the City's 2019 Annual Report and Consolidated Financial Statements at the City's ownership share of 74 per cent.

#### OTHER OPTIONS

None related to this report.

#### **COMMUNICATIONS**

The approved 2019 Annual Report will be published on the Buffalo Pound Water Treatment Corporation website.

#### DISCUSSION

Section 7.2 of the *Unanimous Members Agreement (UMA)* sets out the following annual report and annual membership meeting requirements presented in this report.

- 1. BPWTC is required to submit to Council as an information item an annual report which includes the following information:
  - a. The Corporation's annual report, including the audited financial statements for the period ending December 31<sup>st</sup> and the Corporation's financial and operational performance against stated goals and objectives for the previous year, including a key performance indicators report; and an updated risk review;
  - b. any revisions to long-term strategic plans or capital asset plans;
  - an operating and capital budget for the next fiscal year and an operating and capital budget projection for subsequent fiscal years contemplated in the current strategic or capital assets plans;
  - d. pro forma audited financial statements prepared in accordance with generally accepted accounting principles;
  - e. accomplishments during the fiscal year along with explanations, notes and information as is required to explain and account for any variances between the actual results and the strategic and capital asset plans;
  - f. project major capital expenditures in excess of \$1 million;
  - g. matters that require the approval of the Cities; and
  - h. the projected five-year water demand as provided by each of the Cities.

The 2019 Annual Report and the 2020 Operating and Capital Budget are included as appendices to this report. BPWTC conducted its annual general meeting on May 21, 2020.

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This provides the requirement needed for compliance with the elements under the *Unanimous Member Agreement*.

#### 2019 Annual Report

Highlights from BPWTC's 2019 Annual Report, attached as Appendix A, include:

- The December 31, 2019 audited statements reflect a \$11.0 million surplus, resulting
  in a year-end accumulated surplus of \$76.5 million. The annual surplus is comprised
  of \$3.5 million from the transfer of ownership of assets from the cities of Regina and
  Moose Jaw to BPTWC (contributed assets) and \$7.5 million from the general
  operating surplus.
- Major capital asset renewal continued in 2019. Phase 1 of the Electrical Capital
  Upgrade commenced and completed in 2019. Phases 2 and 3 of the electrical
  upgrade projects, which includes the Transmission Line and Lake Pump Station
  Renewal also commenced construction in 2019 with planned completion in 2020.
  Funding of \$20.6 million from the Provincial-Territory Infrastructure Component of
  the New Building Canada Fund will support Phase 2 and 3.
- The Plant Renewal Project, with an estimated cost ranging from \$127 to \$224 million progressed in 2019 and is continuing.

#### 2020 Budget

- The 2020 Budget adopted by the BPWTC Board of Directors includes the following approved rates:
  - Water Rate \$355.00/ML no increase
  - Capital Water Rate \$215.00/ML 14.36 per cent increase
  - Electrical Rate \$0.11799/kWh 6.4 per cent increase
- The 2020 Operating Budget projects a \$22,200 surplus with the expenditures of \$13 million funded through net revenues of \$13 million, made up of \$12.6 million from water charges, \$402,700 from power charges, and \$85,300 from other revenue sources.
- The Capital Budget continues investment in major infrastructure needs. Surpluses at year-end will be transferred to Operating and Capital Reserves. The Budget is provided in Appendix B.

#### **DECISION HISTORY**

Section 7.2 of the UMA outlines the annual reporting requirements for Buffalo Pound to City Council. These requirements include but are not limited to, annual financial statements and subsequent year operating and capital budgets. Buffalo Pound annual submittals were last presented at the August 29, 2019 meeting of City Council.

This report must be forwarded to City Council for informational purposes only.

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Respectfully Submitted,

Respectfully Submitted,

6/1/2020

Prepared by: Abiodun Akindele, Financial Management Analyst

#### **ATTACHMENTS**

Appendix A 2019 ANNUAL REPORT Appendix B 2020 BUDGET

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BUFFALO
POUND
WATER
BOARD OF
DIRECTORS

ANNUAL REPORT

**V** 2019



#### BUFFALO POUND WATER

MANAGEMENT TEAM

The Buffalo Pound Water Treatment Plant is located approximately thirty kilometres northeast of the City of Moose Jaw, Saskatchewan, on Highway No. 301, seventeen kilometres north of the intersection with Highway No. 1.

The Plant's mailing address is PO Box 944, Moose Jaw, Saskatchewan, S6H 2V2.

The telephone number is 306-694-1377.

Information about the Buffalo Pound Water Treatment Plant is also available from the Plant's website. This may be accessed by going to:

http://www.buffalopoundwtp.ca

Plant management staff may be reached by e-mail at the following addresses:

#### Ryan Johnson

General Manager ryanj@buffalopoundwtp.ca

#### **Blair Kardash**

Laboratory and Research Manager blairk@buffalopoundwtp.ca

#### Keith Guillaume

Operations and Safety Manager keithg@buffalopoundwtp.ca

#### Harry Gahra

Maintenance and Engineering Manager harryg@buffalopoundwtp.ca

#### Laurie Wilkinson

Office and Board Support Manager lauriew@buffalopoundwtp.ca

## ▼ 2019 ANNUAL REPORT



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### INTRODUCTION

## ABOUT THIS REPORT

This report summarizes the activities and major events of the **Buffalo Pound Water Treatment** Corporation (the "Corporation") for the operations of the Buffalo Pound Water Treatment Plant (the "Plant") during 2019. The report outlines the Mission and Goals, achievements and areas of interest. It is intended as an information source for City administration personnel, elected officials and the general public. This report also contains the Drinking Water Quality and Compliance Report required by provincial regulations and the Audited Financial Statements.

## BUFFALO POUND WATER BOARD OF DIRECTORS

The Buffalo Pound Water Board of Directors (the "Board") was created in 2016 by the Unanimous Membership Agreement (UMA), which replaced the previous Buffalo Pound Water Administration Board from 1951. The UMA is an Agreement between the Cities of Regina and Moose Jaw (the "Owners") and the Corporation. In accordance with the Agreement, the skill based Board is comprised of six independent members.



DALE SCHOFFER, BOARD CHAIR



DARYL POSEHN



ROOTS



JUDY



DAVE RICHARDS



GRANT





## BOARD CHAIRPERSON'S LETTER

DALE SCHOFFER FCPA.FCA. C.DIR

On behalf of the Board, I am pleased to present the 2019 Annual Report of the Buffalo Pound Water Treatment Corporation (BPWTC).

The BPWTC's mission recognizes that it provides a critical service for the residents of Regina, Moose Jaw and surrounding Region. Its future is driven by the vision of continued high quality water that always meets the demands of our customers in a reliable and cost-effective manner. This vision underpins the BPWTC strategic plan with a focus on capital investment, staffing, processes, financial stability, risk management and governance.

BPWTC completed Phase 1 of the \$45 million Electrical Capital Upgrade Project with a significant capital investment in its electrical supply infrastructure. Phases 2 and 3 commenced during the year and will both be completed in 2020. This will address the most significant risks in the production and reliability of the water supplied to the Cities. This project was made possible by a \$20.6 million grant from the federal and provincial governments under the Provincial-Territory Infrastructure Component of the New Building Canada Fund program. Once this project is completed, backup power generation capabilities will mitigate the consequences of power outages.

In addition to electrical upgrades, efforts continue to address the aging 65-year-old Plant facilities. In 2019, work continued on the development of the Plant Renewal Project, which will augment or replace the existing water treatment processes and physical Plant. The estimated cost ranges from \$127 to \$224 million, which has not yet been financed. The Plant Renewal Projects will ensure a reliable supply of potable water long into the future. The Board plans to award the design portion of the project in early 2020.

In September, the Board of Directors adopted a Diversity Policy to formalize procedures that ensure diversity at the board table is maintained and increased going forward.

The continued success of BPWTC is entirely due to the hard working and dedicated staff of the organization, under the leadership of General Manager Ryan Johnson and his management team. I would like to thank each and every one of them for their commitment and enthusiasm.

Dale Schoffer, FCPA, FCA, C.Dir





## GENERAL MANAGER'S LETTER

RYAN JOHNSON CD, M.A.SC., P.ENG.

On behalf of the Buffalo Pound Water Treatment Corporation's Management Team and Staff, I am very pleased to present the 2019 Annual Report.

2019 was a very good year for operations at the Buffalo Pound Water Treatment Plant. The Plant provided safe drinking water to over 260,000 people in Moose Jaw, Regina and surrounding Region.

The Plant met all regulatory requirements and criteria for the production of safe drinking water. As well, the Corporation met its obligations under the Unanimous Membership Agreement and mandate established by the Cities.

There were minimal problems during the year impacting the Corporation's operations. The issues were related to loss of power, raw water quality and equipment failure. There remains some regulatory issues with the operations of the Plant's process waste lagoons discharging back into the environment. Short term adjustments are being made to processes and procedures to improve the operation. However, the Plant Renewal Project will properly address these deficiencies.

The Draft Water Access and Supply Agreements were provided to the Cities in December.

The raw water quality continues to improve with increased water flows from Lake Diefenbaker and releases from Buffalo Pound Lake. The continued improvement in raw water quality resulted in a reduction in chemical costs for three consecutive years.

The Corporation's Safety
Management System Certificate
of Recognition continues to be
certified by the Safety Association
of Saskatchewan Manufacturers
at the Bronze Level. The Safety
Management System continues
to contribute to the strengthening
of our safety culture core value.

Consistent with our core values, the Corporation is striving to become a process-driven organization. The Plant substantially completed the implementation of the Computerized Maintenance Management System (CMMS) to strengthen maintenance practices and better retain institutional knowledge. The system

will enable the Corporations to execute the maintenance process in a consistent manner, reduce equipment related risks and optimize the capital planning process.

Phase 1 of the Electrical
Capital Upgrade Project was
completed which included a
new electrical substation and
backup generators at the Main
Plant. This work has mitigated a
significant risk to the Corporation's
ability to meet its mandate.

Phases 2 and 3 of the electrical upgrade project, which includes the Transmission Line and Lake Pump Station Renewal, commenced construction in 2019 and will both be completed in 2020. These projects will improve the electrical system reliability and efficiency, optimize raw water pumping operation, replace the electrical substation and add backup generators to ensure the reliability of future water supply. The Province and Federal Government committed \$20.6 million in grant funds under the Provincial-Territorial Infrastructure Component (PTIC) of the New Building Canada Fund in 2018 for Phases 2 and 3 of the Electrical Capital Upgrade Project.

The Plant Renewal Project (PRP) will ensure the long-term viability of the Buffalo Pound Water Treatment Plant. The PRP will address the increasing challenges to treat the lake water. The PRP is essential to ensure the Plant can meet current and future regulatory requirements. By addressing aging infrastructure issues the PRP will fulfill the Corporation's mandate for generations to come. The PRP progressed on schedule in 2019.

In April, 2019, the Corporation submitted an "Expression of Interest" under the Investing in Canada Infrastructure Program – Green Infrastructure Stream. This is the first stage of the application process

by which the Corporation seeks to secure up to \$215.4 million in federal and provincial government funding.

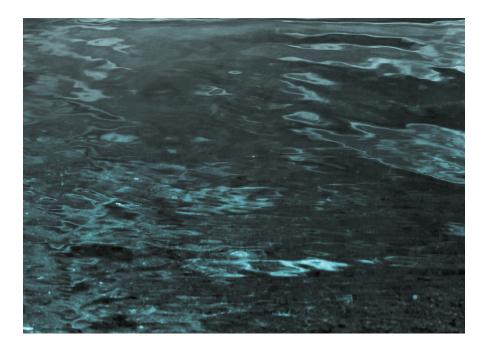
The Corporation received \$9.3 million for capital work in 2019 from water sales, PTIC grant proceeds and interest earned. The Corporation spent \$19.6 million during the year. The amount of approved funding carried forward to complete projects already in progress was \$33.3 million.

Water sales were strong, especially in the first half of 2019. Revenues were \$13.3 million and expenses were \$11.6 million, which resulted in a surplus of approximately \$1.7 million at year end. The surplus was added to the Corporation's reserve funds.

I want to thank the Buffalo Pound Water Management Team and Staff for their collective hard work and dedication to ensure that the Corporation met its regulatory requirements, mandate and objectives throughout the year.

Finally, I would also like to express my gratitude to the Board of Directors for their continued insight and input they provide to ensure the Corporation is able to meet its mandate and mission.

Ryan Johnson, CD, M.A.Sc., P.Eng.





## MANDATE, MISSION, GOALS AND VALUES



#### MANDATE

The Corporation will reliably and efficiently provide safe, high quality and affordable drinking water to the Cities.

#### MISSION

To provide a reliable and affordable supply of safe, highquality drinking water which meet the needs and expectations of consumers for the Cities of Regina and Moose Jaw.

#### GOALS

- Treated water that meets the quality expectations of the citizens of Moose Jaw and Regina, as well as meeting, or exceeding, all government regulated parameters.
- Operational practices and controls that ensure a continuous and safely-treated supply of water within an environmentallyresponsible and cost-efficient operation.
- Judicious monitoring of the treated water from the Plant to the end of the Cities' distribution systems. Appropriate monitoring of the water in Buffalo Pound Lake, the Upper Qu'Appelle River and Lake Diefenbaker to identify long-term trends and areas of concern to protect the water supply.
- Water quality research to identify possible chemical and microbiological contaminants and to test and implement the best available treatment technologies, thus ensuring that the Water Treatment Plant can meet current and future expectations for regulated parameters.

#### VALUES

Safety | Team Culture | Accountability | Process Driven | Innovation | Continuous Improvement

#### VISION

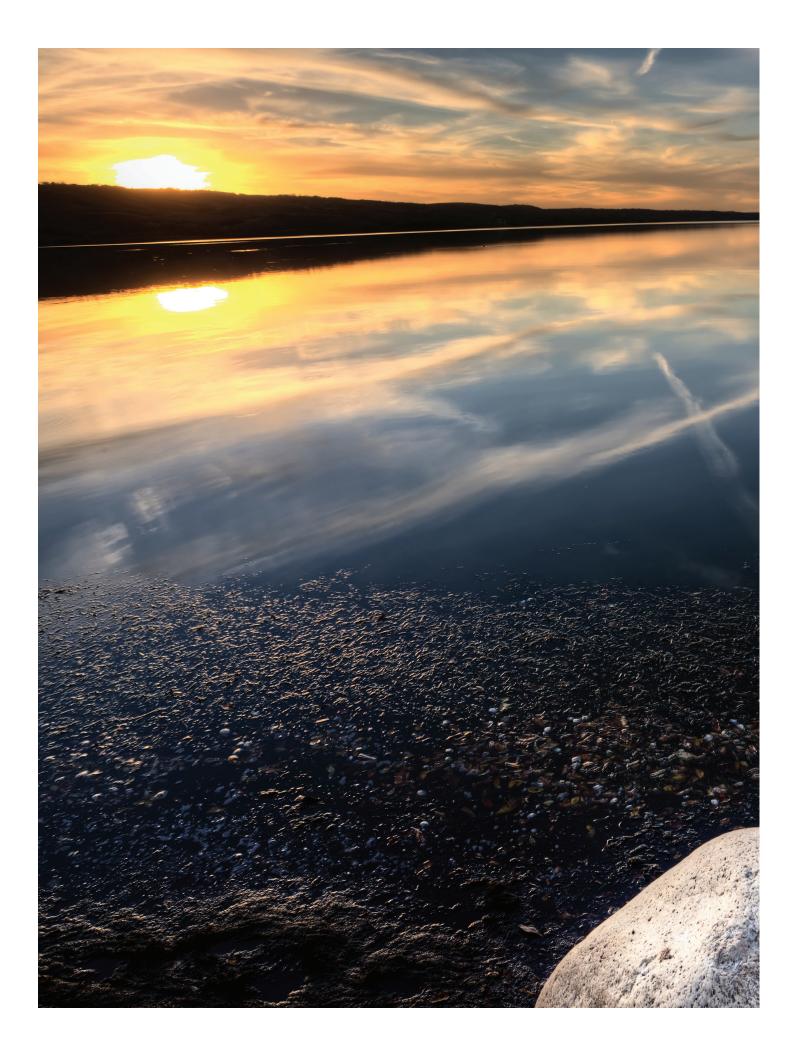
Buffalo Pound Water (BPW) is an expertly operated, independent, and trusted entity, that will be positioned to provide sustainable and reliable water as a critical service for generations to come.

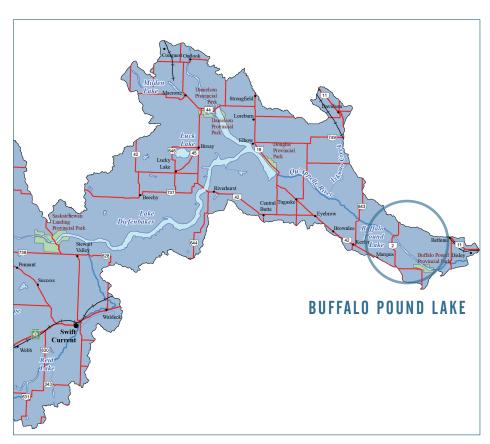
MISSION (WHY WE EXIST)	To provide a reliable and affordable supply of safe, high quality drinking water which meets the needs and expectations of consumers for the Cities of Regina and Moose Jaw.						
VALUES (HOW WE OPERATE)	SAFETY   TEAM CULTURE   ACCOUNTABILITY   PROCESS-DRIVEN   INNOVATION   CONTINUOUS IMPROVEMENT						
VISION (WHERE WE ARE GOING) 3-YEAR BUSINESS PLAN 2018-2020	BPW is an expertly operated, independent, and trusted entity, that will be positioned to provide sustainable and reliable water as a critical service for generations to come.  Deliver on Mission, and by 2020, Renewal Construction begins.						
CORE SERVICES	WATER QUALITY  Regulatory Requirements and Customer Expectations Met 100% of the Time				WATER QUANTITY  Meet Customer Demand 100% of the Time		
PROJECTS	RFN	FWΔI	PROJECT	CRITICAL PROJECTS			
	2018 Renewal Vision is Clear   2018 Funding Pre-approval				Electrical Project   SCADA Project   Chlorine Project   CMMS Project		
PEOPLE	SAFETY CULTURE Plant-wide Safety Management System	F Lear	OPLE DEVELOPMENT & PERFORMANCE Performance Plans, ning Plans, Plant-wide d Department Goals		COMMUNICATIONS & MANAGING CHANGE Internal Communication to Create One Team, Successful Change Implementation, Evolution of Project Management	BOARD GOVERNANCE Bylaws, Policies, Customer Services Agreement, Asset Transfer, Board Education & On-boarding	
FINANCIAL& RISK Management	FUNDING SOURCES  Grants, Loans, Research New Lines of Business		FINANCIAL OPERATING PERFORMANCE Budget Variance		RISK MANAGEMENT Risk Registry & QMS Framework	ASSET LIFECYCLE MANAGEMENT Asset Maintenance Plan	

MANDATE, MISSION, GOALS AND VALUES CONTINUED

#### STRATEGIC PLAN 2018 - 2020

The Corporation's Strategic Plan for 2018 -2020 is summarized above. The Plant's KPIs use targets that are set by the Board through the Strategic Plan's Balanced Scorecard. The Board reviews the targets and adjusts them accordingly at the Annual Retreat.





## THE YEAR IN REVIEW

### RESOURCES

#### FIGURE 1: UPSTREAM SOURCE WATER IN SASKATCHEWAN

#### WATER SOURCE

Water for Regina and Moose Jaw is taken from Buffalo Pound Lake, a shallow reservoir in the Qu'Appelle Valley, which is a part of the Upper Ou'Appelle River, Illustrated in Figure 1, the lake is 29 km long, 1 km wide, but has an average depth of only 3 metres. The surface area of Buffalo Pound Lake is 2900 hectares, meaning it has a capacity of 90 million cubic metres at the "full supply level" of 509.3 metres above sea level. Water levels in Buffalo Pound Lake are controlled by the Saskatchewan Water Security Agency and maintained by the release of water from the Qu'Appelle Dam on Lake Diefenbaker. The mean annual water release from Lake Diefenbaker has ranged from 1.2 to 4.2 m<sup>3</sup>/ sec in the past 10 years. Rain, snow melt and flood waters from the Moose Jaw River have compromised water quality, creating significant treatment challenges. The lake water

is potentially affected by discharges from point sources (upstream cities) and non-point sources (agricultural and recreational).

Buffalo Pound Lake is generally free of industrial pollution but is naturally rich in nutrients (phosphate, nitrogen and dissolved organic carbon) which encourage the growth of phytoplankton (typically diatoms in the winter and green algae or cyanobacteria in the summer). Weed growth can also be extensive. Algae and weeds pose many treatment challenges such as high chemical demands and undesirable tastes or odours. The lake and watershed appear to also be impacted by ground waters and surface runoff infusing minerals.

## THE YEAR IN REVIEW CONTINUED

## RESOURCES (CONTINUED)

#### PLANT TREATMENT

Raw water from Buffalo Pound Lake passes through a series of treatment stages designed to remove impurities such as algae, bacteria, clay particles and dissolved organic materials. The objective of this treatment is to produce water that is clear, colorless, odor free, aesthetically pleasing and safe to drink.

The treatment process consists of seven stages: chlorination, cascade de-gasification, coagulation/flocculation, clarification, filtration, carbon adsorption and disinfection with ultraviolet light.

Lake water enters a pumping station located on the south shore of Buffalo Pound Lake through two submerged intakes. Raw water is chlorinated and then pumped to the Plant via two pipelines connecting the pumping station to the main treatment Plant. The pipelines are 1.05 and 1.35 metres in diameter, extend a distance of approximately 3,000 metres and rise 82 metres. After reaching the Plant, water is initially divided into two streams, each of which has cascade de-gasification, coagulation/flocculation and clarification. The streams are then recombined for the final stages of treatment, including filtration, carbon adsorption, disinfection through ultraviolet radiation and chlorination.

Cascade operation is used to remove excessive dissolved gas levels in the raw lake water. Excessive dissolved gases are most commonly produced by photosynthetic bacteria and algae. During cascade degasification, the water falls over a series of steps which releases excess dissolved gasses and prevents the formation of gas bubbles in later treatment processes. Clarification and filtration processes could be impeded by gas bubbles that attach to particles of floc, causing them to float, rather than sink, and by causing air binding in the filters.

If conditions warrant, Powdered Activated Carbon (PAC) is added to reduce taste and odour. The use of PAC, while relatively infrequent, is occasionally necessary when the granular activated carbon contactors are off line or to temporarily reduce the odour loading when the contactors are online. PAC was last used in 2015.

Coagulation and flocculation are the next steps in the treatment process. Aluminum sulphate (alum), for the summer season, and polyaluminum chloride (PACI), for the winter season, is vigorously mixed with the water. In the process of coagulation, the alum and PACI neutralize surface charges on particulate matter contained in the water and forms a fluffy precipitate (floc) that entraps suspended materials such as algae and clay particles. The water is then stirred slowly in flocculation tanks to allow floc particles to become larger and denser prior to their removal.

The floc-bearing water then flows through clarifiers, where most (more than 95%) of the floc with its entrapped impurities is allowed to settle by gravity to the bottom while clear water is constantly removed from the top. Settled floc is removed from the clarifiers as sludge and is pumped to holding lagoons where it is further separated into clear water (returned to the lake) and solid sludge (removed for disposal).

Any floc that was not removed by clarification is separated in the filtration stage. Water is passed through mixed-media filters consisting of a top layer of coarse anthracite followed by successive layers of fine silica sand, and even finer garnet sand. Any remaining particulate matter or floc is trapped by the filters. Filters are cleaned by backwashing with clean water. The filtration step completes the removal of particulate impurities. The removal of dissolved organic impurities, which are responsible for

taste and odour, is accomplished next in the carbon adsorption stage of treatment. Large rectangular tanks (contactors) contain Granular Activated Carbon (GAC) to a depth of three metres. Water is lifted by Archimedes screw pumps from the bottom of the filters and taken to the top of the contactors where it is allowed to flow by gravity down through the GAC. GAC contains many microscopic pores which adsorb dissolved chemical impurities. Water is in contact with the GAC for 30 to 80 minutes, depending on flow rates, and emerges freed of the dissolved organic materials which cause objectionable taste and odour.

The GAC filtration process at the Plant was designed for taste and odour removal and is used during periods of poor taste and odour in the raw water. The normal period of operation is from May until December.

The water will then go through one final process where it flows through the ultraviolet reactors as a final disinfection stage.

All stages of water treatment are now essentially complete. Prior to delivery by pipeline to the consumers, chlorine levels are adjusted, if necessary, to provide adequate disinfection and to counteract any possible contamination encountered during its travel to the Cities' reservoir and distribution systems. Water delivered to the City of Moose Jaw is also fluoridated during pumping when their equipment is functioning properly.

The carbon used in the contactors retains its effectiveness for taste and odour reduction up to seven months, after which time it must be regenerated or replaced. It was found to be cost effective as well as environmentally responsible to regenerate the spent GAC rather

than to discard it and purchase new. Regeneration is accomplished by heating the spent GAC to 850°C in an oxygen-free atmosphere contained in a fluidized bed gas-fired furnace. Spent GAC is transferred by pipeline as a slurry from the contactors to the furnace, regenerated to process specifications, and returned to the contactors for reuse. Carbon regeneration is usually performed at the Plant from mid-November to mid-April.

## ENVIRONMENTAL PROTECTION AND CONSERVATION

The Plant, like any large industrial facility, has the potential to affect the environment. The Plant has facilities in place to handle all process wastes including alum sludge, off gases from the carbon regeneration facility, laboratory wastes, various solid wastes generated by Plant operations, process wastewater and sewage. The Plant uses a considerable quantity of electrical energy in its operation. Conservation efforts give returns in the form of reduced demands on the environment and lower operating costs. Upgrades to the Lake Pump Station, which are currently under construction, to convert the pumps to variable frequency drives should also reduce power consumption at the lake.

A series of sludge lagoons are used in the treatment of the alum sludge waste stream. This form of sludge management can be very effective in ensuring that the sludge is not released to the environment. Sludge is exposed to a natural freeze-thaw cycle that dewaters it to produce a nearly dry, granular material which is transported to a landfill site. Buffalo Pound is one of the few water treatment plants in Canada with the ability to manage waste sludge in this manner.

## THE YEAR IN REVIEW CONTINUED

## RESOURCES (CONTINUED)

The natural gas-fired furnace in the carbon regeneration facility produces off gases which are thoroughly scrubbed before released to the atmosphere.

Waste disposal agencies are contracted to handle laboratory wastes and solid wastes generated by the Plant. As it becomes necessary, firms specializing in hazardous waste disposal are contracted to dispose of chemical wastes.

The Plant recycles fiber-based materials and metals.

Sewage generated by the Plant is pumped to treatment and evaporation lagoons located on Plant property. The primary lagoon has a geotextile fabric and bentonitic clay liner to prevent seepage.

## WATER QUALITY MONITORING

A well-equipped accredited laboratory is located on site and used to monitor the quality of raw and treated water as well as water quality at several intermediate steps in the treatment process. Major process control parameters (turbidity, pH, chlorine residual, particle counts, dissolved oxygen and temperature) are monitored continuously by instrumentation communicating with the Plant process computer system.

Analyses are performed in-house for parameters regulated on a daily to monthly schedule. For parameters required less often (most trace-level organics and metals), samples are sent to commercial laboratories. Analytical results are compared to Canadian Federal guidelines and to Saskatchewan Ministry of Environment (MOE) objectives. All criteria for safe drinking water were satisfied by the Plant in 2019.

Analyses for a wide variety of physical, chemical, and microbiological parameters are performed in the Buffalo Pound Laboratory. Some 65 different constituents are routinely determined. The 2019 results are summarized in Appendix 1. Over the course of the year, those analyses exceeded 4,000 in number.

The quality of the regenerated granular activated carbon is monitored by Plant staff for a variety of physical and chemical parameters.

A vigorous in-house quality control program is maintained to ensure data generated by the Plant Laboratory is valid. The laboratory is accredited by the Canadian Association for Laboratory Accreditation (CALA) to ISO/IEC 17025 for 32 chemical and bacteriological parameters.



## THE YEAR IN REVIEW CONTINUED

### PLANT OPERATIONS AND MAINTENANCE

#### WATER PRODUCTION

Monthly water production and potable water sales (in megaliters) were as shown in Table 1. (See also related Graphs 1 and 2.) Total annual potable water sales to the Cities in 2019 were 30,265.48 ML to Regina and 5,195.93 ML to Moose Jaw. Sales to Regina decreased 5.29% from 2018 and sales to Moose Jaw decreased 5.91%.

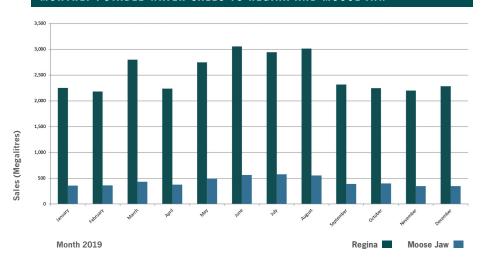
Sales to SaskWater Corporation in 2019 decreased by 4.88%, to 206.32 ML. Sales to SaskWater represent less than one percent of the Plant's production.

Graph 3 shows annual raw water withdrawal from Buffalo Pound Lake by year since the Plant began operation in 1955.

#### 2019 WATER SALES IN MEGALITRES (ML)

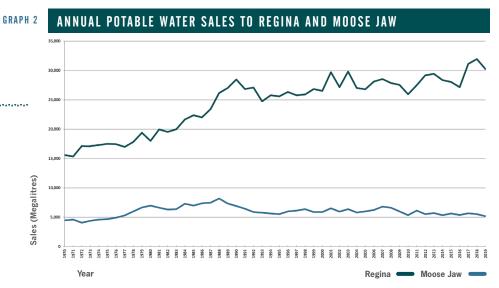
Month	Regina	Moose Jaw	SaskWater Corp.	Totals
January	2251.88	358.99	15.30	2626.17
February	2179.48	361.84	15.95	2557.27
March	2798.88	433.49	17.70	3250.07
April	2236.86	374.87	19.06	2630.79
May	2747.37	488.70	23.77	3259.84
June	3053.98	563.40	25.25	3642.63
July	2941.06	576.38	19.77	3537.21
August	3012.84	554.70	19.13	3586.67
September	2318.30	389.00	13.54	2720.84
October	2244.90	400.48	12.74	2658.12
November	2198.00	346.95	11.71	2556.66
December	2281.93	347.13	12.40	2641.46
Totals	30,265.48	5,195.93	206.32	35667.73

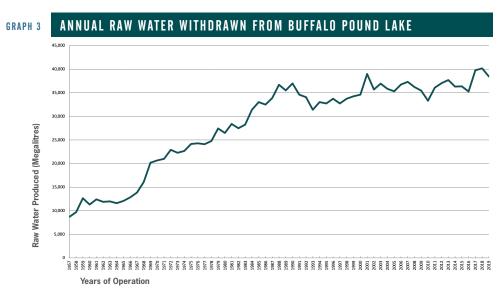
GRAPH 1 MONTHLY POTABLE WATER SALES TO REGINA AND MOOSE JAW

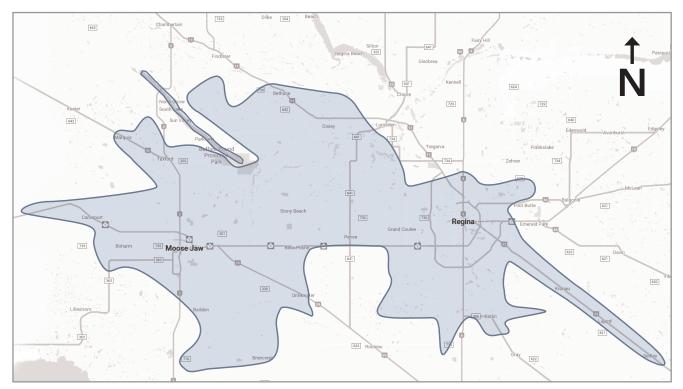


THE YEAR IN REVIEW CONTINUED

PLANT OPERATIONS AND MAINTENANCE (CONTINUED)







BUFFALO POUND REGIONAL WATER SYSTEM SERVICE AREA

A map representing the Region where over 260,000 people obtain their potable water from the Buffalo Pound Water Treatment Plant.

#### PLANT OPERATIONS

The processes employed at the Plant are modified during the year as required by changing water quality in Buffalo Pound Lake. Ice came off of Buffalo Pound Lake on April 17<sup>th</sup>. The lake froze over October 26<sup>th</sup>.

Lake water quality continued to improve in terms of Dissolved Organic Carbon (DOC) and mineral content. Average DOC concentrations declined to 5.5 mg/L from 6.0 mg/L & 7.6 mg/L in 2018 and 2017 respectively. Furthermore, the character of DOC continues to change to a less humic form. This has resulted in a continued reduction in the production of trihalomethanes in the treated water.

Trihalomethanes (THMs) at the Plant averaged  $36 \,\mu\text{g/L}$  (weekly analyses); as compared to the  $38 \& 50 \,\mu\text{g/L}$  annual averages produced in 2018 and 2017 respectively. Most of this THM reduction is due to the reduced formation of the brominated forms of THMs [Bromodichloromethane (CHBrCl<sub>2</sub>), Dibromochloromethane

(CHBr<sub>2</sub>Cl) and Bromoform (CHBr<sub>3</sub>)]. This reflects the lower mineral content of Buffalo Pound Lake. Bromide occurs naturally in lake water as a result of local run off and ground water intrusion. Bromide is oxidized by aqueous chlorine to hypobromous acid and can then react to form the brominated forms of THMs. Chloroform (CHCl<sub>3</sub>). which is most impacted by the character and concentration of the DOC, has not changed significantly over the last 2 years.

The granular activated carbon contactors (GAC) were put into operation May 27<sup>th</sup>. They remained in service until January 2, 2020.

Cold water temperatures bring about different problems for water treatment. The kinetics of alum coagulation is much slower in cold water, so the Plant used a Polyaluminum Chloride coagulant from March 28th until May 29th and again after December 12th. Polyaluminum Chloride forms a better floc somewhat faster than

alum, which benefits the Plant in terms of reduced chemical addition and residuals production. Another benefit from Polyaluminum Chloride use is that the finished water is of slightly higher pH and so is somewhat less corrosive. The Plant does not have provision for the addition of alkaline chemicals that could raise the pH of the treated water to more appropriate levels.

A cationic polymer was added as a flocculent aid at doses that ranged 0.1-0.15~mg/L. This treatment is done to strengthen floc interbridging and resist zones of high shear within treatment equipment and clarifier short-circuiting.

There were no major production events that occurred where the Owners' demands were not met. There were three minor events: loss of power, thermal gradients and mechanical failure which occurred for several hours.

The peak production of 164.9 ML occured on July 23<sup>rd</sup>.



THE YEAR IN REVIEW CONTINUED

PLANT OPERATIONS AND MAINTENANCE (CONTINUED)

## CARBON REGENERATION FACILITY

The carbon is regenerated during the winter so that it can be used to remove taste and odour from the water the following summer. The 2018/2019 regeneration season was from November 12, 2018 to March 24, 2019. The 2019/2020 regeneration season commenced November 19, 2019.

#### WASTEWATER FACILITY

The clarifier underflow removes particulate matter (alum sludge) from the raw water. The effluent stream is directed to sludge lagoons where the sludge is deposited and the clear water overflow returns to Buffalo Pound Lake. The sludge from the stockpile location was removed and sent to the Moose Jaw landfill. The sludge from one lagoon was excavated to the stockpile location.

## MAINTENANCE AND CAPITAL PROJECTS

Effective maintenance plays a key role in keeping the Plant running efficiently and producing high quality water. All vessels are drained, cleaned and inspected at least annually. All critical Plant equipment is inspected, tested and maintained at least annually to help ensure satisfactory operation during peak flow demands. All water quality monitoring instruments are calibrated on a periodic basis and the results are verified by laboratory testing.

#### PLANT CAPACITY

The two primary measurements of Plant Capacity are Firm Capacity and Total Capacity. Plant Capacity is commonly used in context of Firm Capacity. Firm Capacity is the capacity factoring the smallest bottleneck in the Plant without redundant equipment. However, some equipment uses its redundancy due to its extremely reliable nature. This was done on an equipment by equipment basis throughout the Plant to arrive at the Firm or Plant Capacity of 205 MLD.

The Plant distributes water to the City of Regina, the City of Moose Jaw, SaskWater, Buffalo Pound Provincial Park and the Buffalo Pound Water Treatment Plant Truck Fill. Plant Demand is the total water taken by these users. SaskWater, Buffalo Pound Provincial Park and the Buffalo Pound Water Treatment Plant Truck Fill represent a fraction of a percent of total flows.

Diurnal fluctuations within each City are managed through the use of reservoirs in each City, thus the Plant Capacity is designed around daily demands. Water demand is tightly correlated to population. An examination of the data for both Cities shows that with an increasing population, water demand has only increased marginally. This is attributed to the efforts of each City and their respective water conservation strategies.

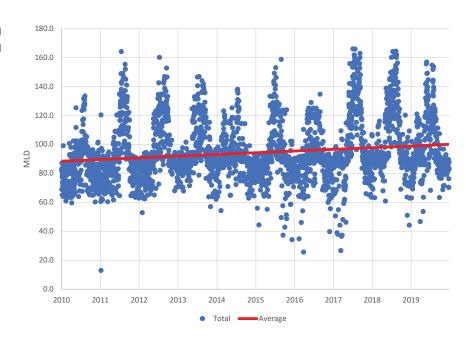
Ideally, a plant is designed such that it will achieve capacity at the end of its useful life. The last capacity expansion was in 1989, some 30 years ago. This is beyond the lifespan of most mechanical, electronic and electrical assets. Using 175 MLD as the current demand, the Plant is at approximately 85% of its capacity.

There can be considerable variance errors in the estimation of future growth and per capita usage. The variances are due to the unpredictable nature of local economies and population dynamics. Assuming per capita consumption stabilizing at 2019 levels and a moderate population growth, as provided by each City, it estimated that the Maximum Daily Demand may equal Firm Capacity in approximately 2037.

## THE YEAR IN REVIEW CONTINUED

### CAPITAL PLAN

### BPWTP WATER DEMAND 2010-2019





CAPITAL PLAN (CONTINUED)

#### CAPITAL PROJECTS

Capital Projects are infrastructure projects that may increase capacity, improve performance or renew the lifecycle of an asset or group of assets. These projects are typically undertaken when the scope cannot be performed with internal staffing and resources. The Board of Directors formed a

committee to oversee the Capital Projects at the Portfolio level. The Capital Projects Committee currently oversees the Plant Renewal Project, Quality Management System, Computerized Maintenance Management System, SCADA, Chlorine Safety Upgrade, Lake Pump Station Renewal and the Lake Pump Station Power Line Replacement.

#### PLANT RENEWAL PROJECT

Over the last ten years, assessments and analysis primarily conducted by engineering consultants have identified a growing body of risks. The risks are related to the Corporation's ability to meet its mandate. Most significant risks stem from aging assets, limited ability to treat dynamic raw water conditions, achieving process wastewater discharge regulatory requirements, and meet future regulations.

At the conceptual level in 2014, the total work required at the Plant was estimated to exceed \$150 million.

The value of this renewal program was conceptually approaching the value of a new water treatment plant. It was prudent for the Board to objectively evaluate options to determine the optimal approach to address these needs. To that end, a financial consultant was retained to develop a Business Case Strategy, which in turn was used to retain a consultant to develop a Business Case for the sustainment or renewal of assets best capable of delivering treated water to Corporation's customers.

The Corporation retained the services of Jacobs to perform a business case to objectively evaluate the range of investment options and provide direction on the delivery method using a Value for Money analysis. The major findings from this Business Case were that the Progressive Design Build (PDB) procurement method was the most advantageous for the Corporation to use and that the scope of the Plant Renewal Project will fall between a new water treatment plant built to meet future capacity, or a complete renovation that would allow for an expansion when it is required.

The Plant Renewal Strategy was that three PDB teams (engineering consultant(s) with a general



# CAPITAL PLAN (CONTINUED)

contractor(s)) would be selected to use their collective strengths to find a solution for the Plant Renewal Project. The team with the best overall score at the 20% design phase would be selected to complete the design. A Guaranteed Maximum Price (GMP) would be obtained near the end of the design phase. The Corporation has the ability to accept the GMP and commence construction, or the Corporation can reject the GMP, and complete the project as a Design Bid Build.

The Plant Renewal Project will cost somewhere between \$127 and \$224 million.

A Request for Qualifications (RFQ) was released in October 2018. The RFQ established the process for soliciting and evaluating Statements of Qualifications (SOQs) from those entities (Respondents) interested in serving as the Design-Builder. The SOQs were received November 23, 2018, and were reviewed and evaluated in accordance with the provisions of the RFQ to develop a shortlist (Shortlist) of qualified Respondents (Shortlisted Respondents). Only those Respondents selected as Shortlisted Respondents were issued a Request for Proposals (RFP) and invited to submit a proposal in response to the RFP.

The RFP, released May 6, 2019, solicited detailed technical and cost proposals (Proposals) from the shortlisted respondents. It provided the Project technical requirements, detailed requirements for preparing the Proposals, the relative weighting of technical and cost proposals, and the process by which the Proposals will be evaluated, among other matters. The draft Design-Build Agreement (DBA) forms

part of the RFP. There were three confidential meetings with each of the proponents, 73 Requests for Information and dozens of technical reports were developed and issued to the proponents. Two proposals were received December 20, 2019. Award is expected by March 2020.

#### OTHER PROJECTS

Construction on the Lake Pump Station Power Line was commenced in November, 2019. The new power line will be completed in March 2020.

The Lake Pump Station Renewal construction contract was awarded. Similar to the Main Plant Substation project, this project includes a new substation and generators. This project also includes upgrades to the pumping system. It is anticipated that construction will be completed in October 2020.

The equipment supply procurement process for the Control System Upgrade Project was started in 2019 and is currently under review. The project is planned to be completed in 2021.

#### **PLANT SAFETY**

The Safety Management System (SMS), which received its Certificate of Recognition (COR) in 2018, continued to function well for the Corporation. The Corporation passed its internal audit in 2019.

As programs, processes and procedures continue to change or be developed, staff are trained accordingly prior to implementation. Weekly Tool Box meetings continue; 44 different sessions were conducted in 2019. Bi-monthly staff meetings continue to have a safety component in them combined with Corporate objectives and initiatives.

The Safety Association of Saskatchewan Manufacturers (SASM) continues to be the safety association with whom the Corporation has an active membership. This membership provides the Corporation with valuable training, resources and guidance in the continued development of the Safety Management System.

The Corporation is now looking into adding more application-based safety tools for staff to use to both benefit interaction and effectiveness as well as to collect more information to drive continuous improvement initiatives.

The Corporation had zero lost time incidents, zero first aid injury/illness, zero near misses and one no-lost time incident from a third party.

THE YEAR IN REVIEW CONTINUED

### PLANT SAFETY

## RISK REVIEW

#### RISK REVIEW

The Corporation operates within a complex environment and is exposed to a variety of risks that can impact the ability of the Plant to achieve its mandate. The Corporation's Board and Management Team manages risk through a formal risk management framework. The Corporation's risk management framework is designed to address the top business and asset risks that could arise from internal and external sources.

The Corporation implements the risk management framework through a risk management process to identify, analyze, evaluate and treat risk. The Management Team is responsible for identifying, analyzing and evaluating risks. The Board is responsible for reviewing the top risks and determining if the appropriate controls and mitigations are in place and evaluating the effectiveness of the risk management framework.

The Corporation risk assessment process considers the entire system from the source water to the customer boundary. The following is a description of the types of risks the Corporation manages.

#### AGING INFRASTRUCTURE

Since the Plant was first constructed and started operating in 1955, there have been combinations of expansions and upgrades. As the Plant and infrastructure age, there is a risk of increased failure that could impact services, compromise regulatory compliance or increase operations and maintenance costs.

#### REGULATORY CHANGES

The supply of drinking water requires strict compliance with health, safety and environmental regulations. Federal and Provincial regulators continually review and update regulations. There is a potential that changes in regulations will require investment in new treatment processes, or upgrades to existing infrastructure and increase operation and maintenance costs.

#### THIRD PARTY INFLUENCES

Damages, or other negative influences, are a consistent source of risk for water supply organizations. A power supply interruption, damages to infrastructure and contamination of the watershed could cause service impacts, compromise regulatory compliance or increase operations and maintenance costs.

#### CLIMATE AND WEATHER

Extreme, and even more modest changes in climate and weather, are potential sources of risk. An increase in frequency or intensity of such events could cause service impacts, compromise regulatory compliance, increase investment in infrastructure resiliency, or increase in operations and maintenance costs.

#### **GENERAL BUSINESS**

There are several types of risks that could arise that the Corporation views as part of its general business. These include general economic conditions, human resource management, reputation, purchasing and information systems. While the cause and consequence for each are different, there is the potential for any of these risks to have financial and non-financial impacts on the Corporation.

In addressing risks that arise, the Corporation uses several strategies that include:

- Capital Investments
- Operations Procedures
- Enhanced Maintenance
- Emergency Response Plans
- Communication with Third Parties
- Transfer of Risk

In 2019, there were 35 active risks. However, many of these risks will be mitigated through the Board's actions relating to Capital Investment; Operational Procedures, Enhanced Maintenance, Emergency Response Plans, Communications and Risk Transference.

The Risk Profile decreased from 2,185 in 2018 to 2,002 in 2019. The decrease is mainly from the mitigation of some of the more severe risks by the Board and Management. These risks are reviewed with regards to the likelihood and consequence over time.

#### ASSET MANAGEMENT

In consideration of the Plant Renewal Project, wherein the majority of the assets will be renewed, the Corporation has adopted a riskbased approach for managing the assets for their remaining life. The assets representing greatest risk to the organization were identified and appropriate risk mitigation strategies were put in place including monitoring, refurbishment and renewal. The Computerized Maintenance Management System (CMMS) has been fully implemented and is being used to optimize maintenance activities.



## **KPIs**

# NATIONAL WATER AND WASTEWATER BENCHMARKING INITIATIVE

There is a 2-year lag in the collection of benchmarking data. The benchmarking group is working on compressing this timeline and reducing the lag to 12 months. Data for 2017 was received and was presented to the Board and Owners in fall of 2019.

As demonstrated by the "Sufficient Capacity" and "Protect Public Health" measures, the Plant kept up with water demand and provided safe drinking water to its customers.

The "System Reliability" goal improved significantly from 2016 (73.4%) due to reduction in reactive maintenance hours and improvements in average capital reinvestment rate.

The Plant scored well on its O&M cost as compared to 24 other participants, which included Cities, Private Utilities, Regional Systems and Water Commissions representing other water treatment plants across Canada, which puts it in the 25-50% Quartile at \$266.42/ML.

The goal of the Plant is to continuously improve its environmental stewardship. The environmental stewardship goal is made up of two measures, percentage of wasted water and the Green House Gas (GHG) emissions from the energy consumed. The Plant's amount of wasted water is high, but not statistically different from the other utilities. The aging filters, which require frequent backwashing, are one of the contributing factors of wasted water. The residuals created by GHG generated was higher primarily due to two factors. The first factor is the amount of electrical energy used to bring the water to the Plant from the lake overcoming an elevation difference of 83 m. The second is the amount of natural gas used to regenerate the granular activated carbon. Most water treatment plants do not contend with either of these issues in their treatment systems which makes the Plant an outlier. The calculation of GHG emissions also factors in the Province in which the energy originates. As SaskPower utilizes a lot of coal in power generation, the Provincial Factor is very high.

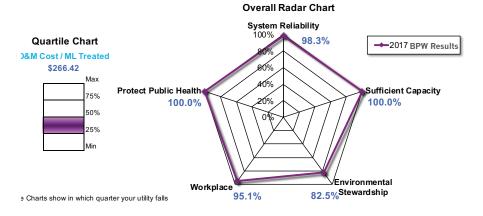
### **AECOM**



#### OVERALL RADAR CHART







#### GOALS

#### **Provide Reliable Service and Infrastructure**

5 year Average Capital Reinvestment / Replacement Value # of Unplanned Hours that Plant Could Not Operate at Rated Capacity Unplanned Maintenance Hours / Total Maintenance Hours

#### **Protect the Environment**

% of Water Wasted During Treatment Process GHG Emissions from Energy Consumed / ML Treated

#### **Protect Public Health**

# of days over Group Target for Turbidity # of days with Total Coliforms # of days over Group Target for Nitrates

#### **Ensure Adequate Capacity**

ADD / Existing Licence Capacity # of Days Plant Operated at >100% Capacity

#### **Provide Safe and Productive Workplace**

# of sick days taken per O&M employee # of O&M Accidents with Lost Time / 1,000 O&M labour hours # of Lost Hours due to O&M Accidents / 1,000 O&M labour hours

# KPIs (CONTINUED)

# 2019 KEY PEFORMANCE INDICATORS

The Corporation uses internal KPIs which are based on targets established by the Board, NWWBI results or regulatory requirements. These are reviewed annually by the Board with the targets being adjusted accordingly.

The KPIs are rated based on a comparison of the Plant's score versus the target. These are used to make decisions internally.

The actual KPIs have been included in the Strategic Plan which is available to the public.

All items on the Balanced Scorecard are on track or have been completed, with the exception of:

- (i) There were two unexpected service interruptions of 4.5 hours due to thermal gradients in July and 14 hours with a loss of power in September.
- (ii) The Board developed a draft Financing Strategy and obtained input from the Cities' Finance Directors. The decision was made to delay approving the Financing Strategy until greater cost certainty was done by advancing the Plant Renewal Project to the 20% design and obtain a Class 3 estimate. This should be completed in Q1 2020.
- (iii) The Customer Service Agreements (Water Access and Supply) between the Corporation and Cities should be completed in early 2020.

#### WATER QUALITY:

Objective – meets regulatory requirements and customer expectations 100% of the time.

#### WATER QUANTITY:

Objective  $\cdot$  to deliver water that meets customer demand 100% of the time.

#### **RENEWAL PROJECT:**

Objective – Successful achievement of all aspects of this massive undertaking to transform the Plant's ability to deliver, meeting its mission and vision.

#### **CRITICAL PROJECTS:**

Objective – Critical projects are delivered.

#### **SAFETY CULTURE:**

Objective – To operationalize plantwide a Safety Management System.

## PEOPLE DEVELOPMENT & PERFORMANCE:

Objective – To design, implement, and monitor people development and performance processes plant-wide.

## COMMUNICATION & MANAGING CHANGE:

Objective – To evolve all communication and project management processes plant-wide.

#### **BOARD GOVERNANCE:**

Objective – To continue to evolve board governance effectiveness.

#### **FUNDING SOURCES:**

Objective – Establish funding sources into the Corporation.

## FINANCIAL OPERATING PERFORMANCE:

Objective – To meet budget variance targets.

#### **RISK MANAGEMENT:**

Objective – To manage risk and take action on risk items.

#### ASSET MANAGEMENT:

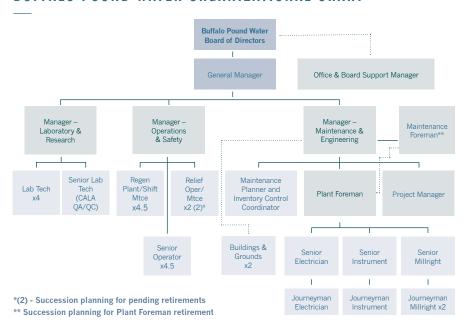
Objective – To adopt a formal asset lifecycle management approach.



REGULATORY AND GOVERNMENTAL AFFAIRS

#### December 2019

#### BUFFALO POUND WATER ORGANIZATIONAL CHART



# THE YEAR IN REVIEW CONTINUED

## HUMAN RESOURCES

#### **HUMAN RESOURCES**

In 2019, the Plant employed a total permanent staff of 36, consisting of eight (8) out-of-scope staff, nine (9) operating staff, five (5) laboratory technologists, seven (7) journeyman maintenance persons, five (5) maintenance persons, and two (2) buildings and grounds staff. Included in the staff complement are three (3) developmental positions for succession planning for the current senior operations staff and to support other personnel changes within the Corporation.

The in-scope staff is represented by UNIFOR Local No. 595.

The Collective Bargaining Agreement expired December 31, 2019.

There were 2 staff retirements in 2019 and 1 staff member's employment was terminated.

Staff at the Plant participate in the Regina Civic Employees Pension Plan.

#### WATERSHED PROTECTION

The Corporation continues to be involved in consultation processes dealing with watershed protection in the Upper Qu'Appelle River and Buffalo Pound Lake.

#### MISCELLANEOUS

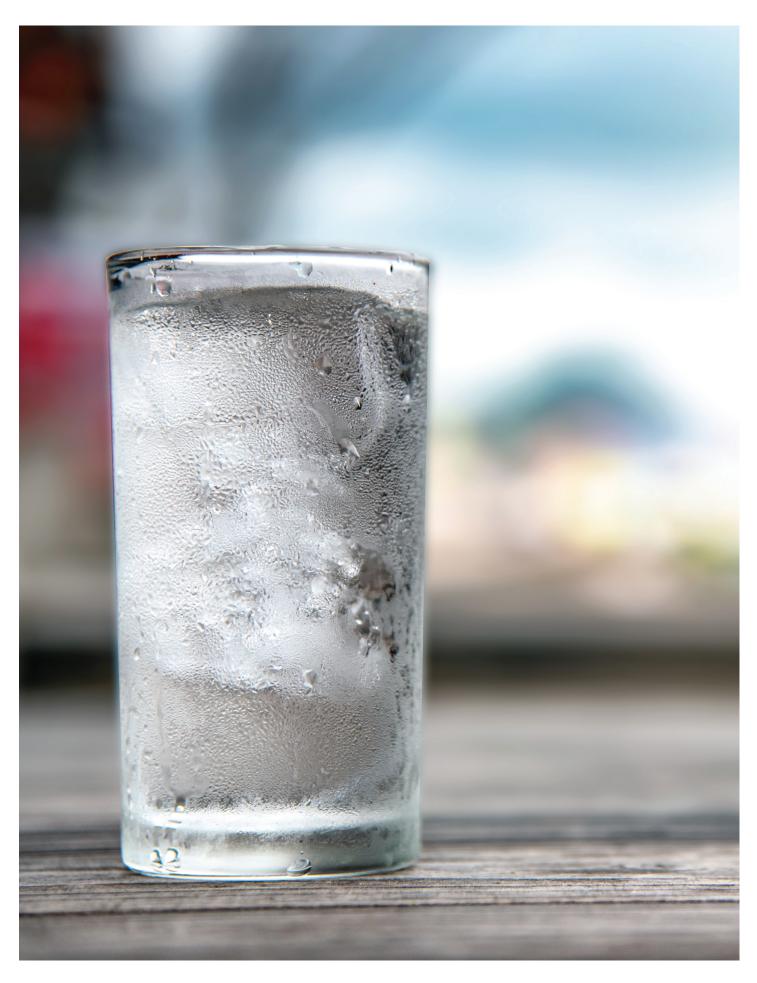
The General Manager attended the Windows on Ottawa conference in Ottawa, ON and the National Water and Wastewater conference in Banff, AB as a Board member of the Canadian Water and Wastewater Association.

The General Manager; Research & Laboratory Manager and the Project Manager attended the Western Canada Water and Wastewater Association conference in Edmonton, AB.

The Maintenance and Engineering Manager attended the National Water and Wastewater Benchmarking Initiative workshop in Halifax, NS.

The Operations & Safety Manager attended the Saskatchewan Safety Council annual conference in Regina, SK.

The Plant Foreman and four staff members attended the Saskatchewan Water and Wastewater Association annual conference in Saskatoon, SK.



## RESEARCH

# RESEARCH AND ANALYTICAL PROGRAM PROCESS DEVELOPMENT

#### **Process Development**

A major research study to examine alternative processes that reduce the production of trihalomethanes was completed in 2018. The report entitled "Reduction of Trihalomethanes: Evaluation of Alternative Treatments" recommended that removing prechlorination would be the easiest and least expensive modification to reduce THM formation. In 2019, management has prepared the Plant and operations to remove prechlorination from the treatment process. Prechlorination will be ceased in early 2020. Pre and post removal of prechlorination THM and Haloacetic Acid (HAAs) concentrations continue to be monitored to confirm the study's findings in full scale operation.

#### **Source Water Quality**

The Buffalo Pound Water Treatment Corporation has supported, and contributed, to the research undertaken by Dr. Helen Baulch from the Global Institute for Water Security at the University of Saskatchewan since 2014. The research project entitled "FormBloom" has provided benefits for the Corporation that include: development of forecasting tools and ongoing deployment of sensor-based buoy technology; assessment of seasonal changes in lake water quality affecting Plant operations; improved characterization of the suite of cyanobacterial toxins present, and timing of toxin occurrence; characterization of long-term changes of biomass and turbidity associated with climate change; and a greater understanding of the drivers of ecological change.

In 2019, the Corporation committed in-kind and financial resources in support of a three year grant

renewal that will allow Dr. Baulch to continue FormBloom research through 2022. The next phase of work will evaluate potential changes in source water quality that may impact future Plant design.

#### **Lagoon Residuals**

In 2017, a wastewater regulatory limit for total suspended solids (TSS) was introduced to the Plant's Permit to Operate. Currently, the Plant's process waste lagoons effluent does not meet the TSS limit 100% of the time. In November 2019, the laboratory began bench scale evaluations of adding high molecular weight cationic polyacrylamide polymers (CPAM) to clarifier sludge. Clarifiers are the main source of waste solids produced by the water treatment process.

The purpose of the investigation is to explore additional treatment applications to enhance settling, dewatering and compression of clarifier solids in the settling lagoons so as to reduce the number of TSS non-compliances of lagoon effluent.

Bench scale testing has demonstrated that adding CPAMs to both alum and polyaluminum chloride clarifier solids enhances aggregation and substantially promotes settling and dewatering of the solid particles compared to not using polymer.

Freeze drying of sludge in a quiescent lagoon is necessary to further dewater and compress a prior layer before the lagoon can be placed back into service. This process was also tested on solids with, and without, polymer. Results suggest that CPAMs do not interfere with freeze drying and dewatering after thawing. These freeze-dried solids also maintain a hydrophobic characteristic, as does aluminum based solids without polymer.

Further testing of potential benefits of polymer(s) addition to better

# RESEARCH (CONTINUED)

manage clarifier sludge will continue in 2020. It is hypothesized that in full scale operation, the enhancement of settling, dewatering and compression of polymer induced sludge may increase the number of TSS compliances of lagoon effluent by making the settled sludge less susceptible to disturbances caused by high winds and wide variations of influent flow rates. An engineering design and cost estimate for a full scale mixing and injection system will also be sought.

While the above is an interim solution, the Plant Renewal Project will provide a long term solution by ensuring the lagoons are sized appropriately.

# ADDITIONAL WATER QUALITY MONITORING

#### **Raw Water**

The analyses required in the Permit to Operate on treated water represent only a portion of those carried out at the Plant. Staff also carry out regular monitoring of raw water quality as this would provide early warning of chemicals that could impact treated water quality. This work was contracted out to a laboratory capable of providing analyses as low as parts per trillion. Ninety-three pesticide and herbicide compounds were tested for. Most of those are without Health Canada Guidelines. Various anthropogenic compounds (47 in total), such as pharmaceuticals and personal care products, were also tested for. The laboratory also conducts regular analyses throughout the year for benzene, toluene, xylenes and ethylbenzene that would indicate spilled gasoline or diesel fuels. Thus far, Buffalo Pound Lake does not seem impacted to any level of concern for the above suites of chemical pollutants.

#### **Residuals Treatment - Lagoons**

Solids recovered from the clarification processes are settled out in lagoons and ultimately taken to the Moose Jaw landfill for disposal. The lagoons were designed and constructed over 30 years ago when Plant flows were lower. Regulatory limits of effluent quality also did not apply. With the introduction of a regulatory monitoring and compliance schedule in 2017, the effluent remaining after treatment is monitored weekly for solids and chlorine. Total and dissolved aluminum are measured monthly. Twice a year samples are sent for acute toxicity evaluation. Results of these analyses are reviewed by the Water Security Agency.

The effluent samples did not demonstrate acute trout toxicity. However, solids and chlorine analyses from the lagoon overflow indicate that the lagoons do not always meet quality requirements. The 2019 compliance score card for solids, free chlorine, and total chlorine were 64%, 96% and 30% respectively. The causes of non-compliance include solids and hydraulic overloading, poor overflow design, no underdrains, and not controlling for wind effects. The deficiencies in residuals handling have been recognized in engineering studies and lagoon improvements have been identified as a requirement in the future Plant upgrade. Until a redesign can be completed and implemented, with the Plant Renewal Project, management has been taking steps over the past year to reduce wastewater volumes and decrease effluent overflow rates to maximize solids settling times.

#### **Watershed Monitoring**

Monitoring of the Upper Qu'Appelle River watershed, including Buffalo Pound Lake, is typically carried out on an annual basis. In 2019, two sampling episodes were carried out to examine expected changes resulting from different flow rates in releases from the Qu'Appelle Dam. During the May survey, ten sites were sampled. They included Lake Diefenbaker via the Riverhurst Ferry, six locations throughout the reach of the Upper Qu'Appelle River, the west arm of Buffalo Pound Lake, the Plant's raw water intake and the Buffalo Pound Lake Dam at the east end of Buffalo Pound Lake. The second survey conducted in September was restricted to six locations which included the Ou'Appelle Dam, the bridges at Eyebrow, Keeler & Marquis, the west arm of Buffalo Pound Lake, and the raw water intake.

Releases from the Qu'Appelle Dam were highest for the year at 11 m<sup>3</sup>/ sec from around April 8th to May 20th. Flow was reduced to ~7 m<sup>3</sup>/ sec the week of May 27th and just prior to collection done during that week. Surprisingly, concentrations of suspended solids through the Upper Qu'Appelle river were less than average. As expected, suspended solids were above normal in the west arm of Buffalo Pound Lake which functions as a solids settling area. Suspended solids were near average at the other two Buffalo Pound Lake sites. Total phosphorus levels in the May collections were at or below average at all ten locations. Normally, high flow rates within the Upper Qu'Appelle River cause progressively higher levels of suspended solids and total phosphorus due to erosion of light soils in the river channel and as water travels through the Qu'Appelle Dam to Buffalo Pound Lake. Phosphorus is a nutrient that promotes the growth of cyanobacteria.

Releases from the Qu'Appelle Dam were reduced to ~2.4 m³/sec during the second week of September with sampling being done the week of September 23rd. Concentrations of suspended solids and total



phosphorus were above average in both Buffalo Pound Lake sites. Total phosphorus concentrations from Lake Diefenbaker and through the Upper Qu'Appelle River were at, or below, average.

Sampling for various pharmaceuticals and anthropogenic compounds was also carried out during the May sampling. A variety of herbicides used for broad leaf weed control were detected in the west arm of Buffalo Pound Lake and at the Plant intake. There were two herbicides found with average concentrations: 2, 4 D (39 parts per trillion) and Fluroxypur (33 parts per trillion). Diazinon is an insecticide used in agriculture to control insects on fruit, vegetable, nut and field crops and was detected (12 parts per trillion). All of these compounds were found at concentrations many orders of magnitude less than drinking water guidelines; for example, in the case of 2,4 D, found at the highest concentrations, ~2500 times less. None of the above compounds were detected in treated water analyzed during the summer as shown in the Compliance Report.

Only one compound associated with wastewater was detected at the west arm of Buffalo Pound Lake N,N-diethyl-meta-toluamide, better known as DEET with a concentration of 15 parts per trillion.

For a sixth summer, a buoy with various water quality sensors was deployed near the Plant's water intakes by the University of Saskatchewan team lead by Dr. Helen Baulch. Data from this buoy continued to aid understanding of what triggers rapid changes to water quality parameters influenced by wind speed and cyanobacteria counts.

The laboratory at the Plant has been analyzing many components of raw and treated water over the years. The database of Buffalo Pound Lake water quality extends from 1969 to the present. The database of the Upper Qu'Appelle River Watershed, which includes Lake Diefenbaker, covers the years from 1979 to the present. These long-term databases prove very useful to various government agencies including the Water Security Agency.

### BUDGET

#### OPERATIONS BUDGET

The 2019 water rate for the Cities of Regina and Moose Jaw increased by 2.90% from the 2018 rate to \$355.00 per megalitre. The electrical rate was set at \$0.11089 per KWH for 2019; an increase of 3.00% from 2018.

The Cities of Regina and Moose Jaw forecasted water sales of 29,200 ML and 5,350 ML respectively. Actual water sales were up 3.65% from Regina's and down 2.88% from Moose Jaw's water sales forecasts.

Total water sales to the Cities in 2019 were 30,265.5 ML to Regina and 5,195.9 ML to Moose Jaw. Sales to Regina decreased 5.29% (from 2018 actuals) and sales to Moose Jaw decreased 5.91%.

Operations at the Plant resulted in a surplus of \$1.7 Million in 2019. Water sales generated \$13.3 Million in revenue and expenses were \$11.6 Million.

The largest contribution to the surplus was the sale of water being higher than forecasted due to the weather and higher demand, earlier in the year. The actual expenses were under budget by \$0.9 Million. The bulk of the cost savings was due to lower chemical usage as there was continued improvement in the raw water quality during the year.

The Board of Directors has set a target of \$2 Million for the operating reserve. The reserve may be used if deficits are incurred during periods of low water demand.

Audited financial statements are contained in Appendix 2. Graph 4 on the following page summarizes operational expenses for 2019 as a percent of the total budget.

#### CAPITAL BUDGET

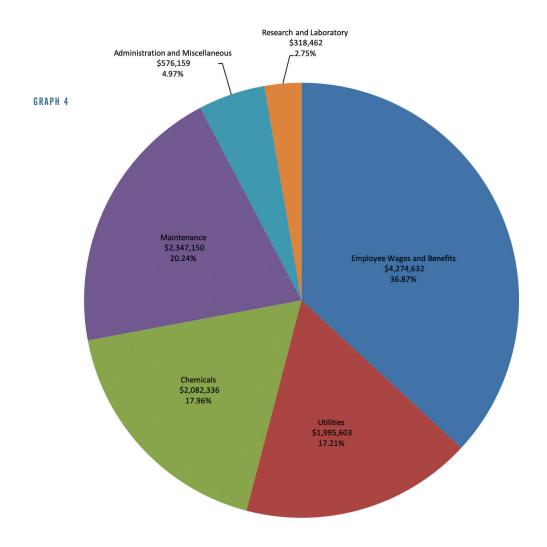
The 2019 Capital Water Rate was \$188.00 per megaliter. There was no increase from 2018. The Capital Water Rate is projected to increase to approximately \$375.00 per megalitre by 2024 to fund necessary projects.

The Capital Budget started the year with \$55.3 Million in reserves. Total Capital revenues of \$9.3 Million were realized with the Capital Water Rate, proceeds from the PTIC-NRP Grant, and interest earnings. The amount spent on capital projects in 2019 was \$19.6 Million.

At year end, \$33.3 Million was carried forward into 2020 to complete projects initiated in 2019. The total Capital Reserve Balance is \$45.0 Million.

Any unallocated Capital Reserve funds will be allocated to the Plant Renewal Project to reduce the amount of financing required.

#### **EXPENSES SUMMARY**







## **APPENDICES**

2019

### APPENDIX 1 Water quality analytical data — 2019

- Drinking Water Quality and Compliance Report for 2019
- Raw and Treated Water Analysis

APPENDIX 2 AUDITED FINANCIAL STATEMENTS — 2019



## **APPENDIX 1**

## WATER QUALITY AND COMPLIANCE REPORT FOR 2019

#### INTRODUCTION

The Water Security Agency requires each Permittee to monitor water quality as stipulated under its Permit to Operate a Waterworks. Permittees are also required to prepare an annual report to their customers and the Saskatchewan Water Security Agency, summarizing the analytical results of the monitoring in a report entitled "Drinking Water Quality and Compliance Report."

For more information about the meaning and type of sample, refer to the Water Security Agency's "Municipal Drinking Water Quality Monitoring Guidelines, or the associated website http://www.saskh2o.ca/DWBinder/epb205.pdf.

The guidelines for Canadian Drinking Water Quality are developed by the Federal-Provincial-Territorial Committee on Drinking Water and are published by Health Canada. The province of Saskatchewan utilizes the guidelines in issuing Permits to Operate for regulated water works. Guidelines for chemical and physical parameters are either:

- 1. health-based, and listed as a Maximum Acceptable Concentration (MAC);
- 2. based on aesthetic considerations, and listed as an Aesthetic Objective (AO); or
- 3. established based on operational considerations, and listed as an Operational Guidance value (OG).

Throughout this document, the analytical values are reported as well as the units of measure. Many parameters are not detectable in the treated water. Wherever the "less than sign" (<) is used it is followed by the method detection limit. This means that the parameter was not detected at or above the level indicated. The Buffalo Pound Water Treatment Plant was fully compliant with the requirements for sample submission as defined in our Permit to Operate a Waterworks No. 00050083-06-00.

#### WATER QUALITY STANDARDS - BACTERIOLOGICAL QUALITY

According to its Permit to Operate a Waterworks the Buffalo Pound Water Treatment Plant is required to analyze one sample every week from the treated water for Bacteriological Quality. Results of that sampling follow. All required samples were submitted over the year, none of which had detectable coliform or background organisms.

Parameter	Limit	Number of Samples Submitted	Number of Samples Exceeding Limit
Total Coliforms	0 per 100 mL	52	0
Background Organisms	<200 per 100 mL	52	0

#### WATER QUALITY STANDARDS - FILTER TURBIDITY

The Buffalo Pound Water Treatment Plant is required to monitor the effluent turbidity from all twelve filters on a continuous basis. The turbidity from each individual filter shall be less than 0.3 NTU, 95% of the time. The turbidity shall not exceed 0.3 NTU for more than 12 consecutive hours and shall never exceed 1.0 NTU. If, on those occasions when the monthly average of the source water turbidity is less than 1.5 NTU, the water turbidity levels from each filter must be less than 0.2 NTU, 95% of the time, the turbidity will not exceed 0.2 NTU for more than 12 consecutive hours and shall never exceed 1.0 NTU.

This Plant's SCADA Control System automatically generates an alarm if a filter effluent turbidity exceeds 0.3 NTU. If the turbidity exceeds 0.4 NTU at any time, the Plant's SCADA Control System automatically closes the filter effluent valve, turning off the filter. The Plant's operating permit requires online turbidity monitoring on the effluent of each of its twelve filters. A problem with the turbidity monitor or data transfer system to the Plant's SCADA requires a shutdown of the affected filter. To address this possibility the Plant has a second independent turbidimeter on each filter so that continuous monitoring can be maintained even if the first turbidimeter fails. A fault condition on any one turbidimeter will also generate an alarm.

#### WATER QUALITY STANDARDS - FLUORIDE

The Buffalo Pound Water Treatment Plant did not add fluoride to the water pumped to the City of Moose Jaw in 2019. Operation of the fluoride feeder was terminated the first week of October in 2018 due to an equipment failure. The equipment is antiquated and it is no longer possible to obtain replacement parts. The replacement of the equipment is the responsibility of the City of Moose Jaw.

#### WATER QUALITY STANDARDS — CHLORINE RESIDUAL

To ensure adequate disinfection, the Buffalo Pound Water Treatment Plant must monitor the chlorine residual of the treated water on a continuous basis, and the free chlorine residual shall not be less than 0.1 mg/L. The normal operating range for the free chlorine residual in the treated water is 0.9 to 1.1 mg/L. The SCADA control system will automatically shut off pumping to the Cities if the chlorine level is less than 0.5 mg/L. A high level chlorine alarm will alert the operator if chlorine levels in the clearwell exceed 1.3 mg/L.

#### WATER QUALITY STANDARDS — CHEMICAL — GENERAL

As part of the Plant's "Permit to Operate" a general chemical analysis is required once in every three-month period from the treated water. Only two of these parameters have an established Maximum Acceptable Concentration (MAC). Eight others have an Aesthetic Objective (AO) which is desirable but has no impact on human health. Four analytes have no MAC or AO but are collected upon the request of the WSA.

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DRINKING WATER QUALITY AND COMPLIANCE REPORT FOR 2019 (CONTINUED)

Parameter						No. of Samples
(mg/L) unless stated	Feb. 11	May 13	Aug 12	Nov. 12	MAC	Exceeding MAC or AO
Nitrate	0.80	0.44	0.40	0.24	45	0
Fluoride	0.12	0.12	0.08	0.09	1.5	0
					AO	
Alkalinity	185	154	67	112	500	0
Chloride	24.2	30.4	22.6	18.3	250	0
Hardness	268	208	142	180	800	0
Magnesium	30.0	22.0	18.9	21	200	0
pH (pH units)	7.40	7.53	6.89	7.17	6.5 – 9.0	0
Sodium	62.9	46.2	37.3	39.6	300	0
Sulphate	200	124	142	146	500	0
Total Dissolved Solids	508	362	304	330	1500	0
Carbonate	ND	ND	ND	ND	None*	
Calcium	55.4	48.6	24.8	38.2	None*	
Conductivity (uS/cm)	769	605	482	550	None*	
Bicarbonate	225	188	82	136	None*	

(ND) Not Detected \*No MAC or AO but requested by the WSA

#### WATER QUALITY STANDARDS - CHEMICAL - HEALTH

The Buffalo Pound Water Treatment Plant is required to sample the treated water for the following parameters once in every six-month period. Thirteen of these parameters have an established MAC. Three parameters have guideline values which establish a target that could be expected from well-functioning water treatment plants or are aesthetic objectives for the taste or appearance of treated water. Silver is included here upon the request of the Water Security Agency.

Parameter (mg/L)	May 7	Nov 5	MAC	Number of Samples Exceeding MAC
Antimony	<0.0002	<0.0002	0.006	0
Arsenic	0.0003	0.0003	0.010	0
Barium	0.056	0.045	1.0	0
Boron	0.05	0.04	5.0	0
Cadmium	< 0.00001	<0.00001	0.005	0
Chromium	< 0.0005	< 0.0005	0.050	0
Copper	0.001	0.0002	2.0	0
Cyanide	< 0.001	0.002	0.200	0
Lead	<0.0001	<0.0001	0.010	0
Manganese	< 0.0005	< 0.0005	0.12	0
Mercury	0.000002	0.000003	0.001	0
Selenium	0.0003	0.0002	0.010	0
Uranium	0.0007	<0.0001	0.020	0
			Guideline	# of Samples Exceeding Guideline
Aluminum	0.036	0.0068	0.1 (annual average)	0
Iron	< 0.0005	0.0008	0.3	0
Silver	<0.00005	<0.00005	None*	0
Zinc	< 0.0005	<0.0005	5.0	0

<sup>\*</sup>Health Canada has not established a guideline as drinking water is not a significant source of silver.

#### WATER QUALITY STANDARDS - PESTICIDES

Once per year the Buffalo Pound Water Treatment Plant is required to have the treated water analyzed for the following pesticides. Fourteen of the parameters listed below have an established MAC or IMAC (interim MAC).

Parameter				Number of Samples
(mg/L)	Aug. 26	MAC	IMAC	Exceeding Limit
Atrazine	<0.0001		0.005	0
Bromoxynil	< 0.0001		0.005	0
Carbofuran	<0.0005	0.09		0
Chlorpyrifos	< 0.0001	0.09		0
Dicamba	<0.0005	0.12		0
2,4-D	< 0.0001		0.1	0
Diclofop-methyl	< 0.0001	0.009		0
Dimethoate	<0.0002		0.02	0
Glyphosate	< 0.0001	0.28	0.28	0
Malathion	< 0.0001	0.19		0
MCPA	<0.0005	0.10		0
Pentachlorophenol	< 0.0001	0.06		0
Picloram	<0.0001		0.19	0
Trifluralin	<0.0001		0.045	0

## WATER QUALITY STANDARDS — DISINFECTION BY-PRODUCT — TOTAL TRIHALOMETHANES

As part of the Plant's "Permit to Operate" an analysis for total trihalomethanes is required once per month from the treated water. The MAC is 0.1 mg/L, or, 100 ug/L (parts per billion) for the sum of four trihalomethanes on an annual average. The annual average of total trihalomethanes was 35 ug/L which is well below the MAC.

Parameter (ug/L)	Jan 2	Feb 4	Mar 4	Apr 1	May 6	Jun 3
Chloroform	21	23	22	26	38	2
Bromodichloromethane	12	10	10	13	12	<1
Dibromochloromethane	2	3	3	4	2	<1
Bromoform	<1	<1	<1	<1	<1	<1
Total Trihalomethanes	35	36	35	43	52	2
	Jul 2	Aug 6	Sep 8	Oct 7	Nov 12	Dec 5
Chloroform	4	40	49	36	27	25
Chloroform Bromodichloromethane	4 <1	40	49 10	36 9		
		. 0			27	25
Bromodichloromethane	<1	4	10	9	27	25 9

# APPENDIX 1 (CONTINUED)

DRINKING WATER QUALITY AND COMPLIANCE REPORT FOR 2019 (CONTINUED)

## WATER QUALITY STANDARDS — DISINFECTION BY-PRODUCT — HALOACETIC ACIDS (HAA'S5)

The Buffalo Pound Water Treatment Plant is obligated to sample for Haloacetic Acids every three months. The annual average of quarterly samples (12.8 ug/L) was well below the MAC of 80 ug/L which is also based on an average of four samples. The results are as follows:

Parameter (ug/L)	Jan 31				Annual Average	MAC (Average)
HAA's5	18	33	<10	<10	13	80

#### WATER QUALITY STANDARDS — SYNTHETIC ORGANICS

The Buffalo Pound Water Treatment Plant is required to submit one sample per year for analysis for various organics originating from industrial activities.

Parameter (mg/L)	Aug 20	MAC	Number of Samples Exceeding Limit
Benzene	<0.00050	0.014	0
Benzo(a)pyrene	<0.005	0.050	0
Carbon Tetrachloride	<0.0003	0.900	0
Dichlorobenzene 1,2	<0.00050	0.14	0
Dichlorobenzene 1,4	<0.00050	0.08	0
Dichloroethane 1,2	<0.00001	*	0
Dichloroethylene 1,1	<0.00001	*	0
Dichloromethane	<0.00050	0.01	0
Dichlorophenol 2,4	<0.0005	0.1	0
Ethylbenzene	<0.0010	0.05	0
Monochlorobenzene	<0.0005	0.005	0
Perflourooctanesulfonate	<0.00050	0.002	0
Perfluorooctanoic Acid	<0.00050	0.09	0
Tetrachloroethylene	< 0.0005	0.01	0
Tetrachlorophenol 2,3,4,6	<0.0005	0.1	0
Trichloroethylene	<0.0001	0.05	0
Trichlorophenol 2,4,6	<0.0005	0.005	0
Vinyl Chloride	<0.0005	0.002	0
Xylenes	<0.0005	0.09	0

<sup>\*</sup>under development by Health Canada

#### WATER QUALITY STANDARDS - RADIOLOGICAL

The Buffalo Pound Water Treatment Plant is required to submit one sample per year for the measurement of gross alpha and gross beta activity. Should those measures exceed the MACs, an additional larger sample must be submitted for the estimation of contributions to activity from various individual radioisotopes. Additional analyses were not necessary as the gross alpha and gross beta activity were both less than the MAC.

Parameter (mg/L)	Sep 10	MAC
Gross Alpha (Becquerel/L)	<0.18	0.5
Gross Beta (Becquerel/L)	0.23±0.04	1.0

#### WATER QUALITY STANDARDS - MICROCYSTIN

The Buffalo Pound Water Treatment Plant is required to submit monthly samples from May through October for Microcystin LR or Total Microcystin toxins from both the raw and treated water. Microcystins may be produced by various cyanobacteria. The microcystin MAC for drinking water is 1.5 ug/L. Microcystin was not detected in the treated water.

	Microcystin (ug/L)								
Date	Raw Water	Treated Water							
May 6	<0.1	<0.1							
June 17	0.3	<0.1							
July 15	0.6	<0.1							
August 12	4.5	<0.1							
September 16	0.3	<0.1							
October 28	0.3	<0.1							

#### RAW WATER ANALYSIS GIARDIA AND CRYPTOSPORIDIUM

Although not a regulated water quality parameter, the Buffalo Pound Water Treatment Plant is required to sample the raw water on a quarterly basis for the presence of Giardia spp. and Cryptosporidium spp. which are waterborne protozoa. The filter cartridges are limited by particulates in the raw water so the volumes actually filtered can vary substantially. Cryptosporidium oocysts and giardia cysts were not detected in the four raw water samples.

Date	Giardia (cysts per 100L)	Cryptosporidium (oocysts per 100L)
Mar. 5	<0.8	<0.8
May 13	<2.1	<2.1
August 27	<6.5	<6.5
November 20	<1.6	<1.6

APPENDIX 1 (CONTINUED)

DRINKING WATER QUALITY AND COMPLIANCE REPORT FOR 2019 (CONTINUED)



APPENDIX 1 (CONTINUED)

BUFFALO POUND WATER TREATMENT PLANT LABORATORY ANALYTICAL DATA 2019 RAW AND TREATED WATER ANALYSIS

### RAW LAKE WATER ANALYSIS

Parameters	Units	JAN Avg	FEB Avg	MAR Avg	APR Avg	MAY Avg	JUN Avg	JUL Avg	AUG Avg	SEP Avg	OCT Avg	NOV Avg	DEC Avg	YEAR AVG	YEAR MIN	YEAR MAX
PHYSICAL																
Colour (Apparent)	Pt/Co	5	<dl< td=""><td><dl< td=""><td>5</td><td>5</td><td><dl< td=""><td>16</td><td>25</td><td>25</td><td>5</td><td>8</td><td>8</td><td>10</td><td><dl< td=""><td>30</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>5</td><td>5</td><td><dl< td=""><td>16</td><td>25</td><td>25</td><td>5</td><td>8</td><td>8</td><td>10</td><td><dl< td=""><td>30</td></dl<></td></dl<></td></dl<>	5	5	<dl< td=""><td>16</td><td>25</td><td>25</td><td>5</td><td>8</td><td>8</td><td>10</td><td><dl< td=""><td>30</td></dl<></td></dl<>	16	25	25	5	8	8	10	<dl< td=""><td>30</td></dl<>	30
Conductivity	μS/cm	730	764	777	678	586	563	488	449	472	506	537	564	609	448	786
Bench Diss. Oxygen	mg/L	7.3	5.8	7.4	11.5	7.9	8.3	8.1	8.3	8.4	9.8	11.2	10.6	8.4	5.1	12.7
Bench Diss. Oxygen	%	56.0	43.3	57.2	97.6	75.1	86.8	85.9	90.9	86.4	78.6	83.3	81.7	75.4	39.4	108.8
ON-LINE Diss. Oxygen	%	74.9	52.0	67.3	110.8	99.5	103.9	106.5	102.5	100.1	97.8	101.0	91.6	92.8	39.0	137.7
Odour	T.O.N.	24	21	17	71	83	56	57	186	140	34	31	33	62	3	267
рН	pH units	7.91	7.77	7.78	8.22	8.24	8.39	8.61	9.05	8.73	8.40	8.29	8.13	8.30	7.70	9.15
Temperature	° C	4.1	3.4	4.3	8.1	11.8	17.7	19.1	19.8	16.3	6.7	3.4	4.6	9.9	2.1	22.0
Turbidity	NTU	1.1	0.9	0.9	2.2	1.3	1.5	3.7	7.9	9.3	7.8	2.6	1.4	3.4	0.6	24.8
TDS	mg/L	461	494	507	417	370	345	308	281	288	310	324	358	378	276	508
Langelier Saturation Index	pH units (calc)	-0.08	-0.11	-0.04	0.35	0.34	0.58	0.64	0.83	0.55	0.09	0.04	0.03	0.30	-0.17	0.94
MAJOR CONSTITUENTS																
Alkalinity(p)	mg/L CaCO3	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>1</td><td>6</td><td>11</td><td>9</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>12</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>1</td><td>6</td><td>11</td><td>9</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>12</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>1</td><td>6</td><td>11</td><td>9</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>12</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>1</td><td>6</td><td>11</td><td>9</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>12</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>1</td><td>6</td><td>11</td><td>9</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>12</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	1	6	11	9	<dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>12</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>12</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>3</td><td><dl< td=""><td>12</td></dl<></td></dl<>	3	<dl< td=""><td>12</td></dl<>	12
Alkalinity(total)	mg/L CaCO3	206	221	225	197	175	166	132	113	126	137	147	156	169	112	225
Bicarbonate	mg/L	251	270	273	240	213	200	147	111	134	167	179	190	200	107	274
Carbonate	mg/L	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>2</td><td>7</td><td>13</td><td>10</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>14</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>2</td><td>7</td><td>13</td><td>10</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>14</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>2</td><td>7</td><td>13</td><td>10</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>14</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>2</td><td>7</td><td>13</td><td>10</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>14</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>2</td><td>7</td><td>13</td><td>10</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>14</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	2	7	13	10	<dl< td=""><td><dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>14</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>3</td><td><dl< td=""><td>14</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>3</td><td><dl< td=""><td>14</td></dl<></td></dl<>	3	<dl< td=""><td>14</td></dl<>	14
Calcium	mg/L	53	57	58	52	48	46	34	27	32	36	39	44	44	26	59
Magnesium	mg/L	30	31	31	27	22	21	19	18	18	19	21	22	24	18	32
Hardness (total)	mg/L CaCO3	255	270	278	241	209	201	162	142	155	168	184	192	208	141	279
Sodium	mg/L	59	65	66	55	46	44	38	37	38	38	41	41	48	37	67
Potassium	mg/L	6.8	7.1	7.1	6.2	5.8	5.6	5.3	5.1	4.9	4.7	4.9	5.1	5.8	4.7	7.2
Sulphate	mg/L	166	174	175	149	122	116	104	100	101	109	117	119	131	98	179
Chloride	mg/L	20.0	21.1	21.6	18.3	15.5	14.7	14.1	14.5	14.5	15.2	16.4	16.5	17.0	14.0	21.9
TRACE CONSTITUENTS																
Aluminum (dissolved 0.45µ)	ug/L	8	<dl< td=""><td>10</td><td>7</td><td>14</td><td>22</td><td>24</td><td>74</td><td>63</td><td>15</td><td>14</td><td>11</td><td>22</td><td><dl< td=""><td>74</td></dl<></td></dl<>	10	7	14	22	24	74	63	15	14	11	22	<dl< td=""><td>74</td></dl<>	74
Aluminum (Total)	ug/L	15	24	25	13	48	81	66	139	98	73	27	28	53	13	139
Ammonia N	mg/L N	0.21	0.22	0.16	0.06	<dl< td=""><td><dl< td=""><td>0.23</td><td>0.35</td><td>0.36</td><td>0.07</td><td>0.05</td><td>0.15</td><td>0.16</td><td><dl< td=""><td>0.44</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>0.23</td><td>0.35</td><td>0.36</td><td>0.07</td><td>0.05</td><td>0.15</td><td>0.16</td><td><dl< td=""><td>0.44</td></dl<></td></dl<>	0.23	0.35	0.36	0.07	0.05	0.15	0.16	<dl< td=""><td>0.44</td></dl<>	0.44
BOD (5-day)	mg/L	2.6	1.5	0.7	2.3	2.2	1.6	3.0	6.1	4.7	3.8	4.2	4.3	3.0	0.7	6.1
Bromide	mg/L	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Chlorophyll a	µg/L	7	4	13	8	4	7	44	104	51	13	15	14	25	3	111
Fluoride	mg/L	0.19	0.18	0.19	0.19	0.15	0.17	0.16	0.16	0.17	0.16	0.17	0.17	0.17	0.15	0.19
Iron (dissolved)	mg/L	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<>	<dl< td=""><td>0.02</td></dl<>	0.02
Manganese (dissolved)	mg/L	0.01	0.03	0.06	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td>0.01</td><td><dl< td=""><td>0.07</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td>0.01</td><td><dl< td=""><td>0.07</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td>0.01</td><td><dl< td=""><td>0.07</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td>0.01</td><td><dl< td=""><td>0.07</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td>0.01</td><td><dl< td=""><td>0.07</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td>0.01</td><td><dl< td=""><td>0.07</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.01</td><td>0.01</td><td><dl< td=""><td>0.07</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>0.01</td><td>0.01</td><td><dl< td=""><td>0.07</td></dl<></td></dl<>	0.01	0.01	<dl< td=""><td>0.07</td></dl<>	0.07
Nitrate	mg/L	0.17	0.18	0.19	0.12	0.11	0.12	0.10	0.07	0.06	0.10	0.12	0.11	0.12	0.06	0.23
Organic N	mg/L N	0.17	0.51	0.42	0.60	0.45	0.35	0.75	0.95	0.80	<0.04	0.70	0.40	0.56	<0.04	1.00
Raw TOC	mg/ LC(UV)	5.9	5.9	6.2	5.9	5.2	4.9	5.5	6.6	6.8	5.8	5.9	5.6	5.9	4.8	7.6
Raw DOC (GF diss)	mg/ LC(UV)	5.8	5.9	5.8	5.2	4.9	4.7	5.4	6.4	6.7	5.2	5.2	5.0	5.5	4.4	7.0
UV absorbance @ 254nm	Abs10cm <sup>-1</sup>	0.936	0.961	0.983	0.894	0.905	0.835	0.915	1.016	0.984	0.868	0.820	0.846	0.911	0.790	1.035
SUVA	L/mg.m <sup>-1</sup>	1.613	1.637	1.695	1.716	1.849	1.765	1.648	1.565	1.480	1.664	1.583	1.685	1.660	1.449	1.929
PreFM UV abs @ 254nm	Abs10cm <sup>-1</sup>	0.783	0.830	0.835	0.741	0.732	0.681	0.722	0.826	0.813	0.715	0.701	0.722	0.756	0.642	0.863
Phosphate(ortho)	μg/L P	31	31	16	4	12	15	5	<dl< td=""><td>6</td><td>12</td><td>10</td><td>7</td><td>13</td><td><dl< td=""><td>34</td></dl<></td></dl<>	6	12	10	7	13	<dl< td=""><td>34</td></dl<>	34
Phosphate(total)	μg/L P	57	50	48	44	37	49	82	114	198	66	50	42	72	28	245
Silica (SiO3)	mg/L	4.9	5.4	5.4	2.7	2.1	0.8	0.7	2.2	0.6	2.3	2.4	2.6	2.8	0.6	5.6

### RAW LAKE WATER ANALYSIS (CONT'D)

Parameters	Units	JAN Avg	FEB Avg	MAR Avg	APR Avg	MAY Avg	JUN Avg	JUL Avg	AUG Avg	SEP Avg	OCT Avg	NOV Avg	DEC Avg	YEAR AVG	YEAR MIN	YEAR MAX
TRACE CONSTITUENTS																
PreFM																
TTHM's (total)	µg/L(calc)	26	26	26	35	40	44	58	70	58	40	26	28	40	24	75
Chloroform	μg/L	17	18	17	23	29	31	43	54	44	31	20	20	29	16	58
Bromodichloromethane	µg/L	7	7	7	10	9	11	13	15	13	9	6	7	9	6	16
Chlorodibromomethane	μg/L	2	2	2	3	1	2	2	1	2	1	<dl< td=""><td>1</td><td>2</td><td><dl< td=""><td>3</td></dl<></td></dl<>	1	2	<dl< td=""><td>3</td></dl<>	3
Bromoform	µg/L	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
BIOLOGICAL																
Blue Green Algae (x10 <sup>3</sup> )	per litre	<dl< td=""><td><dl< td=""><td><dl< td=""><td>209</td><td>244</td><td>125</td><td>1,933</td><td>11,889</td><td>6,194</td><td>3,578</td><td>506</td><td>236</td><td>2,032</td><td><dl< td=""><td>16,667</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>209</td><td>244</td><td>125</td><td>1,933</td><td>11,889</td><td>6,194</td><td>3,578</td><td>506</td><td>236</td><td>2,032</td><td><dl< td=""><td>16,667</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>209</td><td>244</td><td>125</td><td>1,933</td><td>11,889</td><td>6,194</td><td>3,578</td><td>506</td><td>236</td><td>2,032</td><td><dl< td=""><td>16,667</td></dl<></td></dl<>	209	244	125	1,933	11,889	6,194	3,578	506	236	2,032	<dl< td=""><td>16,667</td></dl<>	16,667
Green Algae (x10³)	per litre	600	164	872	3,324	2,194	556	1,680	17,611	16,861	5,916	2,478	1,653	4,389	44	33,333
Diatoms (x10³)	per litre	61	28	36	391	264	144	271	1,806	750	391	217	127	368	<dl< td=""><td>4,444</td></dl<>	4,444
Flagellates (x10 <sup>3</sup> )	per litre	44	28	<dl< td=""><td>413</td><td>458</td><td>206</td><td>564</td><td>3,778</td><td>833</td><td>396</td><td>217</td><td>109</td><td>571</td><td><dl< td=""><td>6,111</td></dl<></td></dl<>	413	458	206	564	3,778	833	396	217	109	571	<dl< td=""><td>6,111</td></dl<>	6,111
Crustaceans	per litre	35	43	18	68	38	125	56	25	56	11	3	<3	39	<3	197
Nematodes (x10³)	per litre	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Rotifers (x10³)	per litre	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>17</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>17</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>17</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>17</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>17</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>17</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>17</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>17</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>17</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>17</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<></td></dl<>	17	<dl< td=""><td><dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>44</td></dl<></td></dl<>	<dl< td=""><td>44</td></dl<>	44
Other (x10³)	per litre	<dl< td=""><td><dl< td=""><td>78</td><td>751</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>78</td><td><dl< td=""><td>3,044</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>78</td><td>751</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>78</td><td><dl< td=""><td>3,044</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	78	751	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>78</td><td><dl< td=""><td>3,044</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>78</td><td><dl< td=""><td>3,044</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>78</td><td><dl< td=""><td>3,044</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>78</td><td><dl< td=""><td>3,044</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>78</td><td><dl< td=""><td>3,044</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>78</td><td><dl< td=""><td>3,044</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>78</td><td><dl< td=""><td>3,044</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>78</td><td><dl< td=""><td>3,044</td></dl<></td></dl<>	78	<dl< td=""><td>3,044</td></dl<>	3,044
Total Algae (x10 <sup>3</sup> )	per litre	606	167	872	3,533	2,439	681	3,613	29,500	23,055	9,493	2,983	1,889	3,173	1,333	4,800
BACTERIOLOGICAL	por mare	000	107	0,2	0,000	2,103	001	0,010	23,000	20,000	3,130	2,300	1,003	0,170	1,000	1,000
Total Coliforms (mEndo)	per 100 ml	10	<dl< td=""><td><dl< td=""><td>20</td><td><dl< td=""><td><dl< td=""><td>400</td><td><dl< td=""><td>500</td><td>60</td><td>13</td><td>2</td><td>88</td><td><dl< td=""><td>2,000</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>20</td><td><dl< td=""><td><dl< td=""><td>400</td><td><dl< td=""><td>500</td><td>60</td><td>13</td><td>2</td><td>88</td><td><dl< td=""><td>2,000</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	20	<dl< td=""><td><dl< td=""><td>400</td><td><dl< td=""><td>500</td><td>60</td><td>13</td><td>2</td><td>88</td><td><dl< td=""><td>2,000</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>400</td><td><dl< td=""><td>500</td><td>60</td><td>13</td><td>2</td><td>88</td><td><dl< td=""><td>2,000</td></dl<></td></dl<></td></dl<>	400	<dl< td=""><td>500</td><td>60</td><td>13</td><td>2</td><td>88</td><td><dl< td=""><td>2,000</td></dl<></td></dl<>	500	60	13	2	88	<dl< td=""><td>2,000</td></dl<>	2,000
Total Coliforms (background)	per 100 ml	575	440	898	1,650	4,500	4,500	68,900	203,500	50,750	7,100	1,220	622	28,478	100	536,000
Faecal Coliforms (mFC)	per 100 ml				-,	.,	2	<dl< td=""><td></td><td>4</td><td>2</td><td><dl< td=""><td></td><td>2</td><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<>		4	2	<dl< td=""><td></td><td>2</td><td><dl< td=""><td>5</td></dl<></td></dl<>		2	<dl< td=""><td>5</td></dl<>	5
Total Coliforms (MPN)	per 100 ml	117	104	112	133	676	1,796	1,280	1,171	1,186	125	28	12	536	7	2,420
E.coli (MPN)	per 1 ml	<dl< td=""><td><dl< td=""><td><dl< td=""><td>5</td><td><dl< td=""><td>2</td><td>3</td><td>6</td><td>6</td><td>2</td><td><dl< td=""><td><dl< td=""><td>2</td><td><dl< td=""><td>26</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>5</td><td><dl< td=""><td>2</td><td>3</td><td>6</td><td>6</td><td>2</td><td><dl< td=""><td><dl< td=""><td>2</td><td><dl< td=""><td>26</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>5</td><td><dl< td=""><td>2</td><td>3</td><td>6</td><td>6</td><td>2</td><td><dl< td=""><td><dl< td=""><td>2</td><td><dl< td=""><td>26</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	5	<dl< td=""><td>2</td><td>3</td><td>6</td><td>6</td><td>2</td><td><dl< td=""><td><dl< td=""><td>2</td><td><dl< td=""><td>26</td></dl<></td></dl<></td></dl<></td></dl<>	2	3	6	6	2	<dl< td=""><td><dl< td=""><td>2</td><td><dl< td=""><td>26</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>2</td><td><dl< td=""><td>26</td></dl<></td></dl<>	2	<dl< td=""><td>26</td></dl<>	26
Standard Plate Count	per 1 ml	11	8	16	49	67	103	1,345	980	699	185	76	18	302	6	2,910
CHEMICAL DOSES																
Alum	mg/L	60	59	55	55		40	57	78	75	72	71	75	63	37	80
Alum\Raw DOC	ratio	10.34	10.01	9.48	9.42		8.46	10.02	11.93	11.29	13.84	13.78	14.87	11.21	7.12	16.85
Alum-DOC Stoich	ratio	0.84	0.81	0.77	0.76		0.69	0.81	0.97	0.92	1.12	1.12	1.21	0.91	0.58	1.37
Chlorine-pre	mg/L	2.3	2.9	2.8	2.1	2.5	2.6	4.6	6.4	5.0	3.3	2.4	4.2	3.4	1.6	7.3
Chlorine-intermed	mg/L															
Chlorine-post	mg/L	1.0	1.1	1.0	1.0	0.9	1.3	1.3	1.4	1.3	1.4	1.4	1.5	1.2	0.9	1.8
Plant Flow	MLD	101.0	97.8	111.0	101.6	118.8	132.3	106.6	128.8	109.0	98.0	91.8	85.6	106.2	80.0	174.0
Qu'Appelle Dam Flow	cu m/s	2.20	2.20	1.49	9.18	10.05	6.98	5.05	5.53	3.05	0.40			4.63	0.0	11.0
Fluoride (Set Point for MJ)	mg/L														-	
Powdered Carbon	mg/L															
CPAC Train A	mg//L				24.0	23.8							37.3	27.3	20.0	40.0
CPAC Train B	mg//L				22.5	23.8							37.3	27.0	20.0	40.0
Total Chlorine dose	mg/L	3.3	3.9	3.8	3.1	3.4	3.8	5.9	7.8	6.3	4.7	3.8	5.7	4.7	2.7	8.8
Date GAC`s ON	(Calc)													27-May		
Date GAC's OFF														02-Jan		
Date Ice ON Lake														26-Oct		
Date Ice OFF Lake														17-Apr		
Date PAC ON																
Date PAC OFF																
Chlorine Residuals Exit Plant (week avg.)																
Free Chlorine	mg/L	1.17	1.18	1.16	1.14	1.15	1.13	1.14	1.15	1.16	1.14	1.13	1.15	1.15	1.07	1.25
Combined Chlorine	mg/L	0.33	0.33	0.37	0.32	0.24	0.08	0.14	0.18	0.17	0.15	0.19	0.23	0.23	<dl< td=""><td>0.39</td></dl<>	0.39

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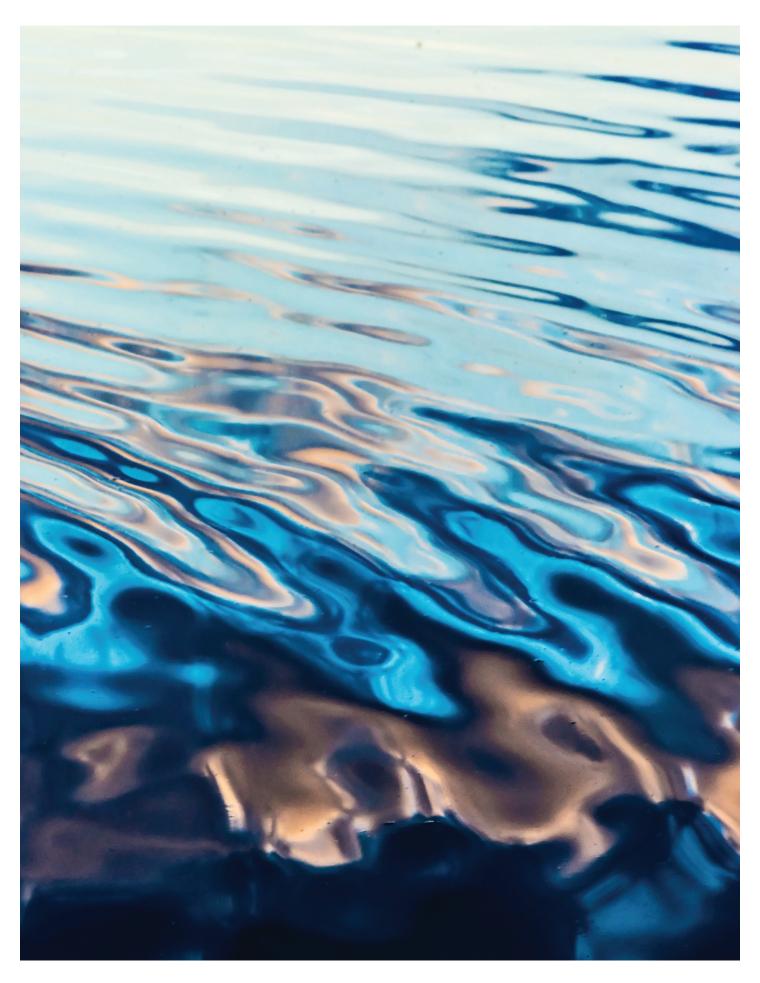
### TREATED WATER ANALYSIS

Parameters	Units	JAN Avg	FEB Avg	MAR Avg	APR Avg	MAY Avg	JUN Avg	JUL Avg	AUG Avg	SEP Avg	OCT Avg	NOV Avg	DEC Avg	YEAR AVG	YEAR MIN	YEAR MAX
PHYSICAL																
Colour (Apparent)	Pt/Co	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Conductivity	μS/cm	739	769	794	701	605	583	512	480	491	520	550	579	613	478	800
Dissolved Oxygen	mg/L	11.2	12.1	12.4	11.0	11.1	8.6	6.7	7.6	8.3	10.8	11.9	11.3	10.3	6.7	12.4
Dissolved Oxygen (Sat'n)	%	84.7	89.8	92.5	92.3	100.4	90.1	79.5	85.1	86.9	86.0	86.0	85.2	88.5	79.5	100.4
Odour (Dechlorinated)	T.O.N.	3	3	3	5	3	1	1	2	2	1	3	2	2	<1	7
PreGAC Odour	T.O.N.					6	7	23	86	57	12	5	4	26	3	112
Odour Removal by Coagulation and Filtration	%	86.3	87.8	69.0	92.7	94.0	87.5	60.1	50.9	55.3	62.6	82.2	87.7	76.3	14.8	95.2
Odour Removal Overall	%	86.3	87.8	69.0	92.7	95.7	98.1	97.6	99.0	98.4	95.5	91.5	95.2	92.5	33.3	100.0
PreFM pH	pH units	7.75	7.68	7.60	7.98	8.09	8.16	8.17	8.47	8.33	8.08	8.12	7.80	8.02	7.09	8.68
Coagulation pH - Channel 1	pH units	7.15	7.20	7.19	7.53	7.53	7.49	7.13	6.77	6.86	6.97	7.05	7.22	7.17	6.71	7.76
Coagulation pH - Channel 2	pH units	7.15	7.18	7.17	7.48	7.46	7.37	7.12	6.80	6.85	6.96	7.05	7.18	7.15	6.75	7.55
Clearwell pH	pH units	7.32	7.38	7.38	7.64	7.66	7.53	7.28	6.94	7.10	7.09	7.21	7.27	7.31	6.89	7.76
Temperature	°C	3.8	3.4	3.9	8.1	11.9	17.8	21.6	20.5	16.8	6.8	2.4	3.6	10.0	1.5	23.6
Turbidity	NTU	0.08	0.08	0.09	0.08	0.07	0.09	0.09	0.08	0.08	0.08	0.06	0.07	0.08	0.06	0.13
Total Dissolved Solids	mg/L	480	508	516	484	362	362	330	304	290	302	330	362	386	290	516
Turbidity Log Removal	(calc)	1.11	1.02	0.97	1.40	1.29	1.22	1.56	2.00	2.00	1.84	1.57	1.31	1.45	0.76	2.61
Langelier Saturation Index	pH units (calc)	-0.61	-0.59	-0.64	-0.38	-0.42	-0.33	-1.11	-1.50	-1.35	-1.31	-1.20	-1.12	-0.88	-1.50	-0.33
MAJOR CONSTITUENTS Alkalinity (p)	mg/L CaCO3	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Alkalinity (total)	mg/L CaCO3	170	188	190	180	159	142	93	68	82	98	112	117	136	67	196
Bicarbonate	mg/L	207	229	231	219	194	173	113	83	99	120	136	143	166	82	239
Carbonate	mg/L	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Calcium	mg/L	53	55	58	56	49	47	34	25	29	35	38	44	44	25	58
Magnesium	mg/L	29	30	32	31	22	21	20	19	19	19	21	22	24	19	32
Hardness (total)	mg/L CaCO3	249	268	278	265	208	202	164	142	149	167	181	191	205	142	278
Sodium	mg/L	57	63	69	63	46	44	40	37	38	38	40	41	48	37	69
Potassium	mg/L	6.6	7.1	7.1	6.9	5.9	5.8	5.4	5.2	5.0	4.7	4.9	5.1	5.8	4.7	7.1
Sulphate	mg/L	193	200	207	169	124	137	140	142	139	146	146	157	158	124	207
Chloride	mg/L	23.1	24.2	24.9	35.1	30.4	17.9	20.0	22.6	20.8	18.5	18.3	19.3	22.9	17.9	35.1
TRACE CONSTITUENTS CLEAR WELL																
Aluminum (dissolved 0.45u)	μg/L Chart	37	41	42	57	50	39	24	11	11	<dl< td=""><td><dl< td=""><td>10</td><td>27</td><td><dl< td=""><td>57</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>10</td><td>27</td><td><dl< td=""><td>57</td></dl<></td></dl<>	10	27	<dl< td=""><td>57</td></dl<>	57
Aluminum (total)	μg/L Chart	42	60	76	57	49	40	27	13	11	6	<dl< td=""><td>7</td><td>33</td><td><dl< td=""><td>76</td></dl<></td></dl<>	7	33	<dl< td=""><td>76</td></dl<>	76
Aluminum (total 12 mo avg)	µg/L	36	37	40	41	40	40	39	38	38	37	36	35			
Aluminum (particulate)	μg/L (Calc)	<dl< td=""><td>19</td><td>34</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td>34</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	19	34	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td>34</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td>34</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td>34</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td>34</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td>34</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>6</td><td><dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td>34</td></dl<></td></dl<></td></dl<></td></dl<>	6	<dl< td=""><td><dl< td=""><td>6</td><td><dl< td=""><td>34</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>6</td><td><dl< td=""><td>34</td></dl<></td></dl<>	6	<dl< td=""><td>34</td></dl<>	34
MIXED MEDIA FILTER A																
Aluminum (total)	μg/L	65	54	61	59	56	64	53	27	26	19	30	26	45	19	65
MIXED MEDIA FILTER L																
Aluminum (total)	μg/L	43	54	64		49	60	52	25	27	21	7	15	38	7	64
Aluminum (dissolved)	μg/L	Offline	Offline	Offline	Offline	Offline	58	56	17	19	15	21	17	29	15	58
Aluminum (total)	μg/L Chart	Offline	Offline	Offline	Offline	Offline	63	71	23	25	18	23	22	35	18	71
CLEAR WELL		0.07	.01	0.00	.51	.51	.51	.51	.51	0.00	.51	.51	0.11	.01	.01	0.11
Ammonia N	mg/L N	0.07	<dl< td=""><td>0.06</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.09</td><td><dl< td=""><td><dl< td=""><td>0.11</td><td><dl< td=""><td><dl< td=""><td>0.11</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	0.06	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.09</td><td><dl< td=""><td><dl< td=""><td>0.11</td><td><dl< td=""><td><dl< td=""><td>0.11</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.09</td><td><dl< td=""><td><dl< td=""><td>0.11</td><td><dl< td=""><td><dl< td=""><td>0.11</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>0.09</td><td><dl< td=""><td><dl< td=""><td>0.11</td><td><dl< td=""><td><dl< td=""><td>0.11</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.09</td><td><dl< td=""><td><dl< td=""><td>0.11</td><td><dl< td=""><td><dl< td=""><td>0.11</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>0.09</td><td><dl< td=""><td><dl< td=""><td>0.11</td><td><dl< td=""><td><dl< td=""><td>0.11</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	0.09	<dl< td=""><td><dl< td=""><td>0.11</td><td><dl< td=""><td><dl< td=""><td>0.11</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>0.11</td><td><dl< td=""><td><dl< td=""><td>0.11</td></dl<></td></dl<></td></dl<>	0.11	<dl< td=""><td><dl< td=""><td>0.11</td></dl<></td></dl<>	<dl< td=""><td>0.11</td></dl<>	0.11
Bromide	mg/L	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Fluoride	mg/L	0.12	0.12	0.13	0.15	0.12	0.13	0.09	0.08	0.09	0.08	0.09	0.10	0.11	0.08	0.15
Fluoride (MJ dose ISE wk avg)	mg/L	0.00	*D'	*D'	*DI	*DI	*D!	*DI	*DI	*D'	*DI	*DI	*DI	*Di	,DI	0.00
Iron (dissolved)	mg/L	0.02	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<>	<dl< td=""><td>0.02</td></dl<>	0.02

### TREATED WATER ANALYSIS (CONT'D)

Parameters	Units	JAN Avg	FEB Avg	MAR Avg	APR Avg	MAY Avg	JUN Avg	JUL Avg	AUG Avg	SEP Avg	OCT Avg	NOV Avg	DEC Avg	YEAR AVG	YEAR MIN	YEAF MAX
Iron (total)	mg/L	0.02	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.02</td></dl<></td></dl<>	<dl< td=""><td>0.02</td></dl<>	0.02
Manganese (dissolved)	mg/L	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Manganese (total)	mg/L	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.01</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>0.01</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	0.01	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.01</td></dl<></td></dl<>	<dl< td=""><td>0.01</td></dl<>	0.01
Nitrate	mg/L N	0.13	0.18	0.19	0.13	0.10	0.09	0.12	0.09	0.09	0.06	<dl< td=""><td>0.06</td><td>0.11</td><td><dl< td=""><td>0.19</td></dl<></td></dl<>	0.06	0.11	<dl< td=""><td>0.19</td></dl<>	0.19
Organic N	mg/L N	0.29	<dl< td=""><td>0.27</td><td>0.30</td><td>0.20</td><td><dl< td=""><td><dl< td=""><td>0.20</td><td>0.30</td><td><dl< td=""><td>0.20</td><td>0.10</td><td>0.16</td><td><dl< td=""><td>0.30</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	0.27	0.30	0.20	<dl< td=""><td><dl< td=""><td>0.20</td><td>0.30</td><td><dl< td=""><td>0.20</td><td>0.10</td><td>0.16</td><td><dl< td=""><td>0.30</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>0.20</td><td>0.30</td><td><dl< td=""><td>0.20</td><td>0.10</td><td>0.16</td><td><dl< td=""><td>0.30</td></dl<></td></dl<></td></dl<>	0.20	0.30	<dl< td=""><td>0.20</td><td>0.10</td><td>0.16</td><td><dl< td=""><td>0.30</td></dl<></td></dl<>	0.20	0.10	0.16	<dl< td=""><td>0.30</td></dl<>	0.30
CW TOC	mg/L C	3.9	4.1	4.3	3.9	2.6	0.8	1.4	1.6	1.8	1.8	2.2	2.6	2.6	0.4	4.6
CW DOC (GF diss)	mg/L C	3.9	4.1	4.3	3.9	2.6	0.8	1.4	1.6	1.8	1.9	2.2	2.6	2.6	0.4	4.6
PreGAC DOC (GF diss)	mg/L C					3.5	3.4	3.5	3.3	3.3	2.8	2.9	3.1	3.2	2.7	3.6
DOC Removal by Coagulation & Filtration	% Removal	33.0	30.6	26.7	25.2	30.8	28.0	35.3	48.9	51.0	45.6	43.4	37.9	36.6	20.7	52.7
DOC Removal by GAC Filtration	% Removal					87.6	77.2	60.4	52.6	43.3	34.8	24.3	17.1	44.7	15.5	87.6
Total DOC (% Removal)	% Removal	33.0	30.6	26.7	25.2	46.7	83.6	74.5	75.8	72.2	64.5	57.1	48.5	53.2	20.7	91.0
CW Organic Carbon (diss@ <sub>254nm</sub> )	Abs 10 cm	0.518	0.542	0.565	0.502	0.352	0.051	0.119	0.148	0.173	0.184	0.239	0.295	0.305	0.033	0.57
PreGAC Organic Carbon (diss@ <sub>254nm</sub> )	Abs 10 cm					0.502	0.462	0.458	0.439	0.436	0.399	0.437	0.439	0.440	0.376	0.50
Conventional SUVA	L/mg.m	1.332	1.330	1.331	1.287	1.385	1.359	1.318	1.358	1.338	1.406	1.489	1.406	1.361	1.218	1.62
CW SUVA	L/mg.m	1.332	1.330	1.331	1.287	1.240	0.653	0.860	0.942	0.937	0.995	1.078	1.136	1.091	0.604	1.42
Phosphate (ortho)	μg/L P	<dl< td=""><td><dl< td=""><td><dl< td=""><td>4</td><td><dl< td=""><td>5</td><td>3</td><td><dl< td=""><td>4</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>4</td><td><dl< td=""><td>5</td><td>3</td><td><dl< td=""><td>4</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>4</td><td><dl< td=""><td>5</td><td>3</td><td><dl< td=""><td>4</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	4	<dl< td=""><td>5</td><td>3</td><td><dl< td=""><td>4</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	5	3	<dl< td=""><td>4</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	4	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>5</td></dl<></td></dl<>	<dl< td=""><td>5</td></dl<>	5
Phosphate (total)	μg/L P	7	<dl< td=""><td>5</td><td>6</td><td>5</td><td>7</td><td>4</td><td>6</td><td>9</td><td>4</td><td>3</td><td>5</td><td>5</td><td><dl< td=""><td>9</td></dl<></td></dl<>	5	6	5	7	4	6	9	4	3	5	5	<dl< td=""><td>9</td></dl<>	9
Silica (SiO3)	mg/L	4.6	4.9	5.2	3.4	1.9	0.7	0.8	1.8	0.6	2.1	2.2	2.4	2.6	0.6	5.2
THMs (total)	μg/L(calc)	34	34	37	43	51	2	15	50	58	42	34	34	36	1	64
Chloroform	µg/L	21	22	23	28	36	2	14	44	47	33	27	24	27	1	49
Bromodichloromethane	µg/L	10	10	11	12	13	<dl< td=""><td>1</td><td>6</td><td>10</td><td>9</td><td>8</td><td>9</td><td>8</td><td><dl< td=""><td>14</td></dl<></td></dl<>	1	6	10	9	8	9	8	<dl< td=""><td>14</td></dl<>	14
Chlorodibromomethane	µg/L	3	3	3	3	2	<dl< td=""><td><dl< td=""><td><dl< td=""><td>1</td><td><dl< td=""><td><dl< td=""><td>1</td><td>1</td><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>1</td><td><dl< td=""><td><dl< td=""><td>1</td><td>1</td><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>1</td><td><dl< td=""><td><dl< td=""><td>1</td><td>1</td><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<></td></dl<>	1	<dl< td=""><td><dl< td=""><td>1</td><td>1</td><td><dl< td=""><td>5</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>1</td><td>1</td><td><dl< td=""><td>5</td></dl<></td></dl<>	1	1	<dl< td=""><td>5</td></dl<>	5
Bromoform	μg/L	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
CHANNEL																
THMs (total)	μg/L(calc)	29	25	29	37	43	44	53	75	60	34	25	27	40	25	75
Chloroform	µg/L	18	16	19	23	30	31	38	57	44	25	19	19	28	16	57
Bromodichloromethane	µg/L	9	7	8	11	11	11	13	16	14	8	6	7	10	6	16
Chlorodibromomethane	µg/L	2	2	2	3	2	2	2	2	2	1	<dl< td=""><td>1</td><td>2</td><td><dl< td=""><td>3</td></dl<></td></dl<>	1	2	<dl< td=""><td>3</td></dl<>	3
Bromoform PreGAC	µg/L	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
THMs (total)	μg/L(calc)	Offline	Offline	Offline	Offline	Offline	48	56	67	55	39	28	31	46	27	71
Chloroform	µg/L	Offline	Offline	Offline	Offline	Offline	33	41	51	40	30	21	21	34	19	54
Bromodichloromethane	μg/L	Offline	Offline	Offline	Offline	Offline	12	13	14	13	9	7	9	11	7	15
Chlorodibromomethane	µg/L	Offline	Offline	Offline	Offline	Offline	2	2	1	2	1	<dl< td=""><td>1</td><td>1</td><td><dl< td=""><td>3</td></dl<></td></dl<>	1	1	<dl< td=""><td>3</td></dl<>	3
Bromoform	µg/L	Offline	Offline	Offline	Offline	Offline	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
BIOLOGICAL																
Blue Green Algae	per litre	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Green Algae	per litre	<dl< td=""><td>22,222</td><td><dl< td=""><td>33,333</td><td>99,999</td><td><dl< td=""><td><dl< td=""><td>22,222</td><td><dl< td=""><td><dl< td=""><td>44,444</td><td>77,777</td><td>25,000</td><td><dl< td=""><td>99,9</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	22,222	<dl< td=""><td>33,333</td><td>99,999</td><td><dl< td=""><td><dl< td=""><td>22,222</td><td><dl< td=""><td><dl< td=""><td>44,444</td><td>77,777</td><td>25,000</td><td><dl< td=""><td>99,9</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	33,333	99,999	<dl< td=""><td><dl< td=""><td>22,222</td><td><dl< td=""><td><dl< td=""><td>44,444</td><td>77,777</td><td>25,000</td><td><dl< td=""><td>99,9</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>22,222</td><td><dl< td=""><td><dl< td=""><td>44,444</td><td>77,777</td><td>25,000</td><td><dl< td=""><td>99,9</td></dl<></td></dl<></td></dl<></td></dl<>	22,222	<dl< td=""><td><dl< td=""><td>44,444</td><td>77,777</td><td>25,000</td><td><dl< td=""><td>99,9</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>44,444</td><td>77,777</td><td>25,000</td><td><dl< td=""><td>99,9</td></dl<></td></dl<>	44,444	77,777	25,000	<dl< td=""><td>99,9</td></dl<>	99,9
Diatoms	per litre	<dl< td=""><td><dl< td=""><td><dl< td=""><td>11,111</td><td><dl< td=""><td>22,222</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>2,778</td><td><dl< td=""><td>22,2</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>11,111</td><td><dl< td=""><td>22,222</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>2,778</td><td><dl< td=""><td>22,2</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>11,111</td><td><dl< td=""><td>22,222</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>2,778</td><td><dl< td=""><td>22,2</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	11,111	<dl< td=""><td>22,222</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>2,778</td><td><dl< td=""><td>22,2</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	22,222	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>2,778</td><td><dl< td=""><td>22,2</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>2,778</td><td><dl< td=""><td>22,2</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>2,778</td><td><dl< td=""><td>22,2</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>2,778</td><td><dl< td=""><td>22,2</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>2,778</td><td><dl< td=""><td>22,2</td></dl<></td></dl<></td></dl<>	<dl< td=""><td>2,778</td><td><dl< td=""><td>22,2</td></dl<></td></dl<>	2,778	<dl< td=""><td>22,2</td></dl<>	22,2
Flagellates	per litre	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Crustaceans	per litre	<2	<2	<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	<2
Nematodes	per litre	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Rotifers	per litre	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Other	per litre	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
BACTERIOLOGICAL																
Total Coliforms (mEndo)	per 100 ml	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Total Coliforms (background, mEndo)	per 100 ml	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Faecal Coliforms (mFC)	per 100 ml															
Total Coliforms (MPN)	per 100 ml	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
E. coli (MPN)	per 100 ml	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""></dl<></td></dl<>	<dl< td=""></dl<>
Standard Plate Count	per 1 mL	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.5</td><td>0.2</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.5</td><td><dl< td=""><td>0.1</td><td><dl< td=""><td>2.0</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.5</td><td>0.2</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.5</td><td><dl< td=""><td>0.1</td><td><dl< td=""><td>2.0</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td><dl< td=""><td>0.5</td><td>0.2</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.5</td><td><dl< td=""><td>0.1</td><td><dl< td=""><td>2.0</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.5</td><td>0.2</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.5</td><td><dl< td=""><td>0.1</td><td><dl< td=""><td>2.0</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>0.5</td><td>0.2</td><td><dl< td=""><td><dl< td=""><td><dl< td=""><td>0.5</td><td><dl< td=""><td>0.1</td><td><dl< td=""><td>2.0</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	0.5	0.2	<dl< td=""><td><dl< td=""><td><dl< td=""><td>0.5</td><td><dl< td=""><td>0.1</td><td><dl< td=""><td>2.0</td></dl<></td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td><dl< td=""><td>0.5</td><td><dl< td=""><td>0.1</td><td><dl< td=""><td>2.0</td></dl<></td></dl<></td></dl<></td></dl<>	<dl< td=""><td>0.5</td><td><dl< td=""><td>0.1</td><td><dl< td=""><td>2.0</td></dl<></td></dl<></td></dl<>	0.5	<dl< td=""><td>0.1</td><td><dl< td=""><td>2.0</td></dl<></td></dl<>	0.1	<dl< td=""><td>2.0</td></dl<>	2.0
504110																

NA - Not Analyzed, ND - Not detected (for biological parameters), Offline - Chemical or process not in use, <(less than) - Not found at a detectable concentrations (for chemica parameters) \*Faecal Coliforms analyzed ONLY if Total Coliforms Detected.





# **APPENDIX 2**

FINANCIAL STATEMENTS 2019

#### INDEPENDENT AUDITOR'S REPORT

To the Chairman and Members of the Board of Directors of Buffalo Pound Water Treatment Corporation:

#### Opinion

We have audited the financial statements of the Buffalo Pound Water Treatment Corporation (the "Organization"), which comprise the statement of financial position as at December 31, 2019, and the statements of operations, changes in net financial assets and cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Organization as at December 31, 2019, and the results of its operations and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

#### **Basis for Opinion**

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Organization in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Other Information

Management is responsible for the other information. The other information comprises that information included in the annual report, but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed on this information, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

#### Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Organization's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Organization or cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Organization's financial reporting process.

#### Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.



#### INDEPENDENT AUDITOR'S REPORT

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgement and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or
  error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is
  sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement
  resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery,
  intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Organization's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Organization to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Regina, Saskatchewan

March 25, 2020

MNPLLP

Chartered Professional Accountants



## Buffalo Pound Water Treatment Corporation STATEMENT OF FINANCIAL POSITION [in dollars]

### As at December 31

	2019	2018
FINANCIAL ASSETS		
Cash	57,453,176	57,318,582
Accounts receivable	01,100,110	07,010,002
City of Regina	1,264,864	924,191
City of Moose Jaw	383,033	400,501
GST receivable	665,634	442,149
Other	-	7,757
Total financial assets	59,766,707	59,093,180
FINANCIAL LIABILITIES		
Accounts payable and accrued liabilities	11,349,079	1,953,609
Employee benefit obligations (Note 3)	769,691	853,179
Long term debt (Note 6)	42,653,000	43,847,000
Total financial liabilities	54,771,770	46,653,788
Net financial assets	4,994,937	12,439,392
NON-FINANCIAL ASSETS		
Inventory of chemicals	161,119	99,285
Tangible capital assets (Note 4)	71,348,909	52,969,615
Accumulated surplus (Note 5)	76,504,965	65,508,292

See accompanying notes.

SIGNED ON BEHALF OF THE BOARD

Board of Director Chair

Board Member-Chair of Finance and Audit Committee

SIGNED ON BEHALF OF THE CORPORATION

General Manager

## Buffalo Pound Water Treatment Corporation STATEMENT OF OPERATIONS [in dollars]

### For the year ended December 31

	Budget	2019	2018
REVENUE			
Operating contributions			
City of Regina	10,366,000	10,744,243	11,024,348
City of Moose Jaw	1,899,250	1,844,555	1,905,180
Sask Water	76,300	73,241	74,828
Capital contributions	,	,	,
Ċity of Regina	5,489,600	5,689,909	6,007,471
City of Moose Jaw	1,005,800	976,835	1,038,185
Sask Water	58,800	56,414	54,114
	18,895,750	19,385,197	20,104,126
Contributed assets (Note 4)	_	3,452,472	13,386,932
Power charges	477,700	611,110	593,507
Miscellaneous revenue	9,000	5,975	9,715
Interest	40,000	1,248,731	895,648
	,	.,,	
Government contributions (Note 8)	12,532,000	1,309,609	_
	31,954,450	26,013,094	34,989,928
EXPENSES			
Employee wages and benefits (Schedule 1)	4,066,900	4,079,212	3,954,886
Amortization of tangible capital assets		2,167,712	2,149,303
Utilities (Schedule 1)	2,175,000	1,995,603	2,155,269
Chemicals (Schedule 1)	2,790,000	2,082,336	2,194,723
Equipment maintenance (Schedule 1)	2,325,000	1,938,348	1,986,366
Miscellaneous (Schedule 1)	374,500	472,131	362,568
Laboratory supplies and research (Schedule 1)	355,000	318,463	220,144
Building and ground maintenance (Schedule 1)	145,000	207,281	122,940
Administration (Schedule 1)	310,000	265,071	287,722
Interest expenses and bank charges (Schedule 1)	1,521,545	1,490,264	1,534,771
	14,062,945	15,016,421	14,968,692
Excess of revenue over expenses	17,891,505	10,996,673	20,021,236
Accumulated surplus, beginning of year		65,508,292	45,487,056
Accumulated surplus, end of year		76,504,965	65,508,292

See accompanying notes.

### **Buffalo Pound Water Treatment Corporation**

## STATEMENT OF CHANGE IN NET FINANCIAL ASSETS [in dollars]

For the year ended December 31

	2019	2018
Excess of revenue over expenses Acquisition of tangible capital assets Amortization of tangible capital assets	10,996,673 (20,547,006) 2,167,712	20,021,236 (16,084,848) 2,149,303
Consumption of inventory of chemicals Acquisition of inventory of chemicals	2,082,336 (2,144,170)	2,194,723 (2,135,268)
(Decrease) increase in net financial assets	(7,444,455)	6,145,146
Net financial assets, beginning of year	12,439,392	6,294,246
Net financial assets, end of year	4,994,937	12,439,392

See accompanying notes.

### **Buffalo Pound Water Treatment Corporation**

### STATEMENT OF CASH FLOWS [in dollars]

For the year ended December 31

	2019	2018
OPERATING ACTIVITIES		_
Excess of revenue over expenses	10,996,673	20,021,236
Non-cash item		
Contributed assets transferred from cities (Note 4)	(3,452,472)	(13,386,932)
Amortization of tangible capital assets	2,167,712	2,149,303
Net change in non-cash working capital balances		
in accounts receivable	(538,933)	725,027
in accounts payable and accrued liabilities	9,395,470	1,021,300
in employee benefit obligations	(83,488)	74,340
in inventory of chemicals	(61,834)	59,455
Cash provided by operating activities	18,423,128	10,663,729
CAPITAL ACTIVITIES		
Acquisition of tangible capital assets	(17,094,534)	(2,697,916)
FINANCING ACTIVITIES		
Payment of long-term debt	(1,194,000)	(1,153,000)
	, , ,	
Increase in cash position	134,594	6,812,813
Cash, beginning of year	57,318,582	50,505,769
Cash, end of year	57,453,176	57,318,582

See accompanying notes.

For the year ended December 31, 2019

#### 1. BASIS OF OPERATIONS

Buffalo Pound Water Treatment Corporation (the "Corporation") was incorporated under *The Non-Profit Corporations Act*,1995 on January 1, 2016. The City of Regina owns 74 Class A voting memberships and the City of Moose Jaw owns 26 Class A voting memberships of the Corporation. The City of Regina and the City of Moose Jaw entered into a Unanimous Membership Agreement effective January 1, 2016.

The Corporation is responsible for reliable and efficient provision of safe, high quality and affordable drinking water to the City of Regina and the City of Moose Jaw. The Corporation is a not-for-profit organization, and is not subject to either federal or provincial income taxes.

#### 2. SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Corporation are the representation of management and have been prepared in accordance with Canadian public sector accounting standards, as recommended by the Chartered Professional Accountants of Canada (CPA Canada).

The significant accounting policies used in the preparation of these financial statements are summarized below:

#### Use of estimates

The preparation of financial statements in conformity with Canadian public sector accounting standards requires management to make estimates and use assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the year. Actual results could differ from those estimates. Significant estimates include the amortization of tangible capital assets and employee benefits obligations.

### **Employee benefit obligations**

Employee benefit obligations relating to severance or retirement benefits are recognized to the extent that they are vested and could be taken in cash by an employee on termination. The obligations have been determined on an actuarial basis using the projected benefit method prorated on services. Experience gains/losses are amortized over the estimated average remaining life of the employee group.

### Pension benefit obligations

The Corporation is one of the sponsors of a multi-employer defined benefit pension plan. The Corporation follows defined benefit accounting under which pension expense is limited to the Corporation's contributions to the plan.

### Inventory of chemicals

Inventory of chemicals are valued at the lower of net realizable value and average cost.

For the year ended December 31, 2019

### 2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

#### Contributions

Contributions are considered government transfers and are recognized in the financial statements as revenues and expenses in the period in which events giving rise to the transfer occur, providing the transfers are authorized, eligibility criteria have been met and reasonable estimates of the amounts can be made.

Operating and capital contributions for water consumed based upon the following established rates:

	2019	2018
General water rate, \$ per megalitre	355.00	345.00
Electricity rate, \$ per kilowatt hour	0.11089	0.10766
	2019	2018
Capital water rate, \$ per megalitre	188.00	188.00

#### Financial instruments

Financial instruments are any contracts that give rise to financial assets of one entity and financial liabilities or equity instruments of another entity. The Corporation recognizes a financial instrument when it becomes a party to the contractual provisions of a financial instrument. Financial instruments of the Corporation include cash, accounts receivable, accounts payable and accrued liabilities and long term debt and an associated derivative.

#### Credit Risk

Credit risk is the risk of financial loss to the Corporation if a customer or counterparty to a financial instrument fails to meet its contractual obligations. The Corporation's credit risk is primarily attributable to accounts receivable. This risk is limited as accounts receivable is due mainly from the City of Regina and the City of Moose Jaw.

### Liquidity Risk

Liquidity risk is the risk that Corporation will not be able to meet its financial obligations as they become due. The City of Regina staff on behalf of the Corporation manages liquidity risk by continually monitoring cash flow requirements to ensure that it has sufficient funds to meet obligations when they become due. The Corporation has established operating and capital rates which are calculated using a full cost recovery model that will generate sufficient revenues to cover the operating costs and capital investments.

### Interest Rate Risk

Interest rate risk is the risk that value of a financial instrument might be adversely affected by a change in interest rates. Changes in market interest rates may have an effect on the cash flows associated with some financial assets and liabilities, known as cash flow risk, and on the fair value of the other financial assets and liabilities, known as price risk.

Exposure on the Company's long term debt is managed by using a declining balance interest rate swap. The Company entered into an interest rate swap agreement to fix the interest rate on its long term debt the terms of which are disclosed in Note 6.

For the year ended December 31, 2019

### 2. SIGNIFICANT ACCOUNTING POLICIES (Continued)

### Tangible capital assets (TCA)

Tangible capital assets are recorded at cost which includes all amounts that are directly attributable to acquisition, construction, development or betterment of the asset. The cost, less residual value, of the tangible capital assets are amortized on a straight-line basis over their estimated useful lives as follows:

General

Vehicles and equipment 6 to 20 years
Office and information technology 10 to 15 years

Infrastructure

Plants and facilities 5 to 40 years Roads 15 years

Assets under construction are not amortized until the asset is available for productive use.

Tangible capital assets received as contributions are recorded at their fair value at the date of receipt and also are recorded as revenue.

### 3. EMPLOYEE BENEFIT OBLIGATIONS

The employee benefit obligations accrued at year end are as follows:

	2019	2018
Vacation pay Vested termination payments	381,691 388,000	409,179 444,000
	769,691	853,179

Based upon an agreement with UNIFOR Local 595, termination payments for union employees vest after 10 years of service and upon retiring with unreduced pension. The amount payable on termination after vesting is 20 hours pay for each completed year of service.

In 2017, the Board of Directors approved a decision to end the vesting of termination payments for out-of-scope employees as of December 31, 2017. Out-of-scope employees were provided the option to have their severance paid out on December 31, 2017 or to elect to defer the payment until they leave the Corporation. For employees who elected to defer, the payment will neither increase nor decrease from the December 31, 2017 assessment.

An actuarial valuation of vested sick leave and severance payments was completed using the projected benefit method at December 31, 2019. The actuarial valuation was based on assumptions about future events including employee turnover and mortality, wage and salary increases, sick leave usage and interest rates. These rates are consistent with superannuation plan. The discount rate used to determine the unfunded employee benefit was 2% and the inflation rate was 2.25%. Compensation rates for employees are assumed to increase at an average rate of 3.65% per annum plus merit and promotion thereafter.

For the year ended December 31, 2019

### 3. EMPLOYEE BENEFIT OBLIGATIONS (Continued)

The Corporation is a member of the City of Regina Civic Employees' Superannuation and Benefit Plan (the Plan), which is overseen by its own Administrative Board. All eligible permanent and probationary employees of the Corporation are members of the Plan. This multi-employer Plan provides defined retirement benefits and is integrated with the Canada Pension Plan (CPP). The Plan provides a lifetime monthly pension based on an employee's years of service and the average of the best three consecutive years of earnings for service before 2016. For service after 2015, a best-five-years average is used. For 2019 employees contributed 8.80% (2018 - 8.80%) of their earnings below the CPP maximum and 13.10% (2018 - 13.10%) of earnings above the CPP maximum and 14.60% (2018- 14.60%) of earnings above the CPP maximum.

Financial statements as at December 31, 2018 indicate the Plan had a deficit of net assets of \$38,997,000 (2017 - \$43,772,000).

The Plan is a multi-employer defined benefit plan; therefore neither benefits nor contributions are segregated by employer. The Plan has been accounted for using the method appropriate for defined contribution plans and, as such, the amount of pension expense is equal to the contributions required for the year. Pension costs of \$311,073 (2018 - \$298,601) based on employer contributions were expensed during 2019.

The Corporation is a member of the Regina Civic Employees' Long-term Disability Plan (the Disability Plan). Financial statements as of December 31, 2018 indicate a surplus of net assets available for benefits of \$32,087,000 (2017 - \$33,940,000).

The Long-Term Disability Plan is a multi-employer plan and consequently, identification of individual employer's assets is not available from the Disability Plan managers. Accordingly, no portion of the surplus has been recognized as an asset or expense reduction in the financial statements. For all permanent employees, disability benefits are based on 75% of the member's salary and will be paid either throughout the duration of the disability until recovery, until the member elects voluntary early retirement, reaches age 65 or upon death, whichever occurs first. The Disability Plan has been accounted for using the method appropriate for defined contribution plans and, as such, the amount of benefit expense is equal to the contributions required for the year. Member contributions are made to the Plan at a rate of 0.46% with the employer matching contributions.

As well, the Corproation provides for additional coverage to its employees through the Out-Of-Scope Employment and Benefits policy and the Collective Bargaining Agreement. The Corporation guarantees full salary for out-of-scope employees (those employed before January 1, 2015) for the first two (2) years of such a disability and thereafter 90% of such employee's salary less benefit payments from all other sources. The Corporation guarantees 70% of an in-scope employee's salary through Article 30 less benefit payments from all other sources. The Corporation recorded disability premium costs for 2019 of \$13,698 (2018 - \$13,387).

Dental and medical plans are also provided for most employees and are paid by the Corporation.

For the year ended December 31, 2019

4. TANGIBLE CAPITAL ASSETS	Net Book Value		
	2019	2018	
General			
Land	88,535	88,535	
Vehicles and equipment	366,913	329,680	
Office and information technology	28,108	51,487	
Infrastructure			
Plants and facilities	33,763,945	35,433,134	
Roads	407,760	437,965	
Assets under construction	36,693,648	16,628,814	
	71,348,909	52,969,615	

### **Contributed Assets:**

The Corporation entered into an agreement of capital upgrades with the City of Regina and the City of Moose Jaw in 2010 whereby each city agreed to finance the capital upgrades by the share of 72.65% and 27.35% respectively. At the end of 2019, \$3,452,472 (2018 - 13,386,932) worth of capital upgrades to a new electrical substation and other electrical upgrades were transferred to the Corporation.

### 5. ACCUMULATED SURPLUS

The Board of Directors of the Corporation has approved the establishment of a capital reserve.

	Unappropriated Surplus	Capital replacement reserve	Investment in Tangible Capital Assets	2019	2018
Opening balance	1,047,969	11,490,708	52,969,615	65,508,292	45,487,056
Excess of revenue over expenses	10,996,673	-	_	10,996,673	20,021,236
Expenditures from reserve for replacement of capital assets	18,432,389	(18,432,389)	) -	_	
Transfer from operations	(10,900,000)	10,900,000	-	-	-
Change in TCA investment	(18,379,294)	-	18,379,294	-	<u> </u>
Accumulated surplus	1,197,737	3,958,319	71,348,909	76,504,965	65,508,292

For the year ended December 31, 2019

### 5 ACCUMULATED SURPLUS (Continued)

During the year, the Board of Directors approved the transfer of \$10,900,000 from operations to the Capital Replacement Reserve. In addition, the Board of Directors approved the following expenditures from the capital replacement reserve:

LPS 138kV Transmission Line	843,259
Computerized maintenance management system	184,239
Plant Renewal Project	907,976
Main Plant Redundant Power	195,798
LPS pump and electrical upgrades	14,335,913
Loan interest and bank expenses	1,490,264
SCADA Upgrade	474,940
	18,432,389

### 6. LONG TERM DEBT

	2019	2018
Term loan payable to Bank of Montreal in monthly principal		
payments ranging from \$98,000 to \$101,000 based on a 25-year		
mortgage style amortization with interest rate fixed at 3.46%		
through an interest rate swap. The term loan is non-revolving		
and is subject to renewal on November 30, 2027. The term loan		
is guaranteed by the City of Regina and the City of Moose Jaw.	42,653,000	43,847,000

In 2017, the City of Regina and the City of Moose Jaw approved the Corporation to enter into a non-revolving term loan with Bank of Montreal for the purpose of financing the Electrical Upgrade Capital Project (EUCP) with any remaining funds for the Plant Renewal Project. The Corporation entered into an interest rate swap agreement for a 25 year term.

Principal repayments on long term debt in each of the next five years are estimated as follows:

2020	1,239,000
2021	1,283,000
2022	1,328,000
2023	1,374,000
2024	1,423,000

### Buffalo Pound Water Treatment Corporation [in dollars]

For the year ended December 31

### 7. CONTRACTUAL OBLIGATIONS

The Corporation entered into an agreement with Jacobs (formerly CH2M Hill Canada Ltd) to serve as the Owner's Advocate for the Water Treatment Plant Renewal Project. The remaining contract is valued at \$4,422,700 before tax and will cover the services up to 2024.

The Corporation entered into a construction contract on January 28, 2019 with Westridge Construction for the Lake Pump Station Electrical and Pumping Upgrades. The remaining contract is valued at \$16,149,800 before tax and will cover the services up to 2021.

The Corporation entered into a construction contract on October 31, 2019 with Arctic Arrow Holdings Limited for the installation and supply of materials for the Lake Pump Station 138kV Transmission Line. The contract is valued at \$1,326,100 before GST plus 10% contingency and will cover the services up to the middle 2020.

### 8. CONTRACTUAL RIGHTS

The Corporation entered into an agreement in November 2018 with the Minister of Infrastructure and Communities of the Government of Canada as part of a program entitled the New Building Canada Fund - Provincial - Territorial Infrastructure Component - National Regional Projects (the "Program"). Under this agreement, the Corporation has a contractual right to receive contributions for eligible expenditures up to a maximum of \$10,291,000 by March 31, 2024. The Corporation also entered into an agreement in January 2019 with the Minister of Government Relations of the Province of Saskatchewan as part of the Program. Under this agreement, the Corporation has a contractual right to receive contributions for eligible expenditures up to a maximum of \$10,291,000 by June 30, 2021. The Corporation will use these funds for the electrical capital upgrade projects commencing in 2019. Up until December 31, 2019, the Corporation has claimed and received a total \$654,805 from each of the Federal and the Provincial governments.

### 9. SUBSEQUENT EVENT

Subsequent to year end, the Corporation approved a contract to provide design services for the Plant Renewal Project at an estimated cost of \$20 million.

Subsequent to December 31, 2019, the outbreak of Coronavirus, specifically identified as "COVID-19" has resulted in governments worldwide enacting emergency measures to combat the spread of the virus. These measures, which include the implementation of travel bans, self-imposed quarantine periods and social distancing, have caused material disruption to businesses globally resulting in an economic slowdown. Global equity markets have experienced significant volatility and weakness. Governments and central banks have reacted with significant monetary and fiscal interventions designed to stabilize economic conditions. The duration and impact of the COVID-19 outbreak is unknown at this time, as is the effectiveness of the government and central bank interventions. It is not possible to reliably estimate the length and severity of these developments and the impact on the financial results and condition of the Corporation.

### For the year ended December 31

	Budget	2019	2018
EMPLOYEE WAGES AND BENEFITS			
Wages - permanent employees	3,200,000	3,329,898	3,095,074
Employee benefits - permanent employees	595,000	623,480	549,110
Overtime wages - permanent employees	145,000	126,944	147,970
WCB premiums	35,000	(6,898)	6,898
Premium pay - permanent employees	40,000	37,926	34,554
Car allowance	10,900	10,400	9,903
Clothing and boot allowance	5,500	3,654	6,890
Employee benefits - vacation, sick and termination	-	(83,488)	74,340
Employee awards and gifts	2,500	7,416	696
Other compensation	3,000	3,670	1,598
Health spending account	30,000	26,210	27,853
	4,066,900	4,079,212	3,954,886
UTILITIES			
Electricity	1,900,000	1,881,127	1,861,770
Natural gas	275,000	114,476	293,499
	2,175,000	1,995,603	2,155,269
CHEMICALS			
Alum	1,850,000	1,264,104	1,356,446
Granular activated carbon	670,000	632,000	628,000
Chlorine	180,000	158,558	160,725
Powder activated carbon	50,000	-	_
Polymer	40,000	27,674	49,552
	2,790,000	2,082,336	2,194,723
EQUIPMENT MAINTENANCE			
Filtration plant	335,000	402,981	235,093
Wastewater system	1,000,000	946,912	1,015,653
Regeneration plant	130,000	104,006	126,808
Lake pump station	70,000	42,214	16,315
Computer and communications	70,000	195,361	77,377
High power electrical	40,000	34,938	207,163
Pipeline	20,000	7,090	119,827
Maintenance and repair	625,000	142,456	171,712
Maintenance equipment	35,000	62,390	16,418
	2,325,000	1,938,348	1,986,366

For the year ended December 31

- Of the year ended begeinber 01	Budget	2019	2018
MICOSILIANISCUO			
MISCELLANEOUS Insurance	90,000	120 217	01 415
General supplies	19,000	128,217 32,516	91,415 26,877
Telephone	20,000	25,883	26,908
Professional and membership fees	22,500	17,735	33,097
Travel and conventions	25,000	30,485	26,210
Fuel and gas	30,000	12,824	13,648
Stationary and office supplies	25,000	20,492	18,850
Contracted services	75,000	109,669	80,532
Advertising	10,000	10,036	6,489
Education and training	25,000	31,233	17,660
Reception and meetings	10,000	8,927	8,391
Other purchase	5,000	17,047	6,509
Vehicle license and registration	3,000	3,081	2,843
Software maintenance	15,000	23,986	3,139
Software maintenance	13,000	23,900	5, 159
	374,500	472,131	362,568
LABORATORY SUPPLIES AND RESEARCH			
Laboratory supplies	85,000	99,874	96,473
Research	200,000	137,650	30,568
Laboratory equipment	46,000	54,942	65,115
Contract analytical	10,000	10,390	12,288
Accreditation	14,000	15,607	15,700
	355,000	318,463	220,144
	200,000	0.10,100	220,111
BUILDING AND GROUND MAINTENANCE	400.000	407.764	115 001
Filtration plant	120,000	197,764	115,001
Regeneration plant	10,000	8,237	3,943
Lake pump station	15,000	1,280	3,996
	145,000	207,281	122,940
ADMINISTRATION			
City of Regina administration	70,000	68,264	64,607
Board expenses	220,000	159,428	176,051
Audit services	20,000	37,379	47,064
	310,000	265,071	287,722
INTEREST EXPENSES AND BANK CHARGES			
Banking services for loan	-	(1,593)	325,490
Interest for loan	1,521,545	1,491,857	-
THE POST OF TOWN	1,521,545	1,490,264	1,534,771
	1,021,040	1,490,264	1,534,77

### CHEDULE OF TANGIBLE CAPITAL ASSETS 1 dollars]

### or the year ended December 31

_		Gene	ral			Infrastructure			
	Land	Land	Vehicles and Equipment	Office and Information	Plants and		Assets Under		
		provements	Equipment	Technology	Facilities	Roads	Construction	2019	2018
		, o voi i i o i o i o i o i o i o i o i o		recimiology	1 dominos	Roddo	GOIIGHAGHAH	2010	2010
ear	88,535	11,373	1,227,681	113,922	98,847,802	455,389	16,628,814	117,373,516	101,288,668
ng	_	_	101,797		246,422	_	20,198,787	20,547,006	16,084,848
m			101,707		240,422		20,100,707	20,047,000	10,004,040
	-	-	-	-	133,953	-	-	133,953	
ıring									
	-	-	-	-	-	-	133,953	133,953	
	88,535	11,373	1,329,478	113,922	99,228,177	455,389	36,693,648	137,920,522	117,373,516
amortiz	zation								
ear	-	11,373	898,001	62,435	63,414,668	17,424	-	64,403,901	62,254,598
	-	_	64,564	23,379	2,049,564	30,205	-	2,167,712	2,149,303
1									
on									
	-					-	-	<u> </u>	
	_	11,373	962,565	85,814	65,464,232	47,629	_	66,571,613	64,403,901
ue	88,535	-	366,913	28,108	33,763,945	407,760	36,693,648	71,348,909	52,969,615

BUFFALO POUND WATER

BOARD OF DIRECTORS 2019 ANNUAL REPORT

## BUFFALO POUND WATER 2020 RATES 2020 RATES APPROVED SEPTEMBER 25, 2019

	_	-	-,	_	-			
RATES		2019	2020		2021	2022	2023	2024
City Water Rate per megalitre		\$ 355.00	\$ 355.00	\$	365.00	\$ 375.00	\$ 385.00	\$ 395.00
		2.90%	0.00%		2.82%	2.74%	2.67%	2.60%
City Capital Water Rate per megalitre		\$ 188.00	\$ 215.00	\$	287.00	\$ 325.00	\$ 350.00	\$ 375.00
		0.00%	14.36%		33.49%	13.24%	7.69%	7.14%
Total City Rate per megalitre		\$ 543.00	\$ 570.00	\$	652.00	\$ 700.00	\$ 735.00	\$ 770.00
		1.88%	4.97%		14.39%	7.36%	5.00%	4.76%
Electrical Rate per kilowatt-hour		\$ 0.11089	\$ 0.11799	\$	0.12931	\$ 0.14171	\$ 0.15530	\$ 0.15996
		3.00%	6.40%		9.59%	9.59%	9.59%	3.00%
Sask Water - Water Rate per megalitre		\$ 355.00	\$ 355.00	\$	401.50	\$ 412.50	\$ 423.50	\$ 434.50
		2.90%	0.00%		13.10%	2.74%	2.67%	2.60%
Sask Water - Capital Rate per megalitre		\$ 273.44	\$ 311.39	\$	315.70	\$ 357.50	\$ 385.00	\$ 412.50
		9.60%	13.88%		1.39%	13.24%	7.69%	7.14%
Sask Water Electrical Rate per kilowatt-hour		\$ 0.12198	\$ 0.12979	\$	0.14224	\$ 0.15588	\$ 0.17084	\$ 0.17596
		3.00%	6.40%		9.59%	9.59%	9.59%	3.00%
Provincial Park Water Rate per megalitre		\$ 447.62	\$ 447.62	\$	460.23	\$ 472.84	\$ 485.45	\$ 498.06
		2.90%	0.00%		2.82%	2.74%	2.67%	2.60%

Note: No change to rates or structure for SaskWater or the Provincial Park until new agreements are executed. After which time a 10% ROR will be used and the capital rate included. However, the capital charge currently applied to Sask Water as per the current agreement will be maintained until the agreement is amended but is separated from the operations revenue. New agreements should be developed in 2019.

The Water Rates assume no growth outside of the 2 year lagged water consumption forecast, any change in growth or consumption will impact the future water rates.

24-Jul-19

### **BUFFALO POUND WATER**

### 2020 BUDGET - SUMMARY OF RESERVES (THOUSANDS OF \$)

### 2020 BUDGET APPROVED SEPTEMBER 25, 2019

2018 ACTUAL	2019*	2020	2021	2022	2023
ACTUAL	FORFOACT				
	FORECAST	BUDGET	BUDGET	BUDGET	BUDGET
11,504.6	11,386.3	13,015.1	13,215.8	13,649.0	14,335.6
13,607.5	13,063.5	13,037.3	13,443.3	13,841.8	14,244.5
2,102.9	1,677.2	22.2	227.5	192.9	-91.1
1,802.3	1,905.2	3,582.3	3,604.5	3,832.0	4,024.9
1,905.2	3,582.3	3,604.5	3,832.0	4,024.9	3,933.8
2018	2019*	2020	2021	2022	2023
ACTUAL	FORECAST	BUDGET	BUDGET	BUDGET	BUDGET
5,091.2	20,216.2	62,057.4	88,589.0	47,119.0	15,992.0
0.0	7,326.0	12,390.0	866.0	0.0	0.0
0.0	0.0	0.0	130,000.0	0.0	0.0
7,995.4	7,581.4	8,167.2	10,513.3	11,765.6	12,555.3
2,904.2	-5,308.8	-41,500.2	52,790.3	-35,353.4	-3,436.8
50,428.9	55,333.1	50,024.3	8,524.1	61,314.4	25,960.9
55,333.1	50,024.3	8,524.1	61,314.4	25,960.9	22,524.1
	13,607.5 2,102.9 1,802.3 1,905.2 2018 ACTUAL 5,091.2 0.0 0.0 7,995.4 2,904.2 50,428.9	13,607.5 13,063.5  2,102.9 1,677.2 1,802.3 1,905.2 1,905.2 3,582.3  2018 2019* ACTUAL FORECAST  5,091.2 20,216.2 0.0 7,326.0 0.0 0.0 7,995.4 7,581.4 2,904.2 -5,308.8 50,428.9 55,333.1	13,607.5       13,063.5       13,037.3         2,102.9       1,677.2       22.2         1,802.3       1,905.2       3,582.3         1,905.2       3,582.3       3,604.5         2018       2019*       2020         ACTUAL       FORECAST       BUDGET         5,091.2       20,216.2       62,057.4         0.0       7,326.0       12,390.0         0.0       0.0       0.0         7,995.4       7,581.4       8,167.2         2,904.2       -5,308.8       -41,500.2         50,428.9       55,333.1       50,024.3	13,607.5         13,063.5         13,037.3         13,443.3           2,102.9         1,677.2         22.2         227.5           1,802.3         1,905.2         3,582.3         3,604.5           1,905.2         3,582.3         3,604.5         3,832.0           2018         2019*         2020         2021           ACTUAL         FORECAST         BUDGET         BUDGET           5,091.2         20,216.2         62,057.4         88,589.0           0.0         7,326.0         12,390.0         866.0           0.0         0.0         130,000.0           7,995.4         7,581.4         8,167.2         10,513.3           2,904.2         -5,308.8         -41,500.2         52,790.3           50,428.9         55,333.1         50,024.3         8,524.1	13,607.5       13,063.5       13,037.3       13,443.3       13,841.8         2,102.9       1,677.2       22.2       227.5       192.9         1,802.3       1,905.2       3,582.3       3,604.5       3,832.0         1,905.2       3,582.3       3,604.5       3,832.0       4,024.9         2018       2019*       2020       2021       2022         ACTUAL       FORECAST       BUDGET       BUDGET       BUDGET         5,091.2       20,216.2       62,057.4       88,589.0       47,119.0         0.0       7,326.0       12,390.0       866.0       0.0         0.0       0.0       130,000.0       0.0         7,995.4       7,581.4       8,167.2       10,513.3       11,765.6         2,904.2       -5,308.8       -41,500.2       52,790.3       -35,353.4         50,428.9       55,333.1       50,024.3       8,524.1       61,314.4

25-Sep-19

								N - SUMMAR		ATER NDITURES (THOUSANDS OF \$) SEPTEMBER 25, 2019
						20	DERAIL	ING BODGET	APPROVED	SET TEMBER 23, 2015
	OBJECT NO.	2018 Actual	2019* Forecast	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget	2024 Budget	Comments
UTILITIES										
Electricity Natural Gas	65501 65505	1,861.8 293.5	2,000.0 150.0	1,900.0 275.0	2,100.0 250.0	2,301.6 287.5	2,522.6 330.6	2,764.7 380.2	2,847.7 399.2	3.0% SPC Rate Increase + 6.4%/yr for carbon tax + UV + new electrical facilities from 2019-2024  New Buildings in 2019/2020 + \$0.50/GJ/year for carbon tax from 2019-2023 ~+10%, New Gas Supplier Nov 2018 with reduction in rates
reaction das	03303	2,155.3	2,150.0	2,175.0	2,350.0	2,589.1	2,853.2	3,144.9	3,246.9	The buildings in 2017/2020 + \$0.307 d37 year for carbon tax from 2017/2023 + 10/g, new das supplies not 2010 with reduction in rates
CHEMICALS										
Aluminum Sulphate & CPAC	65201	1,356.4	1,250.0	1,850.0	1,450.0	1,522.5	1,598.6	1,678.6	1,762.5	Reduced due to raw water quality improvements
PAC + Other Chemicals	65211	0.0	0.0	50.0	50.0	50.0	50.0	50.0	50.0	
Chlorine Polymer	65212 65248	160.7 49.6	160.0 40.0	180.0 40.0	168.0 40.0	176.4 41.2	185.2 42.4	194.5 43.7	204.2 45.0	
Carbon Makeup (GAC)	65269	628.0	632.0	670.0	646.8	666.2	686.2	706.8	364.0	
		2,194.7	2,082.0	2,790.0	2,354.8	2,456.3	2,562.5	2,673.5	2,425.7	
MAINTENANCE										
Maintenance Equip (Vehicles)	64506	16.4	40.0	35.0	36.1	37.1	38.2	39.4	40.6	
Filtration Plant Building	64519	134.3	130.0	120.0	130.0	133.9	137.9	142.1	146.3	
Lake Pumping Station Building Regeneration Building	64520 64522	4.0 9.9	10.0 10.0	15.0 10.0	15.5 10.3	15.9 10.6	16.4 10.9	16.9 11.3	17.4 11.6	
Filtration Plant Equipment	64523	334.5	335.0	335.0	345.1	355.4	366.1	377.0	388.4	Backup Generators at Main Plant in 2019
Lake Pump Station Equipment	64524 64525	16.3 140.3	70.0 100.0	70.0 130.0	82.4 133.9	95.2 137.9	108.3 142.1	111.6 146.3	114.9 150.7	Account for Backup Generators at LPS in 2020
Regeneration Plant Equipment Capitalized Maintenance	64612	288.0	400.0	625.0	892.0	802.0	695.0	785.0	808.6	
Wastewater System	64526	1,015.7	750.0	1,000.0	1,300.0	1,100.0	1,133.0	1,167.0	1,202.0	Plant Renewal May Assist in Reducing this cost for Landfill - 2 Hauls and 2 Lagoons per year. Sewage Lagoon repair included in 2020
Pipeline Computer/Electronic Comms System	64527 64528	119.8 77.4	40.0 175.0	20.0 70.0	20.6 72.1	21.2 74.3	21.9 76.5	22.5 78.8	23.2 81.1	Computer hardware, Programming, Telephone, Access points, Security, Upgrades by Microage
High Power Electrical	64529	224.8	60.0	40.0	41.2	42.4	43.7	45.0	46.4	PMP work, High power PMs
		2,381.4	2,120.0	2,470.0	3,079.1	2,826.0	2,790.0	2,942.8	3,031.1	
LABORATORY										
Research	64221	50.2	150.0	200.0	150.0	154.5	159.1	163.9	168.8	Allow for in-kind research, partnership with universities and targeted research with 3rd parties. Research Strategy Development.
Contract Analytical	64222	12.3	10.0	10.0	15.0	15.5	15.9	16.4	16.9	
Lab Equipment Maintenance Lab Supplies	64530 65236	96.5 65.1	46.0 85.0	46.0 85.0	50.0 90.0	51.5 92.7	53.0 95.5	54.6 98.3	56.3 101.3	
Lab Accreditation	65277	15.7	14.0	14.0	18.0	18.5	19.1	19.7	20.3	
		239.8	305.0	355.0	323.0	332.7	342.7	353.0	363.5	
EMPLOYEE WAGES & BENEFITS										
Salaries & Wages (Perm)	61110	3,095.1	3,200.0	3,200.0	3,200	3,242	3,299	3,365	3,432	
Supp-Mat, Parental, Adopt Leave Overtime Pay (Perm)	61111 61120	0.0 148.0	0.0 145.0	0.0 145.0	0.0 149.4	0.0 153.8	0.0 158.4	0.0 163.2	0.0	Mostly OT is for operators
Time Off In Lieu Banked - Permanent	61125	0.8	3.0	1.0	1.0	1.1	1.1	1.1	1.2	MUSLIY OT IS 101 Operators
Premium Pay	61140	34.6	35.0	40.0	40.0	41.2	42.4	43.7	45.0	
Salaries & Wages (Casual) Overtime Pay (Casual)	61210 61220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Criinal Record Check	61520	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
Employee Benefits (Perm)	62120	549.1	595.0	595.0	612.9	631.2	650.2	669.7	689.8	
Employee Benefits (Casual) Health Spending - OCE	62130 62174	0.0 27.8	0.0 25.9	0.0 30.0	0.0 27.0	0.0 27.8	0.0 28.6	0.0 29.5	0.0 30.4	
Telephone Allowance	61537	0.8	1.0	2.0	2.1	2.1	2.1	2.1	2.2	
Worker's Compensation Premiums	62180	6.9 <b>3,863.0</b>	-6.9 <b>3,998.2</b>	35.0 4,048.0	36.1 4,068.3	37.1 <b>4,136.1</b>	38.2 4,219.6	39.4 <b>4,313.2</b>	40.6 <b>4,409.0</b>	
		3,003.0	3,990.2	4,048.0	4,008.3	4,130.1	4,219.0	4,313.2	4,409.0	
EMPLOYEE RELATED PAYMENT EXPENSES									4.0	
Car Allowance - Taxable Car Allowance - Non Taxable	61511 61512	3.9 6.0	3.9 7.0	3.9 7.0	3.9 7.2	3.9 7.4	3.9 7.6	3.9 7.9	4.0 8.1	
Boot Allowance	61513	6.9	5.5	5.5	5.7	5.8	6.0	6.2	6.4	
Professional and Membership Dues Employee Awards & Gifts	61561 61564	33.1 0.7	22.5 5.0	22.5 2.5	23.2	23.9	24.6 2.7	25.3 2.8	26.1 2.9	
Employee Awards & Gills	01304	50.6	43.9	41.4	42.5	43.7	44.9	46.1	47.5	
TRAINING & TRAVEL EXPENSES Business Travel	64001	26.2	25.0	25.0	25.8	26.5	27.3	28.1	29.0	
Employee Education & Training	64210	17.7	30.0	25.0	50.0	50.0	30.0	30.9	31.8	Training for new DCS system in 2020 · 2021 and back to normal afterwards
		43.9	55.0	50.0	75.8	76.5	57.3	59.0	60.8	
OFFICE & ADMINISTRATION EXPENSES										
Telephone	64104	26.9	25.0	20.0	25.0	25.8	26.5	27.3	28.1	
Courier & Freight Charges Receptions, Meetings & Food	64109 64115	0.0 8.4	0.1 10.0	1.0 10.0	1.0	1.0 10.3	1.0 10.6	1.0	1.0 11.3	
Insurance	64117	91.4	100.0	90.0	103.0	110.0	113.3	116.7	120.2	Main Plant substation assets added 2020 and LPS for 2021
Software, Maintenance Charges	64120	3.1	25.0	15.0	25.0	25.8	26.5	27.3	28.1	Software licensing, Office 365 etc
Board Member Expenses Board Advisory Services/Initiatives	64124 64125	116.0 60.0	130.0 30.0	150.0 70.0	150.0 72.0	154.5 74.2	159.1 76.4	163.9 78.7	168.8 81.0	CIC T2 \$14k/Member + \$20k/chair plus \$650/committee meeting + Trg + Travel + Retreat + Portal. Potential new member in 2020 Policy, legal reviews, Board initiatives
Advertising & Media Related Services	64202	6.5	10.0	10.0	10.0	10.3	10.6	10.9	11.3	,, , , , , , , , , , , , , , , , , , , ,
Financial Audit Services	64205	47.0	35.0	20.0	36.1	37.1	38.2	39.4	40.6	
CoR Administration Medical Services	64220 64217	64.6 0.0	68.3 0.0	70.0 0.0	72.1 10.0	74.3 10.3	76.5 10.6	78.8 10.9	81.1 11.3	Have medical contractor available as required through Hazco
Contracted Services (Legal/HR/IT)	64232	71.9	100.0	75.0	100.0	103.0	106.1	109.3	112.6	Increase usage with Incorporation, Microage onboarding
Office Supplies	65112	18.9 <b>514.7</b>	20.0 <b>553.4</b>	25.0 556.0	25.0 <b>639.2</b>	25.8 <b>662.2</b>	26.5 <b>682.1</b>	27.3 <b>702.5</b>	28.1 <b>723.5</b>	
		514.7	555.4	0.000	039.2	002.2	062.1	702.5	723.5	
MISCELLANEOUS										
Other Purchased Services General Equipment	64601 65222	6.5 0.0	6.0 0.0	5.0 1.0	5.0 1.0	5.2 1.1	5.3 1.1	5.5 1.1	5.6 1.2	
First Aid & Safety Supplies & Medical Evals	65226	38.1	40.0	8.0	40.0	41.2	42.4	43.7	45.0	Continuing to purchase safety materials and equipment
Vehicle License & Registration	65238	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	
Fuel & Gas General Plant Supplies	65228 65230	13.6 0.2	30.0 0.0	30.0 10.0	30.9 2.5	40.0 2.6	42.0 2.7	44.1 2.7	45.4 2.8	Fuel increase due to generators commencing in 2019
		61.2	78.9	57.0	82.5	93.2	96.8	100.5	103.5	
TOTAL EXPENDITURES		11,504.6	11,386.3	12,542.4	13,015.1	13,215.8	13,649.0	14,335.6	14,411.6	
TOTAL OPERATING REVENUES		13,607.5	13,063.5	12,828.3	13,037.3	13,443.3	13,841.8	14,244.5	14,617.4	
TOTAL OF ENATING REVENUES		13,007.5	13,003.5	12,020.3	13,037.3	13,443.3	13,041.8	14,244.5	14,017.4	

### APPENDIX B

### **BUFFALO POUND WATER**

### 2020 OPERATING REVENUE BUDGET - SUMMARY OF REVENUES (THOUSANDS OF \$) 2020 OPERATING BUDGET APPROVED SEPTEMBER 25, 2019

OPERATING REVENUES (THOUSANDS OF \$)	8	Column1	10				
DESCRIPTION	2018	2019*	2019	2020	2021	2022	2023
	ACTUAL	FORECAST	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET
General Water Charge - Regina	11,024.3	10,620.0	10,366.0	10,650.0	10,950.0	11,250.0	11,550.0
General Water Charge - Moose Jaw	1,905.2	1,860.0	1,899.3	1,899.3	1,952.8	2,006.3	2,059.8
Power Charge	593.5	500.0	477.7	402.7	445.2	487.9	534.7
Plant Water Sales	6.5	5.0	4.0	4.0	4.0	4.0	4.0
Sask Water	74.8	74.5	76.3	76.3	86.3	88.7	91.1
Miscellaneous Revenue	3.2	4.0	5.0	5.0	5.0	5.0	5.0
TOTAL	13,607.5	13,063.5	12,828.3	13,037.3	13,443.3	13,841.8	14,244.5

\* - Based on August 2019 Actuals Forecasted to YE

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### APPENDIX B

BUFFALO POUND WATER
2020-2029 CAPITAL PLAN - SUMMARY OF PROPOSED PROJECTS FUNDED BY CAPITAL WATER RATE (THOUSANDS OF \$)

2020-2029 CAPITAL PLAN - SUMMARY OF PROPOSED PROJECTS FUNDED BY CAPITAL WATER RATE (THOUSANDS OF \$)																	
					20 CAPITAL BUDGET APPRO												
Project	Priority	Project Code	Total Multi-Year Approved Budget 2019	Multi-Year Spent 2018 YE	2019 Forecast to YE*	Est CF to 2020*	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total Comments
																	-
Filter Flowmeters	В	W0040	105.00	15.69												-	-
Computerized Maintenance Management System	A	W0123	976.00	400.96	175.0	400.0										-	•
Future Capitalized Maintenance (Annual)	В	Various					-	-	925.0	838.0	1,172.0	1,207.0	943.0	1,280.0	1,318.4	1,318.4	
Lab Equipment Upgrade	С	Various					60.0	125.0	80.0	300.0	-	-	300.0	-	-		865.0
LPS Electrcial and Pumping Upgrades	A	W0130	29,535.00	1,397.10	9,000.0											-	-
Main Plant Electrcial Upgrades	Α	W0134	8,859.00	653.93	3,602.9											-	- Includes Corrective Action for UV Work
LPS 138 kV Transmission Line	A	W0136	2,228.00	81.34	2,700.0		2,300.0									-	2,300.0
SCADA Upgrades	A	W0139	2,848.00	264.25	500.0		3,150.0		-		-	-		-	-		3,150.0
Chlorine Safety Upgrades	Α	W0143	402.00		402.0		200.0									-	200.0
QMS Framework and System Implementation	В	W0148	200.00	•	20.0		-	100.0	-	-	-	-		-	-	-	100.0
Plant Renewal (Owner's Engineer, Legal/Fin/Expert/Fairness Support, Stipend, Design, GB and PDB Costs)	A	W0126	8,400.00	645.53	800.0	6,954.5	18,500.0	4,000.0	1,000.0	1,100.0	1,500.0	100.0		-	-	-	26,200.0
Plant Renewal Construction**	A	W0126					2,000.0	72,500.0	33,750.0	2,390.0					-	-	110,640.0 This is a place holder until more design is done to determine a Class 4 estimate
Regen Repairs Refractory	Α	W0147					-	500.0	-			-		-	-	-	500.0
Principle and Interest Payments	Α	W0146	2,518.49		3,016.3		3,042.5	11,364.0	11,364.0	11,364.0	11,364.0	11,364.0	11,364.0	11,364.0	11,364.0	11,364.0	105,318.9 Based on estimated 4% interest over 25 years for \$175 million in debt
TOTAL CAPITAL BUDGET			56,071.49	3,458.82	20,216.2	32,804.9	29,252.5	88,589.0	47,119.0	15,992.0	14,036.0	12,671.0	12,607.0	12,644.0	12,682.4	12,682.4	258,275.7
TOTAL CAPITAL REVENUE (Including Proceeds of Loans and Grants)					14,907.4		20,557.2	141,379.3	11,765.6	12,555.3	13,394.9	13,420.5	13,456.1	13,491.7	13,527.3	13,562.9	
NET SURPLUS (DEFICIT) FOR THE YEAR					-5,308.8	B	-8,695.3	52,790.3	-35,353.4	-3,436.8	-641.1	749.5	849.1	847.6	844.8	844.8	
	•																
RESERVE					50,024.3	50,024.3	8,524.1	61,314.4	25,960.9	22,524.1	21,883.0	22,632.5	23,481.6	24,329.2	25,174.1	26,054.5	
PRIORITY A - CRITICAL, B -VERY IMPORTANT/STRAT PLAN/RISK REGISTRY, C - IMPORTANT, D - LOW																	
*- Based on August 2019 actuals																	
** - Placeholder Number Until 30% Design Completed																	
11-Sep-19																	
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## BUFFALO POUND WATER 2020 CAPITAL REVENUE BUDGET - SUMMARY OF REVENUES (THOUSANI 2020 CAPITAL BUDGET APPROVED SEPTEMBER 25, 2019

CAPITAL REVENUES (THOUSANDS OF \$)		4	42	43					
DESCRIPTION	REVENUE	2018	2019	2019	2020	2021	2022	2023	2024
	SOURCE	ACTUAL	FORECAST*	Budget	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET
Capital Water Charge - Regina	57310	6,007.5	5,624.0	5,489.6	6,450.0	8,610.0	9,750.0	10,500.0	11,250.0
Capital Water Charge - Moose Jaw	57311	1,038.2	985.0	1,005.8	1,150.3	1,535.5	1,738.8	1,872.5	2,006.3
Sask Water Capital Charge	57312	54.1	57.4	58.8	66.9	67.9	76.9	82.8	88.7
Interest	56505	895.6	915.0	40.0	500.0	300.0	200.0	100.0	50.0
Proceeds from PTIC-NRP Grant		-	7,326.0	12,532.0	12,390.0	866.0	-	-	-
Proceeds from Loan		•	•	-	•	130,000.0	•	-	-
TOTAL		7,995.4	14,907.4	19,126.2	20,557.2	141,379.3	11,765.6	12,555.3	13,394.9

Note: No change to rates or structure for SaskWater or the Provincial Park until new agreements are executed. After which time a 10% ROR will be used and the capital rate included.

However, the capital charge currently applied to Sask Water as per the current agreement will be maintained until the agreement is amended but is separated from the operations revenue. A new agreement should be negotiated
\*- Based on August 2019 Actuals Forecasted to YE

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### BUFFALO POUND WATER 2020-2024 WATER SALES FORECAST (ML) 2020 BUDGET APPROVED SEPTEMBER 25, 2019

	2019	2020	2021	2022	2023	2024
City of Regina	29,200	30,000	30,000	30,000	30,000	30,000
City of Moose Jaw	5,350	5,350	5,350	5,350	5,350	5,350
Sask Water	215	215	215	215	215	215
Provincial Park	20	20	20	20	20	20
Water Stand Sales	6	6	6	6	6	6
TOTAL	34,791	35,591	35,591	35,591	35,591	35,591

BUFFALO POUND WATER  2020-2024 POWER SALES FORECAST (kWh)  2020 BUDGET APPROVED SEPTEMBER 25, 2019							
	2019	2020	2021	2022	2023	2024	
City of Regina	3,597,625	2,716,438	2,732,625	2,732,625	2,732,625	2,732,625	
City of Moose Jaw	660,960	647,498	660,960	660,960	660,960	660,960	
Sask Water	49,229	49,310	49,229	49,229	49,229	49,229	
TOTAL	4,307,814	3,413,245	3,442,814	3,442,814	3,442,814	3,442,814	

10-Sep-19



### **COVID-19 Update**

Date	June 10, 2020
То	Executive Committee
From	City Manager's Office
Service Area	City Manager's Office
Item No.	EX20-20

### RECOMMENDATION

The Executive Committee recommends that City Council:

1. Approve the following:

### COVID-19 Pandemic Bylaw:

Adopt the timelines and requirements set out in the bylaws identified the COVID-19 Pandemic Bylaw section of this report in the COVID-19 Pandemic Bylaw, 2020.

### **Transit Services:**

- 1. That transit service be adjusted so that fare collection is re-instated on June 29, 2020.
- Delegate authority to the City Manager to negotiate and approve an amendment to the University of Regina Student Union U-Pass Agreement to suspend the program for the fall 2020 semester, or until a future date when the University of Regina provides courses primarily on-campus.

### Supporting Community Recovery:

- 1. Delegate authority to the City Manager to waive fees set out in *The Regina Traffic Bylaw* for street use permits for mobile food vending and outdoor restaurant seating.
- 2. Direct the City Solicitor to prepare the necessary bylaw to incorporate the amendments as outlined in this report for the June 24, City Council meeting.

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3. Approve these recommendations at its meeting on June 24, 2020.

### **ISSUE**

The City is continuing to respond to the COVID-19 public health emergency and the dynamic nature of *Re-Open Saskatchewan*. The purpose of this report is to seek approval for bylaw amendments and service adjustments where authority has not been delegated to the City Manager.

This report provides Council with a financial update, as well as descriptions of planned fee re-instatements and the re-opening of impacted City programs and services. Key highlights include:

- a. Re-instating fees and enforcement for metered parking effective June 15, 2020
- b. Re-opening Transit Information Centre on June 15, 2020
- c. Re-opening City Hall to the public with limited services on June 15, 2020
- d. Re-opening Riverside Cemetery Chapel to the public on June 15, 2020
- e. Re-instating fees and enforcement for non-metered parking effective June 29, 2020
- f. Re-instating transit fares effective June 29, 2020

Re-Open Saskatchewan recommends employees continue to, where feasible, work remotely through all phases. The City is positioned to continue to follow this guidance due to decisions that were made to become an early adopter of Office 365 technology and migrating to tablets and laptops. Staff have remote access to information systems that have robust cyber security measures in place. Currently, approximately 700 of 770 administrative and professional staff (27.5 per cent of City workforce) are effectively performing work functions at home. Over the coming weeks, the City is planning to slowly return these teams to the physical workplace. This is being accomplished through a phased approach that respects Government of Saskatchewan requirements, including physical distancing. With these requirements in place, we expect that up to 50 per cent of our administration and professional staff will continue to work remotely until the public health emergency has ended.

### **IMPACTS**

This recommendation has no financial, environmental or other implications.

### **OTHER OPTIONS**

There are no other options.

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### **COMMUNICATIONS**

One of the City's top priorities during the COVID-19 pandemic has been to provide citizens with timely information on service and program adjustments, as well as encouraging our community to follow public health orders.

This information has been shared on Regina.ca/coronavirus and social media platforms like Twitter and Facebook. The City has also issued public service announcements and provided opportunities for regular media briefings.

Communications strategies have been developed for specific service changes as part of the re-open plan. This includes ensuring safety protocols are in place, including availability of hand sanitizer, safety shields, signage and physical distancing decals in appropriate locations.

### **DISCUSSION**

### **COVID-19 PANDEMIC BYLAW UPDATE**

On April 29, 2020 City Council passed *CM20-11 The Covid-19 Pandemic Bylaw, 2020,* which extended certain timelines and gave authority to officials to amend processes in response to the pandemic. Administration is recommending the Bylaw be amended to extend dates from June 30, 2020 to July 31, 2020.

### The Taxi Bylaw, 1994 (Bylaw 9635)

Taxi licenses, renewals and annual inspections are normally done in April and May. In order to avoid in-person contact, existing licenses that are eligible for renewal and that would normally expire over the next two months are being extended until August 31, 2020. Further modifications to the Bylaw include the ability of taxi drivers to refuse a trip to a customer exhibiting COVID-19 symptoms. Drivers can also modify other customer service standards to limit in-person contact except the requirement to provide services to non-ambulatory customers relating to storing and securing mobility devices. Requirements to drive a minimum number of hours or within a number of weeks is suspended between March 18, 2020 and July 31, 2020. The license inspector is also provided additional delegated authority to modify procedures and processes to reduce in-person contact until as long as is reasonably necessary to respond to the public health emergency.

### The Clean Property Bylaw (Bylaw 9881)

The right to appeal a permit or agreement under this Bylaw is suspended from March 18, 2020 until July 31, 2020. The reason for this is that the City is not in a position right now to hear these appeals.

### The Regina Animal Bylaw, 2009 (Bylaw 2009-44)

The right to appeal certain animal orders and convictions is suspended until July 31, 2020. There are also bylaw modifications to allow the City Manager or designate to waive or

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modify detention fees outlined in the Bylaw where necessary because of COVID-19. In addition, this Bylaw -3- Page 3 of 3 CM20-11 provides authority to the City Manager or designate to close, reopen or modify the use of all off leash dog parks as long as is reasonably necessary to respond to the public health emergency.

### The Code of Ethics Bylaw, 2017

Bylaw modifications are proposed that would allow the timelines for the Integrity Commissioner to investigate and report on complaints to be waived until July 31, 2020 as well as the timelines for Council to consider and respond to an investigation report.

### **COVID-19 2020 FINANCIAL UPDATE**

### **Forecast Update**

On April 15, 2020, Administration provided Council a report (CM20-8) identifying the projected 2020 financial impact of COVID-19 on the City based on three scenarios. Council with some adjustments approved Administration's planned response to the projected financial impacts under each of those scenarios. The scenarios were based on different assumptions as to when there would be a return to near normal conditions, that is, April 30, June 30 and September 30. As noted in the report, financial projections reflect a point in time estimate and can change as new information and additional actions are taken to respond to the public health emergency.

Subsequent to the report's release, the Province of Saskatchewan announced the Re-Open Saskatchewan plan describing a five-phased approach to re-open businesses and services throughout the province. Further, it has become evident that a return to "normal" will likely not occur until a vaccine or effective form of drug therapy is found to combat the disease, resulting in the financial impacts of COVID-19 likely extending beyond 2020 and possibly into 2022. As an example, even if full transit service is in place by the end of 2020 with no capacity restrictions, ridership will likely not return to pre-COVID-19 levels until all passengers who previously used transit believes it safe to do so. Administration has recently updated its forecast and taken the above factors into consideration. The financial impact of COVID-19 in the updated forecast is consistent with the projections shared previously related to the June 30 and September 30 scenarios which projected a negative financial impact on tax supported services in the range of \$9.6 million and \$15.2 million respectively, and between \$12.1 million and \$20.7 million overall when non-tax supported serves are included in the estimated 2020 financial impact. As a result, Council's previously approved actions and Administration's planned response are forecast to be sufficient to address the negative financial impact of COVID-19 in 2020. No further action is required to address the 2020 financial impacts at this time.

Unknown at this time is the extent of any financial impacts COVID-19 may have on the receipt of 2020 property taxes which are due on September 30, 2020. As well, the forecast does not take into consideration Council's motion that Administration return to Council with a report in July 2020 providing analysis and recommendations related to the Regina Chamber of Commerce's submission to Council requesting non-residential property owners

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be provided further tax relief through a 25 per cent reduction in the municipal portion of 2020 property taxes with the reduction in taxes to be repaid over the following four years. The above projected impacts also exclude the financial impacts of COVID-19 on Mosaic Stadium operations and the Regina Exhibition Association Limited (REAL).

Administration will continue to monitor the financial impacts of COVID-19 on City finances and update Council on a regular basis.

### **Stadium Reserve**

The pandemic has resulted in emergency measures that have included the cancellation of large public gatherings, such as the events held at Mosaic Stadium. While it is not possible at this time to reliably estimate the length and severity of these developments and the impact on the future financial results of the stadium, it is likely that the pandemic, at a minimum, will negatively affect the operating results of Mosaic Stadium in 2020 and 2021. Some of these impacts could include, but are not limited to, a substantial reduction in the facility fee revenue collected on tickets sold to Saskatchewan Roughriders Football Club (SRFC) games.

As an example, should the Canadian Football League (CFL) only play an eight-game season in 2020, only four SRFC home games would be played at Mosaic Stadium versus the ten home games that would normally occur in a season. This would result in a significant reduction in revenue. In addition, if games are played without fans in attendance, no facility fees will be collected. If fans are allowed, the public's level of comfort in attending events with large crowds is also an unknown.

The estimated financial impact of COVID-19 in 2020 alone is estimated to be in the range of \$4-5 million. It is anticipated this will affect the City's ability to achieve a net zero to positive balance in the Regina Revitalization Initiative (RRI) Stadium Reserve under the current 30-year funding model. Administration is actively working with the stadium's operator, REAL and the SRFC to identify opportunities to ensure the long-term financial sustainability of Mosaic Stadium.

### **REAL**

The pandemic is greatly impacting the cash flow of REAL. As a business that depends solely on sports, recreation, entertainment, and large public gatherings, the immediate impact of COVID-19 on the financial performance of REAL is material and presents risks to the City of Regina as the owner of REAL.

REAL is actively managing their cash flow situation. Significant actions have been taken to date, including deferring utility and other payments, as well as the temporary layoff of non-permanent and permanent staff. In April, City Council approved an amendment to REAL's credit facilities within their existing \$13 million loan guarantee (CM20-8). The approval increased the operating line of credit to stabilize REAL's cash flow to the end of the year and allow it to meet its payment obligations. As the pandemic continues, REAL is assessing risks and opportunities to mitigate risks in the short, medium, and long term.

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The anticipated loss of critical earnings during the peak event season will have a compounding effect on the magnitude of financial loss and the ability for REAL to financially recover from lost event revenue.

The recovery of revenues is expected to be gradual, meaning that as public health orders are lifted, the willingness of the fans to attend various events at a pre-COVID level will happen over time. It is also critical to recognize that the majority of business at REAL is dependent upon disposable income available within the marketplace and it should be anticipated that should events be permitted to return there remains a risk in the ability for guests and patrons to spend on rentals, tickets, or food and beverage in the short to midterm. As restrictions are lifted, REAL anticipates it will take up to 30 months before revenues are fully recovered (pre-COVID-19 levels).

As REAL's recovery plan is developed and more is known about the impacts of the pandemic, there may be a need to return in the fall to review options to further address REAL's cash flow challenges and a strategy outlining how REAL's debt position will be addressed over the longer term. The financial impacts of COVID-19 on REAL and any related debt management strategy may significantly impact the operational abilities and financial abilities of REAL for a prolonged period, resulting in an elevated risk for the organization.

### **RE-OPENING UPDATE**

The provincial and federal governments have authority to direct response and recovery to the public health emergency. The City is following all public health recommendations, emergency orders and directives of the provincial and federal governments. Administration has developed the City's *Re-Open Plan* which is premised on how services can safely be re-opened to the public in alignment with the upcoming phases of *Re-Open Saskatchewan*.

As we deliver the programs and services our citizens rely on each and every day, our top priority remains the health and safety of our employees and community. With the exception of recreation, all other municipal services and programs have continued to be provided with additional safety measures in place to ensure a safe environment for our City employees, contractors and citizens. In some cases, service levels have been adjusted to achieve a safe environment.

The City's re-open plan is dynamic and will be revised regularly in response to public health orders or direction from the Government of Saskatchewan, as defined in the *Re-Open Saskatchewan* plan. It is expected that Government of Saskatchewan will continue to make announcements related to re-opening on an on-going basis. Factors influencing the City's decisions related to re-opening are:

- Availability of PPE
- Expansion and continued delivery of digital and virtual services
- Workplace design requirements to respect physical distancing

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- Implementation dates set in Re-Open Saskatchewan may make seasonal services unfeasible
- Lead time required to ensure staff can be brought back to work to provide recreation services and programs

The City's plan to re-open impacted City programs and services is in Appendix A.

### **Transit Services**

At the special Council meeting on March 20, 2020, Council considered *CM20-7 COVID-19 Update* and approved waiving transit fares so that customers could enter and exit a conventional transit bus using the rear door, allowing safe physical distancing from customers and the operator, as well as restricting multiple contacts with the farebox. *The Regina Transit Fare Bylaw, 2009* was amended to waive fares for the duration of the provincial emergency declaration. The safety concerns can now be mitigated with the addition of a safety shield and enhanced cleaning protocols allowing fare collection to resume with the repeal of the Bylaw amendment.

As a step in easing COVID-19 restrictions, Regina Transit is recommending resuming loading passengers and collecting fares at the front doors of the bus on June 29. New safety shields have been installed for the safe interaction between passengers and bus operators. Enhanced cleaning protocols continue, and the passenger limit has increased to 15 people per bus from10 effective June 8, 2020 (consistent with Phase 3 of the *Reopen Saskatchewan* plan). Customers are encouraged to use R Cards to pay for fares since this is a touchless transaction when the card is placed close to the fare box reader.

As part of re-opening transit service, Administration recommends:

- Re-instating Fares Effective June 29 for both Conventional and Paratransit services.
   The plan to reinstate transit fares is consistent with other municipalities, that are slowly reintroducing transit services. Prince Albert already has transit fares in place, Saskatoon is reintroducing fares on June 8, and Edmonton will be on June 15.
  - Revenues collected for transit are approximately one million dollars less for April 2020 in comparison to April 2019. Even with fares resuming on June 29, it is anticipated that there will be minimal revenue for June through August since pass extensions and refunds will be processed. Overall, it is anticipated that revenues for transit will be down over five million dollars by the end of the year when compared to 2020.
- 2) Safety Shield Installed on All Buses Bus operators will have customers interacting with the farebox at the front of the bus to pay their fare. To ensure that our operators remain safe and to limit contact with customers, a see-through driver screen or curtain will be installed on all buses. The estimated cost for this is \$25,000 for the entire conventional transit fleet. SGI supports and endorses that these safety shields be installed.

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- 3) **Front Door Loading** Buses are currently being loaded from the rear door since the fare boxes were put out of service. This created distance between customers and the bus operator. With fares being paid, loading at the front door is required to access the farebox. The safety shield for the operator will act as the barrier to the customers.
- 4) Transit Information Center be Re-opened The Transit Information Centre will open starting June 15 to sell passes and rides with reduced hours of operation Monday to Friday, 8:30 a.m. to 4:30 p.m. Customers are reminded to ensure a two-metre physical distance when queuing for service. Customers who had passes or rides while fares were waived may qualify for an extension. Customers should contact the RideLine at 306-777-RIDE (7433) and extensions will be processed until September 11. This location has plastic shields in place for both employee and customer health and safety.

Customers that had an active pass when service was reduced will be eligible to reactivate their pass at no cost and will be provided an additional month on their card as a good will gesture.

Agents that sell transit fare across the City will also be notified that they can resume selling.

### Reduced Capacity and Scheduling

At its March 20 meeting, Council considered *CM20-7* and approved reduced transit service levels in response to the COVID 19 public health emergency. Saturday service is running on weekdays and Sunday service is running during the weekends. This reduced service has resulted in some areas of the City not having transit service, including Westhill, Fairways West, Maple Ridge, Lakeridge, Hawkstone and Wascana View.

In April, it was decided to delay introducing service to Westerra until the fall of 2020. At the time, it was thought that transit would resume regular service by the fall. However, transit is continuing to operate with a reduced service level, and there is no indication of when regular service may resume. Administration is recommended that Westerra service begin at the same time regular transit services are reintroduced.

Administration continues to monitor ridership and the impacts of *Re-open Saskatchewan* on transit. Once *Re-Open Saskatchewan* reaches Phase Four, the City will be in a better position to identify a timeframe for regular transit service re-introduction.

The physical distancing requirements drastically reduce the capacity of transit vehicles. Demand for transit service is increasing as more people are out in the community under the direction of *Re-Open Saskatchewan*. Regina Transit may be challenged to meet the anticipated capacity needs for riders wanting to take the bus while maintaining physical distancing. Buses currently have a limited capacity of 15 people due to the need for safe social distancing. Buses normally hold 60 passengers; thus, the system has lost 75 per cent of capacity resulting in aadditional buses being required to accommodate the trend of increasing transit riders.

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### **U-Pass Program**

Similar to the spring and summer semesters, the University of Regina is only providing online courses for the fall semester. On-line courses will result in a minimal number of students travelling to the University of Regina. The University of Regina Students Union (URSU) has advised the City that they will not be able to charge the U-Pass fee to students for the fall 2020 semester and has requested transit suspend the contract. URSU would resume the program in January 2021.

The U-Pass program is based on 100 per cent cost recovery with the fall 2020 program generating \$864,000 of revenue to the City. The program also includes additional bus service to support increased use of the transit system. If the contract for fall 2020 is suspended, the additional bus service would also be suspended. This includes:

- Route 4 Walsh Acres/Hillsdale would have frequencies reduced to 30 minutes during morning and afternoon peak periods
- Route 21 University/Glencairn would only run during peak periods
- Route 22 University/Arcola East would only run during peak periods
- Route 30 University Express/Rochdale Express would have frequencies reduced to 30 minutes during morning and afternoon peak periods

Administration is continuing to review workforce requirements in response to service level adjustments.

### **Parking Services**

In response to the COVID-19 pandemic, State of Emergency declaration made by the Province on March 18, 2020, Parking Services made the decision to reduce the level of parking enforcement services provided. On March 20, a decision was made to suspend all enforcement activities except for those that were related to safety, traffic flow or (emergency) access concerns.

The Province's Phase Three of the *Re-Open* Saskatchewan plan has a direct impact on parking. Since Phase Two of *Re-Open Saskatchewan* plan was implemented, a noticeable increase in the demand and use of parking spaces in the City has been observed, especially in the downtown area. As public health restrictions are eased, demand will continue to increase as more businesses and activity returns. The increase in traffic and activity in the city will require parking enforcement to ensure that parking options are available and that those travelling on city streets can do so safely.

Administration will re-instate parking enforcement in stages. Fees and enforcement at parking meters is resuming on June 15 with other parking enforcement beginning on June 29, including timed zones, oversized vehicles and loading zones. The plan to reinstate parking enforcement is consistent with other municipalities; and aligns with our own plans for slowly and concurrently reintroducing transit services. The City of Saskatoon resumed parking enforcement activities on May 25, and many other municipalities across Canada have begun their own re-introduction plan for parking enforcement services as more

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businesses in their cities begin to re-open. This plan has been shared with the Regina Downtown Business Improvement District, the Regina Warehouse District and the Saskatchewan Health Authority, and they have all communicated their support.

Understanding that the resumption of parking enforcement services could have an impact on the many residents that continue to work from home, it is recommended that enforcement of the 24 hour overparked regulation in residential areas not resume at this time. For residents who require and qualify for a residential parking permit, alternative measures have been implemented and will remain in place until we are able to issue these permits. We will continue to honor expired permits.

Parking management and enforcement play a key role in the health and economic vitality of our city, and especially the downtown core; therefore aligning the re-instating of parking fees and enforcement with the Province's *Re-Open* Saskatchewan plan will ensure that the City is doing the most it can to support the Regina business community and contribute to their success as they begin to re-open and get back to normal operations.

### **Recreation Facilities**

Re-Open Saskatchewan is setting the timing for re-opening of recreation facilities. The Government of Saskatchewan is making a distinction between individual and group pursuits, as well as indoor and outdoor activities. Guidelines for operating these facilities are provided and facility owners are expected to follow the guidance. The Government of Saskatchewan is continually making announcements and releasing updates to Re-Open Saskatchewan. The most recent changes were announced on June 8, 2020 and current information about impacted City services and programs are outlined in Appendix A.

### **City Hall Lobby**

Re-Open Saskatchewan does not specify the timing for opening City locations where inperson citizen service, like paying bills or applying for permits or licenses, take place. Limited in-person service will resume at City Hall on June 15 from 8 a.m. to 4:45 p.m., Monday to Friday.

When citizens visit City Hall our staff will be available to support individuals to use our digital services in the future. Currently, digital services are available for:

- Applying for building and development permits
- Paying for your water bill, property taxes and parking tickets
- Applying for permits or licenses

The public is encouraged to continue to use digital services where possible. To meet physical distancing requirements a limited number of citizens will be able to be in the lobby at one time. Visitors to City Hall will be asked to follow directions upon arrival.

At this time, the City Hall cafeteria remains closed, and public access at other administrative office locations is not available.

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### **Riverside Cemetery Chapel**

The chapel and administration office will re-open on June 15 for those who want to visit. Indoor columbarium visits are by appointment only and limited to two visitors at a time. Cleaning will occur between appointments. During Phase Four of *Re-Open Saskatchewan*, bookings for small gatherings will be accepted and limited to eight to accommodate physical distancing.

### **Supporting Community Recovery**

Since the last COVID-19 Update to Council, the Regina Downtown Business Improvement District (RDBID) has requested the City allow an expansion of outdoor patios and restaurants, as well as waive the fees associated with permitting outdoor restaurants and mobile food vending services prescribed in Schedule "J" of *The Regina Traffic Bylaw*.

Administration is recommending this request be approved allowing restaurants to increase their available space to better accommodate physical distancing guidelines and to demonstrate support for the food service sector that has been closed for months due to COVID-19. The loss in permit fees is expected to be \$25,000.

Currently, the only provisions that allow permit fees to be waived in *The Regina Traffic Bylaw* are for charitable organizations. A bylaw amendment is required to waive the fees associated with outdoor restaurant and mobile food vending services. This bylaw amendment will be brought forward to the June 24, 2020 City Council meeting.

### **DECISION HISTORY**

In response to the COVID-19 pandemic, City Council considered *CM20-7 COVID-19 Update* on March 20, 2020 and approved the activation of the Emergency Operations Centre to respond to the crisis.

On April 15, 2020 City Council considered *CM20-8 COVID-19 Financial Update* and delegated additional powers to the City Manager during the state of emergency.

On April 29, 2020, City Council considered *CM20-11 The COVID-19 Pandemic Bylaw*, which delegated specific authorities related to a number of bylaws to the City Manager.

Most recently, City Council received *CM20-13 COVID-19 Update* at the May 27, 2020 Council meeting.

Respectfully Submitted

( Holden

Chris Holden City Manager

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### **ATTACHMENTS**

Appendix A - Re-Open Regina Plan External

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# Re-Open Regina

A plan to re-open City programs and services
Updated June 8, 2020



## **Re-Open Regina**

The provincial and federal governments have authority to direct response and recovery to the public health emergency.

The City is following all public health recommendations, emergency orders and directives of the provincial and federal governments.

Regina is a strong community and we're in this together. Our top priority is the health and safety of the community and our employees. This includes the timelines and guidance provided on *re-opening City programs and services* impacted by COVID-19.



# **City Programs and Services**

Additional safety measures are in place to ensure a safe work environment for our City employees and contractors as they deliver the programs and services our citizens rely on each and every day. These include:

- Physical Distancing
- Handwashing Protocols
- Additional Cleaning of Shared Surfaces
- PPE

- Fire & Protective Services
- Transit Services
- Garbage & Recycling Collection
- Water & Sewer Services
- Landfill Operations
- Cemetery Services



Re-Open Sask May 21	Phase I	Phase 2	Phase 3	Phase 4	Phase 5			
Dates	May 4, 2020	May 19, 2020	June 8, 2020 (target)	TBD	TBD			
Re-opening		Retail, shopping malls,	Restaurants and food	Indoor and	Consider			
(Provincial)	medical services, golf	farmers markets, select	services, gyms and fitness	outdoor	lifting long-			
	courses, parks and	personal care services,	centres, remaining	recreation	term			
	campgrounds	thrift stores	personal care services,	facilities	restrictions			
			licensed establishments					
			and childcare facilities					
Physical Distancing	Maintain distance of 2 metres							
	Public transportation, including paratransit, should increase the frequency of cleaning and disinfecting all areas							
	of public contact. Encourage members of the public to practice two-metre separation.							
PPE	· ·	•	hrough physical distancing,	•	will be			
	required to take precautionary measures, such as client screening, wearing gloves and face masks.							
	Programs and services interacting with the public required to follow guidance that essential businesses are							
	,	currently following with respect to hand washing, intensive cleaning (particularly high-touch areas) and						
	•	structuring stores/facilities to enable physical distancing. In order to meet these requirements, programs and services may need to limit the number of customers/clients/participants.						
Gatherings	Maximum 10	Maximum 10	Maximum 15 Indoor	Maximum 30	TBD			
J			Maximum 30 Outdoor					
<b>Vulnerable Groups</b>	Vulnerable individuals, sucl	Vulnerable individuals,	Clients over 40 years of	Clients over 40	TBD			
	as seniors and those with	such as seniors and	age and those with	years of age				
	underlying health	those with underlying	underlying risk factors	and those with				
	conditions, should continue	·	should use caution when	underlying risk				
	to exercise caution and	should continue to	considering visiting	factors should				
	minimize high-risk	exercise caution and	fitness facilities	use caution				
	exposures, such as public	minimize high-risk		when				
	outings.	exposures, such as	Protective measures for	considering				
		public outings.	vulnerable populations	visiting fitness facilities				
		1. 6 1 .6.1		racilities				
Recommendations	Individuals should continue	~	ly can do so effectively					
for Al Phases		ome when they are sick. continue to be a key preve	ention measure					
			place in workplaces, public	spaces and recrea	tional			
	facilities.		, , , , , , , , , , , , , , , ,					
	<ul> <li>Although the public h</li> </ul>	ealth order regarding the s	size of gatherings does not a	pply to businesses	s and			
		•	ommended public health me	easures, including	:			
	-physical distancing for staff and clients -regular cleaning and disinfection -frequent handwashing and sanitizing -use of PPE where available and appropriate							
	-keeping staff who demonstrate or report COVID-19 symptoms out of the workplace							

## **Foundation**

Re-Open Saskatchewan along with Public Health Orders are "building blocks" of the plan.

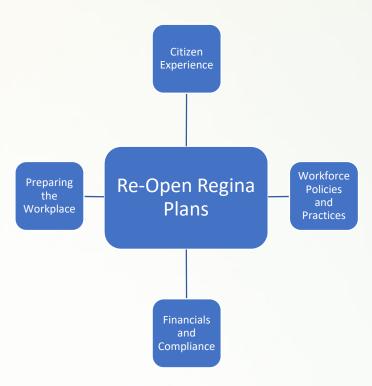
They provide the "foundation" for when and how *City programs* and services may be re-opened.



## **Guidelines**

Plans to *re-open City programs and services* have been developed with consistent approaches to:

- Citizen Experience
- Workforce Policies and Practices
- Financials and Compliance
- Preparing the Workplace





## **Considerations**

Re-Open Saskatchewan is a dynamic plan and it will be revised regularly.

There are additional factors that will impact the pace of the City's plan to *re-open City programs and services* impacted by COVID-19.

- Availability of PPE
- Technology to deliver digital services
- Workplace design requirements to respect physical distancing
- Start date of phases may make seasonal services unfeasible
- Lead time to rehire staff to provide recreation services and programs



## **Re-Opening Recreation Facilities**

Re-Open Saskatchewan dictates the timing for opening recreation facilities. The plan distinguishes between outdoor facilities which will reopen in Part 1 of Phase 4 and indoor facilities which will reopen in Part 2 of Phase 4. Guidelines for operating these facilities are provided and facility owners are expected to follow the guidance.

#### **Our Approach**

- Parks, pathways and outdoor washrooms are available for use
- Playgrounds, skateboard parks,
   BMX, picnic sites and Douglas
   Park Track to open on June 12
- Other outdoor facilities are expected to re-open in the first part of phase 4
- Indoor facilities are expected to re-open with limited programming in the second part of phase 4
- Outdoor pools are closed for the season due to limits on gatherings and shortened season



## **Re-Opening Counter Service**

City locations where inperson citizen service, like paying bills or purchasing transit passes, take place will open on June 15. Counter service will be provided at:

- Transit Information Centre
- City Hall
- Cemetery Admin Building

#### **Our Approach**

- Follow provincial guidelines for retail service including queuing and physical distancing
- Expand and encourage continued use of digital services
- Provide appropriate instructions and signage
- Use plexi-glass shields where citizens and staff interact



# **Re-Instating Fees and Charges**

We will begin to collect fees and charges over the coming weeks.

- Parking Meter Fees and Enforcement (June 15)
- Parking Non-Metered Enforcement (June 29)
- Transit Fares (June 29)
- Recreation and Leisure Fees (as facilities open)

#### **Our Approach**

- Citizens are encouraged to continue to use digital services to make payments online where possible
- Citizens are encouraged to continue to use credit and debit
- Transit Information Centre will be opened on June 15
- City Hall will be opened with limited services on June 15



## **A Partner in Community Recovery**

The City has been an active partner with a number of community groups and business leaders focused on:

- Exploring ways to create community vibrancy
- Investing in our community
- Protecting vulnerable populations

#### **Our Involvement**

- Consideration of Requests from Community Groups and Business Leaders
- Food Security
- Community Gardens
- Farmers Market
- Utility & Property Tax
   Deferrals
- \$79.5 Million Construction Program for 2020



# Impacted City Programs and Services At a Glance

#### **Re-Opened**

Building Permits & Inspections (March 25)

City Council &
Committee Meetings
(April 22)

Dog Parks (May 15)

Golf Courses (May 15)

Tennis and Pickleball Courts (June 3)

Playgorunds and other outdoor recreation facilities (June 12)

#### **Seasonal Services**

Outdoor Pools not opening for 2020 Season

#### **Re-Open Dates Set**

City Hall Lobby for Limited Service (June 15)

Cemetery Chapel (June 15)

Transit Information Centre (June 15)

Parking Meter Enforcement (June 15)

Parking Non-Meter Enforcement (June 29)

Transit Fares (June 29)

#### **Re-Open Dates TBD**

City Square Plaza

**PlayEscapes** 

Outdoor Recreation

**Facilities** 

**Indoor Recreation** 

**Facilities** 

Public Access to City

Hall Tower and other administrative

locations

School Bookings and Programming



# **Building Permits & Inspections**

To support the health and safety of both industry and City staff, we are using FaceTime, Skype or photos where appropriate to complete building permit inspections.

- In-person service is not available at this time
- Permit applications are available on Regina.ca and are to be submitted to permits@regina.ca
- Call 306-777-7000 to schedule a virtual inspection or reach out to your permit file support team at 306-777-7551



# City Council & Committee Meetings

While Council and Committee meetings have resumed with delegates attending virtually, Henry Baker Hall will remain closed to the public until a later date.

- Meetings will remain closed to the public but are still available to stream online
- Delegations can appear virtually following guidance on Regina.ca
- Some members of Council and Senior Administration may begin to attend inperson respecting restrictions on physical distancing and gatherings



## **Dog Parks**

Regina's year-round public dog parks opened on May 15.

This applies to the Cathy Lauritsen Memorial Off-Leash Dog Park and the Ross Industrial Off-Leash Dog Park.

Seasonal dog parks will remain closed until Phase 4.





## **Golf Courses**

All City-owned golf courses opened on May 15 as part of the Re-Open Saskatchewan Plan.

For the health and safety of all visitors and employees, safety measures are in effect.

Measures are in place until further notice.

- All tee times must be booked in advance; no walk-on players are permitted
- Locker rooms will be closed; players can change footwear in the parking lot
- Food and beverage service will operate at 50 per cent capacity, effective June 8
- On course food and beverage service will operate, effective June 8



# Tennis and Pickleball Courts

Effective June 3, City tennis and pickleball courts opened as authorized under Re-Open Saskatchewan.

The City will continue to work with public health officials to follow health and safety guidelines as we reopen recreational spaces.

- Gates are open; all moveable assets have been removed to minimize contact of shared surfaces
- Citizens are advised to wash their hands and avoid shared surfaces



# **City Hall Lobby**

City Hall will open to citizens on June 15, Monday to Friday, from 8 a.m. to 4:45 p.m.

Where possible, professional and administrative City staff will continue to work from home.

Public access isn't available at other City administrative office locations.

- Limited in-person payment and permit options
- Please continue to use alternate payment options
- No cafeteria service.
- Only City staff can access offices and meeting rooms
- Please follow directions upon your arrival at the building



## **Cemetery Chapel**

The chapel and administration office will open on June 15 for those who want to visit the indoor crematorium.

Bookings for small gatherings will be accepted in Phase 4 of Re-Open Saskatchewan.

- Indoor columbarium visits are by appointment only and limited to two visitors at a time
- Cleaning will occur between appointments
- With bookings in Phase 4, the number of visitors will be limited to 8 to accommodate physical distancing



## **Transit Services**

The Transit Information Centre will open to the public on June 15 and be open to the public Monday to Friday, 8:30 a.m. to 4:30 p.m.

Transit service will continue to operate on a reduced schedule:

- Saturday schedule Monday through Fridays
- Sunday schedule for weekends and holidays

### What to Expect on June 29

- Transit will resume loading passengers and collecting fares at the front doors of the bus
- New safety shields are in place for the safe interaction between passengers and bus operators
- Enhanced cleaning protocols continue
- Passenger limit of 15 people per bus

City of Regina

# Parking Enforcement

As the community begins to re-open, we will begin to monitor and enforce parking time restrictions.

Enforcement of these restrictions will gradually be re-introduced to encourage movement of vehicles.

- On June 15, fess and enforcement will resume at parking meters
- On June 29, tickets will begin to be issued in non-metered locations for time restrictions
- Citizens are encouraged to pay parking tickets on-line at Regina.ca
- Please be mindful of:
  - No stopping signs
  - No parking signs
  - Accessible parking areas
  - Parking too close to a curb, intersection, crosswalk or a bus lane or bus stop
  - Parking in front of a fire hydrant



## **City Square Plaza**

In Phase 4, Re-Open
Saskatchewan would see City
Square Plaza begin to be
booked for use.

Discussions are underway with Regina Downtown
Business Improvement
District and public health officials to ensure health and safety protocols are in place.

### What to Expect

 The Farmers Market is currently operating at Douglas Park and may return to City Square Plaza during Phase 4



## **PlayEscapes**

The City is working with community partners to deliver "play packages" to vulnerable families in Phase 3 of Re-Open Saskatchewan.

A modified PlayEscapes program will be introduced in Part 1 of Phase 4 – watch for announcements.

## **Modified PlayEscapes**

- Registration requirement
- Enrollment of 25 per site
- Sites limited to City-owned facilities
- Half day program
- Lunch will be provided



# **Outdoor Recreation Facilities**

The Province continues to provide guidance regarding the opening of recreation facilities.

Athletic fields and ball diamonds are identified to reopen in Phase 4 of Re-Open Saskatchewan.

We encourage citizens, if they are healthy, to get outside and stay active while maintaining physical distancing – parks and pathways remain open.

### **Outdoor Facilities**

- Bookings for athletic fields and ball diamonds are postponed until further notice
- Please keep a physical distance of a minimum of two metres (six feet) from other park users and do not play team sports with people outside of your household



# Indoor Recreation Facilities

Arenas, Leisure Centres,
Neighbourhood Centres and
the Neil Balkwill Civic Arts
Centre will re-open in Part 2
of Phase 4 of Re-Open
Saskatchewan.

Most programs and facilities will use a staged approach to start-up to ensure a safe and positive recreation experience.

- Programs will be adjusted based on guidelines in Re-Open Saskatchewan
- Reduced capacity to accommodate physical distancing
- Limitations on shared equipment
- Enhanced cleaning
- Please follow directions upon your arrival at the facility



## **Planning Your Visit**

Citizens are asked to do their part to protect the health and well-being of themselves, their families, friends and neighbours.

Stay home if you are sick or showing symptoms and maintain a physical distance of 2 metres when in public.

#### **How to Plan for Your Visit:**

- Please check Regina.ca before your visit for the most update to date information
- Try our digital services
- Watch for signs when you enter and exit facilities, follow instructions
- Watch for signs when queuing, don't forget to check the floor



# **Upon Arrival**

You will be greeted by a sign with our pre-entry screening. Our employees and community are relying on you to self-monitor.

At this time, wearing a face mask is optional, and we encourage you to sanitize your hands before entering our facilities.

#### COVID-19 To help keep our employees and community safe, we require a pre-entry screening. Please answer yes or no: Do you or anyone in your household have any of the following: temperature greater than 38°C or 100.4°F cough shortness of breath In the past 14 days have you returned from travel to any other locations outside of Canada? Travel includes passing through an airport. In the past 14 days have you had close contact with someone who is confirmed as having COVID-19? If you answered yes to any of the above questions, refrain from entering. Regina.ca/covid19 City of Regina



# **Stay Informed**

This is a dynamic plan. It will be updated as the Re-Open Saskatchewan is revised.

Inform yourself and rely on credible information sources.

Start at Regina.ca/coronavirus

For timely updates visit
Regina.ca/covid19 and
follow the City of
Regina on Facebook
and Twitter

**Thank You** 





# City of Regina and Regina Board of Education Central Collegiate Land Exchange

Date	June 10, 2020	
То	Executive Committee	
From	Financial Strategy & Sustainability	
Service Area	ervice Area Land & Real Estate	
Item No.	EX20-21	

#### RECOMMENDATION

The Executive Committee recommends that City Council:

- Approve the Letter of Understanding (LOU) and the terms contained therein with the Regina Board of Education to resolve the Central Collegiate Land Exchange Agreement (CCLEA)
- 2. Authorize Administration to carry out the necessary steps to complete the land exchange
- 3. Require Administration to report back on any substantive changes to the terms and conditions of the LOU.
- 4. Approve the recommendations at its June 24 meeting.

#### **ISSUE**

Officials from the Regina Board of Education (RBE) have approached City Administration seeking resolution to the City's outstanding obligations and liability with respect to the Central Collegiate Land Exchange Agreement (CCLEA). The City of Regina is required to transfer 4.017 hectares of land to satisfy the requirements of the CCLEA. The following report has been prepared to update City Council on the discussions that have been occurring between Administration and the RBE, and to identify the lands Administration proposes to transfer as well as the associated actions that will be taken to protect the current use and long-term interest the City has in these lands.

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#### **IMPACTS**

The CCLEA agreement was executed by the Mayor and City Clerk on May 14, 1987 and binds the City to transfer certain lands to RBE for school purposes. It has been an outstanding liability for the City that will be extinguished upon the proposed transfer of land to the RBE.

The impact to the City and the users of these lands is minimal for the following reasons:

- 1) Of the six locations where land will be transferred, three locations are encumbered by easements to the extent that no development is permitted, therefore the use of the land will not change.
- 2) The remaining three locations will require additional joint use agreements and/or other registered land titles instruments to protect the City's interests and assets, which the RBE is in agreement with.
- 3) If the RBE chooses to dispose of any of these lands proposed to be transferred, the City will have a right of first refusal to purchase the properties and/or any future consolidated parcels which is consistent with the existing arrangements with RBE.
- 4) Any future development on any of the sites would be subject to regulatory approvals by the City, which would include a public process if rezoning is required.

In summary, the proposed land transfers will not change the current use. Additional agreements will ensure the current use and rights of first refusal will protect the City's long-term interest, but at the same time will allow the City to satisfy a long-outstanding obligation to the RBE. A draft Letter of Understanding, attached as Appendix G, details what is required to protect the City's interest in the subject lands.

The CCLEA states that the costs to provide the land to RBE are the responsibility of the City. These costs are estimated to be approximately \$100K and will be funded from the Dedicated Land Reserve.

With the consent of the RBE, the City could negotiate a cash settlement/payout to satisfy its obligations under the CCLEA as opposed to the land transfers. The City estimates the value could be \$6.8 million.

#### COMMUNICATIONS

Formal communication will be issued to RBE advising of Council's decision.

#### **DISCUSSION**

The Central Collegiate Land Exchange Agreement -1987 (CCLEA) offered the City 1.25 hectares (ha) of land at 2231 Scarth Street (the Central Park land) in exchange for 5.017 ha of land to be provided to the RBE at a future point in time.

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Over the past 30 years, only 1 ha of land (the Jack MacKenzie Elementary School) has been credited towards the outstanding agreement leaving 4.017 ha of land owed to RBE.

In 2018, *The Planning and Development Act, 2007* was amended requiring municipalities to provide municipal reserve for new schools, if needed, which eliminated the need for RBE to acquire land for new schools. Previous to the amendment of the Act, school boards were required to purchase land for their schools.

Discussions have taken place over the last year to mutually satisfy this agreement and remove the City's outstanding liability under the contract. Through these discussions, the City and RBE have identified 4.017 ha of City-owned or controlled lands as shown on the attached aerial photos (Appendices A-F):

-	Rosemont School	0.814	Generic Parcel
-	WF Ready School	1.353	Public Reserve
-	Jack MacKenzie School*	1.04	Municipal Reserve
-	Glen Elm School	0.53	Generic Parcel
-	Grant Road School	0.181	Municipal Reserve
-	Dieppe School	0.099	Generic Parcel
	Total	4.017 ha	

<sup>\*</sup>This land is in addition to the original 1 ha of land provided at the Jack MacKenzie School.

Transfers involving Municipal Reserve and Public Reserve will require approvals from City Council and the Province to complete road allowance closures, subdivisions, re-zonings, caveats, easements, transfers and property classification changes. These transfers are estimated to cost \$100,000, the majority of which consists of City planning and process costs. Because the agreement provided dedicated land for the City, the Dedicated Lands Reserve will be used to fund these expenses.

Once a formal agreement has been reached, these land transfers will satisfy the terms and requirements of the 1987 agreement in full, removing an outstanding financial obligation valued at approximately \$6 million. The timeline to complete all transactions is estimated to take 12 to 18 months. Joint Services Agreements between the City and the RBE will also be updated as a result. Settlement of this agreement is a strategic step in maintaining relations with RBE.

The RBE Administration has briefed their Board on this file and the state of discussions and are awaiting City Council's concurrence. The Board is aware of the six proposed parcels and understands there will be no change in land use other than ownership.

#### **NEXT STEPS**

Administration will enter into a Letter of Understanding with the Regina Board of Education. Pursuant to that a formal agreement will be drafted by the City Solicitor and executed after which the processes required for the land transfers will begin.

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#### **DECISION HISTORY**

The CCLEA was executed by the RBE and City of Regina on May 14, 1987. The agreement is legally binding until it is satisfied.

The recommendations in this report require City Council approval.

Respectfully Submitted,

Respectfully Submitted,

Prepared by: Keith Krawczyk, Manager, Real Estate

#### **ATTACHMENTS**

Appendix A - Rosemont Community School

Appendix B - Jack MacKenzie School

Appendix C - Glen Elm School

Appendix D - Grant Road School

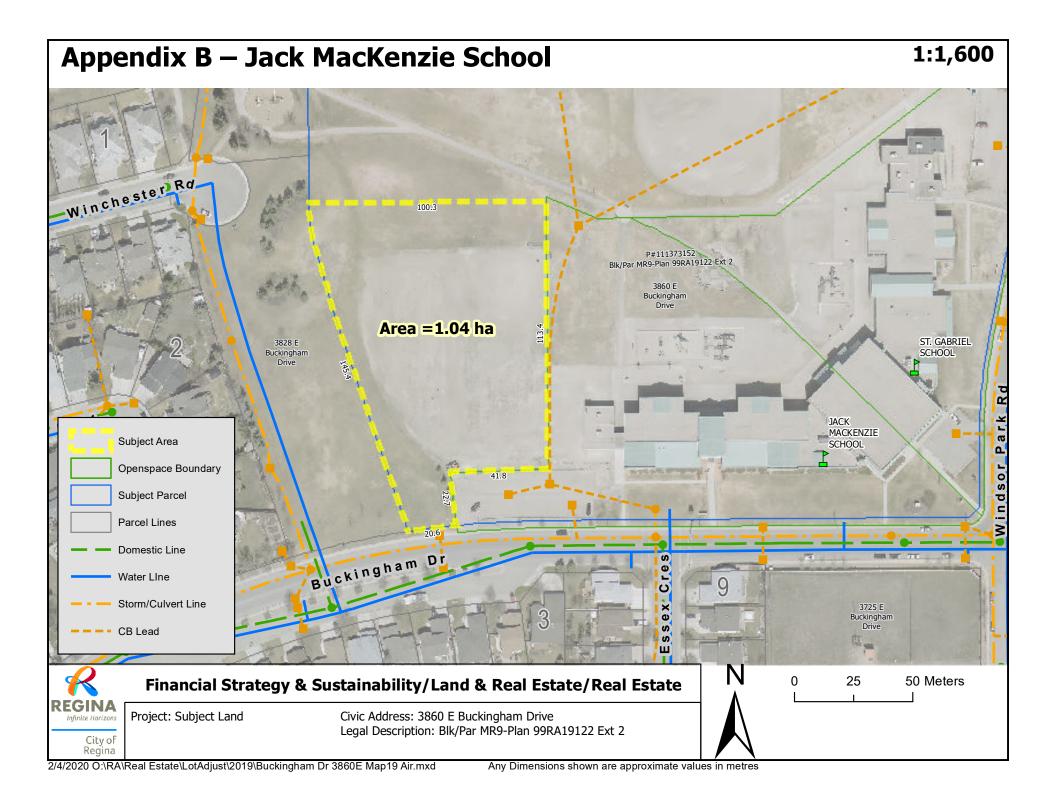
Appendix E - Dieppe School

Appendix F - W.F. Ready School

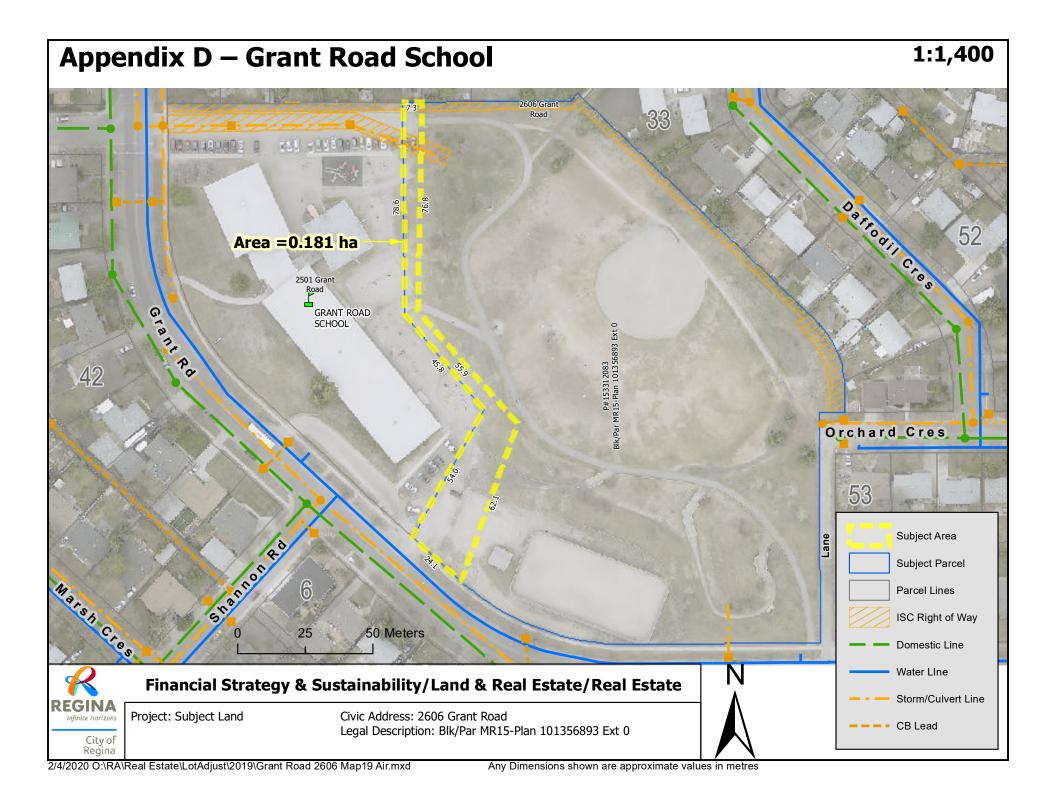
Appendix G Draft Letter to RBE

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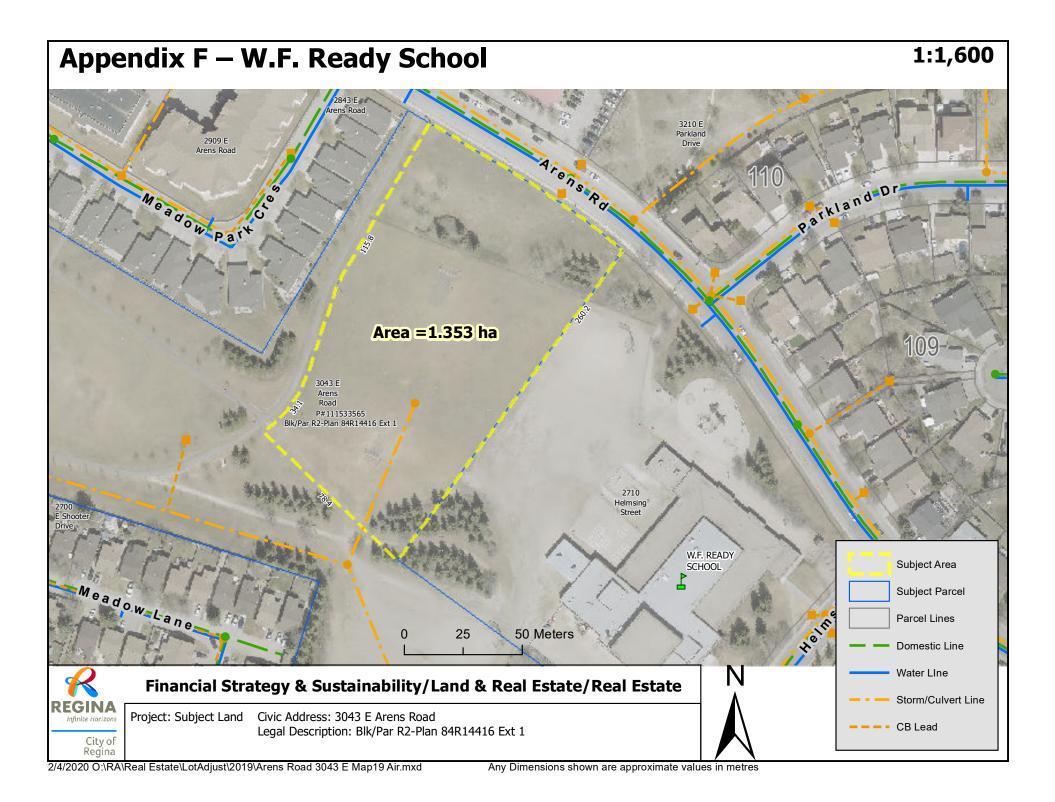
#### 1:1,400 **Appendix A - Rosemont Community School** 23 Area = 0.814 ha63.0 5310 4th a C schafta Avenue 3rd Ave P#109726027 Lot 30-Blk/Par 18-Plan FN41 Ext 0 ROSEMONT COMMUNITY 18 SCHOOL 841 Horace St S rey Ce G ora I Subject Area 4th-Ave Subject Parcel nto Parcel Lines 40 Meters 20 **Domestic Line** Σ Water Line Financial Strategy & Sustainability/Land & Real Estate/Real Estate Storm/Culvert Line Project: Subject Land Civic Address: 5310 4th Ave **CB** Lead Legal Description: Lot 30-Blk/Par 18-Plan FN41 Ext 0 City of Regina



#### **Appendix C – Glen Elm Community School** 1:1,000 Rupert S 9th Ave 1225 E 9th 1601 Bond GLEN ELM COMMUNITY **SCHOOL** St e g P# St/L 127-Plan AQ5077 Ext 0 R P#107241139 Lot 14-Blk/Par 1-Plan 60R01732 Ext 0 Area = 0.53 haSubject Area Subject Parcel Lane Parcel Lines 50 Meters Domestic Line Water Line Financial Strategy & Sustainability/Land & Real Estate/Real Estate Storm/Culvert Line Project: Subject Land Civic Address: 1601 Bond Street - CB Lead Legal Description: Lot 14-Blk/Par 1-Plan 60R01732 Ext 0, City of St/L 127-Plan AQ5077 Ext 0 Regina



## **Appendix E - Dieppe School** 1:1,400 1010 Mccarthy Boulevard Area = 0.192 haP#165112657 Blk/Par XX-Plan 101882910 Ext 1 Area = 0.225 ha 145 Dorothy Area = 0.024 ha Area = 0.042 ha Subject Area Subject Parcel Parcel Lines From School to City 50 Meters Domestic Line Water Line Financial Strategy & Sustainability/Land & Real Estate/Real Estate Storm/Culvert Line Project: Subject Land Civic Address: 1010 McCarthy Blvd & 145 Dorothy Street - CB Lead Legal Description: Blk/Par XX-Plan 101882910 Ext 1,Blk/Par E-Plan 63R33089 Ext 0, City of St/L 49-Plan 63R33089 Ext 0, St/L 21-Plan 63R33089 Ext 0 Regina





**Appendix G: Draft Letter** 

DATE
File No. RBE (Central Lands Agreement)

Mr. Mark Whiting 1600 4<sup>th</sup> Avenue Regina, SK S4R 8C8

Dear Mark:

Re: Central Land Agreement Outstanding Land Transfer – Letter of Understanding

This Letter of Understanding is non-binding as between the parties and is only intended to generally set out the proposed terms to allow the parties to complete land transfers and satisfy the outstanding conditions of the Central Lands Agreement dated May 14, 1987 ("CCLEA") between the Regina Board of Education ("RBE") and the City of Regina ("City"). If you are in agreement with the proposed terms, the City will then seek Counsel approval to complete the transactions required to satisfy the outstanding conditions.

As a summary, the City acquired the former Central School Site to create Central Park and committed to provide 5.017 Hectares of land to RBE in the future. With the development of the Jack MacKenzie School site, the RBE acknowledged the City equivalent contribution of 1 Hectare toward the outstanding agreement, leaving 4.017 Hectares to be transferred. RBE and the City have now identified the remaining 4.017 Hectares at the following locations:

-	Total	<u>0.099</u> <b>4.017</b> Ha
	Dieppe School	0.099
-	Grant Road School	0.181
-	Glen Elm School	0.53
-	Jack MacKenzie School	1.04
-	WF Ready School	1.353
-	Rosemont School	0.814

as shown on the attached aerial photos (Appendices A-F).

The actual land area calculations will be based on the Information Services Corporation approved Plan of Survey and transfers calculated by a Saskatchewan Land Surveyor. It is recognized that these lands may have existing encumbrances on them and may involve facilities that are currently used to provide ongoing services and programming. It is anticipated that considerable time and effort will be required to formalize the transfer of these stated lands, the requirement of additional agreements and different levels of City approvals and therefore the City's Real Estate Branch wishes to obtain your tentative agreement before proceeding. Best efforts will be made to finalize all these transfers, but both parties



acknowledge and agree in the event certain approvals of certain sites are not obtained the parties shall continue to move forward with the transfers that are approved.

The following list of items to be addressed at each location should be viewed as a template list for the location and may require additional conditions/agreements to satisfy or obtain City approval or the needs of RBE. Following are potentially some of the approvals required for the respective locations:

- Rosemont School Rezoning is required; potential easement required for City utility infrastructure on site; Joint Services Agreement is required to address the continued existence of a baseball diamond and boarded rink and rink shelter, including any continued programming and operating costs.
- Property is owned by the Province as Public Reserve and will need to be transferred to the City with the Province's approval of what is being proposed. Rededication, Subdivision and Rezoning required; Easement required for storm drain and high-water ponding/detention on site with restrictions on changes to ground elevations including restrictions on building construction in the detention area, existing City irrigation system and City public pathway. A Caveat is required to restrict building construction near the detention area and to require that elevations in the detention area not be changed. A Joint Services Agreement is required to address the continued existence of the pathway, athletic field and irrigation system on the site, including any public programming and operating costs.
- Jack MacKenzie School Note that there is an existing 1 Ha. allowance at this school site toward the Central Lands Agreement. Rededication, Subdivision and Rezoning is required, including approval from Council and Province. Easement is required for the existing water line, storm sewer and irrigation system. A Joint Services Agreement is required to address the continued existence of the baseball diamond, water and irrigation system along with the storm sewer, including any public programming and operating costs.
- Glen Elm School Road Closure, Subdivision and Rezoning required. Easements required for water, sanitary and storm sewer lines, fire hydrant and sidewalk setbacks. A Joint Services Agreement is required to address the ownership of playground equipment and use of the remaining playground lands, as it relates to the recreational lands in the area. Fence ownership is viewed as being RBE.
- **Grant Road School** Rededication, Subdivision and Rezoning required, including approval from Council and the Province. Storm Drain agreement required. Easements required for storm drain, walking path, and surface drainage area. A caveat must be registered against the land to restrict any building construction and development on the property as the land is currently being used as a storm water detention area, including establishing set elevation requirements to maintain surface drainage onto the property and allowing for the City to make future improvements to the surface drainage to the detention area. A shared access agreement is required across the lands being transferred for use of the driveway and to access the City

Walkway. A Joint Services Agreement is required to address the continued existence of the walkway and shared parking areas, including operating costs.

- **Dieppe School**- Subdivision and Rezoning is required. Easements are required for the fire hydrant, water line services to the rink, water line setbacks, irrigation lines and storm drain setbacks, including building restrictions in the easement area. A caveat is required to set the elevations that must be maintained for existing drainage features, including grades. A Joint Services Agreement is required to address the continued existence of the public walkway, baseball diamond and rink and shelter on the school property, including any public programming and operating costs. Fence ownership is viewed as being RBE.

All properties will also require the City and RBE entering into a right of first refusal agreement between the parties. We do not view this as an issue as RBE currently has a bylaw requiring this. However, the City will need a formal right of first refusal agreement in order to proceed with the transaction.

Should you wish to proceed please provide the name of the solicitor representing you regarding these potential land transfers along with a signed copy of this letter. A land surveyor will be engaged to prepare Proposed Plan of Subdivisions (PPSD), applications for subdivision will be prepared and approvals sought. In addition, the City acknowledges the existing RBE school encroachments on City land with the understanding that should the City require this land the City will exercise its ownership rights with reasonable notice but without compensation to RBE.

In the interim, if you have any questions concerning this matter, please do not hesitate to contact Doug Cavers at (306) 550-2958 or <u>dcavers@regina.ca</u>.

Sincerely,	
Barry Lacey	
Executive Director,	
Financial Strategy & Sustainability	
dc Attachment	
Date:	
The terms and conditions as listed are hereby accepted.	
Regina Board of Education	

(seal)	Signing Officer
	Signing Officer
Solicitor Name	Solicitor Address

Regina.ca



# Municipal Economic Enhancement Program (MEEP) Funding Allocation

Date	June 10, 2020
То	Executive Committee
From	Financial Strategy & Sustainability
Service Area	Financial Services
Item No.	EX20-22

#### RECOMMENDATION

The Executive Committee recommends that City Council:

 Approve the City of Regina's \$30,916,844 allocation of Municipal Economic Enhancement Program (MEEP) funding to the following projects as further detailed in Option #1 in Appendix A of this report;

Residential Road Renewal (2020 Deferred Projects) - \$6.4 million

Wascana Pool Renewal - \$12.0 million

Outdoor Rink - \$0.7 million

Energy Monitoring and Optimization Infrastructure - \$0.72 million

Municipal Justice Building Redevelopment - \$7.5 million

Permanent Pavement Markings - \$0.7 million

Pedestrian Connectivity (Pasqua Street) - \$0.5 million

Expand Bike Lanes and Pathways (Albert Street) - \$0.9 million

Roof Replacement - \$1.5 million

- 2. Authorize the City Manager to apply for MEEP funding for the projects in recommendation #1:
- Authorize the City Manager to review, negotiate, approve, and enter into any MEEP funding agreements with the Government of Saskatchewan for the projects under the MEEP program;

Page 1 of 5 EX20-22

- 4. Authorize the City Clerk to execute the MEEP funding agreements that are required after review by the City Solicitor; and
- 5. Approve these recommendations at its June 24, 2020 meeting.

#### ISSUE

Under the recently announced Municipal Economic Enhancement Program (MEEP), the City of Regina will receive approximately \$30.9 million from the Government of Saskatchewan.

Municipalities are required to submit a list of City Council approved projects to the provincial government by July 17, 2020. Option #1 in Appendix A of this report provides Administration's recommended capital projects for approval.

#### **IMPACTS**

# **Strategic Impacts**

The projects identified in the recommendation (Option #1, Appendix A), allow the City to achieve the objectives of MEEP while allowing the City to pursue a three-pronged strategy in maximizing the effective use of the MEEP funding.

The first part of the strategy leverages a portion of MEEP funding to help offset the expected negative financial impacts of COVID-19 on the City's financial position. In April 2020, Administration provided Council with a report (CM20-8) identifying the projected 2020 financial impact of COVID-19 on the City. As part of the Council approved response to offset the financial impacts, Council approved up to \$6.4 million of Residential Road Renewal Program (RRRP) capital funding to be reallocated to address the financial impacts of COVID-19 (as those projects were not recommended to proceed in 2020 due to COVID-19). Administration proposes to use \$6.4 million of the MEEP funding to ensure those deferred projects are funded and can be completed in 2021. This ensures the RRRP program is kept whole and not impacted by the reallocation of these funds to address COVID-19 operating costs.

The second part of the strategy leverages \$12 million in MEEP funding to finance the renewal of Wascana Pool eliminating the need for the City to take on an additional \$10.5 million in debt and utilize \$1.5 million in Service Agreement Fees (SAF) to fund the pool. The remaining \$3 million in Wascana Pool renewal costs will continue to be funded through the Dedicated Lands Reserve. By not debt financing the Wascana Pool renewal project, the City realizes approximately \$750,000 in principle and interest payment operating savings annually (or approximately \$4 million in interest savings over the time period the debt would have existed).

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The \$750,000 in annual savings provides added flexibility to address COVID-19 financial impacts expected to be incurred in 2020 through to 2022, as well as providing future flexibility to Council to address future operating or capital needs. In addition, by not debt financing the Wascana Pool, Council provides itself with future flexibility should it require debt financing to address future City needs. Eliminating the need to use \$1.5 million in SAF funding is also consistent with the development industry's expectation that if third party funding is used to fund a project, a portion of the funding be used to reduce SAF contributions as well.

The third part of the strategy results in an incremental \$12.5 million in capital projects over the next two years. The additional capital projects funded by the \$12.5 million are outlined in Option #1 in Appendix A and are consistent with the priorities of the Official Community Plan and related master plans. A number of the recommended projects will enhance the quality of life in Regina including the proposed redevelopment of the Municipal Justice Building into a multi-use facility which would include a neighbourhood community centre, police fitness facility, and a shared multi-purpose gym; and the construction of a new outdoor rink. Five of the seven projects listed include components in the project consistent with the City's commitment to be 100 per cent sustainable by 2050 including expanding bike lanes and pathways, pedestrian connectivity, and piloting energy monitoring technology to reduce energy consumption in City facilities.

# **Financial Impacts**

Accessing and fully utilizing the City's share of MEEP funding will help the City address the financial impacts of COVID-19 and reduce debt financing requirements while investing in additional capital projects over the next two years as described above.

#### **OTHER OPTIONS**

Included in Appendix A are additional options for Council's consideration. The two alternative options require the City to debt finance a significant portion of the Wascana Pool renewal project while directing more MEEP funding to help offset the expected negative financial impacts of COVID-19 and increasing the number of additional capital projects that can be undertaken over the next two years.

#### COMMUNICATIONS

Upon City Council approval of the list of capital projects, Administration will complete and submit the application to the Provincial Government by the July 17,2020 deadline.

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# DISCUSSION

On May 6, 2020, the Government of Saskatchewan unveiled a two-year capital infrastructure program as part of its response plan to the COVID-19 recovery. The Municipal Economic Enhancement Program (MEEP) allocates almost \$150 million on a per capita basis to all Saskatchewan municipalities. The City will receive approximately \$30.9 million under this program.

There are 14 eligibility categories under the program as outlined in Appendix B. Generally, the type of capital projects included in the City's capital plans would meet MEEP's eligibility requirements. To apply, the City must submit a list of projects along with a Council resolution approving the projects and sign a funding agreement. The Ministry of Government Relations will review and approve project plan submissions. Funds must be spent by March 31, 2022 and may only be applied to eligible costs incurred after May 6, 2020.

# Key features of MEEP include:

- The funding is flexible and covers almost all types of municipal capital projects, including new and rehabilitation projects;
- There is no matching requirement, meaning the City does not have to come up with its own share of funding;
- Funds will flow to the City in advance of projects and will not require claims for reimbursement of project expenditures. However, if actual project costs are less than funding received the Ministry may request unspent funds to be paid back to the Ministry;
- Projects are to be substantially complete by March 31, 2022; and
- Projects for consideration must be submitted to the Province by July 17, 2020.

Given the program's eligibility criteria, Administration considered several factors in developing the recommended list of projects, including but not limited to:

- Whether the projects can be planned and completed by March 31, 2022;
- Whether contracting of third parties is required to undertake the projects to encourage job creation and economic activity;
- Opportunities to advance Council's goal of the City becoming 100 per cent renewable by 2050;
- Projects that are a priority in advancing the OCP and master plans, including advancing projects in the approved five-year capital plan to an early year; and
- Opportunities to leverage MEEP funding to mitigate financial impacts COVID-19 is expected to have on City operating and capital funding in 2020 through to 2022.

Opportunities to leverage MEEP funding to mitigate COVID-19 financial impacts is an important consideration. Administration has projected the financial impact of COVID-19 in 2020 to be between \$12 million to \$20 million. It is also projected that the impacts will extend beyond the current year and a full "recovery" is not expected until a vaccine or a

Page 4 of 5 EX20-22

treatment is found. At this time, revenues are not projected to return to pre-COVID-19 levels until at least the second half of 2021 or longer.

# **DECISION HISTORY**

The recommendations contained within this report require City Council approval.

Respectfully Submitted,

Respectfully Submitted,

Prepared by: June Schultz, Director, Financial Services

# **ATTACHMENTS**

Appendix A - MEEP Funding Options Appendix B - MEEP Criteria

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# **Appendix A – MEEP Project Funding Options**

Option 1 – Fund 2020 Deferred RRRP Projects (\$6.4M), Wascana Pool (\$12M), Misc. New (\$12.5M)

Pro	oject	MEEP Funding	Other Funding
1)	Residential Road Renewal (2020 Deferred Projects) – Ensures the Residential Road Renewal projects deferred in 2020 are funded and can be completed in 2021. Ensures the RRRP from a funding perspective is kept whole. RRRP projects are focused on improving the condition of the		
	City's residential roads, ranging from complete road and sidewalk rebuild	¢6.4N4	
Cul	to resurfacing.	\$6.4M	-
	Wascana Pool Replacement* – Design and construction of a new	\$0.4IVI	Dedicated
2)	Wascana Pool Wascana Pool		Lands Reserve
		\$12M	\$3.0M
Sul	b-total	\$12M	
3)	Outdoor Rink – Construction of a new outdoor rink.	\$0.7M	-
4)	<b>Energy Monitoring and Optimization Infrastructure*</b> – Pilot the use of energy monitoring technology to reduce energy consumption in City owned facilities.	\$0.72M	-
5)	Municipal Justice Building* – Redevelop the MJB into a neighbourhood community centre and police fitness facility. This would include preserving the heritage of the facility and developing a shared multipurpose gym.	\$7.5M	-
6)	<b>Permanent Pavement Markings</b> – Upgrade current painted markings to permanent in multi-line, high traffic locations.	\$0.7M	-
7)	Pedestrian Connectivity (Pasqua Street)* – Design and construction of new pedestrian infrastructure along Pasqua Street from Parliament Avenue to Hill Avenue.	\$0.5M	-
8)	Expand Bike Lanes and Pathways (Albert Street)* - Albert Street (23rd Avenue to Regina Avenue) - widen sidewalk and convert to multi-use pathway	\$0.9M	
0)	Roof Replacement* – roof replacement to ensure the long-term	אופ.טגָ	-
9)	protection and performance of City facilities.	\$1.5M	-
Sub-total		\$12.52M	
	TAL	\$30.92M	

<sup>\*</sup>Projects have a sustainability component

# **Key Considerations**

- Ensures the 2020 RRRP projects deferred due to COVID-19 are funded in 2021 without impacting previous planned 2021 RRRP projects, i.e., ensures RRRP funding is kept whole.
- By ensuring RRRP project funding is kept whole using MEEP funding, provides flexibility to use the \$6.4 million in 2020 current contribution funding previously allocated to the deferred RRRP projects

- to offset one-time COVID-19 costs negatively impacting the City's financial position in 2020-2022. If funds are not required to address COVID-19 negative financial impacts can be redirected into future capital projects.
- Eliminates the need to obtain \$10.5 million in debt financing to fund the Wascana Pool renewal,
  resulting in annual operating savings of approximately \$750K in principle and interest payments. The
  \$750K savings provides added flexibility to address COVID-19 financial impacts as well as providing
  future flexibility to Council to address operating needs. Reducing the need to debt finance Wascana
  Pool renewal also provides additional future financing room should it be required to address City
  needs.
- Eliminates need to use \$1.5 million in Service Agreement Fees (SAF) funding otherwise required to finance the Wascana Pool renewal consistent with the development industry's expectation that if third party funding is received to fund a project, that a portion of the funding be used to reduce the SAF contribution to the project.
- Funds \$12.5 million in new capital projects over and above what is already in the City's current 2020-22 capital plans.

Option 2 - MEEP Replacement Funding to Address COVID-19 costs (\$11.5M), New Projects (\$19.4M)

		MEEP	Other
Project		Funding	Funding
1)	Residential Road Renewal (2020 Deferred Projects) – Ensures the		
	Residential Road Renewal projects deferred in 2020 are funded and can be		
	completed in 2021.	\$6.4M	-
2)	Residential Road Renewal (2021 planned projects funded using MEEP		
	instead of Current Contribution to Capital funding) – RRRP projects are		
	focused on improving the condition of the City's residential roads.	\$2.5M	-
3)	City Hall Fire Sprinkler System/Ceil Tile replacement (2020/2021 planned		
	projects funded using MEEP instead of Current Contribution to Capital		
	funding) -	\$1.3M	-
4)	2021 Bridge Infrastructure Renewal (2021 planned projects funded using		
	MEEP instead of Current Contribution to Capital funding) – Project		Gas Tax
	funding is used renew bridge infrastructure in the City.	\$1.3M	\$1.0M
Sul	p-total	\$11.5M	
5)	Outdoor Rink – Construction of a new outdoor rink.	\$0.7M	-
6)	<b>Energy Monitoring and Optimization Infrastructure*</b> – Pilot the use of		
	energy monitoring technology to reduce energy consumption in City		
	owned facilities.	\$0.52M	-
7)	Municipal Justice Building* – Redevelop the MJB into a neighbourhood		
	community centre and police fitness facility. This would include preserving		
	the heritage of the facility and developing a shared multi- purpose gym.	\$7.5M	-
8)	Express Way Lighting* – Upgrade poor condition expressway lighting to		
	LED, including underground & poles.	\$1.0M	
9)	Permanent Pavement Markings – Upgrade current painted markings to		
	permanent in multi-line, high traffic locations.	\$0.7M	-

10) Pedestrian Connectivity (Pasqua Street)* – Design and construction of		
new pedestrian infrastructure along Pasqua Street from Parliament Avenue		
to Hill Avenue.	\$0.5M	-
11) Expand Bike Lanes and Pathways (Albert Street)* - Albert Street (23rd		
Avenue to Regina Avenue) - widen sidewalk and convert to multi-use		
pathway	\$0.9M	-
12) City Hall Exterior Lights* – upgrade exterior and crown lights to energy		
efficient lighting	\$0.5M	-
13) Fiber Network Expansion – Install high speed fiber from City Hall to Public		
Works Yard and 4 <sup>th</sup> Ave., and from Public Works to Fire HQ. Benefits		
include: higher speed connection for many users; resiliency for the City's		
secondary and primary data centers; future proof our fiber network with		
speed that will be sufficient for years into the future.	\$0.5M	-
14) Major Roads Renewal – improve the condition of the City's major roads by		
repair and reconstruction of sidewalks, curbs, gutters, landscaping, road		
surface.		
		-
15) Replace Mt. Pleasant Park Buildings* – replace		
washroom/changeroom/clubhouse along with other buildings that are		-
beyond their life expectancy.	\$3.0M	
Sub-total	\$19.42M	
TOTAL	\$30.92M	

<sup>\*</sup>Projects have a sustainability component

#### **Key Considerations**

- Ensures the 2020 RRRP projects deferred due to COVID-19 are funded in 2021 without impacting previous planned 2021 RRRP projects, i.e., ensures RRRP funding is kept whole.
- Provides flexibility to use \$11.5 million in 2020 and 2021 current contribution funding previously
  allocated to the planned projects to offset one-time COVID-19 costs negatively impacting the City's
  financial position in 2020-2022. If funds are not required to address COVID-19 negative financial
  impacts can be redirected into future capital projects.
- Funds \$19.4 million in new capital projects over and above what is already in the City's current 2020-2022 capital plans.
- Consistent with City of Saskatoon's approach where approximately 40% of MEEP funding is
  projected to be used to provide flexibility in addressing COVID-19 financial impacts and 60% towards
  new projects.

Option 3 – MEEP Replacement Funding to Address COVID-19 costs (\$8.9M), New Projects (\$22M)

		MEEP	Other
Projec	et	Funding	Funding
1) Re	esidential Road Renewal (2020 Deferred Projects) – Ensures the		
Re	esidential Road Renewal projects deferred in 2020 are funded and can be		
со	ompleted in 2021.	\$6.4M	-
2) <b>Re</b>	esidential Road Renewal (2021 planned projects funded using MEEP		
	stead of Current Contribution to Capital funding) – RRRP projects are		
fo	cused on improving the condition of the City's residential roads.	\$2.5M	-
Sub-to	otal	\$8.9M	
3) <b>O</b> u	utdoor Rink – Construction of a new outdoor rink.	\$0.7M	-
4) En	nergy Monitoring and Optimization Infrastructure* – Pilot the use of		
en	nergy monitoring technology to reduce energy consumption in City		
ov	vned facilities.	\$0.7M	-
5) <b>M</b>	unicipal Justice Building* – Redevelop the MJB into a neighbourhood		
со	mmunity centre and police fitness facility. This would include preserving		
th	e heritage of the facility and developing a shared multi-purpose gym.	\$7.5M	-
6) <b>E</b> x	press Way Lighting* – Upgrade poor condition expressway lighting to		
LE	D, including underground & poles.	\$0.5M	-
7) <b>Pe</b>	ermanent Pavement Markings – Upgrade current painted markings to		
pe	ermanent in multi-line, high traffic locations.	\$0.7M	-
8) <b>Pe</b>	edestrian Connectivity (Pasqua Street)* – Design and construction of		
ne	ew pedestrian infrastructure along Pasqua Street from Parliament Avenue		
to	Hill Avenue.	\$0.5M	-
9) <b>Ex</b>	rpand Bike Lanes and Pathways (Albert Street)* - Albert Street (23rd		
Av	venue to Regina Avenue) - widen sidewalk and convert to multi-use		
ра	athway	\$0.9M	-
10) Cit	ty Hall Exterior Lights* – upgrade exterior and crown lights to energy		
eft	ficient lighting	\$0.5M	-
11) M	ajor Roads Renewal – improve the condition of the City's major roads by		
repair	and reconstruction of sidewalks, curbs, gutters, landscaping, road		
surface		\$4.0M	-
12) <b>Re</b>	eplace Mt. Pleasant Park Buildings* – replace		
Wa	ashroom/changeroom/clubhouse along with other buildings that are		
be	eyond their life expectancy.	\$3.0M	-
13) <b>Ro</b>	oof Replacement* – roof replacement to ensure the long-term protection		
an	nd performance of City facilities.	\$0.7M	-
14) <b>M</b>	ahon Arena Renovations - renovations to the Mahon Arena to allow the		
fac	cility to continue to provide existing services long into the future.	\$1.7M	-
15) <b>RE</b>	EAL Building Upgrades/Renovations —upgrading to LED lighting, flooring		
re	placement, and upgrading washroom in Affinity Plex; upgrading dressing		
ro	oms at the Co-Operators Centre; and upgrade washrooms at the Brandt		
Ce	entre. The City is the sole owner of the Regina Exhibition Association		
Lir	mited (REAL).	\$0.62M	
Sub-to	otal	\$22.02M	
TOTAL		\$30.92M	

\*Projects have a sustainability component

#### **Key Considerations**

- Ensures the 2020 RRRP projects deferred due to COVID-19 are funded in 2021 without impacting previous planned 2021 RRRP projects, i.e., ensures RRRP funding is kept whole.
- Provides flexibility to use \$8.9 million (more than option #1/less than under option #2) in 2020 and 2021 current contribution funding previously allocated to the planned projects to offset one-time COVID-19 costs negatively impacting the City's financial position in 2020-2022. If funds are not required to address COVID-19 negative financial impacts can be redirected into future capital projects.
- Funds \$22 million in new capital projects over and above what is already in the City's 2020-22 capital plans.
- Includes several projects to renovate REAL's building infrastructure while attendance is low due to COVID-19, better positioning REAL when it fully reopens with refreshment of some of its infrastructure.

# APPENDIX B

# Municipal Economic Enhancement Program 2020

Eligible projects include but are not limited to those listed in the categories below:

<ul> <li>Connectivity</li> <li>Internet Backbor</li> <li>Fibre Optic Cabli</li> <li>Broadband</li> <li>Technology to Surroy</li> <li>Operation of Assort</li> <li>Servers and Service</li> <li>Application</li> </ul>	<ul> <li>Fire Prevention</li> <li>Culverts and Gates</li> <li>Safe Houses</li> </ul>	<ul> <li>3. Drinking Water</li> <li>Water Treatment Plant</li> <li>Wells</li> <li>Water Meters</li> <li>Curb Stops</li> <li>Watermain</li> <li>Hydrants</li> <li>Reservoirs</li> </ul>	<ul> <li>4. Engineering/Feasibility Study</li> <li>Infrastructure Studies</li> <li>Engineering Costs</li> <li>Studies/Systems to Support Asset Management Planning</li> </ul>	
<ul> <li>Green Energy</li> <li>Renewable Energy         Production includ         <ul> <li>Geo-thermal</li> <li>Solar Energy</li> <li>Energy</li> </ul> </li> <li>Furnace</li> <li>Boiler</li> <li>Energy Efficient Lig</li> <li>Energy Efficient Up</li> </ul>	<ul> <li>Clay Capping</li> <li>Paving Sand Seal</li> <li>Dust Proofing</li> <li>Sidewalks</li> <li>Bridges</li> <li>Culverts</li> <li>Curbs and Gutters</li> </ul>	<ul> <li>7. Municipal Equipment</li> <li>Mower</li> <li>Grader</li> <li>Tractor</li> <li>Weigh Scale</li> <li>Trailer</li> <li>Backup Generator</li> <li>Garbage Truck</li> <li>Septic Truck</li> </ul>	<ul> <li>8. Municipally-Owned Buildings and Assets</li> <li>Municipal Offices</li> <li>Municipal Shops</li> <li>Community Hall</li> <li>Compounds/Public Storage</li> <li>Building Demolition</li> <li>Airports including: <ul> <li>Hangars, Terminals, Runway and Taxiway</li> </ul> </li> </ul>	
<ul> <li>9. Planning and Development includes development of:</li> <li>Lots</li> <li>Subdivisions</li> </ul>	<ul> <li>10. Protective Services</li> <li>Fire Trucks</li> <li>Fire Halls</li> <li>Fire Hydrants</li> </ul>	<ul><li>11. Public Health</li><li>Support Local Share for Hospitals or Other Assets</li></ul>	<ul> <li>12. Solid Waste</li> <li>Landfill</li> <li>Recycling Depot Including Purchase of Baler</li> <li>Community Recycle Bins</li> <li>Waste Transfer Station</li> <li>Garbage Trucks and Compactors</li> <li>Gas Management</li> <li>Composting Facility</li> </ul>	
<ul> <li>Recreation Halls and Auditoriums</li> <li>Aquatic Centres and Pools</li> <li>Playgrounds/Parks/Beaches</li> <li>Library</li> <li>Theatre/Perfo</li> <li>Marina/Boat D</li> </ul>		rmation Booth  If the second of the second o	• Lift Station	





## 2021 Revaluation

Date	June 10, 2020
То	Executive Committee
From	Financial Strategy & Sustainability
Service Area	Assessment, Tax & Utility Billing
Item No.	EX20-23

#### RECOMMENDATION

The Executive Committee recommends that City Council:

- 1. Endorse the guidelines and principles for consulting on a commercial phase-in tax policy as outlined in this report.
- Instruct Administration to continue the consultation with the business community on the options for a phase-in of tax changes for commercial property due to the 2021 Revaluation.
- 3. Bring forward a report on tax policy options in the first quarter of 2021.
- 4. Approve these recommendations at its June 24, 2020 Meeting.

#### **ISSUE**

Provincial legislation requires all municipalities in Saskatchewan to be revalued once every four years. As a result, 2021 is the next revaluation year. The 2021 revaluation will update the base date to January 1, 2019, which is the appraisal date used for determining assessments. Updating the base date ensures the assessment values are reflective of current market conditions and that any change in property value occurs over a period of time. Progress continues to be made in the implementation of the 2021 revaluation; however, there is still considerable effort required to complete the revaluation.

Public consultation and transparency in assessment, property tax, and budget processes are important to maintain confidence and build trust in Regina's municipal government.

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Developing principles for the 2021 tax policies, scheduling the timing and setting direction early in the process will allow appropriate information available to be considered in the tax policy discussions.

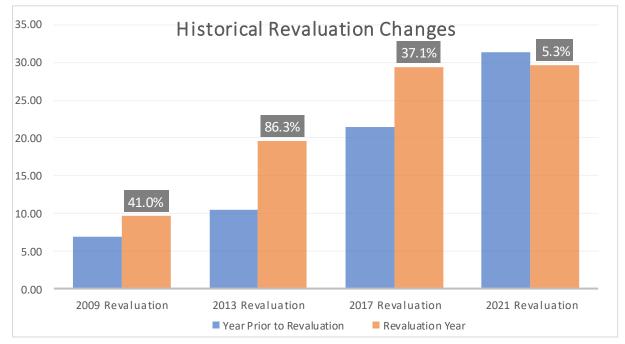
Legislation applicable to the revaluation includes:

- Section 22(1) of The Assessment Management Agency Act states:
   "Notwithstanding any other Act, commencing on January 1, 1997, all assessable properties in every municipality are to be revalued under the direction and supervision of the agency once every four years."
- Sections 165 (1) and (2) of The Cities Act state:
  - (1) "An assessment shall be prepared for each property in the city using only mass appraisal."
  - (2) "All property is to be assessed as of the applicable base date."

# **IMPACTS**

# **Financial Impacts**

Revaluation is revenue neutral for the City and there is no financial impacts to City property tax revenue. The total value of properties has changed from the base year of 2015 to 2019 (base year for the 2021 revaluation). Preliminary results of the 2021 revaluation indicate the total value of all properties within Regina has decreased 5.3%. This is a significant change from the last three revaluations and is consistent with market indicators. The chart below shows the historical change in the assessment base as a result of past revaluations.



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Although the scale of change in assessment values is an overall decrease, properties will experience a wide range of tax changes. A decrease in assessment does not mean a decrease in individual property tax.

Approximately 90% of all properties within the city will see a 10 to 20% reduction in property value. Residential assessments will see an average reduction of 9%, with condominium properties averaging a 15% reduction. Multi-family properties experienced a slight increase in assessment value.

The Commercial and Industrial Class of properties will see an overall increase of approximately 3%. This group includes a wide range of properties. There are just over 3600 taxable properties in this group that contribute approximately \$95 million in municipal property taxes. There are 400 properties that contribute 75% of the property taxes for this group. This distribution of values makes the commercial group subject to the potential of larger variances in property tax impacts because a relatively small number of the properties has the majority of value in the group. There is a wide range of changes, and while there are many properties with small decreases or increases, some properties will see larger property tax increases and decreases.

A misconception that commonly occurs is that a decrease of assessment value on individual properties automatically means proportionally lower property taxes. Changes in assessment value may result in changes to individual property tax. The key message is that the revaluation is revenue neutral for the City. It is important to ensure this message is provided early and often in the revaluation process. If the City requires additional revenue those decisions are made through the budget process not the revaluation process.

#### OTHER OPTIONS

There are no other options as assessment revaluation is a legislated requirement.

#### COMMUNICATIONS

To enhance public awareness and education about Revaluation 2021, a phased communication strategy has been developed for Q3 to Q4. This strategy supports the work of the Assessment, Tax & Utility Billing department to facilitate a clear understanding about what property assessment means, the factors that determine property value, and an estimate on how the updated assessment values impact property taxes on individual properties.

Given the current financial environment resulting from COVID-19, communication related to property revaluation will be sensitive to citizen expectations regarding their property taxes. Administration will ensure that the necessary resources are in place to assist property owners with questions about their assessment.

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### **DISCUSSION**

The 2021 revaluation is mandated by provincial legislation and requires a revaluation every four years. Given the last reassessment occurred in 2017, the next year for revaluation is 2021. Legislation also requires that each revaluation reflect a base date. The base date for the 2021 revaluation is January 1, 2019. Legislation directs that assessments are based on a mass appraisal market value assessment system.

There have been significant changes in the market with respect to differing property types since the last base date of revaluation in 2015. The City determines the assessed value of a property using the following valuation approaches:

<u>Direct Sales Comparison Approach</u>: property values are estimated based on the statistical analysis of current sale prices for similar type properties. This is the preferred approach for residential and condominium properties as there is typically an abundance of property sales in the market to estimate these property values.

<u>Income Approach</u>: an income stream generated from the land/buildings is capitalized into a market value estimate. The approach is commonly used in the valuation of multi-family and commercial properties. The income generated from renting space (1-2-3-bedroom apartments, commercial space in shopping malls) to several tenants in a building results in an income stream that can be converted into a market value estimate.

<u>Cost Approach</u>: property value estimate is based on the cost to acquire a parcel of land, plus the cost to build the improvement, less depreciation. In most situations, the property estimate should be the same as the cost to construct a similar building. This approach to value is often used for those property types that do not sell in the open market such as churches, hospitals, schools, industrial sites, railway right of ways, etc.

Efforts related to the 2021 revaluation to date include:

- Updates to the Computer Assisted Mass Appraisal (CAMA) and Taxation and Assessment System (TAS) to support the 2019 base date have been completed.
- 2. Collecting data required to implement the Income Approach. The data required is for the 2015, 2016, 2017 and 2018 fiscal years. Requests were mailed to approximately 7780 properties with responses received from 80% of the properties.
- 3. Property sales data has been collected and the sales information has been reviewed and verified.
- 4. Preliminary valuation models for all properties have been completed.

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- 5. An independent consultant has been engaged to review our mass appraisal valuation models and to ensure compliance with industry standards.
- 6. The development of a communication strategy and a customer service strategy is underway. Much of the effort on these plans will occur in the second and third quarters of 2020. As in past revaluations, use of the City's web site will be a major component of the communication and customer service strategies.
- 7. The Province (Ministry of Government Relations) set a deadline of April 1, 2020 for the submission of preliminary assessment values for 2021. The Province will use the data for the analysis leading to the establishment of provincial percentages. The City of Regina has submitted values to the Province to meet this deadline.

While progress has been made there is still effort required to review and establish tax policies and deliver the communication and customer service strategies. Significant steps that remain are:

- 1. The mailing of individual letters in late August of 2020 advising property owners of the changes in assessment and the estimated tax impact due to the revaluation.
- 2. The 2021 assessment notices will be mailed in November of 2020. The timing of the release of assessment values advances the timing of assessment appeals, allowing the first stage of appeals to be resolved prior to the setting of the mill rate bylaw in 2021, thus resulting in a more stable tax base. It also allows taxpayers time to prepare for tax changes.
- 3. The 2021 assessment values are complete and work on the analysis of impacts is underway.
- 4. Development of principles to use as guidelines for establishing tax policy options. This process will include public consultation to help inform the final recommendations presented to Council. This approach was very successful in past revaluations and has been supported by the business community and the Regina and District Chamber of Commerce. This was cited as a critical step in the public consultation process for commercial property owners and occupants.
- 5. Consultation with the business community will continue in 2020 with initiatives such as meetings with and presentations to the Regina Economic Development, Regina and District Chamber of Commerce, Regina Hotels Association and other interested business groups. The business community has advised that communication of the impact of revaluation needs to occur in the fall of 2020 so that businesses have time to adjust budgets for the revaluation tax year.
- 6. Administration will prepare a review of tax policy tools for consideration by Council. The tax policy tools available include the incidence of tax between property classes

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(residential and commercial), the use of a base or minimum tax, and the phase-in of tax changes resulting from the revaluation. Tax policy decisions need to be made prior to setting the mill rates and mill rate factors for 2021.

## **Property Tax**

The City of Regina will continue to use the "Truth in Taxation" principle. The International Association of Assessing Officers' Standards for Property Tax Policy describes the principle as requiring governments to notify property owners if there is going to be an increase in property tax rates or revenues separately from tax changes due to revaluation. As in past revaluations, the City of Regina will provide individual notices (mailed in late August as previously noted) on the effect of revaluation that include projected property taxes and will also make this information available for every property on Regina.ca.

Revaluation is property tax revenue neutral for the city. The concept of establishing a revenue neutral tax rate will continue to be a key message in all communication efforts with the public. Tax revenue is based on the updated 2021 property assessments and a revenue neutral tax rate. The property assessment system is the mechanism used to fairly distribute the property tax levy to all property owners; the result being that in a revaluation year, increases or decreases due to revaluation do not necessarily mean an increase or decrease in property tax for the individual account. Rather, the change in property tax for each individual account is dependant upon whether the assessment change is above or below the average change in assessment for the property class.

The "Truth in Taxation" principle, along with transparency in property assessment and the budget process, are important in the effort to achieve public confidence in municipal government.

#### Phase-In

Legislation provides for phasing in of the changes in assessment due to revaluation. Phasein plans were applied to the Commercial and Industrial property class in each of the past revaluations. For the past two revaluations, City Council adopted the following principles to use as guidelines for consulting with the business community and in establishing tax policy:

- 1. Stability in property taxes is important to ensure we have a sustainable, fair, competitive and viable economic environment.
- 2. Administrative cost and complexity should be avoided as much as possible.
- 3. Principles for a commercial phase-in should be established as:
  - It is recognized that phase-in programs create administrative overhead and complexity for property owners and need to be used judiciously.
  - Any phase-in plan must be revenue neutral.
  - Phase-in should only be considered if there are many properties with exceptional increases.
  - A phase-in plan must be structured so that it is two or three years maximum in duration.

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Administration recommends that City Council adopt the above principles for the 2021 revaluation.

# **DECISION HISTORY**

In each of the prior City Council revaluation year reports CR09-34, CR13-16, and CR17-24, City Council has adopted the proposed principles for revaluation and phase-in of revaluation impacts for commercial properties.

The recommendations contained within this report require City Council approval.

Respectfully Submitted,

Respectfully Submitted,

Prepared by: Steve Ward, City Assessor

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