



City Council - Agenda

Date:August 30, 2021Time:9:30 a.m. - 5:30 p.m.Location:Council Chamber, 2nd floor, City Hall

Call to Order: 9:30 a.m. Lunch: Noon - 1:30 p.m. Recess: 3:30 p.m. - 3:45 p.m. Adjournment: 5:30 p.m.

Deputy Mayor: S. McKeen Acting Mayor: M. Walters

Please note: City Hall is open to the public at reduced capacity for this meeting. Members of the public may choose to participate at Council and Committee meetings in person or remotely. You can <u>request to speak</u> up until your item has been dealt with. The public is invited to view in-progress meetings online via the Agenda, <u>Council on the Web</u> or City Council's <u>YouTube</u> <u>Channel.</u>

For additional information, contact the Office of the City Clerk at (780) 496-8178.

1. Call to Order and Related Business

- 1.1. Call to Order
- 1.2. Roll Call
- 1.3. Adoption of Agenda
- 1.4. Approval of Minutes
 - August 16, 2021, City Council
 - August 17, 2021, Council Services Committee

Addendum:

- August 17, 2021, City Council Public Hearing
- August 19, 2021, City Council Public Hearing Non-Regular
- 1.5. Protocol Items

Pages

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2. Items for Discussion and Related Business

- 2.1. Select Items for Debate
- 2.2. Vote on Reports not Selected for Debate
- 2.3. Requests to Speak Refer to Summary of Agenda Changes
- 2.4. Requests for Specific Time on Agenda Refer to Summary of Agenda Changes
- 2.5. Vote on Bylaws not Selected for Debate
- 3. Councillor Inquiries
- 4. Reports to be Dealt with at a Different Meeting None
- 5. Requests to Reschedule Reports None

6. Reports

6.1.	Approval of Partial Expropriation - 50 Street CP Rail Grade Separation	73
6.2.	Council Policy C628, Honoraria and Expenses for City Agencies - Procedures Addendum	87
6.3.	Approval of Expropriation Yellowhead Trail Freeway Conversion - Consideration of Inquiry Officer's Report for 14950 Yellowhead Trail Executive Committee report Addendum	99
6.4.	Use of Neighborhood Renewal Funds - Exception to Policy C595A Executive Committee report Addendum	159
6.5.	City Policy C509B - Naming Development Areas, Parks, Municipal Facilities, Roads and Honorary Roads Urban Planning Committee report Addendum	169
6.6.	City Plan Implementation Update - Advancing Edmonton's Systems Urban Planning Committee report Addendum	185
6.7.	Edmonton Arts Council – 2021 Activate Grant Recommendations (June Deadline) Community and Public Services Committee report Addendum	201
6.8.	Castle Downs Partnership Opportunity Community and Public Services Committee report Addendum	213

	6.9.	Emergency Shelter Standards and Operating Requirements -	219		
		Community and Public Services Committee report Addendum			
	6.10.	Potential Impacts to City of Edmonton Headwaters Utility Committee report Addendum	293		
7.	Bylav	vs			
	7.1.	Bylaw 19858 - City Administration Bylaw Amendments	507		
	7.2.	Bylaw 19870 - Code of Conduct for Members of Council Committees	515		
	7.3.	Bylaw 19873 - Potential Amendments to the Temporary Mandatory Face Coverings Bylaw Addendum	533		
	7.4.	Bylaw 19784 - Edmonton Design Committee Bylaw Urban Planning Committee report Addendum	547		
	7.5.	Bylaw 18825 - Public Tree Bylaw - Proposed Bylaw for Tree Preservation and Protection - Further Engagement Urban Planning Committee report Addendum	565		
	7.6.	Bylaw 19626 - EPCOR Water Services Bylaw - A Bylaw to Replace Bylaw 17698 - EPCOR Water Services and Wastewater Treatment Bylaw Utility Committee report Addendum	587		
	7.7.	Bylaw 19627 - EPCOR Drainage Services and Wastewater Treatment Bylaw - A Bylaw to Replace Bylaw 18100 - EPCOR Drainage Services Bylaw Utility Committee report Addendum	915		
8.	Motic	ons Pending	1297		
	8.1.	101 Street Vacant Site (D. Iveson)			
9.	Priva	Private Reports			
	9.1.	Edmonton Police Commission - Chair Membership Report Sections 17 (disclosure harmful to personal privacy) and 24 (advice from officials) of the <i>Freedom of Information and Protection of</i> <i>Privacy Act</i>			
	9.2.	Major Event Update Sections 16 (disclosure harmful to business interests of a third party), 24 (advice from officials) and 25 (disclosure harmful to economic and other interests of a public body) of the <i>Freedom of Information and</i> <i>Protection of Privacy Act</i>			
10.	Notic	es of Motion and Motions without Customary Notice			

11. Adjournment





City Council Minutes

August 16, 2021 9:30 a.m. Council Chamber, 2nd floor, City Hall

Present: D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, M. Walters

1. Call to Order and Related Business

1.1 Call to Order

Mayor D. Iveson called the meeting to order at 9:34 a.m., Monday, August 16, 2021, and acknowledged that City Council meets on the traditional land of Treaty 6 Territory. The Chair also acknowledged the diverse Indigenous peoples whose ancestors' footsteps have marked this territory for centuries such as: Cree, Dene, Saulteaux, Blackfoot, Nakota Sioux, as well as Metis and Inuit, and now settlers from around the world.

1.2 Roll Call

Mayor D. Iveson conducted roll call and confirmed the attendance of Members of City Council.

Mayor D. Iveson was absent with notice for a portion of the meeting.

Councillor B. Henderson was absent for a portion of the meeting as per the leave of absence authorized by City Council on August 16, 2021 (see item 6.6).

A. Corbould, City Manager; and A. Giesbrecht, City Clerk, S. McKerry and E. Norton, Office of the City Clerk, were also in attendance.

1.3 Adoption of Agenda

Moved by: B. Esslinger Seconded by: M. Banga

That the August 16/18, 2021, City Council meeting agenda be adopted with the following changes:

Additions:

- 6.6 Leave of Absence from City Council Councillor B. Henderson
- 6.11 Revised Deputy and Acting Mayor Terms
- 9.8 Collective Bargaining Update Verbal report (Private pursuant to sections 24 and 25 of the Freedom of Information and Protection of Privacy Act)

Replacement reports:

- 5. Requests to Reschedule Reports
 5.2 Bus Network and On-Demand Service Implementation Update
- 6.3 Waste Services Supplemental Capital Budget Adjustment
 Utility Committee report

Deletion:

 9.6 Transit Pilot Project Agreements (Private pursuant to section 25 of the *Freedom of Information and Protection of Privacy Act*)

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

1.4 Approval of Minutes

Moved by: A. Knack Seconded by: M. Banga

That the minutes from the following meetings be approved:

- July 5/7, 2021, City Council
- July 6, 2021, City Council Public Hearing

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

1.5 Protocol Items

1. Edmonton Transit Peace Officers (D. Iveson)

Mayor D. Iveson, on behalf of City Council, recognized Edmonton Transit Peace Officers for receiving the St. John Ambulance Gold Life Saving Award.

2. Urban Planning and Economy's Planning and Environment Services Branch (D. Iveson)

Mayor D. Iveson, on behalf of City Council, recognized Urban Planning and Economy's Planning and Environment Services Branch for receiving awards for The City Plan and Open Option Parking.

3. Indigenous Artist in Residence (D. Iveson)

Mayor D. Iveson, on behalf of City Council, recognized Edmonton's newest Indigenous Artist-in-Residence, M. Wood.

2. Items for Discussion and Related Business

2.1 Select Items for Debate

The following items were selected for debate: 6.1, 6.6, 6.7, 6.10, 7.1, 7.5, 7.6, 9.5 and 9.8.

2.2 Vote on Reports not Selected for Debate

Moved by: M. Walters Seconded by: S. McKeen

That the recommendations in the following reports be approved:

- 5.1 Emergency Response Delays and Options for the Maple Road and 23 Avenue Extension
- 5.2 Bus Network and On-Demand Service Implementation Update
- 6.2 Review of the Drainage Utility Transfer from the City of Edmonton to EPCOR

- 6.4 2017-2021 Council Initiatives
- 6.5 Percent for Art Policy Update
- 6.8 Edmonton Arts Council 2021 Arts Building Operating Grant Recommendations
- 6.9 Africa Centre Request to Reallocate Council-approved Funds
- 6.11 Revised Deputy and Acting Mayor Terms
- 9.1 Edmonton Regional Airports Authority Chair Membership Report
- 9.2 Fort Edmonton Management Company Council Member Appointment
- 9.3 Edmonton Police Commission Procurement
- 9.7 Edmonton Salutes Committee Chair Membership Report and Candidate Shortlisting

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

2.3 Requests to Speak

There were no Requests to Speak.

2.4 Requests for Specific Time on Agenda

Moved by: B. Henderson Seconded by: A. Knack

That the following item be dealt with at a specific time on the agenda:

- 6.6 Leave of Absence Councillor B. Henderson First item of business
- In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk,
- B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel,
- A. Paquette, and M. Walters

Carried (13 to 0)

2.5 Vote on Bylaws not Selected for Debate

Moved by: T. Caterina Seconded by: A. Knack

That the following Bylaws be read a second time:

- 7.2 Bylaw 19734 A Bylaw to authorize the City of Edmonton to assess, undertake, construct and finance Integrated Infrastructure Services Project for the Footbridge Construction Local Improvement on 170 street Pedestrian Bridge
- 7.4 Bylaw 19620 A Bylaw to authorize the City of Edmonton to construct, finance and assess Sidewalk Reconstruction Local Improvements in the Calder Neighbourhood - Crown Land

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

Moved by: T. Caterina Seconded by: A. Knack

That the following Bylaws be read a third time:

- 7.2 Bylaw 19734 A Bylaw to authorize the City of Edmonton to assess, undertake, construct and finance Integrated Infrastructure Services Project for the Footbridge Construction Local Improvement on 170 street Pedestrian Bridge
- 7.4 Bylaw 19620 A Bylaw to authorize the City of Edmonton to construct, finance and assess Sidewalk Reconstruction Local Improvements in the Calder Neighbourhood - Crown Land

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

3. Councillor Inquiries

There were no Councillor Inquiries.

4. Reports to be Dealt with at a Different Meeting

There were no Reports to be Dealt with at a Different Meeting.

5. Requests to Reschedule Reports

5.1 Emergency Response Delays and Options for the Maple Road and 23 Avenue Extension

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

That the revised due date of August 24, 2021, Urban Planning Committee, for the Urban Planning and Economy report UPE00402, Emergency Response Delays and Options for the Maple Road and 23 Avenue Extension, be approved.

5.2 Bus Network and On-Demand Service Implementation Update

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

That the revised due date of Fourth Quarter 2021, Executive Committee, for the City Operations report CR_8198, Bus Network and On-Demand Service Implementation Update, be approved.

6. Reports

6.1 Rapid Housing Initiative - Updated Housing Investment Plan

The following members of Administration's delegation made a presentation and answered questions:

- R. Smyth, Deputy City Manager, Citizen Services
- C. Kjenner, Citizen Services

The following member of Administration's delegation answered questions:

• A. Corbould, City Manager

Moved by: M. Walters Seconded by: S. McKeen

 That the 2021 revenue and expenditure operating budget for the Social Development branch be increased by \$14,884,530, to recognize anticipated receipt of Rapid Housing Initiative funding from the Canada Mortgage and Housing Corporation Rapid Housing Initiative Cities Stream (revenue), as well as operating contributions (expenditure) to external organizations for the purposes of funding the projects described in Attachment 1 of the August 16, 2021, Citizen Services report CS00733.

- That the 2021 revenue and expenditure operating budget for the Social Development branch be increased by \$6,724,740 with funding from provincial block funding (\$5,043,555) and the Affordable Housing Reserve (\$1,681,185) for the City contribution towards the projects described in Attachment 1 of the August 16, 2021, Citizen Services report CS00733.
- 3. That Administration submit an updated Housing Investment Plan to Canada Mortgage and Housing Corporation based on the Housing Investment Plan Second Intake as described in Attachment 1 of the August 16, 2021, Citizen Services report CS00733.
- 4. That Attachment 1 of the August 16, 2021, Citizen Services report CS00733, remain private pursuant to sections 21 (disclosure harmful to intergovernmental relations), 24 (advice from officials) and 25 (disclosure harmful to economic and other interests of a public body) of the Freedom of Information and Protection of Privacy Act.

Amendment:

Moved by: D. Iveson Seconded by: T. Caterina

That a part 5 be added as follows:

That the correspondence dated July 6, 2021 (Mayor Iveson to Minister Sawhney) and August 4, 2021 (Minister Laun to Mayor Iveson) be added as Attachment 2 to the August 16, 2021, Citizen Services report CS00733.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

Motion as Amended, put:

Moved by: M. Walters Seconded by: S. McKeen

- That the 2021 revenue and expenditure operating budget for the Social Development branch be increased by \$14,884,530, to recognize anticipated receipt of Rapid Housing Initiative funding from the Canada Mortgage and Housing Corporation Rapid Housing Initiative Cities Stream (revenue), as well as operating contributions (expenditure) to external organizations for the purposes of funding the projects described in Attachment 1 of the August 16, 2021, Citizen Services report CS00733.
- That the 2021 revenue and expenditure operating budget for the Social Development branch be increased by \$6,724,740 with funding from provincial block funding (\$5,043,555) and the Affordable Housing Reserve (\$1,681,185) for the City contribution towards the projects described in Attachment 1 of the August 16, 2021, Citizen Services report CS00733.
- 3. That Administration submit an updated Housing Investment Plan to Canada Mortgage and Housing Corporation based on the Housing Investment Plan Second Intake as described in Attachment 1 of the August 16, 2021, Citizen Services report CS00733.
- 4. That Attachment 1 of the August 16, 2021, Citizen Services report CS00733, remain private pursuant to sections 21 (disclosure harmful to intergovernmental relations), 24 (advice from officials) and 25 (disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act.*
- 5. That the correspondence dated July 6, 2021 (Mayor Iveson to Minister Sawhney) and August 4, 2021 (Minister Laun to Mayor Iveson) be added as Attachment 2 to the August 16, 2021, Citizen Services report CS00733.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

6.2 Review of the Drainage Utility Transfer from the City of Edmonton to EPCOR

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

That the June 25, 2021, Financial and Corporate Services report FCS00626, be received for information.

6.3 Waste Services Supplemental Capital Budget Adjustment

Moved by: M. Walters Seconded by: M. Banga

- 1. That capital profile 22-81-2054, Communal Collection Program, as set out in Attachment 2 of the June 25, 2021, City Operations report CO00650, be approved.
- 2. That a budget increase to capital profile 13-33-2023, High Solids Anaerobic Digestion Facility, in the amount of \$530,000, as outlined in Attachment 1 of the June 25, 2021, City Operations report CO00650, be approved.
- 3. That the single source procurement, as outlined in Attachment 3 of the June 25, 2021, City Operations report CO00650, be approved.
- 4. That Attachment 3 of the June 25, 2021, City Operations report CO00650 remain private pursuant to sections 16 (disclosure harmful to business interests of a third party), 25 (disclosure harmful to economic and other interests of a public body) and 27 (privileged information) of the *Freedom of Information and Protection of Privacy Act*.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, A. Paquette, and M. Walters

Opposed (1): M. Nickel

Carried (11 to 1)

6.4 2017-2021 Council Initiatives

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

That the August 16, 2021, Office of the City Manager report OCM00566, be received for information.

6.5 Percent for Art Policy Update

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

- 1. That revised Public Art to Enhance Edmonton's Public Realm Policy C458D, be approved with the following amendments:
 - a. Replace the bullet under "Funding" with "The City of Edmonton will annually fund a Public Art Reserve on a Pay-As-You-Go basis in the minimum amount of 1% of eligible capital projects, as approved by City Council through the Operating Budget."
 - Revise the first bullet under "Public Art Program" to include after "collection": "in alignment to City Plan and Connections and Exchanges."
 - c. Add a bullet under "Public Art Program" to read: "Public Art will be diverse, representing the community and be distributed throughout the City."
- That Public Art Administration, Registration and Outreach Policy C547, Public Art Accession, Selection Criteria and Gift Policy C548 and Public Art Conservation, De-accession and Re-site Policy C549, be repealed.
- That a Public Art Reserve, to account for and manage the Edmonton Public Art Collection, as outlined in Attachment 2 of the August 9, 2021, Urban Planning and Economy report UPE00628, be established.
- That \$4.535 million of Capital Pay-As-You-Go Funding be transferred from the approved 2021-2022 Capital Budget to the Public Art Reserve, as outlined in Attachment 3 of the August 9, 2021, Urban Planning and Economy report UPE00628.
- 5. That the Infrastructure Planning and Design Branch operating expenditure budget be increased by \$1.495 million in 2021 and \$3.040 million in 2022, for costs related to the public art projects committed for the 2019-2022 budget cycle, with funds from the Public Art Reserve, as outlined in Attachment 3 of the August 9, 2021, Urban Planning and Economy report UPE00628.

6.6 Leave of Absence from City Council - Councillor B. Henderson

Moved by: B. Henderson Seconded by: S. McKeen That an absence from all Council and Committee meetings effective immediately until the day the official results are released of the 2021 Federal Election, be authorized for Councillor B. Henderson.

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

6.7 Snow and Ice Control Policy Refresh

The following members of Administration's delegation answered questions:

- G. Cebryk, Deputy City Manager, City Operations
- A. Grant, City Operations

Moved by: A. Knack Seconded by: A. Paquette

That revised Snow and Ice Control Policy C409K, as set out in Attachment 1 of the August 11, 2021, City Operations report CO00396rev, be approved.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

Moved by: A. Knack Seconded by: J. Dziadyk

Snow and Ice Control - Options to Increase Service Standard

That Administration provide options to increase the service standard in the Snow and Ice Control Procedure. This report is to include: any equipment, staffing and budget changes required to increase the standard with a greater emphasis on safety, efficiency and connectivity. This report should also include feedback from the Accessibility Advisory Committee, Edmonton Transit Service Advisory Board, the Edmonton Seniors Coordinating Council and the Women's Advocacy Voice of Edmonton Committee.

Due Date: April 2022, Community and Public Services Committee

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

6.8 Edmonton Arts Council – 2021 Arts Building Operating Grant Recommendations

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

That the 2021 Arts Building Operating Grant recommendations, as set out in Attachment 1 of the August 11, 2021, Edmonton Arts Council report EXT00716, be approved.

6.9 Africa Centre - Request to Reallocate Council-approved Funds

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

That the Council for the Advancement of African Canadians in Alberta (Africa Centre) request to reallocate \$237,500 of annual funding, as outlined in Attachment 1 of the August 11, 2021, Citizen Services report CS00752, be approved.

6.10 COVID-19 Update - Verbal report

The following member of Administration's delegation made a presentation and answered questions:

• A. Corbould, City Manager

Moved by: D. Iveson Seconded by: A. Knack

That the August 12, 2021, Office of the City Manager verbal report OCM00741, be received for information.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

Moved by: A. Knack Seconded by: S. McKeen

Bylaw XXXXX - Potential Amendments to the Temporary Mandatory Face Coverings Bylaw

That Administration prepare potential amendments to the Temporary Mandatory Face Coverings Bylaw to reinstate the requirement for masks on transit and vehicles for hire as of September 27, 2021, to coincide with the expiry of the current provincial Chief Medical Officer of Health order, including any recommended thresholds or conditions.

Due Date: August 30, 2021 City Council

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

6.11 Revised Deputy and Acting Mayor Terms

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

That Councillor S. McKeen replace Councillor B. Henderson as Acting Mayor for the September 6, 2021 - October 2021 Organizational Meeting term.

7. Bylaws

7.1 Bylaw 19340 - City of Edmonton Facilities Off-Site Levies Bylaw

The following members of Administration's delegation answered questions:

- S. McCabe, Deputy City Manager, Urban Planning and Economy
- K. Snyder, Urban Planning and Economy
- J. Zatylny, Citizen Services

Moved by: T. Cartmell Seconded by: M. Banga

That Bylaw 19340 be amended as follows:

- amend the definition of "Construction Cost" section 2(b) of the bylaw to: "Construction Cost" means the estimated / actual cost of design, construction or expansion of a Facility in accordance with the edition of the National Building Code in place at time of planned construction, including an amount for engineering and administration, the purchase price or the estimated market value of land required for the Facility, the estimated costs of any related Appurtenances, interest on any borrowed money, and contingency of 10%.
- eliminate part (iv) of the "Appurtenances" definition in bylaw (section 2(a)).

In Favour (6): M. Banga, T. Cartmell, J. Dziadyk, B. Esslinger, S. Hamilton, and M. Walters

Opposed (6): D. Iveson, T. Caterina, A. Knack, S. McKeen, M. Nickel, and A. Paquette

Defeated (6 to 6)

Moved by: T. Caterina Seconded by: M. Walters

That Bylaw 19340 be read a first time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, A. Paquette, and M. Walters

Opposed (1): M. Nickel

Carried (11 to 1)

Moved by: T. Caterina Seconded by: S. McKeen

That Bylaw 19340 be read a second time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, A. Paquette, and M. Walters

Opposed (1): M. Nickel

Moved by: T. Caterina Seconded by: M. Walters

That Bylaw 19340 be considered for third reading.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

Moved by: T. Caterina Seconded by: M. Walters

That Bylaw 19340 be read a third time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, A. Paquette, and M. Walters

Opposed (1): M. Nickel

Carried (11 to 1)

7.2 Bylaw 19734 - A Bylaw to authorize the City of Edmonton to assess, undertake, construct and finance Integrated Infrastructure Services Project for the Footbridge Construction Local Improvement on 170 street Pedestrian Bridge

This item was not selected for debate and was dealt with as part of item 2.5. Bylaw 19734 received second and third readings.

7.3 Bylaw 19781 - A Bylaw to authorize the City of Edmonton to undertake, construct and finance Integrated Infrastructure Services Project, Capital Line, Century Park to 41 Avenue

Moved by: M. Walters Seconded by: T. Caterina

That Bylaw 19781 be read a second time.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, A. Paquette, and M. Walters

Opposed (1): M. Nickel

Carried (12 to 1)

Moved by: M. Walters Seconded by: T. Caterina

That Bylaw 19781 be read a third time.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, A. Paquette, and M. Walters

Opposed (1): M. Nickel

Carried (12 to 1)

7.4 Bylaw 19620 - A Bylaw to authorize the City of Edmonton to construct, finance and assess Sidewalk Reconstruction Local Improvements in the Calder Neighbourhood - Crown Land

This item was not selected for debate and was dealt with as part of item 2.5. Bylaw 19620 received second and third readings.

7.5 Bylaw 20002 - Business Licence Bylaw

Moved by: T. Caterina Seconded by: M. Banga

- 1. That section 38(c) of Bylaw 20002, be replaced with the following:
 - produce the employee list set out in clause (b) when requested to do so by a Bylaw Enforcement Officer,

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

Moved by: T. Caterina Seconded by: M. Banga

That Bylaw 20002 be read a first time.

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk,

B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel,

A. Paquette, and M. Walters

Carried (13 to 0)

Moved by: T. Caterina Seconded by: M. Banga

That Bylaw 20002 be read a second time.

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

Moved by: T. Caterina Seconded by: M. Banga

That Bylaw 20002 be considered for third reading.

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

Moved by: T. Caterina Seconded by: M. Banga

That Bylaw 20002 be read a third time.

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk,

- B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel,
- A. Paquette, and M. Walters

Carried (13 to 0)

7.6 Bylaw 19758 - Amendments to Bylaw 14614 Public Places Bylaw -Acts of Harassment

Moved by: S. McKeen Seconded by: D. Iveson

That Bylaw 19758 be read a first time.

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

Moved by: S. McKeen Seconded by: D. Iveson

That Bylaw 19758 be read a second time.

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

Moved by: S. McKeen Seconded by: D. Iveson

That Bylaw 19758 be considered for third reading.

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (13 to 0)

Moved by: S. McKeen Seconded by: D. Iveson

That Bylaw 19758 be read a third time.

In Favour (13): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, B. Henderson, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Moved by: A. Paquette Seconded by: S. McKeen

Bylaw XXXXX - Amendments to the Public Places Bylaw - Hate Symbols

That Administration prepare amendments to section 8 of the Public Places Bylaw to include display of recognized hate symbols as a form of harassment.

Due Date: December 2021, Community and Public Services Committee

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

8. Motions Pending

8.1 Council Code of Conduct and the Sanction Hearing Process (T. Cartmell)

The following members of Administration's delegation answered questions:

- A. Giesbrecht, City Clerk
- A. Corbould, City Manager

Moved by: T. Cartmell Seconded by: A. Knack

That the Integrity Commissioner/Ethics Advisor, Legal Services and the City Clerk return to Council Services Committee with a report(s) about lessons learned regarding the Council Code of Conduct and the Sanction Hearing Process.

Due Date: First Quarter 2022

Amendment:

Moved by: D. Iveson Seconded by: T. Caterina

That the following be added:

including an evaluation of options, including but not limited to delegating the sanctioning authority to the Integrity Commissioner, subject to a right of appeal to Council if the respondent Councillor feels the sanction is inappropriate.

In Favour (7): D. Iveson, T. Caterina, B. Esslinger, A. Knack, S. McKeen, A. Paquette, and M. Walters

Opposed (5): M. Banga, T. Cartmell, J. Dziadyk, S. Hamilton, and M. Nickel

Carried (7 to 5)

Motion as Amended, put:

Moved by: T. Cartmell Seconded by: A. Knack

Council Code of Conduct - Lessons Learned

That the Integrity Commissioner/Ethics Advisor, Legal Services and the City Clerk return to Council Services Committee with a report(s) about lessons learned regarding the Council Code of Conduct and the Sanction Hearing Process including an evaluation of options, including but not limited to delegating the sanctioning authority to the Integrity Commissioner, subject to a right of appeal to Council if the respondent Councillor feels the sanction is inappropriate.

Due Date: First Quarter 2022, City Council

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, A. Paquette, and M. Walters

Opposed (1): M. Nickel

Carried (11 to 1)

8.2 Overnight Paddlers Parking Pass (M. Walters)

The following members of Administration's delegation answered questions:

- R. Smyth, Deputy City Manager, Citizen Services
- A. Corbould, City Manager

Moved by: M. Walters Seconded by: S. McKeen

Overnight Paddlers Parking Pass

That Administration provide options to create an overnight paddlers parking pass in City of Edmonton Parks where boat docks and launches have been installed.

Due Date: Second Quarter 2022, Community and Public Services Committee

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

8.3 Dial-a-Bus Service (J. Dziadyk)

The following members of Administration's delegation answered questions:

- G. Cebryk, Deputy City Manager, City Operations
- A. Corbould, City Manager
- C. Hotton-MacDonald, City Operations
- S. Feldman, City Operations

Moved by: J. Dziadyk Seconded by: A. Knack

That Administration prepare an unfunded service package for consideration by City Council during the Fall 2021 Supplemental Budget Adjustment, for a modern "Dial-a-Bus" service, operated by Edmonton Transit Service, to operate in areas not currently included in the "On-Demand" service area pilot project. In Favour (4): M. Banga, J. Dziadyk, A. Knack, and M. Nickel

Opposed (8): D. Iveson, T. Cartmell, T. Caterina, B. Esslinger, S. Hamilton, S. McKeen, A. Paquette, and M. Walters

Defeated (4 to 8)

8.4 Food Scraps Cart Options (J. Dziadyk)

The following member of Administration's delegation answered questions:

• G. Cebryk, Deputy City Manager, City Operations

Moved by: J. Dziadyk Seconded by: A. Knack

That Administration develop a report, considering options to increase organics collection including both cost-recovery and premium rates, to allow residents with a standard 120L green bin to opt-in to a larger bin.

Amendment:

Moved by: A. Paquette Seconded by: A. Knack

That the following be added:

and/or to provide additional excess yard waste collections for spring/summer/fall 2022.

In Favour (4): J. Dziadyk, A. Knack, M. Nickel, and A. Paquette

Opposed (8): D. Iveson, M. Banga, T. Cartmell, T. Caterina, B. Esslinger, S. Hamilton, S. McKeen, and M. Walters

Defeated (4 to 8)

Motion, put:

Moved by: J. Dziadyk Seconded by: A. Knack

That Administration develop a report, considering options to increase organics collection including both cost-recovery and premium rates, to allow residents with a standard 120L green bin to opt-in to a larger bin.

In Favour (5): M. Banga, J. Dziadyk, A. Knack, M. Nickel, and A. Paquette

Opposed (7): D. Iveson, T. Cartmell, T. Caterina, B. Esslinger, S. Hamilton, S. McKeen, and M. Walters

Defeated (5 to 7)

8.5 Menstrual Supplies and Period Poverty (B. Esslinger)

Moved by: B. Esslinger Seconded by: S. McKeen

That the City of Edmonton endorse and act as co-sponsors, with the City of Port Coquitlam, on "Addressing Period Poverty in Canada" through investigation of applicable regulations to be presented at the September 20-24, 2021 Federation of Canadian Municipalities Board of Directors meeting.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

9. Private Reports

Moved by: M. Walters Seconded by: M. Banga

That City Council meet in private pursuant to sections 16 (disclosure harmful to business interests of a third party), 24 (advice from officials) and 25 (disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act* for the discussion of items 9.5 and 9.8.

City Council met in private at 4:22 p.m., Monday, August 16, 2021.

Moved by: M. Walters Seconded by: T. Cartmell

That City Council meet in public.

With the unanimous consent of City Council, the motion carried.

City Council met in public at 5:20 p.m., Monday, August 16, 2021.

9.1 Edmonton Regional Airports Authority - Chair Membership Report

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

- 1. That Christopher Burrows be reappointed to the Edmonton Regional Airports Authority Board of Directors, for the term January 1, 2022 to December 31, 2025.
- 2. That the August 16, 2021, Office of the City Clerk report OCC00704, remain private pursuant to sections 17 (disclosure harmful to personal privacy) and 24 (advice from officials) of the *Freedom of Information and Protection of Privacy Act*.

9.2 Fort Edmonton Management Company - Council Member Appointment

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

- That Councillor T. Cartmell be reappointed to the Fort Edmonton Management Company Board of Directors, for the term commencing at the close of the 2021 Annual General Meeting (tentatively scheduled for September 17, 2021) until Council's Inaugural Council Meeting on October 26, 2021.
- 2. That the August 16, 2021, Office of the City Clerk report OCC00723, remain private pursuant to sections 17 (disclosure harmful to personal privacy) and 24 (advice from officials) of the *Freedom of Information and Protection of Privacy Act*.

9.3 Edmonton Police Commission - Procurement

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

- 1. That the August 16, 2021, Edmonton Police Commission report EXT00722, be received for information.
- 2. That the August 16, 2021, Edmonton Police Commission report EXT00722, remain private pursuant to sections 20 (disclosure harmful to law enforcement), 24 (advice from officials) and 25 (disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act.*

9.4 Organics Processing Update

Moved by: M. Walters Seconded by: S. McKeen

- 1. That the action, as outlined in Attachment 1 of the June 25, 2021, City Operations report CO00430, be approved.
- 2. That the June 25, 2021, City Operations report CO00430 remain private pursuant to sections 16 (disclosure harmful to business interests of a third party) and 25 (disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act*.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, A. Paquette, and M. Walters

Opposed (1): M. Nickel

Carried (11 to 1)

9.5 Technology Update - Verbal report

The following members of Administration's delegation made a presentation and answered questions:

- G. Cebryk, Deputy City Manager, City Operations
- C. Grayson, City Operations

The following member of Administration's delegation answered questions:

• M. Bennett, Office of the City Manager (Legal Services)

Moved by: S. McKeen Seconded by: D. Iveson

- 1. That the August 16, 2021, City Operations verbal report CO00753, be received for information.
- 2. That the August 16, 2021, City Operations verbal report CO00753, remain private pursuant to sections 16 (disclosure harmful to business interests of a third party) and 24 (advice from officials) of the *Freedom of Information and Protection of Privacy Act.*

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

9.6 Transit Pilot Project Agreements

This item was deleted from the agenda (see item 1.3).

9.7 Edmonton Salutes Committee - Chair Membership Report and Candidate Shortlisting

This item was not selected for debate and was dealt with as part of item 2.2. The following motion carried:

That the sixth candidate, referenced in Attachment 1 of the August 9, 2021, Office of the City Clerk report OCC00638, be appointed as a public member to the Edmonton Salutes Committee, from October 26, 2021 to April 30, 2023.

9.8 Collective Bargaining Update - Verbal report

The following members of Administration's delegation made a presentation and answered questions:

- A. Corbould, City Manager
- M. Dorval, Employee Services

Moved by: T. Caterina Seconded by: T. Cartmell

- 1. That the August 16, 2021, Office of the City Manager verbal report OCM00768, be received for information.
- 2. That the August 16, 2021, Office of the City Manager verbal report OCM00768 remain private pursuant to sections 24 (advice from officials) and 25 (disclosure harmful to economic and other interests of a public body) of the *Freedom of Information and Protection of Privacy Act.*

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

10. Notices of Motion and Motions without Customary Notice

10.1 Edmonton Metropolitan Transit Services Commission - Board of Directors Alternate (M. Walters)

Moved by: S. McKeen Seconded by: T. Cartmell

That Councillor M. Walters be given permission to make a motion without customary notice regarding Councillor A. Knack replacing Councillor M. Walters on the board of directors of the Edmonton Metropolitan Transit Services Commission.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

Moved by: M. Walters Seconded by: S. McKeen

That Councillor A. Knack replace Councillor M. Walters as the City of Edmonton representative on the board of directors of the Edmonton Metropolitan Transit Services Commission, effective August 20th until the end of the current Council term.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

10.2 101 Street Vacant Site (D. Iveson)

Mayor D. Iveson, stated that at the next regular meeting of City Council, he would move the following:

That Administration work with the owner of the vacant site located at 10199 101 Street, to improve the site conditions supporting downtown vibrancy, while ensuring that the demolition permit conditions are satisfied and provide a memo to Council with an update.

• Notice of Motion Given: August 16, 2021, City Council

11. Adjournment

The meeting adjourned at 5:28 p.m., Monday, August 16, 2021.

Chair

City Clerk





Council Services Committee Minutes

August 17, 2021 9:30 a.m. Council Chamber, 2nd floor, City Hall

Present: M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen

1. Call to Order and Related Business

1.1 Call to Order

Councillor A.Knack called the meeting to order at 9:30 a.m., Tuesday, August 17, 2021.

1.2 Roll Call

Councillor A. Knack conducted roll call and confirmed the attendance of Members of Council Services Committee.

Councillor M. Nickel was absent with notice.

Councillors A. Paquette and M. Walters were absent without notice.

Councillor B. Henderson was absent as per the leave of absence authorized by City Council on August 16, 2021.

C. Schlamp, R. Yusuf, M. Guzman and L. Kjorlien, Office of the City Clerk, were also in attendance.

1.3 Adoption of Agenda

Moved by: B. Esslinger

That the August 17, 2021, Council Services Committee meeting agenda be adopted.

In Favour (8): M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, and S. McKeen

Carried (8 to 0)

1.4 Approval of Minutes

Moved by: S. McKeen

That the April 20, 2021, Council Services Committee meeting minutes be approved.

In Favour (8): M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, and S. McKeen

Carried (8 to 0)

1.5 Protocol Items

There were no Protocol Items.

2. Items for Discussion and Related Business

2.1 Select Items for Debate

The following item was selected for debate: 6.1.

2.2 Vote on Reports not Selected for Debate

All items were selected for debate.

2.3 Requests to Speak

There were no Requests to Speak.

2.4 Requests for Specific Time on Agenda

There were no requests for items to be dealt with at a specific time on the agenda.

3. Councillor Inquiries

There were no Councillor Inquiries.

4. Reports to be Dealt with at a Different Meeting

There were no Reports to be Dealt with at a Different Meeting.

5. Requests to Reschedule Reports

There were no Requests to Reschedule Reports.

6. Reports

6.1 2021 Council Calendar Feedback

The following member of Administration's delegation made a presentation and answered questions:

• D. Beaudry, Deputy City Clerk

The following member of Administration's delegation answered questions:

• A. Giesbrecht, City Clerk

Moved by: T. Caterina

That the August 17, 2021, Office of the City Clerk report OCC00713, be received for information.

In Favour (8): M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, and S. McKeen

Carried (8 to 0)

7. Responses to Councillor Inquiries

There were no Responses to Councillor Inquiries.

8. Motions Pending

There were no Motions Pending on the agenda.

9. Private Reports

There were no Private Reports on the agenda.

10. Notices of Motion and Motions without Customary Notice

10.1 Attendance at Federation of Canadian Municipalities Meetings (S. Hamilton)

Councillor S. Hamilton requested permission to make a motion without notice regarding costs associated with attendance at Federation of Canadian Municipalities meetings.

Moved by: T. Caterina

That Council waive the rules on providing notice of motion as set out in section 32 of Bylaw 18155 - Council Procedures Bylaw to allow Councillor

S. Hamilton to make a motion without notice regarding costs associated with attendance at Federation of Canadian Municipalities meetings.

In Favour (8): M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, and S. McKeen

Carried (8 to 0)

Moved by: S. Hamilton

That costs associated with attendance at Federation of Canadian Municipalities meetings for Councillor S. Hamilton be absorbed by the Office of the Councillors Common Travel Budget.

In Favour (8): M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, and S. McKeen

Carried (8 to 0)

11. Adjournment

The meeting adjourned at 10:01 a.m., Tuesday, August 17, 2021.

Chair

City Clerk




City Council Public Hearing Minutes

August 17, 2021 1:30 p.m. Council Chamber, 2nd floor, City Hall

Present:

D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, M. Walters

1. Call to Order and Related Business

1.1 Call to Order

Mayor D. Iveson called the meeting to order at 1:33 p.m., Tuesday, August 17, 2021, and acknowledged that City Council meets on the traditional land of Treaty 6 Territory. The Chair also acknowledged the diverse Indigenous peoples whose ancestors' footsteps have marked this territory for centuries such as: Cree, Dene, Saulteaux, Blackfoot, Nakota Sioux, as well as Metis and Inuit, and now settlers from around the world.

1.2 Roll Call

Mayor D. Iveson conducted roll call and confirmed the attendance of Members of City Council.

Councillor B. Henderson was absent as per the leave of absence authorized by City Council on August 16, 2021.

Councillor M. Nickel was absent with notice for a portion of the meeting.

Councillor S. Hamilton was absent with notice.

K. Gibson, T. Orbell and R. Zheng, Office of the City Clerk, were also in attendance.

1.3 Adoption of Agenda

Moved by: B. Esslinger Seconded by: M. Banga

That the August 17, 2021, City Council Public Hearing agenda be adopted with the following change:

Replacement attachment:

• 3.10 Charter Bylaw 19802 - To allow for a low rise mixed use building that is compatible with adjacent land uses a pedestrian friendly streetscape, Glengarry - Attachment 1

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

1.4 Protocol Items

There were no Protocol Items.

2. Explanation of Public Hearing Process

2.1 Call for Persons to Speak

Mayor D. Iveson explained the public hearing process. K. Gibson, Office of the City Clerk, asked whether there were any persons present to speak to the following bylaws:

Bylaws 19813 and 19812

There were no speakers registered to the passing of Bylaws 19813 and 19812.

Charter Bylaw 19771

The following speakers registered in favour:

- 1. H. Battad, City of Edmonton (to answer questions only)
- 2. B. Smid, City of Edmonton (to answer questions only)
- 3. T. Olsen, ISL Engineering (to answer questions only)
- 4. D. Schoor, ISL Engineering (to answer questions only)

Charter Bylaw 19729

The following speaker registered in favour:

1. T. Portigal, City of Edmonton (to answer questions only)

Bylaw 19836 and Charter Bylaw 19791

The following speakers registered in favour:

- 1. T. Battle, Skyrattler Neighbourhood Association (to answer questions only)
- 2. N. Osaduik, City of Edmonton (to answer questions only)

Charter Bylaw 19704

The following speakers registered in favour:

- 1. C. McNutt, WSP Canada (to answer questions only)
- 2. J. Haley, Liquor Stores Limited Partnership by it GP Liquor Stores GP Inc. (to answer questions only)

Charter Bylaw 19792

The following speakers registered in favour:

- 1. M. Ouellette, Latitude Consulting Ltd. (to answer questions only)
- 2. P. Manley, Centurion Property Associates (to answer questions only)

Charter Bylaw 19818

The following speaker registered in favour:

1. R. Clunes, Equity Residential Holdings (to answer questions only)

Charter Bylaw 19802

The following speaker registered in favour:

1. L. Mantyka, Krahn Engineering (to answer questions only)

Charter Bylaw 19794

The following speakers registered in favour:

- 1. S. Sherman, IBI Group (to answer questions only)
- 2. P. Pescod, Melcor Developments (to answer questions only)

Bylaw 19808 and Charter Bylaw 19809

The following speakers registered in favour:

- 1. N. Pryce, V3 Companies of Canada (to answer questions only)
- 2. M. Edwards, Panattoni (to answer questions only)

Charter Bylaw 19811

The following speakers registered in favour:

- 1. R. Dauk, Rohit Group (to answer questions only)
- 2. C. Gushaty, Covenant Health (to answer questions only)
- 3. K. Shillington, Stantec (to answer questions only)
- 4. C. Oberg, Bunt Engineering (to answer questions only)
- 5. Y. Lew, Stantec (to answer questions only)
- 6. A. Merali, Covenant Health (to answer questions only)

Charter Bylaw 19814

The following speakers registered in favour:

- 1. B. Dibben, Select Engineering Consultants (to answer questions only)
- 2. S. Leppky, Genstar Developments (to answer questions only)

Charter Bylaw 19793

The following speakers registered in favour:

- 1. C. Nicholas, MLC (to answer questions only)
- 2. E. Shillington, Stantec (to answer questions only)

Charter Bylaws 19796 and 19797

The following speaker registered in favour:

1. O. Joshi, WSP Canada (to answer questions only)

Charter Bylaw 19801

The following speaker registered in favour:

1. M. Figueira, Green Space Alliance (to answer questions only)

Charter Bylaw 19819

The following speakers registered in favour:

- 1. H. Chisholm, B&A Planning Group (to answer questions only)
- 2. R. Dauk, Rohit Group (to answer questions only)

The following speaker registered in opposition:

1. C. Mills

Bylaw 19773 and Charter Bylaw 19774

The following speakers registered in favour:

- 1. O. Joshi, WSP Canada
- 2. P. Shaver, Avillia Developments (to answer questions only)
- 3. M. Shankowsky, WSP Canada (to answer questions only)
- 4. C. Sherstone, WSP Canada (to answer questions only)

The following speakers registered in opposition:

- 1. D. Morin
- 2. D. Dost
- 3. B. Dost
- 4. D. Thomas
- 5. R. Heit

6. G. Pinckney

Charter Bylaw 19740

The following speakers registered in favour:

- 1. O. Joshi, WSP Canada (to answer questions only)
- 2. P. Shaver, Avillia Developments (to answer questions only)

Charter Bylaw 19790

The following speakers registered in favour:

- 1. M. de Wolf, L7 Architecture Inc. (to answer questions only)
- 2. P. Gray, Gray Properties Inc. (to answer questions only)

Bylaw 19788 and Charter Bylaw 19789

The following speakers registered in favour:

- 1. J. Soneff
- 2. R. Lee
- 3. K. Cooper

The following speaker registered in opposition:

1. D. Buchanan, Garneau Planning Committee

Bylaw 19786 and Charter Bylaw 19787

The following speakers registered in favour:

- 1. R. Chadha (to answer questions only)
- 2. T. Kakkar (to answer questions only)

Charter Bylaw 19681

The following speaker registered in favour:

1. R. Dhunna, Regency Developments (to answer questions only)

The following speakers registered in opposition:

- 1. J. Forster, Holyrood Development Committee
- 2. M. Baran, Holyrood Development Committee
- 3. M. Harden, Holyrood Development Committee
- 4. C. Skinner, Holyrood Development Committee
- 5. D. Sutherland, Holyrood Development Committee
- 6. M. Russell
- 7. S. Shorten
- 8. A. Winter

3. Bylaws and Related Reports

Moved by: T. Caterina Seconded by: M. Banga

That the Public Hearing on the following Bylaws be closed:

- 3.1 Bylaw 19813 To repeal the Elsinore Neighbourhood Structure Plan
- 3.2 Bylaw 19812 Amendment to the Castle Downs Extension Area Structure Plan
- 3.3 Charter Bylaw 19771 To allow for the realignment of the current zoning boundary lines, Potter Greens
- 3.5 Bylaw 19836 Skyrattler Surplus School Site Proposed MR Designation
- 3.6 Charter Bylaw 19791 To allow for existing and planned park uses, Skyrattler
- 3.7 Charter Bylaw 19704 To allow for businesses that require a location with good visibility and accessibility along major public roadways, Ritchie
- 3.8 Charter Bylaw 19792 To allow for a mid-rise residential building with opportunities for ground floor commercial uses, Ritchie
- 3.9 Charter Bylaw 19818 To allow for small scale infill development, Canora
- 3.10 Charter Bylaw 19802 To allow for a low rise mixed use building that is compatible with adjacent land uses and supports a pedestrian friendly streetscape, Glengarry
- 3.11 Charter Bylaw 19794 To allow for low density residential uses, Second

- 3.12 Bylaw 19808 Amendment to Maple Ridge Industrial Area Structure Plan
- 3.13 Charter Bylaw 19809 To allow for industrial and commercial businesses and a stormwater management facility, Southeast Industrial
- 3.14 Charter Bylaw 19811 To allow for a mixed use development containing a range of medical, commercial, and residential uses, Kameyosek
- 3.15 Charter Bylaw 19814 To allow for a range of low density residential uses, Crystallina Nera West
- 3.16 Charter Bylaw 19793 To allow for a multi-unit (row) housing, Rosenthal
- 3.17 Charter Bylaw 19796 To allow for low density residential uses, multiunit housing, commercial uses, park uses, and public utility uses, Marquis
- 3.18 Charter Bylaw 19797 To allow for site-specific multi-unit (row) housing, Marquis
- 3.19 Charter Bylaw 19801 To allow for small scale infill development, Glenwood
- 3.24 Charter Bylaw 19790 To allow for low rise Multi-unit Housing, Bonnie Doon
- 3.27 Bylaw 19786 To amend the 109 Street Corridor Area Redevelopment Plan
- 3.28 Charter Bylaw 19787 To allow for medium rise Multi-unit Housing, Garneau

Motion Carried (11 to 0)

Moved by: T. Caterina Seconded by: M. Banga

That the following Bylaws be read a first time:

- 3.1 Bylaw 19813 To repeal the Elsinore Neighbourhood Structure Plan
- 3.2 Bylaw 19812 Amendment to the Castle Downs Extension Area Structure Plan

- 3.3 Charter Bylaw 19771 To allow for the realignment of the current zoning boundary lines, Potter Greens
- 3.5 Bylaw 19836 Skyrattler Surplus School Site Proposed MR Designation
- 3.6 Charter Bylaw 19791 To allow for existing and planned park uses, Skyrattler
- 3.7 Charter Bylaw 19704 To allow for businesses that require a location with good visibility and accessibility along major public roadways, Ritchie
- 3.8 Charter Bylaw 19792 To allow for a mid-rise residential building with opportunities for ground floor commercial uses, Ritchie
- 3.9 Charter Bylaw 19818 To allow for small scale infill development, Canora
- 3.10 Charter Bylaw 19802 To allow for a low rise mixed use building that is compatible with adjacent land uses and supports a pedestrian friendly streetscape, Glengarry
- 3.11 Charter Bylaw 19794 To allow for low density residential uses, Second
- 3.12 Bylaw 19808 Amendment to Maple Ridge Industrial Area Structure Plan
- 3.13 Charter Bylaw 19809 To allow for industrial and commercial businesses and a stormwater management facility, Southeast Industrial
- 3.14 Charter Bylaw 19811 To allow for a mixed use development containing a range of medical, commercial, and residential uses, Kameyosek
- 3.15 Charter Bylaw 19814 To allow for a range of low density residential uses, Crystallina Nera West
- 3.16 Charter Bylaw 19793 To allow for a multi-unit (row) housing, Rosenthal
- 3.17 Charter Bylaw 19796 To allow for low density residential uses, multiunit housing, commercial uses, park uses, and public utility uses, Marquis
- 3.18 Charter Bylaw 19797 To allow for site-specific multi-unit (row) housing, Marquis
- 3.19 Charter Bylaw 19801 To allow for small scale infill development, Glenwood
- 3.24 Charter Bylaw 19790 To allow for low rise Multi-unit Housing, Bonnie Doon

- 3.27 Bylaw 19786 To amend the 109 Street Corridor Area Redevelopment Plan
- 3.28 Charter Bylaw 19787 To allow for medium rise Multi-unit Housing, Garneau

Motion Carried (11 to 0)

Moved by: T. Caterina Seconded by: M. Banga

That the following Bylaws be read a second time:

- 3.1 Bylaw 19813 To repeal the Elsinore Neighbourhood Structure Plan
- 3.2 Bylaw 19812 Amendment to the Castle Downs Extension Area Structure Plan
- 3.3 Charter Bylaw 19771 To allow for the realignment of the current zoning boundary lines, Potter Greens
- 3.5 Bylaw 19836 Skyrattler Surplus School Site Proposed MR Designation
- 3.6 Charter Bylaw 19791 To allow for existing and planned park uses, Skyrattler
- 3.7 Charter Bylaw 19704 To allow for businesses that require a location with good visibility and accessibility along major public roadways, Ritchie
- 3.8 Charter Bylaw 19792 To allow for a mid-rise residential building with opportunities for ground floor commercial uses, Ritchie
- 3.9 Charter Bylaw 19818 To allow for small scale infill development, Canora
- 3.10 Charter Bylaw 19802 To allow for a low rise mixed use building that is compatible with adjacent land uses and supports a pedestrian friendly streetscape, Glengarry
- 3.11 Charter Bylaw 19794 To allow for low density residential uses, Second
- 3.12 Bylaw 19808 Amendment to Maple Ridge Industrial Area Structure Plan

- 3.13 Charter Bylaw 19809 To allow for industrial and commercial businesses and a stormwater management facility, Southeast Industrial
- 3.14 Charter Bylaw 19811 To allow for a mixed use development containing a range of medical, commercial, and residential uses, Kameyosek
- 3.15 Charter Bylaw 19814 To allow for a range of low density residential uses, Crystallina Nera West
- 3.16 Charter Bylaw 19793 To allow for a multi-unit (row) housing, Rosenthal
- 3.17 Charter Bylaw 19796 To allow for low density residential uses, multiunit housing, commercial uses, park uses, and public utility uses, Marquis
- 3.18 Charter Bylaw 19797 To allow for site-specific multi-unit (row) housing, Marquis
- 3.19 Charter Bylaw 19801 To allow for small scale infill development, Glenwood
- 3.24 Charter Bylaw 19790 To allow for low rise Multi-unit Housing, Bonnie Doon
- 3.27 Bylaw 19786 To amend the 109 Street Corridor Area Redevelopment Plan
- 3.28 Charter Bylaw 19787 To allow for medium rise Multi-unit Housing, Garneau

Motion Carried (11 to 0)

Moved by: T. Caterina Seconded by: M. Banga

That the following Bylaws be considered for third reading:

- 3.1 Bylaw 19813 To repeal the Elsinore Neighbourhood Structure Plan
- 3.2 Bylaw 19812 Amendment to the Castle Downs Extension Area Structure Plan
- 3.3 Charter Bylaw 19771 To allow for the realignment of the current zoning boundary lines, Potter Greens

- 3.5 Bylaw 19836 Skyrattler Surplus School Site Proposed MR Designation
- 3.6 Charter Bylaw 19791 To allow for existing and planned park uses, Skyrattler
- 3.7 Charter Bylaw 19704 To allow for businesses that require a location with good visibility and accessibility along major public roadways, Ritchie
- 3.8 Charter Bylaw 19792 To allow for a mid-rise residential building with opportunities for ground floor commercial uses, Ritchie
- 3.9 Charter Bylaw 19818 To allow for small scale infill development, Canora
- 3.10 Charter Bylaw 19802 To allow for a low rise mixed use building that is compatible with adjacent land uses and supports a pedestrian friendly streetscape, Glengarry
- 3.11 Charter Bylaw 19794 To allow for low density residential uses, Second
- 3.12 Bylaw 19808 Amendment to Maple Ridge Industrial Area Structure Plan
- 3.13 Charter Bylaw 19809 To allow for industrial and commercial businesses and a stormwater management facility, Southeast Industrial
- 3.14 Charter Bylaw 19811 To allow for a mixed use development containing a range of medical, commercial, and residential uses, Kameyosek
- 3.15 Charter Bylaw 19814 To allow for a range of low density residential uses, Crystallina Nera West
- 3.16 Charter Bylaw 19793 To allow for a multi-unit (row) housing, Rosenthal
- 3.17 Charter Bylaw 19796 To allow for low density residential uses, multiunit housing, commercial uses, park uses, and public utility uses, Marquis
- 3.18 Charter Bylaw 19797 To allow for site-specific multi-unit (row) housing, Marquis
- 3.19 Charter Bylaw 19801 To allow for small scale infill development, Glenwood
- 3.24 Charter Bylaw 19790 To allow for low rise Multi-unit Housing, Bonnie Doon
- 3.27 Bylaw 19786 To amend the 109 Street Corridor Area Redevelopment Plan

• 3.28 Charter Bylaw 19787 - To allow for medium rise Multi-unit Housing, Garneau

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: T. Caterina Seconded by: M. Banga

That the following Bylaws be read a third time:

- 3.1 Bylaw 19813 To repeal the Elsinore Neighbourhood Structure Plan
- 3.2 Bylaw 19812 Amendment to the Castle Downs Extension Area Structure Plan
- 3.3 Charter Bylaw 19771 To allow for the realignment of the current zoning boundary lines, Potter Greens
- 3.5 Bylaw 19836 Skyrattler Surplus School Site Proposed MR Designation
- 3.6 Charter Bylaw 19791 To allow for existing and planned park uses, Skyrattler
- 3.7 Charter Bylaw 19704 To allow for businesses that require a location with good visibility and accessibility along major public roadways, Ritchie
- 3.8 Charter Bylaw 19792 To allow for a mid-rise residential building with opportunities for ground floor commercial uses, Ritchie
- 3.9 Charter Bylaw 19818 To allow for small scale infill development, Canora
- 3.10 Charter Bylaw 19802 To allow for a low rise mixed use building that is compatible with adjacent land uses and supports a pedestrian friendly streetscape, Glengarry
- 3.11 Charter Bylaw 19794 To allow for low density residential uses, Second
- 3.12 Bylaw 19808 Amendment to Maple Ridge Industrial Area Structure Plan
- 3.13 Charter Bylaw 19809 To allow for industrial and commercial businesses and a stormwater management facility, Southeast Industrial

- 3.14 Charter Bylaw 19811 To allow for a mixed use development containing a range of medical, commercial, and residential uses, Kameyosek
- 3.15 Charter Bylaw 19814 To allow for a range of low density residential uses, Crystallina Nera West
- 3.16 Charter Bylaw 19793 To allow for a multi-unit (row) housing, Rosenthal
- 3.17 Charter Bylaw 19796 To allow for low density residential uses, multiunit housing, commercial uses, park uses, and public utility uses, Marquis
- 3.18 Charter Bylaw 19797 To allow for site-specific multi-unit (row) housing, Marquis
- 3.19 Charter Bylaw 19801 To allow for small scale infill development, Glenwood
- 3.24 Charter Bylaw 19790 To allow for low rise Multi-unit Housing, Bonnie Doon
- 3.27 Bylaw 19786 To amend the 109 Street Corridor Area Redevelopment Plan
- 3.28 Charter Bylaw 19787 To allow for medium rise Multi-unit Housing, Garneau

Motion Carried (11 to 0)

3.1 Bylaw 19813 - To repeal the Elsinore Neighbourhood Structure Plan

This item was not selected for debate and was dealt with as part of item 3. Bylaw 19813 received three readings.

3.2 Bylaw 19812 - Amendment to the Castle Downs Extension Area Structure Plan

This item was not selected for debate and was dealt with as part of item 3. Bylaw 19812 received three readings.

3.3 Charter Bylaw 19771 - To allow for the realignment of the current zoning boundary lines, Potter Greens

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19771 received three readings.

3.4 Charter Bylaw 19729 - To allow for the use of public land for active and passive recreational uses, Downtown

The following member of Administration's delegation answered questions:

• T. Pawlyk, Urban Planning and Economy

Mayor D. Iveson asked if there was anyone in attendance who wished to speak to new information. There was no one.

Moved by: S. McKeen Seconded by: T. Caterina

That the Public Hearing on Charter Bylaw 19729 be closed.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: T. Caterina

That Charter Bylaw 19729 be read a first time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: T. Caterina

That Charter Bylaw 19729 be read a second time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: T. Caterina That Charter Bylaw 19729 be considered for third reading.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: T. Caterina

That Charter Bylaw 19729 be read a third time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

3.5 Bylaw 19836 - Skyrattler Surplus School Site - Proposed MR Designation

This item was not selected for debate and was dealt with as part of item 3. Bylaw 19836 received three readings.

3.6 Charter Bylaw 19791 - To allow for existing and planned park uses, Skyrattler

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19791 received three readings.

3.7 Charter Bylaw 19704 - To allow for businesses that require a location with good visibility and accessibility along major public roadways, Ritchie

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19704 received three readings.

3.8 Charter Bylaw 19792 - To allow for a mid-rise residential building with opportunities for ground floor commercial uses, Ritchie

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19792 received three readings.

3.9 Charter Bylaw 19818 - To allow for small scale infill development, Canora

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19818 received three readings.

3.10 Charter Bylaw 19802 - To allow for a low rise mixed use building that is compatible with adjacent land uses and supports a pedestrian friendly streetscape, Glengarry

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19802 received three readings.

3.11 Charter Bylaw 19794 - To allow for low density residential uses, Secord

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19794 received three readings.

3.12 Bylaw 19808 - Amendment to Maple Ridge Industrial Area Structure Plan

This item was not selected for debate and was dealt with as part of item 3. Bylaw 19808 received three readings.

3.13 Charter Bylaw 19809 - To allow for industrial and commercial businesses and a stormwater management facility, Southeast Industrial

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19809 received three readings.

3.14 Charter Bylaw 19811 - To allow for a mixed use development containing a range of medical, commercial, and residential uses, Kameyosek

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19811 received three readings.

3.15 Charter Bylaw 19814 - To allow for a range of low density residential uses, Crystallina Nera West

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19814 received three readings.

3.16 Charter Bylaw 19793 - To allow for a multi-unit (row) housing, Rosenthal

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19793 received three readings.

3.17 Charter Bylaw 19796 - To allow for low density residential uses, multi-unit housing, commercial uses, park uses, and public utility uses, Marquis

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19796 received three readings.

3.18 Charter Bylaw 19797 - To allow for site-specific multi-unit (row) housing, Marquis

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19797 received three readings.

3.19 Charter Bylaw 19801 - To allow for small scale infill development, Glenwood

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19801 received three readings.

3.20 Charter Bylaw 19819 - To allow additional commercial opportunities and appropriate signage regulations to support a high density, mixed use transit oriented development, Boyle Street

The following member of Administration's delegation made a presentation:

• H. Mikkelsen, Urban Planning and Economy

The following speakers answered questions in favour:

- H. Chisholm, B&A Planning Group
- R. Dauk, Rohit Group

The following speaker made a presentation and answered questions in opposition:

• C. Mills

The following member of Administration's delegation answered questions:

• T. Pawlyk, Urban Planning and Economy

Mayor D. Iveson asked if there was anyone in attendance who wished to speak to new information. There was no one.

Moved by: S. McKeen Seconded by: T. Caterina

That the Public Hearing on Charter Bylaw 19819 be closed.

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: T. Caterina

That Charter Bylaw 19819 be read a first time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: T. Caterina

That Charter Bylaw 19819 be read a second time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: T. Caterina

That Charter Bylaw 19819 be considered for third reading.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: T. Caterina

That Charter Bylaw 19819 be read a third time.

Motion Carried (11 to 0)

3.21 Bylaw 19773 - Amendment to the Horse Hill Area Structure Plan

3.22 Charter Bylaw 19774 - Adoption of Neighbourhood 1A Neighbourhood Structure Plan

Bylaw 19773 and Charter Bylaw 19774 were dealt with together.

The following member of Administration's delegation made a presentation:

• L. Moulton, Urban Planning and Economy

The following speakers made presentations and answered questions in favour:

- O. Joshi, WSP Canada
- P. Shaver, Avillia Developments

The following speakers made presentations and answered questions in opposition:

- D. Morin
- D. Dost
- D. Thomas
- R. Heit
- G. Pinckney

The following members of Administration's delegation answered questions:

- L. Moulton, Urban Planning and Economy
- F. Saeed, Urban Planning and Economy
- T. Ford, Urban Planning and Economy

Mayor D. Iveson asked if there was anyone in attendance who wished to speak to new information. There was no one.

Moved by: A. Paquette Seconded by: T. Caterina

That the Public Hearing on Bylaw 19773 and Charter Bylaw 19774 be closed.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: A. Paquette Seconded by: T. Caterina

That Bylaw 19773 and Charter Bylaw 19774 be read a first time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: A. Paquette Seconded by: T. Caterina

That Bylaw 19773 and Charter Bylaw 19774 be read a second time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: A. Paquette Seconded by: T. Caterina

That Bylaw 19773 and Charter Bylaw 19774 be considered for third reading.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Moved by: A. Paquette Seconded by: T. Caterina

That Bylaw 19773 and Charter Bylaw 19774 be read a third time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

3.23 Charter Bylaw 19740 - To allow for a public utility corridor, pocket park, and low density residential development, Rural North East South Sturgeon

Moved by: T. Caterina Seconded by: S. McKeen

That the Public Hearing on Charter Bylaw 19740 be closed.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: T. Caterina Seconded by: S. McKeen

That Charter Bylaw 19740 be read a first time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: T. Caterina Seconded by: S. McKeen

That Charter Bylaw 19740 be read a second time.

Motion Carried (11 to 0)

Moved by: T. Caterina Seconded by: S. McKeen

That Charter Bylaw 19740 be considered for third reading.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: T. Caterina Seconded by: S. McKeen

That Charter Bylaw 19740 be read a third time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

3.24 Charter Bylaw 19790 - To allow for low rise Multi-unit Housing, Bonnie Doon

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19790 received three readings.

3.25 Bylaw 19788 - To amend the Garneau Area Redevelopment Plan

3.26 Charter Bylaw 19789 - To preserve the Cecil Burgess Residence as a Designated Municipal Historic Resource while allowing for a Garden Suite with limited Accessory Non-Residential Uses at the rear of the Site, Garneau

Bylaw 19788 and Charter Bylaw 19789 were dealt with together.

The following member of Administration's delegation made a presentation:

• H. Mikkelsen, Urban Planning and Economy

The following speakers made presentations in favour:

- J. Soneff
- R. Lee

The following speaker made a presentation and answered questions in favour:

• K. Cooper

The following speaker made a presentation and answered questions in opposition:

• D. Buchanan, Garneau Planning Committee

The following members of Administration's delegation answered questions:

- H. Mikkelsen, Urban Planning and Economy
- T. Pawlyk, Urban Planning and Economy

Mayor D. Iveson asked if there was anyone in attendance who wished to speak to new information.

The following speakers made presentations:

- J. Soneff
- K. Cooper
- D. Buchanan

The following speaker made a presentation and answered questions:

• R. Lee

Mayor D. Iveson asked if there was anyone in attendance who wished to speak to new information. There was no one.

Moved by: S. McKeen Seconded by: M. Walters

That Schedule "B" of Charter Bylaw 19789 be amended to delete Convenience Retail Stores from Section 3 and remove the words "Convenience Retail Stores" from Section 4.4.

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: M. Walters

That the Public Hearing on Bylaw 19788 and Charter Bylaw 19789 be closed.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: M. Walters

That Bylaw 19788 and Charter Bylaw 19789 be read a first time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: M. Walters

That Bylaw 19788 and Charter Bylaw 19789 be read a second time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: M. Walters That Bylaw 19788 and Charter Bylaw 19789 be considered for third reading.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

Moved by: S. McKeen Seconded by: M. Walters

That Bylaw 19788 and Charter Bylaw 19789 be read a third time.

In Favour (11): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Motion Carried (11 to 0)

3.27 Bylaw 19786 - To amend the 109 Street Corridor Area Redevelopment Plan

This item was not selected for debate and was dealt with as part of item 3. Bylaw 19786 received three readings.

3.28 Charter Bylaw 19787 - To allow for medium rise Multi-unit Housing, Garneau

This item was not selected for debate and was dealt with as part of item 3. Charter Bylaw 19787 received three readings.

3.29 Charter Bylaw 19681 - To allow for mixed use, high density, transit oriented development, Holyrood

The following member of Administration's delegation made a presentation:

• H. Mikkelsen, Urban Planning and Economy

The following speaker answered questions in favour:

• R. Dhunna, Regency Developments

The following speakers made presentations in opposition:

• M. Baran, Holyrood Development Committee

- C. Skinner, Holyrood Development Committee
- M. Russell
- A. Winter

The following speakers made presentations and answered questions in opposition:

- J. Forster, Holyrood Development Committee
- M. Harden, Holyrood Development Committee
- D. Sutherland, Holyrood Development Committee

The following members of Administration's delegation answered questions:

- T. Pawlyk, Urban Planning and Economy
- J. Johnson, Office of the City Manager (Legal Services)
- H. Mikkelsen, Urban Planning and Economy
- K. Petrin, Urban Planning and Economy

Mayor D. Iveson asked if there was anyone in attendance who wished to speak to new information.

The following speakers made presentations:

- J. Forster
- M. Harden

The following speakers made presentations and answered questions:

- R. Dhunna
- C. Skinner
- D. Sutherland

The following members of Administration's delegation answered questions:

- T. Pawlyk, Urban Planning and Economy
- J. Johnson, Office of the City Manager (Legal Services)

Mayor D. Iveson asked if there was anyone in attendance who wished to speak to new information.

The following speakers made presentations and answered questions:

- R. Dhunna
- J. Forster

Mayor D. Iveson asked if there was anyone in attendance who wished to speak to new information. There was no one.

Moved by: M. Walters Seconded by: S. McKeen

That Charter Bylaw 19681 be amended to add a section 9.6 which reads: "Prior to the issuance of any Development Permit for a principal building containing 12 or more Dwellings, the Development Officer shall ensure that a signed agreement has been executed between the City and the owner requiring the owner to provide the City, at the time of Development Permit approval, the option to purchase up to 10 percent (exact percentage at the discretion of the City) of the proposed number of residential units (rounded to the nearest unit) at 85 percent of market value or provide the equivalent value as cash-in-lieu (at the option of the owner) to the City; or, requiring the owner to rent 10% of units at 85% market rental rate for 10 years from the granting of each occupancy permit."

Amendment

Moved by: T. Caterina Seconded by: M. Banga

Strike "; or, requiring the owner to rent 10% of units at 85% market rental rate for 10 years from the granting of each occupancy permit."

In Favour (9): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. McKeen, A. Paquette, and M. Walters

Opposed (1): A. Knack

Motion Carried (9 to 1)

Motion as Amended, put:

Moved by: M. Walters Seconded by: S. McKeen

That Charter Bylaw 19681 be amended to add a section 9.6 which reads: "Prior to the issuance of any Development Permit for a principal building containing 12 or more Dwellings, the Development Officer shall ensure that a signed agreement has been executed between the City and the owner requiring the owner to provide the City, at the time of Development Permit approval, the option to purchase up to 10 percent (exact percentage at the discretion of the City) of the proposed number of residential units (rounded to the nearest unit) at 85 percent of market value or provide the equivalent value as cash-in-lieu (at the option of the owner) to the City".

In Favour (10): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, A. Paquette, and M. Walters

Motion Carried (10 to 0)

Moved by: M. Banga Seconded by: T. Caterina

That the Public Hearing on Charter Bylaw 19681 be closed.

In Favour (10): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, A. Knack, S. McKeen, A. Paquette, and M. Walters

Motion Carried (10 to 0)

Moved by: M. Banga Seconded by: T. Caterina

That Charter Bylaw 19681 be read a first time.

In Favour (5): M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, and B. Esslinger

Opposed (5): D. Iveson, A. Knack, S. McKeen, A. Paquette, and M. Walters

Motion Defeated (5 to 5)

4. Notices of Motion and Motions without Customary Notice

Mayor D. Iveson asked whether there were any Notices of Motion. There were none.

5. Adjournment

The meeting adjourned at 8:40 p.m., Tuesday, August 17, 2021.

Chair

City Clerk





City Council Public Hearing - Non-Regular Minutes

August 19, 2021 9:30 a.m. Council Chamber, 2nd floor, City Hall

Present:

D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, M. Walters

1. Call to Order and Related Business

1.1 Call to Order

Mayor D. Iveson called the meeting to order at 9:30 a.m., Thursday, August 19, 2021, and acknowledged that City Council meets on the traditional land of Treaty 6 Territory. The Chair also acknowledged the diverse Indigenous peoples whose ancestors' footsteps have marked this territory for centuries such as: Cree, Dene, Saulteaux, Blackfoot, Nakota Sioux, as well as Metis and Inuit, and now settlers from around the world.

1.2 Roll Call

Mayor D. Iveson conducted roll call and confirmed the attendance of Members of City Council.

Councillor B. Henderson was absent as per the leave of absence authorized by City Council on August 16, 2021.

D. Beaudry, Deputy City Clerk, T. Orbell and M. de Guzman, Office of the City Clerk, were also in attendance.

1.3 Adoption of Agenda

Moved by: B. Esslinger Seconded by: M. Banga That the August 19, 2021, City Council Public Hearing Non-Regular agenda be adopted.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

1.4 Protocol Items

There were no Protocol Items.

2. Explanation of Public Hearing Process

2.1 Call for Persons to Speak

Mayor D. Iveson explained the public hearing process. D. Beaudry, Office of the City Clerk, asked whether there were any persons present to speak to the following bylaw:

Bylaw 19144

The following speakers registered in favour:

- 1. P. Amerongen, Energy Transition and Climate Resilience Advisory Committee
- 2. M. Mellross, Alberta Ecotrust Foundation Climate Innovation Fund

3. Bylaws and Related Reports

3.1 Bylaw 19144 - Clean Energy Improvement Pilot Program

The following members of Administration's delegation made a presentation:

- S. McCabe, Deputy City Manager, Urban Planning and Economy
- B. Daly, Urban Planning and Economy

The following speakers made presentations and answered questions in favour:

- P. Amerongen, Energy Transition and Climate Resilience Advisory Committee
- M. Mellross, Alberta Ecotrust Foundation Climate Innovation Fund

The following members of Administration's delegation answered questions:

- S. McCabe, Deputy City Manager, Urban Planning and Economy
- B. Daly, Urban Planning and Economy
- I. Johnson, Office of the City Manager (Legal Services)

Mayor D. Iveson asked if there was anyone in attendance who wished to speak to new information. There was no one.

Moved by: M. Walters Seconded by: S. McKeen

That the Public Hearing on Bylaw 19144 be closed.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

Moved by: M. Walters Seconded by: M. Banga

1. That up to \$659,000 from the Planning and Environment Services branch operating budget, to fund costs for the Alberta Municipal Services Corporation (AMSC) program administration, beginning in 2021 and for the duration of the pilot, be approved.

2. That the terms of the financing agreement between the City of Edmonton and Federation of Canadian Municipalities, for an amount not to exceed \$8,434,400, as outlined in Attachment 3 of the August 19, 2021, Urban Planning and Economy report UPE00760, be approved, and that the agreement be in form and content acceptable to the City Manager.

3. That the terms of the financing agreement between the City of Edmonton and the Clean Energy Improvement Property Owner, as outlined in Attachment 4 of the August 19, 2021, Urban Planning and Economy report UPE00760, be approved, and that the agreement be in form and content acceptable to the City Manager.

Carried (12 to 0)

Moved by: M. Walters Seconded by: S. McKeen

That Bylaw 19144 be read a first time.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

Moved by: M. Walters Seconded by: D. Iveson

That Bylaw 19144 be read a second time.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

Moved by: M. Walters Seconded by: M. Banga

That Bylaw 19144 be considered for third reading.

In Favour (12): D. Iveson, M. Banga, T. Cartmell, T. Caterina, J. Dziadyk, B. Esslinger, S. Hamilton, A. Knack, S. McKeen, M. Nickel, A. Paquette, and M. Walters

Carried (12 to 0)

Moved by: M. Walters Seconded by: A. Paquette

That Bylaw 19144 be read a third time.

Carried (12 to 0)

4. Notices of Motion and Motions without Customary Notice

Mayor D. Iveson asked whether there were any Notices of Motion. There were none.

5. Adjournment

The meeting adjourned at 10:40 a.m., Thursday, August 19, 2021.

Chair

City Clerk
Approval of Partial Expropriation

50 Street CP Rail Grade Separation

Recommendation

1. That the expropriation of the portion of the property as shown and legally described in Attachment 1 of the August 30, 2021, Office of the City Manager report OCM00749, (the "Property"), be approved.

6. 1

2. That all steps under the *Expropriation Act,* RSA 2000, c. E-13 (the "Act") be taken to complete the expropriation, including but not limited to, registering a certificate of approval of expropriation, and serving the notice of expropriation, notice of proposed payment, and notice of possession.

Executive Summary

City Council is required to approve or disapprove the expropriation of the Property, which is required to construct the work required to facilitate the 50 Street grade separation work between Sherwood Park Freeway and 90 Avenue.

Report

Expropriation Steps

On August 31, 2020, City Council approved the commencement of the expropriation process to acquire the Property.

In June 2021, Administration registered a notice of intention to expropriate on the title to the Property. Between June 21 - 23, 2021, Administration served the notices of intention to expropriate on the owners, and published the notices of intention to expropriate in the Edmonton Journal. An owner has 21 days after being served with a notice of intention to expropriate to file an objection.

The City received no objection to the notices of intention to expropriate. Accordingly, City Council shall approve or disapprove the proposed expropriations upon proof of service and proof of publication of the notices of intention to expropriate. Attachment 2 are copies of the Affidavits of Service and Publication (exhibits excluded but available) evidencing proof of service on the owners and publication of the notices of intention to expropriate. If City Council approves the expropriation of the Property, Administration will register a certificate of approval on the land title for the Property. If a certificate of approval is not registered within the timelines in the Act, the expropriation is deemed abandoned.

Budget/Financial Implications

Funding to acquire land required for the 50 Street CP rail grade separation project is available within the approved Capital Profile 18-66-6503.

Legal Implications

- 1. An owner may object to an expropriation within 21 days of being served with a notice of intention to expropriate.
- 2. A notice of intention to expropriate was advertised twice in the Edmonton Journal.
- 3. If an objection is filed, the Province will appoint an inquiry officer to conduct a hearing into whether the expropriation is fair, sound, and reasonably necessary.
- 4. If no objection is filed, City Council may approve or disapprove the proposed expropriation upon proof of service and proof of publication in compliance with the Act. No objection was filed with respect to the Property.
- 5. If City Council approves the expropriation, a certificate of approval of expropriation will be registered making the City the owner of the land. If a certificate of approval is not registered within the timeline in the Act, the expropriation is deemed abandoned.
- 6. If an expropriation is abandoned, the City must pay any actual loss sustained by an owner and the reasonable legal, appraisal and other costs incurred by the owner up to the abandonment.
- 7. After a certificate of approval is registered and served, the City must serve the owner with a notice of possession stating the date the City is entitled to possession.
- 8. An owner will receive compensation in accordance with the Act. The City is required to provide an owner with an appraisal setting out the market value.
- 9. The Land and Property Right Tribunal will determine the final compensation if the parties cannot agree.
- 10. Reasonable legal, appraisal and other costs actually incurred by an owner in order to determine compensation are paid by the City.

Public Engagement

Public engagement for this project was completed during the concept planning process to identify business/resident concerns, business operations/future plans. Further discussions were undertaken with potentially impacted property owners and residents through the concept validation and preliminary design phases. A public information session was held on June 26, 2018, and was attended by 175 people.

Public engagement and communications plans for the project were developed in alignment with the City's Public Engagement Policy C593A to support upcoming planning and design work along 50 Street.

Discussions, engagement and negotiations are ongoing with the owner of the Property.

Corporate Outcomes and Performance Management

Corporate Outcome(s): Goods and services move efficiently					
Outcome(s) Measure(s)		Result(s) Target(s)			
Goods and services move efficiently	Business Satisfaction: Goods and Services Transportation (% of survey respondents who are satisfied/very satisfied)50.5% (2017)53.0% (2018)		53.0% (2018)		
	Travel Time and Reliability for Goods and Services Movement (time in minutes: seconds to drive 10 km route)	10:09 (2017) - 50% of the time 13:35 (2017) - 85% of the time	<12:30 (2018) 50% of the time <16:00 (2018) - 85% of the time		

Corporate Outcome(s): Edmonton is a safe city				
Outcome(s)	Measure(s)	Result(s)	Target(s)	
Minimize traffic disruptions on intersections through collision reduction	Rate of inner-ring road (75 St, Whitemud Drive, 170 St, Yellowhead Trail) intersection collisions per million vehicles	1.01 (2017)	0.99 (2018)	
	Rate of inner-ring road (75 St, Whitemud Drive, 170 St, Yellowhead Trail) midblock collisions per million vehicles-km of travel	0.79 (2017)	0.99 (2018)	

Corporate Outcome(s): The City of Edmonton has sustainable and accessible infrastructure					
Outcome(s)	Measure(s)	Result(s)	Target(s)		
Facilities, programs, and services are accessible for all	Edmontonians' Assessment: Access to Amenities and Services that Improve Quality of Life (% of survey respondents who agree/strongly agree)	68% (2017)	70% (2018)		

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Risk Assessment

Risk Element	Risk Description	Likelihood	Impact	Risk Score (with current mitigations)	Current Mitigations	Potential Future Mitigations
Project Management	Project is delayed or over budget due to land acquisition delays	3 - Possible	3 - Major	9 - Medium	Follow Project Management Reference Guide practices, including early discussions with property owners, exploring design alternatives, and/or seeking approval to commence expropriation process while continuing negotiations.	Develop proactive action plans to mitigate impact to project schedule and budget.
Financial	Delays result in program completion to extend past the timeline set for federal and provincial funding	2 - Unlikely	4 - Severe	8 - Medium	Acquisition process starting early in the overall freeway conversion program and delays can be addressed with revised project schedule	Develop proactive action plans to mitigate impact to project schedule and budget.
Financial	Property values increase	3 - Possible	2 - Moderate	6 - Low	Opportunity purchases of properties as they become available; early negotiation with land owners; work with owners to mitigate impacts to reduce cost where possible.	Proactive acquisition of required properties.
Environmental	Increased costs or delays to project due to unexpected contamination	2 - Unlikely	2 - Moderate	4 - Low	Review of available environmental information prior to acquisition; undertake additional environmental testing during acquisition process if required.	Develop plan to manage impact to schedule or budget if contamination is found.

Approval of Partial Expropriation - 50 Street CP Rail Grade Separation

Legal	If a certificate of approval of expropriation is not registered within the required timeline, the proposed expropriation is deemed abandoned.	2- Unlikely	3- Major	6- Low	Recommendation that City Council approve the proposed expropriation of the identified utility right of ways.	Complete the steps required under the <i>Expropriation</i> <i>Act</i> to finalize the expropriation, including registering a certificate of approval of expropriation.
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Attachments

- 1. Map and legal description of the Property, including registered and non-registered interests
- 2. Affidavit of Service & Publication (exhibits excluded)

Others Reviewing this Report

- C. Hodgson, Acting Deputy City Manager, Financial and Corporate Services
- O. Zakoc, Acting Chief Financial Officer, Financial and Corporate Services
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services

Map and legal description of the Property, including registered and non-registered interests

Approval is sought, pursuant to the provisions of the *Expropriation Act*, to expropriate all land, rights, titles and interests, expressed or implied, of the "owners" (as defined in the *Expropriation Act*);

- 1) existing now; and
- 2) as may become known to the expropriating authority,

of the following:

Municipal Address	Approval to Commence Expropriation Report Date, Number and Property Number
8170 - 50 Street NW Edmonton, AB	August 23, 2020 - CR_8345, Property I

Attachment #1



Area Required:	Approximately 0.403 hectares, more or less
Municipal Address:	8170 - 50th Street, Edmonton, AB
Legal Description:	PLAN 752 1677
	LOT E
	CONTAINING 5.29 HECTARES (13.08 ACRES) MORE OR LESS
	IN TWO PARTS
	EXCEPTING THEREOUT ALL MINES AND MINERALS
Registered Owners:	480955 ALBERTA LTD.
Estate:	Fee Simple
Certificate of Title No:	042 146 341

Improvements within Area Required: Landscaping, 2 Pylon signs, paved parking & welcome sign

Registered Interests on Title:

Registration Number	Registration Type
7833ht	Utility Right Of Way Atco Gas And Pipelines Ltd.
782 113 317	Easement Atco Pipelines
072 146 730	Caveat Re: Utility Right Of Way Amending Agreement Atco Gas And Pipelines Ltd.
102 118 831	Caveat Re: Lease Interest Thermo Design Engineering Ltd.

Unregistered potential owners in Property known at this time: Nil

Affidavit of Service & Publication

Affidavit of Service of Vern A. Wintonyk Sworn this <u>5th</u> day of <u>August</u>, 2021

THE EXPROPRIATION ACT

R.S.A. 2000, Chapter E-13, as amended

IN THE MATTER OF the expropriation of approximately 0.403 hectares (more or less) of the following Land located at 8170 - 50 Street NW, Edmonton, Alberta and legally described as:

PLAN 7521677 LOT (E) CONTAINING 5.29 HECTARES (13.08 ACRES) MORE OR LESS IN TWO PARTS EXCEPTING THEREOUT ALL MINES AND MINERALS (the "Land")

AFFIDAVIT OF SERVICE

I, Vern A. Wintonyk, Paralegal, in the Legal Services Branch of the Office of the City Manager, of the City of Edmonton, in the Province of Alberta, MAKE OATH AND SAY THAT:

- Attached to this Affidavit as Exhibit "A" is a copy of the Certificate of Title 042 146 341 respecting the Land legally described above.
- 2. On the 21st day of June, 2021, I did serve 480955 Alberta Ltd., as registered owner of the fee simple estate on Certificate of Title 042 146 341, with a copy of the Notice of Intention to Expropriate attached to this Affidavit as Exhibit "B", by sending same by electronic mail to Redected addressed to the attention of Donald P. Mallon, Prowse Chowne LLP, solicitors and counsel for 480955 Alberta Ltd.
- 3. On the 23rd day of June, 2021, I caused to be served a copy of the Notice of Intention to Expropriate attached to this Affidavit as Exhibit "B", by sending same by registered mail to the following parties having instruments registered on Certificate of Title 042 146 341, at the addresses listed below:

ATCO Gas and Pipelines Ltd. c/o Registered Office 4th Floor, West Building 5302 Forand Street SW Calgary, AB T3E 8B4 ATCO Gas and Pipelines Ltd. 10035 - 105 Street Edmonton, AB T5J 2V6

Thermo Design Engineering Ltd. c/o Registered Office 3500, 10180 - 101 Street NW Edmonton, AB T5J 3S4

Page 1 of 3

Attached to this Affidavit as Exhibit "C" are the receipts from the Post Office for such registered mail and attached to this Affidavit as Exhibit "D" are the Canada Post Delivery Confirmation Certificates confirming delivery of the registered mail item upon the party or a person receiving it on behalf of the party.

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SWORN BEFORE ME at the City of Edmonton, in the Province of Alberta, this <u>5th</u> day of <u>August</u>, 2021.

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A Commissioner for Oaths in and for Alberta

Darlene Rose Cote A Commissioner for Oathe in and for the Province of Alberta Commission Expires: July 20, 20,24

VERN A. WINTONYK

Affidavit of Publication of Vern A. Wintonyk Sworn this <u>5th</u> day of <u>August</u>, 2021

THE EXPROPRIATION ACT R.S.A. 2000, Chapter E-13, as amended

IN THE MATTER OF the expropriation of approximately 0.403 hectares (more or less) of the following Land located at 8170 - 50 Street NW, Edmonton, Alberta and legally described as:

PLAN 7521677 LOT (E) CONTAINING 5.29 HECTARES (13.08 ACRES) MORE OR LESS IN TWO PARTS EXCEPTING THEREOUT ALL MINES AND MINERALS (the "Land")

AFFIDAVIT OF PUBLICATION

I, Vern A. Wintonyk, Paralegal, in the Legal Services Branch of the Office of the City Manager, of the City of Edmonton, in the Province of Alberta, MAKE OATH AND SAY THAT:

- On June 3, 2021, the Legal Services Branch requested the Integrated Marketing Communications Branch of the Communications and Engagement Department of The City of Edmonton to publish the Notice of Intention to Expropriate in the Edmonton Journal on June 17th and June 28th, 2021.
- Attached to this Affidavit as Exhibit "A" are the tear sheets from the Edmonton Journal for the June 17th and June 28th, 2021, issues confirming publication on those dates.

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SWORN BEFORE ME at the City of Edmonton, in the Province of Alberta, this <u>5th</u> day of <u>August</u>, 2021.

Dailene Cote

A Commissioner for Oaths in and for Alberta)

Darlene Rose Cote A Commissioner for Oaths in and for the Province of Alberta Commission Expires: July 20, 20, 24

VERN A. WINTONYK

Page 3 of 3

Report: OCM00749

Council Policy C628A, Honoraria for City Agencies

Procedures

Recommendation

- 1. That revised Council Policy C628A, Honoraria for City Agencies, as set out in Attachment 1 of the August 30, 2021, Office of the City Clerk report OCC00758, be approved.
- 2. That the Procedure for Council Policy C628A, Honoraria for City Agencies, as set out in Attachment 2 of the August 30, 2021, Office of the City Clerk report OCC00758, be approved.

Executive Summary

On July 5, 2021, City Council passed Council Policy C628, Remuneration and Expenses for City Agencies. This report provides the Procedure to accompany the Policy. The Procedure includes direction on how members appointed to City Agencies may be compensated for attendance at meetings and out-of-pocket expenses.

Report

On July 5, 2021, City Council passed Council Policy C628, Remuneration and Expenses for City Agencies. The Policy provides for honoraria for Council-appointed members of all advisory committees, ad hoc committees/task forces, and the following decision-making bodies:

- Edmonton Combative Sports Commission
- Edmonton Salutes
- Naming Committee

There are currently 150 members who may receive an honorarium as a result of the implementation of this policy. Members may opt out of receiving honoraria for any reason.

Honoraria

The rates proposed in the Procedure for advisory members of advisory committees and decision-making bodies are based on honoraria paid to the Edmonton Design Committee (EDC) members, the only City Agency within the scope of the Policy whose members currently receive honoraria. EDC members are paid on a per meeting basis. The amount that can be claimed depends on the length of the meeting, with one rate for meetings of up to five hours and another for meetings over five hours. Members are not compensated for work completed outside of meetings, nor are they compensated for attendance at subcommittee meetings. EDC members are compensated as follows:

Position	Per meeting up to 5 Hours	Per meeting over 5 Hours
Members and Chair	\$100	\$200

Administration is recommending that, in recognition of the additional duties taken on by the chairs of committees, chairs be compensated at a higher rate than members. This is consistent with research into other boards' remuneration practices. The proposed rates for members and chairs are as follows:

Position	Per meeting up to 5 Hours	Per meeting over 5 Hours
Member	\$100	\$200
Chair	\$125	\$250

For clarity, City Council approves the mandates and membership (number of members and other criteria) through the bylaws that create each City Agency. The ability and authority to create sub-committees is delegated to the City Agency. At this time it is recommended that honoraria be applied to City Agency meetings only and that at the end of the first year of implementation, a review be completed and policy recommendation may come forward regarding honoraria paid for sub-committees as well.

Ad hoc committee/task force members have historically been paid a set amount to complete a limited body of work within a short timeline. The proposed Procedure continues this practice by providing a one-time payment to members upon completion of the committees' final report to City Council.

Other honoraria models considered are provided in Attachment 3.

Expenses

Members of City Agencies will continue to be reimbursed for receipted out-of-pocket expenses, including parking, bus fare, taxis, and vehicle-for-hire fares, but the range of

expenses has been increased in response to GBA+ principles and member feedback. Reimbursement for childcare expenses will now be available to all in-scope members, as well as elder care and care of dependents with special needs.

Budget and Financial Implications

The annual financial impact of current in-scope City Agency members receiving a per-meeting honorarium will be between \$200,000 to \$350,000. This is based on an average of 13 members per Committee and an estimate of 132 meetings per year. Hourly rates used were \$125 for the Chair and \$100 for members for meetings up to 5 hours, and \$250 for the Chair and \$200 for members for meetings over 5 hours.

Funding for this does not currently exist within the operating budget. If the revised policy is approved, a funded service package would need to be brought back for City Council's consideration during the Fall 2021 budget deliberations, requesting up to \$350,000 in ongoing funds, effective January 1, 2022, to be funded through an increase in tax-levy.

Policy Changes

The following proposed changes have been incorporated into the revised Policy C628A presented in Attachment 3:

- The term "Remuneration" is replaced with "Honoraria" in the policy's title, as honoraria more accurately reflects the type of compensation provided under the Policy
- Clarification that the Policy applies only to Council-appointed members who are not Members of Council
- An effective date of January 1, 2022, has been added to allow Council approval on the on-going financial impact as well as time for Administration to implement this new program.

Public Engagement

Engagement was conducted with current members of affected City agencies via survey, and results of this engagement were included in the June 28, 2021, Office of the City Clerk report OCC00213rev.

Corporate Outcomes and Performance Management

Corporate Outcome(s): Edmontonians are connected to the city in which they live, work and play.

Outcome(s)	Measure(s)	Result(s)	Target(s)
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Edmontonians are connected to the city in which they live, work and play.	Percentage of City Agency members who feel their work is valued as demonstrated by honoraria.	Results will be available once the Procedure is approved and implemented.	City Agency members receive appropriate honoraria for their time and expenses per the Procedure for Council Policy C628A.
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Attachments

- 1. Revised Council Policy C628A
- 2. Procedure for Council Policy C628A
- 3. Models for Providing Honoraria

Others Reviewing this Report

- K. Matheson, Acting Deputy City Manager, Financial and Corporate Services
- O. Zakoc, Acting Chief Financial Officer
- G. Cebryk, Deputy City Manager, City Operations
- R. Smyth, Deputy City Manager, Citizen Services
- S. McCabe, Deputy City Manager, Urban Planning and Economy
- C. Owen, Deputy City Manager, Communications and Engagement
- K. Fallis-Howell, Acting City Solicitor



Program Impacted	Civic Services Edmontonians contribute to civic society and are engaged in promoting the quality of the community.
Number	C628A
Date of Approval	August 30, 2021
Approval History	July 5, 2021 (C628 Remuneration and Expenses for City Agencies)
Next Scheduled Review	2024

Statement

City agencies are an important mechanism used by City Council to understand the diverse perspectives and lived experience of citizens. A City agency is a Council Committee established by City Council under the authority of the *Municipal Government Act*, or as required by other statutes, except for a Standing Committee. City agencies provide advice to City Council and/or make decisions on matters within their mandates.

Guiding Principles

The purpose of this policy is to state City Council's commitment to City agencies in accordance with the following guiding principles:

- **City agencies are reflective of our diverse population:** City Council values diversity of perspectives and lived experience and appoints individuals of varied backgrounds and circumstances to City agencies.
- Many perspectives are embraced and decisions are inclusive: City agencies include diverse voices that reflect the perspectives of all Edmontonians. This diversity of voices informs Council decisions.
- Members of City agencies feel valued for the work they do: City agencies conduct important work on behalf of City Council and it is important that members feel respected and appreciated, and that their work has a positive impact.

- **Equitable Access to Opportunities:** Barriers to participation are identified and addressed. Edmontonians are aware of the opportunities to participate on City agencies and feel enabled to do so.
- **Members' time is valued and fairly compensated:** Time given by members of City agencies is valuable, which is demonstrated by appropriate and fair compensation.

Application

Council Policy C628A comes into effect on January 1, 2022.

This policy applies to Council-appointed members, who are not Members of Council, of all advisory committees, ad hoc committees and task forces, and the following decision-making bodies:

- Edmonton Combative Sports Commission
- Edmonton Salutes
- Naming Committee

Procedure Honoraria and Expenses for City Agencies

This procedure falls under Council Policy C628A, Honoraria and Expenses for City Agencies.

Program Impacted	Civic Services Edmontonians contribute to civic society and are engaged in promoting the quality of the community.
Approved By	City Council
Date of Approval	
Approval History	n/a
Next Scheduled Review	August 30, 2024

Definitions

Member: means someone who has been appointed by City Council to serve on a Council committee, who is not a Member of Council.

Administrative liaison: means a City of Edmonton employee who has been assigned the responsibility of working with a City agency to help ensure it is able to meet its mandate.

Application

Council Policy C628A comes into effect on January 1, 2022.

Council Policy C628A applies to Council-appointed members, who are not Members of Council, of all advisory committees, ad hoc committees and task forces, and the following decision-making bodies:

- Edmonton Combative Sports Commission
- Edmonton Salutes
- Naming Committee

Honoraria

Council determines the amount of honoraria (as shown in Schedule A) for the members of City agencies who provide them with advice or to which Council has delegated the responsibility of making decisions on Council's behalf.

Only members who are appointed by Council, but are not Members of City Council, will receive an honorarium.

Chairs will receive an honorarium of a higher amount than other members.

Honoraria is paid for attendance at City agency meetings only. Honoraria is not provided for attendance at subcommittees meetings, nor can it be claimed for other City agency-related work performed outside of meetings.

Chairs and members must attend a meeting (virtually or in person), as demonstrated by the City agency's minutes, to receive an honorarium for that meeting.

Members are responsible for:

- submitting the prescribed form and following the correct procedure to request payment for a specific meeting
- ensuring the minutes correctly record their attendance at a meeting
- making a request in writing to the Administrative Liaison to opt out of receiving honoraria for any reason

Expenses

Members appointed to City agencies may be compensated for out-of-pocket receipted expenses, such as parking, bus fare, and taxis. Mileage is not paid for attendance at meetings.

Attendance by members of City agencies at conferences, training, or meetings that require travel outside of the city of Edmonton, will be compensated in a manner consistent with the City of Edmonton travel reimbursement policies applicable to City employees.

Members who require child care in order to attend a regular meeting, either virtually or in person, may be reimbursed for child care expenses for the duration of the meeting (as shown by the meeting minutes), with submission of a receipt for the reasonable cost of care. One hour of travel to the meeting and one hour to return home may also be reimbursed if the member attended the meeting in person. Members who require elder care and/or special needs care for dependents while they attend meetings will be reimbursed with submission of a receipt for the reasonable cost of care. One hour of travel to the meeting and one hour to return home may also be reimbursed if the member attended the meeting in person.

Schedule A: Honoraria

	Advisory C Decision-	committees and Making Bodies	Ad Hoc Committees and Task Forces
Position	Meeting up to and including 5 hours	Meeting over 5 hours	Flat Rate Honorarium
Member	\$100	\$200	\$2,000
Chair	\$125	\$250	\$2,500

Models for Providing Honoraria

The following are honoraria models considered but not recommended by Administration.

Model 1

Position	Per Meeting
Member	\$40
Chair	\$60

Model 1 is based on the honorarium provided to members of an out-of-scope City agency. Note there is no distinction for the length of a meeting.

Model 2

Position	Per meeting up to 5 Hours	Per meeting over 5 Hours
Members and Chair	\$100	\$200

Model 2 is based on the amounts provided to all members, including the chair, of the sole advisory committee whose members receive honoraria.

Model 3

Position	Per meeting up to 3 hours	Per meeting longer than 3 hours
Member	\$150	\$300
Chair	\$200	\$400

This model is based on the honoraria provided to the chair and members of a recent task force.



EXECUTIVE COMMITTEE REPORT

Approval of Expropriation Yellowhead Trail Freeway Conversion - Consideration of Inquiry Officer's Report for 14950 Yellowhead Trail

Recommendation of the Committee

- 1. Having considered the report of the inquiry officer in Attachment 2 of the August 23, 2021, Office of the City Manager report OCM00728, that the expropriation of the land shown and legally described in Attachment 1 of the August 23, 2021, Office of the City Manager report OCM00728 (the "Subject Land"), including all interests therein, be approved, for the reasons contained in the August 23, 2021, Office of the City Manager report OCM00728, including Attachment 4.
- 2. That all steps under the *Expropriation Act*, RSA 2000, c E-13 (the "*Act*"), be taken to complete the expropriations, including but not limited to serving the decision of City Council, registering a certificate of approval, and service of the respective notices of expropriation, notices of proposed payment, and notices of possession.
- 3. That Attachment 7 of the August 23, 2021, Office of the City Manager report OCM00728, remain private pursuant to sections 24 (advice from officials), 25 (disclosure harmful to economic and other interests of a public body), and 27 (privileged information) of the *Freedom of Information and Protection of Privacy Act,* RSA 2000, c F-25.
- 4. That the discussion of the August 23, 2021, Office of the City Manager report OCM00728, remain private pursuant to sections 24 (advice from officials), 25 (disclosure harmful to economic and other interests of a public body), and 27 (privileged information) of the *Freedom of Information and Protection of Privacy Act*, RSA 2000, c F-25.

History

- At the August 23, 2021, Executive Committee meeting, the August 23, 2021, Office of the City Manager report OCM00728 was considered.
- The Committee heard from P. Barrette; A. Somji, Yellowhead Motor Inn Ltd o/a Ramada Edmonton Yellowhead; J. MacDonald; S. Finlay and E. Strohschein, DS Classic Grill Ltd.

Attachment

August 23, 2021, Office of the City Manager report OCM00728

Approval of Expropriation - Yellowhead Trail Freeway Conversion

Consideration of Inquiry Officer's Report for 14950 Yellowhead Trail

Recommendation

That Executive Committee recommend to City Council:

- Having considered the report of the inquiry officer in Attachment 2 of the August 23, 2021, Office of the City Manager report OCM00728, that the expropriation of the land shown and legally described in Attachment 1 of the August 23, 2021, Office of the City Manager report OCM00728 (the "Subject Land"), including all interests therein, be approved, for the reasons contained in the August 23, 2021, Office of the City Manager report OCM00728, including Attachment 4.
- 2. That all steps under the *Expropriation Act*, RSA 2000, c E-13 (the "*Act*"), be taken to complete the expropriations, including but not limited to serving the decision of City Council, registering a certificate of approval, and service of the respective notices of expropriation, notices of proposed payment, and notices of possession.
- 3. That Attachment 7 of the August 23, 2021, Office of the City Manager report OCM00728, remain private pursuant to sections 24 (advice from officials), 25 (disclosure harmful to economic and other interests of a public body), and 27 (privileged information) of the *Freedom of Information and Protection of Privacy Act*, RSA 2000, c F-25.

Executive Summary

The *Act* allows an owner to object to a proposed expropriation. If an owner objects, an inquiry hearing is held and the inquiry officer issues a written report. City Council must consider the report of the inquiry officer and approve the expropriation, disapprove the expropriation, or approve the expropriation with any modifications that it considers appropriate. The report of the inquiry officer is not binding on City Council. Administration recommends that upon consideration of the inquiry officer's report, City Council approve the expropriation of the Subject Land for the reasons contained in Attachment 4.

Personal information has been redacted from Attachment 1 in accordance with section 17(1) of the *Freedom of Information and Protection of Privacy Act*.

Report Background

The Expropriation

On November 16, 2020, City Council approved the commencement of expropriation to acquire land or interests from a series of properties required to support construction of the Yellowhead Trail Freeway Conversion Program (the "Project"), including **a portion** of land (the "Subject Land") from the property located at 14950 Yellowhead Trail, Edmonton, Alberta (the "Property"). Following City Council's direction:

- A notice of intention to expropriate was registered on the Property, served on the registered owner and interested parties, and advertised in the Edmonton Journal.
- Yellowhead Motor Inn Ltd. ("Ramada Inn"), the owner of the Property, PetroJaffer116 Ltd. ("PetroJaffer116"), a related subtenant, and two tenants of the Property, Husky Oil Operations Limited ("Husky") and DS Classic Grill Ltd. ("DS Classic") (collectively, the "Objectors") each objected to the proposed expropriation.
- Ramada Inn and PetroJaffer116 objected on the basis that an expropriation of the entire Property would better or equally serve the City's objectives, that fairness warranted an expropriation of the entire Property, and that there would be a disproportionate impact from a partial expropriation rather than a full expropriation.
- The two tenants, Husky and DS Classic, objected on the basis that a partial rather than full expropriation was unfair, there was a lack of negotiations, and the impact of the proposed expropriation was disproportionately high on them.
- The City notified the Province of the objections and the Province appointed an inquiry officer to conduct a hearing to determine whether the proposed partial expropriation is fair, sound, and reasonably necessary.
- A hearing was held on June 16-18, 21-23, and 28-29, 2021.
- The inquiry officer issued an interim decision on June 21, 2021 permitting the Objectors to lead expert evidence on potential financial damages (the "Interim Decision").
- The inquiry officer issued a written report on July 5, 2021, which was received by the City on July 6, 2021 (the "Inquiry Officer's Report").
- City Council must consider the Inquiry Officer's Report. The Inquiry Officer's Report, along with the Interim Decision, are included as Attachments 2 and 3, respectively.

Inquiry Officer's Report

The *Act* requires the inquiry officer to determine whether the intended expropriation is "fair, sound and reasonably necessary in the achievement of the objectives of the expropriating authority" (the "Statutory Test"). The inquiry officer, in the Inquiry Officer's

Page 2 of 7

Report: OCM00728

Report, found that the intended expropriation of the Subject Land is neither fair nor sound, but is reasonably necessary to achieve the City's objectives of constructing the Project.

At the inquiry hearing the inquiry officer received documentary evidence, heard witness testimony, including from expert witnesses, and heard oral arguments on behalf of the City and the Objectors.

In the Interim Decision of the Inquiry Officer, Attachment 3, the inquiry officer:

- allowed expert evidence related to estimated business losses anticipated to be sustained by the Objectors, and rejected the City's argument that the material be excluded because it relates to compensation which is outside of the purpose and jurisdiction of the inquiry; and
- found that the size of the parcel of land to be taken, the purpose and objective
 of an expropriation, and a comparison of a partial versus a full parcel
 expropriation in achieving the City's objectives could all be considered at the
 inquiry.

The main points in the Inquiry Officer's Report, Attachment 2, are:

- the impacts of the Project, as well as incidental infrastructure, were both relevant to the determination of whether the taking met the Statutory Test;
- the expert evidence on potential business losses was relevant to the inquiry officer's opinion of whether the intended expropriation was fair, sound and reasonably necessary;
- the intended expropriation is reasonably necessary to achieve the City's objectives, which include the construction of the Project;
- in substance the intended expropriation is not fair due to its potential impact upon the businesses of the objecting parties;
- that while the expropriation was not procedurally unfair, all governmental activity should aim to retain the confidence of its citizens and their respect for its fairness, and the inquiry officer invited City Council to be mindful of this when considering the recommendations in the report;
- that the intended expropriation is not sound due to its extended impact upon the businesses of the objecting parties, when compared to that of a full expropriation, in order to achieve the City's objectives;
- there appeared to be no "compelling or substantive reason" to explain the change from an intended full parcel taking to that of a partial taking (as the evidence showed that the City at one time considered expropriating the full parcel rather than just a portion of land).

The inquiry officer ordered that the reasonable costs of the inquiry hearing be paid by the City.

The following recommendations were made in the Inquiry Officer's Report:

- 1. That City Council approve the taking of the Subject Land, which is neither fair nor sound, but reasonably necessary, as well as in the public interest, in order to facilitate construction of the Project without delay; and
- 2. That a subsequent, or companion, process be started to expropriate or acquire the entire Property.

Section 15 Municipal Government Act Application

In addition to objecting to the partial expropriation, Ramada Inn also filed an application with the Land and Property Rights Tribunal (formerly the Land Compensation Board) (the "Tribunal") seeking an Order that the City be required to expropriate the whole of the Property pursuant to section 15 of the *Municipal Government Act*, RSA 2000, c M-26 (the "Section 15 MGA application"). The Tribunal may direct the City of Edmonton to expropriate the whole of the Property if, in the opinion of the Tribunal, the expropriation of part of the Property is "unfair" to the owner of the Property.

The Section 15 MGA application is scheduled for November 1-12, 2021.

Recommendations and Reasons

Administration recommends that upon considering the Inquiry Officer's Report, Attachment 2, City Council approve the expropriation of the Subject Land for the proposed reasons contained in Attachment 4.

Administration recommends that City Council take no steps in respect of a full expropriation for the entire Property in view of the upcoming Section 15 MGA application hearing.

Legal Implications

- 1. An owner may object to an expropriation within 21 days of being served with a notice of intention to expropriate.
- 2. If an objection is served within the objection period, the Province appoints an inquiry officer to conduct a hearing into whether the expropriation is fair, sound and reasonably necessary.
- 3. City Council must consider the Inquiry Officer's Report and shall approve or disapprove the proposed expropriation or approve the proposed expropriation with any modifications that it considers proper, but no approval shall be modified so as to affect the land of a person who was not a party to the inquiry.
- 4. The Inquiry Officer's Report must be considered but is not binding on City Council.

- 5. City Council must provide written reasons for its decision and serve its decision and written reasons on the parties to the inquiry by September 4, 2021.
- 6. Attachment 4 contains proposed reasons to support City Council's decision, should it decide to approve the expropriation of the Subject Land. City Council may amend or modify the proposed reasons as it sees fit.
- 7. The certificate of approval must be registered within 180 days from the date that the notice of intention to expropriate was registered.
- 8. If City Council approves the expropriation, a certificate of approval will be registered and the City will become the owner of the Subject Land. If a certificate of approval is not registered, or not registered within the timeline in the *Act*, including applicable extensions, the proposed expropriation is deemed abandoned.
- 9. If an expropriation is abandoned, the City is responsible to pay any actual loss sustained by the owner and the reasonable legal, appraisal, and other costs incurred by the owner up to the abandonment.
- 10. After an interest is expropriated, the City must serve the owner with a notice of possession stating the date on which the City is entitled to possession.
- 11. Before the City gets possession of the Subject Land, the owner will receive compensation for market value in accordance with the *Act*.
- 12. The Tribunal will determine compensation if the parties cannot agree.
- 13. The reasonable legal, appraisal and other costs actually incurred by the owner in order to determine compensation are paid by the City. The reasonable costs of the inquiry hearing are also paid by the City.
- 14. Additional legal implications are included in the private Attachment 7.

Budget/Financial Implications

Funding for the acquisition of lands required for the Yellowhead Trail Freeway Conversion Program is provided from Capital Profile CM-99-0060. Expropriation costs currently identified are within the approved budget for the Yellowhead Trail Freeway Conversion Program. Sufficient funding exists within this budget for the land considered in this report.

Corporate Outcome(s): Goods and services move efficiently.						
Outcome(s)Measure(s)Result(s)Target(s)						
Goods and services move efficiently	Business Satisfaction: Goods and Services Transportation (% of survey respondents who are satisfied/very satisfied)	50.5% (2017)	53.0% (2018)			

Corporate Outcomes and Performance Management

Travel Time and Reliability for Goods and Services Movement (time in minutes: seconds to drive	10:09 (2017) - 50% of the time	12:30 (2018) - 50% of the time
10 km route)	13:35 (2017) - 85% of the time	16:00 (2018) - 85% of the time

Corporate Outcome(s): Edmonton is a safe city.

Outcome(s) Measure(s)		Result(s)	Target(s)
Traffic disruptions at intersections are minimized through collision reduction Rate of inner-ring road (75 S Whitemud Drive, 170 St, Yellowhead Trail) intersection collisions per million vehicles		1.01 (2017)	0.99 (2018)
	Rate of inner-ring road (75 St, Whitemud Drive, 170 St, Yellowhead Trail) midblock collisions per million vehicles-km of travel		0.99 (2018)

Corporate Outcome(s): The City of Edmonton has sustainable and accessible infrastructure.

Outcome(s)	Measure(s)	Result(s)	Target(s)
The City of Edmonton has sustainable and accessible infrastructure	Edmontonians' Assessment: Access to Amenities and Services that Improve Quality of Life (% of survey respondents who agree/strongly agree)	68% (2017)	70% (2018)

Risk Assessment

Risk Element	Risk Description	Likelihood	Impact	Risk Score (with current mitigations)	Current Mitigations	Potential Future Mitigations
Project Management	Project goes over budget, has poor quality, or is delayed.	2 - Unlikely	2 - Moderate	4 - Low	Recommendation that City Council approve the proposed expropriation of the identified property and interests.	Complete the steps required under the <i>Expropriation Act</i> to finalize the expropriation, including registering a certificate of approval of expropriation.

Approval of Expropriation - Yellowhead Freeway Conversion Program

Legal	If a certificate of approval of expropriation is not registered within the required timeline, the proposed expropriation is presumed to be	2 - Unlikely	3 - Major	6 - Low	Recommendation that City Council approve the proposed expropriation of the identified property and interests.	Complete the steps required under the <i>Expropriation Act</i> to finalize the expropriation, including registering a certificate of approval of expropriation.
	abandoned.					

Attachments

- 1. Map and Legal Description of the Subject Land
- 2. Report of the Inquiry Officer, Sharon Roberts, July 5, 2021
- 3. Interim Decision of the Inquiry Officer, Sharon Roberts, June 21, 2021
- 4. Rationale for Expropriation of the Subject Land
- 5. Copy of Section 18 of the *Expropriation Act*
- 6. Copy of Section 15 of the *Municipal Government Act*
- 7. Additional Legal Implications and Recommendations In Private [Privileged and Confidential]

Others Reviewing this Report

- C. Hodgson, Acting Deputy City Manager, Financial and Corporate Services
- O. Zakoc, Acting Chief Financial Officer, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services
- S. McCabe, Deputy City Manager, Urban Planning and Economy
Map and Legal Description of the Subject Land

Property	Municipal	Approval to Commence Expropriation Report
Number	Address	Date, Number and Property Number
1 (YHT-016)	14950 Yellowhead Trail NW	November 16, 2020 - IIS00039, Property 3

Attachment #1

Approval is sought, pursuant to the provisions of the *Expropriation Act*, to expropriate all land, rights, titles and interests, expressed or implied, of the "owners" (as defined in the *Expropriation Act*);

1) existing now; and

2) as may become known to the expropriating authority,

of the land requirements of the Subject Land legally described and shown in this attachment:

PROPERTY 1:

Municipal Address:	14950 Yellowhead Trail NW, Edmonton, Alberta
Legal Description:	DESCRIPTIVE PLAN 1222066 BLOCK 3 LOT 1 EXCEPTING THEREOUT: ALL MINES AND MINERALS AREA: 2.78 HECTARES (6.87 ACRES) MORE OR LESS
Registered Owner:	YELLOWHEAD MOTOR INN LTD.
Estate:	Fee Simple
Certificate of Title No.:	122 157 606 (North Alberta Land Registration District)
Land Area Required:	Approximately 0.050 hectares, more or less
Known improvements within area required:	Landscaping, Parking Lot improvements, Signage

Registered Interests:

Registration No.	Name	Registration Type
982 055 672	Fido Solutions Inc.	Caveat Re: Lease, Etc.
052 108 731	Her Majesty the Queen in Right of Canada	Zoning Regulations
092 115 234	Husky Oil Operations Ltd.	Caveat Re: Lease
102 147 636	Liquor Stores GP Inc.	Caveat Re: Lease Interest
132 002 884	Coinamatic Canada Inc.	Caveat Re: Lease Interest
192 051 903	Bank of Montreal	Mortgage
192 051 904	Bank of Montreal	Caveat Re: Assignment of Rents
		and Leases
192 051 905	Bank of Montreal	Caveat Re: Lease Interest
192 135 867	Bank of Montreal	Postponement
192 138 282	Bank of Montreal	Postponement
192 163 041	Bank of Montreal	Postponement
192 202 490	Bank of Montreal	Postponement
212 104 265	DS Classic Grill Ltd.	Caveat Re: Lease Interest

Unregistered Interest:

Name	Interest Type
PetroJaffer116 Ltd.	Tenant

1 3 -----3 149 STREET 151 STREET 1 AREA REQUIRED: 0.050 Ha R883.81 L=35.71 27.86 23.74 25.81 YELLOWHEAD TRAIL AREAS SHOWN ARE DERIVED FROM AN UNADJUSTED BASE PLAN. ALL DIMENSIONS AND AREAS ARE APPROXIMATE AND MUST BE VERIFIED BY LEGAL SURVEY. REQUIRED YELLOWHEAD TRAIL PORTFOLIO 14950 YELLOWHEAD TRAIL NW Date: 2021-01-20 Drawn: KB Reviewed: JM LOT 1, BLOCK 3, PLAN 1222066

Report of the Inquiry Officer, Sharon Roberts, July 5, 2021

IN THE MATTER OF the Expropriation Act, being Chapter E-13 of the Revised Statutes of Alberta, 2000, as amended (the "Expropriation Act");

AND IN THE MATTER OF the intended expropriation by the City of Edmonton of certain interests of lands registered under Certificate of Title Number 122 157 606, legally described as:

DESCRIPTIVE PLAN 1222066 BLOCK3 LOT 1 EXCEPT THEREOUT ALL MINES AND MINERALS AREA: 2.78 HECTARES (6.78 ACRES) MORE OR LESS,

And municipally located at 14950 Yellowhead Trail NW, Edmonton, Alberta (the "YMI Property");

AND IN THE MATTER OF the Notice of Objection to the said intended expropriation filed by Yellowhead Motor Inn by its solicitor Paul Barrette of Prowse Chowne LLP;

AND IN THE MATTER OF the Notice of Objection to the said intended expropriation filed by Husky Oil Operations Limited by its solicitor Shauna N. Finlay of Reynolds Mirth Richards & Farmer LLP;

AND IN THE MATTER OF the Notice of Objection to the said intended expropriation filed by DS Classic Grill Ltd. by its solicitor Shauna N. Finlay of Reynolds Mirth Richards & Farmer LLP;

AND IN THE MATTER OF the Notice of Objection to the said intended expropriation filed by PetroJaffer 116 Ltd. by its solicitor Paul Barrette of Prowse Chowne LLP; and

AND IN THE MATTER OF an Inquiry in respect thereof pursuant to the provisions of the said Act by Sharon Roberts, as Inquiry Officer appointed to conduct the said Inquiry by the Minister of Justice and Attorney General for the Province of Alberta, as represented by Lorne Merryweather, Q.C, Barrister and Solicitor.

INQUIRY REPORT Inquiry Officer: Sharon Roberts July 5, 2021

REYNOLDS MIRTH RICHARDS & FARMER LLP

Attention: Shauna Finlay and Greg Weber

Solicitors for Husky Oil Operations Limited

Manulife Place

#3200, 10180 101 St NW

Edmonton, AB T5J 3W8

and DS Classic Grill Ltd.

Phone: 780-497-3302

Fax: 780-429-3044

THE CITY OF EDMONTON LEGAL SERVICES BRANCH 9th Floor, Chancery Hall 3 Sir Winston Churchill Square Edmonton, AB T5J 2C3 Attention: Gordon A. Buck and Kyla Schauerte Solicitors for the Expropriating Authority The City of Edmonton Phone: 780-496-7200 Fax: 780-496-7267

PROWSE CHOWNE LLP 1300, 10020 101A Avenue Edmonton, AB T5J 3G2 Attention: Donald P. Mallon, QC and Paul Barrette Solicitors for Yellowhead Motor Inn Ltd. and PetroJaffer 116 Ltd. Phone: 780-439-7171 Fax: 780-439-0475

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I. OVERVIEW AND PROCEDURAL HISTORY

A. Appointment and Initiating Procedure

- I was appointed as noted on the cover page of this Inquiry Report. My role as Inquiry Officer in this matter stems from that appointment and is, in large part, defined by the provisions within section 15 of the Act.
- 2. No concerns or issues were raised with respect to the validity of my appointment, the scheduling or procedure agreed upon by the parties, through their counsel, and myself as Inquiry Officer, for how the Inquiry process was to unfold. I find the Inquiry was property constituted and accept the jurisdiction delegated to me in accordance with the Act.
- The Inquiry pertains to four Notices of Objection tendered in relation to a Notice of Intention to Expropriate signed on behalf of the City of Edmonton (the "COE") on January 25, 2021 and registered against title to the YMI Property as defined on the cover page of this Inquiry Report on April 14, 2021 (the "NOITE").
- The NOITE pertains to, and was registered against title to, the YMI Property. Each of the objecting parties who submitted Notices of Objection have expressed an interest in the YMI Property, or some portion thereof, or operate businesses on the YMI Property.
- 5. The four parties who served Notices of Objection are:
 - Yellowhead Motor Inn Ltd. ("YMI"), being the owner in fee simple of the YMI Property and owner/operator of the Ramada-branded hotel on those lands;
 - PetroJaffer 116 Ltd. ("PetroJaffer"), a related entity to YMI and sublessor to one of the other Objectors;
 - c. Husky Oil Operations Limited ("Husky"), which leased lands from YMI on the YMI Property for the purpose of constructing, operating and maintaining a fuelling station, integrated convenience store and car wash; and
 - d. DS Classic Grill Ltd. ("DS Classic"), a tenant of YMI that owns and operates a restaurant business located within the hotel operating on the YMI Property.
- 6. The COE, being the expropriating authority within the meaning of sections 1(f), 6, 8 and 15¹ of the Act, was represented by Gordon A. Buck and Kyla Schauerte. Donald P. Mallon, Q.C. and Paul Barrette of Prowse Chowne LLP represented the Objectors, YMI and

¹ Other sections of the Act make reference to the expropriating authority. I have limited my reference to those provisions of particular relevance and application in this Inquiry.

PetroJaffer, and Shauna Finlay and Greg Weber of Reynolds Mirth Richards and Farmer LLP were representing the two other Objectors, Husky and DS Classic.

- 7. The Inquiry hearing was held on June 16-18, 21-23, and 28-29 at the Edmonton Tower, located at 10111 104 Street NW in Edmonton, Alberta. Counsel for the expropriating authority and the various objecting parties attended in person with the Inquiry Officer. All witnesses testified by videoconference pursuant to the Chief Medical Officer of Health (Alberta) guidelines and City of Edmonton bylaws related to the COVID-19 pandemic.
- 8. Before my appointment, the COE raised an issue with respect to the standing of one party who filed a Notice of Objection. After an initial discussion about how and when this issue should be addressed, counsel for DS Classic advised that insofar as there was considerable overlap in the evidence among the various objecting parties, the most efficient process was likely to have the standing issue determined in my ultimate Inquiry Report, rather than as a preliminary matter.
- 9. This was the path taken and my decision on whether DS Classic has standing as an objecting party is addressed in this Inquiry Report. For simplicity and no other purpose, and not as a reflection of any predetermination on the objection with respect to standing, I refer collectively to the four objecting parties as the "Objectors" throughout.
 - B. Interim decision
- I made an interim direction with respect to the admission of expert evidence tendered on behalf of the Objectors. The decision was required because the COE objected to my admitting all but two of the Objectors' expert opinion reports (collectively, the "Impugned Objectors' Evidence").
- 11. The COE sought a direction to exclude the Impugned Objectors' Evidence on the basis that all of it was irrelevant to the question I am required to answer, per s. 15 of the Act, namely, "whether the intended taking is fair, sound and reasonably necessary in the achievement of the objectives of the expropriating authority. The COE argued that the Impugned Objectors' Evidence was out of scope, meaning it spoke to issues outside of my jurisdiction, particularly to matters of compensation.
- 12. I heard argument on behalf of the COE and the Objectors. Ultimately, I allowed the Impugned Objectors' Evidence to be tendered without predetermining whether it was, in fact, "out of scope" or addressed only issues outside my jurisdiction. I did so without making any decision with respect to what use may be made of that evidence, and what if any weight it would be given in forming my opinions on the merits of the intended expropriation.
- 13. In hearing from the parties on the interim application, I advised all counsel that they would be afforded further opportunity to advance arguments with respect to the Impugned Objectors' Evidence, including as to the use and weight, if any, that I should

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attribute to it, if I relied on it at all. Each party addressed this question in their submissions.

- 14. No concerns were raised with respect to the initiating procedure undertaken pursuant to the Act. For the purposes of the Inquiry and my preparation of this Inquiry Report and the within recommendation to Council for the COE, I find that the Inquiry was properly constituted and the statutory requirements for my appointment and exercise of jurisdiction were met.
- 15. As is my statutory duty under section 16(1) of the Act, I set out below my summary of the evidence led by counsel for each set of parties, followed by a summary of those parties' arguments. Next, I set out my findings of fact upon consideration of the evidence before me.
- 16. Finally, I provide my opinions on the merits of the various issues raised, as well as on the key question before me. I have determined that question to be whether the intended taking of a small portion of the YMI Property is fair, sound and reasonably necessary in the achievement of the objectives of the expropriating authority?

II. SUMMARY OF EVIDENCE

A. Agreed Statement of Facts

- The parties, through their respective counsel, tendered an Agreed Statement of Facts, which was marked as Exhibit 1 to the Inquiry. Within that document the following facts, among others, were agreed upon.
 - The COE is an "expropriating authority" within the meaning of the Act and Alberta's Municipal Government Act, RSA 2000 c M-26 (the "MGA").
 - b. YMI is the registered fee simple owner of the Lands, defined by the parties as the "Yellowhead Motor Inn Property" ("YMI Property").
 - c. Husky leases a portion of the YMI Property under a lease agreement between Husky and YMI dated April 1, 2006 (the "Husky Premises"), pursuant to which Husky registered a caveat on title to the YMI Property in April 2009.
 - d. PetroJaffer subleases the Husky Premises from Husky under a Marketing Outlet Lease Agreement dated June 19, 2019 (the "PetroJaffer Sublease").
 - e. DS Classic leases a portion of the YMI Property under a lease agreement with YMI dated August 22, 2018 (the "DS Classic Lease"), pursuant to which DS Classic registered a caveat on title to the YMI Property on May 6, 2021.

- f. The COE has issued or adopted by passing Bylaws a number of planning documents, including:
 - Circa September 2009: Transportation Master Plan ("The Way We Move");
 - ii. Circa May 2010: Municipal Development Plan ("The Way We Grow");
 - iii. Circa June 2012: Implementation Plan for the 2009 Transportation Master Plan;
 - iv. Circa 2019: Strategic Plan for 2019-2028 ("ConnectEdmonton"); and
 - v. Circa December 2020: further Municipal Development Plan ("Edmonton City Plan").
- g. COE Council approved capital profile funding for the Yellowhead Trail Freeway Conversion Project on February 21, 2017.
- h. Circa late October 2020, the COE sent "a courtesy notification letter" to YMI and Husky advising of a forthcoming report recommending COE Council approve commencement of expropriation with respect to the YMI Property.
- On November 9, 2020 Executive Committee of Edmonton City Council passed a motion recommending COE Council commence the expropriation process in relation to the YMI Property.
- COE Council accepted the recommendation of its Executive Committee on November 16, 2020 and authorized the commencement of expropriation.
- k. The COE sent further notification letters to YMI in November and early December 2020 and to each of Husky and DS Classic on December 23, 2020.
- On January 18, 2021, Executive Committee to COE Council met and passed a motion recommending COE Council approve a bylaw providing for closure of existing vehicular accesses to various titled parcels, including the YMI Property, as part of the Yellowhead Trail Freeway Conversion Program. On behalf of YMI, Alim Somji attended that meeting and spoke to the proposed bylaw.
- m. COE Council passed the proposed bylaw providing for certain access closures on January 25, 2021. Although the resulting Bylaw 19468 came into force on April 1, 2021, the access closures at the YMI Property have not occurred yet.
- n. The NOITE (signed January 25, 2021) was registered against title to the YMI Property on April 14, 2021 and served on YMI, Husky and PetroJaffer.

o. The parties all agreed that the *purpose* for the intended expropriation is as follows (the "Project"), and the COE described the following as "[t]he work or purpose for which the interest in the [YMI Property] is required":

Without limitation, to facilitate the construction of the Yellowhead Trail Freeway Conversion Program, which may include the widening and upgrading of Yellowhead Trail and nearby roads, intersections, over/underpasses, public utilities, sidewalks, as well as access modifications, road network improvements, interchange construction, construction of public utilities, drainage infrastructure and sidewalks, and any other infrastructure incidental to the construction of the Yellowhead Trail Freeway Conversion Program[.]

- p. The Project is in the public interest.
- B. Evidence of the Expropriating Authority, The City of Edmonton
- 18. The COE called two witnesses in direct, namely one lay witness, Kris Lima, and one originating expert witness, Robert Gibbard of CIMA+. Later the COE called one rebuttal expert witness, Catherine Oberg of Bunt & Associates, to respond to the Objectors' evidence from Marcia Eng of Urban Systems. All three COE witnesses are engineers, and specifically have experience in transportation planning and engineering.
 - 1. Kris Lima
- 19. Mr. Lima is a project engineer employed by the COE part way through the planning and execution of the Yellowhead Freeway Conversion Project. He is the senior project manager on that project and inherited the portfolio, by and large, from Robert Gibbard, the City's other witness in direct.
 - C. Lay evidence of Yellowhead Motor Inn Ltd. and PetroJaffer 116 Ltd.
- YMI and Petrojaffer called one lay witness, Alim Somji. In addition, they called expert evidence from Ryan Archer of Colliers, Graham Quast of MNP, and Marcia Eng of Urban Systems.
 - 1. Alim Somji
- 21. Mr. Somji testified about YMI's client base, describing them as largely blue collar. He said the majority are truckers, followed by construction workers. He said the YMI Property has truck parking (many others in the area do not) and offers truckers corporate rates. He described having a loyal customer base, and many "walk ins" as well as "repeat customers."
- Although YMI did not track metrics on calls to the front desk to book a room, he suggested 50% of people who called for a room did so the same day, before arriving. Mr.

Somji estimated that between 15% and 25% were same-day calls, and the balance were reservations made two to five days prior to arrival.

- 23. With respect to the other businesses within the hotel, Mr. Somji said no surveys were done or statistics kept to determine the proportions of guests that were at the hotel, relative to walk in customers.
- 24. Mr. Somji testified that the hotel would experience a 30% to 60% loss in business, which estimate he based on discussions with counsel, and looked to the Urban Systems reports to draw conclusions about impact of the intended taking on YMI and PetroJaffer.
 - D. Lay evidence of Husky Oil Operations Limited
 - 1. Jessica MacDonald
- 25. Jessica MacDonald testified for Husky. She is the Manager of Husky's Real Estate Team in Retail and has been with Husky for over 7 years. She described this service station as "corporate owned, dealer operation", with the dealer being PetroJaffer and Husky owning all property and infrastructure.
- 26. Ms. MacDonald noted that features which make for successful service stations include a convenient and visible location, ease of entering and exiting them, visibility in a variety fo other forms (signage, branding, entry), market demand and/or need, density of development, traffic patterns, available market share, curb appeal and the presence of a car wash and other programs.
- 27. Ms. MacDonald described the process of evaluating these factors using a Strengths-Weaknesses-Opportunities-Threats (SWOT) matrix, and testified that Husky had flagged the site as having potential to be a premium location. Ultimately, Husky spent a great deal demolishing a former gas station and renovating the site to maximize its earning potential. Husky spent \$3.4 million on that work and calculated that it would need a long term security to get sufficient return on investment. It signed a 20 year lease with two 5year renewal options. It also sought other protections against changes that could have negative consequences for Husky.
- Ms. MacDonald testified that losing the site benefits that Husky currently enjoys on this site will likely result in it ceasing to operate. Rather than being one of Husky's best locations, it would become "an exit strategy."
- 29. The witness noted that the car wash currently generates about 25-30% of overall revenue for the Husky site. Ms. MacDonald testified that the proposed taking would likely make the car wash not viable in light of the impact on the drive path for fuel delivery trucks following the intended taking.

- 30. Finally, Ms. MacDonald gave evidence about the dearth of engagement by the COE in the period leading up to registration of the NOITE. In particular, no requests were made of Husky to provide fuel truck entry/exit paths to assess the anticipated impact on Husky.
 - E. Evidence of DS Classic Grill Ltd.
 - 1. Earl Strohschein
- 31. Earl Strohschein is the owner and operator of DS Classic, which he described as being largely dependent on the hotel. He testified as to his understanding that most customers were guests of the hotel but conceded that his basis for this understanding was observations made by his two business partners who work in the restaurant.
- 32. Mr. Strohschein gave evidence about the restaurant's use of a mobile sign located adjacent to Yellowhead Trail. He believed it was located on the lands identified in the intended taking. On cross examination the COE attempted to disrupt this belief by suggesting the sign was, in fact, on other lands adjacent to Yellowhead Trail.
- 33. It was unclear to me whether Mr. Strohschein was not committal or unconvinced by the COE's suggestion. In any event, he admitted the sign can be moved and that DS Classic does not operate its business in the area of the proposed taking.
- Mr. Strohschein expressed concerns about a reduction in traffic to the hotel would mean a corresponding loss in guests attending or using the in-room or take-out dining services it offers.

F. Expert Evidence

- The City called two experts, namely, Robert Gibbard of CIMA+ in direct, and Catherine Oberg of Bunt & Associates.
- YMI and PetroJaffer called Marcia Eng of Urban Systems, Ryan Archer of Colliers, and Graham Quast of MNP.
- Husky and DS Classic also called Marcia Eng., Ron Conlin of Site Check Research Group, and Don Jonasson of CTM Design Services Ltd.

1. Robert Gibbard, CIMA+

38. Robert Gibbard, P.Eng, is a Senior Project Manager with CIMA+ in Edmonton. Prior to joining CIMA+, Mr. Gibbard was employed with the COE and was extensively involved in earlier stages of the Yellowhead Freeway Conversion Project. Finally, Mr. Gibbard acknowledged having a pecuniary interest in CIMA+, and that CIMA+ won detailed design work contract with the City respecting a portion of the Project in the area in issue in this Inquiry, and, further, that CIMA+ is currently involved in the Yellowhead Freeway Conversion Project and will remain so for three years yet.

- 39. Concerns were raised as to the impartiality of Mr. Gibbard. To illustrate, one of the Objectors characterized Mr. Gibbard's evidence as "reviewing his own work". I disagree that this reflects the entire utility that can be made of this witness' evidence, though the point is taken.
- 40. There was no dispute raised over Mr. Gibbard's qualifications and he was qualified.
- 41. I have considered the concerns raised and, while mindful of them, I am not prepared to disregard Mr. Gibbard's evidence or to give it no weight. It is admitted, and given some weight, particularly in assisting with my understanding of the expropriating authority's objectives, the process of stakeholder engagement that was undertaken at least with respect to some of the Objectors.
- 42. Mr. Gibbard was the only COE witness with awareness and involvement of the City's stakeholder consultation processes pertaining to the Project. He conceded that such consultation was largely limited to owners, not tenants.
 - 2. Ryan Archer, Colliers International
- Ryan Archer was qualified as a land appraiser and expert in expropriation impact analysis from a real estate valuation perspective.
- 44. In his opinion, the *block* value of the YMI Property was \$1.4 milion per acre, the interest taken was valued at \$173,000 and the injurious affection was \$8.76 million. Using an income approach, the hotel's current value according to Mr. Archer is \$13.6 million. Assuming the Project proceeds, Mr. Archer found the value from a highest and best use approach, being demolition and redevelopment in this case, to be \$900,000 per acre.
- 45. Mr. Archer relied on his own estimates, but did review the Urban Systems report.
- 46. VLT Revenue from Lucky's Lounge was assumed at \$335,070.

3. Graham Quast, MNP

- 47. Mr. Quast relied on the first Urban Systems Report in quantifying loss to YMI and PetroJaffer relating to the foreseeable impacts of expropriation. His analysis compared expected results for each company but for the expropriation.
- According to his analysis, losses caused by expropriation were estimated to be \$16,654,449, apportioned as between YMI (\$13,654,449) and PetroJaffer (\$3000).
- After testifying and completing cross examination, Mr. Quast prepared and tendered an addendum to his first report with the consent of the COE.

4. Marcia Eng, Urban Systems

 The various Objectors retained Marcia Eng of Urban Systems, an engineer qualified as an expert in transportation engineering, planning, modeling and construction.

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- Ms. Eng tendered three reports, the first dated May 11, 2021 and provided for Prowse Chowne LLP, the second dated June 3, 2021 for RMRF LLP, and the final report being in the form of a memo dated June 14, 2021.
- 52. The purpose of the first two reports, according to Ms. Eng, was to examine traffic impact to the YMI Property due to the freeway modification. She forecast a 56% reduction in traffic to Husky, and increased travel times to arrive at the YMI Property of 50% to 90% based on detoure routes. Ms. Eng conservatively forecast a 10% reduction in traffic from the east travelling to the site. In addition, Ms. Eng sought to determine the impact on traffic from the proposed changes to Yellowhead Trail.
- 53. Ms. Eng's calculation of lost trips to the YMI Property was an estimate based on assumptions and information that YMI provided. Ms. Eng took this information into account in her modelling, rather than strictly relying on land use trip tables.

5. Catherine Oberg, Bunt & Associates

- In responding to the Urban Systems reports, the COE called Catherine Oberg, a transportation planning engineer from Bunt & Associates.
- 55. Ms. Oberg critiqued the analysis used by Ms. Eng for being "overly complex in its analysis", for having failed to make adjustments for different land uses, and took issue with some other methods or means of calculating traffic impacts.
- 56. On cross examination, Ms. Oberg conceded that ordinarily in a report like those from Ms. Eng, Ms. Oberg would have gathered owner information, as Ms. Eng did. Ms. Oberg did not do that here. She acknowledged the client's superior knowledge with respect to site specific variables.
- 57. Ms. Oberg had opined that there would be no loss of traffic travelling westbound, but admitted she did so without considering sight decision distances. She also conceded that in a freeway lane travelling 90 kph, drivers would need considerable sight decision distance *before* the transfer lane to make the exit (up to 375 metres).
- 58. On the whole, Ms. Oberg's own estimates were within +/-5% of the Urban Systems figures in the assessment of the proportional trip allotment; this was within the required order of magnitude for her to agree with Urban Systems' conclusions.
- 59. Ms. Oberg also confirmed that reduction in impact on traffic to the site, which she mentioned in direct, would be overstated if negative impacts for traffic travelling west existed; she conceded that if Mr. Gibbard were mistaken, this would be the case.

6. Ron Conlin, Site-Check Research Group

60. Ron Conlin testified and provided a report estimating predicted impacts resulting from the access closures on the YMI Property. He specifically looked at effects on the Husky station forecast to follow closure of those accesses. Under his model, Mr. Conlin predicted fuel consumption at the Husky site to drop by 45.9% after access closures and predicted convenience store sales to drop by 48.1%.

7. Don Jonasson, CTM Design Services

- 61. Don Jonasson was qualified in civil engineering for the purpose of giving opinion evidence on the layout and design of refueling and gas station facilities. His report was responsive to reconfigurations of the Husky site proposed by Mr. Gibbard.
- 62. Mr. Jonasson prepared four figures and a report to review whether a fuel delivery truck could drive onto the site and exit the site safely using either of Mr. Gibbard's two options.
- 63. Of the first Gibbard option, Mr. Jonasson noted it would not be possible to safely exit under the conditions on site. With respect to the second Gibbard option, which involved relocating the garbage enclosure into the drive path of fuel delivery trucks; again, the trucks could not exit safely.
- 64. Given the property lines and lease constraints, it was Mr. Jonasson's opinion that there was no suitable option to both safely enter and use the car wash as well as to enter and exit the fuel delivery truck under either of the City's proposed alternatives.

III. SUMMARY OF ARGUMENTS

- A. Argument of the Expropriating Authority, The City of Edmonton
- 65. The COE argued that this Inquiry was constituted to determine whether the proposed expropriation of a portion of the YMI Property is fair, sound and reasonably necessary in the achievement of the objectives of the COE in its capacity as the expropriating authority.
- 66. Further, the COE argued that it requires the intended partial taking of land on the YMI Property for three key reasons, namely:
 - a. to allow for the construction of the new one-way two-land service road running along the southern edge of the YMI Property;
 - b. to allow for construction of the related infrastructure such as sidewalks and street lighting; and
 - c. to allow for the placement of linear utility infrastructure in accordance with provincial regulations and other engineering guidelines.

- 1. Whether DS Classic has standing to object
- 67. The COE argued, in essence, that it had reasonably concluded that DS Classic lacked standing as an "owner" within the meaning of the Act and, accordingly, had not engaged in the same sort of engagement and communication with DS Classic as it had with other Objectors.
 - 2. Scope of the Inquiry and issues for determination
- 68. The COE cited s. 15(8) of the Act in arguing that my mandate is to inquire into whether the intended expropriation is fair, sound and reasonably necessary in the achievement of the objectives of the expropriating authority and, further, in asserting that the Inquiry "can have no broader scope or jurisdiction than what is expressly provided for in the legislation."
- 69. In short, the COE urged me to adopt a narrow reading of specific provisions with the Act, and a conservative application of some, but not all, principles of statutory interpretation. Specifically, the COE argued the following:
 - a. The Act is remedial and should be given a broad and liberal interpretation, but this does not extend to expanding the scope of words within he statute beyond their plain meaning so as to create substantive rights and entitlements where they do not exist otherwise.
 - b. Only once an entitlement to the benefits of remedial legislation is established should those benefits be construed liberally.
 - c. A broad and liberal interpretation of remedial legislation does not permit deviation from the plain and ordinary meaning of the words used in the statute.
 - d. If the plain and ordinary meaning of the words used in the statute do not admit of any ambiguity, there is no basis to apply a broad and liberal interpretation to enlarge that meaning.
 - e. Here, it is only the partial taking from within the YMI Property that is subject to examination, not access modifications or injurious affection resulting from the Project writ large.
 - f. The Objectors are seeking to have this Inquiry stretch the definitions of "expropriation", "land" and "owner" in the Act beyond their reasonable plain and ordinary meaning in the absence of any reason to do so. This is contrary to the Legislature's intention.
 - g. Notwithstanding some conflict among previous Inquiry decisions in which Inquiry Officer Graham McLennan was asked to consider whether it would be more "fair" to the objecting landowner for the expropriating authority to take an

entire parcel as opposed to a portion of one, this is not a matter properly before me or open to my determination.²

- h. The Objectors seek to conflate the impact of access changes arising from the Project with the intended taking, but that intended taking of the land is the only thing this Inquiry is concerned with. Instead, the Objectors are concerned with the Project as a whole, and its impact on the YMI Property (and its various occupants and otherwise affected parties).
- A harmonious and contextual reading of the Act, the MGA (particularly s. 15 respecting how much land ought to, or ought not to, be taken), and the Highways Development and Protection Act, SA 2004 c H-8.5 (specifically, ss 28, 29 respecting access closures) indicates that the Legislature did not intend for the issues raised by the Objectors to be addressed during an expropriation Inquiry brought under the Act.
 - (a) The Impugned Objectors' Evidence
- 70. With respect to the admission and use of the Impugned Objectors' Evidence, the COE argued that the role of this Inquiry "is to inquire into the Proposed Taking of land, not the entire Project of which the Proposed Taking is part."
- 71. Further, the COE argued, issues related to business losses and compensation go beyond the factual questions to be considered on an inquiry such as this and the extensive evidence led by the Objectors regarding the impact of the Project on their respective businesses "is simply not relevant to the issues to be decided" by me as Inquiry Officer.
- 72. Finally, the COE urged me to find that what it considers to be the only "relevant evidence before this Inquiry" – i.e., the remaining lay and expert evidence following an exclusion of all of the Impugned Objectors' Evidence – "amply demonstrates" that the intended taking is fair, sound and reasonably necessary in the achievement of the objectives of the expropriating authority.
- In advancing these arguments, the COE made specific submissions against each specific report within the collective Impugned Objectors' Evidence. Those arguments are summarized below.
- 74. According to the COE, I ought to give the first and second Urban System opinions very little weight and prefer Ms. Oberg's conclusions in the Bunt opinion because:
 - a. The Urban Systems methodology was unduly complicated and failed to account for the possibility that different land uses could have different peak times.

² Guaranty Properties v The City of Edmonton, Report of Inquiry Officer G. McLennan dated April 3, 2000 and Red Deer (City) v Northey, Report of the Inquiry Officer G. McLennan, Q.C. dated September 3, 2009.

- b. The Urban Systems opinions focused on determining what the modifications of Yellowhead Trail would mean for traffic to the YMI Property, rather than considering the specific intended taking of only a portion of the YMI Property.
- c. Ms. Eng made multiple assumptions, including that:
 - post-COVID increases in traffic would increase in proportion to the breakdown of land uses;
 - iii. 100% of motorists travelling from west to east on Yellowhead Trail and from south to north on 149 Street would not use alternative routes to attend the YMI Property; and
 - iii. the assumption that heavy traffic would travel to another site was premised on an alternate destination for that traffic that enjoyed more direct access to Yellowhead Trail.
- d. Instead of using ITE trip generation data that presumes all hotels are "destination" properties, Ms. Eng adjusted data to account for her understanding of the YMI's clientele, but that understanding was inconsistent with Mr. Somji's evidence, and did not account for repeat customers.
- e. Ms. Eng received no information about which patrons of Shakers Lounge and DS Classic Grill were hotel guests and which were not.
- f. Most of the sites identified by Urban Systems as competitors to the YMI Property would require a driver to exit Yellowhead Trail well in advance of reaching the YMI Property.
- 75. The COE also argued for the Colliers report prepared by Ryan Archer to be given little to no weight because:
 - Mr. Archer's oral evidence, demeanor and answers to questions indicated he was acting in an advocacy capacity and not as an impartial expert witness.
 - b. Mr. Archer denied having applied a 35% discount to the YMI Property as-vacant after Project construction, contrary to statements in his written report.
 - c. The two sales indices he used to determine the as-vacant value of the YMI Property after Project completion are nearly 10 years old. The COE argued that Mr. Archer ignored more recent examples of a site that also had limited access to a major thoroughfare.
 - d. Mr. Archer suggested the percentage figures used to measure the impact on future lease rates were his own opinion, but they were taken from the estimated traffic reduction data in the Urban Systems report.

- Although Mr. Archer received financial information for YMI and PetroJaffer as early as the 2015 financial statements, he chose to presently financial information from 2019 forward in his pro formas.
- f. The Colliers report contained numerous statements with little to no analysis or support, including:
 - that disruptions from the pandemic and anticipated impact of access changes to the YMI Property were "analogous";
 - ii. future net operating income pro formas were based on an assumption hat the hotel market would fully recover in 12 months, and his support for this assumption was that there was a "general consensus" that this was so, and it was a "widely-held opinion"; and
 - Mr. Archer considered one of the hotel sales indices he reviewed to be an "outlier" but did not provide support for that characterization.
- 76. The COE was also dismissive of the MNP report, calling it "unreliable" and arguing I should give it little to no weight because:
 - Graham Quast's conclusions are largely dependent on the Urban Systems conclusions with respect to future site traffic.
 - b. Mr. Quast omitted relevant fixed costs from his analysis. When corrected, this resulted in a \$1.6 million different in his conclusions.
 - c. Mr. Quast did not use the 2014-2020 financial statements prepared by YMI and PetroJaffer's accountants on a review engagement basis. Nor did he review the general ledgers and trial balances. Rather, he relied on internal financial documents covering a very limited time period (in some cases, as little as 8 months), resulting in a limited data set. He then used these limited data sets to project losses into perpetuity.
 - d. The MNP report includes unreasonable assumptions regarding lease renewals, and uses these assumptions to project losses into perpetuity.
 - Mr. Quast's understanding of what constituted a "walk in" guest was inconsistent with Mr. Somji's evidence.
 - f. Mr. Quast was unable to explain why his assessment of variable costs for calendar year 2020 was approximately 50% of what was shown on the financial statements for fiscal years 2018 through 2020.

- g. Mr. Quast did not summarize the financial statements, and neither analyzed or considered the impact of steady declines in revenues and customers to the YMI in years leading up to 2020.
- 77. The COE also argued that there appears to be a double-count between the MNP and Colliers opinions insofar as the Colliers report uses the delta between future income streams for the YMI Property as the basis for conclusions on valuation and injurious affection while MNP quantified lost future income stream for YMI and PetroJaffer and presented same as a business loss.
- 78. With respect to the Site Check opinion from Mr. Conlin, the COE argued that it is both unreliable and ought to be given little to no weight because:
 - a. Mr. Conlin acknowledged there was a subjective element to his "SAM" model (i.e., 80% science, 20% art). Specifically, the COE argued that Mr. Conlin's decision to designate accesses as *easy* or *difficult* "appears to have been an entirely subjective judgment".
 - b. Although Mr. Conlin advised his opinion had not properly accounted for the loss of a traffic "choke factor" on Yellowhead Trail adjacent to the YMI Property, and further noted he had run a new analysis, that information was not provided during the Inquiry.
 - c. Mr. Conlin did not review the Key Performance Indicator (KPI) reports for the Husky station, which included actual sales and costs, in preparing his opinion.
 - d. Mr. Conlin agreed there were only four competitor sites in close proximity to Yellowhead Trial and that none had direct access to Yellowhead Trail.
 - e. Mr. Conlin's conclusions were subject to an assumption that there would be no change to the trade area and competition, despite his acknowledgment that, as time passed, the likelihood of such changes increased and impact on the YMI Property could change accordingly.
 - f. Finally, Mr. Conlin did not refine his analysis to reflect the impact of the Project on any of the Husky site's competitors.
- 79. More broadly, the COE argued that even if I accepted conclusions set out in the Impugned Objectors' Evidence, the fact that an intended taking will impact the Objectors or result in injurious affection to remaining lands is not, absent more, grounds for finding the intended taking to be unfair. The COE argued that the Inquiry process would be rendered meaningless if all it took to establish that an intended taking was unfair was showing that the expropriation would cause some injury or loss.

3. The statutory test

- Design, engineering and construction of the Project are consistent with the COE's strategic objectives as set out in its policy documents.
- 81. Further, the COE's engineering and design work are at a developmental level to attract "a sufficient level of engineering confidence" to determine that the intended taking is required. Indeed, the intended taking is needed so imminent work on this segment of the Project can proceed. Work was put out to tender; construction is imminent.
- 82. The COE considered reasonable alternatives to its designs and sought affected stakeholder input (including from YMI and Husky). It participated in "extensive engagement and discussions with YMI and Husky". These Objectors, and PetroJaffer, have known for some time about the Project; some of them were first consulted in 2012. These Objectors got "adequate notice" of the COE's intention to expropriate and there cannot, in the COE's submissions, be any reasonable suggestion that the COE has not deal fairly with the Objectors.
- 83. Concerns about the potential impact of the intended taking on the Objectors' respective businesses "flow entirely from the proposed changes to road layout and access in the vicinity of the YMI Property as part of the broader Project" and not the *actual* taking that is currently proposed.

(a) Fair

- 84. In the present Inquiry context, the City argued, "fairness" must be assessed objectively. It is not founded on perceptions of fairness, or whether the intended taking will cause hardship to an owner or trigger compensation damages.
- 85. These factors, absent more, do not render a taking unfair. Indeed, compensation-related impacts of the Project are beyond the scope of this Inquiry and my jurisdiction. Said the COE: such impacts are *irrelevant* to my deciding whether the intended taking is fair.
- Rather, the COE argued, assessing fairness in this context requires me to consider the following factors:
 - a. Did the expropriating authority follow a reasonable procedure with respect to acquiring private land?
 - b. Has the expropriating authority made reasonable efforts to engage impacted parties?
 - c. Has the expropriating authority made reasonable attempts to minimize the extent of the intended taking?
 - d. Did the expropriating authority reasonably consider alternatives?

- e. Has the expropriating authority reasonably considered a balancing of public interest versus private interest?
- The COE argued that the following is in evidence before me and demonstrates that the proposed taking is fair:
 - The COE's procedure has been reasonable and in compliance with applicable statutory regimes;
 - b. The COE had extensive public engagement respecting the Project;
 - c. The COE specifically engaged with YMI, PetroJaffer and Husky in relation to the Project, and each of these Objectors had an opportunity to provide input into the design for the Project in this area and, although the COE requested financial and other information from YMI that would have allowed the COE to complete its own appraisal and impact assessment, YMI provided limited information prior to the expropriation process being commenced;
 - d. The COE made reasonable efforts to understand the Project's impact on the YMI Property;
 - e. The COE reasonably considered alternative designs for the Project;
 - f. The harms alleged by the Objectors result from the access closures, and not the intended partial taking;
 - Any such harm is properly a matter for a compensation claim in any event, not for this Inquiry; and
 - h. The Objectors' evidence in this Inquiry is unreliable.
 - (b) Sound
- 88. With respect to soundness, the COE argued that none of the operational concerns flagged by CTM and Urban Systems with respect to the anticipated impact of the intended taking on the service station business, and in particular the car wash and parking, are insurmountable obstacles or a basis to find the intended taking unsound.
- 89. The COE acknowledged that the intended taking includes part of the Husky leasehold premises, that the intended taking will require changes to the site layout, and that fuel trucks require safe drive paths for entry onto and exit from the YMI Property. However, the COE argued that the CTM Report provides that truck can still safety enter and exit the YMI Property even after the southern accesses are closed
- According to the COE, even if parking cannot be accommodated and must be eliminated, this can be compensated in damages. Similarly, if demolition and reconstruction of the

carwash proves to be the only solution, the result can be compensated for in damages. Put another way, the taking is not unsound just because it may result in compensation claims.

- 91. Any intended expropriation will have an impact on affected landowners. However, issues relating to harm to an Objector arising from the expropriation "are properly reserved to a compensation proceeding" and ought not be before me, in my capacity as an Inquiry Officer. It is inevitable, the COE argued, that the Objectors will advance claims for compensation from the COE. Such compensation claims being a practical inevitability do not render the intended taking unsound.
- 92. My role as Inquiry Officer is not to "micromanage" details of the municipality's design and planning process. Nor am I to evaluate and weigh in on alternative designs to assess if the COE has selected the "objectively 'best' option."
- 93. In major infrastructure projects such as the Project, it is inevitable that an expropriating authority must consider and balance various factors, some of which may be competing. In this case, the COE argues it has "amply demonstrated" that the intended taking is sound.

(c) Reasonably necessary

94. It is not disputed that the intended taking is reasonably necessary for the construction of the Project, or that the Project is in the public interest. The COE argues, further, that it demonstrated that construction of the Project is consistent with, and in fulfilment of, the COE Council strategic goals, including those set out in its current City Plan and predecessor planning documents. Finally, the COE argued before me that a substantial impact on the entire Project would result if the intended taking is not approved.

4. Costs of the Inquiry

- 95. The COE argued that only two of the Objectors' expert reports, namely, the CTM report and the Urban Systems memorandum (third opinion) are relevant and within the statutorily prescribed scope of the Inquiry.
- 96. Further, the COE argued that where expert evidence does not assist the decision maker, that evidence and any legal fees for time spent in relation to that evidence, should not be paid for by the expropriating authority.
- 97. In addition, the COE argued that insofar as the Impugned Objectors' Evidence, or some of it, will also be led before the Land and Property Rights Tribunal at the MGA s. 15 application brought by some of the Objectors the COE may be asked to pay the costs of litigating the same issues twice in different forums.
- Finally, on the subject of costs of the Inquiry, the City urged me to deny DS Classic costs if
 I find it does not have standing to object to the intended taking.

- B. Argument of Yellowhead Motor Inn Ltd. and PetroJaffer 116 Ltd.
- 99. The Objectors, YMI and PetroJaffer, argued that if, upon reviewing the evidence and arguments of all parties, doubt exists in my mind as to the fairness and soundness of the taking, that doubt must be resolved in favour of the Objectors.³
 - 1. Soundness
- 100. These Objectors argued that the intended taking is not sound in the achievement of the objectives of the expropriating authority. In doing so, they submitted:
 - a. 'Sound' in sections 15(8) and 6(2) is an adjective. The partial taking is not sound financially in that, when contrasted with a full taking, it does not make financial sense: it is not strong, secure or reliable. Further, it is not sound because it is not strongly or reliably connected to the achievement of the expropriating authority's objectives. It is not based on reason or judgment.
 - b. To illustrate the point, these Objectors documented the anticipated breakdown of municipal spending in the event of a partial and full taking as follows:

	Partial Taking	Full Taking
Market value ¹⁸⁶	\$173,000.00	\$13,600,000.00
Injurious Affection 187	\$8,760,000.00	
Business Loss damages to YMI to 2028 ¹⁸⁸	\$4,319,750.00	
Business Loss damages to Petrojaffer116 Ltd. to 2028 ³⁸⁹	\$921,921.00	
Total:	\$14,860,490.00	\$13,600,000.00

- 101. These Objectors acknowledge that the above table is *pro forma*. They acknowledge that "there is more to the picture", including other heads of damages likely to be payable in both scenarios (e.g., franchise termination fees and mortgage prepayment penalties). They also note that "in a partial taking, the City ends up paying for much of the value of the remainder land but doesn't get that land; in a full taking, it gets all the land."
- Evidence from Mr. Gibbard indicated he made design deviations to minimize the land taken, in most cases to minimize the costs for the COE. In doing so, he failed to follow

³ City of Edmonton v. Sokil, May 14, 1987 per Inquiry Officer Lewis, p. 39

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design criteria set out in Complete Streets, including the use of Shared Use Paths of 3.0 m width as opposed to minimal sidewalks of 1.8 metres.

- 103. The Objectors led unchallenged evidence that the Project changes the highest and best use of the YMI Property, despite which the COE is forcing the owners of that land to carry on continued uses that the COE has doomed to a fate of suffering and loss, for which there is no corresponding gain. It is a waste. It is not sound.
 - 2. Fairness
- 104. With respect to fairness, these Objectors argued that fairness is deployed as an adjective in the relevant provisions of the *Act*, and "implies that the taking must be just and equitable having regard for the expropriating authority's objectives."
- 105. In effecting a balancing of interests, it is not enough to say the Act provides compensation provisions designed to make an owner whole. If that were so, no Inquiry would be necessary. To recommend the expropriation, it is the COE that must prove that fairness is balanced in favour of the expropriation as presented by them. They have failed to do so.
- 106. These Objectors argue that the overwhelming evidence placed before me on this Inquiry indicates that the expropriation in its present form will cause the businesses on the YMI Property to be unviable.
- 107. These Objectors propose an alternative, namely, one they have been advocating for since 2013, and one that the COE itself considered and presented to City Council in 2017, and that the COE used in its budgeting for the Project. That alternative is the taking of the entire YMI Property.
- 108. In striving to achieve its objective, the COE should, these Objectors argue, seek to inflict the least harm on citizens impacted by that objective.
- 109. These Objectors provided an illuminating timeline or chronology that I believe may be informative to City Council. I have pasted the contents, absent footnotes in the original, into Appendix "A" to this Report.
 - C. Argument of Husky Oil Operations Limited
- 110. As Inquiry officer, I must balance private and public interests affected by the proposed taking. That balancing must include what impacts result from the project giving rise to the partial taking and not be confined to the size of land intended to be taken.
- 111. The COE has wrongly equated impact on private landowners with taking the least amount of land. The COE has sought to limit consideration of broader business and financial impacts on private owners, including by promising to fight over whether it ought to pay for Objectors' legal costs of the Inquiry and by objecting to most of the Objectors' expert

evidence. This fairness evidence militates against the City's intended partial taking rather than the entire YMI Property.

112. Determining the fairness of an expropriation requires the balancing of impacts to private parties against the public interests served by the Objectives for which land is being taken. Also, general principles relating to the interpretation of expropriation statutes should also inform how the Inquiry officer approaches the consideration of fairness. Husky and DS Classic cited 2018 Supreme Court decision that reads, in part:

The concept of expropriation concerns the power of a public authority to deprive a property owner of the enjoyment <u>of the attributes of his or her</u> right of ownership. Because of the importance attached to private property in liberal democracies, the exercise of the power to expropriate is strictly regulated to ensure that property is expropriated for a legitimate public purpose and in return for a just indemnity.⁴

- 113. An expropriating authority has a responsibility to attempt to reduce or lessen the burden on private citizens and businesses who will suffer impacts as a result of works that will benefit the public. This is particularly so where the ultimate cost to the authority of doing so will be roughly the same, if not less, due to the operation of provisions such as s. 56 of the Act. Notably, s. 56 includes compensation for losses arising from access closures when there is also an expropriation as part of the same scheme.
- 114. In most cases where the taking of less land is recommended, it is because it would lessen the impact on the Owner's lands. In other words, the taking of less land is not an objective or value on its own, it is the lessening of the impact that is the goal.
- 115. Virtually all of the COE's evidence related to why the partial taking is necessary in the achievement of its objectives. The COE led little to no evidence on why it is fair and sound aside from the fact that it has tried to take the least amount of land possible.
- 116. Yet, a partial taking will be unfair and unsound. DS Classic's and Husky's businesses will be destroyed, yet they will be required to suffocate slowly until no longer able to survive. The cost of this slow death with be equal to or greater than if the COE acquired the entire parcel. The COE has not led evidence that materially challenges this proposition, advanced by each of the Objectors.
- 117. Rather than ignore the difference in consequences for the Objectors between a full and partial taking, Husky and DS Classic outlined those impacts in the table below:

Full Taking	Partial Taking
 Parties can plan for an organized closure of	 Parties are required to either limp along
their operations at the site	until it is impossible for the to continue –

⁴ Lorraine (Ville) v 2646-8926 Québec Inc, 2018 SCC 35 at para 1 (emphasis added by Objectors).

•	Timing of site closure is certain	potentially saving business relationships or causing other consequential impacts Timing of any closure is uncertain
•	Tenants on site will be entitled to claim compensation	 Certain tenants may be denied compensation and have to litigate this right despite suffering impact resulting from the Project
•	Site can be redeveloped for an appropriate use	 Redevelopment to different use now responsibility of land owner whose business experience may not be related to redevelopment
•	Tenants and landlords an co-operate to address taking	 Tenants and landlords are potentially adverse in interest should tenants need to exit their lease prematurely
		 Risk of litigation amongst parties relating to termination of leases
		 Any site reconfiguration discussions to accommodate continued use of all features of gas station becomes a conflict downloaded to the landlord and tenant to address.

D. Argument of DS Classic Grill Ltd. re: standing

- 118. Although the COE said it intended to challenge DS Classic's standing at the outset of this process. Yet, it did not object to any of DS Classic's evidence in this proceeding. The COE has acquiesced to DS Classic's standing to object.
- 119. Further, if the sign is not in the area proposed to be taken, it is still within the area of land required for the service road. Had the COE properly done its due diligence with respect to the sign, it would have found DS Classic to be an owner under section 1(k)(iii) of the Act and served it with a NOITE.
- 120. The COE owes duties of good faith as an expropriating authority. It should not be permitted to thwart DS Classic's rights as an affected owner in this proceeding simply because the COE did not perform proper due diligence and follow proper procedure.

IV. FINDINGS OF FACT

- 121. I accept the facts set out in paragraph 18 of this Inquiry Report and recited in the Agreed Statement of Facts.
- 122. For the purposes of this Inquiry, and for no other purpose, I make the further additional findings of fact:

- YMI, PetroJaffer and Husky are all "owners" for the purposes of s. 6.2 of the Act and have standing as Objectors in this Inquiry.
- b. DS Classic is also an "owner" for the purposes of s. 6(2), within the meanings set out in ss. 1(k)(ii), 1(k)(iii) and 1(k)(iv). DS Classic accordingly qualifies as an "owner" within the context of, and for the purposes of applying, ss. 15(8)(b) and 15(10)(b).
- c. The City's objectives are very broad, as particularized in paragraph 37 of the Agreed Statement of Facts.
- d. Achievement of those objectives includes all work incidental to completion of the Project.
- e. As noted by Messrs Gibbard and Lima, removal of the signalized intersection at current 149 Street and Yellowhead Trail is a necessary prerequisite to completion of that section of the Yellowhead Freeway Conversion Project for which the intended taking is required and is also a matter of safety.
- f. The hotel on the YMI Property, currently branded as a Ramada hotel, is not exclusively a destination land use insofar as the hotel receives a material number of walk-in and pass-by occupants.
- g. Changes resulting from the southern access closures on the YMI Property threaten the viability of the business operated on the Husky site.
- As all transportation planning and engineering experts agreed, the changes to access to the YMI Property will also have a deleterious effect on traffic flow to the YMI Property.
- Although preliminary COE planning documents indicated the entirety of the YMI Property was to be taken, as the Project moved from concept through detailed design phases, the intended taking was substantially reduced.
- j. At no time was the entire parcel needed to complete the Project. There is no evidence before me to suggest the reduction in size of the intended taking was a function of design, engineering, planning or other technical changes to the Project, or a result of a shrinking COE budget for acquiring land.
- k. There are reasonably foreseeable and impactful effects on all businesses on the YMI Property. While negative impacts are certain to follow from the intended partial taking, those effects are not divided equally in terms of impact across the four Objectors.

V. OPINION ON THE MERITS

A. Introduction

- 123. As counsel for the COE aptly noted, this is not a typical expropriation Inquiry. Indeed, rare are occasions on which Objectors seek a greater, not a lesser, taking of lands in which they claim an interest. In my opinion, two questions arise from the parties' disagreement over my jurisdiction and role in this atypical Inquiry.
- 124. First: What use, if any, can I make of the phrase "and any other infrastructure incidental to the construction of the Yellowhead Trail Freeway Conversion Program" in assessing whether the intended taking is fair, sound and reasonably necessary in the achievement of the objectives of the expropriating authority?
- 125. Second: To the extent that the achievement of the expropriating authority's objectives is integral to the question before me, per the language of s. 6(2) of the Act, what if any use can I make of evidence about impacts on Objectors that are *incidental to* the taking, to the extent the taking is fair, sound and reasonably necessary in the achievement of the expropriating authority's objectives?
- 126. To cut to the chase: In this particular Inquiry, I consider both of these questions to be open for my consideration as part of evaluating whether the proposed partial taking is fair, sound and reasonably necessary. In particular, these questions frame the process of balancing public interests in the Project being realized, with the Objectors' private interests as "owners" within the meaning of s. 1(k) of the Act.
- 127. I am not certain that these principles have application in other Inquiries, as they are specific to the factual and historical matrix in evidence before me on *this* Inquiry. In any event, that question is not before me and I need not determine it.
 - B. The Impugned Evidence is relevant and material to my opinion on the merits
- 128. The COE is correct in noting that quantification of business and other economic losses and associated financial impacts are not matters within my jurisdiction to determine, particularly as matters of compensation. However, it is neither fair nor accurate to say I can take no notice, and make no consideration of economic and other harms that all experts area are likely, if not reasonably certain, to follow an intended taking. Indeed, the COE has rightly conceded: Expropriations suck (for the landowner).
- 129. Foreseeable business losses, and particularly a reasonably foreseeable termination of the ability to continue operating a currently viable business, are in scope. They are matters within my jurisdiction where the evidence before me requires me to consider the balancing of public and private interests at play in an intended taking. This is such an instance.
- 130. Specifically, within the authority delegated to me by the Legislature is my jurisdiction to inquire whether that balancing of interests tips in favour of the public good, or against it.

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Where the former holds true, the intended taking is sanctified as fair, sound and reasonably necessary. The opposite occurs in inquiries where, the balancing skews so inequitably against one or more affected landowners that the taking is rendered unfair, or unsound, or both. The latter holds true here.

- 131. Notably, the Impugned Objectors' Evidence assisted me in reaching this conclusion, as did the rebuttal evidence of Ms. Oberg. It was common ground among the array of objectedto Objector experts and the COE's own rebuttal expert that the YMI Property and the various owners having registered and other interests in it are apt to be impacted by the intended taking and its role in the achievement of the COE's objectives, irrespective of its reduced size from the earlier intended taking.
- 132. Further, were I to have excluded the Impugned Objectors' Evidence (but for the CTM opinion of Mr. Jonasson and the Urban Systems memorandum stamped by Ms. Eng), I struggle to see how any meaningful consideration of the issues put into play by s. 6(2) of the Act could have been achieved. The division of jurisdiction proposed by the expropriating authority is so surgical as to rob the Act of its remedial intent.
- 133. The Impugned Objectors' Evidence went, in part, to how impacts of the Project and its various incidentals, all of which have been agreed to be reasonably necessary in the achievement of the COE's objectives, are likely to be felt by the holders of those private interests. A balancing of those foreseeable ills with the equally foreseeable good of a safer, more efficient and otherwise desirable urban transportation network does not tip in favour of the partial taking on the fairness front.
- 134. I have found that the YMI hotel site, currently branded as a Ramada, is not a typical destination land use hotel. Rather, I was persuaded by Mr. Somji's testimony that the hotel benefits on a measurable basis albeit marred by some imprecision from greater "walk-in" or "drive by" traffic than is presumed by the ITE trip tables. In having rejected the suggestion that I ought to treat the hotel strictly as a destination business, it follows that there will be, predictably, some material impact on its operations and potential viability. The financing secured against this property imposes substantial risk on the owners, including Mr. Somji.
- 135. In the context of this finding, and in light of my earlier findings, including that Husky and PetroJaffer are likely to suffer material, and possibly insurmountable effects from the partial taking, I am of the opinion that the Impugned Objectors' Evidence has been relevant to my consideration of the statutory test and factored into my ultimate assessment of whether the intended taking is fair and sound in the achievement of the expropriating authority's objectives.

C. DS Classic has standing to object at the Inquiry

136. I have determined that all four Objectors – namely, YMI, PetroJaffer, Husky and DS Classic – qualify as an "owner" within the meaning of s. 1(k) of the Act. There was no contest in

this regard for each of YMI, Husky and PetroJaffer. With respect to DS Classic, it is my opinion that:

- a. There is a legal distinction to be drawn between having an interest in the YMI Property and having an interest in the portion of the YMI Property identified as the intended taking within the NOITE.
- b. I am unable to conclusively determine whether DS Classic has an actual interest in the small portion of the YMI Property that forms the intended taking.
- c. As noted, my factual finding is that the DS Classic signage may currently be located on, or in proximity to, the lands subject to the NOITE, but the evidence left me with some doubt as to its exact location presently.
- d. I find as a matter of law that the determination of the *bona fides* of that caveat, and the extent of any interest and damages, if any, flowing from the interest so registered, are all beyond the scope of my jurisdiction. If I am mistaken in that regard, I confess that I do not have adequate unequivocal evidence before me to satisfy myself that I can make such a determination.
- e. Regardless of whether DS Classic registered its caveat before or after the COE's execution of the NOITE (January 2021) or its registration of the NOITE on title to the YMI Property (May 2021), the COE knew that DS Classic:
 - was in possession or occupation of some portion of the YMI Property, per s. 1(k)(iii) of the Act; and
 - ii. was, at minimum, "any other person" known to the expropriating authority to have an interest in the YMI Property, per s. 1(k)(iv) of the Act, as evidenced by the COE having served DS Classic with notice of the COE-approved vehicular traffic access closures on the YMI Property that form part of the Project.
- 137. Most importantly, I am of the opinion that neither the actual present location of the DS Classic street-side sign, nor the late registration of a caveat pertaining to the leasehold interest of DS Classic deprives DS Classic of status as "a person who is shown by the records of the land titles office as having a particular estate or an interest in or on the land", per s. 1(k)(ii) for the purposes of being "any owner whose land would be affected by the expropriation of the land concerned in the inquiry" and "any person who appears to have a material interest in the outcome of the expropriation" and, thereby, is most certainly "a party" whom I may add to the Inquiry.
- 138. I have found that DS Classic has a registered interest on title to the YMI Property at the time of this Inquiry, I am not in a position to determine, on the evidence before me, whether the DS Classic caveat is valid. For the purposes of this Inquiry, DS Classic falls

within at least one definition of "owner" set out in s. 1(k) of the Act. I need make no further determination to acknowledge its standing to object in this proceeding.

- D. The intended taking is not fair in the achievement of the COE's objectives
- 139. I agree with the submissions of the Objectors Husky and DS Classic where they suggested:

At this stage, the question is: what is going to happen. In determining that and providing a recommendation, the Inquiry officer is entitled to look at the effects of what the City has proposed to do and determine whether the balance struck between the public objective and the private impacts is fair. In considering that question, it is important to consider what those impacts are – not for the purpose of determining compensation – but for the purpose of determining whether there is a better balance that can be struck in what is going to happen now.

1. Substantive fairness

- 140. Simply put, it makes no sense to suggest that by taking less land, and, going further, to suggest that the land intended to be taken excludes lands (whether by effect or by design) on which changes are to occur that give rise to significant, potentially irremediable impact on one or more of the Objectors' businesses, means one cannot take into account those impacts in balancing the public and private interests at play in the subject taking. In any event, that argument cannot stand in the face of agreed facts, namely, that the taking is one part of a greater whole that is reasonably necessary to the achievement of the expropriating authority's objectives, and that the Project for which the intended taking however great or small is for the public interest.
- 141. It is true that there would be no balancing to be undertaken if I accepted the elimination of an entire set of interests from being "at play" in this Inquiry. Such is not the purview of remedial legislation. I am empowered to engage that balancing exercise and, in doing so, am unable to find that the proposed partial taking is fair in all of the circumstances.
- 142. To suggest a slippery slope or vast compensation claims will inevitably follow betrays the ill logic of the COE's argument against such a balancing. After all, matters of compensation are outside my jurisdiction. I cannot base a determination of whether the proposed taking is fair on whether or not it might be costly to the expropriating authority.
- 143. Even if that were the yardstick, I must balance a foreseeable risk that one or more businesses will likely perish as a function of the Project's construction with a suggestion that compensating the owners of those businesses (and maybe others) could be costly to the public purse. It seems to me, this is the very essence of the limited relief available to landowners whose otherwise inalienable rights are alienated through public, involuntary acquisition of their lands.

- 144. My opinion stands: the proposed taking is not fair in the achievement of the objectives of this expropriating authority.
 - 2. Procedural fairness
- 145. YMI and PetroJaffer urged me to find that this expropriation is not merely substantively unfair, but procedurally so. In particular, YMI alleges that after the COE invited stakeholder participation, the COE ultimately ignored all such participation. They binned it, in short.
- 146. Admittedly, I am not persuaded that I have before me sufficient factual or legal foundation to make a finding that the expropriation itself has evolved in a procedurally unfair manner, or violated the *audi alteram partem* principle (i.e., "hear the other side").
- 147. However, I do find particularly persuasive a point aptly made by these Objectors. Specifically, they recited a passage from the 1967 Ontario Law Reform Commission report, which read, in part [emphasis mine]:

"Another very important consideration is that <u>all governmental activity</u>, <u>whether</u> on a provincial or local level, <u>should aim to retain the confidence of its citizens</u> and their respect for its fairness. The position of quasi-public bodies acting under government authority is not different in principle... Every attempt, moreover, should be made to cause a minimum of disturbance in the life of the citizen."³

- 148. I invite City Council to be mindful of the above passage when considering my recommendations as set out in this Inquiry Report.
 - E. The intended taking is not sound in the achievement of the COE's objectives
- 149. I found no compelling or substantive reason within my jurisdiction to explain or justify the change between the original intended taking of the entire YMI Property and the reduced taking now being proposed. While I may draw inferences, I find a shortage of evidence on which to ground a finding in this regard.
- 150. The absence of sound reasons for surgically dissecting the YMI Property and then seeking to rely on that dissection as a basis to exclude Objectors' evidence and/or reject their arguments is, in and of itself, unsound.
- 151. To the extent it invites an inference that the only reason is to make landowners fight for every remedy to which they may be entitled under the Act, or other legislation, if applicable, I find it is also unsound.

⁵ <u>Report on the basis for compensation on expropriation. - : Ontario Law Reform Commission : Free Download,</u> <u>Borrow, and Streaming : Internet Archive</u>

- 152. I am further persuaded by the Objectors' arguments that there is an imbalance between their proportionate suffering and the relatively stable public good to be realized upon the achievement of the objectives of the expropriating authority in this instance, the COE. The public good is not decreased with the diminished taking, yet neither is the consequential harm resulting from the achievement of the COE's public-good objectives. Indeed, the harm is foreseeable either way, as is the public good.
- 153. Accordingly, it is my opinion and recommendation that City Council pursue the obvious, fair and sound balancing of public and private interests in a two step process.
- 154. First, I recommend that COE Council acknowledge that while this intended taking is not fair or sound in the achievement of the objectives of the expropriating authority, it is in both public and private interests to nevertheless permit the work contemplated in the NOITE to proceed, and the partial taking be completed to avoid delaying the scheduled advancement of the Project.
- 155. Second, I recommend that City Council forthwith commence a subsequent, or companion, process for the voluntary acquisition or expropriation of the entire YMI Property. While it is conceivable that doing so may forego the need for YMI's application currently scheduled to be heard by the Land and Property Rights Tribunal in November 2021, that question clearly lies beyond my scope of jurisdiction.
 - F. The intended taking is reasonably necessary
- 156. It was agreed among the COE and the Objectors that the intended taking is reasonably necessary in the achievement of the expropriating authority's objectives, which includes construction of the Project. I agree. This portion of the statutory test is met.
 - G. The Objectors are entitled to their reasonable costs of this Inquiry
- 157. The Legislature recognized in s. 15(1) of the Act the conspicuous imbalance of power between the parties to an expropriation Inquiry and, in doing so, provided that an Inquiry Officer must find special circumstances to exist that justify a reduction or denial of costs to an objecting owner. In all other instances, an owner's reasonable costs of the Inquiry are payable by the expropriating authority.
- 158. I have not found special circumstances. I found all four Objectors had standing as owners within the meaning of s. 1(k) and deem the same to apply with respect to s. 15(10). The Objectors may submit their reasonable costs in connection with this Inquiry to the COE for payment.
H. Concluding Remarks

159. I extend sincere thanks to all counsel for their professionalism throughout, as well as for their skillful and thoughtful advocacy and representation.

Dated at the City of Edmonton, in the Province of Alberta, this 5th day of July, 2021

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Sharon Roberts Inquiry Officer

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Appendix "A" – Chronology prepared by Counsel for YMI and PetroJaffer

In June 2012 the City held an open house to announce the start of the Yellowhead project.

In October 2012 Corporate counsel for YMI contacted the City of Edmonton to advise of YMI's concerns overall and requesting a business impact study.

In November 2012 the City of Edmonton responded refusing to undertake the study.

Between June 2012 and September 2013 public consultation consisting of two public meetings, eleven stakeholder interviews and five stakeholder input group workshops took place.

YMI through Mr. Alim Somji participated in all workshops.

The interview with YMI took place August 20, 2012.

In the workshops and interview YMI expressed its concerns and stated it is not a destination hotel.

In June 2013 Nizar Somji wrote Mayor Mandel (copying Rob Gibbard) advising it was crucial to YMI that access to the lands on which the Yellowhead is situated remains as-is. (It is notable that access appears to be being used in a general sense regarding the 149 St. intersection, not the specific access closures discussed in this hearing).

In June 26, 2013 a report and presentation was made to City Council recommending among other things the closure of the 149 Street intersection and the purchase of the entirety of the YMI property. The land acquisition budget was \$70M -\$85M on the preferred option.

In October 2015 the Yellowhead Trail – 149 Street Concept plan was presented to City of Edmonton Transportation Committee. 218It recommended intersection closure. It also provided a land acquisition budget of \$148 Million which included funding the purchase of the entirety of the YMI property.

The June 2017 Yellowhead Trail/149 Street concept planning report again recommended and budgeted for the taking of the entirety of the YMI property.

In 2018 Kris Lima became Director/Yellowhead Trail Portfolio.

In October 2020 YMI received a courtesy letter indicating the partial taking.

On January 18, 2021 the City of Edmonton passed an access closure bylaw.

In April 2021 a Notice of Intention to Expropriate was served on YMI.

Interim Decision of the Inquiry Officer, Sharon Roberts, June 21, 2021

IN THE MATTER OF the Expropriation Act, being Chapter E-13 of the Revised Statutes of Alberta, 2000, as amended (the "Expropriation Act");

AND IN THE MATTER OF the intended expropriation by the City of Edmonton of certain interests of lands registered under Certificate of Title Number 122 157 606:

DESCRIPTIVE PLAN 1222066 BLOCK3 LOT 1 EXCEPT THEREOUT ALL MINES AND MINERALS AREA: 2.78 HECTARES (6.78 ACRES) MORE OR LESS

Municipally located at 14950 Yellowhead Trail NW, Edmonton, Alberta (YHT-016)

AND IN THE MATTER OF the Notice of Objection to the said intended expropriation filed by Yellowhead Motor Inn by its solicitor Paul Barrette of Prowse Chowne LLP

AND IN THE MATTER OF the Notice of Objection to the said intended expropriation filed by Husky Oil Operations Limited by its solicitor Shauna N. Finlay of Reynolds Mirth Richards & Farmer LLP

AND IN THE MATTER OF the Notice of Objection to the said intended expropriation filed by DS Classic Grill Ltd. by its solicitor Shauna N. Finlay of Reynolds Mirth Richards & Farmer LLP

AND IN THE MATTER OF the Notice of Objection to the said intended expropriation filed by PetroJaffer 116 Ltd. by its solicitor Paul Barrette of Prowse Chowne LLP

AND IN THE MATTER OF an Inquiry in respect thereof pursuant to the provisions of the said Act by Sharon Roberts, as Inquiry Officer appointed to conduct the said Inquiry by the Minister of Justice and Attorney General for the Province of Alberta, as represented by Lorne Merryweather, Q.C, Barrister and Solicitor

INTERIM DECISION OF THE INQUIRY OFFICER SHARON ROBERTS June 21, 2021		
THE CITY OF EDMONTON LEGAL SERVICES BRANCH 9 th Floor, Chancery Hall 3 Sir Winston Churchill Square Edmonton, AB T5J 2C3 Attention: Gordon A. Buck and Kyla Schauerte Solicitors for the Expropriating Authority The City of Edmonton Phone: 780-496-7200 Fax: 780-496-7267	REYNOLDS MIRTH RICHARDS & FARMER LLP Manulife Place #3200, 10180 101 St NW Edmonton, AB T5J 3W8 Attention: Shauna Finlay and Greg Weber Solicitors for Husky Oil Operations Limited and DS Classic Grill Ltd. Phone: 780-497-3302 Fax: 780-429-3044	
Attention: Gordon A. Buck and Kyla Schauerte Solicitors for the Expropriating Authority The City of Edmonton Phone: 780-496-7200 Fax: 780-496-7267 PROWSE CHOWNE LLP	Attention: Shaun Solicitors for Husk Classic Grill Ltd. Phone: 780-497-3 Fax: 780-429-3044	

1300, 10020 101A Avenue

Edmonton, AB T5J 3G2 Attention: Donald P. Mallon, QC and Paul Barrette Solicitors for Yellowhead Motor Inn Ltd. and PetroJaffer 116 Ltd. Phone: 780-439-7171 Fax: 780-439-0475

Attachment #3

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I. STATUS OF INQUIRY PROCEEDINGS

- 1. The Inquiry hearing in this matter commenced on June 16, 2021 and is ongoing.
- This Inquiry is proceeding in a hybrid hearing format. Counsel for all parties, and the Inquiry
 Officer, are attending in person at the Edmonton Tower located at 10111 104 Street in Edmonton,
 Alberta and following the Chief Medical Officer of Health guidelines in the context of the ongoing
 global COVID-19 pandemic. Lay and expert witnesses have attended by videoconference (Zoom,
 hosted by the attending Court Reporter).

II. ISSUE FOR INTERIM DETERMINATION

 On June 18, 2021, in advance of the objecting parties calling any of their expert witnesses, counsel for the expropriating authority, The City of Edmonton ("COE"), objected to certain of the objecting landowner's and tenants' expert opinion evidence being admitted.

III. SUMMARY OF ARGUMENTS

- 4. The bases of COE's objections are that the impugned expert evidence is not relevant, goes to issues beyond the scope of my jurisdiction as Inquiry Officer, and will prejudice the proceedings if admitted. Specifically, the COE argued that the impugned expert evidence goes to issues of compensation and, as such, are outside my jurisdiction.
- 5. Counsel for the COE correctly noted that compensation for expropriation decisions, once made, must be determined elsewhere. Notably, the "where" will, on a go forward basis, be the Land and Property Rights Tribunal, having jurisdiction as a successor by legislative amalgamation (for lack of a better term) to the Alberta Land Compensation Board for compensation claims under the Expropriation Act going forward.
- Counsel for the land owners and counsel for the tenants, as Objectors, argued, in more precise terms that, for sake of brevity, I summarize in broad strokes as follows.
 - a. The question of how much land the expropriating authority ought to take goes to core issues before me on this Inquiry, namely, whether the intended taking is fair, and whether it is sound.
 - b. The COE has sast too narrowly the threshold question of relevance.
 - c. If relevant, evidence ought to be admitted and questions of weight are within my jurisdiction to determine in my final Inquiry Report to City Council.

IV. DECISION

 I accept the COE's argument that I have no jurisdiction as Inquiry Officer under the Expropriation Act to determine matters of compensation. However, this does not conclude the analysis of

relevance where issues of how much land the expropriating authority ought to take (or not take) are raised on the basis of whether an intended taking is fair, sound and reasonably necessary.

- I further agree with the COE's counsel that I must find the intended taking at issue in this Inquiry to be not only reasonably necessary, which has been conceded by each of the objecting owners and tenants (collectively, the "Objectors"), but also that the intended taking be both fair and sound.
- Further, I appreciate and agree with the concession by counsel for the COE that I am not bound by the rules of evidence and am able to make my own determinations of what is admissible into evidence before me, just as I have jurisdiction to admit evidence and give it greater or less weight depending on the circumstances.
- 10. I do not believe the parties argued this before me, but I take notice of the fact that even in venues where the rules of evidence do apply, relevance is, in both practical and relative terms, a fairly low bar. In public interest legislation which, arguably, the *Expropriation Act* is, by its nature the process engaged to determine private ownership rights and public obligations must not only be fair, but be seen to be so. This principle guides my analysis of the issues before me on this objection.
- 11. I am persuaded by the Objectors' and COE's arguments, respectively, in the following respects.
 - First, if the impugned expert evidence is relevant and may assist me in determining the issues in dispute, its admission cannot be substantively prejudicial to my decision making process.
 - b. Second, I can decide weight upon having heard all of the evidence (credit for this argument is given to the COE, who advanced this as alternate relief).
 - c. Third, the size of the parcel of land to be taken, whether it is appropriate to consider the purpose and objective for which the intended taking is proposed (agreed by all counsel as being the "Project", namely the Yellowhead Trial Freeway Conversion Program or Project and all work and matters ancillary thereto), and how a partial taking relative to a full taking factor into those purposes and objectives, are all at play in my impending determination of whether the intended taking is fair, sound and reasonably necessary.
- 12. Further to the arguments advanced by counsel for the parties, I note that compensation decisions are the purview of another decision maker only *after* an intended taking is approved. That has not yet occurred, and the issue of whether what is being proposed by the COE on this intended taking is fair and sound is at issue before me, and within my jurisdiction to determine.
- By reason of the foregoing, I admit the objected-to expert evidence tendered by the Objectors. I
 expressly reserve my right to make determinations of weight in my final Inquiry Report.

Dated at the City of Edmonton, in the Province of Alberta, this 21st day of June, 2021

GLL

Sharon Roberts Inquiry Officer

Rationale for Expropriation of the Subject Land

Below is Administration's rationale in support of expropriation of the Subject Land. This rationale may be recited, adopted, or amended as reasons by City Council in its decision to approve the expropriation, disapprove the expropriation, or approve the expropriation with modifications, as it sees fit.

Pursuant to section 18 of the *Act* City Council has considered the Inquiry Officer's Report, Attachment 2, of the August 23, 2021, Office of the City Manager report OCM00728, and approves the expropriation of the Subject Land for the following reasons:

BACKGROUND

- 1. The City has satisfied the statutory requirements under the *Act*.
- 2. The construction, design, and engineering of the Project are consistent with the City's strategic objectives as set out in "The Way We Move", "The Way We Grow", "ConnectEdmonton", and "Edmonton City Plan".
- 3. The City completed a concept engineering plan relating to the subject area of the Project in 2015, which was presented to the Transportation Committee on October 7, 2015.
- 4. The design of this segment of the Project, and in particular, the conversion of the Yellowhead Trail/149 Street intersection from a signalized all-directional intersection to a right-in/right-out only intersection, was the result of extensive consultation with businesses and stakeholders in the area, including the registered owner of the Property.
- 5. Capital funding for the Project was approved by City Council on February 21, 2017.
- 6. Construction for the segment of the Project between 156 Street and St. Albert Trail began in June 2021.
- 7. The expropriation is in the public interest. The land that the City is proposing to expropriate is necessary for the construction of the Project.
- 8. Administration took steps to try to reduce the impact of the Project on the Property. However, expropriation of the Subject Land is unavoidable. The Subject Land is a taking of the least amount of land to meet the technical requirements of what is required in order to construct the Project.
- 9. Administration has previously assessed the cost of the expropriation of the Subject Land and is in a position to recommend same.

SUBJECT LAND REQUIREMENT

- 10. The expropriation of the Subject Land will allow the City to construct the Project, as set out in the Notice of Intention to Expropriate:
 - Without limitation, to facilitate the construction of the Yellowhead Trail Freeway Conversion Program, which may include the

widening and upgrading of Yellowhead Trail and nearby roads, intersections, over/underpasses, public utilities, sidewalks, as well as access modifications, road network improvements, interchange construction, construction of public utilities, drainage infrastructure and sidewalks, and any other infrastructure incidental to the construction of the Yellowhead Trail Freeway Conversion Program.

- 11. The Subject Land is required:
 - a. to allow for the construction of a westbound, two-lane service road parallel to the new Yellowhead Trail;
 - b. to allow for the construction of related infrastructure such as sidewalks and street lighting; and
 - c. to allow for the placement of linear utilities in accordance with regulations and engineering guidelines.
- 12. The Subject Land will form part of the future road right-of-way.
- 13. Through the expropriation process, the City will obtain possession of the Subject Land by the end of 2021, which will allow for the installation of utilities and construction work to begin following possession in line with the timeline contemplated under the City's construction contract.
- 14. The City's need for the Subject Land in order to achieve the objectives of the Project was agreed upon at the inquiry hearing.
- 15. In the Inquiry Officer's Report the inquiry officer recommended that City Council approve the partial taking in order to avoid delay to the Project and because it is necessary for the Project.

INQUIRY OFFICER'S REPORT

- 16. The inquiry officer considered business loss evidence that relates to matters of compensation to arrive at the findings. The evidence was persuasive enough for the inquiry officer to conclude that a full taking was more appropriate than a partial one.
- 17. While it is clear that the partial expropriation of the Subject Land will impact the Objectors, compensation is an issue to be determined at a compensation hearing before the Tribunal.
- 18. Although the inquiry officer chose to allow expert evidence related to anticipated business losses before opining on whether the proposed expropriation met the Statutory Test, the evidence informed the second recommendation that a subsequent or companion process be pursued for a full expropriation of the Property.
- 19. If City Council were to make a direction in response to the second recommendation, it would need to approve commencement of the whole or remainder of the Property. If a subsequent expropriation of the Property was pursued, there will be another opportunity to object, and a potential second inquiry which may result in another written inquiry report.

- 20. The above risks can be avoided by not taking steps to pursue the full expropriation of the Property and by allowing the Tribunal to make an Order, as it sees fit, upon hearing the Section 15 MGA application.
- 21. Based on the currently available information, Administration neither supports nor recommends a full acquisition of the Property.

CONCLUSION

- 22. City Council approves the expropriation of the Subject Land as it is of the opinion that proceeding with the expropriation of the Subject Land will serve the public interest:
 - a. It will allow the City to acquire the Subject Land in accordance with its anticipated timeline and for construction on the Subject Land to proceed without delay.
 - b. In making no direction in relation to the expropriation of the full Property, it respects the legislative scheme set out in the *Expropriation Act* and the *Municipal Government Act* by properly allowing the Tribunal, upon a review of the evidence and argument that will be presented at the Section 15 MGA application hearing, to determine if a partial expropriation is unfair to the owner such that a full expropriation is warranted, and if so, to direct same.

Copy of Section 18 of the Expropriation Act

Certificate of approval

18(1) The approving authority shall consider the report of the inquiry officer and shall approve or disapprove the proposed expropriation or approve the proposed expropriation with any modifications that the approving authority considers proper, but no approval shall be modified so as to affect land of a person who was not a party to the inquiry.

(2) Subject to subsection (3), the approving authority shall give written reasons for its decision and shall cause a copy of its decision, together with the reasons for it, to be served on all the parties within 30 days after the date on which the report of the inquiry officer is received by the approving authority.

(3) When the Tribunal is carrying out the functions of an inquiry officer under this Act, it shall, in its capacity as the approving authority,

- (a) approve or disapprove the proposed expropriation or approve the proposed expropriation with modifications,
- (b) give written reasons for its decision, and
- (c) cause a copy of its decision, together with the reasons for it, to be served on all the parties,

within 60 days after its appointment to carry out the functions of the inquiry officer.

(4) If the approving authority approves the expropriation, it shall also provide the expropriating authority with a certificate of approval in the prescribed form.

(5) When the approving authority and expropriating authority are one and the same, the requirements of subsections (2) and (4) respecting service on the expropriating authority are inapplicable.

RSA 2000 cE-13 s18;2020 cL-2.3 s23

Copy of Section 15 of the Municipal Government Act

Expropriating part of a parcel

15(1) If a municipality's notice of intention to expropriate proposes to expropriate a portion of a parcel of land, the owner of the parcel may apply to the Land and Property Rights Tribunal to direct the municipality to expropriate the whole of the parcel.

(2) The Tribunal may direct the municipality to expropriate the whole of the parcel of land if, in the opinion of the Tribunal, the expropriation of a part of the parcel is unfair to the owner of the parcel.

RSA 2000 cM-26 s15;2020 cL-2.3 s24(3)



EXECUTIVE COMMITTEE REPORT Use of Neighborhood Renewal Funds - Exception to Policy C595A

Recommendation of the Committee

- 1. That an exception to Neighbourhood Renewal Program Policy C595A, to allocate \$17.0 million in neighbourhood renewal funds for purposes other than neighbourhood renewal, be approved.
- 2. That \$17.0 million in funds within the Neighbourhood Renewal Reserve be transferred to the appropriated Financial Stabilization Reserve to offset future budget impacts of COVID-19.

History

At the August 23, 2021, Executive Committee meeting, the August 23, 2021, Financial and Corporate Services report FCS00730 was considered and a non-statutory public hearing was held.

Attachment

August 23, 2021, Financial and Corporate Services report FCS00730

Use of Neighborhood Renewal Funds -Exception to Policy C595A Non-Statutory Public Hearing

Recommendation

That Executive Committee recommend to City Council:

- 1. That an exception to Neighbourhood Renewal Program Policy C595A, to allocate \$17.0 million in neighbourhood renewal funds for purposes other than neighbourhood renewal, be approved.
- 2. That \$17.0 million in funds within the Neighbourhood Renewal Reserve be transferred to the appropriated Financial Stabilization Reserve to offset future budget impacts of COVID-19.

Executive Summary

This report is requesting an exemption to Neighbourhood Renewal Program Policy, C595A to allow for use of \$17 million in neighbourhood renewal funds to manage impacts of COVID-19 on the City's budget, and also recommending a transfer of these funds from the Neighbourhood Renewal Reserve to the COVID-19 funds within the appropriated Financial Stabilization Reserve.

In September 2020, with the introduction of the Municipal Stimulus Program (MSP) the \$17 million in neighbourhood renewal funds were released and held within the Neighbourhood Renewal Reserve to help offset future budget challenges.

Report

Background

On July 28, 2020, the Government of Alberta announced the MSP to provide additional capital infrastructure stimulus funding to municipalities. The City of Edmonton was allocated \$115.6 million from this program.

In the fall of 2020, reductions were being considered to the industrial neighbourhood rehabilitation overlays capital program in order to manage the impacts of COVID-19. The MSP program provided an opportunity for the City to continue with the industrial neighbourhood renewal rehabilitation overlays that were identified to be cut from the capital budget as a result of the ongoing financial challenges. On September 21, 2020,

through Financial and Corporate Services report FCS00080, Municipal Stimulus Program - Proposed Funding Allocations, Council approved the allocation of \$17.0 million in MSP funds for the industrial neighbourhood rehabilitation overlays. The neighbourhood renewal amounts originally funding these costs were released back to the Neighbourhood Renewal Reserve and held to manage future operating budget challenges related to the COVID-19 pandemic.

Neighbourhoods Renewal Policy

The Neighbourhood Renewal Program Policy ,C595A, provides direction to Administration on the management of the Neighbourhood Renewal Program. The policy provides clarity on the use of the dedicated tax levy funding via the Neighbourhood Renewal Reserve, which is the primary funding source of the Neighbourhood Renewal Program. In accordance with the policy, all neighbourhood renewal funds must be used for neighbourhood renewal purposes; an exception to the policy is required to use the funds for any other purpose, including the \$17 million held in the reserve to offset future budget challenges. As such this report is requesting an exception to the policy to officially use the \$17 million in funds within the Neighbourhood Renewal Reserve to offset future impacts of COVID-19 on the City's operating budget on a one-time basis (Recommendation 1).

Furthermore, Administration is also seeking Council's approval to reallocate the \$17 million in neighbourhood renewal funds from the Neighbourhood Renewal Reserve to the COVID-19 funds within the appropriated Financial Stabilization Reserve to offset future impacts of COVID-19. Administration continues to assess the impacts of COVID-19 on the City's 2022 operating budget and will return in the fall with forecasts and funding strategies, including the use of these funds.

Reallocation of these funds for purposes other than neighbourhood renewal will not impact the planned neighbourhood renewal activities.

City Policy C595A requires a non-statutory public hearing to be held prior to the policy being amended, exempted or revoked by City Council.

Public Engagement

No public engagement was undertaken on the recommended policy exception prior to the non-statutory public hearing at Executive Committee on August 23, 2021. Advertising of this non-statutory public hearing ran in the Edmonton Journal on August 3 and 10, 2021, and was posted to the City of Edmonton website.

Corporate Outcomes and Performance Management

Corporate Outcome(s): The City of Edmonton has a resilient financial position.

Outcome(s)	Measure(s)	Result(s)	Target(s)
The City of Edmonton has a resilient financial position.	Adjustments to the approved Capital Budget results in the same or lower approved tax increases.	No tax increase is required to fund COVID-19 financial impacts from 2020-2022.	1.3% (2020) (0.3)% (2021) 1.8% (2022)

Risk Assessment

Risk Element	Risk Description	Likelih ood	Impact	Risk Score (with current mitigation s)	Current Mitigations	Potential Future Mitigations
If the recom	mendation is not approved	d:				
Financial	The City would have less funding to address the ongoing impacts of the COVID-19 pandemic	5 - almost certain	3 - major	15 - high	Continued evaluation of City revenue and expenditures in response to the pandemic	Increase to tax levy to mitigate City's financial position
If the recommendation is approved:						
Public Perception	Exception to policy could be perceived that the city is not upholding its commitments	1 - rare	3 - major	3 - Iow	Advertised non-statutory public hearing to address any public concerns	Additional communication about the reasoning and unique situation of provincial funding for pandemic relief

Attachment

1. City Policy C595A: Neighbourhood Renewal Program

Others Reviewing this Report

- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services
- C. Owen, Deputy City Manager, Communications and Engagement
- K. Fallis-Howell, Acting City Solicitor



CITY POLICY

POLICY NUMBER: C595A

REFERENCE:		ADOPTED BY:	
C595A May 30, 2017		City Council October 5, 2020	
		<u>SUPERSEDES</u> : C595	
PREPARED BY:	Integrated Infrastructure Services	DATE: February 20, 2020	

TITLE: Neighbourhood Renewal Program

Policy Statement:

- 1. In compliance with this policy and the *Municipal Government Act*, the establishment of all Reserve accounts and the transfers to and from these accounts require City Council approval.
- 2. The Neighbourhood Renewal Reserve shall be managed in accordance with City Policy C217C, Reserve and Equity Accounts.
- 3. Prior to this Policy being amended, exempted or revoked by City Council, a nonstatutory public hearing must be held.
- 4. The Neighbourhood Renewal Reserve will be funded from that portion of the operating budget that was created from successive Neighbourhood Renewal Tax Levy increases, which began in the 2009 Operating Budget and are expected to continue, in a reduced form after 2018, for purposes of cost escalation, fully funding the alley renewal program, and other additional elements as Council sees fit (the "Neighbourhood Renewal Funding"). All current and future revenues generated from Neighbourhood Renewal Tax Levy increases shall be placed into the Neighbourhood Renewal Reserve.
- 5. Use of Neighbourhood Renewal Funding will be limited solely to operating and capital expenditures related to the renewal of neighbourhood residential, industrial and commercial collector, local and alley road right of way surface assets (such as pavements, sidewalks, curbs and gutters, roadway lighting, traffic signals and other transportation-related infrastructure). Renewal of assets outside of this scope, for example, open space assets, can be incorporated into the program (and in fact are encouraged to be), provided appropriate alternative funding is found.
- 6. Assets will be renewed using Neighbourhood Renewal Funding to bring them to physical standards as defined by the currently adopted design standards of the City of Edmonton, and within the capacitive and functional standards of the day (i.e. Complete Streets, Cycle Facilities), where these enhanced costs are generally in the order of 5% and not to exceed 10% of the overall program budget expended in any given 4-year capital cycle.

This policy is subject to any specific provisions of the Municipal Government Act or other relevant legislation or Union Agreement.

- 7. Coinciding with the regular capital and operating budget cycles, Administration will undertake an assessment of the Neighbourhood Renewal Funding with respect to progress towards the level of service standards. Adjustments to the Neighbourhood Renewal Funding should be considered to ensure the defined level of service standards can be achieved.
- 8. Level of service standards for the Neighbourhood Renewal Program is defined as follows:

Neighbourhood Renewal Objectives: Attain the acceptable level of performance within 30 years (2009 - 2038) including:

- For the collector and local sidewalks, and residential and industrial local roads:
 - Condition Index (C.I.) >= 3.50
 - %F+D (%Very Poor+Poor) = 0.00%
- For collector roads:
 - C.I. >= 3.00
 - %F+D = 0.00%
- For Neighbourhood Network (The Way We Move):
 - Road Renewal need backlog <= 20%
 - (as measured by Pavement Quality Index (RD PQI))

Alley Renewal (Residential, Industrial and Commercial Alleyways) Objectives: Attain the acceptable level of performance within 25 years (2019 -2043) including :

- Condition Index (C.I.) >= 4.0
- %F <= 0%

Business Improvement Areas: While still managing the overall asset portfolios within the level of service standards above, and pertaining to the asset types outlined in the policy, assets within Business Improvement Areas will be renewed under the following additional guidelines:

- Undertaking, by the end of 2030, the renewal of all assets rated "F" (Very Poor) and "D" (Poor), and any assets rated "C" (Fair) that will decay into "D" (Poor) by 2030.
- The above standard would not apply to any Business Improvement Area established after 2026, though reasonable attempts to achieve it should be undertaken.

The purpose of this policy is to:

- 1. Ensure clarity and consistency in the use of Neighbourhood Renewal Tax Levy dedicated to the Neighbourhood and Alley Renewal Programs.
- 2. Put measures in place to ensure changes to the funding of the Neighbourhood Renewal Program are considered with the opportunity for public input in the form of an nonstatutory public hearing.
- 3. Guide the management of the Neighbourhood Renewal Program to ensure its long term sustainability.

This policy is subject to any specific provisions of the Municipal Government Act or other relevant legislation or Union Agreement.



CITY PROCEDURE

POLICY NUMBER: BO

Bold Font

AUTHORITY: City Manager

EFFECTIVE DATE:

TITLE: Neighbourhood Renewal Program

PAGE: Page 1 of

1. <u>DEFINITIONS</u>

1.01 Business Improvement Area: pursuant to section 50 of the *Municipal Government Act, RSA 2000, c M-26* and established by bylaw in accordance with City Policy C462B.



URBAN PLANNING COMMITTEE REPORT

City Policy C509B - Naming Development Areas, Parks, Municipal Facilities, Roads and Honorary Roads

Recommendation of the Committee

That the revised Naming Municipal Assets Policy C509C, as set out in Attachment 1 of the August 24, 2021, Urban Planning and Economy report CR_8389, be approved.

History

At the August 24, 2021, Urban Planning Committee meeting, the August 24, 2021, Urban Planning and Economy report CR_8389, was considered.

Attachment

August 24, 2021, Urban Planning and Economy report CR_8389

City Policy C509B - Naming Development Areas, Parks, Municipal Facilities, Roads and Honorary Roads

Recommendation

That Urban Planning Committee recommend to City Council:

That the revised Naming Municipal Assets Policy C509C, as set out in Attachment 1 of the August 24, 2021, Urban Planning and Economy report CR_8389, be approved.

Previous Council/Committee Action

At the June 22/23, 2020, City Council meeting, the following motion was passed:

That Administration return to Council with an updated City Policy C509B Naming Development Areas, Parks, Municipal facilities, Roads and Honorary Roads to ensure focus and historical relevance on Indigenous place names in Edmonton and to also review the Naming Committee bylaw and other related policies to ensure consistency.

Executive Summary

Council Policy C509C replaces the Naming Development Areas, Parks, Municipal Facilities, Roads and Honorary Roads Policy C509B. The revised Council Policy C509C Naming Municipal Assets includes language providing direction on the focus and historical relevance of Indigenous place names, a renaming section, and updated policy formatting for better readability and clarity.

Report

The Naming Committee is a Council Committee made of seven primarily unaffiliated volunteer residents including a representative from Edmonton's Historical Board. The Naming Committee approves names for municipal assets based on naming applications submitted by Administration, community leagues, private developers, organizations, and the general public. The Naming Committee and its naming process are committed to the City Plan's guiding value which states that Edmontonians are all Treaty 6 people who acknowledge and celebrate diverse cultures and welcome perspectives and experiences from around the world.

City Policy C509B - Naming Development Areas, Parks, Municipal Facilities, Roads and Honorary Roads

Policy C509B Naming Development Areas, Parks, Municipal facilities, Roads and Honorary Roads provides direction to the Naming Committee on the criteria and principles to be considered when evaluating naming applications. The policy was adopted on May 12, 2015.

The Naming Committee reviewed Policy C509B as per Council Policy C575D Agencies, Boards, Committees and Commissions 2(d), which states that the mandate, objectives, role and membership of City Agencies must be periodically reviewed by City Council to ensure that the Agency remains effective throughout its life cycle.

The proposed Policy C509C has been revised to include enhanced language that reflects Edmontonians' community values of equity and inclusion with prioritization and focus on Indigenous place names. The revised Policy contains a new renaming section to provide guidance for future renaming applications to be considered by the Naming Committee. The Policy also required reformatting to ensure consistency with the new Corporate Policy Framework.

Engagement

The Naming Committee consulted with Administration's Indigenous Relations Office and Diversity and Inclusion Office to ensure the revised Policy changes are in alignment with the Indigneous Framework and The Art of Inclusion: Our Diversity & Inclusion Framework.

Policy Changes

- 1. The Policy Statement was modified to reflect Indigenous place names, partnerships with Indigenous communities, Indigenous histories, and Edmonton's diverse communities and their contributions.
- 2. Guiding Principles were modified to include language on wayfinding and that names must consider Emergency Response and Canada Post standards, policies and practices.
- 3. Naming Criteria was modified to ensure focus and reflect the traditional usage or ways of knowing of Indigenous people.
- 4. Naming Criteria were reordered to place priority on reflecting the heritage, cultural, ethnic or gender diversity of the community and the flora, fauna, geographical or topographical features of the local area.
- 5. Naming Policy C509C introduces a renaming section that provides guidance on the parameters for which renaming applications may be considered.

City Policy C509B - Naming Development Areas, Parks, Municipal Facilities, Roads and Honorary Roads

- 6. Park naming section enhanced to provide specific parameters on naming different levels of parks, plazas, trails, and other open space municipal assets.
- 7. Reformatting to ensure consistency with the new Corporate Policy Framework.

Attachments

- 1. Revised Council Policy C509C
- 2. Original Approved City Policy C509B

Others Reviewing this Report

- M. Persson, Chief Financial Officer and Deputy City Manager , Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- G. Cebryk, Deputy City Manager, City Operations
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services
- K. Armstrong, Deputy City Manager, Employee Services
- R. Smyth, Deputy City Manager, Citizen Services
- K. Fallis-Howell, Acting City Solicitor

Council Policy C509C Naming Municipal Assets



Program Impacted	Civic Services Edmontonians contribute to civic society and are engaged in promoting the quality of the community.
Number	C509C
Date of Approval	August 24, 2021
Approval History	C509B Naming Development Areas, Parks, Municipal Facilities, Roads and Honorary Roads, May 12, 2015 C509A Naming Development Areas, Parks, Municipal Facilities, Roads and Honorary Roads, January 21, 2009 C509 Naming Development Areas, Parks, Municipal Facilities, Roads and Honorary Roads, July 5, 2005
Next Scheduled Review	August 24, 2024

1. Statement

The primary function of naming municipal assets is to recognize and commemorate:

- Municipal partnerships with Indigenous communities;
- Local Indigenous histories;
- Edmonton's diverse communities, both historical and growing, and their contributions; and
- The flora, fauna and natural features of the community.

2. Guiding Principles

When naming municipal assets:

- The contributions, achievements or interests of a person must be relevant and connected to the municipal asset for which such name is proposed.
- When appropriate, wayfinding shall be considered when selecting and applying names.
- Names must consider Emergency Response and Canada Post standards, policies and practices.

3. Naming Criteria

- a. The City of Edmonton encourages that the names to be honoured:
 - i. Reflect the heritage, cultural, ethnic or gender diversity of the community or contributions to

the same;

- ii. Acknowledge partnerships with Indigenous communities; or
- iii. Consider significant contributions to Edmonton, Alberta, or Canada
- b. Names may reflect the traditional usage or ways of knowing of local and area Indigenous people.
- c. Names may reflect a historical event significant to Edmonton, Alberta, or Canada.
- d. Names may recognize the flora and fauna of the local area or the geographical or topographical feature of the local area.
- e. The name of a person should meet at least two of the following criteria:
 - i. A person who demonstrates excellence, courage or exceptional dedication to service in ways that bring special credit to Edmonton, Alberta, or Canada;
 - ii. A person who volunteers and gives extraordinary help or care to individuals, families or groups, or supports community services or humanitarian causes;
 - iii. A person who fosters equality and reduces discrimination;
 - iv. A person who risks their life to save or protect others;
 - v. A person who achieves a deed or activity performed in an outstanding professional manner or of an uncommonly high standard that brings considerable benefit or great honour to Edmonton, Alberta, or Canada.
 - vi. A person who demonstrates excellence, courage or exceptional dedication to service in ways that reflect the heritage and identity of a community within Edmonton.
- f. The names of people who are closely connected to Edmonton should be preferred over those who have achieved national or international status, but are not closely connected to Edmonton
- g. Names may be placed on the Names Reserve List for future consideration if they conform to the naming criteria and must* include the following:
 - i. The requirements listed under Naming Applications within this policy; and
 - ii. Suggested types of facilities or areas to honour the added name.

4. Naming Applications

- a. Naming applications submitted to Administration on behalf of the Naming Committee must include the following:
 - i. Justification for the name;
 - ii. Applicant's information;
 - iii. Proposed names honouring an individual must have a complete biography which includes:
 - 1. Date and location of birth
 - 2. Education
 - 3. Highlights of career and contribution to the City of Edmonton, Alberta, or Canada
 - 4. Volunteer service
 - 5. Citations
 - iv. Name, other than a person, must include a write-up of the proposed name;

- v. Map identifying the location of the municipal asset of the proposed name;
- vi. Administration support for the naming of the municipal asset;
- vii. Acknowledgement of how the costs associated with the proposed naming will be incurred;
- viii. Community League support;
- ix. Family consent; and
- x. Letters of support

5. Development Area

- a. A theme may be assigned to a development area.
- b. Where a theme has been assigned to a development area, the name of the neighbourhoods (or sub-neighbourhoods) within the development area ought to be associated with the theme.
- c. The official neighbourhood name may differ from the marketing names of a neighbourhood.

6. Parks

- a. City Level Parks, being open space which serves the entire population of Edmonton, shall be named.
- b. District Level Parks, being an open space which services a specific area and includes both larger parks and athletic grounds associated with high schools, shall be named after the development area.
- c. Neighbourhood Level Parks, being open space which serves a specific area and includes smaller parks, grounds associated with community league sites, grounds associated with elementary schools, and play lots, shall be named as follows:
 - i. Primary Neighbourhood Level Parks shall be named after the neighbourhood and may include another name that conforms to the Naming Criteria.
 - ii. Secondary Neighbourhood Level Parks may be named using a name not associated with the neighbourhood that conforms to the Naming Criteria.
- d. The descriptive word "Park" shall be assigned to the name of the park.
- e. Green and open spaces within road right-of-ways (also known as Road Islands) may be named after a person or a name that meets the Naming Criteria provided that:
 - i. The site is zoned Park or deemed to be public open space by Administration;
 - ii. Affected community league(s) support the naming of the open space;
 - iii. The applicant incurs all costs associated with developing and maintaining the Park signage; and
 - iv. The descriptive word "Green" shall be assigned to the name of these types of open spaces within road rights-of-way.
- f. Trails, Plazas, Lookouts and other green spaces may be named provided that:
 - i. The naming of such municipal asset is supported by Administration;
 - ii. The name conforms to the Naming Criteria;
 - iii. Affected community league(s) support the naming of the municipal asset;

- iv. The applicant may be responsible for the costs associated with signage; and
- v. The descriptive word associated with these namings is established by Administration.

7. Roads

- a. Roads may be named under the following circumstances:
 - i. Where directional variations of road alignments would create inherent confusion for the delivery of public services, municipal addressing, and the public at large, if the roads were numbered;
 - ii. Where the majority of roads are named within the neighbourhood or adjacent neighbourhood; and
 - iii. Subject to the above, roads including arterial and major collector roads should be numbered provided that the implementation of the grid system in the area can be applied without creating unnecessary confusion.
- b. Where numbering the roads would not be appropriate, the name of roads ought to begin with the first letter of the neighbourhood name or be consistent with the theme of the neighbourhood or development area.
- c. In the event that the major collector road is not numbered, it shall be named after the neighbourhood.
- d. Roads within the same neighbourhood may bear the same name but with a different descriptive word providing the roads intersect or are adjacent to each other.
- e. Descriptive words used in conjunction with names are subject to the approval of Administration.

8. Honorary Roads

- a. A road, either whole or in part, may be named in honour of a person or a name that meets the Naming Criteria.
- b. Honorary names can only be applied to numbered roadways.
- c. The approved honorary name does not replace the official numbered assignment of the roadway.
- d. Applicants are responsible for the costs associated with the approved honorary name.
- e. Honorary signage can be unique and should be different from the standard green numbered blade.

9. Municipal Facilities

- a. Municipal Facilities include civic buildings such as recreation facilities, maintenance yards, and office towers; bridges; stormwater management facilities; LRT stations, stops, and transit facilities; and other significant civic structures owned and operated by the City of Edmonton. These may be named as follows:
 - i. Municipal Facilities may be named after the neighbourhood in which they are located, or otherwise as determined by the Naming Committee.
 - ii. LRT Stations and stops should reference the neighbourhood in which they are located or reference a major point of destination or significant landmark.

- iii. Stormwater management facilities shall avoid the use of "Lake" or "Pond".
- iv. Components of Municipal Facilities may be named if requested by Administration.

10. Renamings

- a. The Naming Committee may consider renaming applications under the following circumstances:
 - i. When there is strong rationale that an existing name is discriminatory, derogatory, or conveys negative or offensive connotation;
 - ii. When the views or actions of the individual after whom a municipal asset is named no longer reflect Edmonton's current community values of equity and inclusion; or
 - iii. When there is strong support from the community impacted by the existing name.
 - iv. The proposed new name must comply with the Naming Criteria and have the requirements listed under Naming Applications.
- b. A road, either whole or in part, may be changed from a numbered road to a named road under the following circumstances:
 - i. Where directional variations of road alignments would create inherent confusion for the delivery of public services, municipal addressing, and the public at large;
 - ii. Where the majority of roads are named within the neighbourhood; or
 - iii. When civic departments (i.e., Police Services) request a change from a numbered road to a named road to minimize confusion for the delivery of a public service.
- c. Where a road, either whole or in part, is changed from a numbered road to a named road, except where the application is brought by a civic department:
 - i. 75% of property owners and business owners directly affected must support the renaming of the road; and
 - ii. applicants are responsible for the costs associated with the approved renamed roadway.
- d. Renaming of significant municipal assets applications will be recommended by the Naming Committee to City Council for final approval.

11. Facility Name Sale Policy

a. Selling the name of a City of Edmonton facility to an external organization or corporation must be approved by City Council and must adhere to C477A *Facility Name Sale Policy*.

12. Definitions

a. Terms have the same meaning as they do in the Naming Committee Bylaw 17138


POLICY NUMBER: C509B

REFERENCE:

ADOPTED BY:

City Council 5 July 2005 Section 58 of the *Municipal Government Act* RSA 2000 c. M-26 City Council May 12, 2015

SUPERSEDES: C509A

PREPARED BY:	Corporate Services	DATE	: May 5, 20)15

TITLE: Naming Development Areas, Parks, Municipal Facilities, Roads and Honorary Roads

Policy Statement:

The primary function of naming development areas, parks, municipal facilities, roads and honorary roads is to recognize and commemorate noteworthy persons associated with Edmonton; reflect Edmonton's heritage; and to recognize the flora, fauna and natural features of the community.

The purpose of this policy is to:

- 1. Establish naming criteria;
- 2. Establish principles for the naming of development areas, parks, municipal facilities, roads, and honorary roads, and, if requested by the City Manager, components of municipal facilities;
- 3. Establish principles to recognize former Mayors; and
- 4. Establish principles to recognize former Councillors.



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1. <u>Definitions</u> – terms have the same meaning as they do in the Naming Committee Bylaw

2. Naming Criteria

- a. The name of a person must meet at least one of the following criteria:
 - i. A person who demonstrates excellence, courage or exceptional dedication to service in ways that bring special credit to the City of Edmonton, Province of Alberta, or Canada;
 - ii. A person who volunteers and gives extraordinary help or care to individuals, families or groups, or supports community services or humanitarian causes;
 - iii. A person who fosters equality and reduces discrimination;
 - iv. A person who risks his or her life to save or protect others; and
 - v. A person who achieves a deed or activity performed in an outstanding professional manner or of an uncommonly high standard that brings considerable benefit or great honour to the City of Edmonton, Province of Alberta, or Canada.
- b. The City of Edmonton encourages that the names to be honoured reflect the heritage, cultural, ethnic or gender diversity of the community, including early pioneers who have contributed significantly to the city.
- c. Names, other than a person, may reflect a historical event significant to Edmonton.
- d. Names, other than a person, may recognize the flora and fauna of the local area or the geographical or topographical feature of the local area.
- e. Names may be placed on the Names Reserve List for future consideration if they conform to the naming criteria.

3. Principles for Naming

- a. Naming a development area, park, municipal facility, road or honorary road after a person shall be commensurate with the contributions of the person being honored and having regard to the person's achievements or areas of interest.
- b. Preference will be assigned to those names that have been on the Names Reserve List the longest but have not been selected, whenever possible.
- c. Special considerations:
 - i. Development Area:
 - 1. A theme may be assigned to a development area.



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- 2. Subject to the above, the name of the neighbourhoods within the development area shall be associated with the theme.
- 3. The official neighbourhood name may differ from the marketing names of a neighbourhood.
- ii. Parks:
 - 1. There are three levels of parks:
 - a. City Level Park open space which serves the entire population of Edmonton; shall be named
 - b. District Level Park open space which services a specific area and includes larger parks, and athletic grounds associated with high schools; shall be named after the development area
 - c. Neighbourhood Level Park open space which serves a specific area and includes smaller parks, grounds associated with community league sites, grounds associated with elementary schools, and play lots; shall be named:
 - i. Primary Neighbourhood level parks shall be named after the name of the neighbourhood and may include the name of a person; and
 - ii. Secondary Neighbourhood level parks may be named after a person, organization, or geographical feature
 - 2. The descriptive word "park" shall be assigned to the name of the park.
- iii. Municipal Facilities:
 - 1. May be named after the neighbourhood in which they are located, or otherwise as determined by the Naming Committee.
 - 2. Stormwater management facilities (wet) shall include the descriptive word "lake" and shall be named after the park where it is situated or adjacent, the neighbourhood in which it is located or after the theme of the development area.
- iv. Components of Municipal Facilities:
 - 1. If the City Manager makes a request, the Committee may assign a name to a component of a municipal facility.
- v. Roads:
 - 1. Roads may be named under the following circumstances:
 - a. Where directional variations of road alignments would create inherent confusion for the delivery of public services; municipal addressing; and the public at large, if the roads were numbered;



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- b. Where the majority of roads are named within the neighbourhood or adjacent neighbourhood; and
- c. Subject to the above, roads including arterial and major collector roads should be numbered providing the implantation of the grid system in the area can be applied without creating unnecessary confusion.
- 2. The name of a road shall begin with the first letter of the neighbourhood name or be consistent with the theme of the neighbourhood or development area.
- 3. In the event that the major collector road is not numbered, it shall be named after the neighbourhood.
- 4. Roads within the same neighbourhood may bear the same name but with a different descriptive word providing the roads intersect.
- 5. The City Manager will approve the descriptive word used in conjunction with names.
- vi. Honorary Roads:
 - 1. A road, either whole or in part, may be named in honour of a person.
- vii. Renamed Road:
 - 1. A road, either whole or in part, may be changed from a numbered road to a named road under the following circumstances:
 - a. Where directional variations of road alignments would create inherent confusion for the delivery of public services; municipal addressing; and the public at large; or
 - b. Where the majority of roads are named within the neighbourhood; or
 - c. When civic departments (including the Police Service) request a change from a numbered road to a named road to minimize confusion for the delivery of a public service.
- 4. Principles to Recognize a Former Mayor
 - a. The name of a former Mayor shall be placed on the Names Reserve List within one year from leaving office.
- 5. Principles to Recognize a Former Councillor
 - a. The name of a former Councillor, subject to a naming application being submitted, shall be placed on the Names Reserve List.



URBAN PLANNING COMMITTEE REPORT City Plan Implementation Update - Advancing Edmonton's Systems

Recommendation of the Committee

That Administration pursue opportunities for additional engagement within the current project scope of The City Plan as outlined in Option 1 of the August 24, 2021, Urban Planning and Economy report UPE00684.

History

- At the August 24, 2021, Urban Planning Committee meeting, the August 24, 2021, Urban Planning and Economy report UPE00684, was considered.
- The Committee heard from J. Lawrence, Edmonton Federation of Community Leagues;
 L. Cunningham-Shpeley, Edmonton Federation of Community Leagues; C. Richmond;
 J. Hardstaff, Parkallen Civics Committee; and M. Samji, Infill Development in Edmonton Association.

Attachment

August 24, 2021, Urban Planning and Economy report UPE00684

City Plan Implementation Update

Advancing Edmonton's Systems

Recommendation

That the August 24, 2021, Urban Planning and Economy report UPE00684, be received for information.

Previous Council Action

The following motion passed at the June 8, 2021, City Council Public Hearing:

That Administration provide a report to Committee, outlining the approach and opportunities for additional engagement on District Planning, as part of a City Plan implementation update.

Executive Summary

As Administration advances the direction of The City Plan, this report builds on the February 2, 2021, Urban Planning and Economy report CR_8176 Advancing City Plan: Systems and Networks, and provides a brief update on the initiatives that underpin the systems and networks that shape Edmonton and are required for growth. These include:

- Development of a city-wide policy and geographic plans for the city's 15 districts
- Streamlining and simplifying the regulatory and planning landscape through the Zoning Bylaw Renewal Initiative
- Establishment of a City Planning Framework and repeal of plans that have served their purpose
- A review and renewal of Administration's planning guidance and regulation of the River Valley
- Completion of the Mobility Network Assessment and Mass Transit Planning Study
- Development of the Bike Plan Implementation Guide
- Completion of initial phases of the Growth Management Framework

Report

Systems and Networks

The City Plan establishes a systems and network approach to shape our city and create a foundation for growth (see Attachment 1). The systems are Planning and

Design, Mobility and Managing Growth. This report provides information on projects and initiatives that advance these systems.

Planning and Design System

District Planning Network

Establishing districts modernizes the planning framework to ensure the City's long-term financial viability and is rooted in stewardship and preservation of what Edmontonians value - safety, livability, and community. A modernized system responds to emerging realities to make informed choices. It means less detailed and prescriptive guidance for specific places and land uses, and better direction for the big picture - how we want to experience our community now and in the future.

Scope of District Plans

District plans will provide structure and policy to guide land use planning and infrastructure decisions, and ensure these decisions support the intentions of The City Plan. This will provide greater certainty to communities and developers regarding the extent of change expected and desired as the city grows to 1.25 million residents. This is especially important in the many areas of the city that have no other land use plan in effect other than the broad and long-range direction of The City Plan. District plans will facilitate the application of new zones through the Land Development Application process once the new Zoning Bylaw is adopted. Growth Management will work in tandem with district plans to apply financial tools to activate priority growth areas and revenue generating tools to complete developing areas, connecting planning direction and budget decisions. Establishing district plans is therefore critical to the delivery of The City Plan and these integrated projects.

The policies in district plans will support decisions that are informed both by The City Plan and the local context. Examples of local context include the location of local nodes, proximity to transit stations, and the presence of parks, open spaces and heritage elements.

Because of their scale, district plans will not contain the same level of detail provided by neighbourhood level land use plans. However, district plans will help inform local area planning such as neighbourhood renewal. Also, district plans can be amended in the future to contain more detailed land use planning direction in specific areas of concern.

Consultation is intended to occur at multiple scales with the level of consultation and detail increasing in scope as the geographic area narrows. For example, neighbourhood renewal projects will conduct additional consultation at the neighbourhood scale, while block level consultation can occur for land development applications.

Approach to District Planning

Current work is focused on extracting and utilizing existing priorities and policies from approved plans rather than recreating this work in new neighbourhood policy plans. The 15 district plans will combine existing land use, mobility and infrastructure policies that align with The City Plan. This creates a simplified, consistent and nimble policy landscape for residents, developers, communities and Administration, and is necessary to support future growth.

This approach to District Planning will use a compressed timeline to formally establish the districts as statutory plans. The draft district plans will be developed in 2021 and broad public engagement is planned for early 2022 (see engagement section below for additional detail). The District General Policy and 15 district plans are anticipated to be brought to City Council Public Hearing by the end of 2022.

Preparing these plans and discussing them with stakeholders and residents will reveal where more planning work is required to address gaps in policy after the foundations of district plans are established. Over time, district plans will evolve to guide growth in priority areas and appropriate local context will be added into the plans.

This innovative approach to land use policy planning provides opportunities for the City to establish the regulatory framework that will serve as the foundation to achieving The City Plan and Energy Transition Strategy goals in an efficient and effective manner. Administration understands the complexities of implementing a new approach to planning that shifts away from the neighbourhood level. Although a neighbourhood-level approach has been used in the past, it requires extensive resources and cannot be applied equitably across the 375 neighbourhoods in the city. Additionally, a more detailed neighbourhood planning policy approach does not meet the needs of our dynamic, growing and increasingly diverse city. Administration will continue to work to ensure that local context remains an important part of district plans, through a layered policy approach that addresses unique considerations.

Current and Planned Engagement

District Planning is focused on consolidating and simplifying existing approved plans and priorities rather than creating new directions. This approach honours and formalizes feedback from The City Plan engagement into policy and maps.

The current engagement approach to inform the district planning project is to:

- Confirm and validate The City Plan's directions applied to each district; and
- Refine the District General Policy and individual district plans for clarification, missing or incorrect information or appropriate level of detail.

To date, engagement has been focused on gathering feedback from the same core stakeholder group who participated in the preparation of The City Plan and ConnectEdmonton. This group reviewed and commented on the draft District General Policy and three sample district plans in the initial project phase. The feedback informed:

- The structure, content and level of detail required; and
- Strategies to effectively communicate plan concepts to a broad audience.

In addition to core stakeholder engagement, eight public virtual information sessions were hosted to share information about District Planning and answer any questions. The information sessions were advertised through the City's website and public events calendar, through social media channels and through stakeholder networks such as Edmonton Federation of Community Leagues (EFCL). Resulting information helped identify gaps or opportunities the project team had not considered.

Robust public engagement at the Advise and Refine level is planned for early 2022 once the draft District General Policy and all 15 draft district plans are ready for review and feedback. Specific tactics and activities will be confirmed later this year. The current approach defers more detailed engagement to future projects that will address specific planning issues as they arise, rather than attempting to address these issues through the creation of the district plans. Administration considers this approach to be the best course of action for this project.

Opportunities for Additional Engagement

At the June 8, 2021, City Council Public Hearing, a motion was passed that asked Administration to consider how additional public engagement could be accommodated. The understood intent behind the motion is to examine opportunities and provide options to Council where meaningful local context can be selectively considered and to ensure residents have confidence in the emerging planning policy regime. One of two options that outline opportunities for additional engagement can be pursued if directed by Council, otherwise Administration will continue with the approach to engagement described above.

Option 1 - Additional Engagement

Opportunities for additional engagement within the current project scope include:

- Hosting additional engagement events in each district (in addition to joint district events)
- Providing additional interactive opportunities online throughout the engagement period (e.g. activities led by the project team as well as self-directed review and input for residents/communities)
- Creating more resources (e.g. workbooks, conversation guides) for community leagues and/or residents to collaborate on feedback and share with the project team

 Identifying other City project engagement events where the project team can attend and create awareness and collect additional input

These additional engagement activities would give more participants an opportunity to share local context with Administration. The information they provide can be considered for policy inclusion within district plans, or support work planning for future projects. This option may not satisfy some residents who desire a more detailed customized neighbourhood plan that recognizes substantial local context. If Council desires additional engagement for District Planning, this option would have manageable impacts on the project timeline and budget, and would preserve the project scope.

Option 2 - Change of Engagement Scope

Option 2 for additional engagement entails a significant adjustment to the District Planning project scope. This option would revert to a more conventional approach to neighbourhood planning in which extensive community engagement would occur for each plan area with a purpose of capturing and embedding a high level of local context into each of the district plans. The benefit to this approach is a high level of public participation and increased understanding of development expectations.

Administration has identified a number of drawbacks to this approach:

- Adjusting policies and maps would duplicate a significant amount of work already completed through The City Plan.
- City-wide planning at the neighbourhood scale will create inequities, as due to resource constraints, district plans would not be developed concurrently, and some districts would undergo detailed planning while others would have no direction for some time.
- The resources necessary to create and maintain these types of plans are significant, which does not support the modernized, financially viable planning system intended by the City Planning Framework project, which ensures our planning tools remain responsive as the city evolves over time.

This option represents a fundamental change in the project's intent, scope, timelines and required resources, and will leave insufficient direction to implement the new Zoning Bylaw through land development applications. If Council directs Administration to pursue this option, a new project scope, schedule and resource plan would be required.

Zoning Bylaw Renewal Initiative

The Zoning Bylaw Renewal Initiative will streamline and simplify the regulatory and planning landscape. The initiative supports key objectives in The City Plan and Corporate Business Plan, including red tape reduction, improved service delivery, sustained community and economic investment, and more equitable outcomes. This work supports and is in alignment with Edmonton's Economic Action Plan.

As part of Phase 2 of the initiative, Administration is drafting a new Zoning Bylaw and corresponding zoning map, investing in technology improvements, updating City services and engaging with Edmontonians. A complete update and timeline is described in the June 29, 2021, Urban Planning and Economy report CR_7697, Zoning Bylaw Renewal Report #3 - Approaches and Structure of the New Zoning Bylaw.

City Planning Framework Implementation

Phase 1 of the City Planning Framework Implementation concluded on June 8, 2021, with the repeal of 74 land use plans that had fulfilled their purpose. The next phase will create a predictable lifecycle process to create, monitor, review, and retire planning tools to ensure they remain responsive as the city evolves over time. This process is expected to be in place in early 2022.

River Valley Planning Modernization (RVPM)

An update on the River Valley Planning Modernization project was provided in the June 29, 2021, Urban Planning and Economy report UPE00544, River Valley Planning Modernization Phase 1 Update. The project will be completed in four phases by early 2023 and is a holistic review of Administration's planning guidance and regulation of the River Valley with the goal of ensuring that the River Valley remains a high-functioning, vibrant and ecologically resilient open space network as the city grows.

Mobility System

Mobility Network Assessment

The Mobility Network Assessment establishes a framework to prioritize investments that best support an evolving mobility system and will inform the 2023-2026 Capital Budget Cycle. High priority locations will consider improved multi-modal access, safety and the development of the mass transit network, which will support the Energy Transition Strategy goal of 50 percent of trips made by transit and active transportation by 2040. An update to Urban Planning Committee is anticipated in early 2022.

Mass Transit Planning

Findings from the mass transit technical study will be incorporated into the Mobility Network Assessment and will inform the:

- Development of concept planning of non-LRT technologies and guidelines for route selection; and
- Review of opportunities and constraints for bus rapid transit implementation.

Bike Plan Implementation

The Bike Plan Implementation Guide will be presented to Urban Planning Committee in early 2022. Future bike routes along arterial roadways and general active transportation mode improvements will be prioritized through the Mobility Network Assessment. Bike network expansion would support Energy Transition Strategy goals and in conjunction with other capital projects, continue to accelerate the completion of the active transportation network.

These mobility initiatives will be evaluated through the Growth Management Framework and Carbon Accounting Framework as part of the priority-based budget process and will inform the 2023-2026 Capital Budget.

Managing Growth System

Growth Management Framework

The Growth Management Framework will direct investment to areas of greatest priority based on the population horizon and activation approach in The City Plan. Growth management advances activation of nodes and corridors, creates conditions for success of the mass transit network, and supports the reduction of greenhouse gas emissions. Current work includes:

- Establishing a capital investment program to address infrastructure gaps and support redevelopment in priority growth areas;
- Designing financial and non-financial incentives and tools to incentivize growth;
- Refining the policy on substantial completion of the developing area to provide direction on planning for the future growth area; and
- Applying a growth management lens to the priority based budget process for the 2023-2026 budget cycle.

Upcoming stakeholder engagement will inform the development of these actions and includes ongoing conversations with EPCOR focused on coordination of infrastructure investments.

The City Plan Implementation Integration

The City Plan envisions three systems that work together to shape our city - the Planning and Design System, the Mobility System and the Managing Growth System. This integrated system is activated by the distinct but related projects in this report. Even though each project is independent, they work together and consider how decisions of an individual project may influence other initiatives in the system.

Public Engagement

The City Plan engagement with the public, key stakeholder groups, local business, institutions, and other orders of government gathered important feedback and support for The City Plan Implementation initiatives. Attachment 2 provides a summary of engagement themes.

Financial Implications

Establishing a capital program under the Growth Management Framework will require funding to address infrastructure gaps and provide financial incentives to attract and support growth to the city's priority growth areas. Program parameters and associated funding needs will be identified for the 2023-2026 budget cycle.

Accelerating timelines for initiatives such as mass transit and bike plan implementation to support the Energy Transition Strategy will have financial implications for the 2023-2026 budget process.

Option 1 for District Planning additional engagement would have impacts that can be accommodated within the Planning and Environment Services Branch's 2022 operating budget. If Option 2 for additional engagement is pursued, a comprehensive review of the project's purpose, scope, resources and timelines would be required and an unfunded service package for Council's consideration developed upon request.

Corporate Outcomes and Performance Management

Corporate Outcome(s): Edmonton is attractive and compact; Edmontonians use public transit and active modes of transportation; Goods and Services move efficiently

Outcome(s)	Measure(s)	Result(s)	Target(s)
Edmontonians have the ability to live locally, with access to diverse and affordable housing options in communities that support their daily needs	See Community of Communities in the City Plan	To be determined	15 minute districts that allow people to easily complete their daily needs
Edmontonians live closer to what they need and are supported by walkable communities, active transportation networks and greater connectivity across all travel modes	See Community of Communities in the City Plan	To be determined	50 percent of trips are made by transit and active transportation
Edmonton's growth and development mutually benefit the city and region	See A Rebuildable City in the City Plan	To be determined	50 percent of new units added through infill city-wide

Attachments

- 1. The City Plan Systems and Networks Approach
- 2. The City Plan Engagement Data Summary

Others Reviewing this Report

- H. Rai, Acting Chief Financial Officer, Financial and Corporate Services
- D. Croft, Acting Deputy City Manager, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services

- R. Smyth, Deputy City Manager, Citizen ServicesK. Fallis-Howell, Acting City Solicitor

The City Plan - Systems and Networks Approach

Cities are complex. They work best when interdependent systems like land use, transportation, environmental, economic and social factors are co-considered and integrated. The City Plan describes these physical networks through three integrated systems:

Planning and Design - is about working with what we have today and continuously adapting and reimagining our built environment to meet the needs of two million people in the future. The networks of this system are:

- District network
- Nodes and corridors network
- Green and blue network
- Non-residential opportunities network

Mobility - provides different ways to move around the city and will evolve as the city evolves. There are three networks within the mobility system:

- Active transportation network
- Transit network
- Roadway and goods movement network

Managing Growth - enables successful urban development and community change over time. It combines:

- Growth management framework
- Development pattern areas, and
- Phasing and activation.

The City Plan Engagement Data Summary

Land Use: You told us you want:

- A "Community of Communities". "Feeling like living local... small community... but opportunities a big city provides"
- Planning that considers the unique aspects of your community.
- Equal effort and investment across the city.
- A sense of community where you live and work and shop.
- To slow urban sprawl to preserve farmland, address climate change and reduce infrastructure costs.
- To better understand the planning process which seems secret.
- Some of you told us you want more density everywhere; others said it should be along corridors.
- Less lot splitting

Transportation/Mobility: You told us you want:

- To get around the city without a car but the systems don't currently support you to do that
- Corridors that allow you to walk, bike, ride or drive year round
- A bike network that is connected and protected
- To think about future LRT routes when planning new areas

Environment: You told us you want:

- Us to think about the environment when we're making planning decisions
- More protected natural areas
- Us to keep preserving the river valley
- Us to consider some commercial areas in the river valley but not in a way that disrupts the protected natural areas

Climate Change: You told us you want:

- Us to include climate considerations in planning decisions
- To be able to move around the city without your car
- Us to think about renewable energy sources in new developments but not in the river valley
- To reduce greenhouse gas emissions by investigating solar and geothermal energy

Urban Design: You told us you want:

- Us to continue with ongoing major developments like Downtown and Blatchford and emerging development areas like Bonnie Doon and Exhibition Lands
- Us to consider displacement and cultural erasure where densification may contribute to gentrification in low income areas.
- To retain the distinctive features of neighbourhoods to strengthen the sense of community

• Us to put people's quality of life and experience first when planning the city

Housing: You told us you want:

- Housing that is affordable
- Housing that is connected to work, school, shops and recreation often within walking distance
- Housing that is built at a district level like Downtown or the Exhibition Lands

Economic and community development: You told us you want:

- Inclusive districts where everyone is welcome including newcomers and marginalized people
- To live locally with access to local products and services by foot or by transit
- To continue to work on reconciliation with Indigenous people in Edmonton and the region
- To identify areas of growth to focus on development but to be careful about inequity
- Community Leagues to continue to play an important role in planning the city

Parks: You told us you want:

- Us to maintain and expand the trail system
- To expand access to the river for recreation uses
- Parks of all sizes that are easily accessible without a car

Community Amenities: You told us you want:

- Us to focus on making it easier to walk to shops and recreation
- Space to host community events
- Recreation facilities that are smaller and closer to home

Disruption and resilience: You told us you want:

- Planning that can be adapted for changing market needs and emerging technologies
- Everyone to recognize that change in the status quo may be needed to welcome more people
- Ensure we're looking at best practices around the world -especially when it comes to LRT planning



COMMUNITY AND PUBLIC SERVICES COMMITTEE COUNCIL REPORT Edmonton Arts Council – 2021 Activate Grant Recommendations (June Deadline)

Recommendation of the Committee

That the grant recommendations, as outlined in Attachment 2 of the August 25, 2021, Edmonton Arts Council report EXT00742, be approved.

History

At the August 25, 2021, Community and Public Services Committee meeting, the August 25, 2021, Edmonton Arts Council report EXT00742 was considered.

Attachment

August 25, 2021, Edmonton Arts Council report EXT00742

Edmonton Arts Council 2021 Activate Grant Recommendations (June Deadline)

Recommendation

That Community and Public Services Committee recommend to City Council:

That the grant recommendations, as outlined in Attachment 2 of the August 25, 2021, Edmonton Arts Council report EXT00742, be approved.

Executive Summary

The Edmonton Arts Council (EAC) has been working towards the implementation of *Connections & Exchanges: A 10-Year Plan to Transform Arts and Heritage In Edmonton* as adopted by City Council in late 2018. This includes the development of new investment models and processes, guided by the Ambition in Book 4 of *Connections & Exchanges*: *A Thriving and Well-Funded Arts and Heritage Ecosystem.*

The COVID-19 pandemic and the public health restrictions have had major impacts on the arts and festival communities. In late 2020 the EAC's Board of Directors through its Grants Review and Transitions (GRT) Committee, developed an investment framework for 2021 to balance stability and flexibility in support of arts and festival organizations. These processes and approaches were designed to integrate and transition to the future implementation of funding structures as directed by **Connections & Exchanges.**

This report summarizes the third of those processes for 2021, the second deadline of the "Activate" program, and recommends investments of **\$532,950** in **37** organizations. City Policy 211H, requires City Council approval when a grant to any one recipient is over \$30,000. Four (4) of the attached grant recommendations are equal to or greater than that threshold.

These recommendations are made in accordance with Policy C211H and are within the Edmonton Arts Council's 2021 Budget as previously approved by City Council.

ROUTING - Community and Public Services Committee, City Council | DELEGATION - S. Williams, Edmonton Arts Council August 25, 2021 – Edmonton Arts Council Report Number: EXT00742 Page 1 of 4

Report

Background

- For more than 20 years the EAC has managed various grant programs that support the Arts and Festival communities on behalf of the City of Edmonton.
- As part of the implementation of the *Connections & Exchanges* plan (see CR_6355 from October 2018) new and revised structures are replacing those historical programs.
- Adjustments to that implementation work were needed to respond to the impacts of COVID-19, while continuing the transition towards the future granting structures outlined in Book 4 of *Connections & Exchanges*.
- The EAC Board and its Grants Review and Transition Committee developed a framework to support Arts and Festival organizations for 2021. The framework was built with the future in mind, based on balancing stability and flexibility in the short-term to enable the sector to manage through the current COVID-19 pandemic.
- This report summarizes the second round of the <u>Activate</u> pillar of that framework, which responds to organizations that are working to their mandates in 2021.
- <u>Activate</u> was built specifically to provide an investment structure that could respond to organizations that are active and resilient through the COVID-19 restrictions.
- This is the second of two deadlines for <u>Activate</u>. The first was reported to City Council in April of 2021 (see report EXT00550).
- The <u>Sustain</u> Pillar was reported to City Council in March of 2021 (see report EXT00257)
- The third <u>Invent and Adapt</u> pillar also provides opportunities for the EAC to support organizations in 2021, as they seek to maintain and create new capacities, innovate, and build resilience.

Activate Investment Process

- Forty (40) eligible applications were received at the June 15, 2021 deadline.
- Applicants were asked to summarize their mandates and goals, and describe their plans for pursuing those goals in 2021. This included specific questions about planning and consideration of COVID-19, and the impact of health restrictions on the work of the applicant.
- Six peer assessors were recruited to review the applications.
- After reading the applications, assessors met over the course of several virtual meetings to discuss and refine their responses. That process concluded in mid-July.
- Broad categories and themes emerged from the assessment that were used by the EAC staff to draft granting recommendations, also considering the applicant's granting history with the EAC. See Attachment 1 for more details and discussion.
- The EAC's Grants Review and Transitions Committee reviewed and recommended the outcomes to the EAC Board.
- The Edmonton Arts Council Board reviewed and accepted those recommendations via a virtual process in the first week of August, 2021.
- Applicants were notified of the recommendations.

- Thirty-seven (37) organizations are recommended for a total of up to **\$532,950**, listed in Attachment 2.
- Two (2) of the recommended grants are to new applicants that have not been supported by the EAC previously.
- The Edmonton Arts Council will continue to offer specific capacity, and change-capital support in accordance with Actions outlined in Book 4 of Connections & Exchanges, particularly to those that are not recommended for this specific support.

Corporate Outcomes and Performance Management

These recommendations are specifically relevant to the Connections & Exchanges plan:

- Aim: New and existing arts and heritage organizational capacity enables innovation and builds resilience in the sector.
- Action: Build funding mechanisms for arts and festival organziations with an emphasis on: (...) Annual programming grants.

These recommendations are specifically relevant to the City Plan:

- 6.0: Edmonton is where creative spaces emerge and arts, design and culture flourish.
 - 6.2.1.1: Provide and enable a variety of arts programming and spaces city wide.

Corporate Outcome(s):							
Outcome(s)	Measure(s)	Result(s)	Target(s)				
Connections & Exchanges Ambition Book 4: A Thriving and Well Funded Arts and Heritage Ecosystem	Number of Organizations is one of the measures in the framework	This report recommends support to 37 Organizations. The overall number of organizations the EAC supports in 2021 will be lower than previous years due to the pandemic.	Not applicable				
Connect Edmonton: Healthy City / Personal Wellness / Arts and Culture	Percentage of Edmontonians who indicate they attended arts or cultural activities	90% City of Edmonton Community Perception Survey (2019) A 2015/16 Economic Impact Study estimated 3.9 million attendees at arts events in Edmonton annually. The pandemic restrictions have drastically reduced opportunities to attend these activities.	Not applicable				

Attachments

- 2021 EAC Investments in Organizations Overview and Analysis
 2021 Activate Grant Recommendations

2021 EAC Investments in Organizations - Overview and Analysis

The Edmonton Arts Council's work is guided by *Connections & Exchanges: A 10-Year Plan to Transform Arts and Heritage In Edmonton*. The Ambitions, Aims and Actions outlined in the plan are driving the EAC's approach and decision-making in the renewal and retooling of its investment programs.

As the EAC builds structures and makes investment decisions for organizations, we are guided by the following Aim from Book 4 of *Connections & Exchanges: New and existing arts and heritage organizational capacity enables innovation and builds resilience in the sector.*

That work to build new structures was disrupted by COVID-19, as was the work of the organizations that produce and present arts and festivals in our community.

In response to the current need to balance stability and flexibility, as well as looking forward to the future envisioned in *Connections & Exchanges*, the Edmonton Arts Council's plan to support organizations for 2021 is based on three pillars:

- <u>Sustain</u> Investments for the immediate, short-term support of organizations to help maintain their existing capacity.
 - o (see City Council report EXT00257 this program is complete).
- <u>Activate</u> Investment to support organizations striving to build resilience through relevant activity, including programming in 2021 when possible.
 The subject of this report
- <u>Invent and Adapt</u> Tools, resources, and potential investments to_enable innovation around organizational structures, governance, and business models for the future.

The EAC is now recommending investments through the second deadline of *Activate* to support planned artistic and organizational activities in 2021 so these organizations can continue to pursue their mandates and goals.

This process followed the same basic process as the first deadline, which was outlined in City Council report EXT00550 from April 2021.

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Activate: Major Themes

The following themes emerged from the assessment process at this second deadline.

Resilience and Realistic planning

- Most applicants are actively working to maintain their organizations and pursue their mandates and goals.
- The time elapsed between the deadlines allowed many organizations to present more coherent plans than their colleagues could at the January deadline. It then followed that those with less clear plans were not viewed as sympathetically.
- COVID-risk planning (or the articulation of that planning) remained inconsistent amongst the applicants.

Financial Shifts

- The relative impact of COVID-19 closures was more visible at this deadline. Financial contractions were more apparent, as year-end financial statements have begun to reflect the year of reduced activities.
- Several grant amounts have been recommended at lower levels because of this continued reduction in activity.
- Some organizations continued to pay artists, even when unable to program or perform. This was assessed positively.
- Assessors then debated an acceptable level of financial risk for an arts organization to have taken (or not taken) in these circumstances. No conclusion was reached.

Payment of Artists

- The pay of artists and staff was again a significant point of discussion for these assessors. This is not a new issue and was highlighted at the January assessment as well.
- Assessors wanted more guidance in the future to discuss and debate the relative value of different organizations, as many are not constituted to pay artists. What is the best way to compare the work of an organization whose primary mandate is to support or educate artists, versus an organization producing artistic work?

Activate: Funding Response

Following from the existing January assessment and outcomes, a similar set of categorizations were applied by the staff based on the assessment scoring and commentary.

11 organizations that assessors scored very highly and offered positive commentary regarding creative artistic, or programming activity are recommended for modestly increased investment as compared to 2020. This includes first-time grants to two new organizations that were strongly assessed.

19 applicants that demonstrated their resilience and perseverance to continue with some levels of activity and engagement and are recommended at a level equal to 2020 (Sustain and Activate grants taken together).

Five organizations had either significant reductions in activity, or other significant changes in financial or activity levels. They are recommended at reduced levels.

Three applicants are not recommended for investment from this process, mostly due to no eligible activity in 2021. They were presented to the GRT for discussion, but the not listed as part of this report for funding approvals.

Analysis

The community of arts and festival organizations has shown remarkable resilience. Many are actively working to pursue their goals, and those are recommended here for support at levels largely equivalent to 2020.

They are also deeply impacted by the pandemic and resulting restrictions. The majority have laid off staff, and significantly reduced the contracting of artists and arts professionals. Extraordinary Federal financial supports, including wage subsidies, have been instrumental in the partial maintenance of existing capacities. The impacts of COVID-19 will be felt for several years to come in this sector, both artistically and administratively.

2022 and Beyond

The Sustain and Activate investment streams are transitory in nature. While they were built in-part due to the unknowns the community faced for 2021, they were also created with an active eye to the future of EAC granting.

The EAC is actively building a new set of granting structures for 2022 and beyond, driven by the Actions found in Book 4 of Connections & Exchanges.

2021 Active Grant Recommendations

Name of the Organization	Recommendation	Comments
African Society for Culture, Economic		
Development and Arts	\$ 2,500	
Alberta Council for the Ukrainian Arts	\$ 5,750	
Alberta Media Arts Alliance Society	\$ 2,000	
Alberta Music Industry Assocation	\$ 14,000	
Cosmopolitan Music Society	\$ 12,000	
Da Camera Singers	\$ 4,000	
Early Music Alberta	\$ 4,100	
Edmonton Folk Music Festival Society	\$ 167,500	
Edmonton International Film Festival Society	\$ 48,700	
Edmonton Kiwanis Music Festival Association	\$ 12,000	
Edmonton Metropolitan Chorus Society	\$ 6,550	
Edmonton Vocal Alchemy Society	\$ 3,500	
Edmonton Weavers' Guild	\$ 2,750	
Edmonton Young Voices Choral Society	\$ 5,500	
E-Town Vocal Music Society	\$ 3,000	
Filipino - Canadian Saranay Association	\$ 2,500	New applicant
Gateway Chapter	\$ 2,500	
Heart of the City Festival Society of Edmonton	\$ 5,000	
Kompany Family Theatre	\$ 7,000	
Media Architecture Design Edmonton	\$ 2,500	
Mill Creek Colliery Band Society	\$ 1,500	
PHIDEAS Phiilippine Edmonton Events and Arts		
Society	\$ 14,000	
Pro Coro Canada	\$ 28,000	
RainShadow Productions Ltd.	\$ 12,500	(Up & Downtown Music Festival)
Regroupement artistique francophone de l'Alberta	\$ 11,250	
Rising Sun Theatre Society	\$ 5,400	
Saraswathi Society for Dance and music	\$ 2,500	New applicant
Shadow Theatre	\$ 35,000	
Society of Northern Alberta Print-Artists (SNAP)	\$ 30,000	
Sourdough Raft Race Association	\$ 1,000	
Strathearn Art Walk Society	\$ 6,200	
Theatre Alberta Society	\$ 27,500	
Ukrainian Cheremosh Society	\$ 11,500	
Vinok Folkdance Society	\$ 10,000	
Viter Ukrainian Dancers and Folk Choir	\$ 14,000	
Walterdale Theatre Associates	\$ 8,250	
Women in Film and Television Alberta	\$ 1,000	



COMMUNITY AND PUBLIC SERVICES COMMITTEE COUNCIL REPORT Castle Downs Partnership Opportunity

Recommendation of the Committee

That \$300,000 be transferred from Capital Profile CM-10-1010 Facility Planning and Design -Growth to the 2021 Community and Recreation Facilities branch operating budget for a potential contribution to the design of a community recreation amenity within the new Edmonton Catholic Schools development, as outlined in August 25, 2021, Citizen Services report CS00674.

History

- At the August 25, 2021, Community and Public Services Committee meeting, the August 25, 2021, Citizen Services report CS00674 was considered.
- The Committee heard from K. Bittorf and N. Parkinson, YMCA of Northern Alberta.

Attachment

August 25, 2021, Citizen Services report CS00674

Castle Downs Partnership Opportunity

Recommendation

That Community and Public Services Committee recommend to City Council:

That \$300,000 be transferred from Capital Profile CM-10-1010 Facility Planning and Design - Growth to the 2021 Community and Recreation Facilities branch operating budget for a potential contribution to the design of a community recreation amenity within the new Edmonton Catholic Schools development, as outlined in August 25, 2021, Citizen Services report CS00674.

Executive Summary

In 2021, Edmonton Catholic Schools received provincial funding to initiate the design for a future high school within the Castle Downs District Park. This new school will have a capacity of 1,300 students and serve a high demand in the area. The anticipated opening, pending Government of Alberta construction funding, is fall 2024.

In preparation for the design of the new high school, Edmonton Catholic Schools approached Administration and the YMCA of Northern Alberta to determine if there would be an opportunity to partner on the development of a community amenity within the new school, recognizing the demand for recreation amenities in this area. The potential partnership would require a financial contribution by the City of up to \$300,000 for the design of the future community recreation amenity, to be completed in 2022. If a partnership model can be confirmed, additional funding for construction and ongoing operating contributions will be required at a future date and, if directed by City Council, can be brought back for consideration in future supplemental budget adjustments and/or the 2023-2026 proposed budget, as appropriate.

Administration is recommending that \$300,000 be transferred to support the design of a community amenity within the school, and allow Administration to initiate more detailed work on the partnership and the specifics of the project and return to Council with the terms of an agreement, including the amount of the City contribution towards construction, ongoing operating requirements and details on the specific amenities and community access provisions.

Report

In early 2021, Edmonton Catholic Schools approached the City and the YMCA of Northern Alberta to explore the possibility of constructing a new community recreation amenity as part of development of a new high school on the Castle Downs District Park. This would be similar to the partnership the City entered into with Edmonton Public Schools to develop the Community Centre in the Dr. Anne Anderson High School in Heritage Valley. This potential partnership could offer an opportunity to enhance access to recreation amenities in the northwest area of the city, including access to gymnasiums and community programming spaces for targeted community programming. This opportunity is supported by City Policy C187A, Enhancing Community Facility Services through Partnerships, which states that the City will seek out partnerships or opportunities that improve service levels and support innovative ways to provide public recreation and leisure opportunities.

Castle Downs District Park located in northwest Edmonton meets a variety of community needs as a central hub district park. Amenities located within this park include a playground, spray park, skateboard park, sports fields and diamonds, and walking trails. In addition to park amenities, the City of Edmonton recently renovated the twin pad arena and oversees the Castle Downs Park Pavilion. During the winter, an outdoor skating rink is maintained by the City. The Castle Downs Family YMCA is also located on the park site with amenities including a fitness centre, gymnasium, leisure and teach pool, a daycare and the Family Resource Centre. This park is situated on the potential future LRT line with a designated stop proposed at the high school location.

Administration is seeking approval to transfer \$300,000 from Capital Profile CM-10-1010 Facility Planning and Design - Growth to the Community and Recreation Facilities operating budget for a potential contribution from the City to the design of a new high school being developed by Edmonton Catholic Schools. Under the potential partnership model, the City could contribute up to \$300,000 to the design of the facility in order to include additional community amenities as part of the design scope.

At this time, the Government of Alberta has not confirmed which type of development model will be used for this project. If a public-private-partnership model is confirmed, Administration will work with Edmonton Catholic Schools and the Government of Alberta to determine what impacts this would have to the partnership model and the community amenity. A partnership model may not be feasible under a public-private-partnership, in which case the City would not provide design funding towards an additional amenity. If the model does not meet the requirements and needs of the partners, the funding contribution and additional community amenity would not move forward. The design of the school would proceed without the community amenity in order to meet their schedule of a fall 2024 opening (pending construction funding).

If the opportunity to contribute to the design of a community amenity within the high school is confirmed by the partners, Administration will develop a funding agreement outlining the terms and conditions of the design funding.

Budget/Financial Implications

Administration recommends that \$300,000 be transferred from Capital Profile
CM-10-1010 Facility Planning and Design - Growth to the 2021 Community and Recreation Facilities operating budget for a potential City contribution. Funding would be dependent upon the confirmed partnership model.

Future construction and operating funding will be determined once design is completed by the end of 2022. At that time, Administration would return to City Council with a further funding request for the construction contribution if the design meets the needs of Administration and a partnership model has been defined.

Based on the experience with Dr. Anne Anderson High School partnership, Administration anticipates that the total construction funding requirements including design costs would be in the order of \$5.5 million on a one-time basis and would need to be refined as design progresses. A request for additional construction funding would be brought forward for City Council's consideration at future budget deliberations. Payments for the design would be required in 2022 with construction funds required in 2023-2024.

Future operating support costs to the City, based on projections from the Dr. Anne Anderson High School facility, are anticipated to be approximately \$300,000 annually and would commence in 2024 upon opening. The funding request would be brought forward as operating impacts of capital in the 2023-2026 proposed budget and would require tax levy funding or other ongoing funding strategies. Further details are required specific to lifecycle and operational contributions and could differ from the estimate quoted in this report.

Public Engagement

Edmonton Catholic Schools is not required to complete public engagement for its infrastructure requirements. Engagement by the City and other potential partners will need to be determined if a partnership proceeds.

Outcomes	Measures	Results	Targets
	Recreation facility and attraction attendance	2020: 3,226,075 2019: 9,169,310	Ongoing: 9,000,000
Citizens utilize the recreation facility to improve their health and wellness	Overall facility customer satisfaction (according to facility customer satisfaction survey)	2020: 85%	90%

Corporate Outcomes and Performance Management

Corporate Outcome: Edmontonians use facilities and services that promote healthy living.

Risk Assessment

Risk Element	Risk Description	Likelihood	Impact	Risk Score (with current mitigations)	Current Mitigations	Potential Future Mitigations
If recomme	endation is app	roved	-		-	
Financial	Total expected funding requirements for development are greater than anticipated	4 - Likely	2 - Moderate	8 - Medium	Coordinating with the school board on timelines to ensure sufficient time is available for budget development and Council's decision after the design phase	
Commercial	Funds for design of the facility are greater than anticipated requiring further investment from the City	3 - Possible	1 - Minor	3 - Low	Work with the school board to ensure that the design funds are sufficient and the budget is adhered to	
If recomme	endation is not	approved				
Customer / Citizens	Amenities are still desired/needed for the area.	3 - Possible	3 - Major	9 - Medium	Follow City plans and policies as to the new facility prioritization direction	
Public Perception	Perception that the City does not support health and wellness of citizens in that area of the city	3 - Possible	2 - Moderate	6 - Low	Provide communications to the public to ensure it is aware that there are other recreational opportunities	

Others Reviewing this Report

- C. Owen, Deputy City Manager, Communications and Engagement
- D. Croft, Acting Deputy City Manager, Financial and Corporate Services
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services
- K. Fallis-Howell, Acting City Solicitor



COMMUNITY AND PUBLIC SERVICES COMMITTEE COUNCIL REPORT Emergency Shelter Standards and Operating Requirements - Options

THIS ITEM WAS REFERRED TO CITY COUNCIL WITHOUT A COMMITTEE RECOMMENDATION

Administration Recommendation

- 1. That the City of Edmonton Minimum Emergency Shelter Standard, as outlined in Attachment 1 of the August 25, 2021, Citizen Services report CS00506, be approved.
- 2. That Administration prepare an education and communications strategy to assist emergency shelter providers move towards adopting the City of Edmonton Minimum Emergency Shelter Standard and return to Committee with an update in 2022.

History

- At the August 25, 2021, Community and Public Services Committee meeting Councillors A. Paquette and A. Knack referred the August 25, 2021, Citizen Services report CS00506 to City Council without a Committee recommendation.
- At the August 25, 2021, Community and Public Services Committee meeting, the August 25, 2021, Citizen Services report CS00506 was considered.
- The Committee heard from J. Reiniger, Boyle Street Community Services; H. Mah, Chinatown and Area Business Association; G. St. Amand, Bissell Centre; and D. Eckel.

Attachment

August 25, 2021, Citizen Services report CS00506

Dealt with on August 25, 2021 | Community and Public Services Committee Committee Report 3

Emergency Shelter Standards and Operating Requirements - Options

Recommendation

That Community and Public Services Committee recommend to City Council:

- 1. That the City of Edmonton Minimum Emergency Shelter Standard, as outlined in Attachment 1 of the August 25, 2021, Citizen Services report CS00506, be approved.
- 2. That Administration prepare an education and communications strategy to assist emergency shelter providers move towards adopting the City of Edmonton Minimum Emergency Shelter Standard and return to Committee with an update in 2022.

Previous Council/Committee Action

At the March 15, 2021, City Council meeting, the following motion was passed:

- 1. That Administration look at options to mitigate emergency shelter impacts on communities and provide better service to clients, including the development of minimum emergency shelter standards and operating requirements that can be expected of shelter operators, including orienting service to best support transitions into housing in order to better support clients and communities, and an analysis or options to deal with people who are evicted, or banned from shelters, and provide a report back.
- 2. That the report make recommendations for policy tools and/or municipal bylaw regulatory authorities and the actions the City may take to ensure these standards are met, including but not limited to licensing and conditions and suspensions of licences.

Executive Summary

Through a review of emergency shelter best practices and engagement with stakeholders, Administration has developed the City of Edmonton Minimum Emergency Shelter Standards. The standards aim to increase accessibility and utilization of emergency shelters and better support housing outcomes for individuals experiencing homelessness.

The Minimum Emergency Shelter Standards provide a comprehensive set of outcomes and standards for emergency shelters to adopt to address existing service

gaps in Edmonton's shelter system, including those related to serving Indigenous peoples, individuals with complex health needs, including substance use disorders, and those who sleep outside.

Report

According to the By Name List provided by Homeward Trust, there are more than 2,500 individuals currently experiencing homelessness in Edmonton, as of July 2021. Through a review of emergency shelter best practices from other jurisdictions and engagement with a variety of stakeholders, Administration has developed the City of Edmonton Minimum Emergency Shelter Standards (Attachment 1) that aim to increase accessibility and utilization of shelters and better support housing outcomes for individuals experiencing homelessness.

Edmonton's homeless-serving system is made up of a number of supports and programs, including day services, outreach services, medical supports, and a variety of short- to long-term affordable housing types. Within this system, emergency shelters serve as a place of last resort for individuals who have no reasonable alternative housing options; as such, emergency shelters are necessary to meet the immediate needs of shelter guests and connect people to the appropriate services, especially housing, so that their dependence on emergency shelter is rare, brief, and non-recurring.

Existing Regulatory Requirements for Emergency Shelters Emergency shelter services in Edmonton are the responsibility of the Government of Alberta. Various ministries within the Government of Alberta provide funding and regulatory oversight of different types of emergency shelters for different populations, including shelters for youth, families, women, and those fleeing domestic violence.

The Minimum Emergency Shelter Standards and the research completed to develop them were specific to emergency shelters that provide free, walk-up overnight shelter services to individuals without requiring a referral from other organizations. These types of emergency shelter spaces are funded and regulated by the provincial government and delivered by community agencies which often supplement operational funding with private donations and grants.

There are currently 644 emergency shelter beds available in Edmonton for adults at both temporary and permanent emergency shelters. Many of the locations listed below are temporary and were established as a response to the COVID-19 pandemic. The Herb Jamieson Centre, a 400-bed shelter for men run by Hope Mission, is currently under construction and anticipated to open in October 2021.

Provider	Number of Beds	Location	Shelter Status
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Hope Mission	342	Downtown	Permanent
Hope Mission	400	Herb Jamieson	Permanent (opens fall 2021)
E4C	38	Women's Emergency Accommodation Centre	Permanent
Hope Mission	150	Spectrum	Temporary
Mustard Seed	37	Trinity Lutheran Church	Temporary
Mustard Seed	33	Knox Evangelical Church	Temporary
Mustard Seed	24	Strathcona Baptist Church	Temporary
Mustard Seed	20	Moravian Church	Temporary

Note: Capacity in emergency shelters is impacted by COVID-19 public health guidelines and other operational impacts, so is subject to change. Temporary shelter for those required to isolate due to COVID-19 is not included in this table

All provincially-funded shelters in Alberta are required to adhere to the Homeless Shelter Accommodation Expectations (Attachment 2). Reviews of these expectations are done annually to ensure compliance. In addition, shelters must meet all other applicable legislation, including compliance with health, safety, building and fire codes, bylaws, regulations and legislation. The Homeless Shelter Accommodation Expectations is attached to all shelter grant agreements between the Government of Alberta and shelter operators and were last updated in 2018/19.

The Homeless Shelter Accommodation Expectations defer the majority of operational decisions to individual shelter operators within the bounds of existing legislation and funding agreements. For example:

- The document does not state how many meals a day should be provided by shelter operators but provides direction on safe food handling rules and obtaining the proper permits to provide food through Alberta Health Services.
- Shelter operators are required to ensure that employees receive appropriate training; however, there is no minimal training requirement across the system.
- The information and referral services expectation directs shelters to link clients with appropriate services in a timely manner but does not detail what service referrals are mandatory or how shelter providers should be evaluating the success of their operation.

Minimum Emergency Shelter Standards

The development of Minimum Emergency Shelter Standards builds on work Administration conducted with Homeward Trust and other stakeholders to investigate and understand the root causes behind an increase in the number of encampments in Edmonton over the past several years. This research, which included first-person interviews and surveys of people with lived experience, routinely identify emergency shelter conditions as a contributing factor to encampments.

Administration developed the Minimum Emergency Shelter Standards based on jurisdictional best-practices research and comprehensive stakeholder engagement to produce a comprehensive document that outlines operational practices to ensure emergency shelters are accessible and housing-focused.

Across Canada, emergency shelters that serve chronically homeless adults are examining their role within the homeless-serving system and how to improve services for their guests. Many emergency shelters originated from community-based organizations, like churches or civil-society groups, who identified a need in their community and volunteered to address it through charitable means. Although many short-term charitable efforts can provide immediate relief to those in need, the charitable model of line-ups, overnight shelter, and soup kitchens is no longer capable of sustainably addressing community needs and the larger goals to end homelessness. This is due to the increased physical, mental, and addictions health needs present in urban homeless populations and, as a result, emergency shelters are evolving and professionalizing their practices to deliver appropriate social and clinical health support.

The Canadian Shelter Transformation Network is a network of homeless shelter leaders and organizations committed to becoming housing focused, co-chaired by the executive director of Calgary's largest emergency shelter, the Calgary Drop-in Centre. Supported by the Canadian Alliance to End Homelessness, this network has curated significant research and produced tool-kits to assist emergency shelters in becoming housing-focused in order to end homelessness. Notably, the Calgary Drop-in Centre is a leader in this work and has transformed to be focused on generating strong housing outcomes. This transformation was led internally and not mandated by the Government of Alberta and had minimal financial impacts to the organization.

In addition to the resources provided by the Canadian Shelter Transformation Network, Administration reviewed shelter standards from other Canadian jurisdictions, including the City of Toronto and BC Housing, to develop the draft content which was then presented to a wide variety of stakeholders for feedback between April and July 2021 (Attachment 3).

Through the engagement process, consistent themes emerged regarding gaps in Edmonton's shelter system, including data-collection and analysis of outcomes, the increasing complexity of needs and corresponding need for housing-focused, low-barrier options, and the ongoing challenges to address concerns from neighbouring communities. Many stakeholders also identified a lack of cultural support services for Indigenous peoples who comprise over 60 percent of all people experiencing homelessness in Edmonton.

Concerns about community disorder around shelter locations were also highlighted by a variety of stakeholders. Representatives from business improvement areas and community leagues identified cleanliness and garbage, drug-use, and line-ups or queuing for individuals to access services as top of mind issues. Most stakeholders identified concerns with encampments being located directly adjacent to emergency shelters and a lack of support for those who are in crisis. One organization noted that shelters have limited tools to support those with complex needs, short of phoning emergency services that limits the ability of emergency shelters to care for clients. Without these supports, enforcement agencies will continue to be the first response to people with complex health needs.

Finally, service providers emphasized that there is no one-size-fits all approach to sheltering. Shelter operations must have appropriate staffing and space to allow for one-on-one goal setting between shelter guests and support workers and the shelter system must become more adaptive to the unique needs of vulnerable groups (including women, those who identify as 2SLGBTQ+ (two-spirit, lesbian, gay, bisexual, transgender, queer/questioning, and plus), Indigenous populations, and those with complex health needs). The majority of shelter operators agreed emergency shelters serving more than 50 individuals in one space will generally struggle to balance meeting these needs with both individual and community safety concerns.

The Minimum Emergency Shelter Standards enhance the existing regulatory framework used by the Government of Alberta. They seek to standardize operations and service delivery across emergency shelters in Edmonton to ensure operators are working together towards collective goals to improve housing and social outcomes for individuals experiencing homelessness. The standards also recognize that there are system responsibilities, especially as it relates to health services and affordable housing, that must be concurrently addressed. The standards contain a set of guiding principles that directly inform the operational, service-delivery, and physical infrastructure best practices with associated outcomes to evaluate the success of adopting these best practices moving forward.

The City of Edmonton's Role

The City of Edmonton liaises regularly with emergency shelters in the homeless-serving sector to work towards better outcomes for people experiencing homelessness. However, the City of Edmonton does not provide routine funding for permanent emergency shelter operations and is not currently regulating internal shelter operations.

If approved by City Council, certain parts of the Minimum Emergency Shelter Standards could be regulated through the City's business licencing or permitting processes; however, there are limitations in adopting either of these approaches as outlined in Attachment 4. If City Council wishes to use formal regulatory mechanisms, more engagement would be required to determine exactly what can be included in either option and corresponding resourcing requirements.

The regulatory option that provides Administration with the most direct influence over internal shelter operations is through public funding agreements. However, given the jurisdictional responsibility of funding emergency shelter services rests with the Government of Alberta and in consideration of the City of Edmonton's financial challenges during COVID-19 recovery, this option is not recommended.

Ultimately, the City of Edmonton cannot unilaterally improve service delivery in the shelter system through regulation. Throughout the engagement, stakeholders repeated the critical importance of collaboration and integration with other sector stakeholders, especially on determining expedient pathways to housing from shelter. Emergency shelter operators also articulated that increased resources and support from the Government of Alberta to implement the standards would be critical to success.

In order to increase accessibility and improve housing outcomes for individuals accessing shelter, emergency shelters need to work with both the City of Edmonton and Government of Alberta, other service providers, and health and justice systems to meet the immediate needs of their guests and ultimately move them to safe housing. If City Council approves the Minimum Emergency Shelter Standards, Administration will develop a communications and education strategy to work with partners to determine an implementation plan. This strategy could include:

- advocacy to the provincial government to adopt the standards
- an educational tool-kit for shelter operators to implement operational changes to be in line with the standards
- communication to the public and funders/donors about the standards
- ongoing work within existing systems-planning tables to make changes to the shelter system

How to Support Individuals Banned from Shelter

The Government of Alberta has identified that it supports shelter operators in ensuring that shelter is available to those who need it while also maintaining the safety of all users. Currently, there is no shared list between service providers of individuals who are banned from a shelter, nor is there a regulated service restriction or banning policy that shelter operators need to abide by.

Through the engagement process, all stakeholders identified that the challenge of serving individuals with complex behavioural symptoms, significant mental health issues and substance use has intensified throughout the COVID-19 pandemic and the ongoing opioid epidemic. Shelter operators identified that a lack of appropriate

medical supports in emergency shelters poses a significant challenge for staff in keeping all shelter guests safe; specifically, a lack of interaction with the health care system often means shelter staff can be unaware of a guest's pre-existing health condition and/or not equipped with the skills and tools necessary to support them.

This situation can be doubly challenging for police and peace officers when they are called by emergency shelter operators to respond to people in crisis or they transport individuals with complex needs to emergency shelters only to learn they may be banned. Although there are a number of multidisciplinary teams within Edmonton Police Service that are designed to respond to vulnerable individuals or offenders requiring social support, these teams do not primarily interact with those with complex needs who are banned from shelter or living in encampments. Edmonton Police Service's Human-centred Engagement and Liaison Partnership may engage with individuals with complex needs more frequently; however, they face similar challenges as the emergency shelters in assisting community members due to a lack of integrated medical services and available appropriate shelter and housing options.

The George Spady Society was the only emergency shelter option with clinical support for individuals active in their substance use who have both physical and mental health disorders. However, the society ceased providing shelter operations in 2020, replaced by a medical detox program for people seeking drug treatment. When operating, the George Spady Society emergency shelter was consistently fully utilized and at capacity every night and its closure has exacerbated this service gap.

Stakeholders reiterated the need to increase the supply of supportive housing that has integrated medical and social supports on-site as a critical solution to decreasing chronic homelessness in Edmonton. In early 2022, the City of Edmonton will finish construction of at least 210 units of supportive housing in partnership with Homeward Trust, funded by the City of Edmonton, the Government of Alberta, and Government of Canada.

Budget/Financial Implications

There are no budget or financial implications associated with approving the Minimum Emergency Shelter Standards at this time. Currently, all ongoing work with emergency shelters is being done internally using existing resources.

Legal Implications

Regulatory options for emergency shelters are outlined in Attachment 4.

Public Engagement

Administration engaged a number of key stakeholders via one-on-one presentations on the draft Minimum Emergency Shelter Standards.

Corporate Outcomes and Performance Management

Corporate Outcome(s): Edmonton is a safe city			
Outcome(s)	Measure(s)	Result(s)	Target(s)
Edmontonians have safe and adequate housing	Number of people experiencing homelessness	June 2021: 2,526 June 2020: 1,693 June 2019: 1,219	Decrease year over year

Risk Assessment

Risk Element	Risk Description	Likelihood	Impact	Risk Score (with current mitigations)	Current Mitigations	Potential Future Mitigations
If recomme	ndation is appr	oved				
Public Perception	Municipal government is not able to implement significant changes to the shelter system as the responsibilities lies with other regulatory bodies.	2 - Moderate	1 - Minor	2 - Low	City staff will continue to work with the Government of Alberta and other stakeholders to improve Edmonton's shelter system.	City staff will provide updates to Council on progress made towards adopting standards, including limitations as it relates to jurisdictional authority.
Public Perception	The Minimum Emergency Shelter Standards are approved but are not adopted by emergency shelter operators as the standards are not binding.	2 - Moderate	1 - Minor	2 - Low	City staff will continue to assist emergency shelter operators to move towards adopting the standards through an education and communication strategy.	City staff will provide updates to Council on progress made towards adopting standards, including limitations as it relates to jurisdictional authority.
If recomme	ndation is not a	pproved				
Public Perception	Municipal government is not responding to feedback from stakeholders about emergency shelter operations.	2 - Moderate	2 - Moderate	4 - Low	City staff have done extensive engagement with stakeholders and are responsive to citizen concerns.	City staff will continue to engage and work with stakeholders about alternative solutions to improving Edmonton's shelter system.

Attachments

- 1. City of Edmonton Minimum Emergency Shelter Standards
- 2. Homeless Shelter Accomodation Expectations
- 3. Minimum Emergency Shelter Standards What We Heard Report
- 4. Regulatory Options for Emergency Shelter Standards

Others Reviewing this Report

- C. Owen, Deputy City Manager, Communications and Engagement
- K. Fallis-Howell, Acting City Solicitor
- S. McCabe, Deputy City Manager, Urban Planning and Economy
- D. Croft, Acting Deputy City Manager, Financial and Corporate Services

August 25, 2021 Community & Public Services Committee CS00506 Attachment 1

Edmonton

City of Edmonton Minimum Emergency Shelter Standards

Last Updated: July 30, 2021 Affordable Housing & Homelessness Social Development, Citizen Services

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Acknowledgements

We acknowledge the traditional land on which Edmonton sits, the Territory of the Treaty 6 First Nations and the homelands of the Métis people. We would like to acknowledge and thank the diverse Indigenous peoples whose ancestors' footsteps have marked this territory for centuries such as: Cree, Dene, Saulteaux, Nakota Sioux, Blackfoot, as well as the Métis and the Inuit.

Stakeholder Engagement

The City of Edmonton lends its thanks to individuals from the following organizations and groups who participated in the engagement to develop the City of Edmonton's first Minimum Emergency Shelter Standards:

- Ministry of Community and Social Services (CSS);
- Alberta Health Services;
- Individuals with lived experience in the shelter system;
- Homeward Trust Edmonton;
- Emergency shelter providers including Hope Mission, the Women's Emergency Shelter Centre (WEAC) and Mustard Seed;
- Edmonton Police Service (EPS);
- Confederacy of Treaty 6 First Nations;
- Indigenous service providers including Bent Arrow, Niginan Housing and Métis Urban / Capital Housing Corporation;
- Youth Emergency Shelter Services (YESS);
- Day service providers including Boyle Street Community Services and Bissell Centre;
- George Spady Centre;
- Community Leagues;
- Business Improvement Areas (BIAs);
- Representatives from the City of Edmonton's Anti-Racism Advisory Committee;
- Representatives from the Women's Advocacy Voice of Edmonton Committee; and
- Representatives from the City of Edmonton's Accessibility Advisory Committee



EXECUTIVE SUMMARY

The City of Edmonton Minimum Emergency Shelter Standards are designed to help end homelessness in our community by demonstrating how emergency shelters can be accessible and housing-focused. By establishing minimum operating, service-delivery, and infrastructure standards based on research and best practices from the *Canadian Shelter Transformation Network* and other jurisdictions across Canada, this document is a guide-post for emergency shelters to evaluate their individual and collective success in helping individuals resolve their homelessness in order to live safer, healthier lives. It is also a document that can be used by funders and other key stakeholders in Edmonton's homeless-serving system of care to inform future discussions about the role of emergency shelters in ending homelessness in Edmonton.

The City of Edmonton Minimum Emergency Shelter Standards ("the Standard") outlines best practices for walk-up, overnight emergency shelter services for people experiencing homelessness in Edmonton. These shelters are distinct from shelters serving people fleeing domestic violence, youth shelters, and short-term/transitional housing options, which may require distinct service delivery models, referral based intake, and/or rent.

The Standard is informed by a set of guiding principles that directly tie into operational, service-delivery, and infrastructure best practices for emergency shelter operators to learn from and adopt. The Standard is designed to ensure that both essential services and connections to appropriate social support systems are client-centered, trauma informed, and that these services are delivered in a way that reduces harm for both individuals experiencing homelessness and the surrounding community.

A complete list of terms and definitions can be found on page 17. It is recommended that the Standard be reviewed and updated every three years in order to reflect up to date research and changes within Edmonton's emergency shelter system.

System Dependencies

Emergency shelter services are a gateway to housing, health, and other programs necessary for Edmontonians to resolve their homelessness. While emergency shelters in Edmonton can orient their systems of care inside shelter to be housing-focused, trauma informed, and accessible, it is important to acknowledge that alignment with other systems, such as healthcare, justice, and housing, is critical for guests to successfully flow out of shelter into stable and appropriate housing solutions.

Throughout the engagement process, stakeholders emphasized the importance of increasing the supply of supportive housing for individuals with complex needs who are experiencing chronic homelessness as a necessary intervention to increase housing outcomes out of shelter. All shelter operators also articulated the need for integrated medical support services in emergency shelters in order to appropriately care for guests. These system dependencies, and others, require continued collaborative efforts between relevant health and social agencies to ensure appropriate care pathways for those in our community who present with multiple physical, mental, and addictions health needs.

GUIDING PRINCIPLES

- Promote inclusion and welcome all who need services regardless of gender identity, ethnicity, sexual orientation, disability, cognitive or physical abilities
- 2. Maintain a housing-focused approach to shelter service delivery, recognizing that stable housing is the primary need shared by all people experiencing homelessness, and that other health and social challenges can be better addressed once housing is secured.
- Provide service delivery grounded in an anti-racist and trauma-informed approach that prioritizes the client's safety, choice, and control, including consideration of specific Indigenous historical trauma.
- In recognition of the over-representation of Indigenous peoples experiencing homelessness, recognize and respond to the needs Indigenous guests with culturally appropriate and Indigenous specific operations and supports.
- Respect clients' cultural and spiritual identities and, if requested, connect them with pathways to access appropriate services in line with their identities.
- Provide access and referrals to a full spectrum of addictions and recovery services, from harm reduction to abstinence based programming, and respect and support a client's choice to access these services.
- 7. Collaborate with other service providers and stakeholders across the homeless-serving, health, and justice sectors, including but not limited to income and employment support programs, mental health, addictions, and recovery services, and Edmonton Police Service, to make appropriate referrals and develop case management plans for clients that lead to the best outcome.
- 8. Communicate information about the facility and operations in a way that is accessible, transparent, and clear about behavioural responsibilities and banning processes for guests and staff alike.
- 9. Develop relationships with the community where the facility is situated and establish open and transparent communications channels with neighbours.

Guiding principles ensure the policy and operational decisions of emergency shelter operators are aligned in connecting guests to sustainable housing options and support services.

OPERATIONAL STANDARDS

This section will establish minimum operational standards for day-to-day operations of emergency shelters in Edmonton. These standards are designed to increase accessibility for guests who may otherwise avoid shelter due to operational barriers.

OUTCOME STATEMENT

The successful implementation of the operational standards described in this section are expected to achieve the following outcomes:

- Increase the number of shelter spaces in Edmonton that are considered to be low-barrier
- Reduce the number of individuals choosing to sleep rough when there is available shelter space
- Minimize, or reduce, the number of critical incidents occurring at shelters

Hours of Operation

Emergency shelters operators should provide true 24/7 support to guests and not require them to leave the property for operational purposes (such as converting a space from sleeping services to meal services). In a 24/7 model, admission can occur at any time of day as capacity allows. In order to achieve this, there must be a clear separation of day-services space (including communal eating spaces, offices, and activity areas) from overnight sleeping space to allow guests to move from one space to another throughout the day.

Sleeping Accommodations

Dignified sleeping quarters should be provided in order to ensure guests can maintain healthy sleep hygiene for the duration of their stay in shelter. Sleep hygiene is a critical component of an individual's overall physical and mental health. Dignified sleeping accommodation includes:

- Private or semi-private sleeping spaces where possible;
- A bed off the ground, with bed rails or lower heights for low-mobility guests or those impaired by substance use;
- Separation from communal eating or activity areas;
- Couples spaces, if needed;
- Day-sleep spaces;

• 2 meters between beds, if in a congregate setting (although this is not a preferred setting).

Operators will make reasonable efforts to accommodate client preference on sleeping location, utilizing a GBA+ lens.

Storage for Guests

Emergency shelters should ensure guests have safe and secure storage options for their belongings, and should not confiscate or ban items from being stored unless they pose a life-safety risk to staff and other guests. Rules around accessing storage, like what can and cannot be stored, how often a person can access their items if stored in a locked storage room, and how long an item will be stored before it is discarded - should be posted publicly, with storage records kept by operators.

Some examples of storage solutions include:

- Lockers or trunks: A 24/7 storage solution that allows an individual to safely lock up and access their own clothing, shoes, hygiene products, and other small personal items;
- Amnesty Totes or Safe Keeping Boxes: A storage system that allows guests to store items prohibited from shelter that might otherwise prevent them from being able to access services. These items can be stored in opaque bags for the guest to check-out upon leaving the shelter;
- Locked storage room: A larger storage space with a "check in check out" system for individuals who have large amounts of personal items that cannot be accommodated in a locker or trunk ;
- Secure Bike Facility: Bicycles are a common mode of transport for individuals experiencing homelessness; a locked bike facility should be well designed to prevent theft.

Hygiene Services

Operators will provide a minimum of one shower stall for every twenty persons (per industry standards), and 1 toilet/sink for every 10 persons staying overnight (per National Building Code, Alberta Edition). A minimum of one washroom that is barrier-free, fully accessible and marked as gender neutral must be provided. Access to showers by clients should be available on demand.

Basic hygiene and toiletry products should be provided to clients who cannot provide their own, including towels, soap, shampoo, a toothbrush, toothpaste, shaving products, menstrual hygiene products, and incontinence products as appropriate.

Bedding & Laundry Services

Operators should provide bedding, towels, and laundry services for clients (both commercial and self-serviced). A policy to regulate self-service machines - operating hours, sign up sheets, time for servicing and cleaning - should be posted where guests can read and understand it.

Nutrition

Nutritional needs are dependent upon the individual needs of each client, and food provision is an essential health service that should be included in shelter. Food service delivery that requires line-ups does not promote dignity for those accessing food services, and are known to cause unrest and frustration. Instead, food services that offer guests meal options at all times of the day are preferred, as both a health intervention, for guests who have underlying health conditions like diabetes, and as a way to increase accessibility for guests who may try to access shelter outside of pre-set meal times.

Pets

Emergency shelters should establish a pet policy that ensures that there is a plan in place to support people with pets who need to stay at the facility. If pets cannot be accommodated, emergency shelters should refer guests to a shelter that meets their needs and arrange for transport.

_____plicable Laws

These Standards are meant to supplement, not to displace, any applicable laws, statutes, regulations, bylaws, policies and equivalents thereto.

Operators shall adhere to all applicable laws, statutes, regulations, bylaws, policies, and equivalents thereto, including (without limitation) those outlined in the Government of Alberta's Homeless Shelter Accommodation Expectations. Page 239 of 1297

Neighbourhood Impacts

All shelters should develop a Good Neighbour Commitment that lays out specific measures and actions that will be implemented by the operator to mitigate and minimize the impacts of the shelter operation on neighbouring properties, businesses, and residents. In order for a Good Neighbour Commitment to be acceptable in form and content to the City, it should include service standards, a 24/7 on-site contact, and an issue resolution process that is clearly communicated with nearby residents and businesses. Public sidewalks and building frontages should not be relied upon for queueing or smoking areas.

SERVICE DELIVERY STANDARDS

This section will establish minimum expectations for service delivery and programming for emergency shelter operations in Edmonton.

OUTCOME STATEMENT

The successful delivery of the programs and services described in this section are expected to achieve the following outcomes:

- Increase the number of individuals securing permanent housing from shelter
- Increase the number of individuals being diverted to temporary housing options that are more suitable for their circumstances
- Reduce the average length of stay for regular shelter clients

Expectations of Shelter Guests

Operators should develop an Admissions Policy that includes behavioural expectations of guests accessing overnight sleep space, day sleep space, and day space. The expectations must be posted transparently throughout the emergency shelter and communicated verbally to guests during admission to emergency shelter.

These expectations should include (but are not limited to):

- behavioural expectations, including a commitment to be respectful of staff and other shelter guests;
- items that are prohibited from entering shelter and options for storage of personal items (see: 'Storage for Guests');
- required participation in housing programs, and a commitment from guests to work on a housing plan.

Admission decisions will not be made based on a guest's substance use; guests should be welcome to use emergency shelter services as long as they are safely mobile and are able to adhere to the behavioural expectations in place.

Service Restrictions

Decisions on restriction to access, (sometimes called banning or barring), will be made based on a clearly defined policy and consistent set of procedures that is publicly posted for guests and staff. Banning or barring should be minimized unless individual's pose a safety threat to staff or other participants. A clear process for pursuing the removal or reconsideration of bans will also be articulated.

Admission & Diversion

During the admissions process, emergency shelter operators should:

- Determine whether or not the guest is suited for the programs and services offered at the shelter they are seeking to access;
- Provide a referral and arrange for transport for guests who are best suited to a different shelter or, if possible, divert to housing, based on their needs;
- Share with the guest clear expectations about the conditions for shelter use, orient guests to the space, and assign a bed.

The admissions process must demonstrate a clear pathway to intake for shelter guests, requiring that all guests participate in housing programs and can voluntarily participate in other specialized programs that support their pursuit of housing.

Diversion is the practice of referring people from shelter to safe and appropriate alternatives wherever possible. When new guests arrive, emergency shelters should have a diversion policy and process in place that works with the new guest to determine whether or not the shelter is an appropriate place for them to stay that night and, if it's not, work towards a better solution.

Intake

Once guests have been admitted to shelter, a more comprehensive intake should be completed within one to three days. While guests may not be able to do a full intake on the same day as seeking admission (often reasonably seeking to have their basic needs met first), a more comprehensive intake should be completed with guests in order to quickly connect them to a program that will facilitate their rapid exit from shelter into housing. Shelters should avoid the use of lengthy line ups or queues for beds.

Specialized Program Requirements

There are four specialized program areas that Edmonton shelter operators should develop, with corresponding policies and referral pathways, in order for an emergency shelter to meet Edmonton's Minimum Shelter Standards.

Consistent with a housing focused approach, there should be an embedded housing program in every single emergency shelter and service delivery should be tied to developing a housing plan and making housing referrals as frequently as possible. In order to achieve this, emergency shelter operators must ensure that all staff have a familiarity of the housing system. To maximize access to housing programs in shelter, shelter should be low-barrier and inclusive of the unique needs reflected in Edmonton's homeless population. In addition to a housing program, three additional program standards have been identified to increase accessibility to shelter and, by extension, housing programs.

1. Diversion and Housing First Programs

Emergency shelters must have integrated diversion and housing programs for shelter guests that are linked to Coordinated Access Housing Services, the primary pathway for housing support in Edmonton. It should be the goal of these programs, and all programs, to help move individuals out of shelter and into safe housing quickly. Emergency shelters can track their success in this area by measuring housing outcomes (increased) and guests' length of stay in shelter (decreased), and frequently reviewing intake information to identify individuals who are chronically in shelter. Chronic shelter users should be targeted for more enhanced housing support.

An embedded housing program should mandate that:

- Guests have engaged with a housing worker within 48 hours of entering an emergency shelter;
- Guests develop a housing plan within one week of entering shelter;
- If the housing program in shelter is not an appropriate fit, guests are referred to appropriate housing programs as quickly as possible.

2. Mental Health and Addictions Program

Operators will assist clients in obtaining appropriate mental health and addictions support services, which includes respecting client choice to access services from the full range of the addiction recovery spectrum. Where possible, programs should be offered on-site; in the event that is not possible, clear referral pathways and connections with the healthcare system should be established and tracked. This program should include:

- Clear protocols for guests prior to entry that explain what substances are prohibited from being used on site and corresponding storage options;
- Provision of medical and disposable sharps containers;
- Direction to resources that reduce the spread of communicable diseases as it relates to substance use, including the provision of clean and safe injection equipment or information on where to obtain it;
- Information for guests about where Supervised Consumption Services and other harm reduction programming can be accessed, if not on site;
- Staff training in overdose prevention and a clear protocol on how to respond to an overdose with provision of the appropriate tools;
- Referral pathways with warm hand-offs to appropriate support services when services in the facility are inadequate or unavailable.

3. Indigenous Support Program

The City of Edmonton recognizes that the overrepresentation of Indigenous peoples in vulnerable populations due to effects of historical trauma requires Indigenous people to lead program delivery and support services wherever possible. Operators are expected to work or partner directly with Indigenous organizations and individuals to ensure that program delivery and engagement is culturally competent. Examples of this may include:

- Conducting spiritual ceremonies, including smudging, sacred fire, and other teachings and protocols that can restore and support cultural healing from the effects of historical trauma;
- Involving Elders in the planning and implementation of support services ie. Elders counselling/guidance;
- Access to translation services to support personalized service delivery.

• Diversion efforts that seek to connect people to their families and home communities, wherever they may be.

4. LGBTQ2S+ and Youth Support Program

Operators will establish clear policies that reflect inclusiveness of LGBTQ2S+ individuals to ensure safer spaces for non-binary gendered people in Emergency Shelters, as recommended in the LGBTQ2S Youth and Housing Shelter Guidelines. Operators are required to respect and accept the self-defined sexual orientation, gender identity, and gender expression of an individual, including their pronoun. Operators will make appropriate referrals to youth programs and services for those who are not appropriately supported in adult-focused emergency shelters.

INFRASTRUCTURE STANDARDS

This section will outline infrastructure standards for shelter operators pursuing modifications of an existing building or building a new facility.

OUTCOME STATEMENT

That emergency shelters in Edmonton adopt best practices as outlined below when redesigning an existing shelter space or building a new shelter to improve service delivery, decrease negative community impacts, and increase accessibility for guests, in line with the *Guiding Principles*.

Built Form Considerations

Emergency shelters should have:

- private or semi-private sleeping spaces
- day space, separate from sleeping quarters, that provides areas for: communal meals, housing work, and staff offices
- barrier free and gender neutral washrooms
- a predictable lay-out, with minimal sharp corners and rounded walls to prevent individuals from bumping into one another
- enhanced materials used throughout to prevent noise transfer between spaces,
- A private and thoughtfully placed smoking area
- Safe parking and storage for bikes and shopping carts
- Increased ventilation and sanitation to support public health.

TERMS AND DEFINITIONS

Anti-Racism: Anti-racism is usually structured around conscious efforts and deliberate actions to provide equitable opportunities for all people on an individual and systemic level. It can be engaged by acknowledging personal privileges, confronting acts and systems of racial discrimination, and/or working to change personal racial biases. (*Safer For All Report*, March 30, 2021)

Gender Based Analysis Plus (GBA+): An analytical tool often used with the intention of advancing gender equality. The "plus" in the name highlights that Gender-based Analysis goes beyond gender, and includes the examination of a range of factors such as age, education, race, language, geography, culture, and income. GBA+ is used to assess the potential impacts of policies, programs or initiatives on diverse groups of citizens, taking into account gender and other factors. (*Gender-Based Analysis Plus Report*, City of Edmonton, 2017)

Harm Reduction: A client-centered approach that seeks to reduce the health and social harms associated with addiction and substance use (*Harm Reduction*, Canadian Mental Health Association of Ontario, 2021)

Housing Focused Shelter: A housing-focused shelter is unrelenting in its pursuit to make homelessness as brief as possible while returning people to permanent accommodation. From the moment an individual or family pursues shelter, there are efforts to ensure a safe and appropriate exit from shelter. Housing focused shelter does not operate other programming that can interfere with ensuring stays are short- term with a return to housing rapidly. (*Housing Focused Shelter*, OrgCode Consulting Inc. in partnership with the Canadian Shelter Transformation Network and Canadian Alliance to End Homelessness, March 2019)

Low-Barrier Shelter: Low barrier shelters ensure that every reasonable barrier to shelter access (and by extension housing access) has been removed. (*Housing Focused Shelter*, OrgCode Consulting Inc. in partnership with the Canadian Shelter Transformation Network and Canadian Alliance to End Homelessness, March 2019)

Trauma-Informed Care: Services are provided in ways that recognize the need for physical and emotional safety, as well as choice and control in decisions affecting one's treatment. Trauma- informed service delivery creates an environment where service users do not experience further traumatization or re-traumatization. (*Trauma-Informed Care - Overview*, Community Mental Health Action Plan, 2021)

Homeless Shelter Accommodation Expectations

Emergency Shelter and Short-Term/Long-Term Supportive Housing

Community and Social Services

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Homeless Shelter Accommodation Expectations

DEFINITIONS	
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DEFINITIONS

The definitions below are intended to support the terminology used within the *Homeless Shelter Accommodation Expectations.*

Client:	Individual who is assisted by the Operator pursuant to the Emergency/Short-Term/Long-Term Supportive Housing Initiative Conditional Grant Funding Agreement between the Operator and the Department.
Department:	Alberta Community and Social Services (CSS)
Departure/Eviction Procedures:	Process of concluding a client's stay at a shelter, under the shelter's policy.
Emergency Shelter:	Means overnight accommodation to individuals who have no permanent address.
Employee:	A staff member of the shelter (does not include health-care professionals).
Facility:	A shelter.
Grievance and Appeal Process:	A mechanism developed and used at a shelter to address and work toward resolving a client's concerns.
Housekeeping Services:	Refers to regular cleaning of clients' rooms and common areas that include vacuuming and dusting; and kitchen, dining room and bathroom cleaning and disinfecting.
Illicit Substances:	All psychoactive drugs and their derivatives, except alcohol and tobacco, which are used or distributed in a manner prohibited by Canadian law.

Laundry and Linen Services:	The regular laundering of bedding, towels and common linen, either owned by the facility, client or a laundry service, for the exclusive use of the clients. "Bedding" includes bed sheets, pillowcases, and blankets. "Towels" include bath towels, hand towels, and face cloths. "Common linens" includes tablecloths and napkins.
Long-Term Supportive Housing:	Means unlimited stay at a facility that provides 24/7 support services to its residents.
Medication Management:	Medication assistance and/or medication reminder.
Operator:	The organization/individual responsible for the operation of a facility.
Prohibited Weapons:	Any device designed to be used for the purpose of injuring, immobilizing, or otherwise incapacitating a person. Examples include but are not limited to firearms; switchblade knives or other knives or daggers; martial arts weapons; mace or pepper spray; blowguns; whips; brass knuckles or spiked wristbands; clubs, pipes or rods linked by rope, wire, or chain; and any other weapon prohibited by federal or provincial law.
Real Property:	Refers to land, buildings, ancillary structures, furniture, and equipment.
Shelter	Emergency Shelter, Short-Term and/or Long-Term Supportive Housing.
Shelter Accommodation	Homeless Shelter Accommodation Expectations.
Short-Term Supportive Housing:	Temporary housing with support to assist client movement into permanent housing.
Staff:	Shelter staff and/or shelter operator providing services.
ACCESS TO SHELTER – Expectations 1 through 3

The access to shelter expectations relates to application, orientation, exit process, consent for accommodation services, and the admission agreement.

As a guiding principle, shelter accommodation shall be extended to all people regardless of political or religious beliefs, ethno-cultural background, health, (dis)ability, gender identity, and/or sexual orientation; however, the facility may refuse admission to individuals who may not be accommodated due to: space considerations, because of physical limitations of the building, who may put others at risk, or who are considered best served by another agency. If a shelter cannot accommodate an individual, a referral to a different agency should be provided.

EXPECTATIO (1.1 – 1.3)	ON 1 – CLIENT APPLICATION AND ORIENTATION	E	S
1.1	 The Operator will ensure that clients are provided with appropriate facility information in writing, which must include: Eligibility criteria Services provided at the facility Security practices and procedures, including fire exit process Client rights and responsibilities as defined by the Operator and applicable legislation Facility policy regarding substance use Facility policy regarding client disclosure of medication Facility policy regarding the storage of personal belongings Any monthly charges/fees the client is expected to pay Departure and/or eviction procedures. 	٢	٢
1.2	The Operator must maintain accurate occupancy records.	۲	۲
1.3	The facility has a written policy to address the average length of stay in a shelter for the clients.	*	۲



Applicable

Not Applicable

E Emergency

S/L Short/Long Term

ACCESS TO SHELTER – Expectations 1 through 3

Continued

EXPECTATI	ON 2 – INFORMED CONSENT (2.1 – 2.2)	E	S
2.1	The Operator has an informed and voluntary consent form for accommodation.	•	۲
2.2	Informed consent forms are signed and filed and must meet the following criteria:	8	٢
	Consent is freely given		
	 The consent is dated and is related to a specific service or procedure 		
	 The client understands his/her right to withhold, give and revoke consent 		
	 The person giving consent has a reasonable understanding of what is being consented to and the implications of providing or denying consent. 		

EXPECTATION 3 – CLIENT GRIEVANCES AND APPEALS (3.1 - 3.3)		E	S
3.1	The Operator shall establish a process to receive, document, investigate and respond to client grievances and appeals.	۲	0
3.2	The Operator shall ensure that clients are aware of their right to lodge a grievance and appeal decisions.	٢	٢
3.3	The Operator shall maintain a record of the outcomes of all formal client grievances and appeals.		

LEGEND:

Applicable 🛞

⊘

Not Applicable

E Emergency

CLIENT INFORMATION – Expectation 4

Shelter staff often have access to sensitive personal information about clients and should protect the confidentiality of personal information. Sharing client information with other service providers may be necessary to ensure effective provision of services, continuity of care, and efficient use of resources; however, sharing information with relevant providers may occur only when such disclosure is reasonably required and authorized.

Provincially-operated shelters are required to comply with the *Freedom of Information and Protection of Privacy Act* (FOIP). Provincially-funded shelters may be required to comply with FOIP under the terms of the conditional grant agreement.

The *Personal Information Protection Act* (PIPA) applies on a limited basis to certain non-profit organizations. Under the Act, non-profit organizations incorporated under the *Societies Act*, the *Agricultural Societies Act*, or registered under Part 9 of the *Companies Act*, are exempted, unless undertaking commercial activities. PIPA applies to non-profit organizations, as defined in the Act, only with respect to personal information that is collected, used or disclosed in connection with a commercial activity carried out by the non-profit organization.

EXPECTAT INFORMAT	TION 4 – CONFIDENTIALITY AND SHARING OF PERSONAL TION (4.1 – 4.3)	Е	S
4.1	The Operator controls access to, receipt of, storage, use and disclosure of client information.	۲	۲
4.2	The Operator shall not disclose any information pertaining to the personal information of a client to any person without the prior written consent of the client, unless otherwise authorized by legislation or a specific Court Order.	•	۲
	Note: This expectation does not apply to the disclosure of information to a person who requires that information in the ordinary course of his/her employment or duties with the department.		
		1	
4.3	The Operator adheres to applicable provincial and/or federal legislation, as it pertains to client confidentiality and reports any security breaches or violations to Alberta Housing and Urban Affairs.	0	•

LEGEND:

Applicable

Not Applicable

E Emergency S/L Short/Long Term

INFORMATION AND REFERRAL SERVICES – Expectation 5

The information and referral services expectation enables linking clients with appropriate services in a timely manner, whether the services are provided in-house or by an external agency.

EXPECTATION 5 – ASSISTANCE WITH INFORMATION AND REFERRAL (5.1)		Е	S
5.1	The Operator ensures clients have access to information about relevant community, municipal, provincial, and federal programs/services, and are provided with referrals as appropriate.	٢	3

PHYSICAL ENVIRONMENT – Expectations 6 through 7

Expectations relating to the physical environment ensure that all real property is maintained in such a way as to meet the basic physical needs and secure the safety of all persons that make use of the facility, including clients, employees, volunteers, service providers, and visitors.

In addition to the expectations listed below, shelters must meet all other applicable legislation, regulations, bylaws, and codes.

EXPECTATIO	ON 6 – FIRE REGULATIONS (6.1)	Е	S
6.1	The Operator must ensure that the facility has a fire safety plan in place in accordance with the Alberta Fire Code.	٩	

EXPECTATIO	ON 7 – MAINTENANCE OF REAL PROPERTY (7.1 – 7.2)	Е	S
7.1	Premises and equipment meet the requirements of all applicable health, safety, building and fire codes, bylaws, and legislation.	۲	
7.2	The Operator establishes a health and safety committee. Website reference link - Occupational Health and Safety		

LEGEND:

Applicable

Not Applicable

E Emergency

SAFETY SERVICE – Expectation 8 through 9

Expectations related to safety services are designed to facilitate the safety of shelter clients, visitors, volunteers, and employees. The Operator must ensure compliance with all health, safety, building and fire codes, bylaws, regulations and legislation.

The Operator must ensure staff are aware of their duty under the *Protection for Persons in Care Act* to protect clients from abuse and to report suspected abuse of clients.

EXPECTATIO	ON 8 – EMERGENCY PREPAREDNESS (8.1)	Е	S
8.1	The Operator must have an emergency preparedness plan in place to deal with non-fire-related emergencies.	۲	

EXPECTATION 9 – SAFETY AND SECURITY (9.1 – 9.5)		E	S	
9.1	The Operator promotes safety and the prevention of abuse.		٢	
		1	1	
9.2	The Operator ensures clients are made aware of the facility's rules around prohibited weapons and illegal substances.	•	•	
	The policy will include information about the facility's storage and return procedures, as appropriate.			
9.3	The Operator ensures that safety needs of staff and clients are met.	٢		
9.4	All clients engaged in cleaning are trained appropriately and the storage of controlled products adheres to the Workplace Hazardous Materials Information System (WHMIS).			

LEGEND:

Applicable

Not Applicable

E Emergency S/L

S/L Short/Long Term

HUMAN RESOURCES – Expectations 10 through 12

Human resource practices relate to the conduct of employees, volunteers, and student placements. Expectations relating to human resources ensure the professionalism and accountability of any conduct or interaction with and/or relating to employees, volunteers, and student placements. The Operator is required to comply with Alberta's Employment Expectations Code and Occupational Health and Safety. The Operator is also responsible for promoting general safety and ensuring staff are trained in emergency response procedures.

EXPECTATIO	ON 10 – EMPLOYMENT EXPECTATIONS (10.1 - 10.2)	Е	S
10.1	The Operator ensures that all employees are aware of the scope of employment.		
10.2	The Operator recognizes and identifies training for employees and ensures that employees receive appropriate training.	۲	۲

EXPECTATIO	ON 11 – PROFESSIONAL CONDUCT (11.1)	Е	S
11.1	The Operator shall develop a code of conduct that will outline professional behaviour for shelter staff, including expectations regarding employee and volunteer involvement in clients'	۲	۲

EXPECTATION 12 – SCREENING/CRIMINAL RECORD CHECK (12.1 – 12.2)		Е	S
12.1	All new employees and volunteers are required to provide a criminal record check that includes screening for work with vulnerable populations.	۲	۲
12.2	The facility has a written policy to address the reporting of criminal charges during term of employment.	۲	3



Applicable

Not Applicable

E Emergency

S/L Short/Long Term

HOSPITALITY SERVICES – Expectations 13 through 15

Hospitality services relate to the provision of meals, housekeeping, and laundry services. All shelter staff, volunteers, and clients who assist in the provision of these services are subject to the expectations identified below.

Shelters that provide meals must comply with the *Food Regulation* (under the *Public Health Act*). The Alberta Health Services Board is the main contact for information regarding food safety courses and food establishment permits. Note that charitable and non-profit organizations are exempt from paying the permit fee, provided they are able to produce a copy of the most current Charitable Status Number or a copy of the Annual Returns for Society and Non-Profit Company – Proof of Filing.

EXPECTATION 13 – FOOD HANDLING AND SANITATION (13.1 – 13.2)		Е	S
13.1	Where the facility operates a food establishment, as defined in <i>Food Regulation</i> , the Operator must ensure that a valid food establishment permit is posted.	٢	٢
13.2	The Operator ensures that anyone working in food preparation (including staff, volunteers, and clients) receive annual education in safe food handling.	٢	٢

EXPECTATION 14 – HOUSEKEEPING SERVICES (14.1 – 14.2)		Е	S
14.1	The Operator ensures that all areas are cleaned to prevent health and safety risks.	۲	۲
		[
14.2	The Operator ensures housekeeping staff and volunteers follow proper cleaning, hygiene, and disease-control procedures (i.e., minimizing cross contamination; prevention and control of infection; the proper use of cleaning supplies and equipment).	9	٢

LEGEND:

Applicable

Not Applicable

E Emergency

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HOSPITALITY SERVICES – Expectations 13 through 15 Continued

EXPECTATION 15 – LAUNDRY AND LINEN SERVICES (15.1 – 15.2)		Е	S
15.1	If bedding, towels, or linens are provided, they must be clean, dry, sanitary, and in good condition. Staff follow practices for the prevention and control of infection.	٢	٢
15.2	If the facility has laundry equipment available for client use, the Operator ensures that safe and sanitary conditions exist for the washing of personal laundry.	۲	۲

MEDICATION MANAGEMENT – Expectation 16

Shelters may provide medication management to clients. The shelter's medication management policies and procedures do not supersede any existing legislation or regulation, or the instructions and directions of a physician or pharmacist.

EXPECTATION 16 – STORAGE OF AND ACCESS TO MEDICATION (16.1)		Е	S
16.1	For shelter facilities that provide medication management, the Operator shall have written procedures in place that address the storage of and access to client medication.	٩	٩



Applicable

Not Applicable

E Emergency

INFECTION AND DISEASE CONTROL – Expectation 17

To ensure the health and safety of shelter staff, volunteers, clients, and visitors, shelters should provide information regarding infection and communicable diseases, including their prevention and treatment.

The Operator is required to comply with the *Communicable Diseases Regulation* and must ensure that staff are aware of their responsibilities to report diseases identified within the regulation.

EXPECTATION 17 – INFECTION CONTROL AND COMMUNICABLE DISEASES GUIDELINES (17.1 – 17.3)		E	S
17.1	The Operator ensures that written policies and procedures are in place for infection control and communicable diseases.		۲
17.2	The Operator ensures that shelter staff, volunteers, and clients are educated about the risks of infection and their role in preventing infections.	•	۲
17.3	The Operator promotes during orientation up-to-date immunizations for all staff working directly with clients.	3	

LEGEND:

Applicable

☑

Not Applicable

E Emergency

Edmonton

Minimum Emergency Shelter Standards What We Heard Report

July 2021 Affordable Housing & Homelessness Social Development, Citizen Services

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INTRODUCTION

On March 15, 2021 City Council directed City Administration to develop minimum emergency shelter standards and operating requirements to mitigate impacts on communities and provide better service to clients. From April to July 2021, the City of Edmonton's Affordable Housing and Homelessness Section engaged individuals, organizations and community representatives - both within and outside of the shelter system - in the the development of these standards including:

- Ministry of Community and Social Services (CSS);
- Alberta Health Services;
- Individuals with lived experience in the shelter system;
- Homeward Trust Edmonton;
- Emergency shelter providers including Hope Mission, the Women's Emergency Shelter Centre (WEAC) and Mustard Seed;
- Edmonton Police Service (EPS);
- Confederacy of Treaty 6 First Nations;
- Indigenous service providers including Bent Arrow, Niginan Housing and Métis Urban / Capital Housing Corporation;
- Youth Emergency Shelter Services (YESS);
- Day service providers including Boyle Street Community Services and Bissell Centre;
- George Spady Centre;
- Community Leagues;
- Business Improvement Areas (BIAs);
- Representatives from the City of Edmonton's Anti-Racism Advisory Committee;
- Representatives from the Women's Advocacy Voice of Edmonton Committee; and
- Representatives from the City of Edmonton's Accessibility Advisory Committee

As a result of the COVID-19 pandemic, engagement was primarily conducted through virtual methods which limited staff's ability to connect with some communities, particularly those experiencing homelessness. Despite this challenge, the team endeavoured to be as thorough as possible in its engagement and seek out diverse perspectives and participants.

Through the engagement the team heard that there is broad philosophical support from all stakeholder groups for the draft minimum emergency shelter standards, as well as a desire to see greater coordination, consistency and use of evidence-based approaches in the sector. The following report provides a summary of common themes that were cited during these discussions, as well as notable areas of divergence between stakeholders.

ACKNOWLEDGEMENT

The City of Edmonton wishes to thank the many individuals and organizations that shared their perspectives during this process to help improve Edmonton's shelter system for individuals experiencing homelessness.

STRENGTHS OF THE SHELTER SYSTEM

Support for Basic Needs

While some individuals with lived experience and shelter providers expressed satisfaction with the basic services currently provided in shelter, including access to identification, connection to programs such as income support, food, laundry, transportation, and recovery programming, the majority of individuals with lived experience, shelter providers, day service providers, community organizations and others engaged in this process felt that the quality and availability of shelter services in Edmonton is lacking, inconsistent and insufficient to address the complexity of needs among Edmontonians experiencing homelessness.

Enhanced Communication During the COVID-19 Pandemic

Many emergency shelter providers and day service providers indicated that the COVID-19 pandemic has resulted in greater collaboration, communication and sharing of information within the homeless-serving sector. One example of enhanced collaboration is an app (Sharepoint: Inner City Intake) that is used by three service providers to share basic client information. Agencies indicated that this collaboration has had a positive effect and many expressed a desire to build on this success by establishing a shared data system for the entire sector.

Expansion of Shelter Services

One shelter provider spoke positively about the temporarily expanded shelter services in the southside Edmonton which allow individuals to more easily access services insteading of needing to travel downtown to receive the support they need. They also noted that smaller sized shelters have recently emerged in Edmonton have been more successful than very large congregate settings. Noted positive impacts of smaller shelters include a reduction in critical incidents and a greater ability for staff to provide more intentional support to guests.

Shelter Staff

Some participants with lived experience spoke positively about shelter staff and the care they provide, although interactions and experiences with staff appeared to be inconsistent and vary significantly across agencies. Shelter service providers also spoke positively about the strengths of staff, including their passion, commitment and skills supporting individuals with complex needs.

CHALLENGES IN THE SHELTER SYSTEM

Urgent Need for Bridge and Supportive Housing

All stakeholders feel that there is a critical deficit of supportive and bridge housing in Edmonton, which has impeded Edmonton's ability to address and ultimately end homelessness. Without available housing, individuals staying in shelter are not able to transition to permanent housing and Edmonton continues to experience growing numbers of individuals experiencing homelessness.

Barriers to Shelter - Lack of Safety, Privacy, Storage and Dignity

Many individuals with lived experience indicated that certain shelter practices have deterred them from accessing services, which has left them with no other choice than to sleep outside, including one individual who referenced regularly sleeping in garbage bins. Specific examples of barriers include feeling unsafe in shelter, experiencing uncomfortable sleeping quarters, not being able to access the services they need, being banned from service, restrictive storage policies, concern about faith-based services, or needing to stay in large congregate settings which, in the words of one individual, feels like staying with 200 roommates.

Gap in Services for Mental Health and Substance Use

All stakeholders stated that mental health and addictions services are urgently needed as a result of the ongoing opioid crisis and complex mental health issues facing individuals experiencing homelessness. The shelter system is not equipped to provide these services and needs to be more closely integrated with Alberta Health Services to ensure individuals receive the support they need to be successfully housed and break the cycle of homelessness. The presence of unsupported people with complex needs can deter others from staying in shelter.

Lack of Coordination and Communication

All participants, with the exception of a few shelter providers, indicated that there is a lack of shared vision and accountability for the shelter sector, which has resulted in significantly different approaches, mandates and use of evidence-based approaches by each provider. Many stakeholders observed that insufficient communication and collaboration has exacerbated these challenges, as well as perceived rivalries or tensions between organizations.

Indigenous Cultural Competency

A majority of participants identified the over-representation of Indigenous peoples experiencing homelessness and ongoing legacy of Residential Schools and colonization as a profound challenge in the shelter system. Many noted that there is no consistent approach to cultural programming and there are fundamental gaps in understanding of Indigenous cultures, ways of knowing and being in the sector as well as a lack of Indigenous staff and cultural competency training. Some stakeholders felt the design and operation of many shelter services are not historic-trauma informed. Going forward, stakeholders feel more culturally-based services are needed including ceremony, smudging, access to Elders and other supports to facilitate healing and reconnection to culture and kin.

Community Disorder

BIAs and Community Leagues spoke about the concentration of shelters and other social services in particular areas of the city and persistent challenges in terms of cleanliness, public urination and defecation, impacts on businesses and proliferation of encampments. Some also wondered why there appears to be less disorder in Calgary. Shelter providers expressed a desire to be good community neighbours but indicated that accessing services is voluntary and they sometimes have limited tools to address issues that are completely off-site, short of contacting EPS.

Gap in Staff Capacity and Training

Many shelter providers identified persistent challenges related to staff burnout and a lack of available training to support individuals with complex needs. Community representatives and advisory committee representatives spoke to the need for Indigenous culture and anti-racism training while service providers desired to see more training including overdose prevention, mental health crisis support, trauma-informed services and motivational interviewing but noted that training is not currently funded by the Government of Alberta and is independently determined by each shelter provider.

Data Collection and Sharing

Participants indicated that there is no shared database or information sharing system in the shelter sector. Many shelter providers, though not all, expressed a desire to collaborate more closely and share data including real-time data about available beds, banning and basic client information to inform decisions. From a community perspective, there is a desire to better understand system outcomes and demographic information through greater data collection and access.

IMPROVEMENTS IN THE SHELTER SYSTEM

The Ministry of Community and Social Services, Homeward Trust, shelter providers and day service providers referenced a number of planned and ongoing improvements within the shelter system including:

- CSS and HTE are undertaking **information technology (IT) updates** to support greater consistency in data collection and access throughout the sector.
- **Improved staff training**, although it should be noted that this is occurring on an agency-by-agency basis and is not consistent across the sector.
- Service improvements:
 - Hope Mission is funding its own nursing team to support better access to health services and is in the process of becoming accredited.
 - WEAC is undergoing a transformation of its shelter services to become more housing-focused, trauma-informed and evidence-based.
- The Herb Jamieson, **a new purpose-built shelter**, is being built in Edmonton, the first new shelter development in the city in many years.

Despite the improvements listed above and interest from some shelter providers to evolve their service delivery, many stakeholders feel the shelter system is in need of more significant and comprehensive improvements, above and beyond what is currently happening, to effectively address systemic issues and challenges for guests as it relates to accessibility, substance use, and housing outcomes.

FEEDBACK ON GUIDING PRINCIPLES

The following is a summary of the draft guiding principles that were shared with participants during the engagement:

- Welcome all individuals regardless of gender, ethnicity, sexual orientation or physical ability
- Provide housing-focused and trauma-informed services
- Prioritize safety and client choice
- Respect clients' cultural and spiritual identities
- Recognize and respond to the needs Indigenous guests with culturally appropriate and Indigenous specific operations/supports
- Collaborate across sectors and systems to ensure warm hand-offs through a continuum of care
- Provide access to a full spectrum of services from harm reduction to abstinence-based programming or ensure a warm hand-off to operators who provide these services if the operator cannot

Summary of Feedback:

The majority of stakeholders expressed enthusiastic support for the draft guiding principles and felt that they were evidence-based and aligned with good practice.

Theme	Feedback
Housing-Focused Services	 Stakeholders universally agree that shelters should be temporary and housing-focused, although many individuals with lived experience stated that shelters do not follow a consistent housing-focused approach in practice. Many shelter providers have different conceptions of what housing-focused services look like and indicated that there is not enough bridge and supportive housing to transition people to. Some shelter and day service providers wanted clarity about whether recovery programming, bridge housing or other supports would be considered examples of housing.

	 Some service providers and community representatives referenced the Calgary Drop In Centre as a successful shelter example and agreed that all programming in shelters should be housing focused. Another, smaller, group indicated that there are programs that should be offered to support guest well-being and spirits even if they are not necessarily housing-focused, such as art classes.
Role of Other Service Systems	 Many day service providers and shelters feel that the guiding principles should recognize that shelters are not adequately positioned to address homelessness alone and must rely on and work in collaboration with a number of other systems to prevent and address homelessness, including the Government of Alberta for the development and funding of supportive housing, mental health supports and recovery programming. From the perspective of shelter providers and day service providers, there was no consensus on the role of the Edmonton Police Service in the shelter system.
Inclusion	 Advisory Committee representatives and Indigenous organizations recommended strengthening 'welcoming all' language in the principles to focus on proactive inclusion and not just the removal of barriers. Advisory Committee representatives wanted a greater diversity of identities and barriers reflected in the principles including the disability community, individuals with service animals, parents with children, and those with diverse religious beliefs. There was recognition that there are more individuals with diverse cultural backgrounds experiencing homelessness which should be reflected in the standards. The principles should also be rooted in anti-racism and anti-colonialism.

Indigenous Cultural Programming	 Many community representatives, Indigenous organizations and agencies indicated that the guiding principles need to be grounded in Indigenous ways of knowing and being, and reconciliation. One community group also recommended adding a principle that recognizes the over-representation of Indigenous peoples experiencing homelessness.
Spiritual Identities	 A majority of stakeholders, including day service providers, some shelter providers and Indigenous organizations, indicated that cultural and spiritual identities should be treated separately, and participation in faith-based practices in shelter should be voluntary rather than a prerequisite for receiving services. Some expressed that faith-based services do not meet the needs of Indigenous peoples, particularly given the trauma communities have experienced as survivors of Residential Schools and colonization. Others indicated that services that incorporate faith-based teaching and activities can present barriers to individuals trying to access shelter services and recovery programming, particularly if they are of a different faith or cultural background, and more options are needed.
Client Choice	 Community and Social Services, shelter providers and day service providers were supportive of the idea of client choice and voluntary participation in services. Others agreed with that philosophically but indicated limited options to offer guests in the system makes prioritizing client choice difficult if not impossible. BIAs and Community Leagues raised questions about how to address concerns when client choice conflicts with community safety. Some shelter providers also indicated that they did not know how to support individuals who refused services or could not comply with behavioural expectations due to substance use, cognitive impairment or mental illness.

Spectrum of Services	 All stakeholders provided positive feedback about having a spectrum of services in the system, from abstinence to harm reduction programming. Some providers and community representatives passionately supported the inclusion of harm reduction services and safe consumption services in every shelter so that individuals do not need to travel to multiple agencies to receive the support they need. Others agreed that these services are urgently needed but expressed concern about having a full spectrum of services in every shelter and instead advocated for looking at system-wide capacity for harm reduction and safe consumption services.
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FEEDBACK ON OUTCOMES

OUTCOME 1: OPERATIONAL STANDARDS

The following is a summary of the draft standards that were shared with participants during the engagement:

Outcome Statement:

- Increase in the number of shelter spaces in Edmonton that are considered to be low-barrier
- Reduce the number of individuals choosing to sleep rough when there is available shelter space
- Minimal, or reductions in, the number of critical incidents occurring at shelters

Draft standards:

- 24/7 operations for all emergency shelters
- Suitable sleeping areas, nutrition, laundry and pet options
- Safe and secure storage
- Showers and bathrooms in alignment with current building code
- Good Neighbour Commitment

Summary:

There was broad support across all participants to improve the accessibility of shelters, move towards 24/7 operations, and implement Good Neighbour Commitments. However, there were diverging perspectives about how to achieve these goals, as well as questions about funding / resourcing of improvements.

Theme
24/7

	 Potential positive impacts of 24/7 supports include minimizing queuing and community impacts, providing needed support during the day for individuals and increasing overall accessibility.
Sleeping Areas	 Many individuals with lived experience stated they have poor quality sleep in shelter and prefer sleeping in beds rather than bunk beds, which are dangerous, especially for Elders or those with health issues. Shelter providers shared feedback about the feasibility of various bed options in a shelter context. In general, cots were not supported as they are difficult to sanitize, break often and are not comfortable. Some service providers and Community and Social Services indicated mats are needed for harm reduction and those who are intoxicated however most participants believe that mats are not the best option for most clients. A smaller group indicated that mats are not dignified and unnecessary, and beds can be used just as safely with the implementation of bed rails, or beds located lower to the ground for low mobility clients.
Good Neighbour	 There was broad agreement about the need for positive relationships between shelters and community. EPS, BIAs and Community Leagues want to see enforced Good Neighbour Commitments to regulate external areas, particularly as it relates to cleanliness, garbage, drug use, line ups, social disorder, encampments and individuals in crisis. Shelter providers did not disagree with implementing Good Neighbour Commitments but raised logistical and legal concerns about their ability to be responsible for individuals in crisis who are off-site. One organization noted that some individuals cannot meet behavioural expectations due to cognitive impairment, mental illness or addictions, and shelters have limited tools to enforce rules, short of calling the police.

Spacing	 One individual with lived experience indicated that individuals are located too closely together in shelter and need more space to be comfortable. One shelter provider agreed with 2 metre spacing in principle because appropriate distancing between guests helps with client dignity, reduces aggression and supports overall hygiene. However, there would be impacts on how many people that can be accommodated in a particular shelter.
Storage	 Individuals with lived experience raised many concerns about storage practices in shelter including the inability to move their items in and out when they need to, having to throw out possessions that they cannot bring into shelter and having possessions stolen or go missing including medication. Some providers indicate they have amnesty approaches already. A small number of stakeholders indicated that storage can be challenging as shelters are not set up for a large volume of storage or hoarding situations. There are also potential staffing implications of monitoring and providing frequent access to belongings.
Food Provision	 Multiple individuals with lived experience expressed a desire for better quality food that is more readily accessible. There was broad agreement amongst shelter providers that there should be food offerings for guests when they are hungry, regardless of the time they enter the shelter. However, there were different perspectives on how to best accomplish this goal, with concern about grab and go food service and 24/7 provision of hot meals. There were also concerns regarding feasibility, cost and logistics of different food provision options, given food is often procured through donations. There was a lack of clarity about what culturally appropriate food means and questions about the need to accommodate conscientious diet choices. There was general support for having snacks or extra meals on hand for those who need food at off-times. There was also support for longer meal times over a few hours to cut down on line ups and support greater accessibility.

Towels,	 Multiple individuals with lived experience spoke about the critical need
Clothing and	for towels, clothing and blankets in shelter to support hygiene and
Blankets	comfort.
Pets	 Some agencies expressed support for the admission of pets and referenced the National Alliance to End Homelessness' pet policy. Another shelter provider raised concerns about the feasibility of allowing pets, including impacts on other clients and staff safety.

OUTCOME 2: SERVICE DELIVERY STANDARDS

The following is a summary of the draft standards that were shared with participants during the engagement:

Outcome Statement:

- Increase the number of individuals securing permanent housing from shelter
- Increase the number of individuals being diverted to temporary housing options that are more suitable for their circumstances
- Reduce the number of unique individuals accessing shelter services
- Reduce the average length of stay for regular shelter clients

Draft Standards:

- Have a public admissions policy on behavioural expectations and required participation in housing programs and other specialized programming
- Ensure decisions on restricted access made based on a clearly defined policy that is posted publicly
- Provide referrals and arrange transport for guests who are best suited to a different shelter based on their needs
- Undertake a comprehensive intake process within 24 hours of a guest's admission
- Provide pathways to housing first and specialized programming including:
 - Diversion and Housing First
 - Mental Health and Addictions
 - Indigenous Support Programming
 - LGBTQ2S+ policy and inclusion
 - Appropriate diversion to youth services

Summary:

There is broad support for diversion to more permanent housing options, in recognition that shelter stays should ideally be brief and non-recurring. There is also significant support for greater integration with the health system to support better access to mental health and addictions supports, as well as greater Indigenous cultural programming within the sector.

Theme	Feedback
Reduction in length of stay	 Shelter providers, day services providers and Homeward Trust generally understand the intention of this outcome (to reduce chronicity) but felt that it should not be considered a metric for success. Individuals may have valid reasons for staying in shelter for a longer than average period of time, depending on their circumstances, and this outcome could encourage shelters to cut off services to individuals in need.
Reduction in Unique Visits	 Many understood and supported the overall intention of reduction in the number of unique individuals accessing shelter but ultimately felt this is an ineffective metric. Some shelters pointed out that the number of individuals accessing shelters can be impacted by a number of variables outside of the control of shelters, and that reduction in homelessness is not possible without an increase to supportive and bridge housing beds. Others indicated that some housed individuals access day services in shelter such as food, laundry, etc. and wondered how this would be accounted for in data collection.

Housing Options	 Stakeholders broadly agreed that long waitlists for housing and a lack of supportive housing and bridge housing make it difficult to move individuals through the system and into permanent and appropriate housing. One agency also felt that housing should not be seen as a binary - either housed or not - but rather as a spectrum of support. There were also questions about how diversion is defined - whether that is diversion to operated facilities or natural support systems.
Intake	 Shelter service providers and other agencies raised questions about how intake is defined - whether it is an initial conversation or comprehensive assessment. Shelter providers, service providers and CSS indicated that 24 hours is too short a period of time to complete an intake, especially if someone is intoxicated or needs time to stabilize. Instead, most providers suggested 1 - 3 days for intake and emphasized that an individual needs to be ready in order to participate.
Warm Hand-Offs / Referrals	 Warm hand-offs / referrals are broadly supported but defined differently by shelter providers. Some feel a warm hand-off could require traveling off-site to accompany a vulnerable person to another service provider. Another shelter indicated that they will call another shelter but staff are not trained to go off-site. Some providers also raised questions about implications for staff resourcing and transportation.
Security	 A few shelter providers and Indigenous organizations referenced the need for security in shelter, both for guests to feel safe and for staff. Some suggested security measures include cameras, alarms, walkie talkies, although there was recognition this could contribute to a more institutional feeling in shelter which is generally not supported.

Banning	 Individuals experiencing homelessness referenced being banned for a variety of reasons including: being intimate with their partner, being involved in a fight, intervening in a domestic violence situation and being intoxicated. Some did not know why they were banned. Some stakeholders, particularly day service providers and Indigenous organizations, indicated that banning occurs too frequently in shelters, and is inconsistently approached across the system. There needs to be greater transparency and consistency in banning practices, as well as staff training to support de-escalation.
Mental Health	 All stakeholders identified a critical need for mental health services for individuals experiencing homelessness. Shelter providers indicated that they do not provide these services themselves and there are not enough community mental health supports to refer people to. Greater integration with Alberta Health Services is needed, as well as medical staff on site and staff training to help those with complex needs.
Physical Health	 Individuals in shelter need access to basic medical care including physical health, wound care and storage of prescription of medication There are challenges in terms of accessing information from the medical system to understand people's diagnoses and needs. Multidisciplinary teams are needed on site, including nurses, to support access to medical databases to understand the full history and needs of the individual.

Harm Reduction and Substance Use	 Individuals with lived experience expressed significant concern regarding the use of drugs and impacts of the opioid epidemic. One individual referenced using 21 naloxone kits in 2 weeks and stated that shelters need 24/7 doctors and nurses on site to assist guests in need. The need for harm reduction, low barrier services and safe consumption services was universally identified by all stakeholders, including shelter providers that would not provide these services themselves. Some individuals feel alcohol and drugs should be allowed in shelter so that people do not need to leave the shelter to use outside, while others were concerned about the presence of substances in shelter. The closure of George Spady's shelter services was widely seen as having significant and concerning impacts on the sector's intox capacity and ability to serve those with complex needs, as not all shelter providers provide these types of services. Some Community Leagues, shelter providers, day service providers spoke strongly about the need for safe consumption and overdose prevention services in all shelters. Some shelter providers also referenced the need for additional recovery spaces, and indicated there are current delays or weeks or even months to access these services.
LGBTQ2S+ Guests	 Many shelter providers expressed they don't know how to support the LGBTQ2S+ community in a safe and inclusive way, and are looking for resources / information. Many other stakeholders echoed this sentiment and felt that there are not enough safe spaces that are truly welcoming and accepting. Some expressed faith-based services can be traumatizing or unwelcoming for members of the LGBTQ2s+ community. There is also need for gender neutral spaces in shelter for those who are non-binary, as well as particular supports for those who identify as trans*.

Indigenous Cultural programming	 There was universal recognition about the importance of Indigenous cultural programming, given the vast over-representation of Indigenous peoples experiencing homelesssness. Many indicated the predominance of faith based services is not welcoming for Indigenous guests, given the ongoing legacy of colonialism and Residential Schools. Indigenous organizations indicated that shelters should ensure cultural supports are offered proactively, not just if requested. Many individuals may not know they can ask for access to an Elder, smudging, ceremony or other supports. There is also an opportunity to connect individuals to their culture and kin, but that requires staff who have connections to Indigenous communities. Some shelter providers expressed a desire to enhance support for Indigenous peoples or partner with organizations to build capacity and develop staff understanding, although others expressed concern about requiring participation in cultural programming for both Indigenous or non-Indigenous peoples, and raised the need for other types of cultural programming. Some community stakeholders and Indigenous organizations indicated there should be an Indigenous-led and operated shelter in Edmonton and the lack of this is a significant gap.

OUTCOME 3: INFRASTRUCTURE STANDARDS

The following is a summary of the draft standards that were shared with participants during the engagement:

Outcome Statement:

Emergency shelters in Edmonton adopt best practices as outlined below when conducting a redesign of an existing shelter space or building one from the ground up in order to:

- Improve service delivery
- Decrease negative community impacts
- Increase accessibility for guests with physical, cognitive and mental health needs.

Draft standards:

- Private or semi-private sleeping spaces and separate day space
- Barrier free and gender neutral washrooms
- Predictable layout
- Enhanced materials to prevent noise transfer
- Private area for smoking

Summary:

Participants understand that many infrastructure standards would require investment and should be implemented on an opportunity basis. There was broad support for deinstitutionalizing spaces, ensuring exteriors of shelters are a deterrent from loitering and encampments, and incorporating more human-centred design. There was also general, though not universal support, for moving towards smaller shelters.

Theme	Feedback
Design	 Many non-shelter stakeholders feel shelters are cold, rigid, institutional environments that are not welcoming, with one respondent likening the atmosphere to being in prison.

	 Updates such as natural light, rounded walls and natural paint colours were broadly supported to deinstitutionalize and humanize spaces. Shelter providers expressed an interest in improving shelter environments but indicated most shelters are not purpose-built and capital dollars are not available. Some also felt different shelter layouts could have staffing implications.
Washrooms and Hygiene services	 Multiple individuals with lived experience in the shelter system referenced the need for more accessible and appropriate hygiene services in shelter, including feminine products. Gender neutral washrooms were generally supported by providers, although a couple of shelters expressed concerns and did not want them included in the standards. Some shelter and day service providers raised concerns about safety and overdoses in washrooms. Some indicated shelters need doors with locks and an appropriate staffing complement to monitor washrooms appropriately. Some Community Leagues and BIAs mentioned the need for publicly accessible washrooms to reduce the incidence of public urination and defecation.
Sleeping	 Many shelter and day service providers, though not all, support private and semi-private sleeping areas, with some referencing temporary wall structures as a possible option for larger congregate settings, if funding is available.
Private Space	 Many providers, though not all, support the idea of private courtyards to provide privacy for guests and minimize community impacts.
Cultural Space	• An Indigenous organization stated shelters should have a space for cultural activities including sweats, smudging and feasts.

Size	 Multiple individuals with lived experience in shelter stated that there are too many people in shelters which feels uncomfortable and overwhelming. Most day and shelter providers expressed concern about large congregate shelter spaces because of the increased likelihood of conflict, incidents and discomfort for guests. In general, stakeholders agreed that smaller shelters are most effective and allow for the best quality of care for individuals experiencing homelessness. Many shelter providers indicated that shelters should be 50 people or less to enable intentional, 1:1 support. Otherwise, staff are mostly focused on crowd and crisis
	support. Otherwise, staff are mostly focused on crowd and crisis management.
Shelter Exterior	Most shelter providers, Community and BIAs feel that shelter exteriors should be designed to be a deterrent to loitering and encampments, while ensuring the inside of shelter is welcoming and comfortable.
Miscellaneous	One shelter indicated proper ventilation is needed in shelters going forward, especially given the lessons learned from the COVID-19 pandemic.

NEXT STEPS

The feedback outlined in this report will be considered in the development of the final standards that will be presented to City Council in summer 2021. If approved, further discussions will occur with stakeholders regarding implementation of the standards.
Regulatory Options for Emergency Shelter Standards

Administration reviewed the existing legal tools and authorities available to the City of Edmonton for requiring mandatory adoption of all or parts of the Minimum Emergency Shelter Standards and developed two options for future consideration.

Option 1 - Explore Regulation through Business Licensing

The Business Licence Bylaw establishes a framework for ensuring that businesses are compliant with relevant rules and regulations prior to operating in Edmonton. The aim of business licensing processing is to provide clear requirements to facilitate faster decision-making and transparency without imposing unnecessary or unreasonable barriers for businesses.

Some of the proposed operating standards for emergency shelters could potentially be addressed through the Business Licence Bylaw by establishing operating requirements and an approved operational plan.

Operating Requirements

Operating requirements, also known as deemed conditions, are rules in the Business Licence Bylaw that specific types of businesses must follow. However, the requirements must have a clear connection to the business activities and a direct impact on the public interest. Once a licence is issued, businesses that do not comply with their operating requirements may be fined.

For shelter operators, shelter standards related to compliance with the approved operational plan, communicating guest expectations to shelter guests, and dealing with shelter guests that are violent or disorderly could be considered under the Business Licence Bylaw.

Operational Plans

Operational plans are an educational tool to encourage businesses to adopt specific measures to comply with other City bylaw requirements (such as noise). The operational plan allows applicants to acknowledge their understanding of relevant bylaw requirements (including the operating requirements), and describe specific policies, procedures, and other measures for complying with the requirements. While businesses can be fined if they do not follow the measures in their approved operational plans, the operational plan is first and foremost an educational tool.

Administration would review operational plans and accept or refuse the operational plan based on the applicable minimum standards and stakeholder

expectations. The plan could also be used to recommend best practices that cannot be mandated through licensing or to provide links to other resources.

Shelter operators would be required to submit operational plans for new business licence applications and any time the contents of their plans become out-of-date due to operational changes. However, the requirement could be waived for renewals as a way to balance the increased regulation with avoiding unreasonable barriers for shelter operators.

Limitations of Option 1

Regulation under the Business Licence Bylaw would not be an ideal solution for mandating shelter standards as:

- most of the proposed shelter standards would be excluded as operating requirements (for example, providing storage lockers for guests is not a reasonable requirement for a business licence)
- shelter standards that pertain to quality of service or best practice are not part of the mandate of the Business Licence Bylaw (for example, placing couples side by side does not have a clear and direct connection to public safety and bylaw compliance)

Business licensing would not be an effective tool if the goal is to prevent shelters that do not meet minimum standards from operating. Enforcement under the Business Licence Bylaw does not result in immediate business closure and is limited to issuing fines, and in some cases, cancelling, suspending, refusing, or imposing conditions on licences.

Option 2 - Explore a System for Issuing Permits to Emergency Shelters

A dedicated bylaw for emergency shelter standards could establish a permitting system where only shelters that meet minimum standards would be eligible for a business licence to operate. Regulation of the identified standards would be independent of the Business Licence Bylaw and a valid permit could be a requirement for a business licence. Alternatively, a business licence could be made a requirement for a permit.

Limitations of Option 2

Even with a dedicated bylaw, the City lacks the authority to mandate all of the proposed shelter standards, so many standards would still be excluded. Depending on how many standards could be included, a permitting scheme may not add much value to the regulation of shelters and instead may simply increase red tape and scrutiny for shelters as they address homelessness concerns. Additional enforcement resources would also need to be considered.

Further Considerations

Before either option is accepted, additional factors should be carefully explored:

1. Impact on stakeholders

Additional requirements may place financial and operational constraints on internal and external stakeholders. Shelter operators, enforcement partners, and other stakeholders should be consulted in order to fully understand how they will be affected, and establish mitigation strategies.

2. Impact on capacity to help those in need

Shelters unable to meet licensing or permit requirements and not permitted to operate may decrease the overall availability of emergency shelter services and may result in unintended negative impacts on people experiencing homelessness.

3. Number of businesses affected

If only a small number of emergency shelters would be impacted by licensing or permit requirements, an education-based approach, supported by grant funding to encourage voluntary adoption of the proposed standards may be more appropriate. Public funding agreements with emergency shelters could require incorporation of the proposed shelter standards.



6. 10

UTILITY COMMITTEE REPORT Potential Impacts to City of Edmonton Headwaters

Recommendation of the Committee

- 1. That the City Manager, in coordination with EPCOR, provide input into the Coal Policy Committee through the request for submissions of technical documents based upon information in the August 27, 2021, Urban Planning and Economy UPE00424 report relevant to Alberta's coal policy.
- 2. That Administration, in consultation with EPCOR, undertake a review of existing water management initiatives and provide to Utility Committee in Second Quarter 2022 a recommendation on the need for a formal watershed management plan that could include headwaters protection and integrated land use, climate change planning, and water management within Edmonton boundaries.
- 3. That the Mayor, on behalf of City Council, write a letter advocating to the provincial government as part of the provincial coal policy review, to express the importance of the potential serious impact of coal mining on our regional watershed and ecosystems.

History

- At the August 27, 2021, Utility Committee meeting, the August 27, 2021, Urban Planning and Economy report UPE00424 was considered.
- The Committee heard from C. Smith, Canadian Parks and Wilderness Society Northern Alberta Chapter.

Related motion passed at the August 27, 2021, Utility Committee meeting

That Administration provide an information report to Utility Committee, regarding the status of the North Saskatchewan River Regional Plan and the tools, policies and approaches that the regional plan is considering to protect the watershed's water quality and biodiversity.

Due date: Second Quarter 2022

Attachment

August 27, 2021, Urban Planning and Economy report UPE00424

Potential Impacts to City of Edmonton Headwaters

Recommendation

That Utility Committee recommend to City Council:

- 1. That the City Manager, in coordination with EPCOR, provide input into the Coal Policy Committee through the request for submissions of technical documents based upon information in the August 27, 2021, Urban Planning and Economy UPE00424 report relevant to Alberta's coal policy.
- That Administration, in consultation with EPCOR, undertake a review of existing water management initiatives and provide to Utility Committee in Second Quarter 2022 a recommendation on the need for a formal watershed management plan that could include headwaters protection and integrated land use, climate change planning, and water management within Edmonton boundaries.

Previous Council/Committee Action

At the February 22, 2021, City Council meeting, the following motion was passed:

That Administration, in consultation with EPCOR, return to Utility Committee with a report on the following:

- a. the potential impacts to City of Edmonton headwaters that may result from the four currently approved coal mining projects, and for future mining projects should the Government of Alberta choose to rescind the 1976 coal mining policy
- b. an outline of tools the municipality has to protect these headwaters, including but not limited to mitigation for potential impacts of high rates of selenium in our water supply and the possibility of the municipality working in regional partnership to seek intervener status with the provincial government
- c. recommendations on the feasibility of developing a headwater protection strategy for the City of Edmonton.

Executive Summary

Activity that happens in the headwaters of the North Saskatchewan River is a matter of vital interest to the City of Edmonton and every Edmontonian. The North Saskatchewan River is currently Edmonton's sole source of drinking water and provides Edmontonians with recreational opportunities including fishing, swimming and boating in addition to being an important ecological system for wildlife.

A basin wide, comprehensive risk assessment and integrated land use and water management plan do not currently exist, though a variety of watershed management efforts are currently underway. Review of available information and scientific literature related to coal mine development identifies that despite the current framework that regulates coal mine construction and operations, coal mining can have both long term and short term environmental impacts.

The regulatory framework for coal mine development is currently undergoing changes, and has potential to change coal mine development rules for specific land areas. The expansion of activities could pose potential risks for the North Saskatchewan River, and ultimately municipalities downstream, including Edmonton. There are some municipal tools for upstream protection that could be added to existing work underway by EPCOR and City of Edmonton, and could be part of an overall municipal watershed management strategy. There is a changing policy landscape, including the work of the provincial Coal Policy Committee, that will need to be monitored to understand the need for a City of Edmonton watershed and headwaters management plan.

Report

ConnectEdmonton sets the direction for the city's future and outlines where we need to change today in order to realize our vision for Edmonton in 2050. ConnectEdmonton's goal of Climate Resilience includes a city with clean water. The City Plan's Big City Move of Greener as We Grow puts Edmontonians at the forefront of two important trends for our region—continuing to develop a healthy city while also paying attention to what will be one of the great challenges of our future: protecting and enhancing our land, air, water and biodiversity. Climate Resilient Edmonton: Adaptation Strategy and Action Plan includes a Goal that Edmonton's water supply is secure and safe for current and future Edmontonians, which requires long term source water security and protection planning for water quantity and quality. As well, the Act to Strengthen the Municipal Government, which amended the *Municipal Government Act,* added fostering the wellbeing of the environment as one of the purposes of a municipality, and this includes watershed health.

Background

The North Saskatchewan River is currently Edmonton's sole source of drinking water. Impacts that occur in Edmonton's headwaters (i.e. the river's source) could potentially impact downstream communities, including Edmonton. The headwaters of the North Saskatchewan River are not located within Edmonton's boundaries. They begin in the Columbia Icefield in Banff National Park, flowing from the mountains through the foothills and various forested, agriculture and urban areas before reaching Edmonton. There is approximately 28,000 square kilometers (km²) of land upstream of Edmonton that drains into the North Saskatchewan River watershed.

Protection of water resources for drinking and recreational purposes, as well as aquatic health, requires integrated land and water management planning, locally, regionally, provincially and nationally. The development of an effective management plan should include a comprehensive assessment that includes risks such as climate change and land use to long term water security. The Government of Alberta has a mechanism to advance integrated land use and water planning under the Land Use Framework and Alberta Land Stewardship Act (ALSA) that identifies the need for regional plans at the watershed scale. The Government of Alberta began early work in 2014 to develop a North Saskatchewan Regional Plan for managing land and natural resources (including water), however this plan has not yet been released or approved.

Collaborative watershed management is occurring through a variety of mechanisms under Water for Life and the designated Watershed Planning and Advisory Council for the basin, the North Saskatchewan Watershed Alliance. There is also a Water Management Framework for the Industrial Heartland and Capital Region, which aims to improve water quality parameters of concern through management action. In addition, EPCOR has a Source Water Protection Plan for Edmonton's water supply that sets a framework to advance watershed management through monitoring, modelling and research. However, these important ongoing pieces of work are largely voluntary, and would benefit from being integrated together under a statutory plan such as the North Saskatchewan Regional Plan.

In June 2020, the Government of Alberta rescinded the 1976 Coal Policy that limited coal exploration and development on Category 2 and 3 lands in Alberta. Category 2 lands include areas within Edmonton's headwaters. There are 1,510 km² (just over 5 percent of the land in the watershed) of coal agreements in place within Category 2 lands in Edmonton's source waters that no longer have surface mining restrictions. In December 2020, seven new coal leases with exploration permits (approximately 320 km² in area) were issued in the North Saskatchewan watershed.

In February 2021 the Coal Policy was reinstated by the Government of Alberta, however all coal mining leases issued since June 1, 2020, remained, including 1,510 km² in Edmonton's headwaters. This reinstatement noted that six of the seven exploration permits that were granted in Category 2 lands will be allowed to continue coal exploration and drilling. On April 23, 2021 the Government of Alberta announced a pause in coal exploration activity on Category 2 lands, until the completion of public consultation that is currently underway. Furthermore, the Coal Policy Committee has been established by the province to develop and lead a widespread engagement process to inform the Coal Policy, and provide a report with recommendations to the Minister of Energy by November 15, 2021. As the mandate of the Committee is focused on the management of coal resources, its work may not directly address land and water concerns. The Committee is expected to conduct engagement from March 29 - September 15, 2021. As part of this province wide engagement, an initial survey took place in March to April 2021 to receive initial feedback from Albertans on coal mining in Alberta. Initial results have been publicly released, and indicate that Albertans have a strong desire to be engaged on this topic. The majority of survey respondents indicated concerns with coal development, including concerns related to the environmental impacts, liability for clean-up and contamination and regulations to ensure coal exploration is safe, efficient, orderly and environmentally responsible.

As directed by Council, Mayor Iveson sent a letter to the Minister of Energy on March 11, 2021, requesting that the City be engaged as a major stakeholder in the coal policy review, and a reply was received on May 12, 2021. In early July 2021, the Coal Policy Committee requested and scheduled a meeting with the City of Edmonton for July 20, 2021. In addition, the Coal Policy Committee recently announced a process for submission of technical or fact-based documents relevant to Alberta's coal policy. A submission by the City of Edmonton and EPCOR could be made, which would include an Executive Summary highlighting the concerns related to potential risks identified in this report and sharing EPCOR's technical report in Attachment 1.

Potential Impacts to City of Edmonton Headwaters

A watershed scale comprehensive risk assessment on the impacts of the development of potential coal mines has not been completed. Before a coal mine could be developed, an environmental impact assessment is required under the Environmental Protection and Enhancement Act, which allows the Alberta Energy Regulator to examine the effects the proposed project would have on the environment and determine if the project is in the public interest. This is done on a project by project basis and is not equivalent to a watershed level plan that would include a cumulative effects assessment to determine aggregated impacts of multiple projects on water quality, aquatic health, and other environmental factors.

Once approved, future coal mining construction, operations, and reclamation will be required to follow regulatory frameworks meant to protect environmental health. In general, coal mines are known to have environmental impacts including decreased water quantity and quality and contribute to climate change both from a landscape disturbance perspective as well as from direct emissions of greenhouse gases.

Open pit coal mining is also known to leach parameters such as selenium into water systems over decades, and this impact is difficult to remediate. EPCOR's risk

assessment (Attachment 1) identifies that streams and rivers with coal mines in their watersheds have exhibited elevated selenium, sodium, nitrate, nitrite, aluminum, sulfate, cadmium, arsenic, other trace metals, conductivity, and chlorine levels. EPCOR's risk assessment identified that concentrations of cadmium and dissolved aluminum have occasionally exceeded protection of aquatic life guidelines at Devon, and these have been identified by Alberta Environment and Parks as parameters of concern for the North Saskatchewan River. Coal mines may contribute to higher concentrations of these parameters in the North Saskatchewan River, there is a risk of losing the ability to absorb those parameters without negative environmental impacts.

In addition to EPCOR's Risk Assessment, and for the purpose of this report, Administration reviewed additional available information on impacts of coal mining that identified examples of water quality exceedances of selenium and other parameters resulting from open pit mines in British Columbia, that are expected to persist for up to 300 years.

Specific to the effects on the North Saskatchewan River within Edmonton's boundaries, EPCOR conducted a risk assessment of upstream coal mining in the North Saskatchewan River Watershed (Attachment 1). The broad assessment focused on North Saskatchewan River health, and did not consider other ecosystem health impacts. As well, the risk assessment focused on effects within the City of Edmonton boundaries, and not the headwaters, where the effects could be significant locally. Lastly, the risk assessment assumes that future coal mining operations will follow current regulatory requirements for responsible operation and end of life reclamation.

This risk assessment suggests that risks to drinking water and assimilative capacity of the North Saskatchewan River under normal operating conditions is low, and risks to water quality for aquatic ecosystem health within Edmonton is medium-low. However, EPCOR's report indicates that in the event of a rare catastrophic mine failure (such as a tailings dam failure), there would be an extreme impact on downstream water quality. EPCOR's report recommends that scientifically rigorous cumulative effects modelling assessments be completed on both the North Saskatchewan River mainstem as well as the tributaries before any mining activity is permitted. In addition, EPCOR's report makes further recommendations for Alberta Environment and Parks and mining proponents related to watershed management and water quality monitoring, modelling and assessment.

The extent of effects coal mining has on local and regional scales is difficult to quantify, but one of the most clearly identified issues is bioaccumulation of selenium, a trace metal, and the impact on aquatic species. Research has demonstrated that the critical factors in determining the extent of selenium contamination and effects are the amount of selenium-rich waste rock exposed and the area of watershed mines.

Five percent of the North Saskatchewan watershed upstream of the City of Edmonton is currently held by coal leases, and this does pose a risk to source water, aquatic ecosystem health, and industrial and agricultural users if development occurs. The science around selenium effects is continually developing, but guidelines for water quality and tissue loads for fish and invertebrates, public health fish consumption, drinking water, and irrigation have been developed by the federal and provincial governments (depending on the guideline). EPCOR's assessment recommends that a precautionary approach be taken when assessing the potential impact and risk coal mining poses. Despite advances in treatment technologies, exposing rock rich in selenium and other metals has been shown to affect water quality for decades in downstream water bodies. Mitigation and remediation is cost prohibitive and difficult.

Municipal Tools

The North Saskatchewan River falls under both provincial and federal jurisdiction. In Alberta, the provincial government owns the bed and shores of most naturally occurring water bodies, including rivers. The provincial government has jurisdiction over water resources in Alberta through the Water Act, the Environmental Protection and Enhancement Act, and the Water for Life Strategy (a policy tool to manage water quantity and quality). Water for Life recognizes source water protection is critical, but there is not currently a regulatory framework to enforce the goals of Water for Life. The federal government's jurisdiction includes water bodies located on federal land such as National Parks, and in the areas of fisheries and navigable waters.

Much of the North Saskatchewan watershed is located on provincial or federal crown land, with other portions located within municipalities upstream of Edmonton or on privately owned land often used for agriculture. While the Province retains jurisdiction over the actual waterbody and beds and shores located on municipal or private land, the activities occurring on that land (that can impact the waterbody) are controlled by the landowner. Municipalities within the watershed regulate the land use and development within their respective jurisdictions to varying degrees.

The *Municipal Government Act i*dentifies one the purposes of municipalities is to foster the well-being of the environment. The *Edmonton City Charter Regulation* states Edmonton can create bylaws for the creation, implementation and management of programs for environmental matters such as climate change adaptation, environmental conservation and stewardship and the protection of biodiversity and habitat. These bylaws would only apply within Edmonton city boundaries. There is existing work underway by EPCOR and City of Edmonton related to watershed management (Attachments 2 and 3).

The tools downstream municipalities have to influence upstream water protection and watershed management are limited, but include partnering and working collaboratively with other landowners and users of the watershed, and continued advocacy for

protection of Edmonton's source water and integrated land and water management (Attachment 4).

The City of Edmonton has more tools that can be used within its boundaries for effective watershed management, including tools related to land use planning that can help prevent further degradation of the river. While this does not relate specifically to headwaters protection, these tools are necessary for effective watershed management at the municipal level, within our boundaries and downstream. Edmonton is responsible for land use planning and EPCOR is responsible for drinking water treatment and quantifying stormwater runoff. Within Edmonton boundaries EPCOR is currently completing an Integrated Watershed Management Strategy to manage total loads from the stormwater and combined systems, Goldbar, and water treatment plant residuals. This work, as well as drinking water protection and integrated land use planning are needed in order to have an effective municipal watershed management plan.

Headwaters Protection Strategy Feasibility

The national, provincial and local policy context that impacts water is currently in flux. Administration will continue to monitor policy changes and developments, including the work of the Coal Policy Committee, and will bring forward a report to Utility Committee in Q2 2022. Based on the changing context, this report will identify potential gaps and recommendations on the need for a formal watershed management plan that could include headwaters protection and integrated land use, climate change planning, and water management within Edmonton boundaries.

Corporate Outcomes and Performance Management

Corporate Outcome(s): Edmonton is an environmentally sustainable and resilient city						
Outcome(s)	Measure(s)	Result(s)	Target(s)			
Ongoing monitoring and reporting of EPCOR utility services regulated by Council	Annual and periodic reporting of utility operations	TBD	Annual Progress Report - Water, Wastewater, Drainage (June) Annual Operational Plan (Q1) Mid Year Update Report (August)			

Risk Assessment

Risk Element	Risk Description	Likelihood	Impact	Risk Score (with current mitigations)	Current Mitigations	Potential Future Mitigations
Reputational Risk	Edmonton may be viewed as an unattractive place to live or invest in, if there is a uncertainty around safe and secure water sources for the community.	2 - unlikely	2 - moderat e	4 - Iow	-EPCORs work on Source Water Protection and Watershed Planning -COE involvement in collaborative water related organizations	-Headwaters strategy (that includes long term water security, and actions upstream, in Edmonton boundaries, and downstream) -Continued water management collaborative activities
Political Influences	Provincial government legislation or policy changes can influence Edmonton's ability to influence headwaters protection.	3 - possible	2 - moderat e	6 - Iow	-Requested to be included in the Coal Policy Committee's engagement process	-Continue requesting to be included in engagement opportunities

Attachments

- 1. EPCOR Risk Assessment of Upstream Coal Mining in the North Saskatchewan River Watershed on North Saskatchewan Water Quality and Ecosystem Health
- 2. EPCOR 2020 Source Water Protection Plan for Edmonton's Drinking Water System
- 3. EPCOR and City of Edmonton Supported Watershed Management Initiatives in the North Saskatchewan River Watershed
- 4. Municipal Tools for Upstream Watershed Protection

Others Reviewing this Report

- C. Owen, Deputy City Manager, Communications and Engagement
- K. Fallis-Howell, Acting City Solicitor

Risk Assessment of Upstream Coal Mining in the North Saskatchewan River Watershed on NSR Water Quality and Ecosystem Health

Steph Neufeld, M.Sc., Watershed Manager, EPCOR Water Canada

Mike Christensen, M.Sc., Watershed Biologist, EPCOR Water Canada

1. Executive Summary

Coal mining has been shown to have negative effects on water quality, quantity, and aquatic ecosystems globally and within Alberta. The extent of the effects are difficult to quantify at both the local and regional scales, but one of the most clearly identified issues is bioaccumulation of selenium and impact on aquatic biota. Research has demonstrated that the amount of selenium-rich waste rock exposed and area of the watershed mines are critical factors in determining the extent of selenium contamination and effects. With 5% of the North Saskatchewan Watershed upstream of the City of Edmonton currently held by coal leases but currently undeveloped there is a risk to source water, aquatic ecosystem health, industrial users, and agricultural users should development occur. Although the science around selenium effects is continually developing, provincial and federal agencies have developed guidelines to help project these uses. These guidelines include both water quality and tissue loads for fish and benthic invertebrates as well as public health fish consumption guidelines, drinking water guidelines, and irrigation guidelines.

This Risk Assessment was undertaken in collaboration of the City of Edmonton who was concerned about the potential impacts of coal mining activities. It must be noted that this broad assessment focuses on NSR river health and does not consider other ecosystem heath metrics such as habitat loss and subsequent effects on terrestrial biota. It also focuses on effects within the City of Edmonton boundary which could cascade down from upstream effects, which could be significant. Lastly, there is currently little coal mining activity in the NSR basin and the assessment is based on the risk of future develop where current coal leases exist and makes assumptions that mine management will occur in accordance with current environmental regulations. Risks of upstream coal mining negatively affecting to source water for drinking and assimilative capacity is low. Risks to water quality for maintenance of aquatic ecosystem health in the Edmonton reach are medium-low, largely because although there is some potential for local effects in the headwaters to trickle down to lower reaches, the size of the disturbance to the watershed is expected to be low.

However, to best understand and manage risks to the users of the NSR within the City of Edmonton and local areas from mining activities it is necessary to quantify potential loads of mining parameters of concern (including selenium) from proposed mining activities at both the regional and local scale using modelling tools. Where data gaps exist in understanding the fate and transport of contaminants to allow accurate load assessments, these must be addressed before coal mining can proceed. This precautionary approach should be taken because despite advances in treatment technologies, exposing rock rich in selenium and other metals has been shown to affect water quality for decades in downstream waterbodies and mitigation is often cost prohibitive and difficult. Ultimately it is Government of Alberta's responsibility to protect water resources and manage cumulative effects and the role of stakeholders is to bring concerns forward and advocate for responsible resource management.

2. Coal Policy Changes

In 1976, Alberta enacted the Coal Policy and implemented a land-use classification system that divided the province into four categories dictating where and how coal leasing, exploration and development could occur (GoA 2021). Under this policy, no mining is allowed in Category 1 lands, surface mining is not normally permitted on Category 2 lands, exploration is allowed on Category 3 lands, but development is restricted, and mines are permitted on category 4 lands. Category 1 lands are located in the upper headwaters and encompass Banff and Jasper national parks and surrounding areas. Category 2 and 3 are located in the foothills. Category 4 lands are not located within the NSR watershed.

The Government of Alberta issues coal leases for 15-year terms that are renewable, which allow the holder of the lease the exclusive right to recover coal. A successful coal lease will result in either an agreement/lease being issued, or a competitive bidding. Coal agreements/leases are in place for a large portion of the Category 2 lands in the NSR watershed, despite the Coal Policy ban on surface mines. However, a coal agreement does not grant permission to develop a mine. In order to develop a mine, the holder of a coal agreement requires a mine permit and a mine license from the Alberta Energy Regulator (AER). Under the *Environmental Protection and Enhancement Act (EPEA)*, an environmental impact assessment (EIA) would be required, which allows the AER to examine the effects that the proposed project may have on the environment, and determine if the project is in the public interest. An approval issued by the AER under *EPEA* outlines the obligations and responsibilities for design, construction, operation and reclamation of the coal mine. Following the completion of mining activities, reclamation certificates issued under *EPEA* certify that all reclamation requirements have been met and that companies have done everything they can to return land to a state functionally equivalent to what was there before development took place.

As of June 1, 2020, the Coal Policy was rescinded, and the restrictions on Category 2 and 3 lands were removed. This means that surface coal mining was permitted within these areas, and companies with existing coal agreements could begin the application process for a surface coal mine. All new coal development projects would be considered by the existing Alberta Energy Regulator review process which considers the economic, social and environmental impacts on a project-by-project basis. Lands that were formally category 1 lands "will continue to be protected from coal leasing, exploration and development on public lands . . . This will support critical watersheds, biodiversity (including numerous species at risk), as well as recreation and tourism activities along the eastern slopes" (GoA 2021).

In response to public pressure, the Government of Alberta cancelled 11 recently issued coal leases and pause future lease sales in January 2021. The cancelation of the leases did not reinstate the 1976 Coal Policy, and did not impact any coal projects that are currently under regulatory review. This means that surface coal mines were still permitted in Category 2 lands. On Feb 8th, 2021, under increasing public pressure reinstated the 1976 Coal Policy until a new coal policy can be developed, with adequate public consultation. It is not clear if, under new regulations, coal mining would be economically feasible for any areas in the NSR basin. However, there have been no new mining license applications in the NSR basin since the 1976 Coal Policy was rescinded in July 2020 and now reinstated, but that could change. In April, the Government of Alberta also halted all exploration on Category 2 lands until public coal consultation is complete.

3. Historic and Current Coal Activity in the NSR Including Coal Leases

There is a long history of coal mining in the North Saskatchewan River basin. Coal mining begin in Edmonton in the 1880s and continued until 1974. Coal mines near Nordegg operated from 1912 to 1955,

and during the 1940s, Nordegg was one of top coal-producing areas in Alberta. Surface coal mines near Lake Wabamun began operation in the 1960s and remain in operation today.

There is currently relatively little coal mining activity in the NSR watershed; 54 km² of the watershed is categorized as active or recovered coal mine and of that 26.9 km² is categorized as open coal pit mine (0.3% of watershed). Coal mining is currently limited to the Wabamun Area and the waste stream drains into Wabamun Lake or pit lakes (1.5 km^2). Wabamun Lake connects to the NSR through Wabamun Creek; however, because of a weir at the outlet, water from Wabamun Lake does not overflow into the creek very often.

Although the active mine area is currently small, there are coal deposits, coal fields, and associated coal agreements that have not yet been developed. Specifically, there are 1510 km² (just over 5% of watershed) of coal agreements in place that are all located in Category 2. The coal in these areas is classified as high-volatile bituminous coal (Figure 1). These lease areas are largely forested with over 80% of the area in coniferous forest cover (Figures 4 and 5). Of the remaining agreements, 327 km² are under the normal Approval process and 15 km² are under Category 3.

There are 12 companies with leases in Category 2 lands and 19 total companies with lease holdings in the NSR watershed. Category 2 lands are of particular concern due to high water yields (Figure 6) and potential for waste rock runoff to contain heavy metals. The process of coal development includes exploration, establishing a mine, and remediation, all which require applications. For the NSR, in 2020 Black Eagle Mining Corporation applied and was approved for a coal exploration program as well as deep drilling permit for the Blackstone Coal Project Area. This Blackstone Project area is an 1120 km² area south-west of Rocky Mountain House in Clearwater County. Black Eagle Mining Corporation and Valory Resources Inc. are a business partnership on the Blackstone Coal Project in Clearwater County. The registered Business Associate and Licensee Agents with the AER for the partnership is Black Eagle Mining Corporation. There are no applications from Black Eagle and/or Black Eagle/Valory before AEP at the moment. The Blackstone Coal Property is directly south of the Ram Coal Ltd. Ram River Property which was extensively explored from 1914 to 1981, and during 2011- 2013.



Figure 1. Active Mines, Current Coal Agreements, and Former Coal Categories Established Under the 1976 Coal Policy in the NSR Basin.



Figure 2. Companies with Leases in Category 2 Lands in the NSR Basin.



Figure 3. Pie Chart of the Percentage of Category 2 Leases Held by Each Company.



Figure 4. Current Land Cover (AMBI 2010 Land Cover) in Leases in Category 2 Lands.



Figure 5. Pie Chart of the Land Cover in Category 2 Leases.



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Figure 6. Water Yield Data for Sub-basins in the NSR watershed (modified from Golder 2008). Pie charts show the fraction of total water yield at the AB-SK border attributable to the sub-basin. The figure shows that the majority of the water yield is from upstream in the watershed.

4. Potential Effects of Coal Mining on the NSR and its Tributaries

Open pit or surface coal mines have the potential to affect aquatic ecosystems and water quality and quantity in a number of ways. The removal of surface vegetation and construction of roads have the potential to increase erosion, and therefore increase suspended solids, nutrient transport, and the volume of runoff. Mine waste can also result in acidification, elevated metals, and total dissolved solids. In mountainous areas, surface mining involves removal of several hundred meters of overburden with explosives and machinery, creating large areas of waste rock. When exposed to oxygen this waste rock can release selenium and other parameters through weathering processes.

In the Rocky Mountain and Foothills areas of Alberta and BC the effects of mining on fish, benthic algae, macroinvertebrates, and water quality is well studied. This is largely because coal mines require Environmental Assessments and Aquatic Effects Monitoring programs required by the Alberta Energy Regulator and Alberta Environment and Parks under the Environmental Protection and Enhancement Act. These assessments and programs are designed to limit downstream impacts to water quality and river and stream health. As well, because of problems with the bioaccumulation of selenium and potential effects on aquatic systems in the McLeod River and Smoky River systems (in Athabasca watershed), AEP, industry, and academia have advanced the state of knowledge of mining impacts over the last 30 years.

What We Know: Current State of Science

Streams and rivers with coal mines in their watersheds have exhibited elevated selenium, sodium, NO₃+NO₂, aluminum, sulfate, cadmium, arsenic, other trace metals, conductivity, and chlorine levels relative to reference streams (Casey and Siwik 2000; Holm et al. 2005). This trend is consistent across all mountain watersheds including the Appalachians (Lindberg et al. 2011, Griffith et al. 2012) and Elk Valley (Wellen et al. 2015, Teck Resources 2014). The relative concentrations for some parameters including sulphate, conductivity, and selenium have also been shown to be linearly related to the area of the watershed mined (Figure 7 from Lindberg 2011).

In June 2021, AEP released a report summarizing water quality data (2005 – 2016) in the McLeod River basin related to coal mining and reclamation activities (Redmond 2021). In the McLeod River downstream of mining activity there are increasing trends of total dissolved solids (TDS), NO₃+NO₂, selenium and other metals (i.e., antimony, arsenic, boron, cadmium, lithium, molybdenum, silver, strontium, uranium and zinc). Selenium concentration frequently exceeded water quality guidelines 40 km downstream of mining activity, but did not exceed guidelines 169 km downstream. While selenium concentrations exceeded guidelines over a large reach of the McLeod River, these impacts were not observed further downstream, presumably due to increased dilution from non-mined tributaries. In other words, the impacts of selenium from coal mines were relatively local, and not observed at distances farther downstream. In small tributaries where mining has stopped and reclamation activities have occurred, concentrations of TDS, metals, NO₃+NO₂, selenium and other metals were significantly higher compared to sample locations upstream of previous mining activity. In these reclaimed streams, NO₃+NO₂, selenium, antimony, molybdenum and uranium have decreased over time. However, concentrations of these parameters, and in particular selenium, still significantly exceed water quality guidelines over a decade after mining had stopped.

For selenium loading, the largest factor determining transport to downstream areas is the amount of waste rock present; in the Elk River watershed the amount of waste rock in the watershed accounts for 80% of the total instream selenium concentrations (Wellen et al.). More concerning is that research has shown that once waste rock is exposed selenium, leaching continues to occur for decades and that peak selenium loading can occur long after mining has stopped. Overall, it is well documented that selenium concentrations in streams draining mining operations are significantly higher than guideline values and concentrations in reference areas. For example, concentrations of selenium in Luscar Creek and Gregg River in Alberta, which are directly downstream of coal mining, are 17 µg/L (<2 ug/L upstream) and 7 µg/L (upstream $<1 \mu g/L$), respectively. In the Appalachians, concentrations draining the Lukey Fork tributary ranged from 5 to 13 µg/L and lead to average concentrations in downstream Mud River of 4 µg/L. Alberta Environment and Parks' water quality guideline is 2 µg/L for selenium for the protection of aquatic life, and there is an additional 'alert concentration' of 1 µg/L. The alert concentration indicates the need for increased water quality and aquatic ecosystem monitoring to support early detection of potential bioaccumulation of selenium. Ultimately, it is important to understand how much selenium can be dissolved in downstream water bodies before it moves through the aquatic food web and alters structure and function. This question is not easy to answer.

In 1999 a Selenium Working Group (ABSWG) was established to address the problems with high selenium and other parameters downstream of coal mining activity in Alberta. In addition, in 2005, the ABSWG commissioned the Selenium Science Panel (SeSP), comprising scientific experts in the field of selenium research, to obtain an independent assessment on the effects of selenium in Alberta mountain coal mines. This culminated with a <u>final report</u> that is publically available on the Government of Alberta's website. The critical takeaways from this assessment were that:

- Native rainbow trout populations are likely affected by high Se coupled with habitat change due to mining activities but because of the high natural variability in fish populations it was difficult to draw definitive conclusions: fish are not a good bioindicator.
- The SeFSP concludes that while the state of our knowledge concerning the population impacts on native rainbow trout is incomplete, the weight of the scientific evidence indicates that Se-rich inputs raise Se levels in streams to the point where egg Se concentrations exceed 7.5 µg egg Se/g ww (8.8-10.5 µg/g ww was found by Holm et al. 2005) and pose a serious teratogenicity risk for rainbow trout.
- Spatial structure of river salmonid populations makes small-scale impacts difficult to detect, exposing the population to the risk of large-scale cumulative impacts.
- There is evidence of this time-delayed loading effect leading to a large-scale concentration increase over time. For example, increases have been found in Gregg R (0.5µg/L/yr), Luscar Creek (1.3 µg/L/yr) (Alberta Environment data 2009), and 1 ug/L per decade in Elk River (Golder Associates 2007).



Figure 7. Showing watershed areas mined and concentrations of selenium, sulfate, and conductivity from Lindberg et al. 2011.

Again, it is difficult to determine concrete effect levels for benthos and fish and even more difficult to link those values to water column concentrations. Effects differ in benthos (ex. stream insects and algae living on the bottom of the waterbody) and are dependent on both acute and dietary pathways; but there is evidence of changes in community structure in areas with high mining activity (Golder 2007). Acute lethality is unlikely at concentrations seen in streams draining mines, but chronic toxicity has been observed. Lethality and sub-lethality targets that are based on tissue loads of selenium have been established in laboratory environments but for limited species. However, measured water column

concentrations found in Alberta streams would be expected to produce dietary and internal selenium concentrations in the range associated with toxic effects to sensitive zoobenthic taxa. It is assumed that AEP's current Protection of Aquatic Life guideline takes into account these sensitive taxa and therefore is protective of the aquatic ecosystem.

Consideration should also be given the potential impacts to Lake Sturgeon, which in Alberta are ranked as Threatened under the provincial Wildlife Act due to the small number of reproducing adults, and their restricted distribution in the province. Despite their low numbers, the populations in the Saskatchewan River (which includes the North Saskatchewan River) are not currently listed under the federal Species at *Risk Act.* In 2011, the Alberta Lake Sturgeon Recovery Plan for the period of 2011 – 2016 was initiated; however, there have been no published updates regarding the status of this species since. In the North Saskatchewan River, it is estimated that the population of Lake Sturgeon consists of possibly fewer than 1,000 fish (Alberta Lake Sturgeon Recovery Team 2011). Their populations are located primarily in the mainstem of the North Saskatchewan River downstream of Drayton Valley; however, have been located as far upstream as Rocky Mountain House. Lake Sturgeon are a long-lived species and they have been identified as having a high likelihood of accumulating contaminants such as mercury and organochlorines in the Saskatchewan River. Selenium has been shown to accumulate in white sturgeon (a related species to Lake Sturgeon) in the San Francisco Bay enough to cause reproductive toxicity (Linares-Casenave et al. 2015). White sturgeon in B.C. are identified as having the highest risk of selenium accumulation, although accumulation rates depend greatly on site-specific conditions and how individuals use the habitat (BC MOE 2017). Additional studies and research is needed to better understand the potential risk of selenium bioaccumulation and reproductive toxicity in Lake Sturgeon in the Saskatchewan River Basin.

Water Quality Guidelines, Objectives and Triggers

Water quality guidelines published by AEP are based on guideline values from the BC Ministry of Environment who has done a comprehensive overview of selenium effects on aquatic ecosystems. Understanding that the science is uncertain, they have further adopted fish, invertebrate tissue and bird egg guidelines. Further information is available in their <u>companion document</u> that also summarizes guideline derivation (BC MOE 2014). This includes tissue values for human consumption screening values based on Health Canada's recommended equation for ingestion of selenium-contaminated fish (ex. high intake of 1.8 ug/g ww). BC also uses a source drinking water guideline of 10 μ g/L which is adopted from and older Health Canada (2006) maximum acceptable concentration. Health Canada revised their maximum acceptable concentration of selenium to 50 μ g/L in 2014.

Category	Water Use	Guideline	Source
Water Quality	Protection of Aquatic Life -	1 μg/L	AEP (2018), Based on BC
	Alert Concentration		MOE (2014)
	Protection of Aquatic Life -	2 μg/L	AEP (2018), Based on BC
	Guideline		MOE (2014)
	Protection of Aquatic Life	1 μg/L	CCME 1987
Sediment Quality	Protection of Aquatic Life	$2 \ \mu g/g \ (dw)$	AEP (2018), Based on BC
			MOE (2014)
Aquatic Life and	Invertebrate tissue (interim)	$4 \ \mu g/g \ (dw)$	BC MOE (2014)
Wildlife	Fish - egg/ovary	11 μg/g (dw)	AEP (2018), Based on BC
			MOE (2014)
	Fish – whole body	$4 \ \mu g/g \ (dw)$	BC MOE (2014)

Table 1. Summary of Selenium Guidelines

	Fish – muscle/muscle plug (interim)	4 µg/g (dw)	AEP (2018), Based on BC MOE (2014)
	Bird egg	6 µg/g (dw)	BC MOE (2014)
Agriculture	Continuous Irrigation	20 µg/L	AEP (2018), based on CCME (1987)
	Intermittent Irrigation	50 μg/L	AEP (2018), based on CCME (1987)
	Livestock	30 µg/L	BC MOE (2014)
Human Consumption	High Fish Intake (0.22 kg/d)	1.8 μg/g (ww) 7.3 μg/g (dw)	BC MOE (2014)
Screening Values	Moderate Fish Intake (0.11 kg/d)	3.6 μg/g (ww) 14.5 μg/g (dw)	BC MOE (2014)
	Low Fish Intake (0.3 kg/d)	18.7 μg/g (ww) 75.0 μg/g (dw)	BC MOE (2014)
Drinking Water	Drinking Water Quality Guideline	50 μg/L	Health Canada (2014)
	Drinking Water Quality Guideline	10 µg/L	Health Canada (2006), BC MOE (2020)

AEP's Water Management Framework for the Industrial Heartland and Capital Region (WMF IH/CR) has the strategic objective to maintain or improve water quality in the Devon to Pakan reach of the river. To achieve this AEP plans to implement maximum allowable pollutant loads, based on site-specific water quality objectives (WQOs) for variables of concern in the NSR. Selenium has been identified as a parameter of concern by AEP and there are <u>Pilot WQOs and Maximum Allowable Loads (MALs)</u> published for the Devon (30 km upstream of Edmonton) and Pakan (112 km downstream of Edmonton) sites. The 50th percentile WQO for Pakan is 0.375 µg/L during open water and 0.366 µg /L during ice cover, which are based on maintaining historical water quality and are most stringent objective. WQOs and MALs have also been published for parameters that have been shown to increase downstream of coal mines in Alberta such as: NO₃+NO₂, arsenic, cadmium, and zinc, as well as other major ions which are components of TDS. Given that the WMF IH/CR is based on the Devon to Pakan reach, it is unclear how management of upstream areas would be managed by the framework.

In addition, water quality objectives have been proposed by the North Saskatchewan Watershed Alliance, the Watershed Planning and Advisory Council for the basin, but these do not include selenium. The <u>Master Agreement on Apportionment</u> (MAA) established an intergovernmental framework to manage transboundary waters including establishing water quality objectives in the NSR reach from Lea Park to Lloydminster Ferry. For selenium the water quality objective mirrors AEP's protection of aquatic life guideline of 1 μ g/L.

In June 2001, AEP announced stakeholder consultation for the North Saskatchewan Region Surface Water Quality Management Framework (NSR SWQMF). Similar to the WQF IH/CR, the NSR SWQMF proposes 50th and 90th percentile triggers for selenium and other parameters for the open water and winter seasons that are based on historical data. Trigger values are proposed for NO₃+NO₂, arsenic, cadmium, and zinc, as well as other major ions which are components of TDS. NSR SWQMF trigger values are similar to the WQOs published in the WMF IH/CR, but are slightly different as they are based on different periods of data. One significant difference is that the NSR SWQMF proposes trigger levels for the LTRN station near Rocky Mountain House, upstream of the Clearwater River. This LTRN station is located closer to many of the proposed mining areas, but would not capture any runoff from potential mines in the Brazeau, Nordegg,

Baptiste or Clearwater sub-watersheds. Another difference is that the NSR SWQMF only proposes triggers for concentrations of water quality parameters, and does not seek to calculate loads or MALs of parameters.

Current Selenium Concentrations in the NSR

Selenium concentrations in the NSR in Edmonton are very low (Figure 8). They are below AEP's 'alert concentration' of 1 μ g/L and guideline of 2 μ g/L for the Protection of Aquatic Life; far below AEP's irrigation guidelines of 20 μ g/L for continuous use and 50 μ g/L for intermittent use; and far below the Health Canada drinking water quality guidelines of 50 μ g/L.



Figure 8. Selenium concentration (µg/L) in the NSR at Devon LTRN Site, Pakan LTRN site, and EPCOR's Water Treatment Plant intakes from 1980 to 2020.

Selenium concentrations in the NSR are low and generally below water quality guideline value for the Protection of Aquatic Life of 1 μ g/L. EPCOR monitors selenium in the NSR at the WTP intakes monthly and of the 148 samples collected since 2013, 60% of samples have been at or below the detection limit of 0.2 μ g/L; the highest recorded concentration was 0.5 μ g/L; and the mean concentration was 0.25 μ g/L. Similar results were found at AEP's sampling point at Devon, where of the 302 samples, 82% were at or below 0.2 μ g/L; however, elevated selenium (i.e. 1.2 to 6 μ g/L) was detected in three samples during the 1990s. The mean concentrations were 0.27 μ g/L at the Devon LTRN. Upstream at the Rocky Mountain House LTRN, selenium concentrations were on average 0.23 μ g/L from 1983 to 2019. At the downstream Pakan LTRN site of the 329 samples collected since 1982, the average concentration of selenium was 0.29 μ g/L and no samples were above the Protection of Aquatic Life Guideline of 1 μ g/L.

5. Water Quality Risks: Drinking and Irrigation Water Risks

Health Canada has set a maximum allowable concentration of selenium in drinking water of 50 μ g/L and even in a watershed with very high proportions of coal mining values remain below this guideline value. In a small watershed (Lindberg 2011) data show that with less than 5% of the watershed area in active mines, selenium values would likely remain below 3 μ g/L, but again this depends on the geochemical processes operating and amount of wasterock exposed. In more impacted streams draining directly from coal mine sites in Alberta, values remain below 50 μ g/L and therefore the risk of exceeding a Health Canada guideline in the river at Edmonton is considered low. The same can be said for other parameters associated with waste rock weathering and mining activity where there are drinking water limits. Upstream of Edmonton, concentrations of metals, sodium, and nitrate plus nitrite are low, and typically well below water quality guidelines. Small increases in these parameters from upstream mines are unlikely to result in guidelines being exceeded at Devon, upstream of Edmonton but modelling would be needed to substantiate this.

An additional risk from an open-pit coal mine is the possibility of a mine disaster such as the failure of a tailings dam. Waste pits, end-pit lakes, and tailings dams are structures utilized to retain runoff and/or wastewater from mine operations. The volumes contained within these structures can be large, and typically are high in solids, metals and other parameters. In 2013, a tailings dam at the Obed Mountain coal mine near Hinton AB failed, releasing over 1 million cubic meters of waste water elevated in arsenic, metals and PAHs into the Athabasca River. In 2014, a tailings dam at the Mount Poly gold and copper mine (not a coal mine) in B.C. failed, releasing 24 million cubic meters of mine waste into Quesnel Lake. While the failure of tailings dams are rare occurrences, they can have an extreme impact to downstream water quality. Without a specific details of a proposed mine or tailings pond, it is not possible to make a definitive statement regarding the potential impacts of the failure of a tailings dam on the water quality however, water quality could remain significantly impaired for a number of days or for some parameters, months. Potential impacts of having to shut down the WTPs for an extended period could include implementing demand management, boil water advisories, or do-not-consume advisories. It would be important to characterize water quality and volumes in tailings ponds and their locations and quantify impacts to source water as they are built/maintained.

For irrigation, the most protective irrigation guideline for selenium is for continuous irrigation and is 20 μ g/L. The risk of exceeding this guideline in Edmonton is very low. It is possible that values could read this high in upper tributaries depending on mining activity as values this high have been recorded at historical mine sites. However, it is expected that the application more stringent water quality guidelines and load apportionments would also project irrigation and other source water uses.

6. Water Quality Risks: Assimilative Capacity Risks

Streams and rivers with coal mines in their watersheds have exhibited elevated selenium, sodium, nitrate plus nitrite, aluminum, sulfate, cadmium, arsenic, and other trace metals. Upstream of Edmonton, concentrations of these parameters are low, and typically well below water quality guidelines. Small increases in these parameters from upstream mines are unlikely to result in guidelines being exceeded at Devon, upstream of Edmonton. Two possible exceptions would be cadmium and dissolved aluminum, where a concentrations at Devon have occasionally exceeded protection of aquatic life guidelines, which are generally the most protective.

Concentrations of these parameters increase in the NSR downstream of Edmonton due to loadings from storm water, waste water and water treatment plant waste streams. Alberta Environment and Parks has identified each of these parameters as parameters of concern for the North Saskatchewan River, and has issued pilot water quality objectives and maximum allowable loads to ensure that further degradation of water quality does not occur at Pakan, downstream of Edmonton. In other words, water quality needs to be maintained downstream of Edmonton, and coal mines may contribute to higher concentrations of these parameters in the NSR. Edmonton and EPCOR may risk losing assimilative capacity in the NSR. The parameter likely of highest concern is dissolved aluminum, which already approaches water quality guidelines upstream of Edmonton, is loaded to the NSR through water treatment plant waste streams and can exceed guidelines downstream of Edmonton.

7. Ecological and Aquatic Health Risks within the City of Edmonton Boundary

If all existing coal leases were to become active mines, 5% of the watershed would be in active mines. In this case, there would be potential for effects to resident fish populations that may migrate along river reaches and face high selenium exposure in tributaries. The state of knowledge of how 'bad' water quality would need to get before there were significant measureable effects on fish, zoobenthos, and algae is not definitive. However, based on work in other areas of Alberta whose watersheds are affected by mining, the PAL guideline of 2 μ g/L would be protective if implemented across the watershed, including tributaries more directly affected by mining.

Mines would presumably install tailings dams/ponds in order to capture flows and reduce suspended solids and some adsorbed metals. With these control measures in place, it is assumed that impacts to water quality will be relatively small and localized. Given the anticipated government requirements, the distance downstream of EPCOR's WTPs, the small relative watershed area impacted, it is not expected that significant water quality impacts from mining activities would be observed in Edmonton. However a basinwide water quality model with appropriate loading exports would be needed to validate that assumption. This should include a food web model where established tissue loads for fish and benthos are determined from expected concentrations change across the entire watershed. Environmental Impact Assessments are per project and do not necessarily account for basin wide impacts.

While the failure of tailings dams are rare occurrences (as described in Section 6), they can have an extreme impact to downstream water quality and aquatic health. Again, without a specific details of a proposed mine or tailings pond, it is not possible to make a definitive statement regarding the potential impacts of the failure of a tailings dam on the water quality or aquatic health in Edmonton; however, such a release would be a significant event and could result in fish kills and long-term effects on the overall ecosystem.

8. Risk Assessment Summary

This risk assessment was based on EPCOR Risk Matrix and based on professional judgement of the Watershed Team. This is difficult because it is based on theoretical mining activities and modelling work has not been completed.

Table 2. Risk Assessment	Table for Effects of	Coal Mining on the	NSR in the City	⁷ of Edmonton
Boundary				

Risk Area	Description	Likli	Conseq	Ranking	Mitigation and Management
		hood	uence		
Water Quality for Drinking Water	Given the small area of mine agreements (5% of upstream watershed, it is not expected that drinking water guidelines will be exceeded for mining parameters of concern. For selenium, which has	1	1	1-LOW	Basin wide modelling of expected selenium loading from all mining operations and expected change to water quality at Devon LTRN would be needed to confirm risk ranking.
	been shown high values downstream				

	of mining in other watersheds, it is not expected to approach Health Canada Guideline value of 50 ug/L. Data from mined watersheds with values below 10% mining disturbance show Se values of less than 5 ug/L. Average Se values recorded in the literature in highly impacted streams Alberta streams remain below 20 ug/L. Catastrophic dam failure is possible but water quality impacts would expected to be short lived.				The ability to shutoff intakes for up to two days should a catastrophic tailings pond failure occur could mitigate some risk but this has never happened to date for any river quality reason.
Water Quality for Assimilative Capacity	For parameters of concern at Pakan (water quality monitoring site downstream of Edmonton) for which storm water, wastewater, and WTP residuals loads impact water quality there is a risk of losing assimilative capacity if background levels in the NSR increase from mining activities. These parameters include dissolved aluminum.	1	2	2-LOW	Basin wide modelling of expected loading of parameters of concern from all mining operations and expected change to water quality at Devon LTRN would be needed to confirm risk ranking.
Water Quality for Aquatic Health, Irrigation, and Industrial Use	Should water quality guidelines of 2 ug/L be met throughout the NSR and its tributaries risks to aquatic health, and water users for irrigation and industry would be very low. In other areas, mining activity has shown to regularly exceed water quality guidelines in small tributaries and, in some cases, larger downstream systems putting aquatic systems at risk. If selenium concentrations are elevated due to mining, mitigation is difficult.	2	3	MEDIUM- LOW_	Basin wide modelling of expected selenium loading from all mining operations and expected change to water quality at near-field sites, at the Rocky Mountain House LTRN site, and Devon LTRN site that would incorporate expected food web tissue concentrations would be required to assess risk. This would be needed if guidelines were expected to be exceeded.
Aquatic Health	The science on aquatic health impacts from mining are continuing to evolve despite a wide body of research. Effects vary widely across species but in general, sclenium contamination is considered problematic for small stream systems draining coal mines. These effects can manifest themselves into larger systems, depending on exceedances. If water quality and tissue guidelines (BC guidelines) are met risk is low.	2	3	MEDIUM_ LOW	Basin wide modelling of expected selenium loading from all mining operations and expected change to water quality at the Rocky Mountain House and Devon LTRN sites as well as expected food web loads would be needed to confirm risk assumptions

9. What We Need to Know: Recommendations

Due to emerging science of selenium fate and transport; the long-term mining effects that can be set in motion by the physical alteration of the headwater areas; and costly and inconsistent remediation potential, it is critical that scientifically rigorous cumulative effects modelling assessments be completed before any mining activity is permitted. This should be completed at both the major basin scale (ex. North Saskatchewan Bain) and local scale (subwatershed, ex. Ram River) where the cumulative effects of mining need to be considered as multiple companies submit applications for mines on the same landscape.

For the North Saskatchewan Watershed we recommended that to protect long-term aquatic health, water quality, and quantity:

- For AEP to set Water Quality Objectives and Maximum Allowable Loads (MALs) at Rocky Mountain House and Devon Long-Term River Network Sites for mining parameters of concern including sulfate, aluminum, selenium, cadmium, arsenic, nitrate plus nitrite that align with PAL guidelines or Site Specific Water Quality Objectives.
- That the set objectives are included in the forthcoming North Saskatchewan Regional Plan and for parameters that leach over decades, such a selenium, that predictive modelling is used to manage future effects. This is because remediation is often not possible and reactive management (reacting once triggers or limits are exceeded) would not be an effective management strategy.
- AEP develop a large-scale spatially explicit modeling tool that can evaluate the downstream and cumulative impacts of different mining scenarios for the NSR basin at decadal time scales with the following considerations:
 - There is limited published quantitative knowledge of the loading rate of selenium or other constituents of interest and their transport downstream from mine-influenced watersheds
 - Little knowledge exists of how selenium loading changes with regard to factors that can be controlled during or after the mining process but Wellen et al. (2015) found that the amount of wasterock in the watershed is the critical factor determining selenium loads
 - There has been little published work focusing on regional scale modeling of Se sources, fate and transport. Wellen et al. (2015) use the USGS's SPARROW model and the GoldSim Model has also been used during individual mining applications (ex. Grassy Mountain)
 - Climate change models have shown the NSR is expecting increased precipitation which would increase runoff from headwaters areas and export from wasterock.
- AEP consider setting watershed wasterock and mined area limits that are linked to established MALs and Water Quality Objectives for parameters of concern and that those limits are incorporated into the forthcoming North Saskatchewan Regional Plan
- Mining proponents complete modelling work to determine effects using food web models (ex. GoldSim) but in the context of other mining operations/proposals and using Alberta based on tissue load effects for the most sensitive taxa. As well this should include loading models that predictions over the next 50 years. It is understood that there are treatment technologies at mine sites that can limit selenium transport downstream and these should be incorporated into load estimates.

10. Other Considerations beyond the NSR

The effects of coal mining and its benefits must be considered and balanced in relation to other activities and uses on the landscape. These include recreation, hunting, trapping, tourism, maintaining biodiversity, maintaining intactness of habitat for sensitive species (e.g. grizzly bear), and ensuring the overall health and resiliency of the watershed is maintained. As well there are intangible effects of allowing mining activities to proceed on the landscape in terms of Alberta's global reputation on climate change and stewardship of the environment which can cascade down and affect external investment in Alberta. For those reasons, coal development should be done in full and transparent discourse with Albertans, in part through the regional planning process. Coal development should also be based in science and should be precautionary in its approach as there is a threat of irreparable harm.

11. Current Watershed Management, Monitoring, and Modelling Initiatives

The City of Edmonton and EPCOR have had a long history of watershed management and have recognized that a watershed approach is a cost-effective and proactive approach to protecting source waters for drinking water and overall health. EPCOR has provided the City of Edmonton with a summary document on these initiatives but a brief description of governance roles are also included below. This information is important as it highlights the continued commitment of the City of Edmonton and EPCOR to understand and manage

the watershed through collaborative, stakeholder based frameworks and initiatives. EPCOR also maintains a Drinking Water Source Water Protection Plan and an Integrated Watershed Management Strategy for the Edmonton drinking water and storm/wastewater collection system.

Organization	Current Role			
North Saskatchewan Watershed Alliance	EPCOR: Board Member			
	City of Edmonton: former Board Member and now			
	on Advisory Panel			
NSWA's Headwater Alliance	EPCOR a member			
Alberta Water Council	City of Edmonton: Representing Large Urban			
Alberta Water Council: Source Water Protection	EPCOR Watershed Manager is current co-chair			
Project Team				
Industrial Heartland and Capital Region Water	EPCOR: Advisory Committee Member and			
Management Framework	Stormwater Technical Working Group			

References

- Alberta Lake Sturgeon Recovery Team. 2011. Alberta Lake Sturgeon Recovery Plan, 2011 2016. Alberta Environment Sustainable Resource Development, Alberta Species at Risk Recovery Plan No. 22. Edmonton, AB. 98 pp.
- British Columbia Ministry of Environment (BC MoE). 2014. Companion Document to: Ambient Water Quality Guidelines for Selenium Update. Water Protection and Sustainability Branch. Environmental Sustainability and Strategic Policy Division
- BC MoE. 2017. Non-lethal tissue sampling of middle fraser river white sturgeon (*Acipenser transmontanus*). March 2017.
- BC MoE. 2020. 2020. B.C. Source Drinking Water Quality Guidelines: Guideline Summary. Water Quality Guidelines Series, WQG-01. Prov. B.C., Victoria B.C.
- Casey R, Siwik P. 2000. Concentrations of selenium in surface water, sediment and fish from the McLeod, Pembina and Smoky Rivers: Results of surveys from fall 1998 to fall 1999, Interim Report P/714. Water Management Division and Fisheries Management Division, Natural Resources Service, Alberta Environment, AB, Canada.
- Canadian Council of Ministers of the Environment (CCME). 1987. Canadian Water Quality Guidelines. Canadian Council of Resource and Environment Ministers, Task Force on Water Quality Guidelines. Environment Canada. Ottawa, Ontario. Canada; 6 Chapters plus XXII Appendices.
- Diehl, S.F., Goldhaber, M.B., Koenig, A.E., Lowers, H.A., Ruppert, L.F., 2012. Distribution of arsenic, selenium, and other trace elements in high pyrite Appalachian coals: evidence for multiple episodes of pyrite formation. Int. J. Coal Geol. 94, 238–249. <u>http://dx.doi.org/10.1016/j.coal.2012.01.015</u>.
- Golder Associates. 2006. Literature Review of Selenium Toxicity to Freshwater Benthos. Submitted to Elk Valley Coal Corporation and Grande Cache Coal Corporation.
- Golder Associates Ltd. 2008. Water Supply and Assessment for the North Saskatchewan River Basin. Prepared for the North Saskatchewan Watershed Alliance. Available at: http://www.nswa.ab.ca/content/water-supply-assessment-north-saskatchewan-river-basin

- Government of Alberta (GoA). 2010. Alberta Selenium Working Group Acceptance of the Final Report of the Selenium Fish Science Panel Workshop. <u>https://open.alberta.ca/dataset/1b405925-03ee-4da1-846f-6a6abcd4f7ea/resource/d3778cfe-82a4-4cad-9380-3568f8c0c1bd/download/aenv-albertaselenium-working-group-acceptance-of-final-report-of-selenium-fish-science-panel-wo.pdf</u>
- GoA. 2018. Environmental Quality Guidelines for Alberta Surface Waters. Water Policy Branch. Alberta Environment and Parks. Edmonton, Alberta.
- GoA. 2021. <u>https://www.alberta.ca/coal-policy-guidelines.aspx#:~:text=The%20Coal%20Policy%20was%20originally,before%20modern%20regulatory%20processes%20existed.&text=Former%20category%201%20lands%20will,lands%20or%20freehold%20mineral%20rights. Accessed January 19, 2021.</u>
- Griffith, M.B., Norton, S.B., Alexander, L.C., Pollard, A.I., Leduc, S.D., 2012. The effects of mountaintop mines and valley fills on the physicochemical quality of stream ecosystems in the central Appalachians: a review. Sci. Total Environ. 418, 1–12. http://dx.doi.org/10.1016/j.scitotenv.2011.12.042.
- Health Canada. 2014. Guidelines for Canadian Drinking Water Quality: Guidelines Technical Document – Selenium. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. (Catalogue No H144-13/4-2013E-PDF).
- Holm, J., Palace, V., Siwik, P., Sterling, G., Evans, R., Baron, C., Werner, J., and Wautier, K. 2005.
 Developmental effects of bioaccumulated selenium in eggs and larvae of two salmonid species.
 Environmental Toxicology and Chemistry, Vol. 24: 2373–2381.
 http://uppercolumbiasturgeon.org/Research/UCWScontamEval.pdf
- Linares-Casenave, J., R. Linville, J.P. Van Eenennaam, J.B. Muguet, S.I. Doroshov. 2015. Selenium tissue burden compartmentalization in resident white sturgeon (*Acipenser transmontanus*) of the San Francisco Bay Delta estuary. Environ Toxicol Chem: 34(1): 152-160.
- Lindberg, T.T., Bernhardt, E.S., Bier, R., Helton, A.M., Merola, R.B., Vengosh, A., Di Giulio, R.T., 2011. Cumulative impacts of mountaintop mining on an Appalachian watershed. Proc. Natl. Acad. Sci. U. S. A. 108 (52), 20929–20934. <u>http://dx.doi.org/10.1073/pnas</u>. 1112381108.
- Redmond, L.E. 2021. Water quality in the McLeod River as an indicator for mining impacts and reclamation success (2005 to 2016). Government of Alberta, Ministry of Environment and Parks. ISBN 978-1-4601-4982-9. Available at: http://open.alberta.ca/
- Teck Resources, 2014. Elk Valley Water Quality Plan. 290 pp. Available from, http://www.teckelkvalley.com/res/vpl/documents/_ces_portal_meta/_portal_pages/documents/elk_v alley_water_quality_plan_teck_resources.pdf.
- Wellen, C., N. Shatilla, and S. Carey. 2015. Regional scale selenium loading associated with surface coal mining, Elk Valley, British Columbia, Canada. Science of the Total Environment. 532: 791–802

2020 Source Water Protection Plan Edmonton's Drinking Water System



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SECTION 1 – INTRODUCTION

Source Water Protection (SWP) is part of a multi-barrier approach (Figure 1) for water utilities to protect both quality and quantity of water sources. SWPP works to understand and mitigate potential risks to source water supplies through a watershed and aquifer approach. The quality of a surface or groundwater source is a direct result of the natural processes and human activities that occur within a watershed or within or above an aquifer. A healthy, functional watershed with fewer human disturbances is more likely to generate high source water quality.

Although there are costs associated with protecting water sources due to monitoring, treatment and/or best management practices, there are also many benefits that generate economic vitality and growth. Communities with clean water are desirable places to live, improve quality of life, and reduce the threat of waterborne illnesses (Pollution Probe 2004).

This plan was prepared for Edmonton's Rossdale and E.L. Smith water treatment plants (WTPs) which are operated by EPCOR Water Services Inc. (EPCOR), as part of EPCOR's due diligence to protect the communities it serves. EPCOR recognizes that it does not own a significant portion of land within the watersheds in which it operates, and is therefore committed to working with stakeholders to implement improvements and support science-based management in the watershed to protect its source water. EPCOR has a vested responsibility to ensure the drinking water provided to our customers does not pose a threat to public health and is satisfactory in its physical, chemical and aesthetic characteristics.





This plan compiles existing information on the North Saskatchewan River (NSR) and its watershed, the drinking water source for Edmonton, and uses this information to identify hazards, assess risks to source waters, and make recommendations on how to manage these risks.

Source Water Protection Planning is a strategy for water utilities designed to minimize the impacts that human activities and natural events have on water sources. It is critical to understand and characterize the watershed, as the water quality in receiving waterbodies is affected by what is occurring on the land. The key components of a conceptual Source Water Protection Plan (SWPP) as defined by the Canadian Council of Ministers of the Environment (CCME) are outlined below (Figure 2).



Figure 2. Components of Source Water Protection (Adapted from CCME 2004).

Similarly, the American Water and Wastewater Association (AWWA) developed a standard and a guide for Source Water Protection Plan development (AWWA 2014, 2016). Successful source water protection programs may vary widely in their details, but successful programs share six fundamental elements:

- 1. source water protection plan vision and stakeholder involvement;
- 2. source water characterization;
- 3. source water protection goals;



- 4. source water protection action plan;
- 5. implementation of the action plan; and
- 6. periodic evaluation and revision of the entire program.

The Alberta Water Council's guide for Source Water Protection is also based on these same six elements (AWC 2020). Within this generalized framework, individual utilities may establish and maintain source water protection programs that account for their unique local conditions, incorporate the interests of local stakeholders and reflect sustainable long-term commitments to the process by all parties.

The above elements were considered when developing the SWPP for EPCOR's Edmonton operations. As well, this SWPP addresses each of the components outlined by the CCME and provides recommendations on how to manage and mitigate risks to source waters.



SECTION 2 - SOURCE WATER PROTECTION PLAN VISION AND STAKEHOLDER ENGAGEMENT

The following is EPCOR's vision statement for the North Saskatchewan River SWPP:

- EPCOR is committed to ensuring clean and abundant water supplies for E.L. Smith and Rossdale WTPs through application of a source water protection program.
- EPCOR recognizes that SWP is but one of the multiple barriers for ensuring the safety and quality of drinking water and that a successful plan requires input from stakeholders with whom it shares the watershed.
- EPCOR recognizes that it does not own a significant portion the watersheds in which it operates; therefore it is committed to working with stakeholders in a collaborative watershed approach to implement management decisions that ensure a safe, secure drinking water supply for its customers.
- EPCOR recognizes that sufficient resources are required to implement the SWPP in order to meet its responsibility to ensure the drinking water provided to its customers does not pose a threat to public health and is satisfactory in its physical, chemical and aesthetic characteristics.
- EPCOR recognizes that the SWPP is an "evergreen" plan and a focus on applying continual improvement principles to the 'Plan' through three year review is essential.

EPCOR also recognizes that there are multiple stakeholders involved in SWP in the NSR watershed. Stakeholders include regulators, other municipalities, and water users upstream and downstream of Edmonton, Watershed Planning and Advisory Councils (WPACs), watershed stewardship groups, the Alberta Water Council, environmental non-governmental organizations and economic sectors such as agriculture, forestry, industry, oil and gas. Each of these stakeholders has an important role to play in SWP. EPCOR is engaged primarily with other stakeholders through participation on the North Saskatchewan Watershed Alliance (NSWA), which is the WPAC for the NSR, and the Headwaters Alliance which is comprised of upstream municipal council members and run by the NSWA. However, EPCOR also regularly engages other stakeholders directly.



SECTION 3 – SOURCE WATER CHARACTERIZATION

3.1 Delineation of the Source Water Protection Area

Edmonton's source water protection area has been identified as the entire watershed upstream of the Rossdale Water Treatment Plant (WTP) in Edmonton, Alberta to the headwaters in the Rocky Mountains (Figure 3). For the purposes of this plan, the 'North Saskatchewan River watershed' refers to the 28,000 km² portion of the NSR's watershed that is upstream of Edmonton's Rossdale WTP.



Data Source: Government of Alberta [GoA] 2020 Figure 3. NSR Watershed Upstream of Edmonton.



Water Treatment Plants

The North Saskatchewan River supplies raw water to both of Edmonton's WTPs, E.L. Smith and Rossdale. Raw river water is withdrawn through concrete intake structures located in the middle of the river and below the water surface at both locations. The E.L. Smith plant is located upstream of much of the city, while the Rossdale plant is located near the city centre (Figure 4). Consequently, the impact of urban activity on raw water quality is higher at the Rossdale location. The Rossdale WTP has been in operation since 1903. The current plant was built in 1947 and expanded in 1955. The E.L. Smith WTP was built in 1976 and underwent a significant upgrade in 2008. E.L. Smith produces approximately 85,000 million liters per year (ML/y) of treated water, whereas Rossdale produces approximately 40,000 ML/y.



Figure 4. Location of Edmonton's Drinking Water Treatment Plants.

The process of producing drinking water at EPCOR's two WTPs include coagulation, flocculation, filtration, and use free chlorine, chloramine and UV light for disinfection. Both plants achieve at least a minimum of 5.5-log reduction *Cryptosporidium* and *Giardia* and 4-log reduction for viruses. It was identified that reducing solids discharge from WTP processes during winter months would be beneficial for the NSR. In 2009, the Edmonton WTP's began to

convert to Direct Filtration (DF) operation during the winter months. Since 2012, the WTPs have attempted to extend DF mode of operation for up to seven months in the year (i.e. September through March); however, high colour (> 6 TCU) in the NSR in the fall in some years have resulted in shorter periods of DF. The intake points at both WTPs are located in the deepest part of the NSR, below the water surface so that oil, floating debris and ice will pass over them. Both WTPs are equipped with a turbidity, colour, temperature, pH, and an ammonia on-line monitoring units. On-site water quality laboratory analysis is also completed to inform WTP processes and includes a suite of nutrients, suspended solids, colour, conductivity, hardness, chloride, bromide, bromate, fluoride, chlorine, total coliforms, total organic carbon, *E. coli, Cryptosporidium, Giardia,* pesticides, pharmaceutical and personal care products, microcystin, volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and perfluoroalkylated substances (PFAS). The frequency varies depending on the parameter.

Both WTPs are designed to cope with the highly turbid water that occurs occasionally in the NSR. Turbidity of the NSR is usually less than 5 Nephelometric Turbidity Units (NTU) during the winter and between 10 and 60 NTU during the summer. However the turbidity of the NSR can be as high as 7,300 NTU during large rainfall events. All turbidity values over 4000 NTU have occurred during May and June rainfall events. As the turbidity of the NSR increases, it becomes more difficult and costly for the WTP to remove all of the particles in the water and treat it properly for distribution. Another treatment challenge occurs when the NSR has high colour (a measure of dissolved organic matter) events. This often occurs during spring freshet and during periods of extended rainfall in the upper water. High colour during spring and summer storms is typically short-lived but create taste and odour challenges. High colour in the NSR can also be a challenge in the fall when the WTP are waiting to convert to direct filtration and colour remains above 10 TCU for extended periods of time.

EPCOR's drinking water system does not have an upstream warning station to warn the plants of a possible contaminant moving down the NSR. EPCOR has investigated the feasibility of installing an upstream monitoring station; however, found several barriers including: a lack of adequate upstream infrastructure, inability to effectively monitor a large river such as the NSR, and that the necessity of the station being located upstream precludes the ability to monitor for contaminants entering the NSR downstream of the monitoring station, but upstream of the WTP intakes. In the event of a possible spill/release that may affect the WTPs, EPCOR does rely on communication from those responsible for the spill/release, Alberta Environment and Parks (AEP), the Alberta Energy Regulator (AER), the City of Edmonton's Fire Department, and EPCOR Drainage Services. EPCOR utilizes upstream meteorological and flow stations as well as cameras installed along major tributaries to inform when water quality in the NSR may change rapidly due to spring runoff and/or heavy rainfall events. EPCOR also receives notifications from AEP regarding high water levels and floods that could damage the WTPs. There is work underway to develop a predictive model that uses meteorological data to predict high turbidity and colour events through machine learning. As well the WaterSHED program is installing sondes (instruments that measure parameters in the water continuously) throughout the watershed that can provide real-time water quality data that will inform treatment.

3.2 Land Use/Cover and Contaminant Sources

3.2.1 General North Saskatchewan River Watershed

The headwaters of the North Saskatchewan River originate from the Saskatchewan Glacier located in the Columbia Icefield in Banff National Park. The NSR watershed drains an area of 28,018 km² upstream of Edmonton. The whole NSR watershed in Alberta drains an area of approximately 57,000 km² and flows over 885 km through five natural regions from its headwaters to the Alberta/Saskatchewan border (Figure 5). A network of approximately 3,600 km of streams feed into the NSR along this journey through Alberta. The NSR begins in the Rocky Mountain Natural Region and more specifically the Montane and Alpine subregions. These subregions are typified by cooler, mountainous landscapes with exposed rock and vegetation ranging from coniferous forests in higher elevations to mixed forests and grasslands in the valley areas. From there, the NSR flows through the Foothills subregion, where steep topography is covered by coniferous forests in the upper foothills and the rolling hills of Lower Foothills are covered with a greater mix of deciduous and coniferous forests. The watershed upstream of the Upper Foothills subregion is considered to be an environmentally significant area. Just upstream of Edmonton, the NSR winds its way through the Parkland Region, which has largely been converted to agricultural or urban areas.

On a larger scale, the NSR joins the South Saskatchewan River in Saskatchewan and eventually empties into Hudson Bay as part of the Nelson River Basin. Additional information about the larger NSR basin in Alberta can be found in the North Saskatchewan River Watershed Alliance's (NSWA) watershed atlas (NSWA 2012a).

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Figure 5. NSR Watershed in Alberta (Data Source: ABMI 2010 and GoA 2020).

3.2.2 Geology

The ancestral North Saskatchewan River flowed across the prairies for millions of years in a shallow-sloped valley called the Beverly Valley (Godfrey 1993). About 27,000 years ago a major glacier from the Canadian Shield advanced over the Edmonton region. When the glaciers retreated 12,000 years ago, the eastern and western mountain drainage was blocked and formed large glacial lakes including Lake Edmonton. The sediments of glacial Lake Edmonton cover most of the Edmonton area. The receding glaciers, along with Glacial Lake Edmonton drainage, deposited thick sediment, burying the Beverly Valley.

The river valley that we see in Edmonton is about 12,000 years old and it was formed when regional drainage occurred as the glaciers retreated. Since that time, the river has carved through these soft sediments. In some places the bed of the river is largely Cretaceous sedimentary rocks and there are formations that are 100 million years old, such as the Horseshoe Canyon Formation. Erosion of sediments continues today, but the rate is much less than during the initial glacial retreat. Effects of continued erosion are evident along the banks of the NSR which form landslides into the river during higher flow periods.

The surficial geology of the NSR basin reflects the glacial history and subsequent land drainage of Lake Edmonton. The geology changes extensively between the headwaters and Edmonton (Data Source: GoA 2020

Figure 6). In the Rocky Mountains, the surficial geology is, not surprisingly, largely bedrock. In the upper foothills the surficial geology turns largely to colluvial deposits and moraine, which are a mixture of materials such as clay, sand, pebbles, cobbles and boulders that have been moved by gravity and glacial ice, respectively. In the lower foothills, the surficial geology is largely fluted moraine, which is composed largely of glacial till that has been shaped by erosion and glaciation. Much of the surficial material in the headwaters is resistant to erosion, resulting in high water quality of the NSR mainstem and tributaries. Along much of the NSR mainstem from Rocky Mountain House to Edmonton, and along many of the major tributaries in this reach, the surficial geology is composed largely of glacial lakes, such as Glacial Lake Edmonton. These silts and clays that are deposited in glacial lakes, such as Glacial Lake Edmonton. These silts and clays are highly susceptible to erosion, and are responsible for the silty and turbid nature of the NSR during periods of high flow.



Figure 6. Surficial Geology of the NSR Watershed.

Data Source: GoA 2020

3.2.3 Human Footprint

The human footprint is a metric for disturbance and or human influence in an area. It can be used as a general gauge of watershed health but is not directly linked to changes in water quality or quantity. This is because each footprint is different in its impact. For example, a 40 year old cutblock (an area of land that has had the trees removed) has a different effect than a parking lot. That said, there is often disturbance threshold above which natural processes and function are compromised such that watershed health and subsequently water quality and quantity are significantly affected. For example, in research conducted on lake watersheds suggests that a human footprint greater than 50% will significantly alter lake water quality; however, it will depend on the watershed.

The human footprint the NSR Watershed was 7,790 km² or 27% of watershed area in 2012 and 8,600 km² in 2018 or 30.7% of the watershed area (Data Source: ABMI 2018

Figure 7). The human footprint was calculated using Alberta Biodiversity Monitoring Institute's 2012 and 2018 Wall-to-Wall Human Footprint data, which provides a comprehensive representation of human footprint in Alberta. The human footprint includes attributes and features related to the energy, forestry, and agriculture industries, as well as urban development. This metric includes roads, dwellings, cutblocks, seismic lines, transmission lines, urban areas, reservoirs, well sites, etc. At the watershed perspective, given that just one third of the NSR Watershed has a human footprint suggests that the watershed has a relatively low impact. The implication is that if hydrological function, forest succession, and natural disturbance regimes, for example, are maintained on at least 70% of landscape then water quality and quantity would be maintained within natural variability. This assumes that water quality and quantity are driven by non-point sources rather than point sources, which for the NSR basin upstream of Edmonton is largely true. However, the human footprint is extremely low in the upper reaches of the watershed, and extremely high in the areas near Edmonton; suggesting that most of the disturbance of the NSR occurs between Drayton Valley and Edmonton.





Figure 7. Human Footprint in NSR Watershed.

Data Source: ABMI 2018

3.2.4 Population and Municipal Boundaries

The NSR Watershed is divided by six rural county boundaries: Clearwater, Yellowhead, Brazeau, Wetaskiwin, Parkland and Leduc, as well as Jasper and Banff National Parks (Data Source: GoA 2020

Figure 8). The majority of the population is located in the small urban municipal towns of Rocky Mountain House, Drayton Valley and Devon who have similar populations of approximately 7,000 people each (Table 1).

		noipanties		
Community	2011	2016	2019	% Change
Rocky Mountain House	7,161	6,792	6,668	-5% in last 5 years
Drayton Valley	7,389	7,426	7,373	-5% in last 5 years
Devon	6,751	6,734	6,779	-2% in last 5 years

Table 1. Population and Growth of Municipalities in NSR Watershed

Source: Statistics Canada (2016), GoA (2021)

The surrounding rural counties of Clearwater (12,175: -2% 5-year growth), Brazeau (8,439: 8% 5-year growth), Parkland (33,005: 1% 5-year growth) and Leduc County (13,561: -5% 5-year growth) combine for total population of just under 66,000, although not all of this population is with the NSR watershed boundaries. Large portions of Yellowhead and Wetaskiwin counties are outside the NSR watershed and would contribute little to the overall population. In total, there are eighteen hamlets, eight summer villages, four villages and five towns (which include Devon, Drayton Valley and Rocky Mountain House) scattered throughout the watershed. Population density in the headwater region is low and most of the population is located within the Drayton Valley to Edmonton corridor (Data Source: Statistics Canada 2011, GoA 2020 Figure 9). It is estimated that approximately 90,000 people live in the NSR basin upstream of the City of Edmonton boundary (based on City of Edmonton Neighbourhood Census Data).

A significantly larger population lives upstream of the Rossdale WTP due to the inclusion of the drainage areas in south and west Edmonton, as well as the towns of Leduc and Beaumont. It is estimated that an additional 510,000 people live in this area, and population is rapidly growing. The populations of Leduc and Beaumont increased 15% and 28%, respectively over the last 5 years (2015-2019). Edmonton's population grew 11% during this period, and much of this growth occurred in the southern edges of Edmonton. In terms of source water protection above the Rossdale WTP, it is important to note that wastewater generated by this population is treated at the Gold Bar WWTP, located downstream of the WTPs. Stormwater impacts from this urbanized area are significant and considered further in Sections 3.2.4 and 3.3; however, stormwater impacts are related to land use and impervious surfaces, which to some degree is independent of population size.



Data Source: GoA 2020

Figure 8. Sub-basins (as defined by Water Survey of Canada) and Municipal Boundaries in the NSR Watershed.





3.2.5 Parks and Protected Areas

Parks and protected areas are important for maintaining ecological and watershed integrity through limiting disturbance and human footprint. Although parks and other areas differ in their level of protection, in general within their management mandates, environmental protection is forefront. The area of the NSR watershed that is comprised of parks and protected areas is just under 17%. Banff and Jasper National Parks comprise 3,376 km² or 12% of the NSR watershed and provide protection for the critical headwater areas (Data Source: GoA 2020 Figure 10,Table 2).

White Goat and Siffleur Wilderness Areas provide an additional 870 km² of protection, equating to 3% of the watershed area upstream of Edmonton. Outside of the National Parks, all parks and protected areas combine to just under 5% of the total watershed area.

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Figure 10. Parks and Protected Areas in the NSR Watershed.

Data Source: GoA 2020

Table 2. Types and area of Parks and Protected Areas in the NSR Watershed.

Туре	Number	Area (km ²)
Environmental Reserve	2	46
Natural Area	29	72
National Park	2	3,376
Provincial Park	4	58
Public Recreation Area	38	102
Wilderness Area	2	870
Wildland Park	2	222
Grand Total	79	4,746



Almost half (46%; 12,487 km²) of the upstream of Edmonton is considered to be environmentally significant area (ESA) (Figure 11). ESAs are generally defined as areas that are important to maintain biological diversity, physical landscape features and/ or other natural processes on the landscape (Fiera 2014). They provide a good start for prioritizing areas of conservation and help inform land use planning for multiple uses. Most of the distribution of the ESA is in the headwater areas and includes the Rocky Mountain (80%) and Boreal (14%) natural regions. The riparian areas along the banks of the NSR, as it travels to Edmonton, are also considered environmentally significant areas. ESAs in Alberta are not specifically defined, but are considered to be important for the long-term care and viability of biodiversity, soils, water and other natural attributes. Although ESAs do not have legislated protection, again, they are a valuable tool to inform land use decisions.



Data Source: GoA 2020

Figure 11. Environmental Significant Areas and Natural Sub-Regions in the NSR Watershed.

Although not considered parks or protected areas, there are 4,810 km² of the NSR Watershed adjacent to the National Parks that are designated Public Land Use Zones (PLUZ; Figure 12).

A PLUZ is an area of public land to which legislative controls apply under authority of the *Public Land Administration Regulation* to manage multiple uses on the landscape including industrial, commercial, and recreational. For example the government can designate if activities such as off-highway vehicle use, motorboat use, random camping, or hunting, for example, are permitted. Forestry and oil and gas activity may also be permitted in PLUZ. The land use conditions are designed primarily to protect areas containing sensitive resources and manage conflicting land-use activities. Within PLUZ, off-highway vehicles must remain on designated trails in order to ensure that sensitive habitats, including stream beds, are protected. In the PLUZ in the NSR watershed, there are no significant industrial activities. Logging is permitted within PLUZ.



Data Source: GoA 2020

Figure 12. Public Land Use Zones (PLUZs) in the NSR Watershed.

The Bighorn backcountry is an area of public lands to the east of Banff and Jasper National Park in the headwaters of the NSR that has received calls for increased protection due to unregulated recreation and resource development. The size and boundary of the Bighorn backcountry are not clearly defined, and differs among various organizations. Generally, the area of the Bighorn backcountry is 5,000 to 6,700 km² covered by the existing PLUZ (Figure

13). In November 2018, the Government of Alberta announced eight new parks covering over 4,000 km² in the Bighorn Backcountry. This plan was reversed in 2019 in favour of using the ongoing regional planning process to evaluate land use in the area. Depending on the outcomes of this process, parks and protected areas could total ~8,700 km² and 31% of the NSR Watershed upstream of Edmonton.



Data Source: GoA 2020



3.2.6 Municipal Wastewater Treatment Facilities and Stormwater

Edmonton

Storm sewer outfalls drain runoff from roads and urban areas into the NSR. Stormwater typically has elevated concentrations of sediments, nutrients, pathogens, metals and pesticides from urban runoff. EPCOR monitors the largest storm sewer outfalls and estimates the total loading from all of the storm sewer outfalls as part of its Environmental Monitoring Program which is described in greater detail in Section 3.3.



There are currently only two storm sewer outfalls located upstream of the E.L. Smith WTP; however, further growth of the City of Edmonton may result in additional storm sewer outfalls being built upstream (Figure 14). There are 55 storm sewer outfalls that drain directly to the NSR that are located upstream of the Rossdale WTP; however, the location of the outfalls along the shore line and location of the WTP intake mid-channel means that a number of the outfalls will not affect water quality at the intake. There are an additional 22 storm sewer outfalls located in ravines that drain into the NSR upstream of the Rossdale WTP. A majority of these are located in the Ramsay Ravine, which is located a short distance upstream of the Groat Road Bridge. There are also an additional 26 storm sewer outfalls that are located on Whitemud or Blackmud Creek.



Figure 14. Storm Sewer Outfalls Located Upstream of the E.L. Smith and Rossdale WTPs (from City of Edmonton 2020).

Although storm sewer outfalls are designed to convey stormwater, under some conditions, sewage can enter to storm sewer system and be released to the NSR through:

- Improper interconnections;
- Leakage of double barrel pipes;
- Sewage lift stations; and
- Blocked and/or backed up sewers.

EPCOR Drainage has been active in identifying and sealing-off interconnections, replacing double barrel pipes, and maintaining and repairing lift stations to eliminate any sanitary inputs into the river. For double barrel pipes storm flow and sanitary flow are combined in one pipe with vertical separation down the centre of the pipe. Over time, the separation can fail and this allows mixing of sanitary with storm water.

EPCOR Drainage will be investing approximately \$1.6 billion over the next 20 years as part of its Stormwater Integrated Resource Plan (SIRP), which consists of a mixture of grey and green infrastructure to reduce flooding risks within Edmonton. Although flooding risk is the main driver, it is expected that water quality improvements will be made through the implementation of green infrastructure. The SIRP approach is to capture the stormwater volumes in dry ponds prior to reaching the storm trunk network to provide additional capacity in the pipes in the immediate path of the storm. The addition of Low Impact Development throughout the catchment area will further retain these volumes and reduce the impact on the entire pipe network as storms travel across the community. The plan does include tunnels, trunks and sewer separation in locations where due to configuration of the community there is limited space to install additional ponds or LID components to fully capture the expected water volumes are managed through the Blackmud/Whitemud Creek area storm runoff volumes are managed through the Blackmud /Whitemud Creek Surface Water Manage Group and established runoff rates.

Upstream of Edmonton

Upstream of Edmonton, there are three mechanical wastewater treatment plants that discharge effluent continuously to the NSR (Rocky Mountain House, Drayton Valley and Devon) and 27 municipal sewage lagoons that discharge periodically to the NSR or tributaries of the NSR (Data Sources: GoA 2020, AECOM 2009 Figure 15, Table 3).



Data Sources: GoA 2020, AECOM 2009

Name Size Treatment Freq. Discharge Point							
Alder Flats	Hamlet	Lagoon	1/yr	Rose Creek			
ARC Resources	Field Stn.	Lagoon	1/yr	Unnamed drainage to NSR			
Birchwood VG	Devel.	Lagoon	1/yr	Modeste Creek			
Breton	Village	Lagoon	2/yr	Modeste Creek			
Buck Creek	Hamlet	Lagoon	1/yr	Buck Lake			
Buford	Hamlet	Lagoon	1/yr	Unnamed drainage to NSR			
Calmar	Town	MAL	2/yr	Conjuring Creek			
Devon	Town	MAS	Cont.	NSR			
Drayton Valley	Town	MAL	Cont.	NSR			
Drayton Valley	Golf Crs.	Lagoon	1/yr	Unnamed tributary to NSR			
Duffield	Hamlet	Lagoon	Evap.	n/a			
Kavanagh	Hamlet	Lagoon	1/yr	Discharge to slough			
Looma	Hamlet	Lagoon	1/yr	Unknown			
New Sarepta	Village	Lagoon	1/yr	Unknown			
Nordegg	Hamlet	MAL	2/yr	Long Lake			
Nordegg Resort Lodge	Resort	Lagoon	2/yr	Shunda Creek			
Rocky Mountain House	Town	MAL	Cont.	NSR			
Rocky Rapids	Hamlet	Lagoon	1/yr	Unnamed Tributary to NSR			
Rollyview	Hamlet	Lagoon	1/yr	Unknown			
Seba Beach	Sum. Village	Lagoon	Evap.	n/a			
Sundance	Plant	Lagoon	1/yr	Lake Wabamun			
Sunnybrook	Hamlet	Lagoon	1/yr	Strawberry Creek			
Thorsby	Village	Lagoon	1/yr	Weed Creek			
Tomahawk	Hamlet	Lagoon	2/yr	Tomahawk Creek			
Tomahawk School	School	Lagoon	1/yr	Tomahawk Creek			
Violet Grove	Hamlet	Lagoon	1/yr	Unnamed Creek to NSR			
Wabamun	Village	Lagoon	1/yr	Unnamed Creek NSR			
Wabamun	Prov. Park	Lagoon	1/yr	Unnamed Creek to NSR			
Warburg	Village	Lagoon	1/yr	Strawberry Creek			
Winfield	Hamlet	Lagoon	2/yr	Poplar Creek			

Figure 15 Municipal Wastewater Facilities in the NSR Watershed

Note: MAL = mechanically aerated lagoon, MAS = mechanically activated sludge, Evap. = Evaporative Lagoon

Water quality data from most wastewater facilities is limited. As set out in the Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems (GoA 2013a) wastewater lagoons are not required to conduct any water quality monitoring, and aerated lagoons for smaller communities are only required to collect weekly CBOD samples during periods of discharge. However, a small amount of data, typically only BOD and TSS, is available for the majority of sites listed in Table 3. Monitoring at the wastewater treatment plants in Rocky Mountain House, Drayton Valley and Devon is limited to a small number of parameters (Table 4). Devon recently commissioned a new WWTP, which is now fully operational.

Community	Parameters	Frequency	Effluent Limits	Average Daily Effluent (m ³ /d)	
Rocky Mountain CBOD			< 25 mg/L	2,379	
House	TSS	weekiy grab	n/a		
	BOD		< 25 mg/L		
	TSS	Mookly grob	n/a		
	Total coliforms	weekiy grab	< 1,000/100 mL	4 000	
Drayton valley	Faecal coliforms		< 200/100 mL	4,999	
	Chlorine residual	Daily Grab	< 2.0 mg/L		
	Volume	Daily Total	n/a		
	CBOD	Daily Composite	< 20 mg/L		
	TSS	Daily Composite	< 20 mg/L		
	Ammonia	Daily Composite	< 5 mg/L June - Nov < 10 mg/L Dec - May	2 200	
_	Total Phosphorus	Daily Composite	< 1 mg/L	2,200	
Devon	Volume	Daily Total	n/a		
	рН	Daily Composite	6.5 - 8.5		
	Total coliforms	5 samples/week	< 1,000/100 mL		
	Fecal coliforms	5 samples/week	< 200/100 mL		
	Acute lethality	quarterly grab	n/a		

 Table 4. Wastewater Monitoring Requirements in the NSR Watershed

Only an estimated 30,000 rural residents in the watershed are serviced by wastewater treatment facilities (lagoons or continuous-discharge mechanical treatment). The remaining 60,000 individuals are likely serviced by private septic systems. Municipal effluents contribute a consistent but low concentration of parasites (*Cryptosporidium* spp. and *Giardia* spp.) to the NSR and its tributaries (CABIDF 2002). Most discharges from lagoons occur over a three week period in October and, if two discharges per year are permitted, they most often occur in April or early May.

The three upstream WWTPs (Rocky Mountain House, Drayton Valley and Devon) are relatively small, and

Innovative methods for wastewater lagoon management are being implemented in the North Saskatchewan Watershed. For instance, in Parkland County lagoon operators use evaporators to reduce lagoon volumes. Also, a portable membrane filtration system is being piloted in the county with hopes of effectively refining lagoon effluent.

would not significantly affect water quality at EPCOR's intakes for measured parameters such TSS, BOD, nutrients and pathogens, assuming effluent limits are maintained. Similarly, the reported discharge volumes of lagoons are small, and the loads of TSS and BOD would likely have little effect of the water quality in the NSR at EPCOR's intakes. Nutrient and pathogen



data is generally not available from lagoon discharges, but the small discharge volumes suggest that the resulting impact to water quality at EPCOR's intakes would be relatively low. Water quality data on pharmaceuticals, pesticides and other contaminants of emerging concern are not available for these WWTP and lagoons, but it is assumed that they are a source of these parameters in the NSR.

3.2.7 Land Cover

Land cover is an indicator of watershed disturbance and can indicate the risk of contaminants reaching downstream waterbodies. For example, there is evidence that with increased percent agricultural land in a watershed there are increased nutrient levels in downstream waterbodies. It is important to note land cover is based on a satellite image taken at a single point of time. Also, it provides a general indication of disturbance, but does not determine land use (what activities are occurring on the land). For example, there are many different types of cropping practices (row crop versus broadcast) that could occur on the land base and they would all be classified as 'cropland'.

The majority of the NSR watershed is in forest cover (58%;Figure 16). Of that, 41% is conifer forest, 7% is deciduous, 2% is mixed and 8% is shrub (Figure 17). Grassland comprises 4% of the watershed. Grassland is either native or as a result of fields that have been left to grow naturally. Agricultural land cover is the greatest anthropogenic footprint in the watershed with 14%. The agricultural land cover is concentrated in the lower part of the watershed, where soils are favourable for agriculture, whereas the headwater areas remain largely forested or rock (i.e., mountains).



Data Source: ABMI 2010



Figure 16. Land Cover in the NSR Watershed

Figure 17. Percent of the Watershed in each Land Cover Type.

3.2.8 Agriculture

As mentioned in Section 3.2.5, land used for agriculture makes up just under one sixth of the NSR watershed. However, in the lower part of the watershed from the Edmonton Metropolitan Region and east, about 85% of the land area is used for agriculture and food production. Specifically, land used for agriculture in Leduc and Wetaskiwin Counties is over 81% of the land base, whereas in Parkland County, it is over 66% of the County's land base.

In the areas around Drayton Valley, perennial crops such as forages [hay and pasture] are the predominant agricultural land cover type, whereas, closer to Edmonton and near Rocky Mountain House, cropped land is more common (Figure 18). Livestock typically graze on pasture but may also utilize some hay lands and wooded or treed areas at certain times of the year, if they are fenced. Cattle on pasture often use remote watering systems because agricultural producers limit livestock access to waterbodies as a common practice in order to protect water quality and to protect herd health.

Of the 4,100 km² of land that is classified as annual and perennial crops by satellite imagery, the majority is in forages [hay or pasture] (45%), followed by wheat (21%), canola (17%), and barley (9%) (Figure 19). Other crops such as oats, potatoes, beans, corn, and peas are grown, but comprise a small percentage of cropped area (less than 1% combined). The vast majority of agricultural producers conserve their soil and limit risk to surface water quality by common practices such as direct seeding, reduced tillage, sustainable crop rotations, employing 4R technologies (Right product, Right place, Right rate & Right time), integrated pest management

Data Source: ABMI 2010

and farm implements/equipment that utilize GPS. Since 1996, the incidence of summerfallow [bare ground subject to wind and water erosion] has been nearly eliminated in the NSR watershed. For the past two decades, agricultural producers have adapted to these advanced land conservation and management, productivity and accountability practices since instatement of Maximum Residue Levels (MRL's) on major crop commodities. The agricultural communities in the NSR appreciate that their enterprises and livelihoods depend on healthy soils and quality water supplies.



Data Source: Agriculture and Agri-Food Canada 2016 Figure 18. Agricultural Land Cover (2016) in the Watershed.

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The Federal Government collects census data every five years which provides a snapshot of agricultural practices. These statistics are indicative of numbers at a single point in time (the day of the survey), are based on the number of farms reporting, and may not reflect current numbers. As well reporting is based on farm headquarters and the reported data may not necessarily be located in the watershed. Data for manure production and livestock numbers were aggregated at the watershed scale for 1996, 2001, 2006, 2011, and 2016 census. Data were also available at a smaller sub-watershed scale: 174 farms reported for the Clearwater sub-watershed; 139 farms for the Ram sub-watershed; and 907 farms for the Strawberry sub-watershed. Total agricultural area reported in the 2016 census was similar to satellite imagery, and therefore it is likely that a high number of farms completed the census. Census data show that the agricultural land in the NSR watershed is divided approximately evenly between pasture and crops, and that this ratio does not change substantially year to year (Figure 20).

100% 90% 80% 70% 60% 50% 40% 50% 20% 10% 0%

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2011

2016

2006

1996

2001

It is well documented that areas of higher livestock density within a sub-watershed can lead to impacts on downstream aquatic systems, often because of waste production and physical access of livestock to waterbodies. Within the NSR watershed, there were approximately 143,000 cattle; just under 3,500 pigs; 8,000 sheep; and 8,000 horses in 2016. The numbers of livestock have been declining between each census period, but the largest declines were observed between 2006 and 2011 (Table 5, Figure 21).

The decline in number of farms and overall livestock numbers reflected in the NSR watershed is part of a national trend well (Statistics Canada 2017). There were also over 1,300 fewer farms in the NSR reporting cattle from 1996 to 2016. Statistics Canada has reported that nationally there are fewer farms, and fewer cattle in Canada, and this trend appears to hold true for the NSR watershed as well (Statistics Canada 2017). This is a result of the BSE crisis in 2003, more farmers retiring, fewer intergenerational farm transfers, farm consolidations or relocations and other external market factors.

	Table 5. Livestock Numbers	in the Watershed by	v Livestock Ty	pe and Census Year.
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Type/Year	1996	2001	2006	2011	2016
Total Farm Reporting	3,786	3,366	3,106	3,022	2,484
Total Farms Reporting Cattle	2,505	2,001	1,824	1,305	1,166
Cattle (#)	254,463	244,591	225,515	145,596	142,928
Sheep (#)	7,686	13,366	9,468	14,564	8,197
Pigs (#)	44,527	34,466	33,107	17,356	3,481
Horses (#)	14,267	14,779	12,945	10,775	8,332
Poultry (#)	633,169	628,055	502,116	321,264	356,215
Total Large	320,943	307,202	281,035	188,291	162,938
Total	954,112	935,257	783,151	509,555	519,152
			A ' 14		

Data Source: Agriculture and Agri-food Canada 2016



Data Source: Agriculture and Agri-food Canada 2016

Figure 21. Total number of Horses, Pigs, Sheep and Cattle Reported in the NSR Watershed by Census Year.

Both the total number of cattle and manure production show that most of the livestock in the NSR watershed are concentrated in the lower part of the watershed (Figures 22 and 23). There are also 31 confined feeding operations in the watershed. As expected, with the decrease in the number of livestock between 1996 and 2011, there is a corresponding decline in the amount of manure produced, and the amount of nitrogen and phosphorus produced from manure (Figures 24 and 25).



Data Source: Agriculture and Agri-food Canada 2016 Figure 22. Total Cattle Reported by Sub-basin in the NSR Watershed in 2016.



Data Source: Agriculture and Agri-food Canada 2016 Figure 23. Manure Production by Sub-basin from All Livestock in the NSR Watershed in 2016.



Data Source: Agriculture and Agri-food Canada 2016 Figure 24. Estimated Annual Manure Production from All Livestock in the NSR





Data Source: Agriculture and Agri-food Canada 2016

Figure 25. Estimated Annual Phosphorus and Nitrogen Manure Production from All Livestock in the NSR Watershed by Census Year.

The area of land in the NSR watershed that uses pesticides [pesticides include herbicides, insecticides & fungicides] has steadily increased between 1996 and 2016 (Table 6). Since 1996, many of the most toxic & persistent pesticides have been de-registered and are no longer
available for use. All commercial applicators must be certified and agricultural producers are encouraged to do the same and employ the 4R technologies. The Alberta 'Blue Book' produced annually by Alberta Agriculture provides a thorough list of available crop protection chemicals, safety & application guidelines, and cultural alternatives. The Census of Agriculture does not provide information regarding the total amount of pesticides used, only the area over which it was spread. The area of land that fungicides and insecticides were added has quadruped between 1996 and 2016; however, it remains a small percentage of overall agricultural land (< 3%). For herbicides, the increase between 1996 and 2016 was 48% on an area representing approximately 4% of the source watershed. The area of manure application more than quadrupled between 2006 and 2011 but went down to the lowest area to date in 2016. Manure is estimated to be applied to less than 1% of the source watershed. Fertilizer use has remained relatively consistent in the last 20 years and is applied to approximately 5% of the area of the source watershed.

 Table 6. Area of Land (km²) that Pesticides, Manure, and/or Fertilizer were added by

 Census year.

Addition	1996	2001	2006	2011	2016
Fungicide	70	56	116	152	304
Insecticide	20	32	70	41	116
Herbicide	934	981	1,074	1,177	1,378
Manure	246	285	315	1,379	172
Fertilizer	1,559	1,475	1,474	1,263	1,453

Data Source: Agriculture and Agri-food Canada 2016

Best Practices in Agriculture

Recognizing the impact that agricultural activities can have on receiving water bodies, land owners, often in partnership with stewardship groups, have worked hard to implement beneficial/best management practices (BMPs). BMPs are specific to each type of land use and are intended to prevent bare ground, control runoff, and optimize inputs and resources. These practices include nutrient, crop and manure management, better storage of fuel, riparian management and reduction of the use of pesticides.

A BMP success story for the Province was the promotion of conservation tillage which significantly reduced the amount of summer fallow to previous levels; this resulted in significant reductions in soil erosion. In the NSR watershed summer fallow was 105 km² in 1996 and only 48 km² in 2016. The area of conservation tillage increased from 331 km² in 1996 to 469 km² in 2016. In 2011, over 551 farms of 3,022 reported using buffers around waterbodies.

EPCOR recognizes the importance of agricultural BMPs to improve water quality and quantity from agricultural areas. Agricultural streams are elevated in ammonia and organic material (colour), particularly during spring runoff. Improved water quality in the NSR could result in reduced operating costs for EPCOR's WTPs, and reduce taste-and-odour events that can affect the aesthetic quality of our customer's drinking water. BMPs also function to keep water on the land, instead of rapidly entering the river. Improved hydrology within our watershed has the potential to help offset significant impacts of flooding and drought to our WTPs. EPCOR has supported a number of initiatives relating to the implementation and researching the effectiveness of implementing BMPs in the watershed.

EPCOR is financially supporting two research projects are currently underway in the Modeste and Strawberry Creek subwatershed that will evaluate ecosystem services, such as improvements in water quality and quantity, by implementing BMPs. These projects are utilizing the Integrated Modelling for Watershed Evaluation of BMPs (IMWEBs) model that has been developed by Wanhong Yang from the University of Guelph. IMWEBs is a watershed model that evaluates water quality and quantity improvements of over 30 BMPs, including crop and nutrient management, grazing and manure management, irrigation, conservation tillage, marginal land conservation, riparian buffer management and wetland restoration. Output from IMWEBs is based on the implementation of BMPs on individual fields and can scale up these field-level benefits into overall watershed scale improvements. This project is integrated in with the NSWA's riparian mapping project which will help target areas for improvement in riparian intactness.

ALUS Canada is an NGO that partners with municipalities and farmers to help to implement BMP projects on the ground. ALUS has partnered with Brazeau, Parkland, Wetaskiwin, and Leduc counties in order to implement BMPs. ALUS is also involved in the IMWEBs projects described above, as the output from these models will help ALUS prioritize their efforts to achieve the highest benefits. EPCOR has financially supported ALUS in their work to implement BMPs upstream of Edmonton in the past.

The North Saskatchewan Watershed Alliance has led extensive work assessing the health of riparian habitat in the Modeste and Strawberry Creek watersheds utilizing satellite imagery. Riparian habitats are the transition between terrestrial and aquatic habitats and provide key ecosystem services such as improving water quality, reducing erosion and slowing the release of water. Changes in land use have frequently resulted in the loss of riparian intactness, which can have negative impacts to water quality, and ultimately require increased treatment at EPCOR's WTPs. Based on the NSWA's analysis, the Strawberry watershed has considerably more riparian habitat that is considered to have "very low intactness" and "low intactness" compared to the Modeste watershed (Figure 26). The higher intactness of riparian areas in the Modeste subwatershed is due to a number of streams in this watershed that are located outside agricultural areas, and creeks within agricultural areas were similarly impacted in the Modeste and Strawberry watersheds. A map of the Strawberry watershed shows that the lowest riparian intactness typically occurs along unnamed tributaries and the upper reaches of named tributaries (Figure 27). At these locations, creeks are likely small, intermittent and poorly defined and may be more susceptible to damage by agricultural activities. In contrast, creeks typically had high intactness closer to their confluence with the NSR, likely because at these locations the creek is larger and more defined and agricultural activities are more likely to be set back further in these areas.







Figure 27. Riparian Intactness Measurements from Strawberry Creek Watershed (Source: Fiera 2018a)

The NSWA's work on riparian habitat extends beyond assessing intactness, and includes the assessment of the resulting "pressure" of the land that would impact the riparian area. Utilizing this information, NSWA has highlighted areas that have a high value for conservation or restoration so that efforts and resources can be focused on areas that would generate the greatest benefit. The NSWA is also developing the Riparian Web-portal which will display all the information in an easy to use interface. The portal will be used to share riparian data, showcase riparian projects on the ground, and connect landowners with restoration and conservation programs.

3.2.9 Industrial Activities

Chemicals are transported throughout the watershed, through pipelines, roads, or train routes, and therefore, there is a risk of contamination to the NSR from spills. Routes that pose the highest risk are ones that allow movement of chemicals across the NSR or its tributaries. In terms of transportation corridors, there are many public roads and highways located in the basin upstream of Edmonton. Each transportation corridor is not a potential hazard in itself; however,



the traffic which uses the corridors could be a potential hazard depending on the type of material being carried, the probability of a spill/release to the environment and watershed and/or the location in relation to a surface water source. Industrial activities that discharge to receiving waterbodies are also of concern for water quality.

Dangerous Goods Routes

Within Edmonton, there are several dangerous goods routes that cross the NSR upstream the WTPs. Specifically, just upstream of E.L. Smith, the Anthony Henday Bridge crosses the NSR and is designated as a dangerous goods route (Figure 28). The Quesnell bridge is also a designated as a dangerous goods route, and is located upstream of the Rossdale WTP. Other river crossings upstream of the Rossdale WTP include the Groat Road Bridge, High Level Bridge and Walterdale Bridge. The High Level and Walterdale Bridges are designated 24 hour truck routes (green line). While these bridges are not considered dangerous goods routes, traffic crossing these bridges could still be carrying dangerous goods. Additionally, The Anthony Henday also crosses the Blackmud, Whitemud and Horsehills creeks which drain to the NSR upstream of the Rossdale WTP, and Whitemud Drive also crosses Whitemud Creek.

Upstream of Edmonton, there are six highway crossings along the NSR. These include Highway 60 near Devon, Highway 770 near Genesee, Highway 759, Highway 22 near Drayton Valley, and Highways 11 and 11A near Rocky Mountain House.

A roadside truck survey conducted by the City of Edmonton in 2012 found that 4.3% of trucks over 4,500 kg were transporting dangerous goods (City of Edmonton 2013). A majority of the dangerous goods were various types of petroleum products (Figure 29).



Figure 28. Dangerous Goods Truck Routes and River Crossings with Edmonton Boundaries Upstream of WTPs (Source: City of Edmonton 2015).





Industrial Discharges

There are few heavy industrial operations upstream of Edmonton. Some of them include:

- Capital Power's Genesee Generating Station coal-fired power plant located south of the NSR within the Strawberry subwatershed
- TransAlta's Keephills and Keephills 3 Generating Stations coal-fired power plants located north of the NSR within the Modeste subwatershed
- TransAlta's Sundance Generating Station coal-fired power plant located north of the NSR within the Modeste subwatershed

Cooling water used for thermoelectric power generation at the Genesee, Keephills and Sundance plants represent the largest water diversion use in the upstream basin. However, since the majority of the water is used for once-through cooling water purposes, there are no significant impacts from a drinking water source perspective associated with discharges back to the river from these thermoelectric facilities.

Linear disturbance

Linear disturbance can be used to indicate the cumulative anthropogenic footprint on a landscape, and in green zone areas (public land) it is often associated with industrial development (roads, pipelines, transmission lines, cutlines, etc.). Impacts of linear disturbance include habitat fragmentation, erosion, changes to hydrology and water quality. If linear disturbance is extensive enough, the ecological integrity of watersheds can be disrupted

(AESRD 2012a). The total linear disturbance density in the NSR watershed ranges from almost zero in the uppermost headwaters, to upwards of 21 km/km² near the oil and gas fields of Drayton Valley (Figure 30). Linear disturbance values in the more pristine areas of the watershed such as the Ram, Clearwater, Baptiste, and Brazeau sub-basin are high (near 7 km/km²), considering that these areas are often perceived to be undeveloped. For comparison purposes, densities in the Alberta portion of Yukon to Yellowstone Conservation Initiative (Y2Y) found mean disturbance densities of 2.7 km/km² and maximum densities in excess of 8.0 km/km² (Sawyer and Mayhood 1998).



Data Source: ABMI 2018



Roads and Seismic Lines

Roads and seismic lines are specific examples of linear disturbances that can have a negative impact watersheds. Roads, and trails, particularly those used for off-highway vehicles, have been shown to alter the flow and water quality in headwater streams and negatively impact the soils, vegetation and animals in these watersheds (Farr et al. 2017).

Roads and seismic line abundance was calculated using data from ABMI's (2018) linear disturbance layer. There are a total of 23,460 km of roads and truck trails in the NSR watershed equating to a density of 0.83 km/km², an area of 282 km², and 1% of the watershed area (Figure

31). There has been an increased of road area of 9% from 2014 to 2018. Paved roads comprise 4,974 km and cover 91 km² of the watershed. However, in rural areas paved roads extend only approximately 2,000 km and cover less than 50 km². Gravel roads, consisting of mainly county maintained roads, comprise 6,793 km in length and 76 km² in area. Most of the paved and gravel roads are concentrated in the lower portion of the watershed between Edmonton and Drayton Valley. Driveways/unclassified roads are largely found in rural areas and are 9686 km long and cover and area of 105 km². Truck trails are largely limited to Crown land in the upper portion of the watershed and make up 1,464 km and cover 9 km². There is 56 km of designated ATV trails.

Alberta Environment and Sustainable Resources Development (AESRD 2012a) summarized the thresholds at which various animals are impacted by road densities: 0.4 km/km² for grizzly bear, 1.25 km/km² for black bear and 0.62 km/km² for elk. AESRD (2012a) also summarized the relationship between road density and bull trout populations and found that moderate risk to bull trout populations occurred at densities of 0.1 - 0.2 km/km², high risk occurred at 0.2 - 0.20.6 km/km², very high risk occurred at densities of 0.6 - 1.0 km/km² and bull trout were extirpated at densities 1.0 km/km². Work conducted by the U.S. Forest Service shows that habitat effectiveness for grizzly bears, an indicator species, decreases as road densities increase. At road densities of 0.8 km road/km², habitat effectiveness is reduced to 50%; at road densities of 1.6 km road/km², habitat effectiveness is further reduced to 25%. To meet the U.S. Forest Service established management goal of maintaining habitat effectiveness in occupied grizzly bear habitat at 80%, road densities should be maintained below 0.3 km/km². Based on the literature values, road densities in the NSR watershed are high enough to have a notable an effect on each of the species described above. Road densities are low in the headwaters and increase with proximity to Edmonton. It is recognized that while there is likely little direct relationship the abundance and health of these indicator species and source water quality; however, these species are functional components of the ecosystem, and if these components have been compromised, the integrity of the watershed and its ability to perform ecosystem services (i.e., maintain water quality) has also been compromised.

Data Source: ABMI 2018



Figure 31. Roads in the NSR Watershed in 2018.

Seismic lines typically range in width from three meters (low impact) to six meters (pre-low impact). Once a seismic line revegetates, it often becomes a trail-like feature and has been categorised as such in ABMI's data layer. Based on ABMI's 2018 data, there are 34,155 km of seismic lines in the watershed, which makes up 119 km² of area. Most of the seismic lines are located between Drayton Valley and Rocky Mountain House in the upper portion of the watershed; however little seismic activity has occurred in the upper-most portion of the watershed (Figure 32).





Data Source: ABMI 2018



Pipelines

Based on the Alberta Energy Regulator's 2015 data, there are 31,953 kilometres of pipeline in the NSR watershed. Of that, 21,847 km of pipeline is considered to be operational. The highest densities are near Drayton Valley, Devon and Rocky Mountain House (Figure 33). There is 4,773 km of abandoned pipeline, 5,008 km of discontinued pipeline, 10 km of pipeline that has been removed, and, as of 2015, 314 km of pipeline that was pending construction.

The average age of the operational pipelines is just over 20 years old, although many of the pipelines established in the early 1940s and 1950s have been converted or upgraded.



Data Source: Alberta Energy Regulator 2017a Figure 33. Pipelines in the NSR Watershed in 2015 by Status.

Of operational pipelines, over half of carry natural gas (42%) or sour natural gas (10%) (Figures 34 and 35). High vapour products (HVP) comprise 4%; salt water comprises 4%; and surface and potable water comprise 3% of the pipeline length. Substances that are potentially more challenging from a water treatment perspective comprise a total of 37% of the length of pipeline in the watershed and include oil well effluent (24%), fuel gas (8%), low vapour products (1%), and crude oil (4%).



Data Source: Alberta Energy Regulator 2017a Figure 34. Operational Pipelines in the NSR Watershed by Substance Carried.



Data Source: Alberta Energy Regulator 2017a Figure 35. Percent of Total Length of Operational Pipelines in the NSR Watershed by Substance Carried.

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From the perspective of source water protection, both pipeline density, and the substance carried by pipelines is important in terms of assessing the risk to source water. Additional important considerations are the location of the pipeline relative to the mainstem and major tributaries of the NSR, and the distance from the WTP intakes. There are nearly 4,000 km of pipeline located within 250 m of the NSR mainstem and its major tributaries (Table 7). There are an estimated 380 operational pipelines that cross or intersect the mainstem and major tributaries the NSR basin upstream of Edmonton, and of these, 119 pipelines cross the NSR mainstem. Of these pipelines, 58% carry natural or sour gas, 7% carry high vapour products, and 4% carry fresh or salt water. These products are of relatively low risk to source water protection in the event of a release into the NSR. However, 11% of pipelines crossing the NSR or a major tributary carry oil-well effluent, 6% carry crude oil and 1% carry low vapour products such as diesel, which are of high risk to source water protection should a spill occur (Figure 36). The pipelines which carry crude oil are shown in Figure 37.

Substance	Description	Code	# Pipelines Crossing Major Tributary or Mainstem	# Pipelines Crossing Mainstem	Length of Pipeline within 250 m of NSR or Tributary (km)
Crude Oil	Blended Crude Bitumen, Crude Oil, Sour Crude Oil, Synthetic Crude Oil	CO	19	6	228
Fuel Gas	Fuel Gas	FG	35	5	504
Water	Potable Water, Surface Water	FW	17	14	85
High Vapour Products	Butane, Ethylene, Propane, Pentanes, Liquid Ethane	ΗV	22	8	286
Low Vapour Products	Condensate, Diesel Fuel, Gasoline, Heating Oil, Hydrocarbon Diluent, Kerosene, Solvents	LV	8	3	49
Natural Gas	Methane, Synthetic Natural Gas, Natural Gas With 10 Mol/kmol Or Less Of Hydrogen Sulfide Content	NG	146	39	1,580
Oil Well Effluent	Multiphase Fluids	OE	68	27	448
Sour Gas	Natural Gas With More Than 10 Mol/kmol Of Hydrogen Sulfide Content	SG	47	4	702
Salt Water	Salt Water	SW	18	13	71
Total			380	119	3,953

Table 7. Pipelines in the NSR watershed as a function of location to the NSR mainstem and major tributaries.

Data Source: Alberta Energy Regulator 2017a



Data Source: Alberta Energy Regulator 2017a

Figure 36. Materials Transported by Pipelines Within 250 Meters of the NSR Mainstem and its Major Tributaries in 2015.



Data Source: Alberta Energy Regulator 2017a Figure 37. Operational Crude Oil Pipelines in the NSR Watershed.

There are 204 companies who share ownership of pipelines in the watershed. The highest percent ownership is at 8% and is shared by Penn West and ARC Resources (Figure 38). Of the companies operating in the watershed, 64 operate pipelines that cross the NSR mainstem and its major tributaries. Of those, crude is transported only by Kinder Morgan, New Star Energy Ltd., Pembina Pipeline Corporation, and Plains Midstream Canada UCL (Figure 37).



Figure 38. Ownership of Operational Pipelines in the NSR Watershed.

The Alberta Energy Regulator works to ensure that the design, construction, operation and maintenance of pipelines complies with Alberta's *Pipeline Act, Pipeline Regulation*, and applicable Canadian Standards Association standards. The Alberta Energy Regulator's pipeline inspection program considers the potential risks of individual pipelines such as the products, location, size, failure history and operator's compliance history. Pipelines that have greater potential risks, such as those that are near waterbodies, or have a poor compliance history, receive greater scrutiny (Alberta Energy Regulator, 2017b).

Due to the large number of oil and gas facilities and pipelines located in the NSR basin, the likelihood and consequence of a spill / release to the environment was determined to have an

inherent medium-high risk to Edmonton's drinking water system (see Section 3.5). Given that many of the pipelines are located a considerable distance upstream, advanced warning is anticipated to occur before the spill reaches the WTP intakes. However, the Kinder Morgan / TransMountain Pipeline crosses the NSR approximately 9 km upstream of the Rossdale WTP, and a spill would reach the intake in under two hours. The responsibility to notify downstream users of a spill belongs to the responsible party; however, depending on the nature and timing of the event, EPCOR's WTPs could be notified by the Alberta Energy Regulator, Alberta Environment and Parks or the Alberta Emergency Management Agency. EPCOR is engaged in conversations with industry and regulators to ensure that EPCOR's WTPs are promptly notified in the event of a spill.

EPCOR can implement a number of control measures in the event of a spill including monitoring on the NSR and at the WTP intakes and shutting off raw water intakes until the spill has passed. Additionally, depending on the product spilled and how it mixes in the NSR, the product may not enter the submerged WTP intakes. Lastly, the two WTPs may be able to fully remove all contaminants and continue to produce safe drinking water. These control measures were determined to reduce the inherent risk and result in a medium-low residual risk (see Section 3.5). Although there is a low likelihood of a significant oil pipeline spill reaching EPCOR's WTP intakes, the consequence could be high, as it could result in the shut-down of the WTP intakes for several months. Communities on the NSR in Saskatchewan, downstream of Edmonton, were forced to shut off their intakes and find alternate sources of water after the Husky Energy pipeline spill into the NSR in Saskatchewan in July 2016.

Well Sites

As of 2018 there were 9,710 active wells whereas in 2014 there were 9,992 active wells sites comprising an area of 137 km². Of these approximately 50% were oil wells and 30% were gas wells and the remaining wells were cased or other types of wells. Additionally, there were 5,800 abandoned well sites comprising an area of approximately 74 km² in the watershed. Most of the active well sites were located near Drayton Valley; however, most of the abandoned well sites were drilled in the 1940s. The average age of oil wells was 1981 whereas the average age of gas wells was 1996.

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Data Source: AMBI 2018

Figure 39. Map of Well Sites in the NSR Watershed in 2018.

Railways

There are relatively few railways in the NSR watershed. There are only two rail crossings of the NSR, and both are located near Rocky Mountain House (Figure 40). There are also railways located near Lake Wabamun, and a railway crosses several tributaries of the NSR a short distance upstream of Edmonton.



Data Source: ABMI 2018



Mines (Coal, Gravel)

There is currently relatively little coal mining activity in the NSR watershed; 54 km² of the watershed categorized as coal mine and 26.9 km² is categorized as open coal pit mine (0.3% of watershed). Coal mining is currently limited to the Wabamun Area and drains into Wabamun Lake or pit lakes (1.5 km²) (Figure 41). Wabamun Lake connects to the NSR through Wabamun Creek; however, because of a weir at the outlet, water from Wabamun Lake does not overflow into the creek very often.



Data Source: GoA 2020 Figure 41. Map of Coal Mines, Agreements, and Active Mines in the NSR Watershed.

Coal mine development in Alberta is guided by the Coal Policy which was originally published in 1976. The scope of the policy was wide-ranging and included a land use classification system divided the Rocky Mountains and Foothills in Alberta into four main categories. The categories dictate where and how coal leasing, exploration and development can occur. There is no mining or exploration allowed in category 1 lands which generally includes National and Provincial Parks and other protected areas. Surface mining is generally not permitted on category 2 lands, which included parts of the Rocky Mountains and the Foothills, and exploration and underground development is limited. Exploration is allowed on lands listed as category 3 under the normal process, but development in these areas is still somewhat restricted. Category 4 lands within the NSR watershed. The Coal Policy was rescinded in July of 2020 and was cited by the Government of Alberta as being obsolete. In this period, restrictions on category 2 and 3 lands were removed whereas protection of category 1 lands remained. Due to public outcry, the Coal Policy was reinstated on Feb 8th, 2021 shortly before publication of this SWPP. It is

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expected the current Coal Policy will be reviewed in the coming years and replaced with a new policy. The City of Edmonton and EPCOR are working together to complete and publish a more detailed risk assessment on the potential effects of coal mining in 2021. EPCOR has also completed a detailed risk assessment and literature review that outlines potential effects to aquatic ecosystems, source water, and other water uses and that work informs this SWPP. The assessment here is limited only to drinking water source risks at Edmonton and does not include other risks or locations (i.e., aquatic health/headwaters areas).

Although the active mine area is currently small, there are coal deposits, coal fields, and associated coal agreements that have not yet been developed. Specifically, there are 1,510 km² (just over 5% of watershed) of coal agreements in place that are all located in Category 2 in areas categorized as high-volatile bituminous coal (Figure 41). Of the remaining agreements, 327 km² is under the normal Approval process and 15 km² is under category 3. Coal agreements are leases issued by the Government of Alberta that give the holder the exclusive right to recover coal within these areas and allows exploration to proceed with a permit. In 2019-2020 seven exploration permits were granted for approximately 320 km² total area. However, a coal agreement does not grant permission to develop a mine. In order to develop a mine, the holder of a coal agreement requires a mine permit and a mine licence from the Alberta Energy Regulator (AER). Under the Environmental Protection and Enhancement Act (EPEA), an environmental impact assessment (EIA) would be required, which allows the AER to examine the effects that the proposed project may have on the environment, and determine if the project is in the public interest. An approval issued by the AER under EPEA outlines the obligations and responsibilities for design, construction, operation and reclamation of the coal mine. Following the completion of mining activities, reclamation certificates issued under EPEA certify that all reclamation requirements have been met and that companies have done everything they can to return land to a state functionally equivalent to what was there before development took place. It is not clear if, under new regulations, if coal mining would be economically feasible for any areas in the NSR basin. However, there have been no new mining licence applications in the NSR basin since the 1976 Coal Policy was rescinded and now reinstated, and to EPCOR's knowledge, there are no new project pending.

While open pit or surface coal mines have the potential to affect water quality and quantity in a number of ways, the impacts to drinking water quality in Edmonton are expected to be minimal due to the relatively small footprint (<5% of the watershed) and the dilution capacity of the NSR. This does not mean that coal mine impacts are not important for streams in the headwaters of the North Saskatchewan River in terms of water quality and aquatic ecosystem health, just that from an Edmonton drinking water perspective, source water quality is not expected to change in a significant way. That said, due to emerging science of selenium fate and transport and long-term mining effects that can be set in motion by the physical alteration of the headwater areas with low remediation potential, it is critical that modelling assessments be completed before any mining activity is permitted. This is particularly true at a watershed scale where the cumulative effects of mining need to be considered.

The removal of surface vegetation and construction of roads have the potential to increase erosion, and therefore increase suspended solids, turbidity and the volume of runoff. Mine

waste can also result in acidification, elevated metals and total dissolved solids. However, coal mines would require Environmental Assessments and Aquatic Effects Monitoring programs required by the AER and AEP under *EPEA*, which are designed to limit downstream impacts to water quality. Mines would presumably install tailings dams/ponds in order to capture flows and reduce suspended solids and metals. With these control measures in place, it is assumed that impacts to water quality will be relatively small and localized. Given the anticipated government requirements, the distance downstream of EPCOR's WTPs, the assimilative capacity and existing water quality of the NSR, again it is anticipated that the impacts to water quality in Edmonton would be negligible from a drinking water perspective.

Selenium is a parameter of concern that has been associated with coal mining effects globally and in Alberta's mountain regions. From a drinking water treatment perspective it anticipated to have a negligible effect; background levels in the NSR are very low (<0.5 µg/L) and two orders of magnitude lower that current Health Canada Guidelines (50 µg/L). Selenium is an essential element for humans and other organisms, but can be toxic in elevated concentrations, and it can bio-accumulate within tissues and result in decreased fish reproduction and viability. Elevated selenium has been well documented downstream for open pit coal mines in the Rocky Mountains. For example Luscar Creek and Gregg River, which are directly downstream of mining activities, have average concentrations of 17 μ g/L (<2 μ g/L upstream) 7 μ g/L (upstream) <1 µg/L), respectively. When rocks that are high in selenium are brought the surface, runoff can enter downstream waterbodies leading to impacts in aquatic life. Alberta Environment and Parks' water quality guideline is 2 µg/L for selenium for the protection of aquatic life, and there is an additional 'alert concentration' of 1 µg/L. The alert concentration indicates the need for increased water quality and aquatic ecosystem monitoring to support early detection of potential bioaccumulation of selenium. It would be expected that new coal mines would be expected to meet these guidelines, particularly considering that once selenium rich rock is exposed, remediation is very costly and difficult.

EPCOR monitors selenium in the NSR at the WTP intakes monthly, and concentrations are very low and far below guidelines. At the E.L. Smith WTP, 60% of samples have been at or below the detection limit of 0.2 μ g/L, and the highest recorded concentration was 0.5 μ g/L, 100 times below the drinking water quality guideline. Similar results were found at AEP's sampling at Devon, where 82% of samples were at or below 0.2 µg/L; however, elevated selenium (i.e. 1.2 to 6 µg/L) was detected in three samples during the 1990s. The low concentrations of selenium in the NSR, the large assimilative capacity of the river in Edmonton, robust water treatment, and the high drinking water guideline compared to protection of aquatic life guidelines, means that increases in selenium and impacts to drinking water are not expected in Edmonton. However should any coal mining be approved it would be recommended that a cumulative modelling approach be taken where rates of selenium loading be quantified on a watershed scale (with all potential mines included). Specifically, a calibrated and validated water quality model that includes selenium geochemical processes and quantifies expected concentration changes in relation to protection of aquatic life guidelines should be developed. Again, this is because once disturbance occurs it is very difficult to mitigate and effects on water quality and subsequently fish and overall aquatic ecosystem health.

The largest risk from an open-pit coal mine to Edmonton's drinking water source water is the possibility of a mine disaster such as the failure of a tailings dam. Waste pits, end-pit lakes, and tailings dams are structures utilized to retain runoff and/or wastewater from mine operations. The volumes contained within these structures can be large, and typically are high in solids, metals and other parameters. In 2013, a tailings dam at the Obed Mountain coal mine near Hinton AB failed, releasing over 1 million cubic meters of waste water elevated in arsenic, metals and PAHs into the Athabasca River. In 2014, a tailings dam at the Mount Poly gold and copper mine (not a coal mine) in B.C. failed, releasing 24 million cubic meters of mine waste into Quesnel Lake. While the failure of tailings dams are rare occurrences, they can have an extreme impact to downstream water quality. Without a specific details of a proposed mine or tailings pond, it is not possible to make a definitive statement regarding the potential impacts of the failure of a tailings dam on the water guality in Edmonton; however, such a release would be likely a significant event and could require the WTPs to close their intakes. It is impossible to estimate how long water guality in the NSR would remain impacted following a mine disaster: however, water quality could remain significantly impaired for a number of days. Potential impacts of having to shut down the WTPs for an extended period could include implementing demand management, boil water advisories, or do-not-consume advisories.

Peat mining is the next largest mining activity, by area, in the watershed. Like active coal mines, peat mining is also limited to the upland areas away from direct drainage into the NSR, and comprises 13 km² of the watershed. Due to the small area of peat mining and the location in the watershed, water quality impacts from this activity are expected to be negligible.

Gravel mining consists of only 10 km² of the watershed but is largely located along the mainstem of the NSR. In fact, 60% of the gravel mining area is within 500 meters of the NSR mainstem (Figure 42). There are 194 gravel pit extraction areas along the NSR, mostly clustered near the town of Tomahawk (south of Wabamun Lake) and near Rocky Mountain House. Since 2000, 6 km² of new gravel pits were dug in 106 new pits. The new pits were typically dug next to existing pits. Parts of the NSR riverbed is gravel-bed with significant near-surface sand and gravel deposits. As these deposits are typically connected to surface water features, including key tributaries and the river's mainstem, gravel extraction can be of concern due to the potential impact to the aquifer and increase of sediment entering the river. In 2016, the Government of Alberta's started a review of the sand and gravel program to address growing public concern over impacts to waterbodies.



Data Source: GoA 2020

Figure 42. Map of Gravel Pits Along the Mainstem NSR South of Wabamun Lake.

3.2.10 Forestry

The majority of the forestry activity in the North Saskatchewan River watershed is located in the upper watershed (Figure 43). The forest is a mix of coniferous and some stands of mature deciduous forest. These forests are critical to source water quantity and quality in the watershed, and the loss of forest and perennial vegetation can affect watershed hydrology. Land disturbances due to loss of forests and uncontrolled access have the potential to cause significant land erosion, leading to increased amounts of sediment, organic material and nutrients entering the NSR and its tributaries. These events could cause challenges for EPCOR's WTPs, particularly during spring runoff and/or heavy rainfall events.



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Data Source: GoA 2020
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Figure 43. Forest Management Areas in the NSR Watershed.

The headwaters of the NSR are located in the Green Area, which is primarily publicly owned Crown land where resources are managed for forestry, watershed protection, biodiversity, tourism and recreation, fish and wildlife, oil and gas development, and conservation. Much of the Green Area is divided among various Forest Management Units (FMUs), which are administered by the Province. Within each FMU there are several Forest Management Areas (FMAs), which are managed using Forest Management Agreements and Plans that are written by forestry companies who operate within the FMA. The total area held by FMAs in the NSR watershed is 10,018 km² or 36% of the watershed. The largest FMA in the watershed is held by Sundre Forest Industries (16% of the watershed) followed by Weyerhaeuser (14%), Sundance (5%) and West Fraser Mills (1%). As part of each of the company's forest management plan, they must demonstrate that they consider the effect of harvesting on environmental aspects of the watershed including water quality and biodiversity.

Sundre Forest Products: FMA is 16% of the watershed. They harvest in the headwaters including the NSR mainstem, Ram and Clearwater watersheds. They have a comprehensive mountain pine beetle plan which includes targeting the most susceptible stands of pine for harvest.

Weyerhaeueser: FMA is 14% of the watershed. Their FMP has a detailed plan to address mountain pine beetle; an Eastern Slope Integrated Plan that outlines critical wildlife areas; and goals to maintain integrity of watersheds.

Sundance Forest Industries: FMA is 5% of the watershed. They harvest mostly in the Brazeau and Nordegg watersheds, was the first company in Alberta certified under the American Forest and Paper Association's Sustainable Forestry Initiative (SFI) Program.

West Fraser Mills Ltd.: FMA is 1% of the watershed.

Harvesting and the regeneration practices are important, as these activities ensure that the forest industry that Alberta and Canada's forested watersheds remain healthy and sustainable. The Government of Alberta regulates harvest levels by specifying an allowable annual cut (AAC), which is the annual level of harvest allowed in a forest area over five years to ensure long term sustainability. The Government of Alberta approves AACs which vary over time and reflect the area available for harvest and the forest management strategies applied to that area. AACs are updated due to changes in forest growth and yield data, the area available for timber harvest (may change to land use designations such as parks), FMA boundaries, statistical analysis methods, wildfire and pest/disease infestations, and provincial management strategies. AACs are approved separately for coniferous (*e.g.*, lodgepole pine or white spruce) and deciduous (*e.g.*, trembling aspen) groups. In Alberta, AACs are set for Forest Management Units (FMUs).

Provincially, actual harvest levels have generally fallen below the AAC level because of market conditions or business decisions. Specifically, from 2009 to 2013 only 77% of the AAC of coniferous and 50% of deciduous was harvested.

In the NSR watershed clearcutting is the primary method for harvesting timber. For example, in 2018 all timber harvesting consisted of clear cutting. All areas of provincial Crown land that are harvested for timber are required to be regenerated. Regeneration can occur naturally (i.e., natural seeding, root sprouting and fire) or by using artificial (direct seeding and seedling planting) means; in general, in Alberta has is an equal split between the two regeneration methods. Successful regeneration of harvested areas ensures that forest lands continue to produce timber, but also continue to provide key ecosystem services, such as storing carbon, regulating water quality and quantity, and providing wildlife habitat and recreation opportunities. Standards and regulations for achieving successful regeneration address the following: species composition, density and distribution; age and height of the regenerating trees; and the distribution of various forest types and age classes across the landscape.

The provincial government also monitors compliance of forest operations and timber production through audits, field inspections, as well as mandatory self-reporting by forest companies and

individuals. In 2008 a new forestry inspection program called Forest Operations Monitoring Program (FOMP) was introduced to help complement existing initiatives. Compliance is considered very high for the province and forested enforcement actions have shown a steady decrease from 90 enforcement actions in 2008, to 20 in 2015 (Alberta Agriculture and Forestry 2017). This decrease is determined to be the result of greater awareness of legislative requirements as a result of FOMP. A total of 2,600 FOMP inspections were conducted in 2015.

Harvesting Rates

Forestry harvest rates in the NSR were assessed using ABMI's cutblock data. A cutblock is defined as areas where forestry operations have occurred (clearcut, selective harvest, salvage logging, etc.). Less than 1% of the total watershed and less than 2% of the FMA area was harvested each decade from 1920s through the 1980s (Figures 44 and 45). However, forest harvesting rates have increased since the 1980s. In the 1990s, a total of 1.8% of the watershed and 5.0% of the FMA area was harvested. In the 2000s, a total of 2.1% of the watershed and 6.0% of the FMA area was harvested. From 2010 to 2018 an additional 2.5% of the watershed and 7.1% of the FMA area was harvested.

From 1989 to 2018 (30 years) a total of 6.5% of the watershed and 18.2% of the FMA area has been harvested for timber. Annual rates of harvest vary from year to year but in the last 30 years an average of 61 km² or 0.22% of watershed and 0.6% of the FMA per year was harvested for timber. This results in about a 6% harvest rate per decade of the FMA area. While it is known that forest harvesting activities can have negative effects on downstream water quality; most of the research appears to be focused on the effects measured at small subwatershed scales. Current research is suggesting that contemporary harvesting practices can result minimal increases of sediment, nutrients and organic material to downstream waterbodies compared to harvesting practices used 20 – 40 years ago (Silins et al. 2020). Further, the impacts from harvesting practices are small compared natural disturbances such as floods and wildfires. EPCOR is financially supporting the *for*Water Network which is conducting research on how forest management practices and events such climate change and forest fires will impact water quality and water treatability of source water at downstream WTPs.



Data Source: AMBI 2020 Figure 44. Map of Harvested Areas in the NSR Watershed by Decade (Last Decade: 2010-2018).



Figure 45. Total Harvested Area in the NSR Watershed by Decade.

3.2.11 Wildlife

The vast forest and steep canyon walls of the NSR headwaters area provides important winter habitat for bighorn sheep and elk. A diversity of other mammalian wildlife is found within the watershed, including coyote, beaver, muskrat, cougar, moose, deer, bear and other small mammals. It should be noted that wildlife, such as beaver, muskrats and coyotes, have partially contributed to parasites in the watershed. Contamination of farm dugouts is a potential risk to human health, therefore removal of wildlife from domestic and animal water supplies such as dugouts would reduce the risk to human health (CABIDF 2002).

The mainstem of the NSR also has many species of fish and contains a higher diversity of fish species than any other waterbody in the province. Fish species in the NSR system from its headwaters to the Saskatchewan border include: Lake Sturgeon, Goldeye, Mooneye, Lake Chub, Pearl Dace, Emerald Shiner, River Shiner, Spottail Shiner, Northern Redbelly Dace, Finescale Dace, Fathead Minnow, Flathead Chub, Longnose Dace, Quillback, Longnose Sucker, White Sucker, Mountain Sucker, Silver Redhorse, Shorthead Redhorse, Northern Pike, Mountain Whitefish, Cutthroat Trout, Rainbow Trout, Brown Trout, Bull Trout, Eastern Brook Trout, Trout-Perch, Burbot, Brook Stickleback, Spoonhead Sculpin, Iowa Darter, Sauger and Walleye. Of particular note is Lake Sturgeon, which is often referred to as a 'living dinosaur' because of its bony plates and leather like tissue rather than the scales that cover most other fish. The population in the North Saskatchewan system is in a vulnerable state, consisting of possibly fewer than 1000 fish (Alberta Lake Sturgeon Recovery Team 2011). For that reason it is classified as Threatened under Alberta's Wildlife Act.



3.3 Water Quality and Quantity

An integral part of EPCOR's Watershed Protection Program includes gathering scientific data to assess source water quality and quantity, fostering collaborative long-term monitoring programs to evaluate source waters and effluent impacts, and participating in research partnerships to understand evolving contaminants of concern. This work also includes



investigating linkages between water quality and quantity and environmental influences (land use, climate change, etc.), as well as evaluating water quality in both the mainstem NSR and its tributaries. EPCOR's involvement with monitoring is accomplished through partnerships with either provincial and/or federal agencies, Watershed Planning and Advisory Councils, stewardship groups, municipalities, as well as through independent EPCOR initiatives. The following sections describe historical and current water quality monitoring programs in the mainstem NSR and its tributaries.

North Saskatchewan River Upstream of Edmonton

3.3.1 North Saskatchewan River Mainstem Water Quality

Historical Water Quality

Water quality monitoring in the NSR was first initiated in the 1940s in response to pollution problems associated with the City of Edmonton. At that time, municipal wastewater, which included domestic sewage and industrial wastes, received only primary treatment. Untreated sewage was discharged directly into the river during rainfall events, garbage was disposed along the river bank, and accidental oil spills at industrial sites were not uncommon. Additionally, the population of Edmonton almost doubled in the 1950s, and many new industrial plants were constructed. With these pressures, it is not surprising that the first report on water quality in 1951 noted elevated bacterial levels, extremely low dissolved oxygen levels, odour problems, visible garbage, grease deposits and oil. Measurements of these basic water quality parameters resulted in pollution control orders to be issued to Edmonton by the Provincial Board of Health in the 1950's.

Water quality conditions persisted until about 1960 when Edmonton constructed a secondary sewage treatment plant, packing plant wastes were diverted to lagoons, and garbage disposal along the riverbank was discontinued. Additionally, the newly constructed Brazeau dam increased winter flows and assimilation capacity during this critical time. Despite improvements, water quality downstream of the City of Edmonton continued to reflect the impacts of Edmonton's municipal wastewater. Further improvements to water quality in the NSR



accompanied upgrades in treating municipal wastewater, including biological nutrient removal and ultraviolet treatment between 1998 - 2005 at the Gold Bar Wastewater Treatment Plant, and in 2005 at the Alberta Capital Region Wastewater Treatment Plant. The Gold Bar WWTP utilizes Enhanced Primary Treatment reduces the amount of untreated overflow that enters the NSR during wet weather flows.

Alberta Environment and Parks (AEP)

Long-term sampling of the NSR by AEP is part of the Long-Term River Network Project (LTRN). Sites are located at Saunders Campground (near Nordegg), Rocky Mountain House, Devon, and Pakan. Monthly sampling was done independent of flow conditions, which limits the ability to calculate loads accurately. To address this limitation, the LTRN sites underwent enhanced sampling between 2008 and 2012, with a focus on higher flow events. LTRN data is from Devon and Pakan from 1987 to present. LTRN sites were established at Rocky Mountain House and Saunder's Compground in 2003 and 2015, respectively. In 2009, the LTRN at Rocky Mountain House moved a few kilometers upstream to be located upstream of the influence of the Clearwater River. LTRN data are used to evaluate long-term trends in water guality and AEP produces updated trend-analysis reports. The most recent report was completed in 2012 for data collected from 1987 to 2011. Anderson (2012) concludes that water quality downstream of Edmonton has shown marked improvement with respect to nutrient levels and bacteria, and these improvements coincide with enhanced wastewater treatment and reductions in loadings from point sources. Additionally, lower nutrient concentrations and smaller releases of oxygenconsuming material have resulted in improved dissolved oxygen concentrations in NSR downstream of Edmonton. Water quality also improved between 1987 and 2011 at Devon, but the improvements were smaller than those downstream of Edmonton, presumably due to the existing good water quality upstream of Edmonton, and smaller point sources of loading located upstream.

Beyond the LTRN program, AEP has collected water quality data at a number of locations in the NSR dating back to 1953. While this data is available electronically, much of it was collected prior to the establishment of the upstream dams, or was collected over a relatively short period of time. AEP also completed two synoptic water quality monitoring studies on the NSR mainstem and major tributaries. Synoptic sampling involves following a plug of water down the river over a time period to quantify changes due to tributary and point source inputs. These particular studies followed the plug of water as it moved from the NSR headwaters down to the border with Saskatchewan. A total of 17 mainstem sites were sampled. The first study occurred between 1985 and 1989, included 12 synoptic sampling events. The second study, which occurred in 2008 and 2012, included six synoptic sampling events.

The synoptic surveys included the following water quality parameters: routine water chemistry; coliforms; *Cryptosporidium*; *Giardia*; metals; organics; bacterial source tracking; biological aquatic ecosystem health indicators (planktonic and benthic algae); pesticides; and nutrients. EPCOR partnered with AEP on this initiative in 2008 and 2012 to complete *Cryptosporidium* and *Giardia* analysis, which otherwise would not have been done. A summary report of the



2008 and 2012 synoptic surveys was completed by Hutchinson (2014). Conclusions made in this report include:

- The NSR naturally increases in nutrients, turbidity and some metals as the river flows from the mountains to the prairies;
- Increased nutrients are found downstream of Edmonton, but the magnitude of this effect has declined considerably since the 1980s in response to upgrades at the waste water treatment plants;
- Periods of increased flow in the NSR correspond to increased concentrations of nutrients, turbidity, metals, bacteria and pathogens both upstream and downstream of Edmonton; and
- Runoff events result in discharges from Combined Sewer Overflows in Edmonton and bypasses at the Gold Bar Waste Water Treatment Plant, resulting in large increases in bacteria downstream of Edmonton.

Environment Canada

Environment Canada operates two water quality monitoring stations on the NSR: one at Whirlpool Point in the headwaters, and the other at the Alberta-Saskatchewan Border (Prairie Provinces Water Board [PPWB] site). Data are available from the early 1980s on, and sites are sampled monthly for a similar suite of parameters as at the LTRN sites. Data from these sites were used by the North Saskatchewan Watershed Alliance to propose site-specific water quality objectives for the NSR. In addition, the PPWB is required to monitor the quality of the aquatic environment, make comparisons with the PPWB water quality objectives and provide written reports on the quality of water in these interprovincial river reaches. The PPWB is comprised of representatives from the Governments of Alberta, Saskatchewan, Manitoba and Canada. The PPWB conducted a trend analysis on water quality data in the North Saskatchewan River collected at the Alberta/Saskatchewan border from 1988 to 2008 (PPWB 2016). Their analysis showed that nutrients in the NSR have declined since 1988, likely as a direct response to improvements made at the Gold Bar Wastewater Treatment Plant. The trends for total dissolved phosphorus and total nitrogen are shown in Figures 46 and 47. Dissolved oxygen and total suspended solids showed no significant trend over the monitored period. Concentrations of metals either showed decreasing trends or no significant difference. Overall, the trends suggest that water quality in the NSR at the Alberta/Saskatchewan border has improved since 1988.



Figure 46. Trend in Total Dissolved Phosphorus in the NSR at the Alberta/Saskatchewan Border between 1988 and 2008 (From PPWB 2016).



Figure 47. Trend in Total Nitrogen in the NSR at the Alberta/Saskatchewan Border between 1993 and 2008 (From PPWB 2016).

EPCOR WTPs

Since the early 1980s, EPCOR has routinely monitored water quality in the NSR at the Rossdale and E. L. Smith Water Treatment Plants (WTP) raw water intakes. Digitized data for major parameters are available from 1995 to present, with a smaller number of parameters being available back to 1981. The frequency of monitoring is dependent on the parameter. Turbidity, colour, conductivity, pH, and temperature, are measured continuously through online analyzers. Ammonia is also monitored using online analyzers during key periods such as spring-off. VOC analyzers are also being installed. Due to their operational importance, colour, turbidity and VOCs are measured daily, or more frequently, using on-site laboratories. Bacteria such as total coliforms and *E. coli* are measured daily at Rossdale and weekly at E.L. Smith. Cryptosporidium and Giardia are generally measured weekly to monthly, depending on the plant and time of the year. Microcystin, an algal toxin, is measured monthly. Nitrate and ammonia, chloride, bromide, bromate, sulphate, alkalinity, total organic carbon and fluoride are measured weekly, or more frequently during key periods. Total and dissolved phosphorus, total Kjeldahl nitrogen, select metals, total suspended solids, total dissolved solids (TDS), total and free chlorine, and sulfide are measured monthly. Pharmaceuticals, pesticides and contaminants of emerging concern such as polycyclic aromatic hydrocarbons (PAHs) and perfluoroalkylated substances (PFAS) are measured four times per year.

A summary of EPCOR's intake water quality for key parameters is found below. For simplicity, this report is limited to turbidity, colour, pathogens and select pharmaceuticals and pesticides and contaminants of emerging concern as they are key parameters of concern for drinking water treatment.

- Turbidity is a measure of cloudiness in water and is also can be used as a proxy for sediment levels. Increased turbidity can be caused by soil erosion, stormwater, runoff from disturbed landscapes, and algal growth, to name a few. High sediment can increase the costs of water treatment.
- Colour in water can be an indicator of the extent of plant matter decay, other organic matter, algae growth, and minerals (i.e., iron or manganese). The impact that colour has on surface water is usually one of aesthetics, however it may also be an indication of toxicity or the presence of pathogens. Colour is also associated with taste and odour concerns in drinking water. High colour can challenge a WTP's ability to produce drinking water and also increases the cost of water treatment.
- *Cryptosporidium* and *Giardia* species are protozoan parasites that cause gastrointestinal illness and infect mammals. In humans, the main causes of disease are *C. parvum*, *C. hominis* and *G. lamblia*. Along with indicating a direct risk of human infection, its presence indicates that the water is contaminated by fecal matter.

Mainstem Water Quality Intake Data Summary



Turbidity

Median annual turbidity is slightly higher in the NSR at the Rossdale WTP intake compared to the E. L. Smith WTP intake. While this difference is statistically significant, turbidity is only 4% higher at Rossdale. This difference is likely attributable to increased inputs from tributaries and storm runoff within Edmonton. Due to the similarity of turbidity values and seasonal patterns between E. L. Smith and Rossdale WTP, data is only presented for the Rossdale WTP.

Although there is year to year variability, neither median nor peak sediment levels (as measured by turbidity) have changed significantly in the NSR in the last 20 years (Figure 48). Thus, there is no evidence that the river is experiencing increased loads or concentrations of sediment. Sediment concentrations in the river are closely associated with higher flows, both as a function of re-suspension of bed sediments and increased sediment inputs from the watershed during runoff periods. In years where average precipitation and river flow are higher, average sediment concentrations in the river is also higher. On a smaller timescale, sediment concentrations in the river are also highest during peak flow/runoff events (Figure 49). Because the occurrence of high sediment concentrations in the NSR are dependent on hydro-climatic patterns, it is not predictable from year to year. For example, in 2016 sediment peaked in April due to spring runoff, and again in late July and late August corresponding to large amounts of precipitation

and flow; however, values were atypically low during the late spring and summer due to a period of dry conditions and low flows. Typically, peaks in turbidity occur in mid-April, corresponding to spring runoff and again in June and July, corresponding with large precipitation events. In general, turbidity will rise above 100 NTU during spring runoff and during three to four storms throughout the year.

Sediment concentrations in the NSR are highest during spring runoff, often occurring in April and during summer storms because of increased runoff from the watershed and re-suspension or erosion of the river bed and shore.

Climate change is expected to both increase and decrease turbidity in the NSR. Climate models generally predict increases in precipitation, particularly through more frequent and intense storm events, which will increase both runoff and erosion, resulting in increased turbidity. Increased flows in the NSR will also result in increased resuspension of solids and increased bank erosion. In contrast, climate models also predict periods of drier conditions and decreased flows in the NSR, particularly in the late summer and fall, which will result in extended periods of lower turbidity.

Elevated turbidity typically does not cause operational challenges for EPCOR's WTPs, which are capable of treating highly turbid water; however, elevated turbidity does require additional alum and increased operation costs. Low turbidity in the NSR is required by the WTPs in order to convert to direct filtration, a mode of operation that the WTPs enter each fall/winter that requires less treatment and therefore lower operational costs. The conversion of the WTPs to



direct filtration has typically not be hindered by turbidity, but rather colour, which is discussed below.

Daily mean turbidity values over 100 NTU occur around 7% of the time, whereas 77% of the time daily mean values are below 20 NTU. Turbidity values in the NSR over 1,000 NTU occur less than 0.5% of the time; however, these periods can present difficulties for water treatment plant operation. From a WTP operation perspective, understanding the probabilities around turbidity values on a week-by-week basis is of value. For example, before the beginning of March (week 10) daily mean turbidity is below 10 NTU 90% of the time based on historical data (Figure 50). By early April (week 14), turbidity is below 10 NTU less than 50% of the time and below 100 NTU 90% of the time. This information allows EPCOR to adapt its treatment processes to changing river quality in a timely manner.



Figure 48. Turbidity at Rossdale WTP Intake 1997 to 2020 Showing Minimum, First Quartile, Median, Third Quartile, and Maximum Values, and Total Annual Flow in the NSR.


Figure 49. Daily Mean Turbidity at Rossdale WTP Intake Average from 1997 to 2020 and Select Years (2005, 2007, 2017, 2018 and 2019).



Figure 50. Turbidity at Rossdale WTP Intake for 1997 to 2020 Compiled by Week of the Year.

Colour

Similar to turbidity, median annual colour is slightly higher in the NSR at the Rossdale WTP intake compared to the E. L. Smith WTP intake. While this difference between the two WTPs is statistically significant, colour is only 3% higher at Rossdale. The higher colour values at Rossdale are likely attributable to increased inputs from tributaries and storm runoff within Edmonton.

Colour is a key parameter that can affect the ability and the costs of WTPs to produce drinking water. Each spring, elevated colour requires that the WTPs dose powdered activated carbon as part of the treatment process, resulting in increased operational costs. High colour events associated with summer precipitation events have also required the WTPs to dose powdered activated carbon. Colour is typically the key variable in determining when WTPs can convert to direct filtration, a mode of operation that the WTPs enter each fall/winter that requires less treatment and therefore lower operational costs. In some years, elevated colour in the fall has significantly delayed the conversion to direct filtration. Elevated colour during the winter months or early spring has also caused the WTPs to convert back to conventional operation prematurely.

Average annual colour is variable from year to year and there is no long-term trend (Figure 51). Colour values are highest during years of higher river flow and precipitation due to larger loads from the watershed. Similar to turbidity, mean colour is highest in months when flow is greater, but overall, is highest during the spring runoff period (April and May) rather than during summer storms (Figure 52). This is due, in part, to increased inputs of particulate and organic matter from spring melt which has accumulated over the winter months. This accumulation includes manure that has amassed in livestock winter feeding areas.

While there is no long-term trend for colour, there have been a number of instances in recent years where elevated colour has resulted in operational challenges at the WTPs. In 2016, a large precipitation event in late August resulted in a large spike in colour up to 200 TCU, which is the highest value measured at the WTPs. This large increase in colour affected the ability of the WTPs to produce drinking water of sufficient quality, and production could not keep up with the demand and voluntary water restrictions were put in to place. Colour in the NSR quickly dropped and the WTPs were able to resume drinking water production. Colour continued to remain elevated into the fall and winter of 2016, at levels not previously recorded. This elevated colour significantly delayed the WTPs from switching production to direct filtration, which typically occurs in late fall or early winter when colour and turbidity values in the NSR are typically low. An early melt in February 2017 resulted in elevated colour and required the WTPs to prematurely stop direct filtration. Large precipitation events in July 2019 resulted in the second largest colour peak recorded. Elevated colour has also been observed during the late fall and winter in the past several years, and has resulted in challenges for the WTPs to remain in direct filtration. The instances of elevated colour in recent years are likely due to the cyclical patterns of elevated precipitation, but could be indicative of a larger trend.

Climate change is expected to have a variety of effects on colour in the NSR. Longer growing seasons and increased decomposition of organic material in soils is anticipated to result in

increased export of colour (Ritson et al. 2014). Increased precipitation, particularly through more frequent and intense storm events will increase runoff and loading of colour in the NSR. Periods of droughts or dry conditions will result in reduced runoff and colour; however, Ritson et al. 2014 observed that large flushes of colour occur following the first rainfall after a period of prolonged dry conditions, which may have occurred during the high colour event in 2016.

Mean daily colour values over 15 TCU (which is the Canadian Drinking Water Quality Guideline aesthetic objective for treated water) occurred around 20% of the time since 1997, at both plant intakes. The timing of high colour in the NSR is important from a treatment perspective as it is linked to taste and odour concerns, which require the addition of carbon to remove. Using historical data, the probabilities of colour by week has been compiled (Figure 53). This data shows that, for example, by the beginning of March (week 10), colour is below 10 TCU over 90% of the time, but by early April (week 14), there is 50% chance that colour will be above 10 TCU and a 10% chance it will be above 40 TCU. Again, predicting the timing of colour spikes in the NSR is difficult as it is driven by hydroclimatic and runoff patterns, which are difficult to model and predict on a watershed scale. However, historical data can provide some insight into the most likely periods in which colour will be high in the NSR.

EPCOR is highly interested in being able to predict the timing and magnitude of increases of colour due to the impact to WTP operation. It is known that colour increases shortly after creeks such as Modeste, Strawberry, Weed and Conjuring open in the spring and begin loading colour to the NSR. Historically, EPCOR relied upon in-person visual observations from these creeks to determine when spring runoff had begun. EPCOR also developed a spring runoff prediction tool to predict when colour would increase at the WTPs. This simplistic tool is based on a multiple regression model that included a number of different temperature metrics (i.e., the minimum temperature over the past five days, the average temperature over the past two days, etc.) and the day-of-year. This tool appears to predict the timing of colour increases fairly well; however, there are certainly limitations to this approach, including the inaccuracy of temperature forecasts and extreme swings in temperature (i.e., several days above 10 °C, followed by several days below -10 °C). The most significant limitation of the tool is that it is unable to predict the magnitude of the colour increase. EPCOR has also been somewhat able to predict the fluctuations of colour in late-fall and winter by understanding the changing patterns in flows from the Bighorn dam (which is low in colour) and the Brazeau dam (which is higher in colour). There is a need to better understand and predict colour in the NSR. EPCOR is working with other partners on developing a 5-year modelling strategy that will be used to develop models for predicting water quality in the NSR. EPCOR will look to improve existing watershed water quality/quantity models, and also how machine learning can be applied to predict the timing and magnitude of colour increases. Beginning in 2019, EPCOR, in conjunction with AEP as part of the WaterSHED Monitoring Program, began installing cameras on creeks upstream of Edmonton. These cameras provide real-time photos of the creeks that are highly useful for determining when spring runoff begins, or when large storm events may generate higher colour values in the NSR.



Figure 51. Colour at Rossdale WTP Intake 1997 to 2020 Showing Minimum, First Quartile, Median, Third Quartile, and Maximum Values, and Total Annual Flow in the NSR.



Figure 52. Daily Mean Colour at Rossdale WTP Intake Average from 1997 to 2020 and Select Years (2005, 2007, 2016, 2017, 2018 and 2019).



Figure 53. Colour at Rossdale WTP Intake for 1997 to 2016 Compiled by Week of the Year.

Indicator Bacteria

A variety of indicator bacteria have been monitored at the WTP intakes over the years. Fecal coliforms were measured by membrane filtration until 2008. With the introduction of Colilert[™] testing (i.e., defined substrate technology), EPCOR slowly began to move away from membrane filtration, and in 2005 began enumerating *E. coli* and total coliforms.

Since 2005, concentrations of total coliforms and *E. coli* have been measured weekly at the E.L. Smith intake, but daily at the Rossdale intake. The increased frequency of testing at the Rossdale intake is related to the increased risk of source water contamination from storm sewers outfalls located upstream. Storm sewers can discharge high loads of *E. coli* into the NSR, particularly during storm events.

E. coli showed no discernable trend between 2005 and 2016, but a notable shift occurred in 2017, with increased concentrations measured at both WTPs (Figure 54). A plot of the individual samples (not shown) showed that mid-way through 2020, *E. coli* concentrations rapidly returned to pre-2017 values. Not only was there a notable increase in median values between 2017 and 2019, but there was an absence of samples during the winter months that were below the detection limit, which frequently occurred prior to 2017. It is believed that the Devon WWTP was the source of the elevated *E. coli*, as it was undergoing upgrades during this period. As *E. coli* concentrations were continually elevated throughout the year, it

suggested that the *E. coli* was from a point source of loading such as a WWTP. Concentrations were elevated at both WTPs, this suggested that the source of the *E. coli* was upstream of Edmonton; however, concentrations were not elevated in samples collected by AEP at the Devon LTRN located a short distance above the Devon WWTP. The Devon WWTP was only required to measure TSS and BOD from its effluent during this period, thus it is unknown if it was the source of elevated *E. coli* loading. Conversations with WWTP staff indicated that their effluent had notably higher TSS and BOD loads until their WWTP completed upgrades in 2020, which seems to correspond to when *E. coli* concentrations dropped.

Prior to 2017, median *E. coli* concentrations were 8 MPN/100 mL at the E.L. Smith WTP and 28 MPN/100 mL at the Rossdale WTP (Figure 54). The higher *E. coli* concentrations between the two locations is statistically significant (Mann Whitney U Test; *p*-value > 0.001).

E. coli concentrations in the NSR are typically of low concern for drinking water, as both the E.L. Smith and Rossdale WTPs treat the raw water from the NSR using chlorination and UV disinfection. However, *E. coli* is regularly measured at the raw water intakes as an indication of possible contamination of the source water. To evaluate the water quality in the NSR, *E. coli* concentrations can be compared to the Alberta recreational water quality guidelines. It should be noted that the exceedances of the recreational water quality guidelines have no impact on the safety of the drinking water supply and this comparison is made only for illustrative purposes to show the relative health of the NSR.

The Alberta recreational water quality guideline for *E. coli* is that the geometric mean over a 30day interval is below 100 MPN/100 mL. Additionally, no more than 10% of samples should exceed 320 MPN/100 mL over a 30-day interval. As this guideline is a recreational guideline for, it should largely only be applicable between the months of May to September. Between 2005 and 2016 recreational guidelines at E.L. Smith were exceeded the first and second guideline for 7% and 8% of the months, respectively. *E. coli* concentrations were higher at Rossdale, and exceeded the first and second guidelines for 8% and 17% of the months respectively. However, between 2017 and 2019 when *E. coli* concentrations were elevated, the number of months exceeding the two guidelines increase to 27% and 33% at E.L. Smith and to 100% and 87% at Rossdale.

In summary, recreational contact guidelines were occasionally exceeded at E.L. Smith, and were exceeded somewhat more frequently at Rossdale. During the period of 2017 - 2019, guidelines were exceeded more frequently, and almost continuously at Rossdale. While urban stormwater has typically been seen as a major source of *E. coli*, sources upstream of Edmonton are also capable of causing greater and nearly continuous exceedances. These trends also indicate that parameters that have otherwise been consistent for years can suddenly shift due to changing conditions upstream. Parameters may need to be reviewed more frequently.

EPC@R



Figure 54. E. coli concentrations in Rossdale and E. L. Smith Raw Water (2005-2020).

Cryptosporidium and Giardia

Since the infective stages of *Cryptosporidium* and *Giardia*, oocysts and cysts respectively, are shed with feces, the presence of *Cryptosporidium* and *Giardia* in a water source indicates that the source has been exposed to fecal contamination. *Cryptosporidium* and *Giardia* have been associated with several waterborne disease outbreaks, such as the outbreak of *Cryptosporidium* in North Battleford in 2001. *Cryptosporidium* and *Giardia* in the NSR present a low risk to the drinking water due to the level of multi-barrier treatment provided by the WTPs (i.e., physical removal, chemical and UV treatment).

Human population densities, livestock densities, manure application to land, impervious land cover, and sanitation systems will impact the occurrence, distribution, and concentration of potential sources of fecal contamination, and therefore impact concentrations of *Cryptosporidium* and *Giardia* in the NSR. Elevated concentrations of *Cryptosporidium* and *Giardia* can impact drinking water safety and recreational water use. The infective stages of *Cryptosporidium* and *Giardia* are monitored monthly most of the year. In the fall/winter, when

river water quality is high and the plant relies on direct filtration for drinking water treatment, samples are collected on a weekly or bi-monthly basis. While the concentrations of protozoan parasites might seem high, it is important to note that US EPA Method 1623 used for detection neither provides information on viability of organisms (i.e., counting dead and alive organisms) nor does it provide information on species detected, where only a few are relevant to human health. As a result, the counts produced are conservative in nature. It should also be noted that the detection limit of both *Cryptosporidium* and *Giardia* can vary by an order of magnitude or two, and can complicate how trends are assessed. For this report, samples that were below the detection limit are plotted separately at the value of the detection limit. While *Cryptosporidium* and *Giardia* samples have been collected since 1998, the current methodology has been in place since 2006. Concentrations of *Cryptosporidium* and *Giardia* were similar at the E.L. Smith and Rossdale intakes, but only data from the Rossdale WTP are presented below.

Concentrations of *Cryptosporidium* have been steadily declining, and samples that are below the detection limit occur more frequently (Figure 55). In 2020, only one *Cryptosporidium* sample was above the detection limit. Similar declining trends are observed for *Giardia* (Figure 56). Over 65% of the *Giardia* samples were below the detection limit in 2020, whereas *Giardia* below the detection limit infrequently occurred prior to 2013. The downward trends of *Cryptosporidium* and *Giardia* could be related to the decline in cattle in the watershed, and/or improvements in agricultural practices but could also be changes in analytical methods. EPCOR is investigating potential laboratory analysis issues. The species of *Cryptosporidium* is also important as some *Cryptosporidium* species/genotypes are not considered infectious to humans. The fraction of *C. hominis* and/or *C. parvum*, the dominant human infectious forms of the parasite, are important in assessing risk to drinking water. Some preliminary work has shown *C. andersoni* is the dominant form in many Alberta basins including the NSR however more research is needed to understand seasonal changes in pathogen loads.

A study by van Beers (2014) attempted to determine which environmental variables were predictive of *Cryptosporidium* and *Giardia* concentrations in the NSR. This study found that while a relationship with rainfall was expected, the trend was not found to be statistically significant. Instead, the relationship between ambient temperature and protozoa concentrations was found to be significant. This is logical since winter conditions result in a reduced contaminant loading to the NSR, while increases in temperature drive spring runoff and increased contaminant loading the NSR. There are strong seasonal trends of *Cryptosporidium* and *Giardia* with peak abundances of both species occurring during the spring freshet (Figure 57).



Figure 55. Cryptosporidium concentrations in Rossdale Raw Water (2006-2020).



Figure 56. *Giardia* concentrations in Rossdale and E. L. Smith Raw Water (2006-2020).



Figure 57. Monthly average concentrations of *Cryptosporidium* and *Giardia* at the Rossdale WTP of samples above the detection limit (2006-2020).

Microcystin

Several species of cyanobacteria (also known as blue-green algae) have the ability to produce cyanotoxins which have negative affects to human health. The concentrations of toxins can become elevated particularly during an algal bloom, and can persist in the environment after the bloom is over. These toxins can be ingested, inhaled or absorbed through the skin. The persistence of toxins in the environment can potentially affect downstream users, where the bloom may not be directly observed. Microcystins are typically considered to be most important class of cyanotoxins, and microcystin-LR has been the prevent and studied microcystin (Health Canada 2017). Health Canada drinking water quality guidelines are based on the toxicity of microcystin-LR; however, the maximum allowable concentration is 1.5 μ g/L of total microcystins (Health Canada 2020a). Health Canada has also recommends a precautionary level of 0.4 μ g/L of total microcystins in treated drinking water. Health Canada recently released a proposed recreational water quality guidelines for microcystins (Health Canada 2020b). Alberta's recreational water quality guidelines for microcystin-LR are set at 20 μ g/L (GoA 2018), and the US EPA guideline is 8 μ g/L (US EPA 2019).

Microcystin concentrations in the NSR are well below drinking water quality guidelines. Total microcystins are have been measured monthly at the E.L. Smith and Rossdale WTPs since 2017. The highest concentration of microcystins detected is 0.27 μ g/L with 75% of the samples being below the detection limit of 0.1 μ g/L. Microcystins were detected at both the E.L. Smith and Rossdale WTPs at similar frequencies and concentrations.

Contaminants of Emerging Concern

Beginning in 2004, EPCOR began monitoring raw and treated water for contaminants such as pesticides, phthalates, pharmaceuticals, Polycyclic Aromatic Hydrocarbons (PAH), phenols, hormones, steroids, and other personal care products (PCP). Samples were generally collected



quarterly at both WTPs. Since monitoring commenced in April of 2004, 142 raw water intake samples (E. L. Smith and Rossdale combined) have been analyzed for over 230 parameters, with some variation among the parameters analyzed each year.

The number of detections in that period was low (247 detections out of over 25,000 tests), particularly considering that analytical detection limits for measured parameters are very low (typically ng/L). Of the detections, 37%, of the detections were low level phthalates, 27% were pesticides, 23% were pharmaceuticals, and 13% were PAHs (Table 8). With the exception of four PAHs, concentrations of each parameter were below Alberta Surface Water Quality Guidelines and the Alberta Surface Water Quality Guidelines for the Protection of Aquatic Life. Concentrations were each parameter were always below the Canadian Drinking Water Quality Guidelines, with most concentrations being several orders of magnitude below the applicable guideline.

In 2011 and 2012, EPCOR also collected additional samples for pharmaceuticals, hormones/sterols and personal care products. Three samples were collected from each water intake for a total of six samples. These samples were tested for a wider range of parameters than the quarterly samples described above, and were tested for 150 parameters, only 36 of which were also tested for in the quarterly samples. These samples were also analyzed at lower detection limits than the quarterly samples. The number of detections in these samples was low (24 out of a possible 900 tests; Table 9). Several parameters (i.e., acetaminophen, cotinine and DEET) were found in concentrations that were below the method detection limits of the quarterly samples, suggesting that these parameters could be present, but not detected by the quarterly sampling. None of the detected parameters have corresponding drinking water quality guidelines; however, two parameters have guidelines for the protection of aquatic life. Alpha ethinyl estradiol was found to exceed the Alberta Surface Water Quality Guideline for the Protection of Aquatic Life (0.5 ng/L). Measured concentrations of nonylphenol were three and four orders of magnitude below the chronic and acute guidelines, respectively.

There are a number of possible sources of these compounds to the NSR. Phthalates are ubiquitous in our environment as they are used as softeners in plastics or resins, and sources include wastewater plants, leachate from landfills and industrial discharges. Pesticides are used in forestry, agricultural, and municipal land uses, and enter the NSR through runoff. Pharmaceuticals are typically the result of human use and are therefore found in wastewater treatment plant effluent; however, some parameters could be due to animal use and could be enter the river through runoff. PAHs are found in coal tar and fire smoke, and likely enter the river through runoff.

Table 8. Summary of Trace Organics Detected in Quarterly Sampling at E.L. Smith and Rossdale Raw Water Intakes from2004 to 2020.

Parameter	Category	Number of SamplesNumber of Detections		Maximum Concentration (ug/L)	Alberta Surface Water Quality Guideline (ug/L)	Canadian Drinking Water Quality Guideline (ug/L)	
2 4-D	Pesticide	142	19	0.094	4	100	
2 4-Dinitrophenol	Pesticide	142	2	0.1	-	-	
Acetaminophen	Pharmaceuticals	136	2	0.1	-	-	
Aldrin	Pesticide	142	1	0.007	-	-	
Aminomethyl phosphonic acid	Pesticide	74	1	3.41	_	-	
Amoxicillin	Pharmaceuticals	32	1	0.05	-	-	
Benzo(a)anthracene	PAH	142	4	0.059	0.018	-	
Benzo(a)pyrene	PAH	142	1	0.023	0.015	0.04	
Benzo(b)fluoranthene	PAH	142	2	0.2	-	-	
Benzo(b,j,k)fluoranthene	PAH	142	2	0.05	-	-	
Benzo(e)pyrene	PAH	92	0	0.02	-	-	
Benzo(k)fluoranthene	PAH	134	1	0.6	-	-	
Bis(2-ethylhexyl) phthalate	Phthalates	142	28	2.1	16	6*	
Bromoxynil	Pesticide	142	1	0.007	5	5	
Butylbenzylphthalate	Phthalates	142	26	0.7	-	-	
Caffeine	Pharmaceuticals	132	12	0.04	-	-	
Carbamazepine	Pharmaceuticals	132	1	0.0034	10	-	
Chrysene	PAH	142	3	0.0558	-	-	
Ciprofloxacin	Pharmaceuticals	136	2	0.06	-	-	
Clindamycin	Pharmaceuticals	136	2	0.01	-	-	
Clodinafop-propargyl	Pesticide	142	1	0.08	-	-	
Cotinine	Pharmaceuticals	142	1	0.015	-	-	
Diazinon	Pesticide	142	2	0.004	0.17	20	
Dicamba	Pesticide	142	1	0.015	10	120	
Diethyl phthalate	Phthalates	142	14	0.3	-	-	
Di-n-butylphthalate	Phthalates	142	21	0.7	19	-	
Di-n-octyl phthalate	Phthalates	142	4	0.2	-	-	
Enrofloxacin	Pharmaceuticals	136	1	0.02	-	-	
Fluoranthene	PAH	142	2	0.203	0.04	-	
Fluorene	PAH	142	2	0.009	3	-	
Fluroxypyr	Pesticide	142	3	0.024	-	-	

 Table 88. Summary of Trace Organics Detected in Quarterly Sampling at E.L. Smith and Rossdale Raw Water Intakes from 2004 to 2020. Continued.

Parameter	Category	Number of Samples	Number of Detections	Maximum Concentration (µg/L)	Alberta Surface Water Quality Guideline (µg/L)	Canadian Drinking Water Quality Guideline (µg/L)
Fluoxetine	Pharmaceuticals	136	1	0.01	-	-
Gemfibrozil	Pharmaceuticals	132	1	0.003	-	-
Glyphosate	Pesticide	88	4	3.282	800	280
Ibuprofen	Pharmaceuticals	132	3	0.023	-	-
Imazamox	Pesticide	142	1	0.017	-	-
Imazethapyr	Pesticide	142	2	0.05	-	-
Indeno(1,2,3-cd)pyrene	PAH	142	1	0.01	-	-
MCPA	Pesticide	142	2	0.009	2.6	100
MCPP	Pesticide	142	4	0.038	13	-
Metconazol	Pesticide	22	1	0.006	-	-
Methylnaphthalene	PAH	43	1	0.007	-	-
N,N-diethyl-m-toluamide (DEET)	Pharmaceuticals	104	9	0.324	-	-
Naphthalene	PAH	142	2	0.012	1	-
Naproxen	Pharmaceuticals	132	8	0.02	-	-
Norfloxacin	Pharmaceuticals	142	2	0.07	-	-
Perylene	PAH	121	2	0.012	-	-
Phenanthrene	PAH	142	4	0.092	0.4	-
Picloram	Pesticide	142	6	0.054	29	190
Propiconazole	Pesticide	142	1	0.042	-	-
Pyrene	PAH	142	2	0.015	0.025	-
Quinclorac	Pesticide	142	1	0.018	-	-
Retene	PAH	121	3	0.038	-	-
Salicylic acid	Pharmaceuticals	132	10	0.24	-	-
Thiamethoxam	Pesticide	142	2	0.052		
Triclopyr	Pesticide	142	8	0.02	-	-
Trifluralin	Pesticide	128	3	0.009	0.2	45

Note: * = US EPA guideline as no Health Canada Guideline was available.



 Table 9. Summary of Trace Organics Detected in Additional Sampling at E.L. Smith and

 Rossdale Raw Water Intakes from 2011 to 2012.

Parameter	Number of Detections ^a	Concentration range (ng/L)
Acetaminophen	2	19-21
Alpha-Ethinyl Estradiol	3	15-56
Amitriptyline	1	1.5
Amphetamine	1	1.5
Androstenedione	2	26-29
Benzoylecgonine	4	1-2
Benztropine	3	0.33-0.79
Beta-Sitosterol	1	533
Caffeine	4	37-46
Cholesterol	4	49-508
Ciprofloxacin	1	10.7
Cocaine	2	0.18-0.29
Cotinine	4	3.3-7.7
DEET	6	3.1-7.8
Diltiazem	1	0.33
Diphenhydramine	1	2.4
Enalapril	1	0.38
Erythromycin	1	0.29
Flumequine	1	1.5
Metformin	4	36-74
Naproxen	2	3.3-3.6
Nonylphenol	1	6.6
Sulfamethoxazole	1	1.1
Valsartan	2	4.1-9.5

^a a total of six samples analyzed.

Beginning in 2018, EPCOR began collecting quarterly samples for per- and polyfluoroalkyl substances (PFAS), which are a large family of synthetic chemicals found in a wide range of consumer products such as non-stick products, food packaging, polishes, waxes, paints, cleaning products and fire fighting foams. The two most studied PFAS compounds, perfluorooctane acid (PFOA) and perfluorooctanesulfonic acid (PFOS) are highly persistent in the environment, probably carcinogens lead to adverse health outcomes and have maximum allowable concentrations in drinking water established by Health Canada. PFOS was phased out of fire fighting foams in the early 2000s; however, PFOA may be present in trace amounts in some foams. Other PFAS compounds are still used in foams, but are expected to be less toxic because of their chemical structure, but still have screening values established by Health Canada. Since monitoring began in 2018, PFOS, PFOA or any PFAS compounds have not been detected in the raw or treated water.

To determine the possible risk from PFAS compounds from fire fighting foams, EPCOR reached out to fire services in upstream communities and counties to determine which types and quantities of foams are being used (Table 10). The Edmonton International Airport and Parkland



County use a product that contains 6:2 flurotelomer sulfonate, which has a Health Canada screening value. Most of the upstream communities use a product (FireAde) that is reported to contain PFOA at concentrations of 80 μ g/L, and may contain other PFAS compounds (City of Calgary, 2020). Alberta Wildfire uses retardants that do not contain PFAS compounds (personal communication, D. Thomas, 2020). For many products, it is difficult to determine if they contain PFAS compounds, and which specific compounds, as this information is considered proprietary on Safety Data Sheets and manufacturers have not responded to EPCOR's requests for information. However; given that upstream municipalities typically do not use large volumes of foam, the concentrations in the NSR are anticipated to be well below Health Canada Guidelines. However, if a single community were to discharge their entire stock in a single event, and if a majority of this product entered the river, there theoretically would be enough PFAS to exceed Health Canada guidelines and screening values for a short period of time in the NSR at Edmonton. This would not be caught by our quarterly testing and therefore the municipality should inform EPCOR of this event so that sampling can occur.

Community / Location	Product being used	Estimated amount used per year	Contains PFAS?
Edmonton International Airport	Ansulite 3% AFFF (Formula DC-3)	1,000 L	Yes: 6:2 fluorotelomer sulfonate
City of Edmonton	Niagara 1-3 alchohol resistant film forming fluroprotein foam concenrate	1,000 L	Suspected PFAS
Leduc County	FireAde Mil 3% AFFF Fire Fighting Foam	2,000 L	Calgary suggests FireAde contains trace PFOA
City of Leduc	Angus Fire Hi-Combat A Foam concentrate	300 L	Unknown
Town of Devon	FireAde 3% FireAde 0.1% - 1.0%	FireAde 3%: 60 L FireAde 0.1-1%: 240 L	Calgary suggests FireAde contains trace PFOA
County of Wetaskiwin	FireAde Fire Fighting Agent	100 L	Calgary suggests FireAde contains trace PFOA
Parkland County	Niagra Foam Ansulite Fire Aid A/B Silvex Class A	Niagra Foam: 20 L Ansul light: 200 L Fire Aid A/B: 800 L Silvex Class A: 700 L	Ansulite contains 6:2 fluorotelomer sulfonate
Drayton Valley / Brazeau County	T-Storm SFFF ALCOSEAL 3/6% AR- FFFP FlameOut Fire Suppressor AFFF	T-Storm: 600 L ALCOSEAL: 120 L FlameOut : 400 L	Alcoseal contains fluorosurfactants, suspected PFAS. T-storm and FlameOut do not appear to contain PFAS
Clearwater County	FireAde - Class A&B	800 L	Calgary suggests FireAde contains trace PFOA
Alberta Wildfire	Phos-Check WD- 881C Class A Foam Concentration	Unknown	No

Table 10. Summar	y of Fire	Fighting	Foams	Used by	Upstream	Communities.
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Taken together, these results demonstrate that contaminants such as pesticides, pharmaceuticals, phthalates, and PAHs are present in the NSR; however, they are found in very low concentrations, and are typically not detected. Additionally, a majority of the trace organics that have been tested for, have never been detected. The concentration at which these parameters have been detected are typically several orders of magnitude below drinking water quality guidelines and surface water quality guidelines for the protection of aquatic life. Many of these parameters are also found in EPCOR's drinking water reservoirs, suggesting that they are not fully removed through conventional water treatment. Assessing the risk associated with these compounds is challenging as many parameters do not have water quality guidelines.

A study by the World Health Organization (2012) concluded that impacts of pharmaceuticals in drinking water is unlikely to impact human health, and that concentrations in drinking water are generally more than 1000-fold below the minimum therapeutic dose. A study conducted by the Water Research Foundation (2015) found that a person would need to drink 100,000,000 glasses of water to obtain a therapeutic dose and there is no definitive links between pharmaceuticals in drinking water and human health.

While some PAHs are known to be carcinogenic, a study by the World Health Organization (2003) concluded that it is not possible to directly asses the risk on PAHs on humans due to the lack of human data, and that risk is likely due to exposure to mixtures of PAHs, and not individual PAHs. It should be noted that PAHs were relatively infrequently detected in the NSR. Additionally, the most extensively studied PAH, benzo[a]pyrene, due to its potential effects on human heath, has only been detected once, with concentrations below drinking water quality guidelines.

Compared to many other waterbodies, the risk associated with many of these compounds are presumably lower in the NSR given the relatively low population and development upstream of Edmonton. However, this area is an area of ongoing research, and additional knowledge of the effects of combinations of low concentrations of contaminants of emerging concern is required before risk can properly be assessed.

Spills on the NSR

Chemical spills can enter the NSR through a variety of pathways including industrial discharges, storm sewer outfalls, overland flow, tributaries, and directly into the NSR itself. Many of the locations and methods of spills being introduced to the NSR are covered in Section 3.2. EPCOR's WTPs recognize the threat of spills to drinking water quality and have developed lines of communication with provincial regulators (AEP and AER), Drainage Services, and the City of Edmonton fire department to directly contact the control rooms of the WTPs in the event of a spill on the NSR. EPCOR is running exercises to test these lines of communication.

There have been several notable spills in the NSR in recent years, while none have directly impacted EPCOR's WTPs, but highlight the risk represented by spills in the NSR. In 2016, the Husky Energy Pipeline spilled 225,000 L of crude oil in the NSR near Maidstone Saskatchewan. This spill significantly impacted the downstream communities of North Battleford and Prince Albert, which were forced to shut down their water intakes for months and find alternative water

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supplies. In 2005, 800,000 L of fuel oil spilled into Lake Wabamun when a train derailed; however, the spill was contained within Lake Wabamun. In August 2019, 40,000 L of oil emulsion spilled into Washout Creek near Drayton Valley, and the spill was contained within the creek.

Several smaller spills have occurred within Edmonton and been reported to EPCOR's WTPs, as the material entered the drainage system and the NSR. These spills have typically been sewage or diesel, and have typically been small volumes and have not impacted the WTPs, but highlights the potential risk of spills entering the NSR in close proximity to the WTP intakes.

In 2017, EPCOR engaged Stantec to provide a summary of the risks of a hydrocarbon spill upstream of Edmonton. Stantec (2017) identified that the three primary modes of hydrocarbon transport are pipeline, rail and truck. Pipelines were considered to be the highest risk due to the large amount of pipelines located upstream (see Section 3.2.7) and that the average pipeline spill volume is 12,259 L. Pipelines were also reported to have 1.5 incidents per 1,000 km of pipeline. Of these incidents, 88% resulted in leaks, and 5% resulted in ruptures. While rail lines were identified as a possible source of hydrocarbon spills, there are relatively few rail lines upstream of Edmonton, and the only one which crosses the NSR is located in Rocky Mountain House far upstream of Edmonton. While truck transport is also a possible source of hydrocarbon spills on the NSR, there are relatively few crossings (see Section 3.2.7), and the maximum volume carried by a truck is relatively small compared to other potential spill sources. Stantec's report also explored preliminary options of the WTPs ability to be able to treat water to meeting drinking water quality guidelines, despite a hydrocarbon spill on the NSR. Lastly, Stantec's report also explored options of alternative water supplies, and this is discussed in greater detail in Section 3.3.3.

EPCOR has conducted studies with Natural Resources Canada exploring how hydrocarbon spills change over time, and how EPCOR's WTPs could treat a hydrocarbon spill with powdered activated carbon, which the WTPs regularly use to treat water with high colour/organic material in the spring. Preliminary studies show that the WTPs could treat raw water that has been contaminated with crude oil and gasoline.

EPCOR's Stormwater Environmental Monitoring Program

Since 1991, stormwater quality and quantity have been monitored within Edmonton as part of the Environmental Monitoring Program (EMP). Prior to 2017, the EMP was conducted by the City of Edmonton, but is now managed by EPCOR.

Initially, the EMP focused on annual water quality surveys of the NSR, within and downstream of the City limits. Over

The EMP monitors discharges from storm and combined sewer outfalls, as well the mainstem NSR, stormwater management facilities, and tributaries within the City of Edmonton boundaries.

time, the program has evolved and expanded in scope to include seasonal monitoring at key points in the NSR as it flows through Edmonton and past Fort Saskatchewan. Tributaries to the NSR and outflows from the Gold Bar and Capital Region Wastewater Treatment Plants (WWTPs) have also been sampled as part of the seasonal surveys, along with several

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stormwater management lakes and constructed wetlands. Tributary monitoring was typically only conducted twice per year as part of seasonal surveys, but sampling effort has increased in recent years. In addition, the EMP maintains a network of continuous monitoring stations that are located at the four largest storm sewer outfalls (i.e., 30th Avenue, Groat Road, Quesnell and Kennedale) and the two largest combined sewer outfalls (CSOs) (i.e., Rat Creek and Capilano). The stations include flow monitoring equipment and automated water samplers, which are configured to automatically collect water quality samples during runoff events and to send out emails once the sampling has started. Supplementary manual base flow samples are also collected twice per month from the four largest storm sewer outfalls. The parameters measured for the EMP vary among sites and events, but most frequently include biochemical oxygen demand, total suspended solids (TSS), chloride, total Kjeldahl nitrogen, ammonia, nitrate + nitrite, total phosphorus, and *E. coli*. Other less frequently monitored parameters include metals and hardness, pesticides, pathogens and volatile organic compounds.

The EMP currently has three main focus points: The quantification of loads to the NSR from the combined sanitary system and stormwater system; mainstem monitoring at four intake locations within/downstream of Edmonton; and monitoring water quality in tributaries.

The EMP has demonstrated that loading from the WWTPs, storm sewer outfalls and tributaries increase TSS, chloride, nitrogen, ammonia, total phosphorus, and *E. coli* concentrations in the NSR, particularly during precipitation and runoff events. Taking TSS as an example, the largest sources of loading of TSS are the storm sewer outfalls and storm water loading into creeks within Edmonton; however, upstream sources of TSS greatly exceed these urban loading sources, particularly during periods of elevated flow (Figure 58). Notable increases of TSS in the NSR typically only occur during the spring and fall when flows in the NSR and upstream loads of TSS are low, but when loads are high are elevated from urban sources during runoff events (Figure 59). Of the sources shown in Figure 58, only a small portion of the unmonitored storm sewer outfalls are located upstream of the E.L. Smith WTP; however, the Wedgewood and Whitemud creeks, as well as the 30th Avenue, Groat Road, Quesnell and a larger portion of the unmonitored storm sewer outfalls are located upstream of the E.L. Smith WTP; however, the Wedgewood and Whitemud creeks, as well as the 30th Avenue, Groat Road, Quesnell and a larger portion of the unmonitored storm sewer outfalls are located upstream of the Rossdale WTP. TSS concentrations were higher at the Rossdale WTP compared to the E.L. Smith WTPs, presumably due to additional loading of TSS from the creeks and storm sewers.



Figure 58. Sources of TSS Loading in the NSR Under Varying Flow Categories, 2010 – 2019.



Figure 59. Estimated Upstream and Downstream TSS in the NSR, 2010 – 2019.

Pesticide concentrations are elevated in stormwater, but are still several orders of magnitude below drinking water quality guidelines and represent a low risk to source water. A total of 17 different pesticides have been detected at stormwater outfalls, most of which have also been detected in the NSR at the WTP intakes. Pesticides are also detected more frequently at



Rossdale compared to E.L. Smith, indicating that stormwater is source of pesticide loading to the NSR.

Metal concentrations are also elevated in stormwater, but represent a low risk to drinking water due to their concentrations, but also that they are frequently attached to particulate material and are removed from drinking water by the WTPs. Elevated metal concentrations from stormwater present a greater impact to aquatic life in the NSR and concentrations of arsenic, cadmium, chromium, cobalt, copper, lead, mercury, selenium, silver and zinc, have been found to exceed guidelines for the protection of aquatic life.

Volatile organic compounds (VOCs) are also detected in stormwater outfalls and in tributaries; however, a majority of VOCs that were tested were either not detected, or were in low concentrations that were consistently below water quality guidelines.

Monitoring of the tributaries within Edmonton revealed that tributaries with heavily urbanized basins that also received direct stormwater runoff had higher concentrations of all parameters compared to tributaries that received less stormwater runoff and were in basins that were less urbanized. Thus, while tributaries can be significant sources of loading, the addition of stormwater runoff can significantly increase loadings of parameters to the NSR.

Edmonton also has numerous stormwater management facilities and constructed wetlands. While the major function of these waterbodies is to retain stormwater flows and prevent flooding, they also provide an opportunity to improve stormwater quality. Monitoring of these waterbodies show that they effectively remove *E. coli* from stormwater, and that TSS, phosphorus and metals are also removed, but the trends are variable and inconsistent among the sampled waterbodies. Increasingly EPCOR is building stormwater management facilities and constructed wetlands for the purpose of preventing flooding, but also for improving stormwater quality.

3.3.2 Tributary Data

A total of 64 named tributaries flow directly into the NSR, upstream of Edmonton. Of these tributaries, 44 enter the NSR upstream of Rocky Mountain House, whereas the remaining twenty enter between Rocky Mountain House and the Rossdale WTP. The major contributing tributaries in terms of annual flow to the NSR are the Cline, Clearwater, Ram, Baptiste, and Brazeau rivers (Figure 60). Most of the flow from the headwaters is from snowpack accumulation and subsequent melt during the summer months. The NSR mainstem is dammed by the Bighorn Dam creating Abraham Lake. The Cline River



joins the NSR at Abraham Lake, whereas the Bighorn, Clearwater and Ram rivers flow into the NSR downstream of the Bighorn Dam. Another dam occurs in the basin on the Brazeau River,



which is dammed just upstream of its confluence with the Nordegg River, creating the Brazeau Reservoir. Major tributaries that flow into the NSR are summarized in Table 11.



Data Source: GoA 2020 Figure 60. Major Tributaries in the NSR Watershed above EPCOR's WTPs.



Table 11. Major Tributaries to the NSR.

Location in basin	Name	Notes
Headwaters: Rocky terrain mixed with forested landscapes.	Cline River	Enters Abraham Lake10 tributaries
Largely undisturbed. Cline River joins the	Howse River	 Enters NSR u/s of Abraham Lake
NSR at Abraham Lake,	Mistaya River	
which is dammed by	Siffleur River	
the Bignorn Dam.	Clearwater River	18 tributariesEnters NSR at RMH
	Ram River	12 tributaries
		 Enters NSR at RMH
	Bighorn River	 Enters NSR d/s of Bighorn Dam
Upper-reach: Largely forested with major human use of forestry and oil and gas	Baptiste River	 Enters NSR just d/s of RMH
	Nordegg River	 Enters NSR via Brazeau River
extraction.	Brazeau River	 Enters NSR d/s of RMH
		 Flows into Brazeau Reservoir
	Rose Creek	 Watershed a largely forested/wetland
Mid-reach: Largely	Modeste Creek	 Small creeks that flow significantly
agriculture based	Tomahawk Creek	only during runoff events in open
landuse dominated by	Wabamun Creek	water season
pasture and cow-call	Strawberry Creek	-
	Mishow Creek	
	Vveed Ureek	-
Within city: Lirban	Whitemud Creek	• Whitemud Creek is influenced
environment.		heavily by stormwater inputs





Brazeau River Power Plant

Water quality data has been collected for many of NSR tributaries over the past 40 years. Historically mid-reach tributaries have received more attention because of specific projects investigating the influence of agricultural activities on water quality. Water quality data for headwater and upper-reach tributaries is less available due in part to the difficulty accessing these streams and the limited development in these areas. Overall, the lack of water guality data on the headwater tributaries has limited the ability to determine sources of contaminant loads.

Tributary Monitoring Programs

The following sections describe the historical and current water quality monitoring programs for tributaries in the NSR watershed.

Synoptic Studies

Select tributaries to the NSR were sampled as part of AEP's synoptic monitoring program. Samples were taken between 1985 and 1989 in a series of 12 synoptic sampling events and again in 2008 and 2012 when additional six synoptic sampling events were completed. Tributaries included in sampling were: the Bighorn, Ram, Clearwater, Baptiste, Nordegg and Brazeau rivers, and Rose, Modeste and Strawberry creeks and additional downstream tributaries.

Alberta Environmentally Sustainable Agriculture (AESA)

The AESA Program is a long term, provincially funded program that facilitates management practices that make agriculture more environmentally sustainable. One aspect of the program is the monitoring of water quality through its Water Quality Resource Monitoring Program, of which the AESA Stream Survey is a part. The AESA Stream Survey is a long-term monitoring

Initiated in 1997, the AESA Stream Survey was operated by Alberta Agriculture, Food and Rural Development, AESRD, Alberta Health and Wellness, and Agriculture and Agri-Food Canada (Lorenz et al. 2008)

program that tracked water quality in 23 streams in agricultural areas across Alberta from 1997 to 2006, three are in the NSR watershed upstream of Edmonton: Rose, Strawberry and Tomahawk creeks.

EPCOR Upstream Tributaries

EPCOR has conducted regular upstream sampling in tributaries to the NSR since 1992. Monitoring has often been done in partnership with the province; EPCOR partnered with AEP



to conduct upstream monitoring between 1998 and 2005. The samples were generally collected during spring runoff and summer storm runoff periods.

As part of this monitoring network, in late 1990s, EPCOR partnered with the Canada-Alberta Beef Industry Development Fund, Alberta Agricultural Research Institute, and AEP to undertake enhanced tributary water quality monitoring in the basin as part of a research project. Specifically, a research project was initiated to identify potential major sources of waterborne parasites in the NSR upstream of Edmonton and resulted in a 2002 report, "Relationship between Beef Production and Waterborne Parasites (*Cryptosporidium* spp. and *Giardia* spp.) in the NSR basin, Alberta, Canada". The report found that livestock contribute peak loads of parasites to the NSR and municipal wastewater effluent from upstream municipalities are a chronic source of *Giardia* spp upstream of Edmonton. The following tributaries, located between Rocky Mountain House and Edmonton were sampled as part of this research: 620 Creek, Baptiste River, Big Beaver Creek, Canyon Creek, Chicken Creek, Conjuring Creek, Graminia Creek, Mishow Creek, Modeste Creek, Nordegg River, Prentice Creek, Rose Creek, Sand Creek, Shoal Lake Creek, Strawberry Creek, Tomahawk Creek, Violet Creek, Wabamun Creek, Washout Creek and Weed Creek. This research project has enabled EPCOR to better understand potential sources of contamination and better direct funds for further research studies, stewardship projects and public awareness initiatives upstream within the NSR basin.



Clearwater River Photo Credit: Eddie Carle

In 2006, provincial agricultural program funding for upstream tributary monitoring was discontinued. However, EPCOR continued collecting raw water samples from select tributaries of the NSR during spring runoff. In 2008, EPCOR's program was enhanced to include storm events and baseflow water quality testing, as well as extend into the headwaters (Clearwater and Ram Rivers). To allow better access to the headwater streams, EPCOR has partnered with Clearwater Landcare to collect samples from headwater tributaries. The intention of the program is to better quantify loads of

contaminants from all tributaries entering the NSR and better understand how land use practices alter these contaminant loads across seasons. Between 2013 and 2018, EPCOR's Water Monitoring Program focused on the Strawberry Creek Watershed as part of a pilot project on watershed management, stewardship and BMP implementation. That work is now complete and may be continued if suggested by the IWWEBs research work.



The Strawberry Creek Pilot Project- is a project that was initiated by EPCOR in 2013. It investigates water quality on 11 sites along Strawberry Creek and eventually aims to develop beneficial management strategies in the watershed to improve water quality in the creek. Since that time a working group has formed that includes Leduc County, Alberta Agriculture and Rural Development, Cows and Fish, Agriculture Canada and EPCOR that is looking to partner on initiatives in the watershed. A stakeholder "What's Happening in Strawberry Creek" workshop was held in late November 2014. Data Source: GoA 2020



EPCOR Urban Tributaries

Tributaries within Edmonton's boundaries are monitored by EPCOR as part of the EMP. From a source water perspective, the relevant only urban tributaries include Wedgewood Creek, which enters the NSR just downstream from the E.L. Smith WTP, and Whitemud Creek, which enters the NSR just downstream of the Quesnel Bridge, both of which are above the Rossdale WTP. There is an existing Blackmud/Whitemud Creek watershed management program and EPCOR also completes monitoring on urban tributaries. See section 3.3.1 for more details on the EMP.

WaterSHED (Saskatchewan Headwaters Edmonton Downstream) Monitoring Program

The monitoring programs described above have provided a significant amount of data; however, they have been disjointed, project specific, and not comprehensive enough to meet EPCOR's (and other stakeholder's) needs of balancing land use decisions with maintaining water quality and quantity. To address the gap of these monitoring programs, EPCOR spearheaded a Water Quality and Aquatic Ecosystem Working Group in Partnership with the North Saskatchewan Watershed Alliance to address monitoring challenges in the North Saskatchewan River basin. This group identified a need for a scientifically defensible,



sustainably funded, long-term water quality and aquatic ecosystem health monitoring program for the North Saskatchewan River and its major tributaries. The goals of this program would be to 1) allow the assessment of drivers of water quality and quantity; 2) understand the effects of continued land use change and population growth pressures and; 3) to inform planning at the regional, source water, and municipal scale.

In 2016, EPCOR Water Canada put forward a request for up to one million dollars per year for four years from the Edmonton Rate Payers for an environmental monitoring program for the North Saskatchewan River and was supported by Edmonton City Council. This funding lead to the formation of the WaterSHED Monitoring Program, which is lead by a steering committee consisting of EPCOR, Alberta Environment and Parks, the North Saskatchewan Watershed Alliance and the City of Edmonton. The Program was designed in 2018, monitoring and flow station installation began in 2019, and funding is guaranteed until the end of 2021. EPCOR is seeking approval to continue monitoring through 2026.

The monitoring was program is based on a mass balance approach with paired water quality and quantity data and representative sub-watersheds were chosen based on hydrological response and watershed characteristics (Figure 61). In order to understand the link between watershed characteristics, climate, and water quality and quantity, the program is designed to be long-term. To be useful it must capture inter-annual variability (wet and dry years) and seasonal variability (ex. fast spring melt) across headwater watersheds to parkland/agriculture dominated watersheds.







Tributary Water Quality

For this report, water quality was summarized for tributaries using stations nearest to the confluence with the NSR. In most cases, samples were collected in the early 1980s, late 1990s, and more consistently throughout the 2000s. For the headwater tributaries, only a small number of samples have been collected, whereas some of the mid-reach streams have been sampled over 200 times for some parameters (Table 12). Additionally, some programs did not sample during high-flow events, whereas other programs intentionally targeted these events. As a result, it is difficult to fully compare the water quality amongst the upstream tributaries. With these data limitations in mind, a general trends of increasing concentrations of most parameters from headwater reaches to mid-reach tributaries is evident (Figures 62 and 63). Some of these changes can be accounted for by natural phenomenon such as soil type, underlying geology, and ecoregion differences; however, human land use plays an important role as well (see section 3.2). Median and maximum concentrations of parasites, sediment, nutrients, and organics are notably higher in mid-reach tributaries than in more pristine headwater and upper reach tributaries.



Prairie Creek. Photo credit; Gary Lewis of Clearwater Landcare

Understanding quantifying and contributions from tributaries becomes important when trying to assess risks to the NSR river source water. Without understanding all aspects of contaminants. including load calculations, entering the NSR from tributaries it is difficult to target land management practices to maintain high water quality. It is clear that mid-reach tributaries have the poorest water quality, but they also comprise a small amount of the annual flow of the NSR on an annual basis. However, we also know that during spring runoff, these tributaries can combine to contribute almost half the flow to the NSR.

Knowing that water quality is dependent on runoff conditions, it is important that the relationship between flow and water quality is well understood to calculate loads accurately. For streams that are driven by spring melt runoff and storm events, such as the ones in the mid-reaches of the NSR, it is estimated that 90% of the load is added during less than 10% of the year, emphasizing the need to capture these events. As mentioned above, water quality data for the upper tributaries is limited and for the mid-reach tributaries only a few tributaries have been sampled extensively enough to allow accurate annual and seasonal load calculations.



Table	12.	Number	of Water	[·] Quality	Samples	Collected	Near	Mouths of	f Tributar	ies to
NSR ((197	5 - 2020)).	-	-					

Tributary	Fecal Coliforms	E. coli	Turbidity	Giardia.	Cryptosporidium	TSS	Total Phosphorus	TKN	Nitrate	Ammonia	Colour	DOC
Cline	5	5	5	1	1	5	5	5	5	5	3	5
Siffleur	8	8	20	1	1	20	20	20	20	20	18	20
Bighorn	17	19	43	4	4	44	43	43	44	44	35	41
Ram	26	27	56	4	4	54	56	56	56	57	46	53
Clearwater	16	21	49	5	5	50	48	48	49	50	39	47
Baptiste	38	41	77	24	24	72	70	70	71	72	61	58
Nordegg	47	56	81	45	45	76	73	72	74	74	75	41
Brazeau	33	35	70	18	17	64	62	62	64	64	54	55
Rose	266	268	31	12	12	341	342	341	341	337	91	27
Mishow	38	40	45	46	46	40	39	38	40	37	37	7
Modeste	35	34	59	32	32	55	54	53	56	59	49	39
Tomahawk	84	85	68	51	51	153	152	150	152	153	126	18
Wabamun	5	9	8	7	7	9	7	7	8	9	9	5
Washout	6	6	5	6	3	6	6	6	5	6	6	3
Strawberry	227	229	70	46	46	295	294	293	294	287	130	31
Weed	39	43	68	54	49	60	60	59	60	63	63	23
Conjuring	21	27	43	22	22	39	38	36	40	40	39	24
Whitemud	35	91	115	4	4	170	163	164	161	163	23	32





Figure 62. Colour, turbidity and *E. coli* in the major tributaries in the NSR watershed (1975 – 2020).





Figure 63. Total Phosphorus, ammonia and nitrate in the major tributaries in the NSR watershed (1975 – 2020).



3.3.3 Water Quantity

General Patterns

On an annual basis, most of the water in the NSR originates in the headwater areas of the Rocky Mountains. Specifically, it has been estimated that of the mean annual natural discharge of the NSR at the Alberta/Saskatchewan boundary (7,510 Mm³), the headwater hydrologic region contributes almost half (3,600 Mm³) of the annual cumulative yield (Figure 64; Golder 2008a). Putting it

The majority of water in the NSR basin originates from the headwater areas with almost 90% of the water entering the river upstream of Drayton Valley.

another way, by the time the NSR reaches Drayton Valley, 87% of flow at the border is accounted for, on an annual basis. The headwater area yields a remarkable amount of water considering that it comprises only 4,110 km² compared to the NSRB's gross drainage area of 56,860 km². This highlights the importance of protecting this source water area to ensure a sustainable supply of water for downstream reaches.



Figure 64. Water Yield Data for Sub-basins in the NSR watershed (Data Source: Golder 2008a)

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Annual water yield paints only part of the picture when it comes to understanding water quantity in the NSR. Seasonal patterns are apparent in the NSR and reflect snow accumulation and melt, storm events, and early spring runoff patterns in mid-stream reaches (Figure 65). Spring runoff typically occurs in late March and mid-April for the areas around and upstream of Edmonton. In contrast, the peak monthly yield from the headwater regions along the eastern slopes of the Rocky Mountains occur in July because of the gradual rise in temperature during spring and early summer at these high elevations. Peaks in flow occur during storm events and the effect on flow depends on the severity, geographic extent and duration of the storm. Variability in annual flow from year to year is driven mainly by headwater snowpack volumes. Spring runoff peaks in the NSR are determined by local snowpack volume as well as by climate (for example, how rapidly temperatures rise) in the spring.



Figure 65. Daily Mean Hydrograph of the NSR Flow Based on 1970 to 2019 Water Survey of Canada Data at Edmonton (05DF001, Edmonton Low Level Bridge).

Flow gauge data from monitored tributaries were evaluated from 2005 to 2020, and similar trends were observed as per the Golder (2008a) report. In the open water season, contributions from headwater areas above Rocky Mountain House (RMH) comprise 60% of the flow at Edmonton and this is largely from snowmelt, though groundwater contributions occur as well (Figure 66). Contributions from the Brazeau River and reservoir continue to play on important role, comprising 26% of the flow. Mid-stream reaches, where land use is primarily agriculture, comprise a small amount of overall flow to the NSR. For example, Rose, Weed, Modeste, Tomahawk and Strawberry creeks comprise approximately 5% of the annual open water flow in the NSR. The Baptiste and Nordegg Rivers, whose watersheds remain largely forested, comprise 9% of the open water flow.

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During the winter months, a continuous supply of groundwater augments flow to the NSR when runoff from the landscape does not occur. Groundwater, combined with contributions from upstream dams (Brazeau and Bighorn), comprises the majority of flow during the winter months; however, flows of the NSR at Rocky Mountain House are not typically monitored during the winter; therefore it is not possible to determine the relative contribution of the sources of the flow.

Although mid-reach streams contribute less than 5% to the NSR flow on an annual basis, during spring runoff period they can contribute almost 50% the flow of the river.



Data Source: Water Survey of Canada 2020 Figure 66. Open water flow contributions (May to Aug) to the NSR at Edmonton (2005 to 2020).

The relatively low contributions of these mid-reach tributaries mean that, from a water quantity perspective, they are less important than headwater areas. However during spring runoff periods, before snowmelt has occurred in the headwaters, they can combine to make up a large proportion of the flow of the NSR. For example, during the spring runoff periods in 2005 and 2011, the mid-reach streams contributed to over 20% of the flow the NSR at Edmonton (Figure 67). Because land use in these watersheds have been altered significantly in the last 100 years, during certain periods, these streams can have a significant impact on NSR water quality. However, during years with smaller or more gradual spring runoff, such as 2008 and 2010, the contribution of the mid-reach streams remained small. Colour in the NSR at EPCOR's WTPs is closely related to the intensity of the spring runoff, and how much these mid-reach streams contribute to flows in the NSR.





Figure 67. Contirubtion of flow during years of high spring (2005 and 2011) and low spring runoff (2008 and 2010) to the NSR upstream of Edmonton.

Water Supply Trends

The normal operation of the Bighorn and Brazeau dams have altered the natural flow regime of the NSR, resulting in increased flows in the winter and decreased flows in the summer (Figure 68). This has resulted in a more consistent source of high water quality in the NSR during the winter months. The dams typically reach full capacity in late summer and early fall, and are nearly emptied by the start of spring runoff each year. As a result, the dams do not substantially alter the annual discharge of the NSR, but only the timing of the flows. The purpose of the two dams are for the generation of hydroelectric power, and they offer little protection against floods or droughts.





From a source water protection view point, it is important to understand how water availability has changed through time. Total annual flow in Edmonton shows a statistically significant decreasing trend through time, but also considerable interannual and decadal variability (Figure 69). These interannual and decadal trends in NSR flow are linked to ocean-atmospheric oscillations such as the El Niño Southern Oscillation (ENSO) and Pacific Decadal Oscillation (PDO) that alter the hydroclimate of western North America, and flow patterns in the NSR (Sauchyn et al. 2020). ENSO phases typically last less then a year, and reoccur every 3 to 7 years, whereas the PDO is a decadal cycle, which can remain in the same phase for 20 to 30 years. El Niño is associated with warmer temperatures and below average precipitation in western Canada, while La Niña is associated with cooler and wetter conditions. Likewise, the negative phase of PDO is linked to higher stream flows in western Canada, and the positive phase is linked with lower flows (St. Jacques et al. 2010). Floods in the NSR are more likely to occur during the positive phase of the PDO (Gurrapu et al. 2016), while droughts are more likely to occur during the negative phase (Sauchyn et al. 2020). In summary, given the high natural variability and decadal oscillations of flow, a simplistic linear trend over the past 100 years is insufficient to address the question of if flows in the NSR are declining over time. Over the past 50 years, there has been no decreasing trend in flow. If flows in the NSR are decreasing over time, the decline is small relative to the observed variability.





Data Source: Water Survey of Canada 2020 **Figure 69. Mean Annual NSR Flows and Five Year Running Averages, 1912 to 2019.**

The flow gauge record on the NSR provides a little over 100 years of data and does not provide a complete picture of natural variability of flow in the river. EPCOR partnered with Prairie Adaptation Research Collaborative (PARC) to determine the natural hydroclimatic variability of the NSR beyond the recorded gauge record. PARC's collaborative team used an innovative method of tree ring growth correlated with the precipitation record to extend the gauge record for the NSR from the mid-11th century (1063) to the end of the 21st century (Sauchyn et al. 2011; Figure 70). The main findings of the report were:

- The 100-year gauge record does not capture the full range of natural variability in the flow of the NSR;
- The NSR basin was settled during one of the wettest periods on record;
- Drought periods similar to the 1930s are not uncommon, and have historically been longer and more intense;
- Storage behind the Bighorn and Brazeau dams will help mitigate these impacts since low flows can be managed with the release of stored water. However, stored water will not be available to enhance summer flows if there is a dramatically reduced snowpack and/or drought in consecutive years. The worst-case scenario would be a prolonged drought, as shown in the reconstruction of the natural flows.




Note: Red bars and shading represent low flows in the 75th percentile, while blue bars and shading represent high flows in the 25th percentile. Reconstruction is smoothed with a 15-year running average (blue line). Figure 70. Sustained Wet and Dry Intervals for Streamflow Reconstruction for the NSR, 1063 - 2006 (From Sauchyn et al. 2011).

The research conducted by PARC and Sauchyn et al. (2011) provides critical information about annual flows in the NSR over the past 900 years; however, annual flows are not necessarily helpful, as the risks to Edmonton's water supply are dependent on instantaneous flows in the NSR. Sauchyn and Ilich (2017) used the 900 years of tree-ring data to generate weekly flow estimates for this period. The flow data generated represent the naturalized flows at Edmonton, which assumes that there are no upstream dams on the NSR. EPCOR used the data provided by Sauchyn and Ilich (2017), and applied correction factors to the data to simulate the impacts of the upstream dams. To explore how drought may affect the water supply in the NSR, flows during a prolonged drought period from 1714-1718 (this drought is observable in Figure 70) were compared to EPCOR's current water withdrawals. These results show that during one of the largest droughts of the past 900 years, EPCOR's current withdrawals would take no more than 5% of the flow of the NSR assuming that flow is regulated by the upstream dams (Figure 71). However, if the flows in the NSR were naturalized (i.e., the upstream dams were removed), EPCOR's current withdrawals would take upwards of 18% of the NSR during the winter months.

To generate a worst-case scenario, the lowest flows of each week for the past 900 years were plotted against the EPCOR's highest weekly water use in the last five years. The results of this analysis show that there would be sufficient flow in the river to meet EPCOR's water withdrawals; however, upwards of 60% of the flow of the NSR would be withdrawn (Figure 72). Obviously this scenario is far from ideal, but it is important to note that even under an extreme scenario there is expected to be sufficient flow in the NSR for EPCOR to provide drinking water. It is also important to note that ~ 90% of the withdrawn water would be returned to the NSR via



the wastewater treatment plants, as most use of water is not consumed, but is returned as treated wastewater.



Figure 71. Mean Weekly Percent of the NSR Flow Withdrawn by the WTPs during a Historical Low Flow Period (1714-1718).



Figure 72. Highest Weekly WTP Withdrawal from 2012 – 2016 as a Percent of the Lowest Weekly Flows Each week for the 900 year NSR Flow Reconstruction.



Floods

As EPCOR's WTPs are both located in the NSR flood plain, flood events present a significant risk of damage to critical infrastructure. Even if direct damage does not occur, high water levels and high concentrations of organic material and suspended sediment can limit or completely prevent the ability of the WTPs to produce potable water for a period of time. Left unmitigated, 1:100 year return period floods or greater have the potential to cause significant damage to EPCOR's WTPs. Lower magnitude flood events, such as a 1:50 year return period flood, have the potential to cause shorter term disruptions to drinking water treatment due to an inability to drain the clarifiers at both WTPs. EPCOR is currently evaluating the susceptibility of the WTPs to floods events, and is implementing several projects improve their resiliency.

The five highest recorded flood events in gauge record are detailed in Table 13, along with the recent flood events of 2005 and 2013 (the 7th and 11th largest recorded flood events). Flows in the NSR along with the peak instantaneous flows and the flood return frequencies are presented in Figure 73.

Year	Date	Average Daily Flow (m ³ /s)	Maximum Daily Flow (m ³ /s)	Return Frequency
1915	June 29	4,640	5,800*	1:200
1986	July 19	3,990	4,520	1:50
1952	June 25	3,540	3,740	1:20
1944	June 16	3,450	3,570	1:20
1954	June 8	3,030	3,340	1:10
2013	June 23	2,710	2,850	1:5
2005	June 21	2,270	2,611*	1:5

Table 13. Historical High Flow Events in Edmonton

* Estimated

Data Source: Water Survey of Canada 2020, AEP 2020





Data Source: Water Survey of Canada 2020, AEP 2020 Figure 73. Daily mean flow and annual peak flows in Edmonton from 1911 to 2019

Current flood predictions and return frequencies do not consider the potential impacts of climate change, or future changes to the land use within the watershed. Climate change is anticipated to increase both the frequency and severity of precipitation events (Kuo et al. 2015), which may result in more frequent and severe flooding in the NSR. Increased development and growth of urban areas will increase the runoff from impervious surfaces. Forest fires can significantly increase the intensity of downstream flooding due to the loss of vegetation (Conedera et al. 2003) but risks of a fire of that magnitude in the watershed is very low.

The upstream Bighorn and Brazeau dams offer little protection against floods (AENV 1990). The area above the Bighorn dam typically does not experience major rainfall events that cause flooding in Edmonton, and the Brazeau dam typically has limited live storage during the summer months when flood events typically occur.

Ice Jam Flooding

High water levels on the NSR can also be caused by ice jams. On April 21, 2020 water levels at the Low Level Bridge rose 3.6 m over a period of four and a half hours due to an ice jam, causing minor flooding at the E.L. Smith WTP. It is not known how frequently ice jams occur on the NSR, and many presumably go relatively unnoticed or unreported. Ice jams that raise water levels enough to cause concern for EPCOR's WTPs occur infrequently; however, the potential consequences are significant.

Ice jams can occur during both winter freeze up and spring breakup; however, ice jams associated with spring breakup are typically more significant due to increased flows that occur



during spring runoff (Turcotte et al. 2019). While the mechanisms of ice jams are well understood, the ability to predict the frequency, severity, timing, likelihood and location of ice jams is complicated by the large number of interacting variables that are need to occur to generate an ice jam (Kovachis et al. 2017, Madaeni et al. 2020). Even in rivers that are highly monitored for ice jam flooding, such as the Athabasca River near Ft. McMurray, it is challenging to predict when and where ice jams will occur (Turcotte et al. 2019).

Climate change will have uncertain impacts on the frequency and severity of ice jams in the NSR and other rivers (Turcotte et al. 2019). Warmer winter temperatures may contribute to thinner ice cover and therefore fewer ice jams. Warmer spring temperatures and increased precipitation during the winter and spring may also contribute to increase thermal breakups of ice, again reducing the likelihood and severity of ice jams. However, warmer spring temperatures and increased precipitation during the winter and spring the winter and spring could also result in more frequent and severe ice jams. Turcotte et al. (2019) concluded that future ice-jam flood risk under a warming climate in Canadian rivers may increase, decrease, or remain unchanged. Rokaya et al. (2019) looked at the frequency of ice jams in the Athabasca River under climate change scenarios and concluded that the probability of ice jam flooding would decrease, but extreme ice jam floods would still occur.

In summary, ice jams on the NSR severe enough to impact EPCOR's operations occur infrequently, and there is no definitive research to suggest this will change in the future. EPCOR has had multiple discussions with Dr. Yuntong She at the University of Alberta, who is conducting research on ice dynamics in the NSR. Future research and collaboration may help inform future predictions on the frequency and severity of ice jams in Edmonton.

Effect of Current and Future Water Use on Supply

To better understand emerging water quantity issues for the NSR, the NSWA commissioned a report on the current and future water use in the NSR basin (AMEC 2007). The NSWA presented an unpublished update to this report, and in general found the trends unchanged (NSWA 2017). The 2007 report provided a comprehensive analysis of water allocations, licensing and use. The analysis was divided by sub-basin and sector (type of use) and summarized current annual and estimated future use (to the year 2025). It was determined that

Approximately 27% of the NSR flow is allocated for use. Of that, less than 3% is considered consumptive use where it is not returned directly to the river after use.

the current annual surface water allocations total about 2 billion m³ – or approximately 27% of the river's average total annual discharge as measured at the Alberta-Saskatchewan border. Of all allocations, 98% are for surface water. Further, upstream sub-basins (Modeste and Strawberry) hold 65% of the total allocations. However, many licensees' actual water use volumes are much less than their allocations. In the Modeste sub-basin most of the allocation is for cooling purposes for power generation and it is estimated that 88% of this is returned to NSR. The report identified that, watershed wide, current actual use is about 0.19 billion m³/per year, or 2.6% of the average annual NSR discharge. Both river flow and use will vary throughout the year and these percentages vary accordingly.

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Based on findings of the 2007 report, future municipal water use in the basin is expected to increase by 16% in a medium growth scenario, with the majority of growth occurring in the Edmonton Capital Region sub-basins. However, the unpublished 2017 update to this report found that although population increased by 26% since 2006, the water allocations for municipal licenses have only increased by 1% and that EPCOR has only increased the volume of water treated by 2.2%. This has been achieved by increased water-use efficiency as the Edmonton per capita water use in 2019 was 271 L per person per day compared to 345 L per person per day in 2010.

Increased water use upstream of Edmonton is not expected over the next 15 years. Currently, less than 5% of the daily flow is withdrawn for drinking water purposes and most of that is returned to the NSR.

The Modeste sub-basin has seen a 24% decrease in water use due to the decreased need for cooling purposes associated with power generation. In summary, water use in the NSR in 2016 is similar, or slightly lower than use in 2006. Further, there are no foreseeable changes to water use upstream of Edmonton, and the availability of water due to increased consumption is not a primary concern for Edmonton.

Currently, the volume of water in the NSR is high compared to the amount of water withdrawn by the WTPs for drinking water purposes. The average daily percent withdrawal for the Rossdale and E.L. Smith WTP is less than 3% of the total daily flow (Figure 74). Seasonally, withdrawals make up a greater percentage during winter low flow periods (around 4%) compared to during open water periods (2% to 3%; Figure 75).



Figure 74. E. L. Smith and Rossdale WTP Daily Intakes as a % of NSR Flow from 2000 – 2019





Figure 75. Mean daily % of NSR flow withdrawn by E. L. Smith and Rossdale WTPs by month from 2000 to 2019.

Effect of Climate Change on Supply

It is critical to consider the availability of water in the NSR in the future under a changing climate. EPCOR understands that water resources are not stationary and that historical trends and patterns may not be applicable under a changing climate. Water management must be adjusted to a hydrological cycle which is increasingly sensitive to the timing and frequency of rainfall events, and has less of a buffer from glacier ice and late snowmelt. EPCOR has engaged and supported Dr. David Sauchyn and the researchers at PARC to develop future predictions and evaluate the uncertainty of model projections on the streamflow in the NSR (Sauchyn et al. 2020).

In Edmonton, mean annual temperatures have risen by more than 2 °C; however, summers? are not getting hotter, but rather, winters are much less cold, with temperatures rising 6.5 °C during winter months (Sauchyn et al. 2020). Mean annual precipitation has also increased in Edmonton; however, the increase is small relative to the large inter-annual and decadal variability (Sauchyn et al. 2020). In the headwaters of the NSR, mean annual temperature has already increased by 1.5 °C, and future increases will be over 3 °C in the next 25 – 50 years (Weaver 2017).

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Climate models run within the NSR basin by Golder (2008b), Kienzle et al. (2012) and Sauchyn et al. (2020) consistently predict increased temperatures and precipitation, earlier spring melts and increases in annual flow. Model data provided by Sauchyn et al. (2020) predicts an 8% increase in total annual flow by the year 2080, and increased interannual variability (Figure 76). The increased variability between years may be the more significant impact compared to a modest increase in flow. The overall increase in flow is driven by increased flow in the winter and spring

Climate change is expected to lead to early spring melt and lower summer flows, and an overall increase to the annual NSR flow. A greater threat is a prolonged drought, which is not uncommon in the NSR basin.

that is offset by decreased flow during the summer month. This is driven by warmer temperatures, increased evaporation, and an earlier decline in snow pack (Figure 77).

Natural and Externally Forced Hydroclimatic Variability in the North Saskatchewan River Basin- is a project that was initiated by EPCOR in 2018 and done in collaboration with the Prairie Adaptation Research Collaborative (PARC). The project sought to develop projections of future climate and flow in the NSR at Edmonton using the latest Regional Climate Models (RCMs). Projections of future climate and flows in the NSR in previous studies have been derived from Global Climate Models (GCMs). Flows for the NSR at Edmonton were derived using the MESH (Modélisation Environmentale-Surface et Hydrologie) land surface hydrology model, and 15 runs of the Canadian Regional Climate Model (CanRCM4) under the RCP 8.5 emission scenario (i.e., business as usual). Projected flows are based on the naturalized flow in the NSR, which assume that the upstream dams are not in operation. Understanding how operation of the dams may change under future climate scenarios will be explored in further studies.

Modelled results show that the timing of spring runoff, peak summer flows and the decline in flows in the fall will each advance by a month for the period of 2041 – 2100. It is important to note that the flows depicted in Figure 77 are the naturalized flows of the NSR, which assume no operation of the Bighorn or Brazeau dams. However, as described above, the operation of the two upstream hydroelectric dams have a profound effect on the timing of flows in the NSR. Thus, the resulting flows in the NSR will be affected not only by changes in climate, but how the upstream dams alter their operations due to changes in the timing and magnitude of flows into their reservoirs. EPCOR has been engaging with TransAlta regarding how climate change may affect the operations of both organizations.



Note: Simulated mean annual runoff from 15 model runs. Dark blue line represents the mean. Figure 76. Mean Annual Runoff in the NSR at Edmonton from 1951 – 2100 (From Sauchyn 2020).



Figure 77. Naturalized Daily NSR Flow in the NSR at Edmonton under Baseline and Future Climate (From Sauchyn 2020).

Alternative Water Supplies and Groundwater

EPCOR engaged Stantec to evaluate various alternative water supplies to determine their feasibility in the event of a hydrocarbon spill. Stantec (2017) evaluated six lakes (Wabamun,

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Lac Ste. Anne, Cooking, Beaverhill, Pigeon and Big lakes), three river locations (Athabasca, Red Deer and Sturgeon Rivers) and groundwater as alternative water sources for temporary and permanent requirements. Based on their review, Wabamun Lake and Lac Ste. Anne were considered as the primary options for use as a temporary alternative source of water. Costs of setting up a temporary water supply system with hoses and pump stations for a 30-day period from either of these sources would exceed \$80 million. Additionally, neither of these lakes has sufficient water volume to be considered a permanent water source. Both the Athabasca and Red Deer rivers were considered for a permanent water source in the 2017 study, with the Athabasca River being preferable due to higher water quality and quantity. Costs of setting up a permanent water supply from the Athabasca River could approach \$520 million, not including land costs.

Groundwater was evaluated by Stantec (2017) as an alternative source of water and it was concluded that a single well could not supply Edmonton's water demand, and that a well field, consisting of multiple wells would be required. Additionally, Stantec concluded that more detailed studies would be required to fully evaluate the potential for groundwater. Groundwater as an alternative water source may be an added source of resiliency, not only in terms of hydrocarbon spills (which was the focus of Stantec's report), but also in terms climate change, which may reduce the quantity and quality of other surface water sources evaluated by Stantec (2017).

Godfrey (1993) provides an overview of groundwater resources in the Edmonton Area and states that freshwater aquifers are found in cretaceous bedrock and surficial deposits. Bedrock aquifers in Edmonton are found in the Horseshoe Canyon Formation which was deposited 65 to 100 million years ago in a largely swampy, deltaic environment which was occasionally flooded by the sea. The lowermost depths of this formation contains multiple coal seams, and where these coal seams are fractured, they constitute important aquifers. These wells are generally capable of producing groundwater at rates ranging from 0.4 to 7.5 L/s, but coal seams beneath the Cooking Lake Moraine (a short distance east of Edmonton) may be more productive. Wells 45 m deep in this area can produce up to 8 L/s, and wells between 45 and 60 m deep can produce up to 2 L/s. Water from coal aquifers generally has high TDS, between 1,000 and 1,500 mg/L, and high iron and would requires treatment for iron and TDS reduction.

Alternatively, aquifers in surficial deposits are the result of more recent glacial activity. As described in Section 3.2.2, the ancestral flows of the North Saskatchewan River were stopped by glaciers and these river valleys were buried by deposits from the resulting Glacial Lake Edmonton. These ancient river channels are now buried-valley aquifers, and are the most important and productive aquifers in the Edmonton region. These larger valleys can produce water in rates in excess of 8 L/s in many places. Godfrey (1993) states that as much as 30 L/s has been pumped continuously by the town of Stoney Plain to lower the water table for more than 15 years. The chemistry of groundwater in these surficial deposits differs significantly from water in the underlying bedrock and the water is generally hard because of high calcium and magnesium concentrations. TDS concentrations can vary over short distances and range from 500 to 3,000 mg/L, and can be as high as 6,000 mg/L in some locations. Additionally, these waters often have high iron content and require iron removal for drinking water.



A more recent assessment of groundwater in the Edmonton area by Barker et al. (2011) suggests in the Edmonton area, the recommended groundwater extraction rates are between 0.5 and 0.75 L/m, but note that they do not represent the actual groundwater yield possible for each geological formation. Barker et al. (2011) also report that the hardness of groundwater in much of the Edmonton region ranged between 250 and 500 mg/L and that some areas to the east are above 500 mg/L. Similarly, total dissolved solids (TDS) is typically less than 1,000 mg/L but range between 1,000 and 1,500 mg/L in some areas. In a series of reports, Barker et al. (2013a, b, c, d and e) provide more detailed maps of groundwater chemistry (including calcium, magnesium, sodium, potassium, chloride, sulphate, alkalinity, iron, TDS and hardness) of bedrock and surficial aquifers in the Edmonton region. This series of reports would be an important resource when undertaking a more detailed evaluation of the feasibility of utilizing groundwater resources.

Despite the previously mentioned studies, relatively little information is known about groundwater resources in the basin. It is not known what fraction of the river flow at Edmonton is comprised of groundwater, or where the sources of groundwater in watershed are located. As described above, buried pre-glacial channels exist in/near Edmonton, but the volume of groundwater in the channels their recharge rates, and their ability to interact with the NSR is unknown. There is also limited understanding of how drought, climate change and future land use changes may impact surface water-groundwater interactions. EPCOR is providing financial support to a research project led by the University of Alberta and the Alberta Geological Society to provide a greater understanding of groundwater resources in the NSR.

In order to fully determine if groundwater is a feasible source of water supply for Edmonton, additional studies would be required. It is unclear if there is sufficient volume, and water quality would also need to be explored in greater detail. Additionally, EPCOR would need to determine if groundwater would feasible as presumably a large well field, with a large number of wells would need to be built to meet water demands.

3.4 Potential Hazards

By using a risk management approach, EPCOR has identified hazards to the water supply which could impair the operation of the components of the water system and result in threats to public health. This was informed by the detailed characterization of the watershed found in the previous sections. The risk assessment was done as part of EPCOR's Drinking Water Safety Plan (DWSP) (see Section 3.6.5) using an EPCOR methodology authorized by AEP.

A hazard refers to a source of (potential) harm to the functioning of any aspect of the drinking water system or to human health. Hazards can be the result of natural and/or human (anthropogenic) activities. A risk refers to the chance or possibility of a hazard causing this harm to the functioning of any aspect of the drinking water system or to human health (CCME 2004).

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Refer to Table 14 for a list of all potential hazards. See Table 15 for a list of various contaminants associated with the identified hazards and Table 16 for a list of concerns related to potential contaminants in the NSR raw water source.

Source	Land-uses / Potential Contaminant Source/Activity				
POINT	Small urban waste water discharges				
	Pipeline break				
NON-POINT	Livestock waste excretion				
	Livestock physical alteration of watershed				
	Agricultural cropping activities				
	Agricultural land cover and use				
	Wildlife activity in watershed.				
	Rural septic fields				
	Small urban stormwater runoff				
	Forest harvesting activities				
	Pine beetle infestation				
	Forest fires				
	Waste disposal sites				
	Alteration in climate (natural and anthropogenic)				
	City of Edmonton stormwater runoff				
	Contamination of pet fecal matter in urban areas				
	Proximity to transportation corridor				
	Spill on a bridge				
	Recreational activities				
	Ground water contamination from airport				
	Gravel extraction				
	Coal surface mining				
	Disposal of animal remains within watershed				
	Dam operation and management				
	Contamination of shallow aquifers				
	Industrial land spillage				
OTHER	Intentional contamination at critical source intakes				
	Insufficient raw water quantity				
	Catastrophic failure of dams				
	Contamination of raw water due to intentional				
	dumping or release of chemicals from industries				
	Construction activities on the River – Upstream				
	Bridges				
	Lack of integration among watershed and other land and water planning initiatives				

Table 14. Potential Hazards for Edmonton's Drinking Water System.



Table 15. Various Contaminants Associated with the Identified Hazards (Land-Use and Pollutant Analysis Matrix) (Water Research Foundation 1991).

	Contaminant											
Land-use/ Potential Source	Turbidity	Ηq	Nutrients	Algae	Viruses/ Parasites	Bacteria	THM Precursors	Pesticides	Other SOCs	VOCs	Heavy Metals	Iron/ Manganese
Hazardous Materials								Х	Х	Х	Х	Х
Urbanisation	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
Municipal WWTP and Lagoons	X	X	Х	Х	Х	Х	Х	Х	X	X	Х	Х
Agricultural Grazing	Х		Х	Х	Х	Х	Х					
Industrial Discharges	Х	Х	Х	Х		Х	Х	Х	Х	Х	Х	Х
Recreational Activities					Х	Х						
Roads	Х		Х	Х			Х					Х
Mining	Х	Х	Х								Х	Х
Cropland Runoff	Х		Х	Х	Х	Х	Х	Х			Х	Х
Dairies / Feedlots	Х		Х	Х	Х	Х	Х					
Septic Systems		Х	Х	х	Х	Х	Х	Х				
Acid Rain		Х										
Forest Management	Х		Х	Х		Х	Х	Х				Х

Hazardous Materials: oil and gas pipelines, waste disposal sites, chemical and fuel storage sites, spills, grease and toxic chemicals. THM: Trihalomethane. SOCs: synthetic organic chemicals. VOCs: volatile organic compounds.



Table 16. Concerns Related to Potential Contaminants.

CONTAMINANT CATEGORIES		CONCERNS				
	bacteria,	Most significant effect to public drinking water because the effects are acute.				
Microbial	protozoa, viruses, parasites (Giardia, Crypto, <i>E. coli</i> 0157:H7)	If ingested, pathogens can give people gastrointestinal illness within hours or days.				
Pathogens*		Some cases, ingesting pathogens can result in permanent damage to internal organs or lead to chronic health problems.				
		In the most severe cases, ingesting pathogens can be fatal.				
Chemical and	pesticides, inorganic	Health effects tend to be chronic, only appearing after people are exposed to high levels of the substance consistently over a period of years.				
Radiological Contaminants	chemicals (metals, total dissolved solids)	Generally, only a small percentage of the population would see any effects.				
		Health effects vary depending on the specific contaminant.				
		Physical characteristics do not pose a direct threat to human health.				
Physical Water	turbidity, sediment, colour, taste and odour, tomporature, pH	Can indicate presence of other chemical or biological concerns.				
Quality Parameters		Particulate matter (turbidity) can interfere with drinking water treatment processes, thereby increasing the risk of microbiological threats.				
	temperature, pri	WTPs have difficulty operating under these types of conditions				
Interactions between Contaminant Categories		It is important to note, different types of hazards could interact with one another.				
		Interaction may result in synergistic or antagonistic effects.				

3.4.1 Point Source Contamination

Point source contamination is a source of pollution that can be traced back to a specific location (point of discharge and/or origin).

The following is a list (in no particular order) of possible point source contamination hazards that could affect the NSR raw water:

- Small urban communities waste water from continuous waste water discharges (Rocky Mountain House, Drayton Valley and Devon) and other municipal sewage lagoons discharging pharmaceuticals, personal care products, contaminants of emerging concern, nutrients, pathogens and hazardous chemicals
- Industrial discharges or dam/tailing pond breaches releasing hazardous chemicals
- Pipeline breakage releasing hydrocarbons or other chemicals



3.4.2 Non-point Source Contamination

Physical, chemical, and biological characteristics and processes in a watershed affect the water quality of waterbodies that drain these areas. Changes to either the processes and/or physical characteristics of a watershed will ultimately lead to changes in water quality in downstream waterbodies. If these changes result in alteration of background water quality and/or quantity, it can be considered pollution. Without the ability to trace back to a single point of origin and/or discharge, it can be defined more specifically as non-point source pollution (NPSP). Examples of NPSP include: the addition of chemicals to the land base (e.g. nutrients, pesticides) which then run off into waterbodies and increase background levels and alteration of watershed functions and processes such as the removal of trees resulting in erosion and increased sediment concentrations in receiving waterbodies.

The following is a list (in no particular order) of possible non-point source contamination hazards that could affect NSR raw water:

- Agriculture fertilizers and pesticides from cropping, bacteria, and nutrients from livestock waste excretion, increased erosion, and movement of contaminants from physical alteration of watershed
- Stormwater/urbanization excess nutrients, metals, sediment, fertilizers, herbicides, insecticides and pet waste
- Mining sediment, nutrients, dissolved solids, metals from leachate
- Forestry activities sediment and nutrients from increases erosion, herbicides
- Roads sediment and nutrients from increases erosion, metals, salt
- Construction sites hydrocarbons, sediment
- Recreational activities sediment and nutrients from increases erosion
- Septic systems bacteria, nitrate, ammonia, pharmaceuticals, personal care products
- Atmospheric deposition metals, contaminants of emerging concern
- Accidental spills / releases hydrocarbons/petroleum products, heavy metals

3.4.3 Other Potential Hazards

Mountain Pine Beetle

The mountain pine beetle (*Dendroctonus ponderosae*) is a small (< 1 cm) insect with a lifecycle that is spent mostly beneath the bark of pine trees and are native to temperate pine forests from Mexico to central British Columbia. They play an important role in pine forests because their preference for stressed and over-mature (80+ years) trees allows for the development of a younger forest. However, when populations of mountain pine beetle grow, they can attack young and healthy trees and cause significant and widespread mortality of pine forests. The loss of functional tree cover can negatively impact a watershed through rising water tables, increases in streamflow due to reduced evaporation, earlier run-off patterns, and increased soil erosion; all of which can cause increase the risk and severity of forest fires; however, research in the US Pacific Northwest suggests that mountain pine beetle infestations are not correlated



with the frequency of forest fires and may reduce the severity of forest fires (Meigs et al. 2015, Meigs et al. 2016)

Cold winter temperatures have historically prevented mountain pine beetles from establishing in Alberta, as winter temperatures below -40 °C result in significant beetle mortality (AESRD 2010). Localized outbreaks of mountain pine beetle occurred in Alberta in the 1940s and again in the 1970s. Forest management practices and cold temperatures resulted in the extermination of beetle populations from Alberta. In 1997, a third wave of mountain pine beetle had become firmly established in western Alberta and the outbreak was declared as an emergency. Large populations of beetles arrived from British Columbia in 2006 and 2009 resulting in large infestations into west-central Alberta. The upper reaches of the NSR have large abundances of lodgepole pine and therefore effects of a pine beetle infestation could be significant. As it stands water quality and hydrology have not shown impacts but the infestation, though widespread, hasn't impacted a significant number of trees to date.

Aerial surveys conducted by Alberta Agriculture and Forestry since 2005 indicate that mountain pine beetle was first detected in the NSR basin in 2011 in a small location upstream of Abraham Lake, and in isolated locations around the Brazeau Reservoir. Aerial surveys conducted as recently as 2017 showed very few infected trees in the NSR basin. However, by 2019 the number of infected trees dramatically increased, particularly in the Brazeau subwatershed, but in a number of other areas across the NSR headwaters (Figure 78). This data suggests that mountain pine beetle populations have significantly expanded within the basin, and it is reasonable to expected increased spread in future years.





Note: boundaries of the Rocky Mountain House Forest Area do not correspond to the NSR basin. Figure 78. 2019 Mountain Pine Beetle Aerial Surveys Near Rocky Mountain House (from Alberta Agriculture and Forestry 2019a).

Climate Change

Representatives from water utilities, climate-change researchers and the Government of Alberta are currently working together to identify high-priority drinking water issues that may result from climate change. These are discussed in detail in Sections 3.3.1 and 3.3.3 of this report.

Forest Fires

Since 1934, a total of 2,686 km² of the watershed has experienced a wildfire, with a majority of the wildfires occurring between Drayton Valley and Rocky Mountain House (Figure 79). Relatively little of the upper watershed has experienced a fire since 1930s. A majority of the forest fires that have occurred in the NSR watershed occurred during the 1940s and 1950s (Figure 80). Forestry management practices (see Section 3.2.9) in the headwaters may have



resulted in fewer fires; however, there are still large sections of the headwaters of the NSR that have experienced neither forestry activities nor a wildfire since records began in the 1930s.



Data Source: GoA 2019

Figure 79. Wildfires in the NSR Watershed between 1931 and 2019.

Prior to the 20th century, the fire regime in Alberta's montane region was dominated by frequent, small, low-severity fires as traditional burning in these areas by Indigenous people was common (Farr et al. 2018). More recently, the frequency of fires has decreased due to the end of traditional burning practices and increased fire suppression. This has resulted in the aging of Alberta's forests. AESRD (2012b) demonstrated that over 20% of Alberta's forests were categorized as "over-mature" in 2011. The frequency, severity and size of wildfires along Alberta's eastern slopes are anticipated to increase due to older forests and climate change that is anticipated to result in warmer and drier conditions and a longer fire season.



Figure 80. Area Burned by Wildfires in the NSR Watershed between 1931 and 2019.

Forest fires can have a wide range of effects on downstream water quality and quantity (Sham 2013). The loss of vegetation and ecosystem function can result in increased runoff, increased peak flows, flooding and increased erosion. Water quality can also decline after forest fires, including increases in colour (dissolved organic carbon), turbidity, nutrients and metals such a lead or arsenic. A study conducted in the headwaters of watersheds in the Rocky Mountains in southern Alberta found that large forest fires resulted in a doubling of DOC, a tripling of turbidity, and increased phosphorus for several years post-fire (Emelko et al. 2011, 2016). Following the 2016 wildfires in Ft McMurray, increased concentrations of suspended sediment, nutrients organic carbon, and metals were found in the Athabasca River following precipitation events (Emmerton et al. 2020). This study demonstrated that wildfires have the ability to impact water quality in large rivers that have low-relief and wetland-dominated landscapes, and can impact water treatment costs similar to other studies that have focused on smaller, steeper, and more hydrologically connected headwater streams. A recent study by Robinne et al. (2019) calculated an exposure risk of wildfires ability to impact drinking water sources in Alberta. The North Saskatchewan watershed above Edmonton had a 'moderate' risk compared to other regions in Alberta, largely due the cooler and wetter headwater regions of the NSR contributing to fewer and smaller wildfires.



Data Source: Alberta Agriculture and Forestry 2019b Figure 81. Relative likelihood of fire based on Alberta Agriculture and Forestry's BurnP3 model

In summary, wildfires in the NSR watershed have the ability to impact water quality in the NSR in Edmonton; however, the likelihood and risk of significant impacts to EPCOR's WTPs is relatively low. Most wildfires in Edmonton's headwaters are anticipated to be relatively small and infrequent, as wildfires that are deemed to have been "significant" by Alberta Agriculture and Forestry (personal communication, McLoughlin, 2018) such as the 2014 Spreading Creek fire, burned a less than 0.6% of the watershed. Additionally, the Bighorn and Brazeau dams likely attenuate the impacts of wildfires in these subwatersheds, due to settling of suspended material, and the dilution of flushes from burned areas. Wildfires have the ability to increase turbidity and organic material in the NSR with can increase EPCOR's costs to treat water, and interfere with the WTPs ability to convert to and maintain direct filtration. However, the effects of smaller scale wildfires are unlikely to be noticed amongst the highly variable water quality of the NSR. More significant impacts would be expected if a significant portion (i.e. > 20%) of the watershed were burnt; however, a wildfire of this scale is unprecedented in the last century, and is unlikely to occur in the future (personal communication, McLoughlin, 2018).



Frazil Ice

Frazil ice (i.e. slushy ice) has not previously been a concern for EPCOR; however, in December 2018, high concentrations of frazil ice in the NSR caused minor damage to traveling screens at the WTPs which are designed to remove debris. Frazil ice has the potential to completely block intakes; however, this has never occurred at EPCOR's WTPs.

Frazil ice is formed during the late fall and early winter when the water is supercooled (i.e. drops below 0°C) before stable ice cover is achieved. This typically occurs when air temperatures rapidly drop; however, the precise conditions that generate high concentrations of frazil ice are complex and not fully understood. EPCOR now monitors air and water temperature to help anticipate when frazil ice conditions are possible; however, EPCOR's WTP currently have few options to mitigate frazil ice; however, possible mitigation measures are being evaluated. EPCOR is currently exploring various engineering solutions to manage frazil ice. EPCOR is currently engaging with the University of Alberta to better understand this phenomenon. Frazil ice in concentrations that can affect EPCOR's WTPs is an infrequent event, and there is no indication that the likelihood of these events is increasing, or will increase under a warming climate.

3.5 Rank Hazards/Risk Statements and Identify Vulnerable Areas

Using the developed list of hazards/risk statements for Edmonton's water treatment operations, the level of risk associated with each has been identified through EPCOR's risk management approach (MS03-STD1-Risk Management Process- Risk Assessment, Risk Treatment and Risk Review Standard) and as part of EPCOR's Drinking Water Safety Plan (DWSP).

As part of this process, two types of risk were determined: inherent and residual risk. Inherent risk was defined as a risk without any controls applied, in this case the controls would be water treatment plants and watershed management. Assuming normal plant operations and continued watershed management, the remaining risk was defined as residual risk. The difference between the inherent and the residual risk is a measure of the effectiveness of the controls and both are important in assessing risks to source waters. In most cases robust treatment renders a parameter with high inherent risk (upstream WWTP effluent) to low residual risk, particularly if those parameters are effectively treated at the WTPs, such as sediment or bacteria.

Risk was derived as a function of consequence and likelihood. The risk was determined by rating the consequence (impact) and the likelihood (probability) and then applying them to the EPCOR Risk Matrix. Consequence and likelihood ratings were based on historical evidence (quantitative assessment) as well as the best available knowledge of subject matter experts (qualitative assessment).

The steps to analyze the risk included:

1. Rating the Consequences (Impacts/Effects)

Using the consequence categories in the EPCOR Risk Matrix, each risk/hazard was rated for the greatest potential consequence that could plausibly happen. This was done by scanning across all the consequence categories and determining which impact/effect is the greatest. The five categories were:

- Health and safety (public and employees)
- Reputation (credibility as a utility service provider)
- Environmental consequences (including public health)
- Regulatory compliance
- Financial consequences (business/operating loss financial/asset damage/reliability/business interruption)
- 2. Rating the Likelihood (Frequency/Probability)
 - Using the likelihood categories in the EPCOR Risk Matrix, the likelihood that the risk event would occur was determined.

3. Estimating Risk (Calculating the Risk Level, Rank and Score)

The risk level was determined to be either:

- a. Level I "Green" with rank "Low"
- b. Level II "Yellow" with rank "Medium-Low",
- c. Level III "Orange" with rank "Medium-High" or
- d. Level IV "Red" with rank "High".



It should be noted the predictive nature of hazard identification and risk management dictate that substantial uncertainty will always be associated with these activities (CCME 2004).

Source	Land-Uses / Potential Contaminant Source/Activity	Inherent Risk	Residual Risk
POINT	Small urban waste water discharges	Н	L
FOINT	Pipeline break	M-H	M-H
	Livestock waste excretion	Н	L
	Livestock physical alteration of watershed	M-H	L
	Agricultural cropping activities	M-H	L
	Agricultural land cover and use	M-H	L
	Wildlife activity in watershed	M-H	L
	Rural septic fields	M-H	L
	Small urban stormwater runoff	M-H	L
	Forest harvesting activities	M-H	L
	Pine beetle infestation	M-H	L
	Forest fires	M-H	M-L
	Waste disposal sites	M-L	L
NON-	Alteration in climate (natural and anthropogenic)	M-H	M-L
POINT	City of Edmonton stormwater runoff	H	L
	Contamination of pet fecal matter in urban areas	M-H	L
	Proximity to transportation corridor	M-H	L
	Chemical spill on a bridge	M-H	M-L
	Recreational activities	M-L	L
	Ground water contamination from airport	M-L	L
	Gravel extraction activities	M-L	L
	Coal surface mining	L	L
	Disposal of animal remains within watershed	M-L	L
	Dam operation and management	M-L	L
	Contamination of shallow aquifers	M-H	M-L
	Industrial land spillage	M-H	M-L
	Intentional contamination at critical source intakes	M-H	M-L
OTHER	Insufficient raw water quantity	M-L	L
	Catastrophic failure of dams	M-H	L
	Contamination of raw water due to intentional dumping	М-Н	M_I
	or release of chemicals from industries	101-1 1	
	Construction activities on the River – Walterdale Bridge	M-H	M-L
	Lack of integration among watershed and other land and water planning initiatives	M-H	L

Low = L, Medium-Low= M-L, Medium-High= M-H, High - H



3.6 Watershed Management and Compliance and Regulatory Requirements

3.6.1 United States

The United States (U.S.) has been more advanced when it comes to protecting their drinking water sources. Many Canadian drinking water utilities will and should refer to existing U.S. policy, regulations and literature for assistance in developing SWPPs.

United States Environmental Protection Agency (US EPA)

The United States Environmental Protection Agency (US EPA) has released a number of documents, some of which include:

• "Consider the Source: A Pocket Guide to Protecting Your Drinking Water". June 2002. US EPA Office of Ground Water and Drinking Water.

As well, the US EPA maintains a comprehensive SWP website which addresses all aspects of drinking water source protection and has links to current state, NGOs, and other organisation initiatives as they involve SWP: <u>https://www.epa.gov/sourcewaterprotection</u>

3.6.2 Government of Canada

In Canada, there are no current policies or legislation regarding source water protection specifically. However, the Federal Government has emphasized the importance of source water protection as the first step in a 'multi-barrier approach' to protect drinking water sources. The Government of Canada and the Canadian Council of Ministers of the Environment (CCME) have released a number of documents on source water protection that include:

- "From Source to Tap: The multi-barrier approach to safe drinking water". May 12, 2002. Federal-Provincial-Territorial Committee on Drinking Water and CCME Water Quality Task Group.
- "From Source to Tap: Guidance on the Multi-Barrier Approach to Safe Drinking Water". 2004. Federal-Provincial-Territorial Committee on Drinking Water and CCME Water Quality Task Group.
- "Guidance for Providing Safe Drinking Water in Areas of Federal Jurisdiction. Version 2. 2013. Health Canada.

Environment Canada released Wastewater Systems Effluent Regulations (WSER) in 2012 which, do not refer to source water protection directly; however, go a long way in ensuring point source effluent from waste water treatment plants are managed effectively to protect water quality. The new regulations align with the CCME Canada-wide Strategy for the Management of Municipal Wastewater Effluent.



Indigenous and Northern Affairs Canada

Indigenous and Northern Affairs Canada (INAC) has developed a number of tools and documents regarding improving water and wastewaters services in First Nation communities. The following document is available on source water protection:

• "First Nations On-Reserve Source Water Protection Plan: Guide and Template". 2014. Aboriginal Affairs and Northern Development Canada

3.6.3 Other National Level Organizations

Governance for Source Water Protection in Canada is a collaborative research initiative supported by the Canadian Water Network. They have been since in existence since 2008 and are led by the Water Policy and Governance Group at the University of Waterloo. Researchers, academia, government, NGOs, First Nations, watershed groups work in collaboration to improve the knowledge around water governance will the ultimate goal of improved source water protection processes and outcomes throughout Canada. Two key reports are available:

- "Tools and Approaches for Source Water Protection in Canada". 2010. Simms, G., Lightman, D. and de Loë, R. Governance for Source Water Protection in Canada.
- "Governance for Source Water Protection in Canada Synthesis Report." 2012. de Loë, R.C. and D. Murray. Water Policy and Governance Group.

3.6.4 Province of Alberta

Although all levels of government in Canada have responsibility for drinking water, the legislative responsibility for providing safe drinking water to the public generally falls under provincial or territorial jurisdiction (CCME 2004).

Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems

In 2012, Alberta Environment and Parks revised the "Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems". Part 2 of this revised document is titled "Guidelines for Municipal Waterworks" and includes a section on source water protection and highlighted the importance for municipalities to conduct source water protection planning.

Drinking Water Safety Plans

As part of the Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems, there is a requirement to complete Drinking Water Safety Plans (DWSP). These plants include a source to tap risk assessment. EPCOR completed its risk assessment in 2013, and the DWSP, including the action plan, was finalized in 2013. The risk assessment component for source waters has been incorporated the hazard and risk assessment in Section 3.5. EPCOR continues to re-evaluate and reassess its DWSP annually.

Water for Life Strategy



AEP's Water for Life (WFL) Strategy was introduced in 2003 and guides watershed and water management in Alberta under the guidance of three main goals (see below) and through knowledge and research, partnerships, and water conservation.



Three main partnerships exist under WFL and they have a shared accountability to achieve Water for Life goals (Figure 82). The first partnership is a provincial partnership with the Alberta Water Council (AWC). The AWC is a consensus-based partnership that provides timely and strategic advice to governments, industry, and non-government organizations towards achieving WFL goals and outcomes. The second partnership is regional partnerships with Watershed Planning and Advisory Councils (WPACs), who are designated leaders in watershed assessment and planning. EPCOR is engaged primarily at this level and, for Edmonton operations, engagement occurs through participation on the NSWA. Thirdly, there are local partnerships which occur with watershed stewardship groups. Watershed stewardship groups take community-level, on the ground action to safeguard our water sources. This section of the report will focus on the role of watershed planning and source water protection within the broader WFL strategy.



Figure 82. Water for Life Roles and Responsibilities (modified from AWC 2008).

In 2008, the Government of Alberta released a renewed Water for Life strategy and followed in 2009 with a *Water for Life Action Plan*, which supports the original goals and directions in the WFL strategy. The renewal emphasized partnerships and specifically highlighted working with the Alberta Water Council, Watershed Planning and Advisory Councils and watershed stewardship groups. The renewal was clear: Alberta's water resources must be managed within the capacity of individual watersheds and to ensure safe, secure drinking water we must recognize our dependence on aquatic ecosystems as source water.

The Action Plan outlines a comprehensive strategy to protect our drinking water as a specific outcome. The strategy involves ensuring Albertans have timely access to information about drinking water quality in their communities and that drinking water infrastructure strictly adheres to emerging standards. Key actions from the original strategy, as they pertain to source water protection, include:

- Development of a waterborne disease surveillance system and the undertaking of waterborne contaminant research. Progress to date is minimal.
- An update of water quality programs to support source protection information and planning. Progress to date includes enhanced tributary monitoring as part of the WaterSHED program.
- Working with WPACs to incorporate drinking water source protection into watershed planning. Progress to date: support of the Alberta Water Council Source Water Protection Projects.



Alberta Water Council

Incorporated as a not-for-profit society in 2007, the AWC is a multi-stakeholder partnership with twenty-four members from government, industry, and non-governmental organizations. Its primary task is to monitor and steward the implementation of Alberta's WFL strategy and to champion the achievement of its three goals. Recommendations on various aspects of water and watershed management are made to the provincial government, who then can choose to or not implement those recommendations into policy. Some key documents produced by the AWC which focus on watershed planning include: "Strengthening Partnerships: A Shared Governance Framework for Water for Life Collaborative Partnerships" and "Recommendations for a Watershed Management Planning Framework for Alberta". These documents were used to form current government policies in the WFL renewal and action plans and support sector-based approaches to watershed management.

In addition, projects teams have been developed in the areas of water conservation, efficiency and productivity, healthy aquatic ecosystems, Alberta's water allocation transfer system, nonpoint source pollution, and riparian management and conservation. EPCOR has been involved on project teams through participation with the NSWA or other stewardship groups. EPCOR was involved in the formation of the AWC's "Guide for Source Water Protection Planning" (AWC 2020) which provides an overview of how drinking water providers in Alberta can begin voluntarily undertake the creation of a SWPP. EPCOR is also working on an AWC project looking to scope how a web-based toolkit could be made available to assist communities in creating source water protection plans.

North Saskatchewan River Watershed Alliance (NSWA)

As the WPAC for the basin, the NSWA is mandated under WFL to complete State of Watershed reporting and to develop an Integrated Watershed Management Plan for the basin- which aligns with aforementioned WFL goals. Since its inception, an EPCOR staff member has been an active participant on the NSWA board and project teams.

The NSWA completed a "State of the North Saskatchewan River Watershed" in 2005, as well as a "Municipal Resource Guide" for communities in this watershed in 2006. In late 2005, the Alliance began work on developing an Integrated Watershed Management Plan (IWMP) for the basin, which was intended to set land use, water quantity, and water quality objectives for the basin. The plan was completed in 2012 (NSWA 2012b).

As a key part of the IWMP, a NSWA Technical Advisory Committee developed mainstem water quality objectives for the NSR. The final report: "Proposed Site-Specific Objectives for the Mainstem of the North Saskatchewan River" (NSWA 2010) set objectives for the NSR that helped guide watershed planning in the IWMP. The document promotes a "no further degradation in water quality" philosophy in the NSR. In areas, downstream of Edmonton, there is a call for improvement in water quality for some parameters.

Throughout the IWMP development, knowledge and data gaps were identified and a series of reports were completed to augment objective setting for the basin. The following key reports were completed:



Strawberry Watershed Riparian Area Assessment					
Modeste Watershed Riparian Area Assessments					
Preliminary Steps for the Assessment of Instream Flow Needs in the	2014				
North Saskatchewan River Basin					
Vermilion River Watershed Management Plan	2012				
Workbook Results: Integrated Watershed Management Plan for the	2012				
North Saskatchewan River					
Discussion Paper for the Development of the IWMP for the North	2011				
Saskatchewan River Watershed					
Economic Activity and Ecosystem Services in the North Saskatchewan	2010				
River Basin					
North Saskatchewan River Basin Socio-Economic Profile	2010				
Proposed Site-Specific Water Quality Objectives	2010				
North Saskatchewan River Basin Overview of Groundwater	2009				
Conditions, Issues, and Challenges					
Hydrodynamic and Water Quality Model of the North Saskatchewan	2009				
River					
Cumulative Effects Assessment of the North Saskatchewan River	2009				
Watershed using ALCES					
Cumulative Effects Assessment of the North Saskatchewan River	2009				
Watershed Using ALCES					
Water Supply Assessment for the North Saskatchewan River Basin	2008				
Climate Change Effects on Water Yield in the North Saskatchewan	2008				
River Basin					
Current and Future Water Use in the North Saskatchewan River Basin	2007				
Instream Needs Scoping Study	2007				

Involvement with the NSWA will continue to provide an effective platform from which EPCOR can ensure effective and collaborative watershed management is achieved, with source water protection principles in mind.

Cumulative Effects Management and Land Use Framework

The Government of Alberta enabled cumulative effects management on a landscape level with the release of the Land-use Framework (LUF) in December 2008, followed by the *Alberta Land Stewardship Act* (ALSA) in early 2009. The Land Use Framework is the overarching planning mechanism for Alberta's natural resources and is enforced through the ALSA, which supersedes all other provincial legislation. Regional plans, which are developed under LUF, present one of the first opportunities for a cumulative effects management approach. LUF has committed the province to taking a cumulative effects approach to environment management in seven designated regions. Regional Advisory Councils (RACs) will be established to help guide/set landscape level outcomes which will be included in Regional Plans. Consultation of Phase 1 of the regional plan for the NSR Watershed is complete.



Cumulative effects management requires integration amongst spatial scales – provincial, regional, sub-regional, local and site-specific. At present, AEP is developing Management Frameworks that support regional plans under the LUF, including Water Quality Management Frameworks. Water quality management frameworks are place-based and likely to be developed for the mainstem rivers and other priority areas. The Industrial Heartland and Capital Region Water Management Framework is an example of an existing place-based framework that takes a cumulative effects approach to land and water management. EPCOR is engaged in planning through the Water Management Framework for the Industrial Heartland and Capital region.

Water Management Framework for the Industrial Heartland and Capital Region

The Water Management Framework (WMF) of the Industrial Heartland and Capital Region (AENV 2007) outlines specific environmental outcomes for the region and sets targets for sustainability and regional strategies for the tracking and management of air, water, and land. The WMF for the Industrial Heartland and Capital Region Report is the result of consultation, collaboration, and planning for growth by AEP, industry, municipalities, municipal water and wastewater treatment facilities, and the NSWA. The key strategic objective is to develop a world-class integrated water management system from the plan are to make Alberta a world leader is water and wastewater reclamation technology and to minimize the impact of "footprint" on the NSR by improve the quality of the water and ensuring water conservation practices are in effect. The WMF will be used to manage water quantity to ensure that sufficient water remains in the river to maintain aquatic life, support current and proposed industrial development, attain water quantity and quality targets, and move toward a minimal-loading discharge policy for return flows to the NSR. Updates on the Water Management Framework for the Industrial Heartland and Capital Region were completed in 2013, 2016 (GoA 2013b, 2016).



Figure 83. Planning Initiatives in the NSR Watershed (Data Source: GoA 2020)

As part of this work, AEP has completed a multitude of water quality modelling and assessment projects and reports as found below:

Effluent Characterization Program for the Industrial Heartland and Capital Region	2015			
North Saskatchewan River: Water Quality and Related Studies (2007 – 2012)	2014			
Pilot Water Quality Objectives and Allowable Contaminant Loads for the North Saskatchewan River.	2013			
The Water Management Framework for the Industrial Heartland and Capital Region – Five Years of Implementation.	2013			
Investigations of Trends in Select Water Quality Variables at Long-Term Monitoring Sites on the North Saskatchewan River	2012			
Guidance For Deriving Site-Specific Water Quality Objectives for Alberta Rivers.				
Synthesis of Recent Knowledge on Water Quality, Sediment Quality, and Non-Fish Biota in the North Saskatchewan River with Special Emphasis on the Industrial Heartland – Capital Region Water Management Framework Reach.	2011			
North Saskatchewan River Water Quality Model: Alberta Environment Technical Report - Version 1.1.	2009			
Analysis of Water Quality Trends for the Long-term River Network: North Saskatchewan River, 1977-2002				



Central to WMF is the publication of pilot maximum allowable loads for the Devon to Pakan reach of the NSR (AESRD 2013). The goal of this was to ensure that water quality is maintained or improved in the NSR. As such pilot water quality objectives (WQOs) were established for the Industrial Heartland reach, inclusive of the river mainstem from Devon downstream to Pakan. The WQOs apply specifically to the long-term river network (LTRN) monitoring sites at Devon and Pakan sites, and are based on ambient in-stream concentrations, except where ambient concentrations exceed the most stringent federal/provincial water quality guidelines. Maximum allowable loads (MALs) were calculated from WQOs and provide a measure against which long-term changes can be assessed. It is expected that final WQO and MALs will be established over the next five years.

The WMF also completed an Effluent Characterization Program, which describes the monitoring and reporting requirements of point sources of industrial discharges entering the NSR in the Devon to Pakan reach. The goal is to have a better understanding of the relationship between effluent and surface water quality to better manage the cumulative effects to the NSR. This monitoring is continuing in 2020-2022. The next step of the WMF is to refine and use the results from the Effluent Characterization Program to manage effluents and the cumulative effects to water quality in the NSR through load apportionment.



Figure 84. Industrial Heartland and Capital Region Water Management Area (from NSWA 2012a).

EPCOR's Watershed Protection Program



EPCOR's Watershed Protection Program (WPP) has two primary goals: to ensure a safe, secure drinking water supply through the application of source water protection principles and to ensure minimal effects from operations on water quality and aquatic ecosystem health in receiving water bodies. EPCOR recognizes that SWPP is a critical first step in a multi-barrier approach for water utilities to protect both quality and quantity of waters sources. Experience has shown the protection and proper management of the upstream watershed can improve or prevent deterioration of the quality of raw water entering treatment plants. Awareness of upstream activities also enables EPCOR to respond quickly to developing water quality issues within the watershed.

Watershed management is complex, particularly when multiple stakeholders affect land use and water quality in the upper reaches of the basin; as well when there are various landscape planning initiatives occurring at different levels of government. EPCOR's WPP works within the existing watershed management and source water frameworks, at both the federal and provincial level. The WPP has four main focus areas: watershed planning, implementation of watershed plans and programs, monitoring and research, and education and awareness. Although these focus areas are interrelated, in general, the core of EPCOR's WPP entails developing watershed planning documents, supporting the outcomes of those plans though implementation programs, developing and supporting monitoring and research programs to measure changes in selected metrics, and garnering support from watershed stakeholders.

EPCOR's Integrated Watershed Management Strategy

EPCOR is currently drafting an Integrated Watershed Management Strategy (IWMS) to manage total loading effects on the health of the NSR and to ensure source water protection for the Edmonton water supply in one unified watershed management program. The IWMS reviews the current state of planning, assessment, and implementation at multiple scales with the penultimate goal of a nested approach to watershed management. Integral to this approach is using established river outcomes to evaluate the impact of storm water, combined sewer, wastewater, and water treatment plant waste streams on the NSR and its tributaries. In this vein, once the relative influence of each source is understood the effectiveness of assessment programs and implementation and management decisions will also be evaluated. Where monitoring, modelling, or research is not adequate to determine relative contribution or effects on river or stream outcomes, recommendations will be made to fill those gaps. Although river outcomes provide the foundation from which to determine effects, we note that EPCOR is also grounded in a commitment to ensuring clean and abundant water supplies for EPCOR's WTPs and to also reduce the impact of discharges released to the NSR.

The IWMS will also guide and replace EPCOR Drainage's Total Loading Plan which was a 10 year old, continuous commitment to protect the regional watershed, comply with regulatory requirements and sustain the surface water quality by managing and limiting loadings from storm water and wastewaters collection systems. 2019 marked the end of original 10 year Total Loading Plan and there was a need to re-evaluate established benchmark and align the Total Loading Strategy with EPCOR corporate strategic goals of preserving and sustaining Edmonton's environment and above all maintain a healthy river.



EPCOR's Stormwater Integrated Resource Plan

To reduce flooding risks within the City of Edmonton, EPCOR developed the Stormwater Integrated Resource Plan (SIRP). SIRP is intended to reduce urban and riverine flooding events through capital and operational changes applying a risk ranking assessment based on hazards/risks related to: Health and Safety, Environment, Financial and Economic Impact and Social or Service Level impact. EPCOR developed the investment recommendations considering a mix of grey and green infrastructure components. On commercial or industrial land green infrastructure funding is targeting to highly impervious lots that are major contributors to storm collection system. The approximately \$1.6 billion capital program proposed through the SIRP can be classified into five themes of investment: slow, move, secure, predict and respond. Although flooding risk is the main driver of SIRP, it is expected that water quality improvements will be made through the implementation of green infrastructure and managing surface runoff at the source. Peak flow reduction and overall stormwater volume reduction will reduce impact on urban creeks, specifically reducing bank erosion and destruction of natural drainage ways as result of land development.

The SIRP approach is to capture the stormwater volumes in dry ponds prior to reaching the storm trunk network to provide additional capacity in the pipes in the immediate path of the storm. The addition of Low Impact Development (LID) throughout the catchment area will reduce peak flow and further retain these volumes at the source and reduce the impact on the entire pipe network as storms travel across the community as well as impact on urban creeks and all natural drainage ways. The plan also includes tunnels, trunks and sewer separation in locations where, due to configuration of the community, there is limited space to install additional ponds or LID components to fully capture the expected water volumes during a major storm event. Need for additional trunks/tunnels will be re-evaluated as we progress with SIRP implementation but currently the focus is to control and reduce the inflow and utilize existing collection system to maximum through monitoring and control.

City of Edmonton

In 2012 the City of Edmonton published their River for Life Strategy (City of Edmonton 2012). The strategy committed to a number of policy objectives aimed at long-term protection of water quality of the North Saskatchewan River under its environmental strategic plan, The Way We Green (City of Edmonton 2011). At the time, the City of Edmonton's Drainage Services contributed to these objectives by developing a framework and 30 year strategic plan to reduce pollutant discharge within the watershed, with the ultimate goal of achieving net zero impact from human activities. The idea was that River for Life would take into account three discharge pathways: urban runoff from storm events, combined sewer overflows, and municipal wastewater and was intended to guide the City's efforts to reduce contaminants in each pathway in the short, medium and long term. The drivers to achieve net zero impact relied on watershed planning, municipal leadership, responding to regulations, ensuring infrastructure is resilient, investing in high value resources to reduce contaminant discharges, and being proactive and innovative. Since Drainage Services joined EPCOR in 2018, River for Life has come under EPCOR's umbrella and was reviewed as part of EPCOR's Integrated Management Strategy. EPCOR has incorporated the general intent of this strategy into its Integrated



Watershed Management Strategy, which is currently in development, and River for Life is now a legacy initiative.

The importance of the NSR is highlighted in the City of Edmonton's Climate Resilient Edmonton: Adaptation Strategy and Action Plan (City of Edmonton 2018), and ConnectEdmonton Strategic Plan (City of Edmonton 2019), in terms of water quality and quantity for drinking water, as well the risk of potential river flooding.

Blackmud/Whitemud Creek Surface Water Management Group

The pace of development in the Edmonton-Leduc corridor has been increasing recently and the 1200 km² area is expected to be developed over the next 50 years. This development will place additional stresses on Blackmud and Whitemud Creeks, which have already been impacted by previous development. In order to determine the cumulative effects of additional stormwater discharges to these creeks, the Blackmud/Whitemud Surface Water Management Group was formed. Stakeholders participating included the Leduc County, the City of Edmonton, the City of Leduc, the Town of Beaumont, Strathcona County, and the North Saskatchewan Watershed Alliance. More recently EPCOR has been involved in this group.

The group completed the Blackmud/Whitemud Creek Surface Water Management Study which involved hydrologic, hydraulic and environmental analyses of the Blackmud and Whitemud Creek basins to develop a stormwater management strategy to accommodate future development in the basin (Associated Engineering 2017). As development continues in the Blackmud and Whitemud basins, the runoff rates and volumes will increase and it is expected that flooding, erosion, and declining water quality will result unless stormwater releases are managed. Historical release rates vary across the municipalities and range from 2 to 9 L/s/ha. The key objective of this project was to prepare a Surface Water Management Plan (SWMP) in accordance with the Stormwater Management Guidelines for the Province of Alberta and the Alberta Wetland Policy, to ensure that cumulative effects on the watershed are understood and will be appropriately mitigated and managed. A final release rate of 3.0 L/s/ha was agreed upon by the group which will be achieved through a series of grey and green infrastructure projects through SIRP.

3.6.5 Industry Best Practice

Pollution Probe

Pollution Probe is a non-profit charitable organization that promotes clean air and clean water. Pollution Probe published the following document on SWP:

• "The Source Water Protection Primer". May 2004. Pollution Probe.

American Water Works Association

The American Water Works Association (AWWA) has developed numerous documents, but the most relevant and recent one for SWPP is:



• "Operational Guide to Source Water Protection". 2016. American Water Works Association.

Water Research Foundation

The Water Research Foundation (WRF) is research organization that focuses on advancing research in water quality, water treatment, stormwater and wastewater. WRF has published over 200 studies on various aspects of source water protection, including climate change, contaminants of emerging concern, pathogens, cyanotoxins, stormwater, watershed management and risk assessment.


SECTION 4 – EPCOR'S EDMONTON SWPP GOALS

The goals of this Source Water Protection Plan are as follows:

- 1. Protect public health by ensuring the safety and reliability of the drinking water supply.
- 2. Establish a risk management based approach in setting priorities when creating action plans and determining the focus of watershed management plans.
- 3. Support and participate in aquatic health, water quality, and water quantity monitoring initiatives in the watershed and research opportunities.
- 4. Encourage stricter effluent discharge criteria of municipal sewage effluent through support of monitoring and load apportionment frameworks.
- 5. Support and encourage implementation of agricultural Best Management Practices focusing on industrial, agricultural, and urban land use.
- 6. Promote and participate in technical studies and influencing regulators with respect to best management practices and policy development (agriculture, forestry, and oil and gas development sites).
- 7. Ensure there is excellent communication between AEP, AER, the City of Edmonton Fire Departments, and EPCOR Drainage on notification of spills and releases that may have an effect on the operation of the WTPs.
- 8. Support and participate in understanding and mitigating risks from pipelines in the watershed and the possible purposeful contamination of intakes.
- 9. Participate in technical studies to determine the effects of climate change on the watershed and the water supply, terms of both quantity and quality.
- 10. Promote environmental stewardship through educational programs and collaborative initiatives.
- 11. Support watershed planning and policy through participation on Watershed Planning and Advisory Councils (NSWA), Alberta Water Council, Regional Planning, Water Management Frameworks, stewardship groups, and other water and watershed planning initiatives.



SECTION 5 – EPCOR'S EDMONTON SWPP ACTION PLAN AND PROGRAM RESULTS

EPCOR's Source Water Protection Plan has identified the following actions needed to mitigate existing and future threats to the quality of the NSR. As well, program results or initiatives are included along with some identified barriers and challenges. In general, the watershed planning component of Source Water Protection Planning leverages already established frameworks in Alberta. These frameworks and initiatives have their unique challenges but EPCOR understands that working within existing water and watershed planning frameworks is beneficial in the long-term and will likely result in better source water protection outcomes.



	Actions	Program Results	
	Alberta Water Council: Work with the Alberta Water Council on the development of water policy that aligns with SWPP goals.	Co-chaired the Protecting Sources of Drinking Water in Alberta: Guide to Source Water Protection Planning project team. Co-chairing the SWP Risk Assessment Tools and Data Working Group Past: On Non-Point Source Pollution, Lake Management, Riparian	
	Challenges and Barriers: Recommendations from Project Teams		
	Watershed Planning Groups: Continue leadership on watershed and water management through support of existing watershed planning initiatives.	NSWA Board member, Strategic Planning and Priority Committee member, and Headwater Alliance TAC member. Co-chairing the Industrial Heartland and Capital Region Water Management Framework Advisory Committee and Member of theTechnical Committee Blackmud/Whitemud Creek Watershed Management Plan Working	
	Group Member Challenges and Barriers: NSWA lacks the authority to implement aspects of the plan and land and water planning continues to be disignted provincially. Data is not sufficient to allow for site apositie water quality		
	objectives. Pilot water quality objectives	s and load apportionment work is lagging.	
Planning	Spill Management: Develop a spill management and communication plan with regular internal and external drills to ensure communication lines are operational.	Training and drills occur within EPCOR and regular meetings with GoA take place to ensure lines of communication remain open Maintenance of a 'time of travel' calculation tool in case of spill that will allow operations to determine how soon the spill will reach Edmonton.	
		Worked with the City of Edmonton, AEP and their Alberta Environment Support and Emergency Response Team, AER and the Environmental Hotline.	
	Challenges and Barriers: Pipeline GIS data are difficult to obtain and raw data files are time consuming to navigate		
	Climate Change Planning : Continue to fund and support research on how climate change will impact source water quality and quantity	Continued implementation of EPCOR's Climate Change Adaptation Strategy Financially supported research conducted by the Prairie Adaptation Research Collaborative to better understand the historical variability of the NSR and future runoff scenarios and U of A Groundwater Research understanding climate effects	
	Challenges and Barriers : Data needs to be integrated into future scenarios and commun stakeholders on effects of climate change		



Monitoring and Modelling	Monitoring and Modelling: Support water quality monitoring and modelling on the NSR to quantify and understand non-point source and point source pollution (with a focus on pathogens, organic matter, and sediment). Modelling would be basin wide and investigate changing land cover and land use impacts on tributary and river water quality and quantity. Continue to work with the EPCOR Drainage on quantifying and managing storm water inputs on the NSR and the Integrated Watershed Management Strategy and Storm Water Integrated Resource Plan.	 WaterSHED Program: A tributary and mainstem monitoring program for the watershed lead by EPCOR in partnership with the City of Edmonton, NSWA, and AEP. Hosted State of NSR Basin Modelling Workshop Leading the development of a 5-10 Year Modelling Strategy for the NSR with AEP, City of Edmonton, and NSWA Scoping development of an urban watershed model to predict future storm water loads. Run Edmonton Monitoring Program that measures water quality and flow at storm outfalls and WWTPs. Run EPCOR's Creek Program that measures water quality in Edmonton's urban tributaries as they flow through the City
Research	Research: Continued support of research that enhances watershed science and knowledge. Challenges and Barriers: Research s	 forWater Project: financial support for the understanding of how forest management practices and events such as forest fires will impact the quality and treatability of source water for drinking water. Groundwater Research: financial support for University of Alberta led work on contribution of groundwater to the NSR Ice Core Study: financial support for University of Alberta led work on ice-core analysis of PFAS and other deposited organic contaminants in upstream glaciers Integrated Modelling for Watershed Evaluations of BMPs: financial and technical support for University of Guelph led work to develop imWEBs model to assess the impacts of BMPs to water quality and quantity in Modeste and Strawberry Creek PARC: financial support for University of Regina work on projections of future flows in the NSR under future climate scenarios and historical variability

EPC@R

ementation	Implementation : Continue to promote agricultural and urban BMPs to mitigate movement of contaminants to the NSR, for example through the Strawberry Creek Pilot Project or IMWEBs work.	Continued to promote agricultural and urban BMPs to mitigate movement of contaminants to the NSR through work on through financial contributions to Clearwater Landcare and support of IMWEBs research and Riparian mapping of Strawberry and Modeste Creek.	
lmp	Challenges and Barriers: There is a lack of a landscape level model that measures beneficial management effectiveness at the basin scale and links to source water quality. Therefore targeting BMPs is difficult.		
ducation	Education and Awareness: Continue to foster and support educational programs focused on watershed stewardship and expanding water quality knowledge.	Financial support of RiverWatch/CreekWatch and Capital City Clean-up Support EPCOR's RiverFest programming (cancelled in 2020)	
ш	Challenges and Barriers: Need to improve consistent communication to stakeholders within EPCOR		



SECTION 6 - PERIODIC EVALUATION AND REVISION

A review and evaluation of this SWPP will be conducted every three years. This will be led by EPCOR's Watershed Manager and supported by the Environmental Services Senior Manager and the Director of Quality Assurance and Environment. Additional review and comments will be provided by staff at the EPCOR Water Treatment Plants and Drainage Services. The purpose of the review will be to ensure changes which may affect the SWPP are recognized and captured. Those factors which should be considered in the evaluation are listed below:

- Source water delineation
- Risks (frequency and consequences)
- New regulatory initiatives
- Research, data and new results
- Implementation of study recommendations
- New watershed planning documents
- Significant incidents
- Performance of programs and initiatives

The evaluation of the SWPP and associated action plans will be based on the suitability, effectiveness and adequacy with respect to the following:

- Source Water Protection Vision
- Characterization of Watershed
- Implementation of Action Plan

The review and evaluation process should be used as the basis to continually improve the Plan while ensuring it remains current.



SECTION 7 - VERIFICATION

EPCOR will maintain adequate records and documents of its SWPP. These records shall include the following:

- Summaries and minutes of stakeholder meetings
- Minutes of any relevant public hearings with respect to the SWPP
- Technical studies
- Monitoring data
- Any other documents that support or are related to the SWPP



SECTION 8 – REFERENCES

- ABMI (Alberta Biodiversity Monitoring Institute). 2010. Wall-to-wall Land Cover Inventory. http://www.abmi.ca/home/data-analytics/da-top/da-product-overview/GIS-Land-Surface/Land-Cover.html. Accessed December 4, 2017.
- ABMI. 2018. Wall-to-Wall Human Footprint Inventory. http://www.abmi.ca/home/data-analytics/da-top/daproduct-overview/GIS-Land-Surface/HF-inventory.html?scroll=true. Accessed December 4, 2017.
- ABMI. 2020. "2018 Remotely Sensed Harvest Area Spectral Regeneration Metadata Document." Edmonton, Alberta, Canada
- AECOM. 2009. Alberta Municipal Wastewater Facility Assessment Project. Phase 2 Final Version. Release 3.0. ftp://ftp.gov.ab.ca/env/fs/MuniWastewaterMgt.
- Agriculutre and Agri-food Canada. 2016. Annual Crop Inventory. http://open.canada.ca/data/en/dataset/ba2645d5-4458-414d-b196-6303ac06c1c9
- Alberta Agriculture and Forestry. 2017. Sustainable Forest Management: 2016 Facts & Statistics. Spring 2017. ISBN 978-1-4601-2797-1.
- Alberta Agriculture and Forestry. 2019a. Rocky Mountain House Forest Area Mountain Pine Beetle Heli-GPS Survey 2019 [map].
- Alberta Agriculture and Forestry. 2019b. BurnP3 model results for Rocky Mountain House Wildfire Risk Management Plan provided to EPCOR by Alberta Agriculture and Forestry.
- Alberta Energy Regulator. 2017a. Maps, Map Viewers, & Shapefiles. https://www.aer.ca/data-and-publications/maps-and-mapviewers. Accessed November 29, 2017.
- Alberta Energy Regulator. 2017b. Pipelines. https://www.aer.ca/rules-and-regulations/by-topic/pipelines. Accessed December 1, 2017.
- AENV (Alberta Environment). 1990. Flood Frequency Analysis North Saskatchewan River at Edmonton. Water Resources Management Services, Technical Services Division, Hydrology Branch.
- AENV. 2005. Analysis of Water Quality Trends for the Long-term River Network: North Saskatchewan River, 1977-2002. ISBN 0-7785-4412-5.
- AENV. 2007. The Water Management Framework for the Industrial Heartland and Capital Region.
- AENV. 2009. North Saskatchewan River Water Quality Model: Alberta Environment Technical Report -Version 1.1. ISBN 978-0-7785-8794-1.
- AENV, 2011. Synthesis of Recent Knowledge on Water Quality, Sediment Quality, and Non-Fish Biota in the North Saskatchewan River with Special Emphasis on the Industrial Heartland Capital Region Water Management Framework Reach.
- AESRD (Alberta Environment and Sustainable Resources Development). 2010. Mountain pine beetle & cold temperatures: the facts.



- AESRD 2012a. Guide to Reporting on Coming Indicators Used in State of the Watershed Reports. Government of Alberta, Edmonton, Alberta.
- AESRD. 2012b. Final Report from the Flat Top Complex Wildfire Review Committee. May 2012. ISBN 978-1-4601-0273-2.
- AESRD. 2013. Pilot Water Quality Objectives and Allowable Contaminant Loads for the North Saskatchewan River. Version 1.0. ISBN 978-1-4601-1277-9
- Alberta Environment and Parks (AEP). 2020. Preliminary results from upcoming North Saskatchewan River Flood Study.
- AEW (Alberta Environment and Water) 2012. Guidance For Deriving Site-Specific Water Quality Objectives for Alberta Rivers. http://environment.gov.ab.ca/info/home.asp. ISBN 978-1-4601-0063-9.
- Alberta Lake Sturgeon Recovery Team. 2011. Alberta Lake Sturgeon Recovery Plan. 2011 2016. Alberta Environment and Sustainable Resources Development. Alberta Species at Risk Plan No. 22. Edmonton, AB. 98 pp.
- AMEC. 2007. Current and Future Water Use. Prepared for the North Saskatchewan Watershed Alliance. Available at: http://www.nswa.ab.ca/content/current-and-future-water-use-north-saskatchewan-riverbasin-0
- Anderson, A.-M. 2012. Investigations of Trends in Select Water Quality Variables at Long-Term Monitoring Sites on the North Saskatchewan River. December 2012.
- Associated Engineering. 2017. Blackmud/Whitemud Creek Surface Water Management Group: Blackmud/Whitemud Creek Surface Water Management Study: Final Report. July 2017.
- AWC (Alberta Water Council). 2008. Strengthening partnerships: A Shared Governance Framework for Water of Life Collaborative Partnerships. September 2008.
- AWC. 2020. Guide to Source Water Protection Planning: Protecting Sources of Drinking Water in Alberta. March 2020.
- AWWA (American Water Works Association). 2014. G300-07 Source Water Protection.
- AWWA. 2016. Operational Guide for AWWA Standard G300, Source Water Protection.
- Barker, A.A., Riddell, J.T.F., Slattery, S.R., Andriashek, L.D., Moktan, H., Wallance, S., Lyster, S., Jean, G., Huff, G.F., Stewart, S.A. and Lemay, T.G. 2011. Edmonton-Calgary Corridor groundwater atlas: Energy Resources Conservation Board, ERCB/AGS Information Series 140, 90p.
- Barker, A.A., Moktan, H., Huff, G.F. and Stewart, S.A. 2013a. Maps of fresh groundwater chemistry, Edmonton-Calgary Corridor, Alberta I – surficial sediments aquifer, Alberta Energy Regulator, AER/AGS Open File Report 2013-07, 17p.
- Barker, A.A., Moktan, H., Huff, G.F. and Stewart, S.A. 2013b. Maps of fresh groundwater chemistry, Edmonton-Calgary Corridor, Alberta III – Upper 50 metres of the Horseshoe Canyon aquifer; Alberta Energy Regulator, AER/AGS Open File Report 2013-09, 17p.

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- Barker, A.A., Moktan, H., Huff, G.F. and Stewart, S.A. 2013c. Maps of fresh groundwater chemistry, Edmonton-Calgary Corridor, Alberta IV – Upper 50 to 100 metres of the Horseshoe Canyon aquifer; Alberta Energy Regulator, AER/AGS Open File Report 2013-10, 17p.
- Barker, A.A., Moktan, H., Huff, G.F. and Stewart, S.A. 2013d. Maps of fresh groundwater chemistry, Edmonton-Calgary Corridor, Alberta V – Bearpaw aquifer; Alberta Energy Regulator, AER/AGS Open File Report 2013-11, 17p.
- Barker, A.A., Moktan, H., Huff, G.F. and Stewart, S.A. 2013e. Maps of fresh groundwater chemistry, Edmonton-Calgary Corridor, Alberta VI – Belly River aquifer; Alberta Energy Regulator, AER/AGS Open File Report 2013-12, 17p.
- CABIDF (Canada-Alberta Beef Industry Development Fund). 2002. Relationship between Beef Production and Waterborne Parasites (Cryptosporidium spp. and Giardia spp.) in the North Saskatchewan River Basin, Alberta, Canada.
- Conedera, M., Peter, L., Marxer, P., Forster, F., Rickenmann, D., Re, L., 2003. Consequences of forest fires on the hydrogeological response of mountain catchments: a case study of the Riale Buffaga, Ticino, Switzerland. Earth Surf. Process. Landf. 28:117–129.
- City of Calgary. 2020. Calgary Wildfire Source Water Risk Management: Fire Retardant-Based Risks. April 2020.
- City of Edmonton. 2011. The Way We Green: The City of Edmonton's Environmental Strategic Plan. July 2011.
- City of Edmonton. 2012. River for Life: Strategic Framework. December 2012.
- City of Edmonton. 2013. Roadside Truck Survey: Final Report. February 2013.
- City of Edmonton. 2015. Edmonton Truck Route Map. https://www.edmonton.ca/transportation/driving_carpooling/truck-routes.aspx.
- City of Edmonton. 2018. Climate Resilient Edmonton: Adaptation Strategy and Action Plan.
- City of Edmonton. 2019. Connectedmonton: Edmonton's Strategic Plan: 2019 2018.
- City of Edmonton. 2020. Drainage Outfall Map. https://data.edmonton.ca/Drainage/Drainage-Outfall-Map-/uw7v-usy5/data. Accessed December 12, 2020.
- CCME (Canadian Council of Ministers of the Environment). 2002. From Source to Tap: the Multi-barrier Approach to Safe Drinking Water.
- CCME (Canadian Council of Ministers of the Environment). 2004. From Source to Tap: Guidance on the Multi-barrier Approach to Safe Drinking Water.
- de Loë, R.C. and D. Murray. 2012. Governance for Source Water Protection in Canada Synthesis Report. Water Policy and Governance Group.
- Emelko, M.B., U. Silins, K.D. Bladon, and M. Stone. 2011. Implications of land disturbance on drinking water treatability in a changing climate: Demonstrating the need for "source water supply and protection" strategies. Water Research 45: 461 472.

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- Emelko, M.B., M. Stone, U. Silins, D. Allin, A.L. Collins, C.H.S. Williams, A.M. Martens and K.D. Bladon. 2016. Sediment-phosphorus dynamics can shift aquatic ecology and cause downstream legacy effects after wildfire in large river systems. Global Change Biology. 22: 1168 - 1184.
- Emmerton, C.A., C.A. Cook, S. Hustins, U. Silins, M.B. Emelko, T. Lewis, M.K. Kruk, N. Taube, D. Zhu, B. Jackson, M. Stone, J.G. Kerr, J.F. Orwin. 2020. Severe western Canadian wildfire affects water quality even at large basin scales. Water Research. 183. https://doi.org/10.1016/j.watres.2020.116071
- Farr, D., A. Braid, A. Janz, B. Sarchuk, S. Slater, A. Sztaba, D. Barrett, G. Stenhouse, A. Morehouse and M. Wheatly. 2017, Ecological Response to Human Activities in Southwestern Alberta; Science Assessment and Synthesis. Alberta Environment and Parks, Government of Alberta. ISBN No. 978-1-4601-3540-2.
- Farr. D., Mortimer, C., Wyatt, F., Braid, A., Loewen, C., Emmerton, C., and Slater, S. 2018. Land use, climate change and ecological responses in the Upper North Saskatchewan and Red Deer River Basins: A scientific assessment. Government of Alberta, Ministry of Environment and Parks. ISBN 978-1-4601-4069-7. Available at: open.alberta.ca/publications/9781460140697.
- Fiera (Fiera Biological Consulting Ltd.). 2014. Environmentally Significant Areas in Alberta: 2014 Update. Report prepared for the Government of Alberta, Edmonton, Alberta. Fiera Biological Consulting Report Number 1305.
- Fiera. 2018a. Strawberry Watershed Riparian Area Assessment. Prepared for the North Saskatchewan Watershed Alliance, Edmonton, Alberta. Fiera Biological Consulting Report Number 1773.
- Fiera. 2018b. Modeste Watershed Riparian Area Assessment. Prepared for the North Saskatchewan Watershed Alliance, Edmonton, Alberta. Fiera Biological Consulting Report Number 1652.
- Godfrey, J.D. ed. 1993. Edmonton Beneath Our Feet: A Guide to the Geology of the Edmonton Region.. Edmonton Geological Society
- Golder Associates Ltd. 2008a. Water Supply and Assessment for the North Saskatchewan River Basin. Prepared for the North Saskatchewan Watershed Alliance. Available at: http://www.nswa.ab.ca/content/water-supply-assessment-north-saskatchewan-river-basin
- Golder Associates Ltd. 2008b. Assessment of Climate Change Effects on Water Yield from the North Saskatchewan River Basin. Available at: http://nswa.ab.ca/userfiles/NSWA_NSRB_ClimateChange_Final%20Report_23Jul2008.pdf
- GoA (Government of Alberta). 2013a. Stardards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems. Part 3: Wastewater Systems Standards for Performance and Design of a Total of 5 Parts. March 2013.
- GoA (Government of Alberta). 2013b. The Water Management Framework for the Industrial Heartland and Capital Region: Five years of Implementation 2007 2012.
- GoA. 2015. Water Management Framework for the Industrial Heartland and Capital Region Effluent Characterization Program.

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- GoA. 2016. The Water Management Framework for the Industrial Heartland and Capital Region: 8 years of Implementation.
- GoA. 2018. Environmental Quality Guidelines for Alberta Surface Waters. Water Policy Branch, Alberta Environment and Parks. Edmonton, Alberta.
- GoA. 2020. Open Government Program. https://open.alberta.ca/opendata. Accessed December 2020.
- GoA. 2019. Alberta Wildfire. Spatial Wildfire Data. http://wildfire.alberta.ca/resources/historical-data/spatialwildfire-data.aspx. Accessed November 2, 2020.
- GoA. 2021. Alberta Regional Dashboard. https://regionaldashboard.alberta.ca. Accessed January 15, 2021.
- Gurrapu, S., J.-M. St-Jacques, D.J. Sauchyn, and K.R. Hodder. 2016. The influence of the Pacific Decadal Oscillation on annual floods in the rivers of western Canada. Journal of the American Water Resources Association 1 15.
- Health Canada. 2013. Providing safe drinking water in areas of federal jurisdiction. Version 2. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario (Catalogue No. H128-1/05-440-1E-PDF).
- Health Canada 2017. Guidelines for Canadian drinking water quality: guideline technical document cyanobacterial toxins in drinking water. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. (Catalogue No H144-38/2017EPDF).
- Health Canada. 2020a. Guidelines for Canadian Drinking Water Quality Summary Table. August 2020.
- Health Canada. 2020b. Guidelines for Canadian Recreational Water Quality Cyanobacteria and their Toxins. Guideline Technical Document for Public Consultation. August 2020.
- Hutchinson Environmental Sciences Ltd. 2014. North Saskatchewan River: Water Quality and Related Studies (2007 2012). August 2014
- INAC (Indigenous and Northern Affairs Canada). 2014. First Nations On-Reserve Source Water Protection Plan: Guide and Template.
- Kienzle, S.W. M.W. Nemeth, J.M. Byrne, and R.J. MacDonald. 2012. Simulating the hydrological impacts of climate change in the upper North Saskatchewan River basin, Alberta, Canada. Journal of Hydrology 412-413: 76-89.
- Kovachis, N., B.C. Burrell, M. Huokuna, S. Beltaos, B. Turcotte, and M. Jasek. 2017. Ice-jam flood delineation: Challenges and research needs. Canadian Water Resources Journal. DOI: 10.1080/07011784.2017.1294998
- Kuo, C.-C., T.Y. Gan, and M. Gizaw. 2015. Potential impacts of climate change on intensity duration frequency curves of central Alberta. Climatic Change 130: 115-129.
- Lorenz, K.N., Depoe, S.L., and Phelan, C.A. 2008. Assessment of Environmental Sustainability in Alberta's Agricultural Watersheds Project. Volume 3: AESA Water Quality Monitoring Project. Alberta Agriculture and Rural Development, Edmonton, Alberta, Canada. 487 pp. Available at:

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http://www1.agric.gov.ab.ca/\$Department/deptdocs.nsf/all/irr12914/\$FILE/vol3_aesa_waterqualitymo nitoringproject_rtw.pdf

Madaeni, F., R. Lhissou, K. Chokmani, S. Raymond, and Y. Gauthier. 2020. Ice jam formation, breakup and prediction methods based on hydroclimatic data using artificial intelligence: A review. https://doi.org/10.1016/j.coldregions.2020.103032

McLoughlin, N. 2018. Personal communication with Mike Christensen, EPCOR, July 24, 2018.

- Meigs, G.W., J.L. Campbell, H.S.J. Zald, J.D. Bailey, D.C. Shaw, and R.E. Kennedy. 2015. Does wildfire likelihood increase following insect outbreaks in conifer forests? Ecosphere 6: 118.
- Meigs, G.W., H.S.J. Zald, J.L. Campbell, W.S. Keeton, and R.E. Kennedy. 2016. Do insect outbreaks reduce the severity of subsequent forest fires? Environmental Research Letters 11: 045008.
- NSWA. 2010. Proposed Site-Specific Objectives for the Mainstem of the North Saskatchewan River.
- NSWA. 2012a. Atlas of the North Saskatchewan River Watershed in Alberta. North Saskatchewan River Watershed Alliance Society, Edmonton, Alberta.
- NSWA. 2012b. Integrated Watershed Management Plan for the North Saskatchewan River in Alberta. The North Saskatchewan Watershed Alliance Society, Edmonton, Alberta.
- NSWA. 2017. An Update on Water Allocation and Use in the North Saskatchewan River Basin in Alberta. Presented at the Partners for the Saskatchewan River Basin Conference. October 17 – 19, 2017.
- PPWB (Prairie Provinces Water Board). 2016. Long-Term Trends in Water Quality Parameters at Twelve Transboundary River Reaches. Report # 176. December, 2016.

Pollution Probe. 2004. The Source Water Protection Primer.

- Ritson, J.P., N.J.D. Graham, M.R. Templeton, J.M. Clark, R. Gough, and C. Freedman. 2014. The impact of climate change on the treatability of dissolved organic matter (DOM) in upland water supplies: a UK perspective. Science of the Total Environment 473-473: 714-730.
- Robinne, F.-C., K.D. Bladon, U. Silins, M.B. Emelko, M.D. Flannigan, M.-A. Parisien, X. Wang, S.W. Kienzle, and D.P. Dupont. 2019. A regional-scale index for assessing the exposure of drinking-water sources to wildfires. Forests 2019, 10, 384; doi:10.3390/f10050384
- Rokaya, P., L. Morales-Marín, B. Bonsal, H. Wheater and K.-E. Lindenschmidt. 2019. Climatic effects on ice phenology and ice-jam flooding of the Athabasca River in western Canada. https://doi.org/10.1080/02626667.2019.1638927
- Sauchyn D., J. Vanstone, and C. Perez-Valdivia. 2011. Muodes and Forcings of Hydroclimatic Variability in the Upper North Saskatchewan River Basin Since 1063. Canadian Water Resources Journal 36: 205-218.
- Sauchyn, D. and N. Ilich. 2017. Nine Hundred Years of Weekly Streamflows: Stochastic downscaling of ensemble tree-ring reconstructions. Water Resources Research, 53.



- Sauchyn, D, M.R. Anis, S. Basu, Y. Andreichuk, S. Gurrapuu, S. Kerr, J.M. Bedoya Soto. 2020. Naturaul and Externally Forces Hydroclimatic Variability in the North Saskatchewan River Basin: Support for EPCOR's Climate Change Strategy. Final Report. September 2020
- Sawyer, M., and D. Mayhood. 1998. Cumulative effects of human activity in the Yellowstone to Yukon. A Sense of Place
- Sham, C.H., M. E. Tuccillo, and J. Rooke. 2013. Effects of Wildfire on Drinking Water Utilities and Best Practices for Wildfire Risk Reduction and Mitigation. Water Research Foundation, 2013. [Online]. Available: http://www.waterrf.org/publicreportlibrary/4482.pdf
- Simms, G., D. Lightman, and R. de Loë. 2010 Tools and Approaches for Source Water Protection in Canada. Governance for Source Water Protection in Canada.
- Silins, U., M. Emelko, M. Stone, CHS Williams, E. Cherlet, S.A. Spencer, V. Adamowicz, A. Anderson, A. Colins, D. Dupont, M. Dyck, B. Krishnappan and S.M. Quideau. 2020. The Future of Water Supply and Watershed Management in Alberta: Best Source-To-Tap Practices for Source Water Protection in the Eastern Slopes. Alberta Innovates Water Innovation Connect Series. October 22, 2020. Available at: https://albertainnovates.ca/programs/water-innovation/water-innovation-webinar-series/
- St. Jacques, J-M., Sauchyn, DJ. and Zhao, Y. 2010. Northern Rocky Mountain streamflow records: Global warming trends, human impacts or natural variability? Geophysical Research Letters, 37(6).
- Statistics Canada. 2011. Population and Dwelling Count Highlight Tables, 2011 Census.
- Statistics Canada. 2016. Census Profile, 2016 Census.
- Statistics Canada. 2017. 2016 Census of Agriculture. May 10, 2017.
- Stantec. 2017. North Saskatchewan River Oil Spill Mitigation Plan for Water Supply. Final Report to EPCOR.
- Thomas, D. 2020. Wildfire Management Specialist, Rocky Mountain House Forest Area, Alberta Agriculture and Forestry. Personal Communication via electronic email to Mike Christensen, EPCOR. October 13, 2020. Re: Wildfire fighting foam.
- Turcotte, B., B.C. Burrell, and S. Beltaos. 2019. The Impacts of cliamte change on breakup ice jams in Canada: state of knowledge and research approaches. Conference: 20th workshop on the hydraulics of ice covered rivers.
- US EPA. 2002. Consider the Source: A pocket guide to protecting your drinking water
- US EPA. 2019. Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin. May 2019. EPA 822-F-19-001
- van Beers, I., R. Maal-Bared, and D. Long. 2014. Water quality variables impacting Cryptosporidium spp. and Giardia spp. concentrations in the North Saskatchewan River. 16th National Conference on Drinking Water, Gatineau, Quebec, October 26 – 29, 2014.
- Weaver, J.L. 2017. Bighorn Backcountry of Alberta: Protecting Vulnerable Wildlife and Precious Waters. Wildlife Conservation Society Canada Conservation Report No. 10. Toronto, Ontario, Canada.



Water Research Foundation. 1991. Effective Watershed Management for Surface Supplies.

- Water Research Foundation. 2015. Core messages for chromium, medicines and personal care products, NDMA, and VOCs. Report # 4457.
- Water Survey of Canada. 2020. Historical Hydrometric Data. https://wateroffice.ec.gc.ca/mainmenu/historical_data_index_e.html. Accessed December 18, 2020.
- World Health Organization: 2003. Polynuclear aromatic hydrocarbons in drinking-water. Geneva : World Health Organization.

World Health Organization: 2012. Pharmaceuticals in drinking-water. Geneva : World Health Organization.

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EPCOR and City of Edmonton Supported Watershed Management Initiatives in the NSR Watershed

1. Background

To provide insight into the need to develop a Headwaters Protection Strategy, EPCOR is providing this document to inform the current watershed management initiatives and involvement. Much of the following information is borrowed from the 2020 Source Water Protection Strategy and EPCOR's Integrated Watershed Management Study (in draft). It is our opinion that a City of Edmonton Headwaters Protection Strategy could be a simple document on how and why the City of Edmonton is integrating into existing management frameworks and initiatives. Watershed management is collaborative in nature and it is important to note the both the City and EPCOR have long been involved in watershed management and source water protection strategies in the NSR watershed, as described below. It should also be noted that municipal strategies for influencing land use decisions, including coal development, in the watershed are limited. The most effective strategy is likely providing input to the North Saskatchewan Regional Plan and any Management Frameworks that are established under the plan.

2. Current Governance Frameworks and Initiatives for the NSR Watershed

There are several frameworks and initiatives that strive to integrate land and water planning across Alberta (Figure 1). These initiatives continue to struggle with integration and therefore to foreword source water protection goals it is important to have a voice in each planning framework. Each initiative is described in more detail in the following sections but EPCOR and the City of Edmonton have consistently been involved at both the provincial and local shared-governance planning level. In addition EPCOR and the City of Edmonton have internal watershed management strategies for management cumulative impacts of the city's footprint on the NSR.



Figure 1. Current Watershed Management Initiatives in Alberta

Water for Life Strategy

AEP's Water for Life (WFL) Strategy was introduced in 2003 and guides watershed and water management in Alberta under the guidance of three main goals (see below) and through knowledge and research, partnerships, and water conservation.



Three main partnerships exist under WFL and they have a shared accountability to achieve Water for Life goals. The first partnership is a provincial partnership with the Alberta Water Council (AWC). The AWC is a consensus-based partnership that provides timely and strategic advice to governments, industry, and non-government organizations towards achieving WFL goals and outcomes. The second partnership is regional partnerships with Watershed Planning and Advisory Councils (WPACs), who are designated leaders in watershed assessment and planning. EPCOR is engaged primarily at this level and, for Edmonton operations, engagement occurs through participation on the NSWA. Thirdly, there are local partnerships which occur with watershed stewardship groups. Watershed stewardship groups take community-level, on the ground action to safeguard our water sources. This section of the report will focus on the role of watershed planning and source water protection within the broader WFL strategy.



Figure 2. Water for Life Roles and Responsibilities (modified from AWC 2008).

In 2008, the Government of Alberta released a renewed Water for Life strategy and followed in 2009 with a *Water for Life Action Plan*, which supports the original goals and directions in the WFL strategy. The renewal emphasized partnerships and specifically highlighted working with the Alberta Water Council, Watershed Planning and Advisory Councils and watershed stewardship groups. The renewal was clear: Alberta's water resources must be managed within the capacity of individual watersheds and to ensure safe, secure drinking water we must recognize our dependence on aquatic ecosystems as source water.

The Action Plan outlines a comprehensive strategy to protect our drinking water as a specific outcome. The strategy involves ensuring Albertans have timely access to information about drinking water quality in their communities and that drinking water infrastructure strictly adheres to emerging standards. Key actions from the original strategy, as they pertain to source water protection, include:

- Development of a waterborne disease surveillance system and the undertaking of waterborne contaminant research. Progress to date is minimal.
- An update of water quality programs to support source protection information and planning. Progress to date includes enhanced tributary monitoring as part of the WaterSHED program.
- Working with WPACs to incorporate drinking water source protection into watershed planning. Progress to date: support of the Alberta Water Council Source Water Protection Projects.

Alberta Water Council

Incorporated as a not-for-profit society in 2007, the AWC is a multi-stakeholder partnership with twenty-four members from government, industry, and non-governmental organizations. Its primary task is to monitor and steward the implementation of Alberta's WFL strategy and to champion the achievement of its three goals. Recommendations on various aspects of water and watershed management are made to the provincial government, who then can choose to or not implement those recommendations into policy. Some key documents produced by the AWC which focus on watershed planning include: "Strengthening Partnerships: A Shared Governance Framework for Water for Life Collaborative Partnerships" and "Recommendations for a Watershed Management Planning Framework for Alberta". These documents were used to form current government policies in the WFL renewal and action plans and support sector-based approaches to watershed management.

In addition, project teams have been developed in the areas of water conservation, efficiency and productivity, healthy aquatic ecosystems, Alberta's water allocation transfer system, non-point source pollution, and riparian management and conservation. EPCOR has been involved on project teams through participation with the NSWA or other stewardship groups. EPCOR was involved in the formation of the AWC's "Guide for Source Water Protection Planning" (AWC 2020) which provides an overview of how drinking water providers in Alberta can begin voluntarily undertaking the creation of a SWPP. EPCOR is now co-chairing an AWC project looking to scope how a web-based toolkit could be made available to assist communities in creating source water protection plans.

North Saskatchewan River Watershed Alliance (NSWA)

As the WPAC for the basin, the NSWA is mandated under WFL to complete State of Watershed reporting and to develop an Integrated Watershed Management Plan for the basin- which aligns with aforementioned WFL goals. Since its inception, an EPCOR staff member has been an active participant on the NSWA board and project teams.

The NSWA completed a "State of the North Saskatchewan River Watershed" in 2005, as well as a "Municipal Resource Guide" for communities in this watershed in 2006. In late 2005, the Alliance began work on developing an Integrated Watershed Management Plan (IWMP) for the basin, which was intended to set land use, water quantity, and water quality objectives for the basin. The plan was completed in 2012 (NSWA 2012b).

As a key part of the IWMP, a NSWA Technical Advisory Committee developed mainstem water quality objectives for the NSR. The final report: "Proposed Site-Specific Objectives for the Mainstem of the North Saskatchewan River" (NSWA 2010) set objectives for the NSR that helped guide watershed planning in the IWMP. The document promotes a "no further degradation in water quality" philosophy in the NSR. In areas, downstream of Edmonton, there is a call for improvement in water quality for some parameters.

Throughout the IWMP development, knowledge and data gaps were identified and a series of reports were completed to augment objective setting for the basin. The following key reports were completed:

Strawberry Watershed Riparian Area Assessment	2018	
Modeste Watershed Riparian Area Assessments		
Preliminary Steps for the Assessment of Instream Flow Needs in the		
North Saskatchewan River Basin		
Vermilion River Watershed Management Plan		
Workbook Results: Integrated Watershed Management Plan for the North Saskatchewan River		
Discussion Paper for the Development of the IWMP for the North Saskatchewan River Watershed		
Economic Activity and Ecosystem Services in the North Saskatchewan River Basin		
North Saskatchewan River Basin Socio-Economic Profile	2010	
Proposed Site-Specific Water Quality Objectives	2010	
North Saskatchewan River Basin Overview of Groundwater Conditions, Issues, and Challenges	2009	
Hydrodynamic and Water Quality Model of the North Saskatchewan River	2009	
Cumulative Effects Assessment of the North Saskatchewan River Watershed using ALCES	2009	
Cumulative Effects Assessment of the North Saskatchewan River Watershed Using ALCES	2009	
Water Supply Assessment for the North Saskatchewan River Basin		
Climate Change Effects on Water Yield in the North Saskatchewan River Basin		
Current and Future Water Use in the North Saskatchewan River Basin	2007	
Instream Needs Scoping Study		
Instream Needs Scoping Study	2007	

Involvement with the NSWA will continue to provide an effective platform from which EPCOR can ensure effective and collaborative watershed management is achieved, with source water protection principles in mind. The City of Edmonton was on the NSWA Board up to 2019 and now is in an advisory role.

Cumulative Effects Management and Land Use Framework

The Government of Alberta enabled cumulative effects management on a landscape level with the release of the Land-use Framework (LUF) in December 2008, followed by the *Alberta Land Stewardship Act* (ALSA) in early 2009. The Land Use Framework is the overarching planning mechanism for Alberta's natural resources and is enforced through the ALSA, which supersedes all other provincial legislation. Regional plans, which are developed under LUF, present one of the first opportunities for a cumulative effects management approach. LUF has committed the province to taking a cumulative effects approach to environment management in seven designated regions. Regional Advisory Councils (RACs) will be established to help guide/set landscape level outcomes which will be included in Regional Plans. Consultation of Phase 1 of the regional plan for the NSR Watershed is complete.

Cumulative effects management requires integration amongst spatial scales – provincial, regional, sub-regional, local and site-specific. At present, AEP is developing Management Frameworks that

support regional plans under the LUF, including Water Quality Management Frameworks. Water quality management frameworks are place based and likely to be developed for the mainstem rivers and other priority areas. The Industrial Heartland and Capital Region Water Management Framework is an example of an existing place-based framework that takes a cumulative effects approach to land and water management. EPCOR is engaged in planning through the Water Management Framework for the Industrial Heartland and Capital region.

Water Management Framework for the Industrial Heartland and Capital Region

The Water Management Framework (WMF) of the Industrial Heartland and Capital Region (AENV 2007) outlines specific environmental outcomes for the region and sets targets for sustainability and regional strategies for the tracking and management of air, water and land. The WMF for the Industrial Heartland and Capital Region Report is the result of consultation, collaboration, and planning for growth by AEP, industry, municipalities, municipal water and wastewater treatment facilities, and the NSWA. The key strategic objective is to develop a world class integrated water management system from the plan are to make Alberta a world leader in water and wastewater reclamation technology and to minimize the impact of "footprint" on the NSR by improving the quality of the water and ensuring water conservation practices are in effect. The WMF will be used to manage water quantity to ensure that sufficient water remains in the river to maintain aquatic life, support current and proposed industrial development, attain water quantity and quality targets, and move towards a minimal-loading discharge policy for return flows to the NSR. Updates on the Water Management Framework for the Industrial Heartland and Capital Region were completed in 2013 and 2016.



Figure 3. Planning Initiatives in the NSR Watershed

As part of this work, AEP has completed a multitude of water quality modelling and assessment projects and reports as found below:

Effluent Characterization Program for the Industrial Heartland and Capital Region	2015
North Saskatchewan River: Water Quality and Related Studies (2007 – 2012)	2014
Pilot Water Quality Objectives and Allowable Contaminant Loads for the North Saskatchewan River.	2013
The Water Management Framework for the Industrial Heartland and Capital Region – Five Years of Implementation.	2013
Investigations of Trends in Select Water Quality Variables at Long-Term Monitoring Sites on the North Saskatchewan River	
Guidance For Deriving Site-Specific Water Quality Objectives for Alberta Rivers.	2012
Synthesis of Recent Knowledge on Water Quality, Sediment Quality, and Non-Fish Biota in the North Saskatchewan River with Special Emphasis on the Industrial Heartland – Capital Region Water Management Framework Reach.	
North Saskatchewan River Water Quality Model: Alberta Environment Technical Report - Version 1.1.	2009
Analysis of Water Quality Trends for the Long-term River Network: North Saskatchewan River, 1977-2002	

Central to WMF is the publication of pilot maximum allowable loads for the Devon to Pakan reach of the NSR (AEP 2013). The goal of this was to ensure that water quality is maintained or improved in the NSR. As such pilot water quality objectives (WQOs) were established for the Industrial Heartland reach, inclusive of the river mainstem from Devon downstream to Pakan. The WQOs apply specifically to the long-term river network (LTRN) monitoring sites at Devon and Pakan sites, and are based on ambient in-stream concentrations, except where ambient concentrations exceed the most stringent federal/provincial water quality guidelines. Maximum allowable loads (MALs) were calculated from WQOs and provide a measure against which long-term changes can be assessed. It is expected that final WQO and MALs will be established over the next five years.

The WMF also completed an Effluent Characterization Program, which describes the monitoring and reporting requirements of point sources of industrial discharges entering the NSR in the Devon to Pakan reach. The goal is to have a better understanding of the relationship between effluent and surface water quality to better manage the cumulative effects to the NSR. This monitoring is continuing in 2020-2022. The next step of the WMF is to refine and use the results from the Effluent Characterization Program to manage effluents and the cumulative effects to water quality in the NSR through load apportionment.





EPCOR's Watershed Protection Program

EPCOR's Watershed Protection Program (WPP) has two primary goals: to ensure a safe, secure drinking water supply through the application of source water protection principles and to ensure minimal effects from operations on water quality and aquatic ecosystem health in receiving water bodies. EPCOR recognizes that SWPP is a critical first step in a multi-barrier approach for water utilities to protect both quality and quantity of water sources. Experience has shown the protection and proper management of the upstream watershed can improve or prevent deterioration of the quality of raw water entering treatment plants. Awareness of upstream activities also enables EPCOR to respond quickly to developing water quality issues within the watershed.

Watershed management is complex, particularly when multiple stakeholders affect land use and water quality in the upper reaches of the basin; as well when there are various landscape planning initiatives occurring at different levels of government. EPCOR's WPP works within the existing watershed management and source water frameworks, at both the federal and provincial level. The WPP has four main focus areas: watershed planning, implementation of watershed plans and programs, monitoring and research, and education and awareness. Although these focus areas are interrelated, in general, the core of EPCOR's WPP entails: developing watershed planning documents; supporting the outcomes of those plans though implementation programs; developing and supporting monitoring and research programs to measure changes in selected metrics; and garnering support from watershed stakeholders.

EPCOR's Integrated Watershed Management Strategy

EPCOR is currently drafting an Integrated Watershed Management Strategy (IWMS) to manage total loading effects on the health of the NSR and to ensure source water protection for the Edmonton water supply in one unified watershed management program. The IWMS reviews the current state of planning, assessment, and implementation at multiple scales with the penultimate goal of a nested approach to watershed management. Integral to this approach is using established river outcomes to evaluate the impact of storm water, combined sewer, wastewater, and water treatment plant waste streams on the NSR and its tributaries. In this vein, once the relative influence of each source is understood the effectiveness of assessment programs and implementation and management decisions will also be evaluated. Where monitoring, modelling, or research is not adequate to determine relative contribution or effects on river or stream outcomes, recommendations will be made to fill those gaps. Although river outcomes provide the foundation from which to determine effects, we note that EPCOR is also grounded in a commitment to ensuring clean and abundant water supplies for EPCOR's WTPs and to also reduce the impact of discharges released to the NSR.

The IWMS will also guide and replace EPCOR Drainage's Total Loading Plan which was a 10 year old, continuous commitment to protect the regional watershed, comply with regulatory requirements and sustain the surface water quality by managing and limiting loadings from storm water and wastewater collection systems. 2019 marked the end of original 10 year Total Loading Plan and there was a need to reevaluate the established benchmark and align the Total Loading Strategy with EPCOR corporate strategic goals of preserving and sustaining Edmonton's environment and above all maintain a healthy river.

EPCOR's Stormwater Integrated Resource Plan

To reduce flooding risks within the City of Edmonton, EPCOR developed the Stormwater Integrated Resource Plan (SIRP). SIRP is intended to reduce urban and riverine flooding events through capital and operational changes applying a risk ranking assessment based on hazards/risks related to: Health and Safety, Environment, Financial and Economic Impact and Social or Service Level impact. EPCOR developed the investment recommendations considering a mix of grey and green infrastructure components. On commercial or industrial land green infrastructure funding is targeted at highly impervious lots that are major contributors to storm collection system. The approximately \$1.6 billion capital program proposed through the SIRP can be classified into five themes of investment: slow, move, secure, predict and respond. Although flooding risk is the main driver of SIRP, it is expected that water quality improvements will be made through the implementation of green infrastructure and managing surface runoff at the source. Peak flow reduction and overall stormwater volume reduction will reduce impact on urban creeks, specifically reducing bank erosion and destruction of natural drainage ways as a result of land development.

The SIRP approach is to capture the stormwater volumes in dry ponds prior to reaching the storm trunk network to provide additional capacity in the pipes in the immediate path of the storm. The addition of Low Impact Development (LID) throughout the catchment area will reduce peak flow and further retain these volumes at the source and reduce the impact on the entire pipe network as storms travel across the community as well as impact on urban creeks and all natural drainage ways. The plan also includes tunnels, trunks and sewer separation in locations where, due to

configuration of the community, there is limited space to install additional ponds or LID components to fully capture the expected water volumes during a major storm event. Need for additional trunks/tunnels will be re-evaluated as we progress with SIRP implementation but currently the focus is to control and reduce the inflow and utilize the existing collection system to maximum through monitoring and control.

City of Edmonton

In 2012 the City of Edmonton published their River for Life Strategy (City of Edmonton 2012). The strategy committed to a number of policy objectives aimed at long-term protection of water quality of the North Saskatchewan River under its environmental strategic plan, The Way We Green (City of Edmonton 2011). At the time, the City of Edmonton's Drainage Services contributed to these objectives by developing a framework and 30 year strategic plan to reduce pollutant discharge within the watershed, with the ultimate goal of achieving net zero impact from human activities. The idea was that River for Life would take into account three discharge pathways: urban runoff from storm events, combined sewer overflows, and municipal wastewater and was intended to guide the City's efforts to reduce contaminants in each pathway in the short, medium and long term. The drivers to achieve net zero impact relied on watershed planning, municipal leadership, responding to regulations, ensuring infrastructure is resilient, investing in high value resources to reduce contaminant discharges, and being proactive and innovative. Since Drainage Services joined EPCOR in 2018, River for Life has come under EPCOR's umbrella and was reviewed as part of EPCOR's Integrated Management Strategy. EPCOR has incorporated the general intent of this strategy into its Integrated Watershed Management Strategy, which is currently in development, and River for Life is now a legacy initiative.

The importance of the NSR is highlighted in the City of Edmonton's Climate Resilient Edmonton: Adaptation Strategy and Action Plan (City of Edmonton 2018), and ConnectEdmonton Strategic Plan (City of Edmonton 2019), in terms of water quality and quantity for drinking water, as well the risk of potential river flooding.

Blackmud/Whitemud Creek Surface Water Management Group

The pace of development in the Edmonton-Leduc corridor has been increasing recently and the 1200 km² area is expected to be developed over the next 50 years. This development will place additional stresses on Blackmud and Whitemud Creeks, which have already been impacted by previous development. In order to determine the cumulative effects of additional stormwater discharges to these creeks, the Blackmud/Whitemud Surface Water Management Group was formed. Stakeholders participating included the Leduc County, the City of Edmonton, the City of Leduc, the Town of Beaumont, Strathcona County, and the North Saskatchewan Watershed Alliance. More recently EPCOR has been involved in this group.

The group completed the Blackmud/Whitemud Creek Surface Water Management Study which involved hydrologic, hydraulic and environmental analyses of the Blackmud and Whitemud Creek basins to develop a stormwater management strategy to accommodate future development in the basin (Associated Engineering 2017). As development continues in the Blackmud and Whitemud basins, the runoff rates and volumes will increase and it is expected that flooding, erosion, and declining water quality will result unless stormwater releases are managed. Historical release rates vary across the municipalities and range from 2 to 9 L/s/ha. The key objective of this project was

to prepare a Surface Water Management Plan (SWMP) in accordance with the Stormwater Management Guidelines for the Province of Alberta and the Alberta Wetland Policy, to ensure that cumulative effects on the watershed are understood and will be appropriately mitigated and managed. A final release rate of 3.0 L/s/ha was agreed upon by the group which will be achieved through a series of grey and green infrastructure projects through SIRP.

Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems

In 2012, Alberta Environment and Parks revised the "Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems". Part 2 of this revised document is titled "Guidelines for Municipal Waterworks" and includes a section on source water protection and highlighted the importance for municipalities to conduct source water protection planning.

Drinking Water Safety Plans

As part of the Standards and Guidelines for Municipal Waterworks, Wastewater and Storm Drainage Systems, there is a requirement to complete Drinking Water Safety Plans (DWSP). These plants include a source to tap risk assessment. EPCOR completed its risk assessment in 2013, and the DWSP, including the action plan, was finalized in 2013. The risk assessment component for source waters has been incorporated the hazard and risk assessment in Section 3.5. EPCOR continues to reevaluate and reassess its DWSP annually.

3. Current Monitoring Programs for the NSR

This section describes the current monitoring programs that are used to characterize water quality in the North Saskatchewan River. These initiatives are supported by both the City of Edmonton and EPCOR and in some cases are a collaborative effort between other watershed stakeholders (e.g. WaterSHED program).

Monitoring Program Summary



Table 1. Current EPCOR/City of Edmonton Supported monitoring programs, scale of planning, and program purpose in the NSR Watershed.

Monitoring Program Title and Group	Scale	Purpose
waterSHED Monitoring Program	Whole Basin	To characterize water quality, aquatic ecosystem health, and material flux in the NSR using five sites along the mainstem and paired flow and water quality sampling at 19 tributaries
Environmental Monitoring Program (EMP)	City of Edmonton Watershed	To quantify storm, wastewater, and CS loads and evaluate impact on the NSR through load assessment and sampling four intake points throughout and downstream of the City
EMP Tributary Monitoring Program	City of Edmonton Watershed	To characterize water quality in City of Edmonton urban creeks using upstream and downstream sampling design
WWTP Effluent Characterization Program	Point: Final Effluent of Gold Bar and	To screen effluent for potential exceedances of guidelines, to refine future monitoring programs,

	Alberta Capital Region WWTPs	and to assess inputs as they relate to river outcomes at Pakan.
WTP Residuals Monitoring Program	Point: At waste- stream discharge point at WTPs	To assess event loads and the effect on near-field and far-field (Pakan) water quality
River for Life Sampling Program	City of Edmonton Watershed	To assess storm runoff from a variety of land uses to inform load predictions for stormwater load estimates
LID Monitoring Program	City of Edmonton Watershed	To determine health and function of LID features in Edmonton by monitoring eight sites for water quality, vegetation metrics and soil health.
Storm system flow monitoring	City of Edmonton Watershed	To determine storm volumes and understand flow dynamics throughout the system to reduce flood risks
Storm Water Pond Monitoring	City of Edmonton Watershed	To determine the efficiency of storm water management facilities in Edmonton through intake and outflow monitoring at five sites

Basin-Wide Monitoring

In 2010, EPCOR's Watershed Group spearheaded a Water Quality and Aquatic Ecosystem Working Group in Partnership with the North Saskatchewan Watershed Alliance to address monitoring challenges in the North Saskatchewan River basin. This group identified a need for a scientifically defensible, sustainably funded, long-term water quality and aquatic ecosystem health monitoring program for the North Saskatchewan River and its major tributaries. The goals of this program would be to: 1) allow the assessment of drivers of water quality and quantity; 2) understand the effects of continued land use change and population growth pressures; and 3) to inform planning at the regional, source water, and municipal scale. Although monitoring has occurred in the past it has been disjointed, project specific, and not comprehensive enough to meet the needs of those trying to balance land use decisions with maintaining water quality and quantity. A good summary of past monitoring data can be found <u>here.</u>

In 2016, EPCOR Water Canada put forward a request for up to 1 million dollars per year for four years from the Edmonton Rate Payers for an environmental monitoring program for the North Saskatchewan River and this was supported by Edmonton City Council. The program was designed in 2018, monitoring and flow station installation began in 2019, and funding is guaranteed until the end of 2021. EPCOR hopes to get approval to continue monitoring through the next PBR cycle 2022-2026.

The monitoring program is based on a mass balance approach with paired water quality and quantity data and representative sub-watersheds were chosen based on hydrological response and watershed characteristics. In order to understand the link between watershed characteristics, climate, and water quality and quantity, the program is designed to be long term. To be useful it must capture inter-annual variability (wet and dry years) and seasonal variability (e.g. fast spring

melt) across headwater watersheds to parkland/agriculture dominated watersheds. And it must be paired with data in the North Saskatchewan River. To achieve this, it is expected that at least ten years of complete data is required with evaluation of the program after that date.



Figure 5. WaterSHED monitoring program locations and tributary watershed areas.

City of Edmonton Watershed Monitoring

North Saskatchewan River and Tributary Monitoring

Although there has been sporadic sampling of the NSR and its tributaries within the City of Edmonton over the years there are two programs that continue to provide long-term data. The first is the Edmonton Monitoring Program (EMP), formally run by City of Edmonton and now with EPCOR's Drainage and Water Canada Business Units, and the second is EPCOR's WTP Intake Monitoring Program.

The purpose of the EMPs river and creek monitoring program, which began in the late 90s, was originally to evaluate water quality as the North Saskatchewan River flows through the City of Edmonton and highlight areas of concern. In addition, the program aimed to characterize water quality in urban tributaries. The EMP program was designed to capture seasonal changes in water quality and characterize water quality during wet and dry periods. There was an assumption that during dry periods the influence of the City of Edmonton's footprint from stormwater would be minimal but the impact from the wastewater treatment plants would be more significant. The EMP program has evolved through the years and now has three main focus points: the quantification of loads to the NSR from the combined system and the storm system;

mainstem monitoring at four intake locations; and tributary monitoring, which has been enhanced in the last year. The program is executed by a consultant, who has varied over the years, and an annual report is completed. It this section we focus on the evaluation of the mainstem and tributary components of the EMP and the outfall load monitoring is discussed in the next section.

Intakes are located at E.L. Smith WTP which is (23 km downstream of Devon), Rossdale WTP (17 km downstream of E.L. Smith), Suncor (12 km downstream of Rossdale WTP and 4 km downstream of Gold Bar WWTP), and Dow Chemical (35 km downstream of Gold Bar and 16 km downstream of ACRWC WWTP).

EPCOR's Intake Monitoring Program at the WTPs is intended to inform WTP water production but due to its comprehensive nature in terms of location, parameters, consistency, and frequency over the last 40 years it has become an indispensable resource in terms of quantifying source water quality.

Some monitoring of the NSR and urban tributaries is conducted by not-for-profit NGOs. RiverWatch/CreekWatch collects samples from the NSR, and creeks within the City of Edmonton to engage citizen scientists to collect water quality data. Since 2013, RiverWatch has collected approximately 50 samples per year upstream and downstream of the Gold Bar WWTP. Sampling is restricted to May, June, September and October during periods of moderate to low flow to accommodate school groups. Parameters measured include, dissolved oxygen, ammonia, TP, turbidity, chloride pH, temperature. These parameters are measured using field HACH kits, with a small number of laboratory samples submitted to confirm HACH kit results. Similarly, several urban tributaries within the City of Edmonton have been monitored by CreekWatch since 2015, including: Wedgewood, Whitemud, Blackmud, Mill, Gold Bar, and Fulton. Samples are collected either by CreekWatch staff or by citizen scientists and are analyzed for the same parameters as RiverWatch. Between one and two dozen samples are collected each year, with effort varies among sites and years. While these sampling programs do provide valuable results, these are not typically integrated with results collected by trained staff and submitted to accredited laboratories. The North Saskatchewan River Keeper has also collected a small number of *E. coli* samples along the banks of the NSR in an attempt to measure recreational water quality.



Figure 6. City of Edmonton Watershed tributary and mainstem NSR monitoring locations.

4. Modelling Initiatives

Modelling is a critical tool in watershed planning as it allows scientists and managers to predict how changes in watershed conditions will affect downstream river and stream conditions. These conditions can include both watershed metrics such as land use (e.g., agricultural bmps), land cover (e.g. wetland areas, impervious surface), climate, along with point source discharges. Models can also be used to establish baseline conditions for watersheds that have been disturbed to help set sub-basin watershed outcomes.

The process for model selection depends on a number of factors including data availability, familiarity of the modeller, scale, and the question that model is trying to answer. In the North Saskatchewan River basin, numerous models have been developed and are currently in development. Each model has a particular application and development has largely been based on government priorities at the time, academic pursuits and grant availability, and management pressure (i.e. flooding risk).

Historically EPCOR has largely relied on partners to develop basin models to help determine drivers of water quality and quantity and address changes in watershed conditions. For source water, water quality for most of the year was largely driven by land use in the upper tributaries and precipitation patterns that were largely static; source water quality was not showing discernable trends. With the addition of Gold Bar WWTP and the stormwater collection system, combined with a potentially changing watershed due to climate change, there is an increasing urgency to develop an integrated model for the NSR basin that would meet the needs of all stakeholders. To meet this need, EPCOR's Watershed Team, launched a Watershed Modelling Working Group in early 2020. The first step was to identify what questions stakeholders were looking for a model to answer. The second step was to determine what models were available. This was done by a literature search and talking to various researchers that we have connected with through other projects. In July 2020 a "state of" modelling in the NSR webinar series was initiated by EPCOR's Watershed Group.

Modelling Workshop Summary

Based on the presentations and discussions in the workshop, it was evident that there is little alignment or strategic direction of the modelling efforts in the basin. Each organization has their own model of choice, and there is little evidence of collaboration among organizations. There appears to be little *a priori* assessment of which models are the most appropriate to use, and the models used are typically based on which models the organization is familiar with, or where funding was available. Frequently, models appear to have been developed without attempting to address specific questions/outcomes. Lastly, many models lack a significant degree of calibration and validation, frequently due to data gaps, or that the models have not been reassessed with the new data that is available.

There are some efforts underway to align modelling. AEP has developed the Alberta Modelling Expert System (MES) which houses all the models in a searchable format that allows users to determine if any models have been completed for a specific area. Anil Gupta at AEP is

responsible for coordinating AEP's modelling efforts and is planning a more strategic approach with AEP's modelling, and has committed to be a part of the WaterSHED modelling working group.

EPCOR has some internal modelling capacity and is currently using Mike Urban to predict flood hydrology and flooded areas. There is a significant opportunity for EPCOR to expand its modelling efforts to include water quality. This expanded modelling effort would help inform total loadings and LID development. However, EPCOR would need to ensure that internal efforts and resources are aligned.

Development of NSR Basin Modelling Strategy

The modelling working group was tasked with developing a ten year modelling strategy for the NSR Basin. This work would begin with creating a document that contained a summary of stakeholder needs; state of current modeling; and a ten year modelling strategy with roles and responsibilities.

Partners

The key partners in developing a water quantity/quality modelling strategy for the basin are those who are currently using or require models to inform watershed management. This includes, but is not limited to, the Government of Alberta (AEP-Modelling Hub, AEP- Flood Forecast, AER, for example), North Saskatchewan Watershed Alliance, Industrial Dischargers, City of Edmonton, and EPCOR. There is also a wealth of knowledge and work in academia that focuses on model development and that work can inform watershed management and managers. Each organization in interested in modelling at differing scales and is currently supporting a range of different models and summarized in the tables below. Other municipalities in the NSR basin could also be leveraged as partners in achieving modelling outcomes; however, to date we currently have limited engagement with these municipalities on the topic of modelling.

Modelling Assessment/Recommendations/Strategies

Aligning modelling in the NSR basin is critical as there are limited resources and the ability to manage water quality and water quantity is dependent on the availability of predictive models. Water quality outcomes have been established and although the process is evolving, it is necessary to understand how land management will impact loads to the river/tributaries and water quality and quantity. Further, there needs to be nested alignment at the basin scale to the point source contributions. It is recommended that:

- EPCOR's Watershed Team continue to lead the development of a basin wide Ten Year Modelling Strategy with a focus on a nested approach
- EPCOR use the savings from the overall monitoring program cost reductions to employ a watershed modeler who will:
 - Develop a City of Edmonton Urban Watershed model with water quality and provide recommendations for the current monitoring programs
 - Use and inform AEP's EFDC river model and link the Urban Watershed Model into the model

- Work closely with the City of Edmonton and AEP on the LSCP upstream model to inform changes in source water quality
- Inform the development of Ten Year Modelling Strategy for the NSR
- Model land use change from climate change and development at both the urban and source water scales using the developed basin wide model
- Work closely with other EPCOR business units to use modelling expertise to implement total loadings management
Municipal Tools for Watershed Protection

The tools downstream municipalities have to influence upstream water protection and watershed management are limited, but include:

- Continued advocacy for action to protect Edmonton's source water and for integrated land and water planning and management. The approval of the North Saskatchewan Regional Plan and Management Frameworks established under that Plan are important to various municipalities' long term interests, including Edmonton's. Approval of the North Saskatchewan Regional Plan could put in place site specific water quality objectives and a water quality management framework for managing cumulative effects.
- If coal mine development projects are subject to a Federal environmental impact assessment the City of Edmonton could apply for intervenor status, which if granted, would allow Edmonton to participate in the proceedings. On June 16, 2021 the Government of Canada announced that the federal government will conduct an environmental review of any new coal project that has the potential to release selenium. This includes the metallurgical coal exploration projects underway in Alberta on Category 2 lands.The option to apply for intervenor status is not available under Provincial environmental impact assessments.
- Continued collaboration and partnerships to influence and support voluntary best management practices in the watershed. A key partnership would be collaboration with upstream municipalities who regulate land use within the watershed. One example is the recent collaboration with upstream municipalities on considering designating the North Saskatchewan River as a heritage river. Working with EPCOR, the City of Edmonton can also collaborate with other upstream users and landowners and organizations such as the North Saskatchewan Watershed Alliance (the Watershed Planning and Advisory Council for the North Saskatchewan River). Another example is the City of Edmonton's work with ALUS Canada, an organization that works with agricultural landowners to enhance land management for watershed health. ALUS Canada is developing a model that could identify locations and agricultural actions (not industrial actions, such as coal mining) that would help protect and manage parts of the watershed upstream of Edmonton.
- Dedicated staff resources and funding for upstream actions. Some cities in Canada, such as the City of Calgary, have watershed managers on staff whose job duties include working with land users outside of City boundaries on managing water, a transboundary resource. Although the City of Edmonton does not have a similar resource, EPCOR does have these resources and performs those functions. Some cities have used innovative options such as paying to protect portions of their upstream

watershed. The City of Edmonton does not have dedicated funding for upstream water protection, however EPCOR has a funded Source Water Protection Plan that includes a comprehensive monitoring program for the North Saskatchewan River.

Bylaw 19858

City Administration Bylaw Amendments

Purpose

To amend the City Administration Bylaw to increase the City Manager's authority for certain financial matters and make other general updates.

Readings

Bylaw 19858 is ready for three readings.

A majority vote of City Council on all three readings is required for passage.

If Council wishes to give three readings during a single meeting, then prior to moving third reading, Council must unanimously agree "That Bylaw 19858 be considered for third reading."

Position of Administration

Administration supports this Bylaw.

Report Summary

Administration is recommending updates to the City Administration Bylaw to ensure it continues to appropriately assign authorities between Council and the City Manager.

Report

The current City Administration Bylaw was approved by Council in 2016, and was scheduled for a five-year review to ensure it continues to appropriately distribute authority between Council and the City Manager, which allows for efficient operations while ensuring Council retains its strategic oversight role. Approval of the recommended changes will result in more effective management of a modern municipal corporation.

Administration has identified four financial authorities where updates are recommended, and is proposing two general updates for clarity.

Financial Authority Recommendations

Recommendation 1 - Increase the general agreement authority to \$1,000,000

Currently, the City Manager's general authority for agreement and uninsured legal settlements is \$500,000. This limit has been in place since September 2009, when the authority was increased from \$250,000 to \$500,000. Given inflation and the overall increase in City budgets over the past 12 years, Administration is recommending that the general authority be increased to \$1,000,000.

If approved, this increase would apply to the City Manager's general agreement authority, uninsured legal settlements, licence agreements, and subscription agreements.

Recommendation 2 - Budget Adjustments

Currently, the City Manager can approve budget adjustments up to \$2,000,000 per adjustment between existing operating programs or capital projects within the Council approved operating and capital budgets, respectively. This authority currently does not permit the City Manager to use money from reserves to fund new operating programs or capital projects, transfer funds between the operating and capital budgets, or increase the overall operating and capital budgets.

Administration is recommending increasing the general budget adjustment authority to \$5,000,000 per adjustment where funding is moved between existing operating programs or capital projects. In addition, Administration is recommending a new authority allowing the City Manager to perform adjustments to fund new operating programs and capital projects up to \$1,000,000 where the source of funds is reallocation of existing approved capital or operating budgets, or a transfer from a reserve. Both of these changes would allow for the transfer of funds within and between the existing operating and capital budgets, thereby potentially changing the overall operating and capital budgets. If approved, Administration will bring forward any necessary amendments to Council's reserve policies to fully implement this change. Reserves will only be used as a funding source for operating programs and capital projects that are eligible for funding from the reserve based on its purpose.

The above budget adjustment recommendations will not have an impact on the net tax-levy requirement.

Recommendation 3 - Signing Authority

The City Manager currently has the authority to sign agreements on behalf of the City, however cheques and other negotiable instruments also require the signature of the Mayor. Since these instruments are only used to carry out financial commitments contained in the approved budgets, Administration recommends that the City Manager be given sole signing authority to improve efficiency in issuing these instruments.

Recommendation 4 - Reporting

The City Manager must report at least semi-annually on all non-competitive procurement agreements over \$75,000 and all insured settlements over \$500,000. To reduce the administrative effort required to create this report while still maintaining Council oversight over significant non-competitive procurements and insured claim settlements, Administration recommends increasing the reporting threshold for non-competitive procurements to \$250,000, the threshold for insured settlements to \$1,000,000, and reducing the frequency to annually. These reports would continue to be provided to Executive Committee.

The Edmonton Police Commission has also requested that the current requirement for the Chief of Police to provide a report on all non-competitive procurement agreements over \$75,000 be amended to increase the reporting threshold to \$250,000 and reducing the frequency to annually to ensure continued alignment with City practices.

General Recommendations

Recommendation 1 - Clarify grant funding authorities

The current City Administration Bylaw contains an authority allowing the City Manager to approve grant agreements of any value where the grant is part of an approved grant program or activity. Administration is proposing revised language to clarify that the City Manager can approve any grant agreement that would otherwise fall within the City Manager's general agreement authority, as well as any agreement that exceeds that threshold if Council has approved a grant program or project as part of the budget.

Recommendation 2 - Affordable housing agreements

The affordable housing agreement authorities granted to the City through the *City of Edmonton Charter, 2018 Regulation* did not exist when the current City Administration Bylaw was passed and do not fully fit within any of its current authorities, resulting in these agreements requiring Committee approval. Administration recommends adding a specific authority for these unique agreements with the maximum value for any City contribution being equal to the City Manager's general agreement authority.

Corporate Outcomes and Performance Management

Corporate Outcome(s): The City of Edmonton's corporate processes are robust and helpful for integrated service delivery.

Outcome(s)	Measure(s)	Result(s)	Target(s)	
The City of Edmonton's corporate processes are robust and helpful for integrated service delivery.	Reduction of approvals in previous years if current recommended limits were applied	City Manager: 53 fewer (2019 & 2020) Executive Committee: 16 fewer (2019 & 2020)	Reduce with expanded authority for other leadership levels	
	Number of budget adjustments within Administration's new recommended authority that would not require Council time	2020 SOBAs: 3 2020 SCBAs: 20		

Public Engagement

Public engagement was not conducted as the City Administration Bylaw relates to the authorities delegated from Council to the City Manager and does not directly impact the public.

Attachment

1. Bylaw 19858 - City Administration Bylaw Amendments

Others Reviewing this Report

- D. Croft, Acting Deputy City Manager, Financial and Corporate Services
- H. Rai, Acting Chief Financial Officer
- G. Cebryk, Deputy City Manager, City Operations
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services
- K. Armstrong, Deputy City Manager, Employee Services
- R. Smyth, Deputy City Manager, Citizen Services
- S. McCabe, Deputy City Manager, Urban Planning and Economy
- K. Fallis-Howell, Acting City Solicitor

THE CITY OF EDMONTON BYLAW 19858 CITY ADMINISTRATION BYLAW Amendment No. #3

Edmonton City Council enacts:

- 1. Bylaw 16620, City Administration Bylaw, is amended by this bylaw.
- 2. Section 9(b) is deleted and replaced with:
 - (b) approve policies, procedures, standards, manuals, and guidelines applicable to the operation and administration of the City and its employees;
- 3. Section 10(1) is deleted and replaced with:

SIGNATURES 10 (1) The City Manager may, acting alone, sign agreements, cheques, and other negotiable instruments on behalf of the City.

- 4. Section 11(2) is amended by deleting and replacing "semi-annually" with "annually".
- 5. Section 11(2)(a) is amended by deleting and replacing "\$75,000" with "\$250,000".
- 6. Section 11(2)(b) is amended by deleting and replacing "\$500,000" with "\$1,000,000".
- 7. Section 13 is deleted and replaced with:

BUDGET13The City Manager may authorize budget adjustments:**ADJUSTMENTS**13The City Manager may authorize budget adjustments:

- (a) that do not exceed \$5,000,000 per adjustment between existing programs or projects within and between the approved capital and operating budgets; or
- (b) that do not exceed \$1,000,000 per adjustment to create a new program or project funded by reallocation of funds within and between the approved capital or operating budgets or through a transfer from a reserve designated for a purpose consistent with the program or project,

provided that the adjustment does not result in an increase to the net requirement from the tax levy.

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8. Section 21(b) is amended by deleting and replacing "\$500,000" with "\$1,000,000".

- 9. Section 21(c) is amended by deleting and replacing "\$500,000" with "\$1,000,000".
- 10. Section 39(1)(a) is amended by deleting and replacing "\$500,000" with "\$1,000,000".
- 11. Section 42.2 is added following section 42.1:

AFFORDABLE42.2The City Manager may approve affordable housing agreementsHOUSINGthat do not exceed \$1,000,000.

- 12. Section 43(a) is amended by deleting and replacing "\$500,000" with "\$1,000,000".
- 13. Section 46(a) is amended by deleting and replacing "\$500,000" with "\$1,000,000".
- 14. Section 49 is deleted and replaced with:

GRANT FUNDING 49 The City Manager may approve the payment of grant funding from the City if:

- (a) the value of the grant does not exceed \$1,000,000 and the term of the agreement does not exceed 10 years; or
- (b) the program, project, or activity to which the grant relates is specifically identified within the approved capital or operating budgets and payment is made in accordance with the express terms or conditions, if any, directed by Council.

15. Section 52.2 is amended by deleting and replacing "semi-annually" with "annually" and "\$75,000" with "\$250,000".

Read a first time

Read a second time

Read a third time

SIGNED AND PASSED

THE CITY OF EDMONTON

MAYOR

CITY CLERK

Bylaw 19870

Code of Conduct for Members of Council Committees

Purpose

To establish a code of conduct for members of Council Committees.

Readings

Bylaw 19870 is ready for three readings.

A majority vote of City Council on all three readings is required for passage.

If Council wishes to give three readings during a single meeting, then prior to moving third reading, Council must unanimously agree "That Bylaw 19870 be considered for third reading."

Position of Administration

Administration supports this Bylaw.

Report Summary

The *Municipal Government Act* allows for the establishment by bylaw of a code of conduct governing members of Council Committees who are not Councillors. The proposed bylaw in Attachment 1 of this report is informed by Bylaw 18483, Council Code of Conduct Bylaw, research into other municipalities' codes of conduct for Council Committee members, and engagement with stakeholders.

Report

The *Municipal Government Act* allows City Council to establish by bylaw a code of conduct for members of Council Committees. Such a code would not apply to members of Council appointed to these Committees as there is already a Council Code of Conduct (Bylaw 18483).

On November 26, 2019, City Council directed Administration to prepare a work and engagement plan to develop a code of conduct for members of Council Committees. On April 6, 2021, Council approved the following list of Council Committees whose members would be governed by the proposed code:

• advisory committees;

- ad hoc committees and task forces;
- Audit Committee; and
- three decision-making bodies (Edmonton Combative Sports Commission, Edmonton Salutes, and Naming Committee).

Research

Administration surveyed eight municipalities: Vancouver, Calgary, Red Deer, Saskatoon, Winnipeg, Ottawa, Toronto and the Regional District of Halifax. With the exception of one (City of Red Deer), all have a code of conduct that applies to members of Council Committees. While the City of Red Deer does not have such a code, it does include a section on conflicts of interest in its Committees Bylaw.

Not all of these codes of conduct apply exclusively to Council Committee members. For example, Vancouver's code applies to both City Councillors and Council Committee members, whereas Winnipeg's code applies to employees, volunteers and anyone representing the City (other than members of Council, who have their own code of conduct).

Information on other municipalities's codes of conduct can be found in Attachment 2.

Based on the research conducted, the following have been identified as important elements of a code of conduct for Council Committee members:

Guidance and Proactive Advice

It is important that Council Committee members have access to a resource who can provide advice and answer questions on the code of conduct. Administration will assist Council Committee members by providing proactive advice and answering questions about the code's application in specific situations.

Informal Resolution

A process to facilitate informal resolution may be a helpful option to provide to Council Committee members, and is included in Schedule B of Bylaw 19870 (Attachment 1).

Receiving Complaints and Investigating Breaches

A clearly defined process to manage reports of alleged breaches of a code of conduct and a transparent process for investigating reports sets expectations for potential complainants, and is included in Schedule C of Bylaw 19870 (Attachment 1).

Sanctions

To deter breaches, it is important that a code of conduct include potential sanctions for substantiated breaches. A list of possible sanctions is provided in Schedule D of Bylaw 19870 (Attachment 1). Nothing requires Council to impose a sanction for a substantiated breach.

Effective Date

Bylaw 19870 Code of Conduct for Members of Council Committees will come into force on January 1, 2022. This will allow time for the bylaw to be socialized with members who are required to adhere to it before it is effective.

Annual Reporting

At least once annually, the Office of the City Clerk will provide a report to Council that includes a summary of the code of conduct activities, if any.

Public Engagement

Feedback was collected from current members of in-scope Council Committees and Administration. This feedback informed the proposed code of conduct.

Attachments

- 1. Bylaw 19870 Code of Conduct for Members of Council Committees
- 2. Research into Other Municipalities' Codes of Conduct

Others Reviewing this Report

• K. Fallis-Howell, Acting City Solicitor

THE CITY OF EDMONTON BYLAW 19870 COUNCIL COMMITTEE CODE OF CONDUCT BYLAW

WHEREAS

City Council expects the highest standards of ethical conduct from members of Council Committees, and recognizes that the public interest is best served when Council Committee members perform their functions with integrity, accountability, transparency, and respect;

Edmonton City Council enacts:

PURPOSE	1		The purpose of this bylaw is to adopt a code of conduct for members of council committees.				
DEFINITIONS	2	(1)	Unless otherwise specified, words used in this bylaw have the same meaning as defined in the <i>Municipal Government Act</i> , RSA 2000, c M-26 or the <i>Local Authorities Election Act</i> , RSA 2000, c L-21.				
		(2)	In this	bylaw:			
			(a)	"City" means The City of Edmonton;			
			(b)	"City employee" means an individual that reports to the City Manager or City Auditor and provides services to the City under an employment agreement, personal services agreement, or in the capacity of agent, student, or volunteer;			
			(c)	"City Manager" means the City's chief administrative officer or delegate;			
			(d)	"Council" means the City's council; and			
			(e)	" Member " means an individual appointed to a City council committee listed in section 3 who is performing functions on behalf of the committee, and excludes councillors.			
APPLICATION	3		The co of the	ode of conduct adopted by this bylaw applies to Members following council committees:			
			(a)	Accessibility Advisory Committee;			

			(b)	Anti-Racism Advisory Committee;
			(c)	Audit Committee;
			(d)	City of Edmonton Youth Council;
			(e)	Community Services Advisory Board;
			(f)	Edmonton Combative Sports Commission;
			(g)	Edmonton Design Committee;
			(h)	Edmonton Historical Board;
			(i)	Edmonton Salutes;
			(j)	Edmonton Transit System Advisory Board;
			(k)	Energy Transition Climate Resilience Committee;
			(1)	Naming Committee; and
			(m)	Women's Advocacy Voice of Edmonton Committee.
CODE OF CONDUCT	4		The co adopte	ode of conduct contained in Schedule A of this bylaw is ed by Council to apply to all Members.
COMPLAINTS	5	(1)	If any of con first p - Infor	person believes that a Member has contravened the code iduct adopted by this bylaw, the person is encouraged to ursue the informal resolution process set out in Schedule B rmal Resolution Process.
		(2)	If any of com proces unsuce in acc	person believes that a Member has contravened the code iduct adopted by this bylaw and the informal resolution ss established by subsection (1) is either not pursued or is cessful, the person may submit a formal written complaint ordance with Schedule C - Complaints.
SANCTIONS	6	(1)	If a br determ passed contra accord	each of this code of conduct is substantiated and Council nines it appropriate to do so, Council may, by motion d by special resolution, impose sanctions on a Member who wenes the code of conduct adopted by this bylaw in dance with Schedule D - Sanctions.
		(2)	Nothin	ng in this bylaw requires Council to impose a sanction for

any complaint or contravention.

COMING INTO7This bylaw comes into force on January 1, 2022.FORCE

Read a first time

Read a second time

Read a third time

SIGNED AND PASSED

THE CITY OF EDMONTON

MAYOR

CITY CLERK

Bylaw 19870 - Page 3

SCHEDULE A COUNCIL COMMITTEE CODE OF CONDUCT

Part A: Representing a Council Committee

1. Members will perform their functions with integrity, accountability, transparency, and respect.

Part B: Communications

- 1. Members will:
 - a. ensure that all communications (including social media) issued by them on behalf of the council committee are accurate and truthful; and
 - b. ensure that all communications (including social media) issued by them on behalf of the council committee do not discriminate, harass or demonstrate disrespect toward any person.

Part C: Decision-Making

1. Members will consider all decisions and issues thoughtfully, consistently, and impartially taking in all relevant facts, opinions, and perspectives in a manner that demonstrates fairness, respect for differences, and an intention to work together for the common good.

Part D: Adherence to Rules

- 1. Members will comply with any applicable legislation, bylaw, or Council Policy.
- 2. Members will comply with the procedural rules for meetings established by the *Municipal Government Act*, a bylaw, or motion of the council committee.

Part E: Respectful Interactions

1. Members will conduct themselves with decorum while attending council committee meetings, interacting with City employees, and engaging with the public.

Part F: Confidential Information

1. Members must keep confidential all information received during a private portion of a meeting or otherwise received in confidence or marked as confidential.

Part G: Conflicts of Interest

- 1. Members will obtain advice whenever a potential conflict of interest may exist in a matter before the council committee, and will recuse themselves from any discussion or decision on any matter in which they have a real or perceived conflict of interest.
- 2. When exercising official duties, a Member must not give preferential treatment to any person or organization or use their position on the council committee with the intent of advancing the Member's private interests or for their personal benefit.

Part H: City Assets

- 1. Members will only use City assets to assist them in carrying out their duties.
- 2. Members must not direct City employees.

Part I: Orientation and Training

1. Members will attend all training and orientation sessions directed by Council or by the Chair of the council committee.

Part J: Election Activities

- 1. Members have a right to freely and fully participate in the political process in their personal capacity, including contributing personal money or real property, volunteering, or offering financial support of partisan political activity.
- 2. If a Member chooses to run for municipal office (Mayor or Councillor), the Member must take a leave of absence from nomination day until election day, and must immediately resign from the council committee if elected.
- 3. Members must not:
 - a. promote or oppose the candidacy of any person;
 - b. use City assets to promote or oppose the candidacy of any person;
 - c. demand that a City employee engage in partisan or political activities, or subject any City employee to reprisal for a refusal to engage in such activities; and
 - d. if running for political office, use their status as a Member to gain an unfair advantage over other candidates.

Part K: Gifts and Benefits

- 1. Before accepting any gift or gratuity, Members will consider how the acceptance of the gift would be perceived by the public, the media, and City Council.
- 2. Members will refuse all cash gifts and decline any gift that is intended as an exchange for a favour.

Part L: Retaliation, Interference, and Obstruction

- 1. Members will not retaliate against anyone who participates or provides information in good faith during an investigation into a reported breach of the code of conduct.
- 2. Members will not interfere with or obstruct an investigation into a reported breach of the code of conduct.

SCHEDULE B INFORMAL RESOLUTION PROCESS

Any person, including a Member, who identifies or witnesses behaviour or activity by a Member that appears to contravene this code of conduct may address the prohibited behaviour or activity themself in the following manner:

- Advise the Member that the behaviour or activity appears to contravene the code of conduct.
- Encourage the Member to acknowledge their contravention and agree to stop the prohibited behaviour or activity and to avoid future occurrences.
- Document the incidents, including dates, times, locations, other persons present, and any other relevant factual information.
- If the contravention does not stop, or reoccurs, the individual should advise the chair (or the vice-chair, if it is the chair who appears to be contravening the code of conduct).
- The chair (or the vice-chair, if it is the chair who appears to be contravening the code of conduct) will meet with the complainant and the Member to find a common understanding of appropriate behaviour in the context of the complaint.
- If this conversation does not resolve the situation, the chair (or the vice-chair, if it is the chair who appears to be contravening the code of conduct) may submit a request to the City Clerk to obtain the services of a third-party mediator.
- If resolution cannot be reached the complainant may wish to submit a formal complaint in accordance with Schedule C.

SCHEDULE C COMPLAINTS

If any person believes that a Member has contravened this code of conduct, that person may make a written complaint. Written complaints must include the following:

- the name of the Member alleged to have contravened the code of conduct
- the provisions of the code of conduct allegedly contravened and the facts surrounding the allegation, including witnesses
- the complainant's name and contact information

Complaints must be submitted in writing by email at <u>city.clerk@edmonton.ca</u> or delivered to:

City Clerk Office of the City Clerk 3rd Floor, City Hall 1 Sir Winston Churchill Square Edmonton AB T5J 0R2

A complaint must be received by the Office of the Clerk no later than 60 days after the date on which the person became aware of the conduct giving rise to the complaint. An extension may be granted if:

- the delay occurred in good faith;
- it is in the public interest to consider the complaint; and,
- no substantial prejudice will result to any person because of the delay.

Initial Assessment

On receipt of a complaint, the City Clerk will complete an initial assessment. Complaints that:

- are not about a current member;
- allege criminal activity;
- allege a violation of the *Municipal Government Act* or the *Freedom of Information and Protection of Privacy Act*; or
- are covered by other applicable legislative appeal, complaint, or court processes

will be immediately refused and the complainant will be advised in writing, with reasons, and provided with information regarding other forums, if applicable.

Complaints received or under investigation within 90 days prior to a municipal election may be suspended until after election day.

Complaints that are determined to be frivolous, vexatious, or made in bad faith, will be dismissed immediately.

Mediation

If mediation may be possible, the parties to the complaint may request that the complaint be forwarded to an agreed upon mediator.

Formal Investigations

If a complaint cannot be resolved informally, the complaint will be referred to a third party to conduct a formal investigation. Formal investigations must be conducted in a fair, timely, and confidential manner that respects the principles of procedural fairness and natural justice.

The complainant and the respondent Member will receive written notice of the investigation, and the respondent Member will receive a copy of the complaint.

Names of complainants and witnesses may be provided to the respondent Member if:

- the investigation cannot be completed without releasing the complainant's name; or
- the respondent Member requires the names to properly respond to the allegations.

During an investigation, a complainant or witness may be asked to provide additional information and may be asked to provide information through a statutory declaration. If a statutory declaration is requested, the Office of the City Clerk may provide a Commissioner for Oaths (paid for by the Office of the City Clerk).

City employees may also be asked to provide information, and the third party investigator may look at any record or thing belonging to or used by the City.

The respondent Member is entitled to disclosure of all relevant information gathered during an investigation. Once all relevant information has been provided to the respondent Member, the respondent Member will have 10 days to respond to the complaint in writing and may provide any further information in support of their response. This deadline may be extended.

The third party investigator will strive to complete investigations within 90 days of the date the complaint is accepted.

Reporting

Following the investigation, if the third party investigator believes the complaint is substantiated they will provide a report to Council. The report must contain:

- a summary of the complaint;
- a summary of information gathered and conclusions made; and
- a recommended resolution, including any recommended sanctions in accordance with Schedule D.

SCHEDULE D SANCTIONS

If a Member contravenes a provision of the code of conduct, Council may impose any of the following sanctions:

- issue a letter of reprimand to the Member
- require the Member to issue a letter of apology
- require the Member to attend specified training or counselling
- revoke the Member's appointment from the council committee

Council may also impose any other sanction it deems appropriate.

When imposing a sanction, Council may consider the following:

- the severity of the breach
- the consequences of the breach
- the principles and intent of this bylaw
- whether the member has previously contravened this bylaw.

Council is not obligated to impose a sanction for a substantiated breach of this bylaw.

Research into Other Municipalities' Codes of Conduct

Based on the research conducted into other municipalities' practices, the following have been identified as important elements of a code of conduct for members of Council Committees, and have been incorporated into the proposed bylaw.

Advice and Guidance for Members

Members of Toronto's, Vancouver's and Ottawa's Council Committees can access their respective integrity commissioner to ask questions and receive proactive advice on their codes of conduct.

In Winnipeg, members can ask their administrative liaison questions about the code.

In Calgary, staff from the City Clerk's office provide advice and guidance to the liaison and to members. A lawyer assists with interpretation and legal advice when required.

Informal Resolution in Other Municipalities

Two of the municipalities in the research group have a documented process for informal complaint resolution included in their code of conduct. An informal process may assist complainants with resolving concerns without escalation to a formal complaint.

The City of Vancouver's code of conduct includes complaint and resolution procedures that allow for preliminary vetting of complaints and informal dispute resolution, where possible.

At the City of Ottawa, the code of conduct includes a two-part complaint protocol, part 1 of which is an informal complaint procedure. This procedure is for any individual who identifies or witnesses behaviour or activity by a Council Committee member that may be in contravention of Ottawa's code of conduct. The individual, who may be another Council Committee member, may address the prohibited behaviour or activity themself by following the procedure, which includes the integrity commissioner assisting in informal discussion with the member in an attempt to resolve the issue. Participating in the informal complaint procedure is not a prerequisite to submitting a formal complaint.

Receiving Complaints and Investigating Breaches

In Vancouver, Toronto and Ottawa, the integrity commissioner receives reports of alleged breaches. The integrity commissioner determines if the complaint warrants investigation, and proceeds with an investigation, if required.

In Calgary, the chair or the administrative liaison of the Council Committee would contact the City Clerk to discuss an issue related to the code of conduct. It is recommended that the chair include the issue as a private item on their next meeting agenda, and document in the minutes the Committee's decision. The City Clerk authors a report to Council to present the situation and recommend that the appointment of the member be revoked (the report and attachments remain private).

At the City of Red Deer, complaints are brought to the chair of the Council Committee (or vice chair, if the subject of the complaint is the chair) and the City Clerk. The City Clerk and the chair conduct an investigation and report the results to the Executive Committee. If the Committee believes the complaint is substantiated they will determine if a sanction is warranted.

In the Municipal District of Halifax there is no formal complaint process. Meeting decorum is the responsibility of the chair.

Sanctions in Other Municipalities and Organizations

All municipalities surveyed except Halifax and Winnipeg include removal from the committee as a potential consequence of unethical behaviour or breaching the code of conduct. Other sanctions may, depending on the municipality, include a letter of reprimand, attending specific training or counselling, request for a written or verbal apology, and suspension of remuneration for up to 90 days.

Winnipeg's code of conduct, which applies to City employees as well as volunteer members of boards and commissions, states that volunteers are not subject to discipline. If the code of conduct is breached by a member, appropriate discussions will occur to resolve the issue.

In Halifax, if a member behaves in a manner contrary to the Public Appointment Policy, the committee chair and City Clerk have a discussion with the member to apprise them of expectations. A member's adherence to the Public Appointment Policy is considered when a member seeks reappointment.

The following chart shows a list of potential sanctions, by municipality (where sanctions are an option:

	Vancouver	Calgary	Red Deer	Saskatoon	Ottawa	Toronto
Reprimand (unspecified sender)					yes	yes

Page 2 of 3

August 30, 2021, City Council Report: OCC00635

Attachment #2

A reprimand by the Council Committee, documented in the Committee's minutes		yes				
A reprimand from City Council	yes					
Member issues a written or verbal apology	yes				yes	yes
The publication of a letter of reprimand, a request for apology by the IC, and the member's written response	yes					
Recommendation that the member attend specific training or counselling	yes					
Council is notified of the transgression via Council report		yes				
Termination of the member's appointment by City Council	yes	yes	yes*	yes**	yes	yes
Public censure	yes					
Suspension of remuneration for up to 90 days					yes	yes
Removal from the position of chair						yes
Return of a gift or property, or reimbursement of its value or of monies spent					yes	yes

* This sanction is specifically for failure to disclose a pecuniary interest.
** In Saskatoon, sanctions may include, but are not limited to a recommendation to Council for the member to be removed from their appointment.

Bylaw 19873

Potential Amendments to the Temporary Mandatory Face Coverings Bylaw

Purpose

To reactivate the portions of the Temporary Mandatory Face Coverings Bylaw that apply to public transit, vehicles for hire, and ridesharing services as of the expiry of the provincial order, provided that the active case rate remains above 100 per 100,000 population.

Readings

Bylaw 19873 is ready for three readings.

A majority vote of City Council on all three readings is required for passage.

If Council wishes to give three readings during a single meeting, then prior to moving third reading, Council must unanimously agree "That Bylaw 19873 be considered for third reading."

Position of Administration

Administration supports this Bylaw.

Previous Council/Committee Action

At the August 16, 2021, City Council meeting, the following motion was passed:

That Administration prepare potential amendments to the Temporary Mandatory Face Coverings Bylaw to reinstate the requirement for masks on transit and vehicles for hire as of September 27, 2021, to coincide with the expiry of the current provincial Chief Medical Officer of Health order, including any recommended thresholds or conditions.

Report Summary

Proposed Bylaw 19873 would reactivate the requirement for masks on transit and vehicles for hire following the expiry of the current provincial order for as long as the City of Edmonton active case rate exceeds 100 per 100,000 population until the bylaw is automatically repealed on December 31, 2021.

Report

The Temporary Mandatory Face Coverings Bylaw came into effect on August 1, 2020, to require masks to be worn in all indoor public places, transit vehicles, and vehicles for hire, including rideshare services. On June 25, 2021, the bylaw was amended by Council to deactivate the requirement for face coverings concurrent with the beginning of Stage 3 of the provincial Open for Summer plan. As a result, while the bylaw remains in force until December 31, 2021, the requirement to wear a mask is not currently in effect.

On July 1, 2021, Stage 3 of the provincial Open for Summer plan came into effect, including Chief Medical Officer of Health Order 34-2021, which requires masks to be worn while operating or riding in a public transit, vehicle for hire, or rideshare vehicle. Based on provincial announcements, that Order will remain in effect until at least September 27, 2021.

Proposed Bylaw 19873 would reactivate the portions of the Temporary Mandatory Face Coverings Bylaw that apply to transit and vehicles for hire, including rideshare services, as of the date the current provincial order expires provided the active case rate threshold of 100 active cases per 100,000 population is met for at least 10 days. Connecting the active case rate to the effectiveness of the bylaw will ensure continuity of the requirement to wear masks in public vehicles following the expiry of the provincial order until case rates fall for at least 10 days or the bylaw is automatically repealed on December 31, 2021.

Administration considered multiple options for potential thresholds, including the Edmonton Zone R-value, City of Edmonton active case rate, and Edmonton Zone hospitalizations. In consultation with the Edmonton Zone medical officer of health, Administration is recommending using only the active case rate for the City of Edmonton. This data point is one of few available to the City that is specific to the City of Edmonton and not the Edmonton Zone, and is the most direct indicator of the presence of COVID-19 in our community. R-value is only provided on a two-week interval, and is not a useful indicator when case numbers are low due to the method of calculation. Hospitalizations are a lagging indicator, and the purpose of monitoring hospitalizations is the protection of the health care system, which does not directly correlate to the perception of safety experienced by transit users.

As there is some uncertainty regarding the continued availability of active case rate data after September 27, there is some risk to linking the effectiveness of the bylaw to this threshold. To fully eliminate this risk, the bylaw could be amended to remove the active case rate as a condition and have the bylaw in effect upon expiry of the provincial order until December 31, 2021.

Public Engagement

Administration conducted a survey through the Edmonton Insight Community regarding mandatory face coverings and perceptions of safety. The survey was open between August 23 - 26, 2021, and Administration will provide the results when this report is considered by Council.

Attachment

1. Bylaw 19873 - Temporary Mandatory Face Coverings Bylaw Amendment No. 3

Others Reviewing this Report

- C. Owen, Deputy City Manager, Communications and Engagement
- G. Cebryk, Deputy City Manager, City Operations
- R. Smyth, Deputy City Manager, Citizen Services
- K. Fallis-Howell, Acting City Solicitor

THE CITY OF EDMONTON BYLAW 19873 TEMPORARY MANDATORY FACE COVERINGS BYLAW Amendment No. 3

Edmonton City Council enacts:

- 1. Bylaw 19408, Temporary Mandatory Face Coverings Bylaw, is amended by this bylaw.
- 2. Section 1 is amended by deleting "indoor public places and".
- 3. Section 2(b) is deleted.
- 4. Section 4 is amended by deleting " in an indoor, enclosed, or substantially enclosed public place or".
- 5. Section 4.1 is deleted and replaced with:

EFFECTIVE DATES 4.1 (1) Section 4 becomes ineffective on the date where the number of active COVID-19 cases in the City of Edmonton has been less than or equal to 100 per 100,000 population, as reported by Alberta Health, for each of the preceding 10 days.

- (2) If section 4 becomes ineffective by operation of subsection (1), it will return to being in effect if the number of active COVID-19 cases in the City of Edmonton exceeds 100 per 100,000 population, as reported by Alberta Health, for 10 consecutive days.
- 6. Sections 5(d), (e), and (g) are deleted.
- 7. Section 6 is deleted and replaced with:

Section 4 does not apply to areas exclusively accessed or used by a public vehicle operator, provided that physical barriers or physical distancing practices are implemented between any person not required to wear a face covering by operation of this exception and any other person.

8. Section 9.1 is added following section 9:

DEEMING	9.1	In a prosecution for a contravention of this bylaw, the number of
PROVISION		active COVID-19 cases in the City of Edmonton reported by
		Alberta Health via the Government of Alberta website is
		sufficient to establish the number of active COVID-19 cases in
		the City of Edmonton as reported by Alberta Health.

9. This bylaw comes into force on the date that CMOH Order 34-2021, issued by the Chief Medical Officer of Health, expires.

Read a first time

Read a second time

Read a third time

SIGNED AND PASSED

THE CITY OF EDMONTON

MAYOR

CITY CLERK

Office of the City Manager

Potential Amendments to the Temporary Mandatory Face Coverings Bylaw Edmonton

City Council - August 30, 2021

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COVID-19 Update - Edmonton Health Zone

Indicator	Jan 6	Feb 9	Mar 2	Apr 6	May 4	June 6	July 5	July 27	Aug 11	Aug 26
Total Cases to Date	46,073	52,271	53,882	58,385	70,506	77,243	77,749	78,014	78,923	82,372
Active cases	5,673	1,748	1,030	2,447	6,098	1,273	132	211	837	3026
New daily cases	421	60	75	239	555	48	37	15	72	366
Hospitalizations	479	159	76	97	230	110	32	23	37	117
ICU	64	23	18	19	54	39	13	6	11	30
Active Case Rate/100,000	455.6	133.3	81.1	188.4	416.5	92.1	9.5	15.83	58.8	205.5
Total Deaths to Date	633	892	970	1,014	1,045	1,094	1,103	1,105	1,110	1,114
Outbreaks	113	86	50	25 Page	51 540 of 13	53 297	9	2	4	11

Edmonton
Survey of transit users

- Masks are required on transit, vehicles for hire, and ridesharing vehicles until September 27
- Administration conducted a public survey from August 23 to August 26
- Survey was distributed through a number of communication channels
- Over 6,000 survey respondents
 - Over 4,800 respondents have used transit in the past three months or are considering using transit between now and the end of 2021

Survey results highlights



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Recommended amendments

- Reactivate the bylaw for transit, vehicles for hire, and ridesharing services
- In effect on expiry of the provincial order if cases continue to exceed 100/100,000 population
- Deactivates if cases fall below 100/100,000 population for 10 straight days
- Automatically repealed on December 31, 2021

Employee COVID-19 Vaccination Disclosure

- By September 10, 2021 all City of Edmonton employees will be required to disclose whether they have received a COVID-19 vaccination
- The City will have new, accurate and reliable data to determine its next steps.

Face Coverings

• Face coverings will be required for all employees in indoor City of Edmonton owned and operated facilities and workspaces (including City vehicles) starting August 31.

Return to Workplaces

- Employees who have been temporarily working from home continue to prepare for a return to the workplace on September 20, 2021 with hybrid work arrangements
- We continue to evaluate our safety measures and will consider any additional controls that may be needed

Questions?

City Manager

August 30, 2021

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History: Active case rate





URBAN PLANNING COMMITTEE REPORT Bylaw 19784 - Edmonton Design Committee Bylaw

Recommendation of the Committee

That Bylaw 19784 be given the appropriate readings.

History

- At the August 24, 2021, Urban Planning Committee meeting, the August 24, 2021, Office of the City Clerk report OCC00697, was considered.
- The Committee heard from S. Shorten, SAS Architecture Ltd.

Attachment

August 24, 2021, Office of the City Clerk report OCC00697

Bylaw 19784

Edmonton Design Committee Bylaw

Recommendation

That Urban Planning Committee recommend to City Council:

That Bylaw 19784 be given the appropriate number of readings.

Purpose

To replace Bylaw 14054, Edmonton Design Committee Bylaw.

Readings

Bylaw 19784 is ready for three readings.

A majority vote of City Council on all three readings is required for passage.

If Council wishes to give three readings during a single meeting, then prior to moving third reading, Council must unanimously agree "That Bylaw 19784 be considered for third reading."

Position of Administration

Administration supports this Bylaw.

Report Summary

The new Edmonton Design Committee Bylaw has been written in alignment with Council Policy C575D, Agencies, Boards, Committees, and Commissions, and the February 2, 2021, Urban Form and Corporate Strategic Development report CR_7736, Edmonton Design Committee Policies and Procedures.

Report

The current bylaw was last updated in February 2021 to remove the requirement for members (up to three) representing Alberta architects to be nominated by the Alberta Association of Architects.

The proposed bylaw is an important outcome of the Urban Form and Corporate Strategic Development report CR_7736, Edmonton Design Committee Policies and Procedures, which was presented to Urban Planning Committee on February 2, 2021.

The purpose of the report was to identify changes to Edmonton Design Committee (EDC) standards and procedures to ensure the continued efficiency, effectiveness and relevance of the Committee, leading to good urban design outcomes for both private and publicly funded projects in alignment with ConnectEdmonton and The City Plan.

Proposed bylaw changes include:

Function

The proposed bylaw includes an important change to Committee function:

 The ability for Administration, with the support of the Committee, to exempt certain projects from review. For example, small scale ground oriented residential development, storefront improvement projects approved through the Facade Improvement Program, and new City facility projects of a utilitarian nature that lack a strong public realm interface would not require EDC review. This change is proposed in response to input from the Committee, Administration and industry, to exempt small-scale projects and better focus the Committee's review on projects with high urban design impact.

When the Development Officer, Rezoning Planner or City Project Manager (for City projects) identifies a project which may be considered for exemption, they will prepare a brief recommendation with supporting justification and documentation, for review by the City Manager. Applicants will receive notice of the exemption in writing with the rationale for the decision.

Structure

The proposed bylaw includes two important changes to Committee structure:

- Adding a member to represent the Alberta Professional Planners Institute, bringing the total representatives to two. This change is proposed in response to the Committee's desire to bring greater insight and perspective to the review of projects.
- Changing the criteria for the member who represents academia, to include post-secondary institutions beyond the University of Alberta, and areas of research and teaching beyond the disciplines of industrial design and fine art. This change is proposed in response to the Committee's desire to bring greater insight and perspective to the review of projects.

Public Engagement

This Bylaw was developed with the participation of the Edmonton Design Committee, which passed a motion at their August 3, 2021, meeting in support of this new Bylaw.

Attachment

1. Bylaw 19784 - Edmonton Design Committee Bylaw

Others Reviewing this Report

- S. McCabe, Deputy City Manager, Urban Planning and Economy
- K. Fallis-Howell, Acting City Solicitor

THE CITY OF EDMONTON BYLAW 19784 EDMONTON DESIGN COMMITTEE BYLAW

Edmonton City Council enacts:

PART I - INTERPRETATION

PURPOSE	1		The purpose of this bylaw is to establish the Edmonton Design Committee as a council committee, and to establish its membership and mandate.		
DEFINITIONS	2	(1)	Unless otherwise specified, words used in this bylaw have the same meaning as defined in the <i>Municipal Government Act</i> , RSA 2000, c M-26.		
		(2)	In this bylaw:		
			(a) "City" means The City of Edmonton;		
			(b) " City Manager " means the chief administrative officer of the City or delegate;		
			(c) " Council " means the City's council;		
			(d) " site " has the same meaning as defined in the Zoning Bylaw, Bylaw 12800; and		
			(e) " urban design " means the design of the built environment and how buildings and the public realm around and between them are designed to create a walkable, vibrant, and inclusive city.		
RULES FOR INTERPRETATION	3		The marginal notes and headings in this bylaw are for ease of reference only.		
			PART II - MANDATE		
MANDATE	4		The mandate of Edmonton Design Committee will be to improve the quality of the City's urban design by providing		
			(a) recommendations regarding development applications;		

and

			(b)	advic	e regarding urban design policies and principles.			
FUNCTIONS & AUTHORITIES	5		To ca	To carry out its mandate, Edmonton Design Committee				
AUTHORITIES			(a)	must provide recommendations to the City Manager regarding development permit applications that are referred to it in accordance with this bylaw or the Zoning Bylaw, Bylaw 12800;				
			(b)	must comp contro with t	provide recommendations to Council on rehensive rezoning applications, including direct ol provisions, that are referred to it in accordance this bylaw or the Zoning Bylaw, Bylaw 12800;			
			(c)	may j applio referr	provide recommendations on any development cation, public project, or other urban design matter ed to it by Council or the City Manager;			
			(d)	may j devel applio	provide recommendations to applicants seeking opment approval from the City on the request of the cant; and			
			(e)	will develop urban design principles to guide the actions set out in subsections (a) - (d).				
APPLICATIONS REQUIRING REFERRAL		(1)	The C Edmo	The City Manager must refer the following applications to Edmonton Design Committee:				
			(a) development permit applications within the geographic area outlin		opment permit applications for any site located n the geographic area outlined in Schedule A; and			
			(b)	rezon	ing applications that involve:			
				(i)	any site equal to or greater than 1 hectare that is located within the Mature Neighbourhood Overlay, as defined in the Zoning Bylaw, Bylaw 12800;			
				(ii)	any site equal to or greater than 1 hectare that is located within 400 metres of an existing or planned LRT station, LRT stop, or transit centre; and			
				(iii)	any site located within the geographic area			
					Bylaw 19784 - Page 2			

outlined in Schedule A.

(2) The City Manager may exempt any application from this section.

PART III - MEMBERSHIP

MEMBERSHIP	7		The Edmonton Design Committee will be comprised of up to 1 members appointed as follows:		
			(a)	one member appointed by the Association of Professional Engineers and Geoscientists of Alberta;	
			(b)	up to two members appointed by the Alberta Association of Landscape Architects;	
			(c)	up to two members appointed by the Alberta Professional Planners Institute;	
			(d)	one member appointed by the Edmonton Arts Council;	
			(e)	one member appointed by Council who is a faculty member of an Edmonton post-secondary institution, with a teaching or research focus related to urban design;	
			(f)	up to three members appointed by Council who are Registered Architects with the Alberta Association of Architects;	
			(g)	one member appointed by Council representing the development industry; and	
			(h)	one member at large appointed by Council.	
TERM	8	(1)	Memb	ers will be appointed for one-year terms.	
		(2)	Memb consec	ers may be re-appointed, up to a maximum of six putive years.	
		(3)	Forme Comm membe	r members may not be appointed to Edmonton Design hittee unless at least 2 years have passed since the former er last served.	
		(4)	Notwin appoin	thstanding anything in this bylaw, Council may revoke the atment of a member for any reason at any time.	
				Bylaw 19784 - Page 3	

Read a first time

Read a second time

Read a third time

SIGNED AND PASSED

THE CITY OF EDMONTON

MAYOR

CITY CLERK

SCHEDULE A EDMONTON DESIGN COMMITTEE GEOGRAPHIC JURISDICTION

A. The following neighbourhoods:

- 1. Queen Mary Park;
- 2. Oliver;
- 3. Portion of the River Valley;
- 4. Rossdale;
- 5. Riverdale;
- 6. Boyle Street;
- 7. McCauley;
- 8. Central McDougall;
- 9. Downtown;

B. The following areas:

- 10. the area bounded by 112 Avenue, 82 Street, 112 Avenue to Jasper Avenue, Jasper Avenue, 82 Street to 84 Street, 84 Street, Jasper Avenue to 112 Avenue;
- 11. one block on both sides of 99 Street between Argyle Road and Saskatchewan Drive;
- 12. one block on both sides of 103 Street, 104 Street, Calgary Trail and Gateway Boulevard between Saskatchewan Drive and the southern limit of the City of Edmonton;
- 13. one block on both sides of Whyte (82) Avenue between Mill Creek and 112 Street;
- 14. one block on both sides of 109 Street between 61 avenue and Saskatchewan Drive.

If there is an inconsistency between this list and the attached map, the attached map is of no force or effect to the extent of the inconsistency.

ATTACHMENT 1 TO SCHEDULE A



THE CITY OF EDMONTON BYLAW 19784 EDMONTON DESIGN COMMITTEE BYLAW

Edmonton City Council enacts:

PART I - INTERPRETATION

PURPOSE	1		The purpose of this bylaw is to establish the Edmonton Design Committee as a council committee, and to establish its membership and mandate.		
DEFINITIONS	2	(1)	Unless otherwise specified, words used in this bylaw have the same meaning as defined in the <i>Municipal Government Act</i> , RSA 2000, c M-26.		
		(2)	In this bylaw:		
			(a) " City " means The City of Edmonton;		
			(b) " City Manager " means the chief administrative officer of the City or delegate;		
			(c) " Council " means the City's council;		
			(d) " site " has the same meaning as defined in the Zoning Bylaw, Bylaw 12800; and		
			(e) " urban design " means the design of the built environment and how buildings and the public realm around and between them are designed to create a walkable, vibrant, and inclusive city.		
RULES FOR INTERPRETATION	3		The marginal notes and headings in this bylaw are for ease of reference only.		
			PART II - MANDATE		
MANDATE	4		The mandate of Edmonton Design Committee will be to improve the quality of the City's urban design by providing		
			(a) recommendations regarding development applications;		

and

			(b)	advic	e regarding urban design policies and principles.		
FUNCTIONS & AUTHORITIES	5		To car	rry out	its mandate, Edmonton Design Committee		
AUTHORITIE5			(a)	must regare referr Bylav	provide recommendations to the City Manager ding development permit applications that are ed to it in accordance with this bylaw or the Zoning v, Bylaw 12800;		
			(b)	must comp contro with t	provide recommendations to Council on rehensive rezoning applications, including direct of provisions, that are referred to it in accordance this bylaw or the Zoning Bylaw, Bylaw 12800;		
			(c)	may j applic referr	provide recommendations on any development cation, public project, or other urban design matter ed to it by Council or the City Manager;		
			(d)	may provide recommendations to applicants seeking development approval from the City on the request of the applicant; and			
		(e)	will d set ou	levelop urban design principles to guide the actions at in subsections (a) - (d).			
APPLICATIONS 6 REQUIRING REFERRAL		(1)	The C Edmo	The City Manager must refer the following applications to Edmonton Design Committee:			
			(a)	devel within	opment permit applications for any site located n the geographic area outlined in Schedule A; and		
			(b)	rezon	ing applications that involve:		
				(i)	any site equal to or greater than 1 hectare that is located within the Mature Neighbourhood Overlay, as defined in the Zoning Bylaw, Bylaw 12800;		
				(ii)	any site equal to or greater than 1 hectare that is located within 400 metres of an existing or planned LRT station, LRT stop, or transit centre; and		
				(iii)	any site located within the geographic area		
					Bylaw 19784 - Page 2		

outlined in Schedule A.

(2) The City Manager may exempt any application from this section.

PART III - MEMBERSHIP

MEMBERSHIP	7		The Edmonton Design Committee will be comprised of up to 1 members appointed by Council as follows:		
			(a)	one member nominated by the Association of Professional Engineers and Geoscientists of Alberta;	
			(b)	up to two members nominated by the Alberta Association of Landscape Architects;	
			(c)	up to two members nominated by the Alberta Professional Planners Institute;	
			(d)	one member nominated by the Edmonton Arts Council;	
			(e)	one member who is a faculty member of an Edmonton post-secondary institution, with a teaching or research focus related to urban design;	
			(f)	up to three members who are Registered Architects with the Alberta Association of Architects;	
			(g)	one member representing the development industry; and	
			(h)	one member at large.	
TERM	8	(1)	Memb	ers will be appointed for one-year terms.	
		(2)	Memb consec	ers may be re-appointed, up to a maximum of six putive years.	
		(3)	Forme Comm membe	r members may not be appointed to Edmonton Design hittee unless at least 2 years have passed since the former er last served.	
		(4)	Notwin appoin	thstanding anything in this bylaw, Council may revoke the atment of a member for any reason at any time.	

Read a first time

Read a second time

Read a third time

SIGNED AND PASSED

THE CITY OF EDMONTON

MAYOR

CITY CLERK

Bylaw 19784 - Page 4

SCHEDULE A EDMONTON DESIGN COMMITTEE GEOGRAPHIC JURISDICTION

A. The following neighbourhoods:

- 1. Queen Mary Park;
- 2. Oliver;
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ATTACHMENT 1 TO SCHEDULE A





URBAN PLANNING COMMITTEE REPORT

Bylaw 18825 - Public Tree Bylaw - Proposed Bylaw for Tree Preservation and Protection -Further Engagement

Recommendation of the Committee

- 1. That Bylaw 18825 be given the appropriate readings.
- 2. That Administration make recommendations to City Council as part of the Fall 2021 budget adjustment to achieve high compliance with Bylaw 18825 Public Tree Bylaw, including but not limited to, minimum thresholds for inspections, for example 10 percent, and whether the proposed fees provide adequate resources required for education and enforcement.

History

- At the August 24, 2021, Urban Planning Committee meeting, the August 24, 2021, City Operations report CR_6801rev, was considered.
- The Committee heard from M. Gruezmacher; H. Taube; S. Krotz; M. Wyman; S. Heschuk; M. Wilhelm; J. Hardstaff, Parkallen Civics Committee; J. Gendron; M. Samji, Infill Development in Edmonton Association; R. Olstad; K. Kowalchuk, Edmonton River Valley Conservation Coalition; I. Phillips, Shaw Communications; and J. Lawrence, Edmonton Federation of Community Leagues.

Attachment

August 24, 2021, City Operations report CR_6801rev

Proposed Bylaw for Tree Preservation and Protection - Further Engagement

Recommendation

That Urban Planning Committee recommend to City Council:

That Bylaw 18825 receive the appropriate readings.

Purpose

The purpose of this bylaw is to preserve and protect trees in public spaces owned by the City of Edmonton.

Readings

Bylaw 18825 - Public Tree Bylaw is ready for three readings.

A majority vote of City Council on all three readings is required for passage.

If Council wishes to give three readings during a single meeting, then prior to moving third reading, Council must unanimously agree "That Bylaw 18825- Public Tree Bylaw be considered for third reading.

Position of Administration

Administration supports this Bylaw.

Previous Council/Committee Action

At the May 25, 2021, Urban Planning Committee meeting, the following motion passed:

That the May 25, 2021, City Operations report CR_6801, be referred back to Administration to complete engagement with stakeholders regarding permit review, site inspection capacity, managing the permitting program and other related concerns.

Executive Summary

Sustaining a healthy urban forest aligns with The City Plan's commitment to be Greener As We Grow, as well as ConnectEdmonton's strategic goals of Healthy City and Climate Resilience. The City Plan lays out the goal of planting two million new trees, in addition to a commitment to protect, expand and improve access to natural systems and open spaces in support of biodiversity and the health of all Edmontonians. The key to achieving these outcomes, especially in light of a changing climate and the intensification of development, is to plant and care for new trees and to preserve and protect the existing tree canopy.

The City of Edmonton's current policies and bylaws for tree protection are more reactive than proactive and have limited enforceability. A robust tree protection mechanism can help the City become a leader in preserving our urban forest and redefine how tree assets are valued. Administration presented its preliminary findings and approach for the proposed public tree bylaw to Urban Planning Committee on May 25, 2021, CR_6801 Proposed Bylaw for Tree Preservation and Protection. Based on Committee's direction, Administration has conducted additional engagement work to refine the proposed bylaw and permitting program.

This report includes feedback collected from additional stakeholder engagement on the revised fines, tree permit process, blanket permit categories which cover multiple sites, site inspection requirements, proposed fee options and budget requirements.

Report

The City of Edmonton maintains an extensive network of trees on boulevards, open spaces and natural areas that provide many environmental, ecological, economic and social benefits to Edmontonians. Trees provide environmental and ecological benefits by contributing to urban biodiversity, retaining water, providing wildlife habitat and sequestering carbon. Trees also meaningfully enhance the livability and quality of life in the city's neighbourhoods by cooling the streetscape, purifying the air we breathe, providing shade and creating a sense of well being in the urban environment. It is critical that tree assets, especially existing mature trees, are responsibly managed, preserved and protected for current and future generations.

Mature trees provide the largest ecosystem benefits, but their inventory is relatively limited in Edmonton. Currently, City-owned mature trees (defined as having a 40 cm trunk diameter and above, measured at 1.2 metres height) make up approximately 15 percent of the total inventory for boulevard and open space trees (excluding natural stands). Mature trees are estimated to have a total monetary value of over \$900 million and annual ecosystem benefits of over \$10 million. When mature trees are damaged or lost, their many benefits are degraded or lost for decades; a strong protection mechanism, like a bylaw and permitting process, is essential for the sustainability of the urban forest.

At the May 25, 2021, Urban Planning Committee meeting, Administration proposed a new public tree bylaw aimed at preventing damage or loss to City trees located on or around work sites. Under this bylaw, a tree permit must be obtained from a City of

Edmonton urban forester by submitting a tree preservation or protection plan whenever work is occurring within five metres of a boulevard or open space tree or within 10 metres of a natural stand. The complete bylaw is presented in Attachment 1.

Based on Committee's direction on May 25, 2021, Administration conducted additional engagement with stakeholders on various elements of the proposed bylaw.

Fines

Based on the feedback received from stakeholders and committee, the fine of \$500 for not obtaining a permit or not adhering to the approved tree preservation or protection plan is relatively low. After a further review of other Canadian cities and considering the cost of installing tree protection, Administration has increased the fine amount in the proposed bylaw to \$1,000.

In the event that a tree is damaged or lost, equitable compensation may be recovered from the party responsible based on the value of the tree and the extent of the damage. The fine amount under the bylaw is separate from the equitable compensation, which is recovered for damages. If a permit is not obtained or a plan is not followed and a tree is damaged, the City may prosecute a fine and seek equitable compensation for the value of the tree.

Tree Permit Process Flow

A key input provided by stakeholders through further engagement was a strong desire for the integration of permitting processes and use of existing channels and tools. Administration is proposing that a tree permit be separate from other existing permits, but that the application process for different permits be integrated to ensure a simple, intuitive experience for applicants. The process flow is outlined in Attachment 2. Key highlights include:

- The tree permit will be set up on the eServices/Self Serve platform like other permits to offer a single interface for all permitting needs.
- When applying for a Development, Building, On Street Construction and Maintenance (OSCAM) or Utility Line Assignment (ULA) Permit, there will be questions around whether the work is within five metres of a boulevard or open space tree or 10 metres of a natural stand.
- If the answer is no, the applicant will not require a tree permit. If the answer is yes, it will trigger a tree permit form where basic information will be pre-populated and the applicant will be prompted to answer additional questions and submit a tree protection or preservation plan.
- This submission will be directed to an urban forester to review the tree permit application simultaneously, as other permits are being reviewed by the respective teams. The tree permit will not hold up the issuance of other permits and applicants will be able to track the status of all permit applications.

Any sites that have not yet been granted a Final Acceptance Certificate (FAC) where the warranty is still covered under the servicing agreement with the developer will not be required to obtain a tree permit.

Tree Protection Plan and Tree Preservation Plan

Based on further engagement with stakeholders, Administration also worked on providing more clarity and flexibility around tree protection and tree preservation plans, including:

- Tree protection plans will be required for work activities including temporary crossing or access, laydown area or demolition (i.e. all activities where below-ground work is not involved). Site inspections will not be mandatory for these plans but photos of the site and trees will be required after tree protection is installed (five to 10 percent of sites under blanket permits will be inspected).
- Tree preservation plans will be required when work activities include ground excavation or grade changes. These plans require sign-off by an International Society of Arboriculture certified arborist, landscape architect, professional biologist or other discipline approved by the City. Costs for preservation plans vary widely based on the size and scope of the project.Based on stakeholder feedback, Administration added professional biologist as an acceptable designation to review and sign-off on preservation plans. When a tree preservation plan is received and approved, Administration will issue the permit and conduct a site inspection (five to 10 percent of sites under blanket permits will be inspected as part of a standardized audit process).

Administration will continue to work with stakeholders to promote more creative techniques in how to work around trees. There will be more flexibility with the materials allowed for installing tree protection fencing and reusability for other sites in the future. Administration is also looking into allowing signage on tree protection fencing and will be undertaking further work in the near future to establish guidelines and procedures to allow such signage without running afoul of the regulatory requirements in the City of Edmonton Zoning Bylaw and Traffic Bylaw.

Blanket Permits

In the May 25, 2021, City Operations report CR_6801 Proposed Bylaw for Tree Preservation and Protection, Administration proposed using blanket permits for the large volume of emergency and routine infrastructure maintenance work around City trees. After further engagement with stakeholders, Administration is recommending that:

• Blanket permits be issued to utility/telecom companies for all emergency work, vegetation clearance for surveillance and safety, directional boring, above-ground infrastructure maintenance, excavation limited to roadways and

excavation between three to five metres of a boulevard or open space tree and five to 10 metres of a natural stand.

 Regular/standalone permits will be required for utility/telecom companies for any ground excavation work within three metres of a boulevard or open space tree and within five metres of a natural stand as well as for neighbourhood renewal projects (one permit per neighbourhood).

Blanket permits will involve multiple sites city-wide and urban foresters will inspect approximately five to 10 percent of these sites as part of a standardized audit process.

Financial Implications

A new bylaw and tree permit program needs to be adequately funded to ensure long term success. While costs related to setting up the tree permit technology, public education program and performance reporting can be absorbed within the existing operating budget, other costs like additional enforcement officers and urban foresters will require more funding. This funding requirement can be met through a tax levy or a permit fee paid by the applicant or a combination of both.

Administration has prepared three permit fee options to cover the administrative costs for review of the permit application, tree preservation or protection plans and site inspections (when required) by the City's urban foresters. Enforcement costs will not be recovered through the permit fee and would require tax levy funding.

Of the total annual ongoing operating cost of \$887,500, urban forestry costs of \$621,300 can be recovered in full or in part through a permit fee, however, enforcement costs of \$266,200 would need additional ongoing funding.

Based on Committee's direction and if subsequently supported by City Council, Administration would return in the Fall 2021 Supplementary Operating Budget Adjustment with an ongoing funding request for enforcement costs of \$266,200, funded through tax-levy, as well as increased revenues of up to \$621,300 (pending fee option selection) required to offset urban forestry costs. The financial impacts of this proposal would be effective Spring 2022.

The cost breakdown and fee options are detailed in Attachment 3.

Public Engagement

In addition to the previous public and stakeholder engagement, Administration conducted further engagement with industry, utility/telecom companies and environmental groups. Stakeholders were invited to provide feedback on the revised fines, tree permit process, requirements for tree protection and preservation plans, blanket permits and fee options.

- Both industry and utility/telecom companies emphasized the need for sufficient resources within the City's urban forestry team to review and approve permit applications in a timely manner. Enforcement capacity was also cited as an important resource for the success of this bylaw.
- Both industry and utility/telecom companies responded positively to integration of the tree permit application process with other existing permits and the use of photos to fast-track review of certain types of permits. They also advocated for better monitoring, data collection and data sharing of different permitting statistics to help improve the permitting process on an ongoing basis.
- Industry stakeholders emphasized the need for consistency in how the bylaw and permit requirements impact different groups like greenfield versus infill, development industry versus utilities, homeowners or the City's own internal groups. They highlighted the importance of continued education around tree protection and better communication between various City departments.
- Utilities/telecom companies expressed concerns that the three-metre threshold for open excavation work will still result in a high volume of standalone permits when their response times for some of this work has to be quick. They expressed concern about the City's response times (especially with site inspections) and the requirement to get a professional sign-off on preservation plans as potentially impacting their work schedule.
- Environmental groups shared concerns over the blanket permit system and how those sites would be enforced. They sought further clarity on the site inspection process and how the bylaw would apply to tree planting and tree removals on City property. They were also interested in seeing more communication between the entity working around trees and the adjacent resident community.

Next Steps

Upon formal approval of the bylaw, next steps will include:

- Returning later this year with the funding requirements as part of the fall Supplementary Operating Budget Adjustment.
- Creating the online permit application process that is integrated with other existing permitting processes.
- Creating educational material like tutorials and templates for tree preservation and protection plans.
- Developing an integrated marketing and communication strategy for public and stakeholder education.

Corporate Outcomes and Performance Management						
Corporate Outcome(s): Edmonton is an environmentally sustainable and resilient city						
Outcome(s)	Measure(s) Result(s) Target(s)					

Preservation and protection of existing CoE	Equitable compensation collected for tree removal or partial loss due to work related damage or loss	To be determined	To be determined
orban rolest	Number of fines issued under the proposed new bylaw	To be determined	To be determined
	Number of sites with a tree permit and no visible damage to City trees	To be determined	To be determined
	Number of 311 complaints regarding work around City trees with no tree permit or tree protection in place	To be determined	To be determined

Attachments

- 1. Bylaw 18825 Public Tree Bylaw
- 2. Tree Permit Process Flow
- 3. Financial Implications

Others Reviewing this Report

- D. Croft, Acting Deputy City Manager, Financial and Corporate Services
- H. Rai, Acting Chief Financial Officer, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services
- S. McCabe, Deputy City Manager, Urban Planning and Economy
- R. Smyth, Deputy City Manager, Citizen Services
- K. Fallis-Howell, Acting City Solicitor

THE CITY OF EDMONTON BYLAW 18825 PUBLIC TREE BYLAW

Edmonton City Council enacts:

PART I - PURPOSE, DEFINITIONS AND INTERPRETATION

PURPOSE	1		The purpose of this bylaw is to preserve and protect trees in public spaces owned by the City of Edmonton.			
DEFINITIONS	2	(1)	Unless otherwise specified, words used in this bylaw have the same meaning as defined in the <i>Municipal Government Act</i> , RSA 2000, c M-26.			
		(2)	In this	In this bylaw:		
			(a)	"boule	vard" means that part of a highway that:	
				(i)	is not a roadway; and	
				(ii)	is that part of a sidewalk that is not especially adapted to the use of or ordinarily used by pedestrians;	
			(b)	" boule " except	vard and open space trees " means all City trees trees in a natural stand;	
			(c) "City" means The City of Edmonton;		means The City of Edmonton;	
			(d)	"City N officer	Manager" means the City's chief administrative or delegate;	
			(e)	"City t City-ow land, pa zones;	rees" means all trees and shrubs located on wned land including, but not limited to, titled City arkland, road right of way, and urban services	
			(f)	" highw <i>Act</i> ;	vay " has the same meaning as in the <i>Traffic Safety</i>	

- (g) "improved trail" has the same meaning as in the *Parkland Bylaw*;
- (h) "**municipal tag**" has the same meaning as in the *Enforcement Bylaw*;
- (i) "natural area" means an area largely dominated by native vegetation relatively undisturbed by human activity including, but not limited to, grasslands, forests, wetlands, peatlands or riparian areas (along rivers or streams). Groomed parks, sports fields and schoolyards are not considered natural areas;
- (j) "**natural stand**" means all City trees that are part of a natural area or naturalized site;
- (k) "**naturalized site**" means an area that is undergoing transformation from a highly-maintained land to a more natural state;
- (1) "**parkland**" has the same meaning as in the *Parkland Bylaw*;
- (m) "**pruning**" means removing branches or roots from a City tree;
- (n) "**roadway**" means that part of a highway intended for use by vehicular traffic;
- (o) "tree preservation plan" means a plan, prepared or signed off by an International Society of Arboriculture certified arborist, landscape architect, professional biologist or other discipline approved by the City, to conserve and protect City trees from damage, impacts or loss. This plan contains critical details about site conditions, work, and recommendations and actions that will take place onsite prior to, during and after the project takes place;
- (p) "tree protection plan" means a plan indicating all City trees within a defined area that must be protected for the duration of the project. This plan addresses details including, but not limited to, minimum protection distance required around such trees, installation of
physical protection measures for trees and their root zones, access points, property lines and expected timelines;

- (q) "violation ticket" has the same meaning as in the *Provincial Offences Procedure Act*; and
- (r) "work" means construction, demolition, excavation or laydown activities or vehicular access (other than on roadways, driveways, improved trails).

RULES FOR3The marginal notes and headings in this bylaw are for ease of
reference only.

PART II - TREE PERMIT

TREE PERMIT4(1)No person shall conduct any work within 5 metres of the trunk
of any boulevard and open space tree or within 10 metres of any
boundary of a natural stand unless the person:

- (a) has obtained a permit; and
- (b) is conducting work in accordance with an approved tree preservation plan and/or tree protection plan; or
- (c) has otherwise obtained consent from the City Manager in writing.
- (2) A development permit pursuant to the City of Edmonton *Zoning Bylaw* is neither a permit nor consent for the purposes of subsection 4(1).
- (1) A person applying for a permit must provide all of the following to the City Manager:
 - (a) a tree preservation plan or tree protection plan acceptable to the City;
 - (b) a completed application form;
 - (c) the fees established by the City Manager; and

Bylaw 18825 - Page 3

PERMIT APPLICATION REQUIREMENTS

5

(d) any other information reasonably required by the City Manager to process the application.

(2) The City Manager may refuse to issue, suspend or cancel any permit issued pursuant to this bylaw, and may impose terms and conditions on any permit for any of the following reasons:

POWERS

- (a) the application for the permit is incomplete;
- (b) the applicable permitting fees have not been paid in full;
- (c) the tree preservation or protection plan is not acceptable to the City Manager;
- (d) the applicant has failed to conduct work in accordance with an approved tree preservation or protection plan;
- (e) the applicant or any of its officers, employees, agents or affiliates:
 - (i) furnishes false information or misrepresents any facts or circumstances to the City Manager;
 - (ii) has, in the opinion of the City Manager based upon reasonable grounds, contravened this bylaw whether or not the contravention has been prosecuted;
 - (iii) fails to pay a fine imposed by a court for a contravention of this bylaw; or
- (f) In the opinion of the City Manager based on reasonable grounds it is in the public interest to do so.
- (3) The City Manager will provide an applicant whose application for a permit has been refused or whose permit has been cancelled or suspended by the City with written reasons for the refusal, cancellation or suspension at the time that the applicant is advised of the refusal, cancellation or suspension.

PART III - REGULATION OF ACTIVITIES

AUTHORIZATION	6	This Part does not apply to a person authorized by the City Manager to carry out these activities.
PLANTING	7	No person shall plant, cause or permit to be planted any tree, shrub or other plant on City land.
DAMAGE TO CITY TREES	8	 No person shall: (a) move, remove, cut or damage any City tree; (b) prune, repair or perform any other work on any City tree; or (c) post or attach any object to a City tree without approval from the City Manager.
OFFENCE	9	A person who contravenes this bylaw is guilty of an offence.
CONTINUING OFFENCE	10	In the case of an offence that is of a continuing nature, a contravention constitutes a separate offence in respect of each day, or part of a day, on which it continues and a person guilty of such an offence is liable to a fine in an amount not less than that established by this bylaw for each such day.
VICARIOUS LIABILITY	11	For the purposes of this bylaw, an act or omission by an employee or agent of a person is deemed also to be an act or omission of the person if the act or omission occurred in the course of the employee's employment with the person, or in the course of the agent's exercising the powers or performing the duties on behalf of the person under their agency relationship.
CORPORATIONS AND PARTNERSHIPS	12	When a corporation commits an offence under this bylaw, every principal, director, manager, employee or agent of the corporation who authorized the act or omission that constitutes the offence or assented to or acquiesced or participated in the act or omission that constitutes the offence is guilty of the offence

whether or not the corporation has been prosecuted for the

			offenc	e.
FINES	13	(1)	A pers a fine	on found guilty of an offence under this bylaw is liable to of:
			(a)	not less than \$1,000.00 for an offence under section 4; and
			(b)	not less than \$250.00 for any other offence under this bylaw.
		(2)	If a pe establi	rson is guilty of a subsequent offence, the fine amounts shed in this section are doubled.
MUNICIPAL TAG	14		If a mutag	unicipal tag is issued in respect of an offence the municipal ist specify the fine amount established by this bylaw for Sence.
PAYMENT IN LIEU OF PROSECUTION	15		A pers issued by this before the off	on who commits an offence may, if a municipal tag is in respect of the offence, pay the fine amount established s bylaw for the offence and if the amount is paid on or the required date, the person will not be prosecuted for fence.
VIOLATION TICKET	16		If a vio violati	olation ticket is issued in respect of an offence, the on ticket may:
			(a)	specify the fine amount established by this bylaw for the offence; or
			(b)	require a person to appear in court without the alternative of making a voluntary payment.
VOLUNTARY DAVMENT	17		A pers	on who commits an offence may:
			(a)	if a violation ticket is issued in respect of the offence; and
			(b)	if the violation ticket specifies the fine amount established by this bylaw for the offence;
			make a	a voluntary payment equal to the specified fine.

PART V - GENERAL

CITY MANAGER	18	Witho this by	ut restricting any other power, duty or function granted by vlaw the City Manager may:
		(a)	carry out any inspections to determine compliance with this bylaw;
		(b)	take any steps or carry out any actions required to enforce this bylaw;
		(c)	take any steps or carry out any actions required to
		(d)	establish forms for the purposes of this bylaw;
		(e)	issue permits with such terms and conditions as are deemed appropriate;
		(f)	establish the criteria to be met for a permit pursuant to this bylaw;
		(g)	modify or waive any requirement for issuance of a permit pursuant to this bylaw, including reducing or waiving the applicable fee and/or waiving the requirement for a permit; and
		(h)	delegate any powers, duties or functions under this bylaw to an employee of the City.
PERMITS	19	A pers bylaw, regula permit of the	to to whom a permit has been issued pursuant to this , and any person carrying out an activity otherwise ted, restricted or prohibited by this bylaw pursuant to such t, shall comply with any terms or conditions forming part permit.
PROOF OF PERMIT	20	The or activit bylaw a balar	hus of proving a permit has been issued in relation to any y otherwise regulated, restricted or prohibited by this is on the person alleging the existence of such a permit on nce of probabilities.
PROOF OF EXEMPTION	21	The or of this of prol	hus of proving that a person is exempt from a requirement bylaw is the person alleging the exemption on a balance babilities.

CERTIFIED COPY OF RECORDS	22	A copy of a record of the City, certified by the City Manager as a true copy of the original, shall be admitted in evidence as prima facie proof of the facts stated in the record without proof of the appointment or signature of the person signing it.
COMING INTO FORCE	23	This bylaw comes into force on May 1, 2022.
Read a first time		
Read a second time		
Read a third time		
SIGNED AND PASSEI	D	

THE CITY OF EDMONTON

MAYOR

CITY CLERK

Tree Permit Process Flow



Financial Implications

The table below shows the breakdown of costs for five additional urban foresters (Landscape Technicians) and two additional enforcement officers (Corporate Security Peace Officer) to support the tree bylaw and permitting program. This requirement is based on an estimate of 3,000 tree permit applications annually, including both tree protection and preservation plans.

#	Item	Unit Cost (\$)	# of Items	Total Cost (\$)
	Wages and Benefits			
1	Landscape Technician II (FTE)	\$109,400	3	\$328,200
2	Landscape Technician I (11 Months)	\$85,700	3	\$257,100
3	Corporate Security Peace Officer II (FTE)	\$120,000	2	\$240,000
	Other Costs			
4	Administrative Costs for Landscape Technicians	\$6,000	6	\$36,000
5	Travel, Training and Equipment for Peace Officers	\$13,100	2	\$26,200
6	Vehicle for Peace Officers (5 year replacement cycle)	\$85,000	1	\$85,000
	Total Operating Cost (Items 1 + 2 +		\$887,500	
	Total Capital Cost (Item 6)	\$85,000		

Of the total annual operating cost of \$887,500, urban forestry costs of \$621,300 can be recovered in full or in part through a permit fee, however, enforcement costs of \$266,200 would need additional funding.

Fee Option (% of Forestry Costs)	Tree Protection Permit Fee	Tree Preservation Permit Fee*	Estimated Revenue from Permit Fee
100% Fee	\$100	\$300	\$621,300
50% Fee	\$50	\$150	\$310,650
0% Fee	\$0	\$0	\$0

*Note: Blanket permits will involve multiple sites city-wide and urban foresters will inspect about five to 10 percent of these. An additional amount of \$100 per hour will be recovered in full or in part (based on the fee option chosen) for the number of sites inspected by foresters under a blanket permit. This additional inspection fee for blanket permits would be charged after the permit has been issued and after the inspection has been completed.



7.

UTILITY COMMITTEE REPORT

Bylaw 19626 - EPCOR Water Services Bylaw - A Bylaw to Replace Bylaw 17698 - EPCOR Water Services and Wastewater Treatment Bylaw

Recommendation of the Committee

That Bylaw 19626, EPCOR Water Services Bylaw, be given the appropriate readings.

History

At the August 27, 2021, Utility Committee meeting, the August 27, 2021, Financial and Corporate Services reports FCS00743 and FCS00744 were considered together.

Related motion passed at the August 27, 2021, Utility Committee meeting

That Bylaw 19627, EPCOR Drainage Services and Wastewater Treatment Bylaw, be given the appropriate readings.

Attachment

August 27, 2021, Financial and Corporate Services report FCS00743

Bylaw 19626 - EPCOR Water Services Bylaw

A Bylaw to Replace Bylaw 17698 - EPCOR Water Services and Wastewater Treatment Bylaw

Recommendation

That Utility Committee recommend to the August 30, 2021, City Council meeting:

That Bylaw 19626, EPCOR Water Services Bylaw, be given the appropriate readings.

Purpose

To establish new customer rates and terms and conditions of service for Water Services provided by EPCOR Water Services Inc. for the five year period April 1, 2022 to March 31, 2027.

Readings

Bylaw 19626 is ready for three readings, pending recommendations and directions provided by the Utility Committee at the August 27, 2021 meeting.

A majority vote of City Council on all three readings is required for passage.

If Council wishes to give three readings during a single meeting, then prior to moving third reading, Council must unanimously agree "That Bylaw 19626 be considered for third reading."

Advertising and Signing

This Bylaw has been advertised in the Edmonton Journal and the Edmonton Sun on April 1, 2021 and April 8, 2021. The Bylaw can be signed and thereby passed following third reading by City Council.

Position of Administration

Administration supports this Bylaw.

Administration completed a reasonableness review of the 2022-2026 Water Services Performance Based Rates Application submitted by EWSI in February 2021, and highlighted certain areas that Utility Committee may wish to consider further to

determine if adjustments to the rates application is warranted (June 25, 2021, Utility Committee, Financial and Corporate Services report FCS00624).

Administration has also reviewed the Water Services Performance Based Rates Compliance Application submitted by EWSI on July 27, 2021 and confirms that EWSI has appropriately amended the applicable schedules in the proposed Bylaw 19626 to incorporate the adjustments included in the motions passed by Utility Committee at the June 25/July 9, 2021 meeting.

Previous Council/Committee Action

At the June 25/July 9, 2021 Utility Committee meeting, the following motions were passed:

That Administration work with EPCOR to bring forward amendments to the applicable schedules to EPCOR Water Services Bylaw 19626 and EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 to reflect the following:

- 1. The adjustments noted by EPCOR Water Services Inc. in its response to the City of Edmonton PBR review reports (page 6, Attachment 3 of FCS00627) with respect to:
 - a. reduced debt costs in the amount of \$3.7 million; and
 - b. the reimbursement to customers for the capitalization of valve casings and service box replacements in the amount of \$5.2 million.
- 2. A deferral account for water consumption for each of Water Services, Wastewater Treatment and Drainage Services that would be accumulated during the 2022-2026 and 2022-2024 PBR terms and included in customer rates in each of the next PBR terms through a special rate adjustment.
- 3. A Return on Equity for Water Services for 2022-2026 and for Wastewater Treatment for 2022-2024 of 9.89% be reduced to 9.64% as a reflection of the risk reduction of the consumption deferral account (with no change to the requested Return on Equity for Drainage Services contained in the rates application).
- 4. An Efficiency Factor for Drainage Services for the 2022-2024 Performance Based Rates term of 0.50%.
- 5. That all non-routine adjustments applied for by Water Services, Drainage Services and Wastewater Treatment during the 2022-2026 and 2022-2024 Performance Based Rates terms be charged to the Adjustment Deferral Accounts. A two step approach would be followed whereby EPCOR Water Services Inc., may receive interim approval and funding for the proposed adjustment with a final true up of funding being completed based on actual costs.

That Administration work with EPCOR to bring forward reports prior to the next Performance Based Rates term for Drainage Services and Wastewater Treatment effective April 1, 2025, providing further background and the appropriate regulatory treatment for the following items:

- 1. Improved disclosure of changes in accounting and capitalization policies and treatment;
- 2. Reporting the size of the workforce including actual and forecast full- time equivalents;
- 3. A review of how long-term debt interest rates are set for EPCOR Water Services Inc.;
- 4. A review of the performance measures to ensure they are increasingly stringent and challenging over time; and
- 5. A review of the deferral account and other adjustment mechanisms to deal with variations in usage.

Report Summary

This report includes the Performance Based Rates (PBR) Compliance Application and proposed Bylaw 19626 - EPCOR Water Services Bylaw submitted by EPCOR Water Services Inc. (EWSI) to establish new customer rates and terms and conditions of service for Water Services for the five year period April 1, 2022 to March 31, 2027.

The proposed EPCOR Water Services Bylaw 19626 (Attachment 1) replaces the existing Bylaw 17698 - EPCOR Water Services and Wastewater Treatment Bylaw (blackline version Attachment 2).

The Compliance Application (Attachment 3) incorporates amendments to the proposed EPCOR Water Services Bylaw 19626 in accordance with the motions passed by the Utility Committee on July 9, 2021.

The Water Services 2022-2026 PBR Compliance Application Financial Schedules are included as Attachment 4.

Report

Background

EWSI provides water, wastewater treatment and drainage services to the City of Edmonton. The City of Edmonton has franchise agreements with EWSI that grant EWSI the exclusive right to provide these services within the boundaries of the City of Edmonton. As a utility, EWSI is subject to regulation to ensure services are provided at a fair price and that appropriate service levels are maintained. City Council maintains

regulatory oversight responsibility for the water, wastewater treatment and drainage utilities owned and operated by EWSI. The provincial *Public Utilities Act* and *Municipal Government Act* provide City Council with the authority to pass bylaws relating to municipal public utilities, including those owned and operated by municipally controlled corporations, and to set terms, costs, or charges relating to those public utilities within the boundaries of the City of Edmonton. As regulator, City Council is expected to balance the interests of the customers (high quality and reliable services at reasonable costs) with the interests of EWSI (financially sustainable utility that provides fair investment returns).

City Council has approved separate bylaws to establish the customer rates and terms and conditions of service under performance based regulation for each of EPCOR Water Services and Wastewater Treatment Bylaw 17698 and EPCOR Drainage Services Bylaw 18100. Council approved Bylaw 17698 on October 25, 2016 that set customer rates for water services and wastewater treatment services charged by EWSI for the five year period of April 1, 2017 to March 31, 2022. This was the fourth performance based regulation term for water services, which were first regulated under performance based regulation beginning in 2002, and was the second performance based regulation term for water services, which were first regulated under performance based regulation beginning in 2012. With the transfer of drainage services from the City of Edmonton to EWSI effective September 1, 2017, Council approved Bylaw 18100 on September 12, 2017 that sets customer rates for drainage services charged by EWSI for the period January 1, 2018 to March 31, 2022.

To better align wastewater collection and wastewater treatment, from both the ratepayer and regulator perspectives, EPCOR is proposing to amend both the Water Services and Wastewater Treatment Bylaw 17698 and Drainage Services Bylaw 18100 to include wastewater treatment rates together with the sanitary and stormwater rates (i.e., Drainage Services rates) in the Drainage Services and Wastewater Treatment Bylaw 19627 effective April 1, 2022.

The Wastewater Treatment and Drainage Services PBR Compliance Application and corresponding proposed EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 are included in the August 27, 2021, Utility Committee, Financial and Corporate Services report FCS00744.

Summary of PBR Applications

In February 2021, EWSI submitted a PBR Application and proposed EPCOR Water Services Bylaw 19626 for approval by City Council to establish customer rates for Water Services for the five year period April 1, 2022 to March 31, 2027. At that time, EWSI also submitted PBR Applications for each of Wastewater Treatment and Drainage Services for the three year period April 1, 2022 to March 31, 2025.

The main elements of the Water Services PBR Application to set customer rates effective April 1, 2022 to March 31, 2027 include the following:

- A mechanism to adjust customer rates, fees and charges annually under a performance based regulation formula (e.g., Inflation Factor ("I") less Efficiency Factor ("X"));
- Special Rate Adjustments (SRAs) required to recover the costs not covered under the performance based regulation formula (I-X);
- A mechanism for non-routine adjustments under the performance based regulation framework, similar to Bylaw 17698 for Water and Wastewater Treatment Services and Bylaw 18100 for Drainage Services;
- Terms and Conditions of service; and
- Service quality metrics and targets, detailed in a similar manner to Bylaw 17698.

Regulatory Process and Utility Committee Deliberations

The regulatory process and guiding objectives for Utility Committee and City Council to assess the EWSI PBR Applications were approved by Council on February 22, 2021 (Attachment 5).

On June 25/July 9, 2021, Utility Committee reviewed the EWSI PBR Applications including the following reports:

- FCS00456 proposed bylaw and rates application to establish new customer rates for Water Services;
- FCS00483 proposed bylaw and rates applications to establish new customer rates for Drainage Services and Wastewater Treatment;
- FCS00623 written responses from EWSI to questions from Councillors, the Utility Advisor and Administration, in addition to written submissions from the public;
- FCS00624 reasonableness review of the rates applications by Administration;
- FCS00625 review of the rates applications by the Utility Advisor; and
- FCS00627 responses from EWSI to written submissions from the public and the reviews completed by Administration and the Utility Advisor of the rates applications.

At the conclusion of its deliberations of the EWSI PBR rates applications on July 9, 2021, Utility Committee passed a motion that Administration work with EPCOR to bring forward amendments to the applicable schedules to EPCOR Water Services Bylaw 19626 and EPCOR Drainage Services and Wastewater Treatment Bylaw 19627. The amendments included:

• reduced debt costs in the amount of \$3.7 million and the reimbursement to customers for the capitalization of valve casings and service box replacements in the amount of \$5.2 million;

- a deferral account for water consumption for each of Water Services, Wastewater Treatment and Drainage Services that would be accumulated during the 2022-2026 and 2022-2024 PBR terms and included in customer rates in each of the next PBR terms through a special rate adjustment;
- a decrease in the applied for return on equity for Water Services for 2022-2026 and for Wastewater Treatment for 2022-2024 from 9.95 to 9.64 percent, with no change to the requested return on equity for Drainage Services contained in the rates application;
- an increase in the applied for efficiency factor for Drainage Services for the 2022-2024 PBR term from 0.25 to 0.50 percent; and
- that all non-routine adjustments applied for by Water Services, Drainage Services and Wastewater Treatment during the 2022-2026 and 2022-2024 PBR terms be charged to the Adjustment Deferral Accounts. A two step approach would be followed whereby EWSI may receive interim approval and funding for the proposed adjustment with a final true up of funding being completed based on actual costs.

On July 27, 2021, EWSI submitted a PBR Compliance Application (Attachment 3) that incorporates amendments to the proposed EPCOR Water Services Bylaw 19626 and EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 (August 27, 2021, Financial and Corporate Services report FCS00744) in accordance with the directions from the Utility Committee on July 9, 2021.

Administration has reviewed the PBR Compliance Application and confirms that EWSI has appropriately amended the applicable schedules in the proposed Bylaws 19626 and 19627 to incorporate the adjustments included in the motions passed by Utility Committee. As detailed in Tables 3.0-1 to 3.0-4 of the Compliance Application, the adjustments result in a cumulative reduction in the applied for revenue requirements for Water Services over the five year period 2022-2026 in the amount of \$17.2 million in total, for Wastewater Treatment over the three year period 2022-2024 in the amount of \$3.4 million in total, and for Drainage Services over the three year period 2022-2024 in the amount of \$0.6 million in total.

Corporate Outcomes and Performance Management

Corporate Outcome(s): The	City of Edmonton h	nas sustainable and accessi	ble infrastructure.
Outcome(s)	Measure(s)	Result(s)	Target(s)

Oversight and transparency of EPCOR water, wastewater and drainage services. Annual and periodic reporting to Utility Committee of financial performance, operating and capital programs, and service quality levels.	Annual Progress Report - Water, Wastewater, Drainage (Fall 2020) Annual Operational Plan (Feb 2021) Performance Based Rates Applications (Feb 2021)	Annual Progress Report - Water, Wastewater, Drainage (June) Annual Operational Plan (Q1)
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Public Engagement

The public had an opportunity to provide feedback at the Utility Committee meeting held on June 25, 2021 regarding the EWSI PBR applications. The process for the review and approval of the EWSI rates applications was advertised in the Edmonton Journal and the Edmonton Sun on April 1, 2021 and April 8, 2021. EWSI also completed a stakeholder engagement process as part of the PBR application development to ensure that programs and initiatives aligned with stakeholder expectations.

Budget/Financial Implications

Approval of EPCOR Water Services Bylaw 19626 will have financial implications on EPCOR's Water Services revenues, therefore impacting the EPCOR franchise fee and dividend received annually by the City.

Approval of public fire protection costs to be funded through water utility rates effective April 1, 2022 would reduce the operating budget requirements for Fire Rescue Services and the resulting impact on the property tax levy. If the change in funding is approved by Council as part of EWSI's rates application to set water utility rates for the period April 1, 2022 to March 31, 2027, Administration will bring forward the corresponding amendments to the Fire Rescue Services operating budget effective 2022 as part of the Fall 2021 Supplemental Operating Budget Adjustment process later this fall.

Legal Implications

Public utilities owned or operated by municipalities providing service within that municipality are generally regulated by their municipal councils, as they are exempt from Alberta Utilities Commission regulation pursuant to s. 78.2 of the *Public Utilities Act*, RSA 2000, H-16. Public utilities that are not owned or operated by municipalities and that supply water, heat, light or power are regulated by the Alberta Utilities Commission. Public utilities that are owned or operated by a municipally controlled corporation and provide a utility service within the boundaries of the municipality are exempt from regulation by the Alberta Utilities Commission pursuant to s. 75.4 of the *Municipal Government Act*, RSA 2000, C-26.

EPCOR Water Services and Wastewater Treatment Bylaw 17698 and EPCOR Drainage Services Bylaw 18100 set out a mechanism for setting and adjusting fees, rates and charges for water, wastewater treatment and drainage services for a period that expires March 31, 2022. Therefore, new bylaws are required to set fees, rates and charges to be effective April 1, 2022.

Attachments

- 1. Bylaw 19626 Proposed EPCOR Water Services Bylaw (Clean Version)
- 2. Bylaw 19626 Proposed EPCOR Water Services Bylaw (Blackline Version)
- 3. EPCOR Water Services Inc. 2022-2024/2026 PBR Compliance Application
- 4. EPCOR Water Services Inc. Water Services 2022-2026 PBR Compliance Application Financial Schedules
- 5. EWSI 2022-2026 PBR Applications Regulatory Schedule and Guiding Objectives

Others Reviewing this Report

- C. Owen, Deputy City Manager, Communications and Engagement
- K. Fallis-Howell, Acting City Solicitor



CITY OF EDMONTON

EPCOR WATER SERVICES BYLAW 19626

THE CITY OF EDMONTON BYLAW 19626

EPCOR WATER SERVICES BYLAW

Whereas, pursuant to section 3 of the *Municipal Government Act*, RSA 2000, c M-26, the purposes of a municipality are to provide services, facilities and other things that are necessary or desirable for all or a part of the municipality;

And whereas, pursuant to section 7(g) of the *Municipal Government Act*, Edmonton City Council may pass bylaws respecting public utilities;

Edmonton City Council enacts:

PURPOSE	1	The put	rpose of this Bylaw is to approve:
		(a)	Rates, fees and charges for Water Services and other services provided by EPCOR Water Services Inc. to Customers in the city of Edmonton and others, and a mechanism whereby such Rates, fees and charges will be adjusted on an annual basis, for the period of April 1, 2022 to March 31, 2027;
		(b)	Terms and Conditions for Water Services, and a mechanism whereby Water Services Guidelines consistent with the Terms and Conditions may be implemented by EPCOR Water Services Inc. and amended or replaced from time to time;
		(c)	The Performance Based Regulation Plan for the period of April 1, 2022 to March 31, 2027.
DEFINITIONS	2	In this I require	Bylaw, unless otherwise specified or the context otherwise s:
		(a)	"City" means the municipal corporation of the City of Edmonton;
		(b)	"City Manager" means the chief Administrative Officer of the City or his delegate;
		(c)	"Customer" means any person more particularly described as a "Customer" in Schedule 2 or is otherwise responsible for paying EWSI;
		(d)	"EWSI" means EPCOR Water Services Inc. or its successor;

- (e) **"Performance Based Regulation Plan"** means the Performance Based Regulation Plan for the period of April 1, 2022 to March 31, 2027, as more particularly described in Schedule 3 to this Bylaw;
- (f) "Price Schedule" means the Rates in respect of Water Services more particularly described in Schedule 1 of this Bylaw, as approved by the City and in effect at the time;
- (g) **"Rate"** means the rates, fees and charges applicable to any utility service provided by EWSI within the City of Edmonton which the City has authority to approve;
- (h) **"Rate Sheets"** means the documents styled as Rate Sheets in Schedule 4, intended for use as templates for the format in which EWSI's annual requests for Rates are to be filed with the City Manager;
- "Water Services" includes but is not limited to (i) the production, treatment and supply of potable water delivered through a service connection in accordance with the provisions of the Water Services Franchise Agreement to a Customer, any and all incidental services more particularly described in Schedule 2, and the use of physical plant, equipment, apparatus, appliances, property and facilities owned or employed by EWSI or used in connection with EWSI in providing the supply of potable water to the property of any Customer;
- (j) "Water Services Franchise Agreement" means a Franchise Agreement between EWSI and the City in respect of Water Services, dated January 1, 2020, including all amendments or replacements thereto;
- (k) "Water Services Guidelines" means those requirements, standards, specifications, procedures, protocols or guidelines adopted by EWSI pursuant to Schedule 2 or any other Schedule under this Bylaw.

RULES FOR INTERPRETATION 3

The marginal notes and headings in this Bylaw are for reference purposes only.

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- **RATES EFFECTIVE**4Rates, fees and charges for the 12 month period AprilAPRIL 1, 20221, 2022 to March 31, 2023 are approved and shall be
charged in accordance with Schedule 1 to this Bylaw.
- RATES AFTER5For each 12 month period from April 1, 2023 to MarchMARCH 31, 202331, 2027, Rates for the provision of Water Services
by EWSI will be established in accordance with
Section 7.
- **TERMS AND**6All Water Services provided within the boundaries of
the city of Edmonton shall be provided by EWSI in
accordance with the Terms and Conditions of Water
Service attached hereto in Schedule 2.

PRICE SCHEDULE7Any adjustments to a Price Schedule made under**ADJUSTMENTS**5 shall be made as follows:

- (a) On or Before March 1st in each year commencing 2023, EWSI shall file for information with the City Clerk and the City Manager Rates Sheets effective for the upcoming 12 month period from April 1 to March 31, reflecting the performance-based water Rates in accordance with this Bylaw.
- (b) The filing referred to in subsection (a) above must include sufficient information for the City Manager to determine if the performancebased water Rates for the upcoming year have been calculated in accordance with the provisions of Schedule 3 to this Bylaw.
- (c) If, after reviewing the filing referred to in subsection (a) above, the City Manager is satisfied that the performance-based water Rates included in the Rate Sheets have been calculated in accordance with this Bylaw, the City Manager shall issue a compliance letter on or before March 15th of each year confirming that the performance-based water Rates in the Rate Sheet for the upcoming year has been calculated in accordance with this Bylaw.

(d) Once the compliance letter has been issued in accordance with the provisions of subsection
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			(c), EWSI is authorized to Services pursuant to the Rate accordance with the prov section.	provide Water e Sheets filed in visions of this
		(e)	The City Clerk shall keep filings made in accordance w	a record of all ith this Bylaw.
EFFECTIVE DATE	8	This By	vlaw comes into effect April 1,	, 2022.
REPEAL	9	Upon t 17698,	his Bylaw becoming effecti as amended, is hereby repeal	ve, Bylaw No. ed.
SCHEDULES	10	The fol part of	lowing schedules are include this Bylaw:	d in, and form
	Sch	nedule 1	– Price Schedule	
		Part I – Part II Part III Part IV	Water Rates – Water Rate Riders – Service Charges – Late Payment Charges	
	Scł	nedule 2	– Terms and Conditions of W	ater Service
	Sch	nedule 3	– Performance Based Water R	lates
	Scł	nedule 4	– Pro-forma Annual Water Ra	te Filing
READ a first time th	nis		day of	2021;
READ a second time	e this		day of	2021;
READ a third time the	his		day of	2021;
SIGNED AND PAS	SED this	5	day of	2021;

THE CITY OF EDMONTON

MAYOR

Schedule 1

Price Schedule

Part I – Water Rates

Residential Water Service

Applicable To all domestic service customers within the city of Edmonton.

A domestic service is defined as a service supplied to premises used primarily for domestic purposes, where no more than four separate dwelling units are metered by a single water meter and the service line to the premises is not greater than 50 millimeters in diameter.

If a business is conducted from premises that otherwise fall within the above definition of a domestic service, this Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises.

Effective Dates and Adjustments for Future Years

Consumption Charges and Public Fire Protection Monthly Charges for the period April 1, 2022 to March 31, 2023 are set out below. Consumption Charges and Public Fire Protection Monthly Charges for the period April 1, 2023 to March 31, 2027 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 7 of this Bylaw.

Rates

Fixed Monthly Service Charge

In accordance with the "Fixed Monthly Water Service Charges" provisions of this Schedule.

Consumption Charge

$0 \text{ m}^3 - 10.0 \text{ m}^3$	\$2.0487 per m ³
10.1 m ³ to 35.0 m ³	\$2.2382 per m ³
Over 35.0 m ³	\$2.8287 per m ³

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
15 mm	\$2.59
20 mm	\$3.88
<u>25 mm</u>	\$6.47
40 mm	\$12.95
50 mm	\$20.72
75 mm	\$38.84
100 mm	\$64.74
150mm	\$129.48
200 mm	\$207.16
250mm	\$297.80
300 mm	\$437.11

Multi-Residential Water Service

Applicable To all multi-residential service customers within the city of Edmonton.

A multi-residential service is defined as a service supplied to premises used primarily for domestic purposes; where more than four separate dwelling units are metered by a single water meter.

If a business is conducted from premises that otherwise fall within the above definition of a multi-residential service, this Multi-Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises

Effective Dates and Adjustments for Future Years

Consumption Charges and Public Fire Protection Monthly Charges for the period April 1, 2022 to March 31, 2023 are set out below. Consumption Charges and Public Fire Protection Monthly Charges for the period April 1, 2023 to March 31, 2027 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 7 of this Bylaw.

Rate

Fixed Monthly Service Charge

In accordance with the "Fixed Monthly Water Service Charges" provisions of this Schedule.

Consumption Charge

0 m³ - 100.0 m³ \$1.9341 per m³ 100.1 m³ - 1000.0 m³ \$1.6180 per m³ Over 1000.0 m³ \$1.3372 per m³

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
15 mm	\$2.54
20 mm	\$3.81
25 mm	\$6.36
40 mm	\$12.72
50 mm	\$20.34
75 mm	\$38.15
100 mm	\$63.58
150mm	\$127.15
200 mm	\$203.44
250mm	\$292.45
300 mm	\$429.26

Commercial Water Service

Applicable To all commercial, industrial and institutional customers within the city of Edmonton.

To all water customers not otherwise defined as Residential or Multi-Residential water service customers per Part I of this Schedule or as hydrant or truck fill service water customers per Part III of this Schedule.

Effective Dates and Adjustments for Future Years

Consumption Charges and Public Fire Protection Monthly Charges for the period April 1, 2022 to March 31, 2023 are set out below. Consumption Charges and Public Fire Protection Monthly Charges for the period April 1, 2023 to March 31, 2027 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 7 of this Bylaw.

Rate Fixed Monthly Service Charge

In accordance with the "Fixed Monthly Water Service Charges" provisions of this Schedule.

Consumption Charge

 $0 m^3 - 25.0 m^3$ $25.1 m^3 - 100.0 m^3$ $100.1 m^3 - 1000.0 m^3$ $1000.1 m^3 - 5000.0 m^3$ Over 5000 m³

\$1.6122 per m³ \$1.6122 per m³ \$1.4867 per m³ \$1.1768 per m³ \$0.9472 per m³

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
15 mm	\$5.87
20 mm	\$8.81
25 mm	\$14.68
40 mm	\$29.36
50 mm	\$46.97
75 mm	\$88.07
100 mm	\$146.78
150mm	\$293.55
200 mm	\$469.68
250mm	\$675.17
300 mm	\$991.03

Fixed Monthly Water Service Charges

Applicable To all metered water customers within the city of Edmonton.

Effective Dates and Adjustments for Future Years

Fixed Monthly Water Service Charges for the period April 1, 2022 to March 31, 2023 are set out below. Fixed Monthly Water Services Charges for the period April 1, 2023 to March 31, 2027 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 7 of this Bylaw.

Rate

Fixed Monthly Water Service Charge

Meter Size	Monthly Charge		
15 mm	\$12.46		
20 mm	\$18.70		
25 mm	\$31.16		
40 mm	\$62.32		
50 mm	\$99.71		
75 mm	\$186.96		
100 mm	\$311.61		
150mm	\$623.21		
200 mm	\$997.14		
250mm	\$1,433.39		
300 mm	\$2,103.97		

Part II – Water Rates

Distribution System Rider

Applicable To customers who privately own and operate a substantial underground water distribution system. For further clarification, the distribution system must provide service at multiple delivery points and not be less than 1 kilometer long.

This rider is not applicable for dedicated fire protection service.

The customer must submit a request in writing to EWSI. EWSI reserves the right to accept or deny any request. The amount and duration of this rider will be at the sole discretion of EWSI. Only one rider will be applied to any one customer at one time.

- Rate A discount from the regular water rate category of the customer where the level of discount to the customer will be determined on a case-by-case basis.
- **Effective Dates** This rate is effective as and when amended or approved by EWSI for the period April 1, 2022 to March 31, 2027.

Part II – Water Rates

Multi-Meter Rider

Applicable To customers who receive water through more than one water service and, as a result, more than one water meter.

For further clarification, all water services must supply the same or adjoining buildings, and all water services must be in account to the same customer.

This rider is not applicable for water meter bank installations associated with one water service.

The customer must submit a request in writing to EWSI. EWSI reserves the right to accept or deny any request. The amount and duration of this rider will be at the sole discretion of EWSI. Only one rider will be applied to any one customer at one time.

- Rate A discount from the regular water rate category of the customer where the level of discount to the customer will be determined on a case-by-case basis.
- **Effective Dates** This rate is effective as and when amended or approved by EWSI for the period April 1, 2022 to March 31, 2027.

Account Application Charge

- Applicable To all customers who apply for a new account or change accounts for water service within the city of Edmonton boundaries.
- Rate

\$25.00

Meter Installation or Removal Charge

- Applicable To all customers, but most commonly for seasonal customers for whom a meter is removed and installed annually, and for customerinitiated connection and disconnection of water meters and/or associated metering devices.
- Rate Up to 25 mm meter \$200.00 40 mm to 50 mm meter \$300.00 Over 50 mm meter Actual Cost Seasonal meters Actual Cost

Meter Test Charge

- Applicable To all customers who request that their EWSI water meter be tested and the results of the test indicate that the meter is operating within prescribed standards.
- Rate \$200.00 Up to 25 mm meter 40 mm to 50 mm meter \$275.00 Over 50 mm meter Actual Cost

Off-Cycle Meter Read Charge

- Applicable To all customers who require a meter reading on a date other than their regularly scheduled monthly meter read date.
- Rate \$12.52 Non-Standard Meter Read Charge Applicable To all customers who decline the installation of a Standard Meter.
- Rate

\$49.03 per month

Non-Standard Meter Installation Charge

- Applicable To all customers who after installing a Standard Meter revert back to a Non-Standard Meter. \$200.00 Rate Damage Repair Charge Applicable To all customers for whom EWSI must repair or replace damaged water valves, meters, remote meter reading devices or other EWSI appurtenances, where the equipment or equipment or appurtenance is under the customer's care or has been operated or interfered with by the customer. Rate Actual Cost of meter plus \$100.00 **Tampering Charge** To all customers for whom EWSI must investigate, repair, or replace Applicable damaged water infrastructure as a result of unauthorized use or tampering. Rate Cost to repair plus \$250.00 Thawing of Frozen Services Charge Applicable To all customers who require thawing of frozen services. Rate First visit no charge Second visit \$300.00 per hour Missed Appointment Charge Applicable To all customers who do not keep a scheduled appointment for any EWSI representative. Rate \$60.00 per missed appointment EWSI Missed Appointment Credit For instances in which EWSI does not keep a scheduled Applicable appointment for a customer without giving reasonable notice.
- Rate\$35.00 credit to customer per missed appointment

Part III – Service Charges

No Access Charge

Applicable	To all customers who do not allow access by EWSI to install, inspect, test, maintain, repair, investigate, replace or remove Facilities, including reading a Meter, for a period of 6 consecutive months.					
Rate	\$40.00 per month					
Customer Locate Fee						
Applicable	To all customers who fail to notify EWSI that they have taken possession of a site and EWSI is required to conduct searches to identify the customer.					
Rate	\$20.00					
Hydrant Permit Charge						
Applicable	To all customers who obtain water service through fire hydrants.					
Rate	Hydrant Application Fee, annual, per permit\$90.00Hydrant Meter Service Charge\$50.00 per monthConsumption Charge\$50.00 per month					
	All consumption will be charged at the current and effective rate for Part I Multi-Residential Water Service Consumption Charge for 0 m^3 –100.0 m ³ , as updated annually.					
Construction Service Charge						
Applicable	To all customers who obtain water at a site during the construction period, prior to the premises going into account for billing.					
Rate	\$0.44 / \$1000 of construction cost					
Service Connection Fee						
Applicable	The fee for a new water service installation is calculated on a cost of service basis in accordance with the Water Services Guidelines.					
Rate	Cost of service					

Water Service Turn-On / Turn-Off Charge

Applicable	To all customers requesting a water service be turned on or off (excludes turn-on related to non-payment on account).								
Rate	During regular hours Required outside regular working hours Required within 48 hours of request			$$130.00^{1}$ per site visit $$160.00^{2}$ per site visit $$240.00^{3}$ per site visit					
	 Customer will receive a \$65.00 credit if turn off and turn on service can be scheduled and completed in one site visit. Customer will receive a \$80.00 credit if turn off and turn on service can be scheduled and completed in one site visit. Customer will receive a \$120.00 credit if turn off and turn on service can be scheduled and completed in one site visit. 								
Water Ser	vice Tur	n-On Charge, Afte	r Turn-off for No	on Payı	ment				
Applicable	To all customers who require a water service to be turned on after having been turned-off due to non-payment on account.								
Rate	During regular hours Required outside regular working hours Required within 48 hours of request			\$80.00 per site visit \$100.00 per site visit \$120.00 per site visit					
Fire Protection Service									
Applicable	To all customers within the city of Edmonton who receive standby water service to their private fire protection installations.								
Rates	Fixed Monthly Private Fire Protection Service Charges								
		Fire Line Service	Monthly Cha	rge					
		50 mm	\$1.41						
		100 mm	\$8.70						

150mm

200 mm

250mm

300 mm

\$25.27

\$53.86

\$96.86 \$156.45
Part III – Service Charges

Truck Fill Service

Applicable	To all customers who obtain water from a truck fill site within the city of Edmonton municipal boundaries.		
Rate	Account Application Fee Consumption Charge	\$35.00 \$4.00 per m ³	
Effective Dates	Part III Service Charges are effective April 1, 2022. Service Charges for the period April 1, 2023 to March 31, 2027 will be determined by applying the adjustment factors for Service Charges set out in Schedule 3 of this Bylaw to the rates set out in this Part III – Service Charges, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 7 of this Bylaw		

Late Payment Charges

A late payment charge of 2.5% per month, not compounded, is applied to all charges on a Customer's Account, if the Customer's payment has not been received by EWSI in full by the payment date specified on the bill. If considered to be interest payable for credit advanced, then the late payment charge is equivalent to a maximum yearly rate of 45.6%. A dishonoured cheque charge of \$25.00 is applied for each cheque returned for insufficient funds.

Schedule 2

Terms and Conditions of Water Service

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INTRODUCTION TO TERMS AND CONDITIONS

These Terms and Conditions, as approved by the municipal council of the City of Edmonton, form part of Bylaw 19626 (the "EPCOR Water Services Bylaw") which regulates the provision of Water Services in the city of Edmonton by EPCOR Water Services Inc. ("EWSI"). The EPCOR Water Services Bylaw, which also includes the EWSI Price Schedule in effect from time to time, is enacted pursuant to the powers vested in the City under the provisions of the <u>Municipal Government Act</u> RSA 2000 c M-26.

These Terms and Conditions apply to EWSI and its relationship with all of its Customers. Every Customer, by applying for or using a Service Connection or Water Services or other services of any kind provided by EWSI under the authority of these Terms and Conditions, is deemed to have accepted these Terms and Conditions and is bound by and subject to them.

Unless otherwise agreed in writing by EWSI and a Customer, provision of Water Services or other services by EWSI to Customers will occur only in accordance with these Terms and Conditions.

ARTICLE 1 - DEFINITIONS AND INTERPRETATION

1.1 Definitions

The following words and phrases, whenever used in these Terms and Conditions or in an application, contract or agreement for service under these Terms and Conditions, shall have the meanings set forth below:

"**Account**" means a written and/or digital record of use of Water Services or other services by a Customer, including the amounts payable from time to time by the Customer to EWSI;

"**Billing Agent**" means the entity appointed by EWSI to provide billing and customer care services;

"Business Day" means a day, which is not a Saturday, Sunday or a statutory holiday in the Province of Alberta, and "day" means any calendar day;

"City" means the municipal corporation of the City of Edmonton;

"Cross Connection" means any permanent or temporary piping arrangement that allows or may potentially allow the Waterworks System to be connected to a contaminant source. Examples may include, without limitation: garden hoses, any other hose attached to a threaded faucet, swivel or change over devices, removable sections, jumper connections and bypass arrangements; "**Curb Cock**" means a valve connected into a Service Connection enabling the water supply to a Customer to be Turned Off or Turned On, (which will ordinarily but not necessarily be located at or near a Customer's property line);

"Customer" means any person, firm or body corporate that receives Water Services or other services related to or incidental to the Water Services from EWSI pursuant to the EPCOR Water Services Bylaw and where the context or circumstances so require includes any person who makes or has made an application for Water Services or otherwise seeks to receive Water Services, and also includes any person acting as an agent or representative of a Customer, as well as a registered owner of property to which Water Services are being delivered;

"Customer Usage Information" means information regarding the historical use of Water Services or water consumption of a Customer, and includes the Customer's history of payment for Water Services or other services provided under these Terms and Conditions;

"**Disturbed Ground**" means terrain (surface or sub-surface) that is disturbed and that may require incremental construction techniques or support systems to provide stability;

"Dwelling" means a private residence with sleeping and cooking facilities used or intended to be used permanently or semi-permanently as a residence;

"EWSI" means EPCOR Water Services Inc. or its successor;

"Facilities" means any infrastructure forming part of the Waterworks System owned or used by EWSI including, without limitation: water treatment plants, reservoirs, pumping stations, water transmission mains, water distribution mains, water service lines, Curb Cocks, valves, fire hydrants, flushmount hydrants, chambers, utility corridors, tunnels, casings, flow or pressure regulating valves, air/vacuum relief valves, Meters and any other measurement devices and other physical plant and piping appurtenances, used to produce and supply potable water;

"Force Majeure" means circumstances not reasonably within the control of EWSI, including acts of God, strikes, lockouts or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, high water, washouts, inclement weather, orders or acts of civil or military authorities, civil disturbances, explosions, breakdown or accident to equipment, mechanical breakdowns, intervention of federal, provincial or local government or any of their agencies or boards, the order or direction of any court, and any other cause, whether of the kind herein described or otherwise;

"Meter" means Standard Meter and Non-Standard Meter;

"Multiple Dwelling" means a wholly or partially residential development containing more than one Dwelling, whether or not the development is within a single building or structure, which receives Water Services through a total number of Service Connection Points that is less than the total number of Dwellings in the residential development;

"**Non-Standard Meter**" means a water meter that does not have the capability of remotely communicating via radio frequency signals with EWSI's advanced metering network;

"Owner" means:

- (a) the registered owner of a parcel of land in the register maintained by the Registrar of Land Titles under the Land Titles Act, or
- (b) a person who has purchased the parcel from the person mentioned in sub clause (a) pursuant to an agreement for purchase and sale;

"Potable Water" means water that is suitable for human consumption;

"**Price Schedule**" means the rates, fees and charges for Water Services more particularly described in Schedule 1 of the EPCOR Water Services Bylaw, as approved by the City and in effect at the time;

"**Private Service Line**" means the Customer owned water line and all associated equipment and any other assets for providing water to a Customer that are located downstream of the Service Connection Point, including the piping joint on the downstream side of the Service Connection Point and excepting the water Meter that is owned by EWSI;

"Service Connection" means all of the Facilities required to achieve a physical connection between an EWSI water main abutting Customer property and a Private Service Line to allow a Customer to receive water delivered through the Waterworks System, including without limitation the water service line from the water main to the Service Connection Point;

"Service Connection Point" means the point where a Service Connection owned by EWSI and forming part of the Waterworks System physically connects to a Private Service Line (which will ordinarily, but not necessarily, be a point at or near a Customer's property line);

"**Standard Meter**" means an advanced water meter that has the capability of remotely communicating via radio frequency signals with EWSI's advanced metering network;

"Terms and Conditions" means the terms and conditions in respect of Water Services described herein;

"**Turn Off**" means the process where the delivery of potable water to the Customer is terminated. Turn Off is normally executed by operating the inlet valve or the master control valve, associated with the Meter setting. In EWSI's sole discretion, Turn Off may be executed by operation of the Curb Cock;

"**Turn On**" means the process where the delivery of potable water to the Customer is activated or re-activated. Turn On is normally executed by operating the inlet valve or the master control valve, associated with the Meter setting. In EWSI's sole discretion, Turn On may be executed by operation of the Curb Cock;

"Water Services" includes but is not limited to the production, treatment and supply of potable water delivered through a Service Connection in accordance with the provisions of the Water Services Franchise Agreement to a Customer, any and all incidental services more particularly described in these Terms and Conditions, and the use of physical plant, equipment, apparatus, appliances, property and facilities owned or employed by EWSI or used in connection with EWSI in providing the supply of potable water to the property of any Customer;

"Water Services Agreement" means any agreement under which EWSI has or may incur an obligation to provide Water Services to one or more Customers, and may at EWSI's sole option include any servicing agreement entered into by the City to which EWSI is not a party to the extent that the servicing agreement addresses the provision of Water Services to a Customer;

"Water Services Guidelines" means any document referred to as Water Services Guidelines in paragraph 2.2 of Article 2 of these Terms and Conditions;

"Waterworks System" means the Facilities and all associated real and personal property used by EWSI to supply potable water to Customers.

1.2 Conflicts

If there is any conflict between a provision in these Terms and Conditions, and a provision in a Water Services Agreement or other agreement between EWSI and a Customer, the provision in these Terms and Conditions shall govern unless an express term of the Water Services Agreement or other agreement states otherwise.

1.3 Extended Meanings

In these Terms and Conditions, words importing the singular number shall include the plural and vice versa, words importing the masculine gender shall include the feminine and neuter genders and vice versa. Words importing a person shall

include a person, firm, partnership, corporation, organization or association (including, without limitation, individual members of any unincorporated entity).

1.4 Headings

The division of these Terms and Conditions into sections, subsections and other subdivisions and the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation of these Terms and Conditions.

ARTICLE 2 - GENERAL PROVISIONS

2.1 Fundamental Obligations of EWSI and of Customers

- (a) EWSI will provide Water Services, at the fees, rates or other charges specified in the Price Schedule in accordance with these Terms and Conditions and with applicable provisions of the Water Services Guidelines. All additional services provided by EWSI to a Customer will be billed to the Customer in accordance with an agreement between the Customer and EWSI. The general costs of operating and maintaining the Waterworks System are covered by the rates for Water Services set out in the Price Schedule. EWSI will operate and maintain the Waterworks System at no additional charge to any Customer beyond the fees, rates and charges for Water Services set out in the Price Schedule or in a Water Services Agreement, except for costs arising from:
 - (i) requirements or requests for specific non-routine services not more particularly described in the Price Schedule, or the acts or omissions of any particular Customer or defined group of Customers,
 - (ii) repairs or remedies of any loss or damage to Facilities or other property that is caused by a Customer or any other party for whom a Customer is responsible in law, including, without limitation, any costs or damages described in any judgment of a court in EWSI's favour.

Such additional costs may at EWSI's sole option (and in addition to any other legally available remedies) be added to a Customer's Account as an additional amount due and payable by the Customer to EWSI.

- (b) When EWSI performs a repair on its Facilities affecting a Customer's property, EWSI will make all reasonable efforts to return the property to its original or similar to original condition as soon as practicable after the repair is completed.
- (c) Prior to receiving any Water Services from EWSI, a Customer shall open an Account to pay for all Water Services provided by EWSI, whether or not

listed in the Price Schedule. Any such services may be added by EWSI to the Customer's Account. A Customer shall comply with the requirements of these Terms and Conditions, the billing practices of the Billing Agent and the Water Services Guidelines.

- (d) Where any Facilities required to supply Water Services to a Customer are located in Disturbed Ground, or where any other unusual condition exists, EWSI's obligation to construct does not include incremental construction costs required to stabilize such Facilities or the disturbed ground, or to address other unusual conditions. The Customer may at EWSI's sole option be required to pay all additional construction costs in such circumstances, including the costs of any required support system.
- (e) With the exception of use for firefighting purposes, all Customers must enter into EWSI's Hydrant Permit Agreement for any access to or use of bulk water through a hydrant.

2.2 Water Services Guidelines

- (a) EWSI may adopt written requirements, standards, specifications, procedures, protocols or guidelines supplementary to these Terms and Conditions (the "Water Services Guidelines") as EWSI deems advisable for the purpose of clarifying or explaining:
 - (i) any fee, rate or other charge set out in the Price Schedule, including the circumstances and the manner in which such fee, rate or charge will be applied and billed to a Customer;
 - (ii) the manner in which EWSI's obligations under the EPCOR Water Services Bylaw and any applicable federal or provincial legislation or regulations will be fulfilled and the impacts on Customers;
 - (iii) EWSI's operating policies and procedures, and its requirements in relation to provision of Water Services or other services, including without limitation requirements intended to: provide security for costs incurred by EWSI, ensure the health and safety of employees, ensure the safety of the potable water supply delivered through the Waterworks System and maintain the reliability of the Waterworks System.

EWSI may amend the Water Services Guidelines from time to time to reflect changes to the industry, EWSI's requirements or the changing needs of EWSI's Customers. A copy of the Water Services Guidelines and amendments thereto will be filed with the City Clerk for information purposes and can be accessed www.epcor.com.

The Water Services Guidelines and any amendments thereto shall be effective as of the date posted to EWSI's website. Without limitation to the foregoing and in the interest of greater clarity, the term "amend" in this clause includes the deletion of all or any portion of any Water Services Guideline previously filed with the City Clerk.

- (b) Without limiting the generality of Section 2.2(a) above, Water Services Guidelines may deal with any or all of the following subject matter:
 - procedures or requirements that a Customer must comply with before a Service Connection is installed or activated, or before Water Services are provided, or as a condition of ongoing provision of Water Services;
 - (ii) Customer Accounts, including without limitation provisions or requirements concerning: opening an Account, making payments on an Account, consequences for failure to pay Accounts in full, lost bills, dishonoured cheques, collection of delinquent Accounts, adjusting improperly billed Accounts, Water Service application fees, handling of confidential Customer Account information, closing an Account, and any other matter relating to Customer Accounts;
 - (iii) measurement of water consumption, including without limitation provisions or requirements concerning: Meter inspection and testing, Meter settings, chambers and installations, Meter reading, disputes concerning Meter data, estimates of consumption, private or subsidiary Meters, remote Meter reading devices, relocation of Meters, access for Meter readers, and adjustments to bills when Meters have malfunctioned;
 - (iv) procedures or requirements concerning investigation of Customer complaints and concerns;
 - (v) procedures or requirements for provision of temporary Water Services, including without limitation Water Services provided during the construction phase of a development;
 - (vi) procedures or requirements for upgrading, re-sizing relocating or otherwise changing a Service Connection, whether at the instigation of EWSI or at the request of a Customer;
 - (vii) the Turn On and Turn Off of Water Services, whether at the instigation of EWSI or at the request of a Customer;
 - (viii) supply of bulk water for firefighting and other purposes, including without limitation procedures and requirements concerning the

maintenance of public or private fire hydrants and permissible use of water from fire hydrants.

- (c) The following are deemed to be Water Services Guidelines and are effective and binding upon every Customer, and may be amended or rescinded from time to time by EWSI:
 - (i) the EWSI document entitled "EWSI Service Standards";
 - (ii) the document entitled "Design and Construction Standards for the City of Edmonton; Volume 4 – Water" ("Design and Construction Standards");
 - (iii) the EWSI document entitled "Cross Connection Control Policy";
 - (iv) the EWSI document entitled "Guidelines for Working Around Water Infrastructure";
 - (v) the EWSI document entitled "Hydrant Servicing Guidelines";
 - (vi) the EWSI document entitled "Water and Sewer Connections Guidelines"; and
 - (vii) the EWSI document entitled "Water Utility Handbook".
- (d) While EWSI is committed to, and will endeavour to comply with, its Water Services Guidelines, the operations of EWSI are complex and dynamic and the Water Services Guidelines may not appropriately or exhaustively deal with every situation that arises. EWSI, acting reasonably, may deviate from the provisions of the Water Services Guidelines or take action not specifically authorized by these Terms and Conditions or by the Water Services Guidelines at EWSI's sole discretion.

ARTICLE 3 - METHODS AND PROCEDURES FOR OBTAINING WATER SERVICES

3.1 Requirement for Account and Obligation to Pay

(a) Prior to receiving any Water Services from EWSI, a Customer is obligated to open an Account. Customers shall pay in full for all Water Services provided by EWSI. If a Customer fails to open an Account when they have possession of the premises to which Water Services are being supplied, EWSI may bill the Customer for the Water Services received, from their legal possession or occupancy date, whichever occurs first, and EWSI shall determine the retroactive billing by reasonably estimating the Customer's consumption.

EWSI will send a Customer a bill for Water Services provided to the Customer during the previous month, or an amount of time reasonably close to a month, calculated in accordance with Schedule 1. A Customer's obligation to pay the amount set out in the bill shall continue regardless of whether the Customer receives the bill. A late payment charge of 2.5% per month, not compounded, is applied to all charges on a Customer's Account, if a Customer does not pay a bill in full by the payment due date specified on the bill. If considered to be interest payable for credit advanced, then the late payment charge is equivalent to a maximum yearly rate of 45.6%. A dishonoured cheque charge is applied for each cheque returned for insufficient funds.

- (b) If at any time there is not a Customer with an Account open for premises to which Water Services are supplied, the Owner of such premises will be deemed to be the Customer at the premises and will be required to pay for all Water Services including, without limitation, Water Services not related to consumption, provided to the Premises until an Account is opened by another Customer. The Owner shall be liable for all charges related to identifying, searching for and contacting the Owner.
- (c) At the sole option of EWSI, an Owner of premises to which Water Services are supplied who rents or leases all or part of the premises to a tenant or lessee, may be required to open an Account for the supply of Water Services to the portion of the premises that are rented or leased from time to time.
- (d) EWSI may, without approval or consent of an Owner, upon not less than 30 days written notice to the Owner, open a new Account in the name of the Owner in respect of leased premises if:
 - (i) the tenant or lessee is more than 60 days in arrears of payment for Water Services; and
 - (ii) it is physically impossible or impracticable to Turn Off Water Services to the tenant or lessee without adversely affecting Water Services to one or more other Customers that occupy the same premises and/or that receive Water Services through a common Service Connection.

In such a case, the Owner shall be required to pay for Water Services from the date on which the new account is opened by EWSI in the Owner's name. The Owner shall not be required to pay EWSI for the tenant or lessee's arrears for Water Services at that location, unless a provision in an agreement otherwise specifies.

(e) At the sole option of EWSI, where a Customer has more than one account, unpaid balances may be transferred and consolidated to the Customer

account of EWSI's choice and without limiting any rights provided herein, EWSI may exercise its rights under Articles 5 and 10.

3.2 Customer Application for Water Services

- (a) At the request of a Customer and upon fulfillment of all conditions set out in these Terms and Conditions and in the Water Services Guidelines, EWSI will install and maintain a Service Connection to a Customer's premises abutting a street or right-of-way where there is a water main. Unless an agreement between EWSI and a Customer specifically provides otherwise:
 - (i) EWSI shall be and remain the owner of the Service Connection;
 - (ii) the Customer shall be and remain the Owner of the Private Service Line downstream of the Service Connection Point;
 - (iii) EWSI shall be and remain the owner of all water Meters and other measuring and monitoring devices associated with the Service Connection, regardless of whether they are located upstream or downstream of the Service Connection Point.
- (b) A Customer applying for Water Services involving a new Service Connection shall supply information regarding the location of the premises to be served, the manner in which the Service Connection will be utilized, and any other information that may be reasonably required by EWSI.
- (c) Before making a decision on a Customer application involving a new Service Connection, EWSI is allowed a reasonable time to verify the identity of the Customer and/or the accuracy of the information provided, and may require the Customer to sign a formal application for Water Services, in writing, which may be on a standard form approved by EWSI.
- (d) For all commercial and industrial Customers, and for any other Customer for whom provision of Water Services will involve installation of a new Service Connection or construction of new Facilities or an extension to or modification of the Waterworks System, an express written acknowledgement that the Customer has agreed to these Terms and Conditions is required before EWSI will take any steps toward providing the requested Water Services.
- (e) At EWSI's sole option, a Customer needing a new Service Connection or construction of new Facilities or an extension to or modification of the Waterworks System may be required to execute a Water Services Agreement, before EWSI approves any design or construction work.

- (f) Upon receipt of all required information, verification of the Customer's identity and the accuracy of the information, and execution of any applicable acknowledgement form or agreement, EWSI will:
 - (i) advise the Customer whether and on what terms EWSI is prepared to supply Water Services to the Customer;
 - (ii) in the case of a Customer requiring a new Service Connection, advise the Customer of the type and character of the Service Connection it is prepared to supply to the Customer, and any conditions (including without limitation, payments by the Customer) that must be satisfied as a condition of installation of a Service Connection and supply of Water Services.

3.3 Other Occupants Liability for Payment and Change of Customer of Record

Where the Customer of Record for a premise has vacated the premise or defaulted on payment of a bill for Water Service, other occupant(s) of the premise who continue to receive Water Service shall be deemed to be the Customer(s) and shall be liable for payment for Water Service provided in accordance with Schedule 1.

When a prospective Customer is applying for Water Service or an existing Customer has applied for the received Water Service at a premise and the preceding Customer for the premise has a history of non-payment, EWSI may request the prospective Customer or the current Customer to provide additional information requested by EWSI to determine the identity, organization and/or control of the person(s) occupying the premise, including, but not limited to, lease agreements and records describing the organization and control of business entities occupying the premise.

3.4 Rejection of Application for Water Services or Service Connection

EWSI may, without limitation, reject any Customer's request for a Service Connection or for Water Services when:

- (a) the Customer does not have currently in effect all approvals that may be required for the installation of the Service Connection;
- (b) the Customer refuses to enter into a Water Services Agreement or other form of agreement acceptable to EWSI;
- (c) any representation made by the Customer to EWSI for the purpose of obtaining a Service Connection, Water Services, or a continuation of Water Services is, in EWSI's reasonably held opinion, fraudulent, untruthful or misleading;

- (d) the Customer has not, when requested by EWSI to do so, provided a signed written application for Water Services;
- (e) the type of Water Services or Service Connection applied for is not available or not normally provided by EWSI in the locality where the Water Services or Service Connection is requested;
- (f) the requirements of the Water Services Guidelines have not been met;
- (g) the proposed Water Services or Service Connection, in EWSI's reasonably held opinion, has unusual characteristics that might adversely affect the quality of Water Services supplied to other Customers, public health or safety, the health or safety of EWSI's personnel, or the safety or reliability of any other Facilities or the Waterworks System;
- (h) a previous Customer at the site had a history of non-payment and EWSI believes, on reasonable grounds, that the defaulting Customer would continue to occupy the premises;
- (i) the Customer has an outstanding balance with EWSI for Water Services; or
- (j) the Customer has failed to provide the security required by EWSI.

3.5 Security Deposits

- (a) EWSI may at the time of a Customer's application for Water Services or at any time thereafter request a Customer to supply information reasonably required by EWSI to determine the Customer's credit history and/or credit risk. If a Customer fails to supply such information EWSI may refuse to supply, or discontinue supply of, Water Services to the Customer.
- (b) EWSI, in its sole discretion, may at the time of a Customer's application for Water Services or at any time thereafter require the Customer to post a security deposit or an increase to an existing security deposit in circumstances that may include, without limitation, the following:
 - late payment by the Customer for Water Services or other services provided by EWSI;
 - the Customer has issued more than one cheque or pre-authorized debit that has been returned for non-sufficient funds in any six month period;
 - (iii) there has been a significant increase in the Customer's rate of consumption of water;

- (iv) the Customer is applying for Turn On or for a new Water Services after having previously been Turned Off from Water Services for nonpayment;
- (v) the Customer making the application for Water Service has a credit rating that is not satisfactory to EWSI;
- (vi) the Customer is applying for a permit to use water from a fire hydrant; or
- (vii) the Customer has a permit to use water from a fire hydrant and is issued EWSI-owned equipment for use in connection with the hydrants.
- (c) EWSI, in its sole discretion, may determine that a Customer is not required to post a security deposit or is no longer required to maintain an existing security deposit, in circumstances that may include, without limitation, the following:
 - (i) the Customer has a good payment history with EWSI;
 - (ii) where a result satisfactory to EWSI is obtained from an external credit check; or
 - (iii) where the Customer provides to EWSI an indemnity bond or irrevocable letter of credit from a financial institution satisfactory to EWSI.
- (d) Unless extraordinary circumstances apply, the maximum security deposit EWSI will require from a Customer for Water Services not involving a new Service Connection is an amount equal to three times the amount EWSI estimates will be the average monthly billing to the Customer for Water Services. Notwithstanding this Section 3.5(d), if a Customer is required to post a security deposit pursuant to Section 3.5(b)(vii) above, then such amount shall be in addition to any other security deposit required under Section 3.5.
- (e) A deposit made by a Customer may be returned to the Customer after a satisfactory payment history over a period of 12 consecutive months or when the Customer's Water Services are terminated and the Customer's account is closed. Where a Customer's Water Services are terminated and the Customer's Account is closed for non-payment, prior to any refund, the deposit will be applied to the balance owing by the Customer to EWSI.
- (f) EWSI will pay to a Customer as soon as practicable after the end of each calendar year, or after the Customer's Account is closed, simple interest on the daily balance of any cash deposit held by EWSI in respect of the

Customer. The interest rate applicable to such payments is the interest rate specified under the *Residential Tenancies Act*, SA 2004, c R-17.1.

3.6 Customer Contracts

(a) Water Services Agreement

EWSI may, in its sole discretion, require a Customer previously connected or seeking to connect to the Waterworks System to sign a Water Services Agreement in respect of a Service Connection, as a condition of receiving or continuing to receive a Service Connection or Water Services.

(b) Assignment of Contractual Obligations

All Water Services, whether or not they require EWSI's assignment consent, that are properly assigned or otherwise transferred to a corporate Customer's affiliate or successor taking over the operation of a Customer's business and operations at premises subject to a pre-existing Account, shall be subject to the terms of the Customer's Water Services Agreements and billing history. Any change in service requirements as a result of such assignment or transfer shall be made in accordance with these Terms and Conditions. The existing contractual arrangements will remain in place until any new agreements have been approved and accepted by both parties.

3.7 Authorizations and Approvals for Service Connection

The Customer shall be responsible for obtaining all permits, certificates, licenses, inspections, reports, and other authorizations necessary for the installation and operation of the Service Connection. EWSI shall not be required to commence or continue installation or operation of a Service Connection unless and until the Customer has complied with the requirements of all governmental authorities, permits, certificates, licenses, inspections, reports and other authorizations, all right-of-way agreements, and all of EWSI's requirements applicable to the installation and operation of the Service Connection. EWSI reserves the right to verify that all necessary authorizations have been obtained by Customers.

3.8 Temporary Water Service and Construction Water Service

- (a) Where EWSI reasonably believes that a requested Water Service will be temporary, it may require the Customer requesting the Water Service to pay to EWSI in advance of construction the estimated cost of the necessary Facilities plus the estimated cost of installation and removal of Facilities, less the value of any salvaged material.
- (b) EWSI will provide temporary, unmetered Water Service wherever practicable to a Customer for purposes of facilitating construction of a new development. The Customer will pay a rate, charge or fee for such Water

Services based on the total cost of construction of the development, as specified in the Price Schedule. A Customer who is receiving unmetered Water Service for the construction phase of a development ceases to be entitled to take unmetered Water Service at the construction rate and is required to apply for metered Water Services when

- (i) a City occupancy permit is issued for the development; or
- (ii) the development is being used for its intended purpose;

whichever event occurs first.

(c) Where a Customer fails to apply for metered Water Services as required by this section, EWSI may bill the Customer retroactively for the unmetered water as if it were metered Water Services from the date a City occupancy permit was issued or the date upon which the development began to be used for its intended purpose, whichever is earlier. EWSI shall determine the retroactive billing by reasonably estimating the Customer's consumption.

3.9 Scheduling for Service Connection

EWSI shall schedule Customers for Service Connection in accordance with the Water Services Guidelines, after:

- (a) the Customer has complied with EWSI's application requirements;
- (b) the Customer has complied with the requirements of all applicable construction and safety standards, applicable legislation and regulations, including City of Edmonton bylaws; and
- (c) the Customer's application for Water Services has been accepted by EWSI.

3.10 Customer to Notify EWSI of Changes

When a Customer has a change of name or contact information, (including without limitation: mailing address, telephone number(s), e-mail address) the Customer must immediately notify EWSI of such change. EWSI reserves the right to require that such notification be made in writing

3.11 Customer Usage Information

(a) EWSI shall provide standard Customer Usage Information to a Customer, or to an agent acting on behalf of a Customer, upon request and in the case of an agent only after receiving written consent to such disclosure from the Customer in a form satisfactory to EWSI, for the 12-month period preceding the date of the request or for such shorter period for which EWSI has collected that information.

(b) EWSI shall not be obligated to provide Customer Usage Information for a period greater than 24 months prior to the date of request. If a Customer requests Customer Usage Information for any time earlier than 24 months prior to the date of request, EWSI may in its sole discretion charge a fee for retrieving and supplying the information requested.

ARTICLE 4 - WATER SERVICE REQUIREMENTS AND FACILITIES

4.1 **Protection of EWSI's Facilities and Property of Other Customers**

(a) No Interference with Facilities

The Customer shall not install or allow to be installed on property owned or controlled by the Customer any temporary or permanent structures, fences or landscaping that could interfere with the proper and safe access to, or operation of EWSI's Facilities or result in non-compliance with applicable statutes, regulations, standards or codes.

Only an employee or authorized agent of EWSI shall remove, operate, or maintain EWSI Facilities. A Customer shall not obstruct access to or interfere with or alter any Meter, seal or other Facility or permit the same to be done by any person other than an employee or authorized agent of EWSI. If a Customer or a person authorized by a Customer fails to comply with this provision, the Customer is responsible to pay the applicable Service Charge and the cost of repairing or otherwise remedying any damage to or loss of Facilities located on the Customer's premises or premises controlled by the Customer, unless caused by circumstances, as determined in EWSI's sole discretion, to have been beyond the Customer's control.

(b) Protection of the Private Service Line, Equipment and Assets on Customer's Property

The Customer is solely responsible to take all necessary measures to prevent damage to the Private Service Line and any other equipment or assets connected to the Facilities on the Customer's property, including the EWSI Meter, due to any cause, including, without limitation, freezing and settlement or movement of the structure or soil through which the Private Service Line passes. EWSI shall not be liable for any repair, maintenance or replacement of any Private Service Line, except where damage to a Private Service Line is caused by a deliberate or negligent act of EWSI.

The Customer shall provide and maintain, at no cost to EWSI, the necessary space and protective barriers to safeguard Facilities installed or to be installed upon the Customer's premises. If the Customer refuses, EWSI may, at its option, provide and maintain such protective barriers, and charge the Customer for these Water Services. Such space, and protective barriers shall be in conformity with applicable laws and regulations and subject to EWSI's approval.

(c) Compliance with Requirements and Use of Service Connection

The Customer shall ensure that the Private Service Line and any other equipment or assets comply with the requirements of any applicable code or regulation and with the Water Services Guidelines. The Customer shall not use a Service Connection or any Water Services received in a manner so as to cause interference with any other Customer's use of a Service Connection or Water Services. At EWSI's request, a Customer shall take whatever action is required to correct such interference or disturbance at the Customer's expense.

(d) Customer to Pay Relocation Costs

The Customer shall pay all costs of relocating EWSI's Facilities at the Customer's request, if such relocation is for the Customer's convenience, or if necessary to remedy any violation of law or regulation caused by the Customer. If requested by EWSI, the Customer shall pay the estimated cost of the relocation in advance.

(e) Water Service to a New or Previously Unserviced Building on a Serviced Lot by an Extension of Existing Water Services

A Customer may, at their own expense, provide Water Services to a new or previously unserviced building on a serviced lot through an extension to an existing Water Service provided that:

- (i) the extension does not cross the property line on which the existing service is located;
- (ii) the connection to the Private Service Line occurs after the Meter;
- (iii) the water consumption for all of the buildings on the lot will be measured through one Meter, and billed together through a single account with EWSI's Billing Agent; and
- (iv) the Private Service Line must comply with the Alberta Safety Codes Act, the National Plumbing Code of Canada and other applicable legislation or codes.
- (f) Water Service to a New or Previously Unserviced Building on a Serviced Lot by a New Service Connection

A Customer may, at their own expense, provide Water Services to a new or previously unserviced building on a serviced lot through a new Service Connection provided that:

(i) each building on the lot has its own Meter, meter setting and unique site address;

- (ii) the new or previously unserviced building complies with the requirements of Article 8.1(b)
- (iii) each Service Connection on the lot is connected to the Facilities by a separate Private Service Line; and
- (iv) the Private Service Lines referred to in sub clause (iii) are not interconnected.
- (g) Prohibited Extension of the Private Service Line, Piping, Equipment or Assets

A Customer shall not extend or permit the extension of a Private Service Line or any other customer-owned piping, equipment or other assets that are connected directly or indirectly to the Waterworks System, beyond the separately titled lot or parcel of land in respect of which they are used to supply Water Services through a Service Connection Point.

ARTICLE 5 - EASEMENTS, RIGHTS-OF-WAY, AND USE OF AND ACCESS TO FACILITIES

5.1 Easements and Rights-of-Way

At the request of EWSI a Customer shall grant or cause to be granted to EWSI, without cost to EWSI, such easements or rights-of-way over, upon or under property owned or controlled by the Customer as EWSI reasonably requires for the construction, installation, maintenance, repair, and operation of the Waterworks System.

5.2 Right of Entry

(a) EWSI's employees, agents and other representatives shall have the right to enter a Customer's premises at all reasonable times, or at any time during an event of Force Majeure, for the purpose of installing, maintaining, replacing, testing, monitoring, reading or removing EWSI's Facilities and for any other purpose incidental to the provision of Water Services. A Customer shall not prevent or hinder EWSI's entry to the Customer's premises for any such purpose. Without limiting the generality of the foregoing,

EWSI has the right to enter a Customer's premises at any reasonable hour in order to:

- (i) install, inspect, test, read, repair, replace or remove Facilities;
- (ii) perform necessary maintenance to Facilities;

- (iii) investigate or respond to a Customer complaint or inquiry;
- (iv) conduct an unannounced inspection where EWSI has reasonable grounds to believe that theft of Water Services or interference with Facilities (including but not limited to a water Meter) has occurred or is occurring; and
- (v) take necessary corrective action to safeguard and maintain the Waterworks System.
- (b) EWSI will make reasonable efforts to notify the Customer in advance of entering a Customer's premises or to notify any other person who is at the Customer's premises and appears to have authority to permit entry, except:
 - (i) in cases of emergency;
 - (ii) where entry is permitted by order of a court or other authority having jurisdiction;
 - (iii) where otherwise legally empowered to enter;
 - (iv) where the purpose of the entry is in accordance with Section 5.2(a)(iv) and (v) of these Terms and Conditions.
- (c) EWSI may charge a "no access fee" sufficient to cover EWSI's reasonable costs, if EWSI's lawful entry to a Customer's premises is prevented or hindered, including without limitation where EWSI determines, in its sole discretion, the access to be unsafe, whether by a Customer not keeping a scheduled appointment or for any other cause.

5.3 Access to Waterworks System

- (a) A Customer shall be responsible for managing vegetation on the property owned or controlled by the Customer and to maintain adequate clearances to avoid interference with EWSI's Facilities.
- (b) A Customer shall not obstruct or hinder EWSI's free and direct access to any Facility, including without limitation any Service Connection, water main, valve, Curb Cock, fire hydrant, Meter or meter setting.
- (c) EWSI, in its sole discretion, may consider a safety issue as an obstruction or a hindrance to access to any Facilities and may notify the Customer of any conditions or actions required to enable access to the Facility.
- (d) Where a Customer contravenes any provision of Sections 5.1, 5.2 or 5.3 and fails to remedy such contravention within ten (10) days after receiving from EWSI a notice in writing to do so, then in addition to any other legal remedy available EWSI may take any steps necessary to remedy the

contravention and may charge any costs of so doing to the Customer's Account. These steps include, but are not limited to, turning off Water Services in accordance with Article 10 and charging a monthly no-access fee as set out in Schedule 1.

5.4 Customer Responsibility for Use of Facilities

- (a) A Customer shall not use the Waterworks System in a manner that interferes with any other Customer's use of the Waterworks System. At EWSI's request, the Customer shall take whatever action is required to correct any interference, disturbance or adverse effect at the Customer's expense.
- (b) No Customer shall install or allow any Cross Connection that could cause or allow drinking water, in any part of the Waterworks System to become contaminated or polluted in any way.
- (c) A Customer shall control Cross Connections by the installation, maintenance and testing of approved backflow prevention measures on any temporary or permanent connection to the potable water system, including fire lines starting at the point of service from the public potable water system and in a manner consistent with EWSI's Cross Connection Control Procedure Guide ("CCC Guide") amended from time to time to reflect changes to the industry standard and available on www.epcor.com.
- (d) A Customer must provide EWSI with 15 days advanced written notice of any use of superchlorinated water within their Private Service Line or any other customer-owned piping, equipment or other assets that are connected directly or indirectly to the Waterworks System.
- (e) Where EWSI determines that a Cross Connection prohibited by this Section exists, EWSI shall give notice to the Customer to correct the prohibited Cross Connection at the expense of the Customer within the time specified in the notice.
- (f) Where the Customer fails to correct the Cross Connection in accordance with the notice, fails to allow EWSI to access the Cross Connection or where a Customer fails to comply with the terms of EWSI's CCC Guide, in addition to any other penalties, the Customer shall be subject to the following:

(i) EWSI may Turn Off the prohibited supply of water for such time as the Cross Connection continues however, if the prohibited supply of water cannot, in EWSI's sole discretion, be turned off, EWSI may correct the Cross Connection at the expense of the Customer, including charges for estimated consumption; and/or

(ii) one or all of the following penalties:

Unauthorized Cross Connection	\$1,500
Failure to install authorized backflow preventer	\$2,000
Failure to test a backflow preventer	\$1,500
Failure to retain test records on site	\$500
Failure to submit a passed backflow preventer test report within 30 days	\$500
Failure to submit a failed backflow preventer test report within 2 days	\$500
Failure to replace a failed backflow preventer within 96 hours of notification	\$1,500
Failure to allow access to site	\$500

- (g) A Customer will not use water from the Waterworks System, or allow water obtained from the Waterworks System to be used:
 - (i) in an unauthorized manner;
 - (ii) in a manner that will impede water use by other Customer;
 - (iii) unless an Account has been opened by the Customer;
 - (iv) unless the water has first passed through a water Meter, except in the case of unmetered Water Service in the construction phase of a development only.
- (h) If EWSI finds any unauthorized use of the Service Connection or Water Services or any tampering with a Meter, a seal or any other EWSI Facilities or unauthorized connection or reconnection, theft, fraud, or any intentional or unintentional use of water or Water Services whereby EWSI is denied full compensation for the Water Services provided, EWSI may make changes to its Meters, or other Facilities or take other corrective action required in order to prohibit the unauthorized use of the Facilities.
- (i) Upon finding any unauthorized use of water, EWSI may Turn Off the Service Connection immediately, without notice and shall charge the Customer all

costs incurred in correcting the condition, in addition to any charges for unmetered water consumed and any other rights and remedies which may be available to EWSI.

- (j) A Customer that uses water in contravention of this Section shall pay the following charges:
 - (i) The applicable rate for the water used, in accordance with the Price Schedule, and where necessary due to lack of metered data based on an estimate by EWSI of the amount of water used;
 - (ii) all costs incurred by EWSI in dealing with the contravention;
 - (iii) any other charge, fee or penalty provided by the Price Schedule, these Terms and Conditions and any applicable law or regulation.

ARTICLE 6 - WATERWORKS SYSTEM EXTENSIONS

6.1 Estimated Cost

Upon a Customer's request for a new or upgraded Service Connection involving construction of new Facilities or an extension to the Waterworks System, EWSI shall prepare a proposal outlining the estimated cost of the Service Connection including all necessary new Facilities or extensions to the Waterworks System.

Where a Customer-requested new or upgraded Service Connection requires cross-lot servicing, EWSI may in its sole discretion decline to construct the Service Connection..

6.2 Agreement in Writing for Waterworks System Extension

A new or upgraded Service Connection involving new Facilities or an extension to the Waterworks System shall not be constructed unless the Customer has executed a Water Services Agreement for the proposal with EWSI.

6.3 Customer Payment for Waterworks System Extension Costs

Unless otherwise specified:

- (a) in a Water Services Agreement; or
- (b) under the provisions of a water main cost sharing program offered by EWSI;

the full cost of any new Facilities or extensions to the Waterworks System shall be paid by the Customer whose new or upgraded Service Connection gives rise to the need for the new Facilities or extension to the Waterworks System.

6.4 Changes to Amount Payable by Customer

Following construction completion, and placing the new Facilities into pursuant to Article 6 hereof, the amount payable by the Customer will be changed to the actual full cost of the new Facilities. Where the actual full cost exceeds the estimate, EWSI will provide the customer with a written explanation for the change.

ARTICLE 7 - WATER SERVICE CONNECTIONS

7.1 Engineering, Design and Construction Requirements for Service Connections

- (a) Unless otherwise specified in a written agreement between EWSI and the Customer, it is the Customer's responsibility to supply at the Customer's cost:
 - (i) any plans and engineering reports pertaining to the Service Connection that EWSI may reasonably require, signed and sealed by a Professional Engineer;
 - (ii) an engineering report describing the design, construction and materials proposed, including measures to prevent adverse effects of contaminated soils, groundwater, or adverse soil conditions on the Waterworks System;
 - (iii) proof to EWSI's satisfaction, that the Service Connection and the Private Service Line meet all requirements of these Terms and Conditions, the Design and Construction Standards and the Water Services Guidelines, and conform to the requirements of all applicable legislation including municipal bylaws and regulations;
 - (iv) in the case of a Service Connection that is 40 mm (1 ½ inches) or larger in diameter, proof of satisfactory bacteriological test results for the Water Service from a laboratory accredited to perform such tests by the Province of Alberta, approved, signed and stamped by a Professional Engineer.
- (b) The Customer shall be responsible for the installation and condition of the Private Service Line and all other piping and equipment or any other assets on the Customer's side of the Service Connection Point excluding the Meter that is owned by EWSI.
- (c) The Customer shall determine whether he requires any devices to protect his premises or property from damage that may result from the use of a Service Connection or Water Services. The Customer shall provide and install any such devices at the Customer's sole expense provided that they do not obstruct or interfere with EWSI's Facilities.

- (d) The Customer shall provide EWSI with written notice of plans to demolish a structure within 5 days following the Customer's application for a demolition permit for that structure from the City of Edmonton.
- (e) For the Customer sites described in sub-article 7.1(d), the Customer shall ensure that its Private Service Line is comprised of materials as prescribed in the Water Services Guidelines.

7.2 Multiple Dwellings

- (a) EWSI may require that each individual Dwelling within a Multiple Dwelling be metered separately and that a separate Account be opened in respect of each such Dwelling, regardless of the number of Service Connections through which water is delivered to the Multiple Dwelling.
- (b) Where EWSI and a Customer enter into a Water Services Agreement or other agreement in writing that provides for Water Service to a Multiple Dwelling to be delivered through a single Service Connection and measured by a single Meter at or downstream of that Service Connection Point, the applicable multi-residential rate in the Price Schedule will apply to the Water Service.
- (c) If a building has more than one self-contained unit, served by multiple Private Service Lines or by a Private Service Line with multiple branches, EWSI may require each self-contained unit to be metered separately and an Account to be opened in respect of each such Meter with the appropriate fire line and lawn services also put into Account.

ARTICLE 8 - METERS

8.1 Installation of Meters

(a) Provision and Ownership

EWSI shall supply, install, and seal one or more Standard Meters for the purpose of measuring the volume of water delivered to a Customer by way of a Service Connection subject to the following exceptions:

- (i) a Customer may decline the installation of a Standard Meter on request to EWSI provided that:
 - (a) the Customer receives Water Services at a site that is a Dwelling or Multiple Dwelling without a multiple-meter installation; and
 - (b) EWSI has regular, ongoing and safe access to the Non-Standard Meter.

- (ii) a Customer may request that a Standard Meter be replaced with a Non-Standard Meter on written request to EWSI provided that:
 - (a) the Customer receives Water Services at a site that is a Dwelling or Multiple Dwelling without a multiple-meter installation; and
 - (b) EWSI has regular, ongoing and safe access to the Non-Standard Meter.

The Standard Meter, Non-Standard Meter and related metering equipment shall remain the sole property of EWSI, regardless of whether the Customer has paid or reimbursed all or any part of EWSI's costs of supply and installation.

Any Customer that is subject to the exceptions listed in (i) and (ii) above shall be required to pay the Non-Standard Meter Reading Fee as set out in Schedule 1. In addition, a Customer shall be required to pay the Non-Standard Meter Reading Fee as set out in Schedule 1 upon a Customer's deemed refusal of the installation of a Standard Meter. A Customer is deemed to have refused the installation of a Standard Meter if the Customer does not respond to EWSI's reasonable communication efforts, as determined by EWSI, for the installation of the Standard Meter. Any Customer that is subject to the exception listed in (ii) above shall be required to pay the Non-Standard Meter Installation Fee as set out in Schedule 1.

A Customer at a site that is metered by a Non-Standard Meter that has declined the installation of a Standard Meter may at any time request that EWSI install a Standard Meter at that site.

(b) Responsibility of Customer

Each Customer shall ensure that a location on or in the Customer's premises for Meter installation is provided, complete with an EWSI approved meter setting, as prescribed by Design and Construction Standards, and that safe and easy access to the Meter is provided for the purpose of reading or servicing the Meter, in accordance with all applicable requirements of the Water Services Guidelines as amended from time to time. The Meter location shall provide protection from freezing and physical damage. The Customer shall be liable for all Water Services received in connection with a burst Customer Meter resulting from inadequate protection.

All Meter installations, including placement, shall comply with EWSI's approved meter settings as prescribed by the Design and Construction Standards. Where the Customer fails to comply with the Design and Construction Standards, the Customer shall be subject to Turn Off in accordance with Article 10.2.

8.2 Access to Meters

EWSI may, at any reasonable time, access, read, inspect, replace, remove or test a Meter installed on or in property owned or controlled by the Customer.

8.3 Meter Testing

- (a) At the request of a Customer, EWSI shall arrange for on-site Meter verification and if necessary, shall arrange for a Meter to be tested by a person qualified to perform such work. EWSI shall charge a fee for responding to such Customer requests, as set forth in the Price Schedule. If, upon verification and/or testing, the Meter is found to be recording accurately (which for this purpose is defined as recording between 97% and 103% of actual consumption) then EWSI shall retain the fee. If the Meter is found to be recording inaccurately, outside the limits of 97% to 103%, then EWSI will refund the fee to the Customer and make adjustments to previous billings for Water Services, as required.
- (b) EWSI may at any time inspect, replace or test any Meter, on its own initiative, without a Customer request. In such case no fee is payable by the Customer.

8.4 Circumvention of Meter

If under any circumstances, a person other than an employee or agent of EWSI, prevents a Meter from accurately recording the total volume of water supplied, EWSI may Turn Off the Water Services or take any other appropriate actions to ensure accurate operation of the Meter. In the foregoing circumstances EWSI may estimate the quantity of water supplied but not recorded by the Meter. The Customer shall pay the cost of the estimated water consumption plus all costs related to the investigation and resolution of the matter.

8.5 Changes to Metering Equipment

- (a) Upon receipt of a written or verbally recorded request by a Customer, EWSI may provide metering services, other than standard metering service, in its discretion, acting reasonably, and may charge separate fees for such services. Following EWSI's acceptance of such a request, EWSI shall supply, install, test, replace and maintain the requested metering equipment. The Customer shall bear the cost of providing and installing the requested metering equipment, and the costs of operation and maintenance.
- (b) The Metering equipment shall become the property of EWSI and will be maintained by EWSI. EWSI shall bill the Customer prior to installation and the Customer shall prepay the cost of installation at least fifteen (15) Business Days prior to proposed installation date. If payment is not received

by fifteen (15) Business Days prior to the proposed installation date, EWSI shall have no obligation to proceed with the installation.

8.6 Stop and Waste Valves

It is the Customer's responsibility to ensure that the site's stop and waste valve is fully operational prior to the start of any metering services including, without limitation, installation, replacement, removal or testing of Meters.

ARTICLE 9 - CHANGES TO SERVICE CONNECTIONS OR OTHER FACILITIES

9.1 Requirement to Give Notice of Changes to Water Service Requirements

A Customer shall give to EWSI reasonable prior notice, written or verbally recorded, of any requested change to a Service Connection, to enable EWSI to determine whether or not it can accommodate such revised Water Service without changes to other EWSI Facilities.

9.2 Customer to Bear Cost of Changes to EWSI Facilities

If EWSI determines that any modifications, extensions or additions are required to existing Facilities to accommodate:

- (a) a Customer's request for change to a Service Connection; or
- (b) any material change to a Customer's consumption of water or use of Water Services, regardless of whether the Customer requests a change to the Service Connection

the Customer is obligated to pay the full cost of such modifications, extensions or additions to Facilities, unless otherwise specified in a Water Services Agreement or under the provisions of a water main cost sharing program offered by EWSI.

9.3 Adjustment of Curb Cock Casing to Grade

Upon the request of the Customer, EWSI shall within a reasonable time adjust a Curb Cock casing to grade at no charge. The Customer shall be responsible for any loss or damages arising from a Curb Cock casing protruding above grade, where no request for adjustment has been received by EWSI, or where a reasonable time for EWSI to complete the adjustment has not elapsed.

ARTICLE 10 - WATER SERVICE TURN OFF AND TURN ON

(a) A Turn Off does not remove the water present in a Customer's Private Service Line, equipment or other assets downstream of the Service Connection Point. It is the Customer's responsibility to drain or to otherwise protect the private assets in a manner suitable for the Customer's purposes following the Turn Off.

(b) It shall be the Customer's responsibility to monitor the Turned Off supply for residual flow of water and to take any measures necessary to accommodate with any residual flow.

10.1 Turn Off at Customer Request

(a) Temporary Turn Off

Upon the request of the Customer and subject to payment of the applicable Water Services Turn On/Turn Off Charge(s), EWSI may temporarily Turn Off any Service Connection, provided that:

- the Customer is obligated to pay any costs incurred by EWSI as a direct result of a Customer's idle Service Connection that will not otherwise be recovered;
- the Customer is obligated to pay for services and associated fees and charges as required by City of Edmonton Bylaw 13777, as amended;
- (iii) upon a request to restore Water Service, the Customer is obligated to pay any applicable charges outlined under section 10.3; and
- (iv) if the Service Connection remains Turned Off for more than twelve (12) months, it will be considered permanently Turned Off and all costs related to providing a new Service Connection will apply to any request from the same or any other Customer to restore the Service Connection.
- (b) Permanent Turn Off

If a Customer requests that a Service Connection be permanently Turned Off, or if a permanent Turn Off is deemed to have occurred pursuant to Section 10.1(a)(iv), the Customer billing for that Water Service will be finalized. At the discretion of EWSI, the Facilities provided by EWSI will be removed provided that the Customer remains obligated to pay for services and associated fees and charges as required by City of Edmonton Bylaw 13777, as amended.

If the Customer subsequently requests that the Service Connection be restored, the Customer must pay all costs associated with the original Turn Off, removal of the Facilities and restoration of the Service Connection.

10.2 Turn Off by EWSI

(a) Turn Off without Notice

If EWSI believes there is any actual or potential danger to life or property, or in any other circumstances which in EWSI's sole judgement require such action, EWSI has the right to withhold Turn On or to Turn Off a Customer's Service Connection without prior notice to the Customer. More specifically, and without limitation of the foregoing, EWSI may exercise this right in the event that:

- (i) in the opinion of EWSI, the Customer has permitted the Private Service Line or any other Customer owned equipment or assets to become hazardous or to fail to comply with applicable law, standards and codes and/or EWSI requirements, or if the use of the Service Connection may cause damage to any other Facilities;
- (ii) in the opinion of EWSI, the Private Service Line, or any other Customer owned equipment or assets have or will become unsafe or defective. In this event, the Service Connection may not be restored until the Customer owned assets are approved by the appropriate authority;
- (iii) EWSI discovers or suspects theft by the Customer of any Water Services or EWSI Facilities;
- (iv) EWSI discovers or suspects any tampering with a Meter, a seal or any other EWSI Facilities;
- (v) EWSI requires access to change its Service Connection, Meter or any other equipment to deliver Water Services in a manner consistent with these Terms and Conditions of Service; or
- (vi) the Customer changes requirements for a Service Connection or Water Services without the permission of EWSI.

When the reason for Turn Off is a concern for the health or safety of the Customer, EWSI's employees or agents, or the general public, EWSI will Turn On the Water Service only when the health or safety concern is resolved and when the Customer has provided, or has paid EWSI's costs of providing, services, permits, authorizations, devices or equipment as may be necessary to resolve the health or safety concern.

(b) Turn Off with Notice

EWSI may withhold Turn On or may Turn Off a Customer's Service Connection (without prejudice to any of EWSI's other remedies) after

providing forty-eight (48) hours advance notice to the Customer, as applicable, in the following circumstances:

- (i) if the Customer fails to pay any amount due under these Terms and Conditions, except when the Customer has formally initiated a dispute of the amount due, in writing;
- (ii) as required by law;
- (iii) if the Customer is in violation of any of these Terms and Conditions or any of the terms of a Water Services Agreement with EWSI;
- (iv) any other circumstances that EWSI determines, in its sole discretion, acting reasonably, require the withholding Turn On or Turn Off of the Service Connection upon forty-eight (48) hours notice.
- (c) If a Customer's Service Connection is subject to a Turn Off pursuant to this Section 10.2(a), EWSI shall provide a written explanation to the Customer within a reasonable time after Turn Off, including the reason for Turn Off and the actions required for Turn On.

10.3 Turn On of Water Service

Before EWSI Turns On or restores Water Service, the Customer shall:

- (a) pay any amount owing to EWSI including written off accounts;
- (b) pay a Turn On charge in an amount set out in the Price Schedule; and
- (c) be in compliance with these Terms and Conditions or any of the terms of a Water Services Agreement with EWSI.

10.4 Removal of Facilities

Upon termination of Water Service, EWSI shall be entitled to remove any of its Facilities located upon the property of the Customer and to enter upon the Customer's property for that purpose.

ARTICLE 11 - CLOSING AN ACCOUNT

The Customer shall pay all fees and charges remaining on the account including all Water Services provided up to the time of the Customer's requested end-ofservice date and any further fees and charges that accrue prior to the point at which the site is enrolled with a subsequent Customer.

ARTICLE 12 - GENERAL RESTRICTIONS AND PROHIBITIONS

(a) Except for water obtained from the Waterworks System which has been enhanced or altered in a lawful manner for resale, no Customer or other

person shall resell water obtained from the Waterworks System to any other person except in accordance with the terms and conditions of an executed written agreement with EWSI.

- (b) No Customer or other person shall construct or allow to be constructed more than one Service Connection to any premises without prior written consent of EWSI.
- (c) A Private Service Line must not cross from one separately titled property to another separately titled property even if these properties are owned by the same person. This includes properties on which buildings straddle existing property lines.
- (d) No Customer or other person shall install or cause to be installed a branch line or tap between a Meter and the Service Connection.
- (e) No person shall take or use water from the Waterworks System in contravention of an Order issued pursuant to the provisions of Section 14.6 of these Terms and Conditions.

ARTICLE 13 - LIABILITY AND INDEMNIFICATION

13.1 Limitation of EWSI Liability

- Notwithstanding any other provision of these Terms and Conditions or any (a) provision of any agreement between EWSI and a Customer relating to the provision of Water Services (an "EWSI Agreement") EWSI, its directors, officers, agents, employees and representatives ("EWSI Parties") shall not be liable to the Customer, its directors, officers, agents, employees and representatives ("Customer Parties") for any loss, injury, damage, expense, charge, cost or liability of any kind, including without limitation, liability for nuisance or any other tort that does not require a finding of intention or gross negligence, suffered or incurred by the Customer Parties, or any of them, whether of a direct, indirect, special or consequential nature, however or whenever caused, and whether in any way caused by or resulting from the acts or omissions of the EWSI Parties, or any of them, except for direct property damages incurred by the Customer as a direct result of a breach of these Terms and Conditions or applicable EWSI Agreement or other act or omission by an EWSI Party, which breach or other act or omission is caused by the gross negligence or intentional tort of such EWSI Party.
- (b) Any liability under this Section will be limited to an amount in proportion to the degree to which the EWSI Party is determined to be at fault. For the purpose of the foregoing and without otherwise restricting the generality thereof, "direct property damage" shall not include loss of revenue, loss of profits, loss of earnings, loss of production, loss of contract, cost of capital,
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and loss of use of any facilities or property, or any other similar damage or loss whatsoever.

- (c) For greater certainty and without limiting the generality of the foregoing, EWSI is not liable for any loss, damage or physical harm to any person (except where caused by the gross negligence or intentional tort of an EWSI Party) and arising from or caused directly or indirectly, in whole or in part, by:
 - (i) any substandard condition or quality of water caused by any thing occurring downstream of a Service Connection Point;
 - (ii) any failure, defect, fluctuation, reduction or interruption in the provision of Water Services by EWSI to its Customers, whether resulting from the break or malfunction of any watermain, service, Meter, Private Service Line or attachment, or from the interruption in or cessation of water supply in connection with the repair or proper maintenance of the Waterworks System or for purposes of water conservation of for any other cause.
- (d) All limitations, protections and exclusions of liability contained in any provincial or federal legislation are in addition to and not in derogation of or substitution for the limitations of EWSI's liability contained in these Terms and Conditions.

13.2 Release

Subject to Section 13.1 above, none of the EWSI Parties (as defined above) will be liable to any of the Customer Parties (as defined above) for any damages, costs, expenses, injuries, losses, or liabilities suffered or incurred by the Customer Parties or any of them, however and whenever caused, and each Customer Party hereby forever releases each of the EWSI Parties from any liability or obligation in respect thereof.

13.3 EWSI Not Liable to Customer

For greater certainty and without limitation to the provisions of Sections 13.1 and 13.2, EWSI Parties shall not be liable to a Customer for any damages of any kind (except to the extent the damages are caused by the gross negligence or intentional tort of an EWSI Party) caused by or arising from any EWSI Party's act in compliance with, or as permitted by, these Terms and Conditions, a Water Services Agreement, or any legal or regulatory requirement related to provision of Water Services.

13.4 Customer Liability

- (a) In addition to any other liability provisions set out in these Terms and Conditions or any provision in a Water Services Agreement or any other agreement between a Customer and EWSI, a Customer Party (as defined above) shall be liable for any damages, costs, expenses, injuries, losses, or liabilities suffered or incurred by EWSI Parties (as defined above), whether of a direct or indirect nature, caused by or arising from any acts or omissions of an Customer Party that result in a breach ("Breach") of these Terms and Conditions or the applicable agreement, or any negligent or wilful acts or omissions of harm of a Customer Party whether or not they constitute a Breach.
- (b) A Customer shall indemnify and hold EWSI and its employees and agents harmless from and against any claim (including any claim by another Customer of EWSI) for any loss, damage, expense, charge, cost (including legal fees), fine, penalty or other liability of any kind suffered or incurred by EWSI arising out of or in any way connected with
 - (i) any failure by the Customer to comply with these Terms and Conditions,
 - (ii) any damages to EWSI's Facilities or the facilities of another Customer caused by equipment installed or actions taken or failed to be taken by the Customer;
 - (iii) any claim, damages, or loss suffered by the Customer as a result of any act or omission of the Agent acting for such Customer.
- (c) Any claim by a Customer for direct losses, damages, expenses, charges, costs or other liabilities not barred or restricted under these Terms and Conditions must be communicated in writing to EWSI within 180 days from the date of occurrence of the incident giving rise to the claim or the date on which the Customer ought reasonably to have become aware of the occurrence or incident, failing which EWSI shall have no liability or responsibility whatsoever to the Customer in respect of the claim.

13.5 Force Majeure

(a) Force Majeure Relief

If an event or circumstance of Force Majeure occurs that affects EWSI's ability to provide a Service Connection or Water Services, EWSI's obligations and responsibilities hereunder and under any agreement relating to Service Connections or provision of Water Services, so far as they are affected by the Force Majeure or the consequences thereof, shall be suspended until such Force Majeure or the consequences thereof are remedied and for such period thereafter

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as may reasonably be required to restore the Service Connection or Water Services. The Minimum Charge, if applicable, will continue to be payable during the period in which EWSI claims relief by reason of Force Majeure.

(b) Notice

EWSI shall where practicable give notice of an event of Force Majeure to Customers affected and shall where practicable give notice to Customers affected when the Force Majeure event ceases to prevent performance of EWSI's obligations.

(c) Obligation to Remedy

EWSI shall promptly remedy the cause and effect of the Force Majeure insofar as it is reasonably able to do so.

(d) Strikes and Lockouts

Notwithstanding any other provision of these Terms and Conditions, the settlement of any strike, lockout or other industrial disturbance shall be wholly in the discretion of EWSI and EWSI may settle such strike, lockout or industrial disturbance at such time and on such terms and conditions as it may deem appropriate. No failure or delay in settling such strike, lockout or industrial disturbance shall constitute a cause or event within the control of EWSI or deprive EWSI of the benefits of this Section 13.5.

ARTICLE 14 - ADDITIONAL PROVISIONS RELATING TO WATER SERVICES

14.1 Ownership of Facilities

EWSI remains the owner of all Facilities necessary to provide Water Services to Customers, to and including the Service Connection point, unless a written agreement between EWSI and a Customer specifically provides otherwise. Payment made by a Customer for costs incurred by EWSI in installing Facilities does not entitle the Customer to ownership of any such Facilities, unless a written agreement between EWSI and the Customer specifically provides otherwise.

14.2 Special Provisions with Respect to City of Edmonton

- (a) EWSI may appoint the City's Infrastructure Services as its sub-contractor or agent for provision of some or all Service Connections required to be carried out by EWSI, provided however that EWSI may rescind or modify the scope of such appointment at any time, and provided also that such appointment does not have the effect of making these Terms and Conditions applicable to the City's Infrastructure Services.
- (b) The City shall not be obligated to pay EWSI for any water supplied by EWSI to the City for firefighting purposes.

14.3 **Proper Use of Water Services**

The Customers assume full responsibility for the proper use of the Service Connection and Water Services provided by EWSI and for the condition, suitability and safety of any and all Facilities on the Customer's premises or on premises owned by the Customer or premises controlled but not owned by the Customer. The Customer shall be liable for any loss, damage, expense, charge, cost or other liability of any kind, whether to EWSI, its agents or employees, EWSI property or otherwise, arising directly or indirectly by reason of

- (a) the routine presence of water under pressure in the Waterworks System,
- (b) the routine use of water delivered through the Waterworks System,
- (c) the Customer's improper or negligent use of water or Water Services or Facilities, or
- (d) the negligent acts or omissions or wilful acts or omissions of the Customer or any person permitted on the Customer's property.

14.4 Compliance with Applicable Legal Authorities

EWSI and all Customers are subject to, and shall comply with, all applicable federal, provincial and local laws, and all applicable orders or other actions of governmental authorities having jurisdiction. EWSI's obligation to provide or continue to supply a Service Connection or Water Services or to Turn Off a Service Connection or otherwise terminate Water Services, in respect of any Customer, is subject to the condition that all requisite governmental and regulatory approvals for the supply or continued provision of the Service Connection or Water Services or for their Turn Off or termination are obtained and in force.

14.5 Interference with EWSI's Property

No one other than an employee or authorized agent of EWSI shall be permitted to remove, operate, or maintain Meters and other Facilities owned by EWSI. A Customer shall not interfere with or alter Meters, seals, or other Facilities or permit the same to be done by any person other than the authorized agents or employees of EWSI.

14.6 Water Service Interruptions and EWSI Obligation to Respond

(a) While EWSI takes all reasonable efforts to guard against Water Services interruptions, it does not guarantee uninterrupted Water Services or any particular standard of Water Services. EWSI shall at any time, without liability whatsoever to any Customer, have the right to discontinue or otherwise curtail, interrupt or reduce Water Services to Customers whenever EWSI reasonably determines, or when EWSI is directed by an

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authority having jurisdiction, that such discontinuance curtailment, interruption or reduction is:

- (i) necessary to facilitate construction, installation, maintenance, repair, replacement or inspection of any of EWSI's Facilities;
- (ii) necessary to facilitate a Customer's construction, installation, maintenance, repair or replacement of its infrastructure used to receive Water Services;
- (iii) pursuant to non payment of amounts due and payable on a Customer's Account;
- (iv) necessary to maintain safety and reliability of the Waterworks System; or
- (v) due to any other reason including: dangerous or hazardous circumstances, emergencies, forced outages, the need to restrict or regulate water consumption for purposes of conservation of water, shortages or potential shortages of water supply, or Force Majeure.
- (b) EWSI shall use reasonable efforts to;
 - (i) provide notice of any Water Services reduction or interruption;
 - (ii) minimize such interruption duration and occurrences;
 - (iii) schedule planned interruptions as much as possible at times convenient to Customers; and
 - (iv) restore extended Water Service interruptions due to water main breaks, plugged or collapsed water lines or other reasons as soon as practicable.
- (c) EWSI is obligated to make reasonable efforts to respond to a Customer requested service call within a reasonable time, and to minimize Water Service interruptions to Customers. The Customer shall pay the cost of a Customer-requested service call and all related work if the cause of the problem is outside the Waterworks System and is not the direct result of an act or omission of an employee, contractor or agent of EWSI that is grossly negligent or an intentional tort.
- (d) Either EWSI or the City, or both of them jointly, may at any time issue an Order directing all Customers to cease or restrict use of water from the Waterworks System in the manner and for the period of time specified in the Order, and may cause such Order to be publicly disseminated via print or electronic media or by posting on the websites of EWSI or the City. A

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Customer is deemed to have received notice of such Order and to be aware of its content 24 hours after it is publicly disseminated, or at such sooner time as a copy of the Order is delivered to the Customer's service address as shown in the Customer's account by an employee, agent or other representative of EWSI or of the City.

14.7 Assignments

- (a) A Customer shall not assign any of its rights or obligations under these Terms and Conditions or a Water Services Agreement or any other agreement with EWSI relating to a Service Connection or Water Services without obtaining any necessary regulatory approvals and EWSI's approval where required in such agreement. No assignment shall relieve the Customer of any of its obligations under these Terms and Conditions until such obligations have been assumed by the assignee and EWSI has agreed to the assignment and novation. Any purported assignment by a Customer in violation of this section shall be void.
- (b) EWSI may assign all or any part of its rights or obligations under these Terms and Conditions or a Water Services Agreement, or any entitlement to payment under any Customer Account, to any Person with or without notice to the Customer.

14.8 No Waiver

The failure of EWSI or a Customer to insist upon strict performance of any provision of these Terms and Conditions or a Water Services Agreement or any other agreement between EWSI and the Customer relating to a Service Connection or Water Services, or to take advantage of any of its rights arising therefrom, shall not be construed as a waiver of any such provisions or the relinquishment of any such right or rights. No provision of these Terms and Conditions or a Water Services Agreement or any other agreement between EWSI and a Customer relating to a Service Connection or Water Services shall be deemed to have been waived, and no breach thereof shall be deemed to have been excused, unless such waiver or consent to excuse is in writing and signed by the party claimed to have waived or consented to excuse.

14.9 Law

These Terms and Conditions and any Water Services Agreement or other agreement between EWSI and a Customer relating to a Service Connection or Water Services shall be governed by the laws of the Province of Alberta and the federal laws of Canada applicable in the Province of Alberta, without regard to principles of conflicts of law. Any legal proceedings arising in connection with these Terms and Conditions or any other agreement relating to a Service Connection or Water Services shall be brought in the courts of the Province of Alberta.

Schedule 3

Performance Based Water Rates

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1.0 5-Year Term with Annual Adjustments Effective Each April 1st

This Schedule 3 sets out the Performance Based Regulation Plan and applies in respect of determinations and adjustments to the rates and charges under this Bylaw for the period from April 1, 2022 to March 31, 2027.

The rates and each component of, or adjustment to, the rates as set out below will be assessed on a calendar year basis. However, to meet the administrative requirements of compiling, verifying and reporting on results, actual rate adjustments will occur on April 1st of the year following the forecast year.

1.1 Consumption Charge

The consumption charges for the first year of the five year term, commencing April 1, 2022 are set out in Schedule 1 Part I – *Water Rates*. Commencing April 1st, 2023 and for each subsequent year on that date for each customer class of water service identified in Schedule 1 Part I – *Water Rates*, the consumption charge shall be adjusted. For each customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year") will be determined by the formula:

$$R_P X (1 + I_D) X (1 + I_F - 0.25\%) + R_S$$

Where,

- R_P means the rate that was in effect for a customer class during the 12 months immediately preceding April 1 of the Current Year;
- ID means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;
- IF means the forecast rate of inflation for the Current Year;
- Rs means the rate for a special rate adjustment as described in Sections 2.3 and 2.4 of this Schedule 3.

1.2 Fixed Monthly Service Charge

The fixed monthly service charges for the first year of the five year term, commencing April 1, 2022 are set out in Schedule 1 Part I – *Water Rates*. Commencing April 1st, 2023 and for each subsequent year on that date, for each customer class of water service identified in Schedule 1 Part I – *Water Rates* the fixed monthly service charge shall be adjusted in respect of the Current Year. The rate for the Current Year will be determined by the formula:

$$R_P X (1 + I_D) X (1 + I_F - 0.25\%) + R_S + Z$$

Where,

- R_P means the rate that was in effect for a customer class during the 12 months immediately preceding April 1 of the Current Year, before any non-routine adjustments are applied,
- ID means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year,
- I_F means the forecast rate of inflation for the Current Year,
- Rs means the rate for a special rate adjustment as described in Sections 2.3 and 2.4 of this Schedule 3.
- Z means a non-routine adjustment as described in Section 4.0 of this Schedule 3.

1.3 Public Fire Protection Monthly Charge

The Public Fire Protection Monthly Charge for the first year of the five year term, commencing April 1, 2022 are set out in Schedule 1 Part I – Water Rates. Commencing April 1st, 2023 and for each subsequent year on that date, the Public Fire Protection Monthly Charge identified in Schedule 1 Part I – *Water Rates*, shall be adjusted. For each customer class, the rate for the Current Year will be determined by the formula:

Where,

- R_P means the rate that was in effect during the 12 months immediately preceding April 1 of the Current Year;
- ID means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;
- IF means the forecast rate of inflation for the Current Year.

1.4 Service Charges

The service charges for the first year of the five year term, commencing April 1, 2022 are set out in Schedule 1 Part I – *Water Rates*. Commencing April 1st, 2023 and for each subsequent year on that date, each service charge identified in Schedule 1 Part I – *Water Rates* shall be adjusted in respect of the Current Year. The rate for the Current Year will be determined by the formula:

 $R_P X (1 + I_D) X (1 + I_F - 0.25\%)$

Where,

- R_P means the rate that was in effect during the 12 months immediately preceding April 1 of the Current Year;
- ID means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;
- IF means the forecast rate of inflation for the Current Year.

2.0 Routine Adjustments

Each year, the following factors or adjustments, if applicable, will be used to determine appropriate adjustments to the fixed monthly service charge, consumption charge, the public fire protection monthly charge and service charges payable for Water Services:

- a) Inflation Factor;
- b) Efficiency Factor;
- c) Special Rate Adjustments.

The calculation and application of these factors or adjustments are described in subsections 2.1 to 2.4 below.

2.1 Inflation Factor

The fixed monthly service charge, consumption charge, public fire protection monthly charge and the service charges set out in Schedule 1, Part I will be subject to an annual adjustment based upon a forecast of the rate of inflation supported by the Conference Board of Canada's forecast inflation for the upcoming year. For the purposes of this adjustment calculation, "inflation" will be determined on the basis of two components:

- a) a Consumer Price Index ("CPI") component, weighted at 60%, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Services V41694625 CPI, 2005 Basket, 2002 = 100, Alberta, All Items; and
- b) a Labour Cost component, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Series V1603533, weighted at 40%.

Once the calendar year is complete and the actual rate of inflation is known, the charges for the subsequent year will include an adjustment to correct for the difference between the forecast and actual rate of inflation for the calendar year. As the index utilized for the actual Labour Cost component may not be available for the complete calendar year, the consecutive 12 month period for which the index utilized for the Labour Cost component is most recently available is used as a substitute for the calendar year for purposes of the Labour Cost component inflation adjustment.

Both CPI and the Labour Cost components are available and verifiable:

- The actual CPI component for a given year will be the change in the CPI for Alberta. This measure is identified as the annual growth in Consumer Price Index (CPI): Statistics Canada CANSIM Series V41694625 – CPI, 2005 Basket, 2002 = 100, Alberta, All Items. Any publication issued by Statistics Canada which is intended to replace, supersede or otherwise revise this measure will be used in substitution for it, in performing the inflation calculation.
- 2. The actual labour cost component for a given year will be the annual growth in Average Hourly Earnings (AHE) for salaried employees (paid a fixed salary), including overtime, unadjusted for seasonal variation for selected industries classified using the North American Industry Classification System (NAICS), for Alberta, Industrial Aggregate (excluding unclassified businesses), based on the monthly Statistics Canada CANSIM Series V1603533. The annual growth in the AHE will be calculated based on the year-over-year percentage change from the AHE in the preceding year to the AHE in the given year, where:
 - AHE in the given year is the average of the most recent twelve consecutive months of series V1603533 available (and not including preliminary data) when EWSI finalizes its annual rate application for submission to the City Manager on or before March 1; and
 - AHE in the preceding year is the average of the preceding twelve consecutive months of series V1603533.

Any publication issued by Statistics Canada which is intended to replace, supersede or otherwise revise this measure will be used in substitution for it, in performing the inflation calculation.

As an exception to the inflation adjustment factor, if the rate of inflation (calculated in accordance with this section) is 1.75% or lower, EWSI may prepare a financial plan to demonstrate the need for a unit rate increase other than 1.5%. The inflation rate in the financial plan will be a surrogate for the value of I_D.

As a further exception to the inflation adjustment factor, if the rate of inflation is greater than 5.0%, EWSI may prepare a financial plan demonstrating the appropriateness of a unit rate increase less than the rate of inflation minus 0.25%. The inflation rate in the plan will be a surrogate for the value of I_D .

2.2 Efficiency Factor

The Efficiency Factor for the 2022-2026 PBR terms shall be 0.25%.

2.3 Special Rate Adjustments for Water Services

Four separate special rate adjustments are applied to water rates: (i) the Special Rate Adjustments for Re-Basing; (ii) the Special Rate Adjustments to Increase the Monthly Service Connection Fee; (iii) the Special Rate Adjustment for the 90 Day Deferral Program; and (iv) the Special Rate Adjustment for Public Fire Protection. Special rate adjustments for 2022 have been included in the Water Rates in Schedule 1, Part I.

2.3.1 Special Rate Adjustments for Re-Basing

In each of the years 2022, 2023, 2024, 2025 and 2026 (affecting Rates payable by Customers for the time periods April 1, 2022 to March 31, 2023, April 1, 2023 to March 31, 2024, April 1, 2024 to March 31, 2025, April 1, 2025 to March 31, 2026 and April 1, 2026 to March 31, 2027) a Special Rate Adjustment for Re-Basing will be added to the Consumption Charge and Fixed Monthly Service Charge in Schedule 1, Part I – *Water Rates*. These Special Rate Adjustments for Re-Basing are required to recover the difference between EWSI's revenue requirement forecast for the 2022-2026 PBR term and the revenue that would be realized if annual rate increases were limited to PBR inflation.

The Special Rate Adjustment for Rebasing for 2022 has been included in the Water Rates in Schedule 1, Part I. The Special Rate Adjustment for Re-Basing will be applied in respect of 2023, 2024, 2025 and 2026 Rates after the Inflation and Efficiency factors have been calculated and applied for that year, and are in addition to any Non-Routine Adjustments applicable to that year. Each year, after the Special Rate Adjustments for Re-Basing have been factored into the 2022, 2023, 2024, 2025 and 2026 Rates, these adjustments will continue to form part of the basic Consumption Charges and Fixed Monthly Service Charges for Water Services in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustment for Re-Basing applied to the Consumption Charges for each customer class and the Fixed Monthly Service Charges (based on meter size) for the years 2022, 2023, 2024, 2025 and 2026 is as follows:

Consumption Charge	2022 Special	2023 Special	2024 Special	2025 Special	2026 Special
(per cubic meter	Rate	Rate	Rate	Rate	Rate
(m ³))	Adjustment	Adjustment	Adjustment	Adjustment	Adjustment
Residential 0 – 10 m3 10.1 – 35 m3 Over 35 m3	\$0.0508 \$0.0555 \$0.0701	\$0.0477 \$0.0521 \$0.0659	\$0.0498 \$0.0544 \$0.0688	\$0.0520 \$0.0568 \$0.0718	\$0.0543 \$0.0593 \$0.0749
Multi-Residential 0 – 100 m3 100.1 – 1000 m3 Over 1000 m3	\$0.0479 \$0.0401 \$0.0331	\$0.0450 \$0.0377 \$0.0311	\$0.0470 \$0.0393 \$0.0325	\$0.0491 \$0.0411 \$0.0339	\$0.0512 \$0.0429 \$0.0354
Commercial 0 – 25 m3 25.1 – 100 m3 100.1 – 1000 m3 1000.1 - 5000 m3 Over 5000 m3	\$0.0400 \$0.0400 \$0.0369 \$0.0292 \$0.0235	\$0.0375 \$0.0375 \$0.0346 \$0.0274 \$0.0221	\$0.0392 \$0.0392 \$0.0361 \$0.0286 \$0.0230	\$0.0409 \$0.0409 \$0.0377 \$0.0299 \$0.0240	\$0.0427 \$0.0427 \$0.0394 \$0.0312 \$0.0251
Fixed Monthly Service	2022 Special	2023 Special	2024 Special	2025 Special	2026 Special
Charge (based on	Rate	Rate	Rate	Rate	Rate
meter size)	Adjustment	Adjustment	Adjustment	Adjustment	Adjustment
15 mm	\$0.18	\$0.29	\$0.30	\$0.31	\$0.32
20 mm	\$0.27	\$0.44	\$0.44	\$0.46	\$0.48
25 mm	\$0.45	\$0.73	\$0.74	\$0.77	\$0.81
40 mm	\$0.91	\$1.45	\$1.48	\$1.55	\$1.61
50 mm	\$1.45	\$2.32	\$2.37	\$2.47	\$2.58
75 mm	\$2.73	\$4.35	\$4.44	\$4.64	\$4.84
100 mm	\$4.55	\$7.26	\$7.40	\$7.73	\$8.06
150 mm	\$9.09	\$14.51	\$14.80	\$15.45	\$16.13
200 mm	\$14.54	\$23.22	\$23.68	\$24.72	\$25.81
250 mm	\$20.91	\$33.38	\$34.04	\$35.54	\$37.10
300 mm	\$30.69	\$48.99	\$49.97	\$52.16	\$54.45

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2.3.2 Special Rate Adjustment to Increase the Monthly Service Connection Fee

In 2022 (affecting water rates payable by Customers for the time period April 1, 2022 to March 31, 2023) a Special Rate Adjustment to Increase the Monthly Service Connection Fee will be added to the Fixed Monthly Service Charges in Schedule 1, Part I – *Water Rates* and a corresponding decrease will be made to the Consumption Charges in Schedule 1, Part I – *Water Rates*. The Special Rate Adjustment to Increase the Monthly Service Connection Fee is required to help decrease the long term consumption impacts related to the decline in consumption for future PBR applications.

The Special Rate Adjustment to Increase the Monthly Service Connection Fee has been factored into the 2022 water rates in Schedule 1, Part I and these adjustments will continue to form part of the basic Fixed Monthly Service Charges and Consumption Charges in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustment to Increase the Monthly Service Connection Fee applied to water rates for the year 2022 applied to the Fixed Monthly Service Charges and Consumption Charges for each customer class are as follows:

Increase Monthly Service Connection Fee				
Fixed Monthly Service Charge (based on meter size)	2022 Special Rate Adjustment			
15 mm 20 mm 25 mm 40 mm 50 mm 75 mm 100 mm 150 mm 200 mm 250 mm 300 mm	\$4.02 \$6.03 \$10.04 \$20.09 \$32.14 \$60.26 \$100.43 \$200.86 \$321.38 \$461.98 \$678.10			
Consumption Charge (per m ³)	2022 Special Rate Adjustment			
Residential 0 – 10 m3 10.1 – 35 m3 Over 35 m3	\$(0.2279) \$(0.2490) \$(0.3147)			
0 – 100 m3 100.1 – 1000 m3 Over 1000 m3	\$(0.2152) \$(0.1800) \$(0.1488)			
Commercial 0 – 25 m3 25.1 – 100 m3 100.1 – 1000 m3 1000.1 - 5000 m3 Over 5000 m3	\$(0.1793) \$(0.1793) \$(0.1654) \$(0.1309) \$(0.1054)			

2.3.3 Special Rate Adjustment for the 90 Day Deferral Program

In 2022 (affecting rates payable for the period April 1, 2022 to March 31, 2023) a Special Rate Adjustment for the 90 Day Deferral Program will be applied to the Fixed Monthly Service Charges in Schedule 1, Part I – Water Rates. This Special Rate Adjustment for the 90 Day Deferral Program is required to recover the \$1.3 million

for the incremental bad debt expense, administration, and carrying costs associated with the 90 Day Deferral Program.

The Special Rate Adjustment for the 90 Day Deferral Program for 2022 has been included in the Water Rates in Schedule 1, Part I. This Special Rate Adjustment will be removed from Customer bills in 2023.

The Special Rate Adjustment for the 90 Day Deferral Program applied to water rates for the years 2022 and 2023 applied to Fixed Monthly Charges is as follows:

90 Day Deferral Program					
Fixed Monthly Service Charge (based on meter size)	2022 Special Rate Adjustment	2023 Special Rate Adjustment*			
15 mm	\$0.30	\$λ			
20 mm	\$0.44	\$λ			
25 mm	\$0.74	\$λ			
40 mm	\$1.48	\$λ			
50 mm	\$2.37	\$λ			
75 mm	\$4.44	\$λ			
100 mm	\$7.41	\$λ			
150 mm	\$14.81	\$λ			
200 mm	\$23.70	\$λ			
250 mm	\$34.07	\$λ			
300 mm	\$50.01	\$λ			

* The 2023 Special Rate Adjustment for the 90-day Deferral Program will be determined following a true up of the 2022 Special Rate Adjustment to the actual amount incurred as a result of the 90-day Deferral Program. The 2023 Special Rate Adjustment for the 90-day Deferral Program will constitute a negative rate adjustment to remove the amount from rates for remainder of the PBR term following March 31, 2023.

2.3.4 Special Rate Adjustment for Public Fire Protection

In 2022 (affecting water rates payable by Customers for the time period April 1, 2022 to March 31, 2023) the Special Rate Adjustment for Public Fire Protection will be added to the Public Fire Protection Monthly Charge for Water Services in Schedule 1, Part I – *Water Rates*. The Special Rate Adjustment for Public Fire Protection is required to commence collection of the public fire protection revenue requirement through water rates, as directed by Edmonton City Council.

The Special Rate Adjustment for Public Fire Protection has been factored into the 2022 water rates in Schedule 1, Part I and these adjustments will continue to form part of the Public Fire Protection Monthly Charge in all subsequent years, to which

the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustment for Public Fire Protection applied to water rates for the year 2022 applied to the Public Fire Protection Monthly Charge for Water Services for each customer class is as follows:

Public Fire Protection					
Public Fire Protection Monthly Charge (based on meter size)	2022 Special Rate Adjustment Residential	2022 Special Rate Adjustment Multi-Residential	2022 Special Rate Adjustment Commercial		
15 mm	\$2.59	\$2.54	\$5.87		
20 mm	\$3.88	\$3.81	\$8.81		
25 mm	\$6.47	\$6.36	\$14.68		
40 mm	\$12.95	\$12.72	\$29.36		
50 mm	\$20.72	\$20.34	\$46.97		
75 mm	\$38.84	\$38.15	\$88.07		
100 mm	\$64.74	\$63.58	\$146.78		
150 mm	\$129.48	\$127.15	\$293.55		
200 mm	\$207.16	\$203.44	\$469.68		
250 mm	\$297.80	\$292.45	\$675.17		
300 mm	\$437.11	\$429.26	\$991.03		

3.0 Water System Service Quality

Water System Service Quality is measured by the results of five indices described in Section 3.1 - 3.5. These are:

- a) Water Quality Index;
- b) Customer Service Index;
- c) System Reliability and Optimization Index;
- d) Environmental Index; and
- e) Safety Index.

Performance under each index is measured independently on a point basis with 100 base points available if the standards in all five areas are achieved. In total, up to 10% additional bonus points for performance above the standard are available. These bonus points are described below within each index.

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For each full point scored below 100 base and bonus points, a penalty of \$67,000 will be assessed to a maximum of \$1,000,000. There is no reward for performance above 100 base and bonus points. For purposes of these calculations, point amounts will be rounded to the nearest tenth of a point and calculated on a calendar year basis.

The total penalty for the year will be applied as a rebate to customers in the year immediately following the performance year.

3.1 Water Quality Index

- **Description** The Water Quality Index is a summary of the percentage of the water quality tests that EPCOR Water Services performs on drinking water in Edmonton that meet all regulatory requirements. This measure is reported as % of tests conducted that meet all objectives. This index provides a measure of overall water quality in the city as it is delivered to the customer, and provides reassurance that water quality consistently meets much stricter limits than regulatory approval requirements.
- **Formula** The maximum base value of the treated water quality index is 30 base points, as calculated under the formula:

Water Quality Index = 30 X $\frac{\text{WQ\%}}{99.7\%}$

Where,

- WQ% means the percentage of the total number of water quality tests taken in the reporting period that do not yield suspect results; and
- is the water quality index standard.

No bonus points are available for the water quality index based on the formula. The maximum total water quality index points are 30.0.

Benchmark >= 99.7% YTD

3.2 Customer Service Index

Description The customer service index is a measure of the customer's perception and satisfaction with EWSI service, the aesthetic quality of water and speed of response. These measures are important because they represent the direct contact that customers have with EWSI.

The customer service index is the measure of four equally weighed components. The combined results of the four components produce the measure of the customer service index.

Formula The maximum base value of the customer service index is 15 base points as calculated under the following formula:

Customer Service Index = 15 X PSAF + HSF + RTF + 4

Where,

PSAF means the post service audit factor,

HSF means the home-sniffing factor,

- RTF means the response time factor; and
- PCIF means the planned construction impact factor.

A maximum of 2.25 bonus points are available for the customer service index based on the formula.

The maximum total customer service index points are 17.25.

3.2.1 Post Service Audit Factor

Description The post service audit factor (PSAF) is a measure of customer satisfaction of those customers who contact the EPCOR Water Emergency telephone line.

Formula The PSAF is measured by the formula:

Post Service Audit Factor = $\frac{PSA\%}{75.0\%}$

Where,

PSA% means the percentage of the customers <u>responding</u> "yes" to the Customer Satisfaction survey questions about the level of service received from the EWSI Emergency group; and

is the post service audit standard.

Benchmark >=75.0%

Definitions Customer Satisfaction = rating of "yes" to the Customer Satisfaction survey questions identified in the Water Services Guidelines which shall include the following questions as of April 1, 2022 but may be changed in accordance with a direction from the Utility Committee:

- EWSI makes it easy for customers to reach them?
- EWSI's employees are helpful?
- EWSI's employees are knowledgeable?
- EWSI's employees are courteous?
- EWSI's employees provide satisfactory service?

3.2.2 Home Sniffing Factor

Description	Home Sniffing Factor (HSF) is a measure of customer satisfaction results from the home sniffing survey.		
Formula	The HSF is measured by the formula:		
	Hon	ne Sniffing Factor = HS% 94.4%	
	Where,		
	HS%	means the percentage result of customer satisfaction for the home sniffing survey; and	
	94.4%	is the home sniffing factor standard.	
Benchmark	>=94.4%		
Definitions	Favourable scale of 0.0 t	Assessment – a rating between 0.0 and 0.5 (on the to 3.0)	
Reporting Frequency	Annually		

3.2.3 Response Time Factor

Description Response Time Factor (RTF) is a measure of the average number of minutes to confirm a water main break once a call is received at the EWSI dispatch office.

Formula The RTF is measured by the formula:

Response Time Factor = $1 - \frac{RT - 25}{25}$

Where,

- RT means the average number of minutes to confirm a water main break once a call is received at the EWSI dispatch office; and
- is the response time standard.
- **Benchmark** <= 25 minutes YTD

Definitions Water Main Break - number of water main breaks that have occurred in the waterworks system as a measure of the frequency of unplanned interruptions that customers may experience over the course of a year.

Confirmation – Time when service person calls the dispatcher with confirmation that a water main break has occurred at the reported location.

Response Time – Time between call to report a main break and time when service person calls dispatch to confirm main break.

3.2.4 Planned Construction Impact Factor

Description The Planned Construction Impact Factor (PCIF) is a measure of EPCOR's effectiveness at minimizing customer impact of planned interruptions due to construction.

Formula The PCIF is measured by the formula:

Planned Construction Impact Factor = $\frac{\text{TPCE}\%}{95.8\%}$

Where,

TPCE% means the percentage of the total planned construction events where EWSI complies with required construction notification procedures; and

95.8% is the planned construction impact standard.

- Benchmark <= 95.8% YTD
- **Definitions** Large-scale projects Projects where entire lengths of water main and associated appurtenances are being renewed and which result in the shutdown of water service to multiple properties. Interruption is usually measured in weeks. Minimum five days advance notice to customers is required.

Small-scale projects – Projects where components of the water system, such as a valve or hydrant, are repaired or modified. Interruption is usually less than eight hours. Minimum one day advance notice to customers is required.

Notice to customers - Written information provided to customers regarding a planned interruption to their regular water service.

Length of time – Measured in calendar days and indicated in the notice to the Customer. This is measured as the difference between the start date and end date.

3.3 System Reliability and Optimization Index

Description The system reliability index is a measure calculated on the basis of four equally weighed components. The combined results of the four components produce the measure of the system reliability index.

Formula The maximum base value of the system reliability index is 25 base points as calculated under the following formula:

 System Reliability Index = 25 X
 MBF + MBRDF + WLF+

 4

Where,

MBF means the water main break factor,

MBRDF means the water main break repair duration factor,

- WLF means the water loss factor; and
- SEEF means the system energy efficiency factor.

A maximum of 3.25 bonus points are available for the system reliability index based on the formula. The maximum total system reliability index points are 28.25.

3.3.1 Water Main Break Factor

Description	The W unplar	Nater Main Break Factor (MBF) is a measure of the frequency of inned interruptions caused by water main breaks.		
Formula	The M	e MBF is measured by the formula:		
	W	Water Main Break Factor = $1 - \frac{MB - 365}{365}$		
	Where,			
	MB	means the number of water main breaks that occurred in the reporting period; and		
	365	is the water main break standard.		
Benchmark	<= 365 YTD			
Definitions	Water in the interru	Iter Main Break - number of water main breaks that have occurred he waterworks system as a measure of the frequency of unplanned erruptions that customers may experience over the course of a year.		

- 3.3.2 Water Main Break Repair Duration Factor
- **Description** The Water Main Break Repair Duration Factor (MBRDF) is a measure of percentage of time that water main breaks are repaired within 24-hours from the time the flow of water is shut-off (i.e. the time of customer interruption).
- **Formula** The MBRDF is measured by the formula:

Water Main Break Repair Duration Factor = $\frac{MBRD\%}{95.4\%}$

Where,

- MBRD% means the percentage of water main breaks repaired and confirmed by EWSI within 24 hours from the time that the flow of water is shut off (i.e. the time of customer interruption) excluding those on arterial or collector roads; and
- is the water main break repair duration standard.
- Benchmark >= 95.4% YTD

Definitions Water Main Break - number of water main breaks that have occurred in the waterworks system as a measure of the frequency of unplanned interruptions that customers may experience over the course of a year.

Repair Duration - The difference between the time the customer's water supply is interrupted and the time a water main break repair is completed.

Completed repair - A main break repair is considered complete when normal water service is restored to affected customers.

3.3.3 Water Loss Factor

Description The Water Loss Factor (WLF) is an indicator quantifying how well the water distribution system is managed (maintained, repaired and rehabilitated) for the control of real (leakage) losses at the current operating pressure.

Formula The WLF is measured by the formula:

Water Loss Factor = $1 - \frac{|L| - 1.23}{1.23}$

Where,

- ILI means the Infrastructure Leakage Index, a performance indicator quantifying how well a water distribution system is managed for the control of real (leakage) water losses; and
- 1.23 is the infrastructure leakage standard.

To calculate the ILI, EWSI will apply the calculation recommended in the American Water Works Association (AWWA) manual M36 "Water Audits and Loss Control Programs", or any publication issued by the AWWA which is intended to replace this manual. This factor will be calculated based on prior year's information due to a time lag from when final values for all the parameters used to calculate the ILI can be obtained and when the Water System Service Quality results for a year are required to be reported under this Bylaw.

Benchmark <= 1.23

Definitions Apparent Losses – Includes all types of inaccuracies associated with customer metering as well as data handling errors (meter reading and billing), plus unauthorized consumption (theft or illegal use).

Real Losses – Volume of Water Supplied less Authorized Consumption and Apparent Losses. Includes the physical water losses from the pressurized system and the utility's storage tanks, up to the point of customer consumption. In metered systems this is the customer meter.

Unavoidable Annual Real Losses (UARL) – The UARL is a theoretical reference value representing the technical low limit of leakage that could be achieved if all of today's best technology could

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be successfully applied. It is a key variable in the calculation of the Infrastructure Leakage Index (ILI).

Infrastructure Leakage Index (ILI) – The ratio of the current annual Real Losses to the Unavoidable Annual Real Losses (UARL). The ILI is a highly effective performance indicator for comparing (benchmarking) the performance of utilities in operational management of real losses.

Reporting Frequency Annually

3.3.4 System Energy Efficiency Facto	.3.4 Sys	m Energy Efficienc	y Factor
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Description	The System Energy Efficiency Factor (SEEF) is a measure of the amount of energy used per 100,000 accounts.			
Formula	The SEEF is measured by the formula:			
		System Energy Efficiency Factor = SEE SEE		
	Wher	e,		
	SEE	means the energy used (in kWh) per volume of water produced (in millions of litres) per 100,000 accounts; and		
	281	is the system energy efficiency standard per 100,000 accounts.		
Benchmark	<= 28	1		
Reporting Frequency	y Montl	hly		

3.4 Environmental Index

- **Description** The environmental index measures the success of programs and policies designed to mitigate and report adverse environmental impacts. The index is a measure calculated on the basis of three weighed components.
- **Formula** The maximum base value of the environmental index is 15 base points as calculated under the following formula:

Environmental Index =
$$15 \times \frac{WCF + EIF + SRMF}{3}$$

Where,

WCF means the water conservation factor,

EIF means the environment incident factor; and

SRMF means the solids residual management factor.

A maximum of 2.25 bonus points are available for the environmental index based on the formula.

The maximum total environmental index points are 17.25.

3.4.1 Water Conservation Factor

Description	The Water Conservation Factor (WCF) is a measure of water use efficiency, the average Edmonton residential water consumption per household in cubic meters.			
Formula	The WCF is measured by the formula:			
Water Conservation Factor =			16.8 WC	
	Where,			
	WC	means the actual 10 year ro Edmonton residential consumption	lling average monthly on per household; and	
	16.8	is the water conservation standar	rd.	
Benchmark	<= 16.8m ³			
Definitions Domestic (Residential) Water Service		Residential) Water Service		
	A domestic (residential) water service is defined as a service:			
	 supplied to premises used primarily for domestic purposes; 			
	 where no more than four separate dwelling units are metered by a single water meter; and 			
 the service line to the premises is not great diameter. 			er than 50 millimeters in	

3.4.2 Environment Incident Factor

Description The Environment Incident Factor (EIF) measures the number of incidents that are reportable to the municipal, provincial or federal regulator and that are considered preventable.

Formula The EIF is measured by the formula:

Environmental Incident Factor = $\frac{5}{\text{EIPR}}$

Where,

EIRP means the number of reportable and preventable environmental incidents; and

5 is the environmental incident standard.

Benchmark <= 5 YTD

Definitions Reportable Incident – one that involves contravention of a municipal, provincial or federal regulation or bylaw, or a spill or release to the environment that is reportable as defined in provincial or federal release reporting criteria.

Preventable Incident – one that meets the following criteria:

- An investigation of the incident demonstrates a failure to follow regulatory requirements or a documented EWSI procedure;
- An incident that is a recurrence of a similar reportable incident due to failure to implement corrective action that had been previously identified; or
- There is an administrative contravention including failure to notify or report to the regulator in a timely manner. Or to sample and test as required under the Approval to Operate issued by Alberta Environment and Water.

A reportable and preventable incident is one that is both reportable and preventable according to the above criteria. It is a government reportable incident that could have been prevented if reasonable diligence was exercised by EWSI.

Performance-Based Water Rates

If it can be demonstrated that EWSI took all reasonable measures to prevent the incident from occurring, the incident will not be considered preventable. Mitigating circumstances and external factors (i.e. unpredictable equipment failure, unusual weather conditions, the actions of external parties that are not controllable by EWSI) will be considered in determining if the incident was preventable.

3.4.3 Solids Residual Management Factor

Description Solids Residual Management is a measure of time the EWSI Water Treatment plants operate in direct filtration mode which reduces the solids load of water returned to the North Saskatchewan river during water treatment.

Formula The solids residual management factor (SRMF) is measure by the formula:

Solids Residual Factor =

(DDF1 + DDF2) / 2 120

Where,

- DDF1 means the number of days that the Rossdale water treatment plant is operating in direct filtration mode,
- DDF2 means the number of days that the E.L. Smith water treatment plant is operating in direct filtration mode; and
- is the solids residual management standard.

Benchmark <= 120 days

Definitions A water treatment train is considered to be in Direct Filtration when the following two criteria are met:

- Water is being processed by the train at a rate above 20 ML/d; and
- Alum is either not being added to a train processing water or is being added at a rate below 15.

3.5 Safety Index

Description The safety index is a measure of the success of programs and the application of policies that maximizes the safety of employees and the public. It is calculated on the basis of four equally weighed components. The combined results of the four components produce the measure of the safety index.

Formula The maximum base value of the safety index is 15 base points and is calculated under the following formula:

Safety Index = 15 X ______ <u>NMF + WIOF + LTF + AIF</u>_____4

Where,

NMF means the near miss reporting factor,

WIOF means the worksite inspections and observations factor,

LTF means the lost time frequency factor; and

AIF means the all injury frequency factor.

A maximum of 2.25 bonus points are available for the safety index based on the formula.

The maximum total safety index points are 17.25.
3.5.1	Near Mi	ss Reporting	Factor
-------	---------	--------------	--------

Description The Near Miss Reporting Factor (NMF) is a measure of the number of Near Miss reports completed each year.

Formula The near miss reporting factor (NMF) is measured by the formula:

Near Miss Reporting Factor = $\frac{NM + HI}{550}$

Where,

- NM means the number of near miss reports entered in the ERS system;
- HI means the number of hazard identification reports entered in the ERS system; and
- 550 is the near miss reporting standard.

Benchmark >= 550 YTD

Definitions Near Miss: An unplanned event, unsafe condition or unsafe action that did not result in contact, injury, illness, or damage - but had the potential to do so.

Hazard Identification: An observed potential hazard that did not result in a near miss or incident on EWSI property.

Reporting Frequency Monthly

|--|

The Worksite Inspections and Observations Factor (WIOF) measures
the number of work site inspections and observations completed each
year.

Formula The WIOF is measured by the formula:

Worksite Inspections andWIOObservations Factor =1,032

Where,

- WIO means the actual number of work site inspections and observations completed per year; and
- 1,032 is the worksite inspection standard.

Benchmark >= 1032 YTD

Definitions Inspection procedures are as defined by Work Site Inspection Reports and Office Work Site Inspection Reports.

Observation procedures are as defined by the Safety Track observations process.

Reporting Frequency Monthly

3.5.3 Lost Time Frequency Factor

Description	The Lost Time Frequency factor measures the effectiveness of a
	safety program as related to disability injuries and illnesses.

Formula The Lost Time Frequency Factor is measured by the formula:

Lost Time Frequency Factor = $\frac{0.4}{1.1}$

0.40

Where,

- LTFR means the actual lost time frequency rate; and
- 0.40 is the lost time frequency standard.

Benchmark <= 0.40 YTD

Definitions Lost Time Incident – A work related disability injury or disability illness that results in an employee missing time at work.

Exposure Hours - The total number of hours employees were exposed to the work site.

Lost Time Frequency Rate is calculated using the following formula defined in the Canadian Electrical Association Work Injury/Illness Standards:

(# Disability Injuries + # Disability Illnesses) x 200,000 Exposure Hours

Where 200,000 represents 100 full time employees who work 40 hours per week for 50 weeks.

Reporting Frequency Monthly

3.5.4 All Injury Fre	equency Factor		
Description	The All Injury Frequency Factor measures the effectiveness of a safety program as related to disability injuries and medical aid injuries.		
Formula	The All Injury Frequency Factor is measured by the formula:		
	1.00		
	All Injury Frequency Factor = AIFR		
	Where,		
	AIFR means the actual all injury frequency rate; and		
	1.00 is the all injury frequency rate standard.		
Benchmark	<= 1.00 YTD		
Definitions	Disability Injury Incident – A work related injury.		
	Medical Aid Injury - An injury that requires assessment and care by a physician.		
	Exposure Hours - The total number of hours employees were exposed to the work site.		
	All Injury Frequency Rate is calculated using the following formula defined in the Canadian Electrical Association Work Injury / Illness Standards:		
	(# Disability Injuries + # Medical Aid Injuries) x 200,000 Exposure Hours		
	Where 200,000 represents 100 full time employees who work 40 hours		

Reporting Frequency Monthly

per week for 50 weeks.

3.6 Changes to Legislation or Regulation

In the event there is a change to: legislation, regulation, bylaws, policy order or directive (Law) affecting EWSI's performance standards, EWSI shall amend that standard or standards to comply with the change in Law.

4.0 Non-Routine Adjustments

Non-routine adjustments are, by their nature unusual, significant in size or nature and beyond the scope of control of EWSI.

Costs resulting in an annual adjustment to EWSI's revenue requirement up to \$500,000 are not eligible for approval as a non-routine adjustment. Costs resulting in either an annual adjustment to EWSI's revenue requirement less than \$3 million but either greater than \$500,000 or greater than \$1 million cumulatively are eligible for consideration and approval by the City Manager as a non-routine adjustment. Costs resulting in an annual adjustment to EWSI's revenue requirement equal to or greater than \$3 million are eligible for consideration and approval by City Council. Review of the non-routine adjustment application will consider the projected return on equity of EWSI.

If EWSI anticipates making a request for one or more non-routine adjustments to take effect on April 1 of the Current Year, EWSI will on or before December 1 of the immediately preceding calendar year submit its request for non-routine adjustments to the City Manager, and will include with such request sufficient information to enable the City Manager / City Council to evaluate the request. If after receiving the submission, the City Manager / City Council is satisfied that the non-routine adjustments should be included in the water rates calculated in accordance with this Bylaw, the City Manager will issue a confirmation letter on or before January 31 confirming that the non-routine adjustments will be included in water rates to take effect on the April 1st next following.

All amounts approved as non-routine adjustments are approved and funded on an interim basis and shall be charged to EWSI's Adjustment Deferral Account (Water). EWSI shall, within a reasonable time frame following completion of the project funded by the non-routine adjustment, prepare a final true up of the non-routine adjustment funding based on actual costs. EWSI will determine a reasonable time frame over which to recover/credit the balance of the account. Carrying costs will be calculated on the Adjustment Deferral Account balance.

The rate impact of non-routine adjustments will be calculated and added to the Fixed Monthly Service Charge and allocated on a proportionate basis to customers.

4.1 Changes to Legislation, Regulation or Taxes

In the event there is a change to: legislation, regulation, bylaws, policy order or directive affecting EWSI's operations, including allocation of costs between city of Edmonton and Regional customers and including the common law and the law of equity; rates of tax or other

mandatory amounts payable by EWSI to any level of government; the status of EWSI under existing legislation or the application of existing legislation to EWSI; then costs arising from any such event will be considered as non-routine.

4.2 Consequences of Force Majeure

Non-routine adjustments include any costs occasioned by Force Majeure events that are not recovered under a policy of insurance. For purposes of non-routine adjustments under this Schedule 3, events or circumstances of Force Majeure include: acts of God, strikes, lockouts or other industrial disturbances, acts of the Queen's enemies, wars, blockades, insurrections, riots, epidemics, landslides, lightning, floods, earthquakes, explosions, fires, civil disturbances, mechanical breakdowns, regulatory requirements or approval conditions or other acts or interventions of any kind by federal, provincial, state or local governments or any of their agencies or boards, the order or direction of any court, and any other causes whether of the kind herein enumerated or otherwise, not within the reasonable control of EWSI and which by the exercise of reasonable diligence and at a reasonable cost EWSI is unable to prevent or overcome.

4.3 River Water Quality

If there is a significant change in river water quality to the extent that it affects EWSI's operating or capital costs, such costs will be considered as non-routine.

4.4 Deterioration of Waterworks System

If there is significant deterioration to the Waterworks System, beyond reasonable projections, remediation costs will be considered as non-routine. Without limiting the foregoing, these circumstances may include unanticipated asset failure or deterioration requiring immediate repair or remediation.

4.5 Customer – initiated or City – initiated System Expansion

Costs incurred to create significant Waterworks System expansion as a result of increases to the size of EWSI's Customer base and/or increased demand by Customers or the City for Water Services, beyond reasonable projections, will be considered as non-routine.

4.6 City - initiated Relocations of Waterworks Assets

Costs incurred to effect significant Waterworks System relocations, permanent or temporary moves or removals as a result of City requests will be considered as non-routine.

4.7 Franchise Fees

If there is an amendment to the Water Services Franchise Agreement affecting water rates, the resultant impacts on the water rates will be deemed to be non-routine adjustments.

4.8 Environmental Initiatives

Costs incurred to comply with City directed initiatives to offset the impacts of climate change will be deemed to be non-routine adjustments.

Costs incurred for capital projects (either directed by the City or identified by EWSI) which have a demonstrable positive environmental impact will be deemed to be non-routine adjustments.

4.9 Grant Funding

Cost reductions from the approved revenue requirement resulting from the receipt of grants or recognition of approved grants shall be considered as a negative non-routine adjustment.

5.0 Off-Ramp

This performance-based water regulation can be terminated with the mutual consent and agreement of EWSI and the City.

In the event of termination of this Performance-Based Regulation Plan, the balance of the Adjustment Deferral Account must be cleared within a one-year period from the date of termination.

6.0 Reporting and Filing Requirements

On March 1st of the year following the reporting year, EWSI will file with its regulator, the City, an *Annual Water Rate Filing*. The filing will contain four parts:

- An audit report as outlined in Schedule 4;
- Rate Sheets The water rate forecast for each customer class of service for the period following the reporting period; and,
- Water System Service Quality Results The results of each of the components of the water system service quality indices.
- Consumption Deferral Account Report

An accountant will review the *Annual Water Rate Filing*, conduct an audit and prepare an audit report in accordance with Canadian generally accepted auditing standards. The audit report will address whether the water rates are calculated and presented in accordance with the requirements of this Bylaw. The audit reports will be prepared by EPCOR Utilities Inc.'s Internal Audit department.

The filing will be submitted to the City Manager. The City Manager will review the filing and, if appropriate, accept it prior to April 1st when adjusted rates come into effect. The filing, and

the City Manager approval, will be posted on the EWSI web site and copies will be available at the business office of EWSI.

6.1 Rate Sheets

The Annual Water Rate Filing will set out the water rate forecast for each customer class of service for the period following the reporting period. The rates will be calculated in accordance with this Bylaw.

6.2 Water System Service Quality Results

The Annual Water Rate Filing will contain the results of the water system service quality measures and the resulting financial penalty, if any, as set out in this Bylaw.

6.3 Consumption Deferral Account

The Annual Water Rate Filing will contain a report showing the annual variance between EWSI's water consumption forecast and actual consumption for the previous calendar year.

Schedule 4

Pro-forma Annual Water Rate Filing

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Residential Water Service

Applicable To all domestic water service customers within the city of Edmonton

> A domestic service is defined as a service supplied to premises used primarily for domestic purposes, where no more than four separate dwelling units are metered by a single water meter and the service line to the premises is not greater than 50 millimeters in diameter.

> If a business is conducted from premises that otherwise fall within the above definition of a domestic service, this Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises.

Rate Fixed Monthly Service Charge

See Fixed Monthly Water Service Charges

Consumption Charge

0 m ³ – 10.0 m ³	$\lambda per m^3$
10.1 m ³ to 35.0 m ³	$\lambda per m^3$
Over 35.0 m ³	$\lambda \text{ per m}^3$

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
15 mm	\$λ
20 mm	\$λ
25 mm	\$λ
40 mm	\$λ
50 mm	\$λ
75 mm	\$λ
100 mm	\$λ
150mm	\$λ
200 mm	\$λ
250mm	\$λ
300 mm	\$λ

Multi-Residential Water Service

Applicable To all multi-residential service customers within the city of Edmonton

A multi-residential service is defined as a service supplied to premises used primarily for domestic purposes; where more than four separate dwelling units are metered by a single water meter.

If a business is conducted from premises that otherwise fall within the above definition of a multi-residential service, this Multi-Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises

Rate Fixed Monthly Service Charge

See Fixed Monthly Water Service Charges

Consumption Charge

0 m ³ – 25 m ³	\$ λ per m³
25.1 m ³ – 100 m ³	\$λperm³
100.1 m ³ – 1,000 m ³	\$λperm³
Over 1,000 m ³	\$λperm³

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
15 mm	\$λ
20 mm	\$λ
25 mm	\$λ
40 mm	\$λ
50 mm	\$λ
75 mm	\$λ
100 mm	\$λ
150mm	\$λ
200 mm	\$λ
250mm	\$λ
300 mm	\$λ

Commercial Water Service

Applicable To all commercial, industrial and institutional customers within the city of Edmonton

To all water customers not otherwise defined as Residential or Multi-Residential water service customers per Part I of this Schedule or as hydrant or truck fill service water customers per Part III of this Schedule.

Rate Fixed Monthly Service Charge

See Fixed Monthly Water Service Charges

Consumption Charge

$0 \text{ m}^3 - 25.0 \text{ m}^3$	\$ λ per m ³
25.1 m ³ – 100.0 m ³	\$ λ per m ³
100.1 m ³ – 1,000.0 m ³	\$ λ per m ³
1,000.1 m ³ – 5,000.0 m ³	\$ λ per m ³
Over 5,000 m ³	$\lambda per m^3$

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
15 mm	\$λ
20 mm	\$λ
25 mm	\$λ
40 mm	\$λ
50 mm	\$λ
75 mm	\$λ
100 mm	\$λ
150mm	\$λ
200 mm	\$λ
250mm	\$λ
300 mm	\$λ

Fixed Monthly Water Service Charges

Applicable To all metered water customers within the city of Edmonton municipal boundaries.

Rate Fixed Monthly Water Service Charge

Meter Size	Monthly Charge
15 mm	\$λ
20 mm	\$λ
25 mm	\$λ
40 mm	\$λ
50 mm	\$λ
75 mm	\$λ
100 mm	\$λ
150mm	\$λ
200 mm	\$λ
250mm	\$λ
300 mm	\$λ

Service Charges

Account Application Charge

Applicable To all customers who apply for a new account or change accounts for water service within the city of Edmonton boundaries.

\$λ

Meter Installation or Removal Charge

Applicable To all customers, but most commonly for seasonal customers for whom a meter is removed and installed annually, and for customer-initiated connection and disconnection of water meters and/or associated metering devices.

Rate	Up to 25 mm meter	\$λ
	40 mm to 50 mm meter	\$λ
	Over 50 mm meter	Actual Cost
	Seasonal meters	Actual Cost

Meter Test Charge

Applicable To all customers who request that their EWSI water meter be tested and the results of the test indicate that the meter is operating within prescribed standards.

Rate	Up to 25 mm meter	\$λ
	40 mm to 50 mm meter	\$λ
	Over 50 mm meter	Actual Cost

Off-Cycle Meter Read Charge

Applicable To all customers who require a meter reading on a date other than their regularly scheduled monthly meter read date.

Non-Standard Meter Read Charge

Applicable To all customers who decline the installation of a Standard Meter.

Rate

Rate

Rate

 λ per month

\$λ

Non-Standard Meter Installation Charge	
Applicable	To all customers who after installing a Standard Meter revert back to a Non-Standard Meter.
Rate	\$ λ
	Damage Repair Charge
Applicable	To all customers for whom EWSI must repair or replace damaged water valves, meters, remote meter reading devices or other EWSI equipment or appurtenances, where the equipment or appurtenance is under the customer's care or has been operated or interfered with by the customer.
Rate	Actual Cost plus \$λ
	Tampering Charge
Applicable	To all customers for whom EWSI must investigate, repair, or replace damaged water infrastructure as a result of unauthorized use or tampering.
Rate	Cost to repair plus \$λ
	Thawing of Frozen Services Charge
Applicable	To all customers who require thawing of frozen services.
Rate	First visitno chargeSecond visit\$λ per hour
Rate	First visitno chargeSecond visit\$λ per hourMissed Appointment Charge
Rate Applicable	First visitno chargeSecond visit\$λ per hourMissed Appointment ChargeTo all customers who do not keep a scheduled appointment for any EWSI representative.
Rate Applicable Rate	First visitno charge \$λ per hourMissed Appointment ChargeMissed Appointment ChargeTo all customers who do not keep a scheduled appointment for any EWSI representative.\$λ per missed appointment
Rate Applicable Rate	First visitno charge \$λ per hourSecond visit\$λ per hourMissed Appointment ChargeTo all customers who do not keep a scheduled appointment for any EWSI representative.\$λ per missed appointmentEWSI Missed Appointment Credit
Rate Applicable Rate Applicable	First visitno charge \$λ per hourMissed Appointment ChargeTo all customers who do not keep a scheduled appointment for any EWSI representative.\$λ per missed appointmentEWSI Missed Appointment CreditFor instances in which EWSI does not keep a scheduled appointment for a customer without giving reasonable notice.

No Access Charge

Rate	Cost of service
Applicable	The fee for a new water service installation is calculated on a cost of service basis in accordance with the Water Services Guidelines.
	Service Connection Fee
Rate	λ \$1000 of construction cost
Applicable	To all customers who obtain water at a site during the construction period, prior to the premises going into account for billing.
	Construction Service Charge
	All consumption will be charged at the current and effective rate for Part I Multi-Residential Water Service Consumption Charge for $0 \text{ m}^3 - 100.0 \text{ m}^3$, as updated annually.
Rate	Hydrant Application Fee, annual, per permit $$\lambda$ Hydrant Meter Service Charge $$\lambda$ per monthConsumption Charge $$\lambda$
Applicable	To all customers who obtain water service through fire hydrants.
	Hydrant Permit Charge
Rate	\$λ
Applicable	To all customers who fail to notify EWSI that they have taken possession of a site and EWSI is required to conduct searches to identify the customer.
	Customer Locate Fee
Rate	\$λ per month
	remove Facilities, including reading a Meter, for a period of 6 consecutive months.
Applicable	To all customers who do not allow access by EWSI to install, inspect, test, maintain, repair, investigate, replace or

Water Service Turn-On / Turn-Off Charge

Applicable	To all customers requesting a water service be turned on or
	off (excludes turn-on related to non-payment on account).

- 1. Customer will receive a λ credit if turn off and turn on service can be scheduled and completed in one site visit.
- 2. Customer will receive a λ credit if turn off and turn on service can be scheduled and completed in one site visit.
- 3. Customer will receive a λ credit if turn off and turn on service can be scheduled and completed in one site visit.

Water Service Turn-On Charge, After Turn-off for Non Payment

- Applicable To all customers who require a water service to be turned on after having been turned-off due to non-payment on account.
- RateDuring regular hours\$λ per site visitRequired outside regular working hours\$λ per site visitRequired within 48 hours of request\$λ per site visit

Fire Protection Service

Applicable To all customers within the city of Edmonton who receive standby water service to their private fire protection installations.

RatesFixed Monthly Private Fire Protection Service Charges

Fire Line Service	Monthly
50 mm	\$λ
100 mm	\$λ
150mm	\$λ
200 mm	\$λ
250mm	\$λ
300 mm	\$λ

Truck Fill Service

Applicable	To all customers who obtain water from a truck fill site withi the city of Edmonton municipal boundaries.	
Rate	Account Application Fee Consumption Charge	\$λ \$λ per m ³
Effective Dates	These Part III Service Charges effect March 31, 20 $\lambda\lambda$ are subject to change the terms of this bylaw.	ive April 1, 20λλ to e in future years under

Customer Rebate for Water Services

Applicable To all metered water customers within the city of Edmonton in the event that the Water System Service Quality does not meet the standard performance level.

Rebate Customer Rebate

Meter Size	Rebate
15 mm	\$λ
20 mm	\$λ
25 mm	\$λ
40 mm	\$λ
50 mm	\$λ
75 mm	\$λ
100 mm	\$λ
150mm	\$λ
200 mm	\$λ
250mm	\$λ
300 mm	\$λ

Effective Dates The total penalty for the year will be applied as a rebate to customer water bills in the year immediately following the performance year.

Description	Performance Standard	Actual Performance	Points Earned
Water Quality Index	99.7 %	λ	λ
Customer Service Index			
Post Service Audit Factor	75.0 %	λ	λ
Home Sniffing Factor	94.4 %	λ	λ
Response Time Factor	25	λ	λ
Planned Construction Impact Factor	95.8%	λ	λ
Total Customer Service Index			λ
System Reliability and Optimization Index			
Water Main Break Factor	365	λ	λ
Water Main Break Repair Duration Factor	95.4 %	λ	λ
Water Loss Factor	1.23	λ	λ
System Energy Efficiency Factor	281	λ	λ.
Total System Reliability and Optimization			λ
Environmental Index			
Water Conservation Factor	16.8	λ	λ
Environmental Incident Factor	5	λ	λ
Solids Residual Management Factor	120	λ	λ
Total Environmental Index			λ
Safety Index			λ
Near Miss Reporting Factor	550	λ	λ
Worksite Inspection Factor	1,032	λ	λ
Lost Time Frequency Factor	0.40	λ	λ
All Injury Frequency Factor	1.00	λ	λ
Total Safety Index			λ

$20\lambda\lambda$ Water System Service Quality Measures

Aggregate Points Earned (sum of all the above indices)

λ

Description	Performance Standard	Actual Performance	Points Earned
Points Required at Performance Standard			100.0
Points Above / (Below) Performance Standard			λ
Water System Service Quality Penalty, If Any		λ	

This page sets out Water System Service Quality Measures for the period April 1, 2022 to March 31, 2027.

Pro-Forma Auditor's Report

AUDITOR'S REPORT ON RATE SHEETS 1, 2, 3, 4, 5 AND 6

To the Senior Vice President, EPCOR Water Services Inc.

We have audited the rates for fixed monthly service charges, consumption charges, public fire protection charges, service charges and the customer rebates included in Rate Sheets 1, 2, 3, 4, 5 and 6 (hereinafter referred to as the "Rate Sheets") of EPCOR Water Services Inc. ("EWSI") for the 20xx Annual Water Rate Filing calculated in accordance with City of Edmonton Bylaw 19626 EPCOR Water Services. EWSI management is responsible for the preparation and fair presentation of the financial information in the Rate Sheets. Our responsibility is to express an opinion on this financial information based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards and in conformance with the International Standards for the Professional Practice of Internal Auditing. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial information contained in the Rate Sheets is free of material misstatement. Such an audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the Rate Sheets.

In our opinion, the Rate Sheets for the 20xx Annual Water Rate Filing present fairly, in all material respects, the rates for fixed monthly service charges, consumption charges, public fire protection charges, service charges and the customer rebates effective April 1, 20xx to March 31 20xx, calculated in accordance with City of Edmonton Bylaw 19626 EPCOR Water Services Bylaw.

It is understood that this report has been prepared to facilitate EWSI's reporting as required by Bylaw 19626 and it is not to be referred to or relied upon for any other purpose.

(signed)..... Chartered Professional Accountants

City Date



CITY OF EDMONTON

EPCOR WATER SERVICES AND WASTEWATER TREATMENT BYLAW, REVISED BYLAW 1769819626

THE CITY OF EDMONTON BYLAW 1769819626

EPCOR WATER SERVICES AND WASTEWATER TREATMENT BYLAW, REVISED BYLAW 1769819626

Whereas, pursuant to section 3 of the *Municipal Government Act*, RSA 2000, c M-26, the purposes of a municipality are to provide services, facilities and other things that are necessary or desirable for all or a part of the municipality;

And whereas, pursuant to section 7(g) of the *Municipal Government Act*, Edmonton City Council may pass bylaws respecting public utilities;

Edmonton City Council enacts:

PURPOSE	1	The purpose of this Bylaw is to approve:
		(a) Rates, fees and charges for Water Services, Wastewater Treatment Services and other services provided by EPCOR Water Services Inc. to Customers in the city of Edmonton and others, and a mechanism whereby such Rates, fees and charges will be adjusted on an annual basis, for the period of April 1, 202217 to March 31, 20272;
		(b) Terms and Conditions for Water Services, and a mechanism whereby Water Services Guidelines not inconsistent consistent with the Terms and Conditions may be implemented by EPCOR Water Services Inc. and amended or replaced from time to time;
		(c) The Performance Based Regulation Plan for the period of April 1, 202217 to March 31, 20272 ;
DEFINITIONS	2	In this Bylaw, unless otherwise specified or the context otherwise requires:
		(a) "City" means the municipal corporation of the City of Edmonton;
		(b) "City Manager" means the chief Administrative Officer of the City or his delegate;
		(c) "Customer" means any person more particularly described as a "Customer" in Schedule 2 or is otherwise responsible for paying EWSI;
		(d) "EWSI" means EPCOR Water Services Inc. or its successor;

- (e) "Performance Based Regulation Plan" means the Performance Based Regulation Plan for the period of April 1, 202217 to March 31, 20272, as more particularly described in Schedule 3 to this Bylaw;
 - (f) "Price Schedule" means the Rates in respect of either-Water Services or Wastewater Treatment Services more particularly described in Schedule 1 of this Bylaw, as approved by the City and in effect at the time;
 - (g) **"Rate"** means the rates, fees and charges applicable to any utility service provided by EWSI within the City of Edmonton which the City has authority to approve;
 - (h) "Rate Sheets" means the documents styled as Rate Sheets in Schedule 4, intended for use as templates for the format in which EWSI's annual requests for Rates are to be filed with the City Manager;
- (i) **"Water Services"** includes but is not limited to the production, treatment and supply of potable water delivered through a service connection in accordance with the provisions of the Water Services Franchise Agreement to a Customer, any and all incidental services more particularly described in Schedule 2, and the use of physical plant, equipment, apparatus, appliances, property and facilities owned or employed by EWSI or used in connection with EWSI in providing the supply of potable water to the property of any Customer;
- (j) **"Water Services Franchise Agreement"** means a Franchise Amending-Agreement between EWSI and the City in respect of Water Services, dated January 1, 20<u>20</u>04, including all amendments or replacements thereto;
- (k) <u><u></u>"Wastewater Treatment Franchise Agreement" means a Franchise Agreement in respect of Wastewater Treatment Services between EWSI and the City, dated March 31, 2009, including all amendments or replacements thereto;</u>
- (h)(k) "Water Services Guidelines" means those requirements, standards, specifications, procedures, protocols or guidelines adopted by EWSI pursuant to Schedule 2 or any other Schedule under this Bylaw.; and
- (m) "Wastewater Treatment Services" means the treatment of wastewater and the storage, pumping and disposal of treated wastewater by any means and the right to charge and recover a fee for such services in accordance with the

provisions of the Wastewater Treatment Franchise Agreement.

RULES FOR INTERPRETATION	3	The marginal notes and headings in this Bylaw are for reference purposes only.
RATES EFFECTIVE	4	Rates, fees and charges for the 12 month period April 1, 2022 to March 31, 2023 are approved and shall be charged in accordance with Schedule 1 to this Bylaw.
RATES AFTER MARCH 31, 2023 17	<u>5</u> 4	For each 12 month period from April 1, 202317 to March 31, 20272 , Rates for the provision of Water Services and Wastewater Treatment Services by EWSI will be established in accordance with Section 76.
TERMS AND CONDITIONS	<u>6</u> 5	(a) All Water Services provided within the boundaries of the city of Edmonton shall be provided by EWSI in accordance with the Terms and Conditions of Water Service attached hereto in Schedule 2.
(b) All Wastewater Treatment Services provided within the boundaries of the city of Edmonton shall be		

provided by EWSI except for:

Wastewater Treatment Services which are provided by a person on property of which that person is the owner or tenant for use solely by that person and solely on that property; or

Wastewater Treatment Services for which EWSI has provided written consent.

PRICE SCHEDULE	<u>7</u> 6	Any adjustments to a Price Schedule made under Section <u>54</u> shall
ADJUSTMENTS		be made as follows:

- (a) On or Before March 1st in each year commencing 202317, EWSI shall file for information with the City Clerk and the City Manager Rates Sheets effective for the upcoming 12 month period from April 1 to March 31, reflecting the performance-based water and wastewater Rates in accordance with this Bylaw.
- (b) The filing referred to in subsection (a) above must include sufficient information for the City Manager to determine if the performance-based water and wastewater treatment Rates for the upcoming year haves been calculated in accordance with the provisions of Schedule 3 to this Bylaw.

(c)	If, after reviewing the filing referred to in
	subsection (a) above, the City Manager is
	satisfied that the performance-based water and
	wastewater treatment Rates included in the
	Rate Sheets have been calculated in
	accordance with this Bylaw, the City Manager
	shall issue a compliance letter on or before
	March 15 th of each year confirming that the
	performance-based water and wastewater
	treatment Rates in the Rate Sheet for the
	upcoming year has been calculated in
	accordance with this Bylaw.

- (d) Once the compliance letter has been issued in accordance with the provisions of subsection
 (c), EWSI is authorized to provide Water Services and Wastewater Treatment Services
 pursuant to the Rate Sheets filed in accordance with the provisions of this section.
- (e) The City Clerk shall keep a record of all filings made in accordance with this Bylaw.
- **EFFECTIVE DATE** <u>87</u> This Bylaw comes into effect April 1, 20<u>22</u>17.
- **REPEAL**<u>98</u>Upon this Bylaw becoming effective, Bylaw No.1581617698, as amended, is hereby repealed.
- SCHEDULES <u>109</u> The following schedules are included in, and form ______part of this Bylaw:

Schedule 1 – Price Schedule

Part I – Water Rates Part II – Water Rate Riders Part III – Service Charges Part IV – Wastewater Treatment Rates Part <u>I</u>V – Late Payment Charges

Schedule 2 - Terms and Conditions of Water Service

Schedule 3 – Performance Based Water Rates and Wastewater Treatment Rates

Schedule 4 – Pro-forma Annual Water Rate and Wastewater Treatment Rate Filing

READ a first time this	day of	2021;
READ a second time this	day of	2021;
READ a third time this	day of	2021;
SIGNED AND PASSED this	day of	2021;

THE CITY OF EDMONTON

<u>....</u>

<u>.......</u>

MAYOR

CITY CLERK

Schedule 1

Price Schedule

Part I – Water Rates

Residential Water Service

Applicable To all domestic service customers within the city of Edmonton.

A domestic service is defined as a service supplied to premises used primarily for domestic purposes, where no more than four separate dwelling units are metered by a single water meter and the service line to the premises is not greater than 50 millimeters in diameter.

If a business is conducted from premises that otherwise fall within the above definition of a domestic service, this Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises.

Effective Dates and Adjustments for Future Years

<u>Consumption Charges and Public Fire Protection Monthly Charges for the period April 1,</u> <u>2022 to March 31, 2023 are set out below.</u> Consumption Charges<u>and Public Fire</u> <u>Protection Monthly Charges</u> for the period April 1, 204<u>237</u> to March 31, 202<u>72</u> will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6-7 of this Bylaw.

Rates

Fixed Monthly Service Charge

In accordance with the "Fixed Monthly Water Service Charges" provisions of this Schedule.

Consumption Charge

$0 \text{ m}^3 - 10.0 \text{ m}^3$	\$ _1.8983
10.1 m ³ to 35.0 m ³	\$-2.0737 2.2498 2.2382 per m ³
<u>Over 35.0 m³</u>	\$ <u>2.8435</u> 2.8287per m ³
Over 35.0 m ³	\$ 2.6208 per m ³

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
<u>15 mm</u>	<u>\$2.59</u>
<u>20 mm</u>	<u>\$3.88</u>
<u>25 mm</u>	<u>\$6.47</u>
<u>40 mm</u>	<u>\$12.95</u>
<u>50 mm</u>	<u>\$20.72</u>
75 mm	\$38.84

<u>100 mm</u>	<u>\$64.74</u>
<u>150mm</u>	<u>\$129.48</u>
<u>200 mm</u>	<u>\$207.16</u>
250mm	<u>\$297.80</u>
<u>300 mm</u>	<u>\$437.11</u>

Part I – Water Rates

Multi-Residential Water Service

Applicable To all multi-residential service customers within the city of Edmonton.

A multi-residential service is defined as a service supplied to premises used primarily for domestic purposes; where more than four separate dwelling units are metered by a single water meter.

If a business is conducted from premises that otherwise fall within the above definition of a multi-residential service, this Multi-Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises

Effective Dates and Adjustments for Future Years

Consumption Charges and Public Fire Protection Monthly Charges for the period April 1, 2022 to March 31, 2023 are set out below. Consumption Charges and Public Fire Protection Monthly Charges for the period April 1, 2023+7 to March 31, 20272 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 76 of this Bylaw.

Rate

Fixed Monthly Service Charge

In accordance with the "Fixed Monthly Water Service Charges" provisions of this Schedule.

Consumption Charge

0 m³ – 100.0 m³ 100.1 m³ – 1000.0 m³ Over 1000.0 m³ \$1.8421<u>1.9442</u>1.9341 per m³ \$1.5410<u>1.6265</u>1.6180 per m³ \$1.2733<u>1.3441</u>1.3372 per m³

Part I – Water Rates

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
15 mm	\$2.54
20 mm	\$3.81
25 mm	\$6.36
40 mm	\$12.72
50 mm	\$20.34
75 mm	\$38.15
100 mm	\$63.58
150mm	\$127.15
200 mm	\$203.44
250mm	\$292.45
300 mm	\$429.26

Part I – Water Rates

Commercial Water Service

Applicable To all commercial, industrial and institutional customers within the city of Edmonton.

To all water customers not otherwise defined as Residential or Multi-Residential water service customers per Part I of this Schedule or as hydrant or truck fill service water customers per Part III of this Schedule.

Effective Dates and Adjustments for Future Years

<u>Consumption Charges and Public Fire Protection Monthly Charges for the period April 1,</u> <u>2022 to March 31, 2023 are set out below.</u> Consumption Charges <u>and Public Fire</u> <u>Protection Monthly Charges</u> for the period April 1, 20<u>23</u>17 to March 31, 202<u>7</u>² will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section <u>76</u> of this Bylaw.

Rate

Fixed Monthly Service Charge

In accordance with the "Fixed Monthly Water Service Charges" provisions of this Schedule.

Consumption Charge

 $0 m^3 - 25.0 m^3$ $25.1 m^3 - 100.0 m^3$ $100.1 m^3 - 1000.0 m^3$ $1000.1 m^3 - 5000.0 m^3$ Over 5000 m³ \$1.44491.62061.6122 per m³ \$1.44491.62061.6122 per m³ \$1.33261.49441.4867 per m³ \$1.05471.18301.1768 per m³ \$0.84890.95220.9472 per m³

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
15 mm	\$5.87
20 mm	\$8.81
25 mm	\$14.68
40 mm	\$29.36
50 mm	\$46.97
75 mm	\$88.07
100 mm	\$146.78
150mm	\$293.55
200 mm	\$469.68
250mm	\$675.17
300 mm	\$991.03
Fixed Monthly Water Service Charges

Applicable To all metered water customers within the city of Edmonton.

Effective Dates and Adjustments for Future Years

Fixed Monthly Water Service Charges for the period April 1, <u>2022 to March 31, 2023 are</u> set out below. Fixed Monthly Water Services Charges for the period April 1, 202317 to March 31, 20272 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section <u>76</u> of this Bylaw.

Fixed Monthly Water Service Charge

Meter Size	Monthly Charge
15 mm	\$ <mark>7.28</mark> <u>12.53</u> 12.46
20 mm	\$ <mark>9.99</mark> <u>18.79</u> 18.70
25 mm	\$ 14.17 <u>31.32</u> 31.16
40 mm	\$ <mark>24.74</mark> <u>62.64</u> 62.32
50 mm	\$ <mark>32.98</mark> <u>100.23</u> 99.71
75 mm	\$ <mark>65.46</mark>
100 mm	\$ 119.60 <u>313.22</u> 311.61
150mm	\$ <mark>223.85</mark> <u>626.43</u> 623.21
200 mm	\$ <mark>355.62</mark> <u>1,002.29</u> 997.14
250mm	\$ <mark>831.04</mark> <u>1,440.79</u> 1,433.39
300 mm	\$ <mark>831.04</mark> <u>2,114.84</u> 2,103.97

Rate

Part II – Water Rates

Distribution System Rider

Applicable	To customers who privately own and operate a substantial underground water distribution system. For further clarification, the distribution system must provide service at multiple delivery points and not be less than 1 kilometer long. This rider is not applicable for dedicated fire protection service.
	The customer must submit a request in writing to EWSI. EWSI reserves the right to accept or deny any request. The amount and duration of this rider will be at the sole discretion of EWSI. Only one rider will be applied to any one customer at one time.
Rate	A discount from the regular water rate category of the customer

- Rate A discount from the regular water rate category of the customer where the level of discount to the customer will be determined on a case-by-case basis.
- **Effective Dates** This rate is effective as and when amended or approved by EWSI for the period April 1, 202217 to March 31, 20272.

Part II – Water Rates

Multi-Meter Rider

Applicable To customers who receive water through more than one water service and, as a result, more than one water meter.

For further clarification, all water services must supply the same or adjoining buildings, and all water services must be in account to the same customer.

This rider is not applicable for water meter bank installations associated with one water service.

The customer must submit a request in writing to EWSI. EWSI reserves the right to accept or deny any request. The amount and duration of this rider will be at the sole discretion of EWSI. Only one rider will be applied to any one customer at one time.

- Rate A discount from the regular water rate category of the customer where the level of discount to the customer will be determined on a case-by-case basis.
- **Effective Dates** This rate is effective as and when amended or approved by EWSI for the period April 1, 202217 to March 31, 20272.

Account Application Charge

Applicable To all customers who apply for a new account or change accounts for water service within the city of Edmonton boundaries.

Rate

\$25.00

Meter Installation or Removal Charge

- Applicable To all customers, but most commonly for seasonal customers for whom a meter is removed and installed annually, and for customerinitiated connection and disconnection of water meters and/or associated metering devices.
- RateUp to 25 mm meter\$200.0040 mm to 5075 mm meter\$300.00Over 75-50 mm meterActual CostSeasonal metersActual Cost

Meter Test Charge

- Applicable To all customers who request that their EWSI water meter be tested and the results of the test indicate that the meter is operating within prescribed standards.
- Rate
 Up to 25 mm meter
 \$200160.00

 40 mm to 5075 mm meter
 \$2725.00

 Over 5075 mm meter
 Actual Cost

Off-Cycle Meter Read Charge

- Applicable To all customers who require a meter reading on a date other than their regularly scheduled monthly meter read date.
- Rate
 \$12.52

 Non-Standard Meter Read Charge

 Applicable
 To all customers who decline the installation of a Radio-Frequency Meter.Standard Meter.

Rate

\$<u>15.20</u>49.03 per month

Non-Standard Meter Installation Charge

Applicable To all customers who after installing a Radio-FrequencyStandard Meter revert back to a non-Radio-FrequencyNon-Standard Meter. Rate \$200.00 Damage Repair Charge Applicable To all customers for whom EWSI must repair or replace damaged water valves, meters, remote meter reading devices or other EWSI appurtenances, equipment or where the equipment or appurtenance is under the customer's care or has been operated or interfered with by the customer. Rate Actual Cost of meter plus \$100.00 **Tampering Charge** Applicable To all customers for whom EWSI must investigate, repair, or replace damaged water infrastructure as a result of unauthorized use or tampering. Rate Cost to repair plus \$250.00 Thawing of Frozen Services Charge To all customers who require thawing of frozen services. Applicable Rate First visit no charge Second visit \$300.00 per hour Missed Appointment Charge Applicable To all customers who do not keep a scheduled appointment for any EWSI representative. Rate \$6035.00 per missed appointment EWSI Missed Appointment Credit Applicable For instances in which EWSI does not keep a scheduled appointment for a customer without giving reasonable notice. Rate \$35.00 credit to customer per missed appointment

Part III – Service Charges

No Access Charge

Applicable	To all customers who do not allow access by EWSI to install, inspect, test, maintain, repair, investigate, replace or remove Facilities, including reading a Meter, for the purpose of water meter reading for a period of 6 consecutive months.	
Rate	\$ <u>40</u> 35 .00 per month	
	Customer Locate Fee	
<u>Applicable</u>	To all customers who fail to notify EWSI that they have taken possession of a site and EWSI is required to conduct searches to identify the customer.	
Rate	\$20.0	
	Hydrant Permit Charge	
Applicable	To all customers who obtain water service through fire hydrants.	
Rate	Hydrant Application Fee, annual, per permit\$ <u>9085.00</u> Hydrant Meter Service Charge\$50.00 per monthConsumption Charge\$50.00 per month	
	All consumption will be charged at the current and effective rate for Part I Multi-Residential Water Service Consumption Charge for 0 m^3 –100.0 m ³ , as updated annually.	
	Construction Service Charge	
Applicable	To all customers who obtain water at a site during the construction period, prior to the premises going into account for billing.	
Rate	\$0.44 / \$1000 of construction cost	
	Service Connection Fee	
Applicable	The fee for a new water service installation is calculated on a cost of service basis in accordance with the Water Services Guidelines.	
Rate	Cost of service	

Water Service Turn-On / Turn-Off Charge

Applicable	To all customers requesting a water service be turned on or off (excludes turn-on related to non-payment on account).		
Rate	 During regular hours Required outside regular working hours Required within 48 hours of request Customer will receive a \$655.00 credit if turn off and turn on service can be scheduled and completed in one site visit. Customer will receive a \$80.00 credit if turn off and turn on service can be scheduled and completed in one site visit. Customer will receive a \$120.00 credit if turn off and turn on service can be scheduled and completed in one site visit. Customer will receive a \$120.00 credit if turn off and turn on service can be scheduled and completed in one site visit. 		
water Service Turn-On Charge, After Turn-off for Non Payment			
Applicable	To all customers who require a water service to be turned on after having been turned-off due to non-payment on account.		
Rate	During regular hours\$680.00 per site visitRequired outside regular working hours\$810Required within 48 hours of request\$120.00 per site visit		
Fire Protection Service			
Applicable	To all customers within the city of Edmonton who receive standby water service to their private fire protection installations.		
Rates	Fixed Monthly Private Fire Protection Service Charges		

Fire Line Service	Monthly Charge
50 mm	\$ 2.28 <u>1.42</u> 1.41
100 mm	\$ <mark>11.87</mark> <u>8.80</u> 8.70
150mm	\$ <mark>25.72</mark>
200 mm	\$ <mark>47.00</mark> <u>54.50</u> 53.86
250mm	\$ <mark>74.21</mark> <u>98.01</u> 96.86
300 mm	\$ 117.41

Truck Fill Service

- Applicable To all customers who obtain water from a truck fill site within the city of Edmonton municipal boundaries.
- RateAccount Application Fee\$35.00Consumption Charge\$4.00 per m³
- Effective Dates Part III Service Charges are effective April 1, 202217. Service Charges for the period April 1, 2023 to March 31, 2027 will be determined by applying the adjustment factors for Service Charges set out in Schedule 3 of this Bylaw to the rates set out in this Part III – Service Charges, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 7 of this Bylaw.

Residential Wastewater Treatment Service

ApplicableTo all domestic service customers and multi-residential service
customers located within the city of Edmonton which are serviced
by or connected to the City's sewerage system.

A domestic service and multi-residential service are defined in Part I of this Schedule.

Effective Dates and Adjustments for Future Years

Fixed Monthly Services Charges and Consumption Charges for the period April 1, 2017 to March 31, 2022 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rates	Fixed Monthly Service Charge	\$4.15 per month
	Consumption Charge*	
	All consumption	<u>\$0.7944 per m³</u>
	* Consumption is based on water meter readings EWSI and the City.	unless otherwise approved by
	Commercial Wastewater Treatment Sei	-vice
Applicable	To all commercial, industrial and institutio	nal customers within the
	city of Edmonton which are serviced by o sewerage system.	r connected to the City's
	To all customers not otherwise defined a	s Residential Wastewater
	Treatment Service customers.	
Effective Date	s and Adjustments for Future Years	
Fixed Monthly	Services Charges and Consumption Charges for	or the period April 1, 2017

to March 31, 2022 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rates	Fixed Monthly Service Charge	\$4.15 per month	
	Consumption Charge *		
	<u> </u>	\$0.7944 per m ³	

 -10,000.1 m³ - 100,000.0 m³ -		per m³
 Over 100,000.0 m³	\$0.3207	per m³

* Consumption is based on water meter readings unless otherwise approved by EWSI and the City.

Wastewater Treatment Rate: Sewer Metering

- ApplicableTo non-residential wastewater treatment service customers
discharging more than 50,000 m³ per month to the City's sanitary
sewer system and who wish to apply for sewer metering in place of
water meter readings.
 - The customer must submit a written application to The City, following the terms and processes outlined in the City of Edmonton Bylaw 9675, Sewers Use Bylaw, as amended.

Wastewater Treatment Rate: Sewer Utility Credit

Applicable To non-residential wastewater treatment service customers who can clearly demonstrate that there is a water loss experience between their water consumed and their discharges to the sanitary sewer system on a continuous monthly basis.

The customer must submit a written application to The City, following the terms and processes outlined in the City of Edmonton Bylaw 9675, Sewers Use Bylaw, as amended.

Wastewater Overstrength Surcharges

Applicable Applies to a customer who releases wastewater to the sewer system that contains one or more constituents that exceed the concentration indicated in this Schedule.

Effective Dates and Adjustments for Future Years

The Wastewater Overstrength Surcharges for the period April 1, 2017 to March 31, 2022 will be determined and adjusted as outlined in Schedule 3 of this Bylaw, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rates

Wastewater Overstrength Surcharge:

The Overstrength Surcharge, applied to each m³ of water consumed, for each kilogram of surchargeable matter per m³ of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
a) \$0.4977 for Biochemical Oxygen Demand (BOD)	<u></u>
b) \$0.4977 for Chemical Oxygen Demand (COD)	<u> </u>
c) \$0.4352 for oil and grease	<u> </u>
d) \$4.1412 for phosphorous	<u> </u>
e) \$0.4517 for suspended solids and	<u></u>
f) \$1.0570 for total kieldahl nitrogen (TKN)	<u>50 mg/L</u>
* Or twice the DOD concentration in the westewater, which ever is greater	ee mg/E

* Or twice the BOD concentration in the wastewater, whichever is greater.

Wastewater Additional Overstrength Surcharge:

The Additional Overstrength Surcharge, applied to each m³ of water consumed, for each kilogram of surchargeable matter per m³ of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
a) \$0.4977 for Biochemical Oxygen Demand (BOD) 3,000 mg/L
b) \$0.4977 for Chemical Oxygen Demand (COD)	6,000 mg/L*
c) \$0.4352 for oil and grease	400 mg/L
d) \$4.1412 for phosphorous	75 ma/L
e) \$0.4517 for suspended solids, and	
f) \$1.0570 for total kieldahl nitrogen (TKN)	<u>200 mg/L</u>
	,

* Or twice the BOD concentration in the wastewater, whichever is greater.

Wastewater Overstrength Surcharges Adjustment

- Applicable
 To customers to whom the Wastewater Overstrength Surcharges apply and who own and operate facilities that produce and deposit into the sewer system 25,000 m³ or more per month of wastewater with a Biochemical Oxygen Demand equal to or greater than 100 tonnes per month with a ratio of Chemical Oxygen Demand to Biochemical Oxygen Demand (5-day test) less than 2.0.

 It must be demonstrated through a technical assessment by EWSI that the impact of treating the customer's wastewater stream at the Gold Bar Wastewater Treatment Plant will be significantly beneficial for biological nutrient removal. The customer must provide, at its
 - own cost, all information, samples and other materials that EWSI may require to complete this technical assessment. The customer will be responsible for the full cost of the EWSI technical assessment.
- This adjustment does not apply to Residential Wastewater Treatment Service customers. This adjustment does not supersede or override any provisions of the Sewers Use Bylaw 9675.
 - A customer who wishes to be considered for this adjustment must submit a request in writing to EWSI for review of its Wastewater Overstrength Surcharge and eligibility for the adjustment. EWSI reserves the right to accept or deny any application and the amount and duration of the adjustment will be at the sole discretion of EWSI, as determined by the EWSI study reflecting the Gold Bar Wastewater Treatment Plant operation. Only one Wastewater Overstrength Surcharges Adjustment will be applied to any one customer at one time.
- Rate A discount from the regular rates for Wastewater Overstrength Surcharges where the level of discount to the customer will be determined on a case-by-case basis.
- **Effective Dates** This rate is effective as and when EWSI amends or approves the rate for the period April 1, 2017 to March 31, 2022.

Wastewater Overstrength Surcharges: Supplementary Information

1. Key Terms

- a. Biochemical oxygen demand (BOD) means the quantity of oxygen required for the biochemical degradation of organic material and the oxygen used to oxidize inorganic material such as sulphides and ferrous iron during a 5-day, 20 degree Celsius incubation period and may measure the oxygen used to oxidize reduced forms of nitrogen, as determined by using a standard procedure.
- b. Chemical oxygen demand (COD) means a measure of the oxygen equivalent of the organic content of a sample that is susceptible to oxidation by a strong chemical oxidant, as determined by using a standard procedure.
- c. Flow monitoring point means an access point to the building drain, building sewer, private drainage system or sewer service for the purpose of collecting representative samples of the wastewater being released from the premises.
- d. **Oil and grease** means any solvent extractable material of animal, vegetable or mineral origin, as determined by using a standard procedure.
- e. **Phosphorus** means all forms of phosphorus in a sample, as determined by using a standard procedure.
- f. **Suspended solids** means the portion of total solids retained by a filter, as determined by using a standard procedure.
- g. **Total Kjeldahl Nitrogen (TKN)** means organically bound nitrogen plus ammonia nitrogen, as determined by using a standard procedure.

2. Determination of Wastewater Overstrength Surcharges

EWSI or its agent:

- a. will collect a composite sample of the wastewater being released over any 24 hour period or part thereof;
- b. will determine the concentration of the surchargeable constituents in the sample, using a standard procedure;

- will calculate the average concentration of each constituent from a minimum of four (4) composite samples taken over a period of more than seven (7) days, and not longer than a 12 month period;
- d. may, where the concentration(s) of the overstrength constituent(s) are in the same range as those used to establish the existing overstrength surcharge, use the existing mean concentrations to set the overstrength surcharge rate until such time as the concentrations fall outside the existing range;
- e. will calculate the average number of kilograms of each surchargeable constituent per cubic metre of wastewater, that exceeds the concentration indicated in Part IV "Wastewater Overstrength Surcharge" and "Wastewater Additional Overstrength Surcharge" of this Schedule; and,
- f. will calculate the Wastewater Overstrength Surcharges which will appear on the customer's utility bill using the following formula:

Overstrength surcharge (\$) =

<u>m³{(Ob (Cxb - 300) + Oc(Cxc - Cac) + Oo(Cxo - 100) + Op(Cxp - 10) + Os (Cxs - 300) + On(Cxn - 50)}</u> 100,000

Where:

- m³ is the total water consumption in cubic meters (or, if approved, sewer metering);
- Ob, Oc, Oo, Op, Os and On are the Overstrength surcharge set out in Part IV for each kilogram of BOD, COD, oil and grease, phosphorus, suspended solids, and TKN, respectively.
- Cxb, Cxc, Cxo, Cxp, Cxs, Csn are the average concentrations in milligrams per liter (mg/L) of BOD, COD, oil and grease, phosphorus, suspended solids and TKN, respectively, in the sampled wastewater.
- Cac is 600 or double the average BOD concentration in mg/L, whichever is greater.
- The additional surcharge is calculated using the above formula but substituting 3000, 400, 75, 3000 and 200 for 300, 100, 10, 300 and 50, respectively, and Cac is 6000 or double the average BOD concentration in mg/L, whichever is greater.
- Where the remainder of a subtraction is a negative number, that component of the formula becomes equal to zero.

Wastewater Overstrength Surcharges: Supplementary Information

3. Application of Wastewater Overstrength Surcharges

a. Single Business, Multiple Sewers:

Where the wastewater from a premises is released through two or more building sewers and where there is no accurate measurement of the individual flows being released, the release that would produce the highest surcharge will be used to determine the overstrength surcharge on all releases.

b. Multiple Businesses, Single Water & Sewer Service:

Wastewater released through a single sewer service from a premises with two or more separate businesses serviced by a single water service will be considered as being released by the person responsible for the payment of the utility bill for that water meter.

c. Multiple Businesses, Multiple Water Services & Single Sewer Service Wastewater released through a single sewer service from a premises with two or more separate businesses, each serviced by separately metered water services, will be considered as being released from each of the separate businesses, in proportion to the separate business' water consumption, unless it is shown to the satisfaction of EWSI or its agent, by the owner of the premises, that:

- i. the portion of the wastewater that is overstrength is being released from only one of the businesses serviced by a separate metered water service on the premises; and,
- ii. the release from that business can be monitored separately from the other businesses.

Wastewater Overstrength Surcharges: Supplementary Information

4. <u>Review of Wastewater Overstrength Surcharges</u>

A customer may request a review of the Wastewater Overstrength Surcharge or the Additional Overstrength Surcharge, or both, by applying in writing to EWSI to have the specific charges reviewed.

The customer making the request will supply to EWSI:

- a. analytical data from analyses of composite samples:
 - i. collected over the period of time over which the surcharge was calculated;
 - ii. collected from the flow monitoring point in accordance with section 2(a) of this Wastewater Overstrength Surcharge: Supplementary Information;
 - iii. analyzed in accordance with section 2(b) of this Wastewater Overstrength Surcharge: Supplementary Information; and,
 - iv. supported by the analytical data indicating the accuracy and precision of the analyses; and
- b. any other information EWSI deems necessary to carry out the review.

EWSI will determine whether the Wastewater Overstrength Surcharge, the Additional Overstrength Surcharge, or both, should be recalculated for the time period being reviewed.

Late Payment Charges

A late payment charge of 2.5% per month, not compounded, is applied to all charges on a Customer's Account, if the Customer's payment has not been received by EWSI in full by the payment date specified on the bill before one month from the date of issuance of the bill in respect of the charges. If considered to be interest payable for credit advanced, then the late payment charge is equivalent to a maximum yearly rate of 45.6%. A dishonoured cheque charge of \$25.00 is applied for each cheque returned for insufficient funds.

Schedule 2

Terms and Conditions of Water Service

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INTRODUCTION TO TERMS AND CONDITIONS

These Terms and Conditions, as approved by the municipal council of the City of Edmonton, form part of Bylaw <u>17698–19626</u> (the "EPCOR Water Services<u></u>—and Wastewater Treatment Bylaw") which regulates the provision of Water Services in the city of Edmonton by EPCOR Water Services₇ Inc. ("EWSI"). The EPCOR Water Services and Wastewater Treatment Bylaw, which also includes the EWSI Price Schedule in effect from time to time, is enacted pursuant to the powers vested in the City under the provisions of the <u>Municipal Government Act</u> RSA 2000 c M-26.

These Terms and Conditions apply to EWSI and its relationship with all of its Customers. Every Customer, by applying for or using a Service Connection or Water Services or other services of any kind provided by EWSI under the authority of these Terms and Conditions, is deemed to have accepted these Terms and Conditions and is bound by and subject to them.

Unless otherwise agreed in writing by EWSI and a Customer, provision of Water Services or other services by EWSI to Customers will occur only in accordance with these Terms and Conditions.

ARTICLE 1 - DEFINITIONS AND INTERPRETATION

1.1 Definitions

The following words and phrases, whenever used in these Terms and Conditions or in an application, contract or agreement for service under these Terms and Conditions, shall have the meanings set forth below:

"Account" means a written and/or digital record of use of Water Services or other services by a Customer, including the amounts payable from time to time by the Customer to EWSI;

"Billing Agent" means the entity appointed by EWSI to provide billing and customer care services:-

"Business Day" means a day, which is not a Saturday, Sunday or a statutory holiday in the Province of Alberta, and "day" means any calendar day:

"City" means the municipal corporation of the City of Edmonton;

"Cross Connection" means any permanent or temporary piping arrangement that allows or may potentially allow the Waterworks System to be connected to a contaminant source. Examples may include, without limitation: garden hoses, any other hose attached to a threaded faucet, swivel or change over devices, removable sections, jumper connections and bypass arrangements; "**Curb Cock**" means a valve connected into a Service Connection enabling the water supply to a Customer to be Turned Off or Turned On, (which will ordinarily but not necessarily be located at or near a Customer's property line);

"Customer" means any person, firm or body corporate that receives Water Services or other services related to or incidental to the Water Services from EWSI pursuant to the EPCOR Water Services and Wastewater Treatment-Bylaw and where the context or circumstances so require includes any person who makes or has made an application for Water Services or otherwise seeks to receive Water Services, and also includes any person acting as an agent or representative of a Customer, as well as a registered owner of property to which Water Services are being delivered;

"Customer Usage Information" means information regarding the historical use of Water Services or water consumption of a Customer, and includes the Customer's history of payment for Water Services or other services provided under these Terms and Conditions;

"Disturbed Ground" means terrain (surface or sub-surface) that is disturbed and that may require incremental construction techniques or support systems to provide stability;

"**Dwelling**" means a private residence with sleeping and cooking facilities used or intended to be used permanently or semi-permanently as a residence;

"EWSI" means EPCOR Water Services Inc. or its successor;

"Facilities" means any infrastructure forming part of the Waterworks System owned or used by EWSI including, without limitation: water treatment plants, reservoirs, pumping stations, water transmission mains, water distribution mains, water service lines, Curb Cocks, valves, fire hydrants, flushmount hydrants, chambers, utility corridors, tunnels, casings, flow or pressure regulating valves, air/vacuum relief valves, Meters and any other measurement devices and other physical plant and piping appurtenances, used to produce and supply potable water;

"Force Majeure" means circumstances not reasonably within the control of EWSI, including acts of God, strikes, lockouts or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, high water, washouts, inclement weather, orders or acts of civil or military authorities, civil disturbances, explosions, breakdown or accident to equipment, mechanical breakdowns, intervention of federal, provincial or local government or any of their agencies or boards, the order or direction of any court, and any other cause, whether of the kind herein described or otherwise;

"Multiple Dwelling" means a wholly or partially residential development containing more than one Dwelling, whether or not the development is within a single building or structure, which receives Water Services through a total number of Service Connection Points that is less than the total number of Dwellings in the residential development;

"Non-Standard Meter" means a water meter that is not equipped with a radio frequency module does not have the capability of remotely communicating via radio frequency signals with EWSI's advanced metering network;-

"Owner" means:

- (a) the registered owner of a parcel of land in the register maintained by the Registrar of Land Titles under the Land Titles Act, or
- (b) a person who has purchased the parcel from the person mentioned in sub clause (a) pursuant to an agreement for purchase and sale:

"Potable Water" means water that is suitable for human consumption;

"**Price Schedule**" means the rates, fees and charges for Water Services more particularly described in Schedule 1 of the EPCOR Water Services and Wastewater Treatment Bylaw, as approved by the City and in effect at the time;

"**Private Service Line**" means the Customer owned water line and all associated equipment and any other assets for providing water to a Customer that are located downstream of the Service Connection Point, including the piping joint on the downstream side of the Service Connection Point and excepting the water Meter that is owned by EWSI;

"Service Connection" means all of the Facilities required to achieve a physical connection between an EWSI water main abutting Customer property and a Private Service Line to allow a Customer to receive water delivered through the Waterworks System, including without limitation the water service line from the water main to the Service Connection Point;

"Service Connection Point" means the point where a Service Connection owned by EWSI and forming part of the Waterworks System physically connects to a Private Service Line (which will ordinarily, but not necessarily, be a point at or near a Customer's property line): $\overline{}$

"Standard Meter" means an advanced water meter that is equipped with a radio frequency (RF) module. A RF module is a device that is used to transmit and/or receive radio signals between two devices has the capability of remotely

communicating via radio frequency signals with EWSI's advanced metering network;-

"Terms and Conditions" means the terms and conditions in respect of Water Services described herein

"Turn Off" means the process where the delivery of potable water to the Customer is terminated. Turn Off is normally executed by operating the inlet valve or the master control valve, associated with the Meter setting. In EWSI's sole discretion, Turn Off may be executed by operation of the Curb Cock;

"Turn On" means the process where the delivery of potable water to the Customer is activated or re-activated. Turn On is normally executed by operating the inlet valve or the master control valve, associated with the Meter setting. In EWSI's sole discretion, Turn On may be executed by operation of the Curb Cock;

"Water Services" includes but is not limited to the production, treatment and supply of potable water delivered through a Service Connection in accordance with the provisions of the Water Services Franchise Agreement to a Customer, any and all incidental services more particularly described in these Terms and Conditions, and the use of physical plant, equipment, apparatus, appliances, property and facilities owned or employed by EWSI or used in connection with EWSI in providing the supply of potable water to the property of any Customer;

"Water Services Agreement" means any agreement under which EWSI has or may incur an obligation to provide Water Services to one or more Customers, and may at EWSI's sole option include any servicing agreement entered into by the City to which EWSI is not a party to the extent that the servicing agreement addresses the provision of Water Services to a Customer;

"Water Services Guidelines" means any document referred to as Water Services Guidelines in paragraph 2.2 of Article 2 of these Terms and Conditions;

"Waterworks System" means the Facilities and all associated real and personal property used by EWSI to supply potable water to Customers.

1.2 Conflicts

If there is any conflict between a provision in these Terms and Conditions, and a provision in a Water Services Agreement or other agreement between EWSI and a Customer, the provision in these Terms and Conditions shall govern unless an express term of the Water Services Agreement or other agreement states otherwise.

1.3 Extended Meanings

In these Terms and Conditions, words importing the singular number shall include the plural and vice versa, words importing the masculine gender shall include the feminine and neuter genders and vice versa. Words importing a person shall include a person, firm, partnership, corporation, organization or association (including, without limitation, individual members of any unincorporated entity).

1.4 Headings

The division of these Terms and Conditions into sections, subsections and other subdivisions and the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation of these Terms and Conditions.

ARTICLE 2 - GENERAL PROVISIONS

2.1 Fundamental Obligations of EWSI and of Customers

- (a) EWSI will provide Water Services, at the fees, rates or other charges specified in the Price Schedule in accordance with these Terms and Conditions and with applicable provisions of the Water Services Guidelines. All additional services provided by EWSI to a Customer will be billed to the Customer in accordance with an agreement between the Customer and EWSI. The general costs of operating and maintaining the Waterworks System are covered by the rates for Water Services set out in the Price Schedule. EWSI will operate and maintain the Waterworks System at no additional charge to any Customer beyond the fees, rates and charges for Water Services set out in the Price Schedule or in a Water Services Agreement, except for costs arising from:
 - (i) requirements or requests for specific non-routine services not more particularly described in the Price Schedule, or the acts or omissions of any particular Customer or defined group of Customers,
 - (ii) repairs or remedies of any loss or damage to Facilities or other property that is caused by a Customer or any other party for whom a Customer is responsible in law, including, without limitation, any costs or damages described in any judgment of a court in EWSI's favour.

Such additional costs may at EWSI's sole option (and in addition to any other legally available remedies) be added to a Customer's Account as an additional amount due and payable by the Customer to EWSI.

(b) When EWSI performs a repair on its Facilities affecting a Customer's property, EWSI will make all reasonable efforts to return the property to its

original or similar to original condition as soon as practicable after the repair is completed.

- (c) Prior to receiving any Water Services from EWSI, a Customer shall open an Account to pay for all Water Services provided by EWSI, whether or not listed in the Price Schedule. Any such services may be added by EWSI to the Customer's Account. A Customer shall comply with the requirements of these Terms and Conditions, the billing practices of the Billing Agent and the Water Services Guidelines.
- (d) Where any Facilities required to supply Water Services to a Customer are located in Disturbed Ground, or where any other unusual condition exists, EWSI's obligation to construct does not include incremental construction costs required to stabilize such Facilities or the disturbed ground, or to address other unusual conditions. The Customer may at EWSI's sole option be required to pay all additional construction costs in such circumstances, including the costs of any required support system.
- (e) With the exception of use for firefighting purposes, all Customers must enter into EWSI's Hydrant Permit Agreement for any access to or use of bulk water through a hydrant.

2.2 Water Services Guidelines

- (a) EWSI may adopt written requirements, standards, specifications, procedures, protocols or guidelines supplementary to these Terms and Conditions (the "Water Services Guidelines") as EWSI deems advisable for the purpose of clarifying or explaining:
 - (i) any fee, rate or other charge set out in the Price Schedule, including the circumstances and the manner in which such fee, rate or charge will be applied and billed to a Customer;
 - the manner in which EWSI's obligations under the EPCOR Water Services and Wastewater Treatment Bylaw and any applicable federal or provincial legislation or regulations will be fulfilled and the impacts on Customers;
 - (iii) EWSI's operating policies and procedures, and its requirements in relation to provision of Water Services or other services, including without limitation requirements intended to: provide security for costs incurred by EWSI, ensure the health and safety of employees, ensure the safety of the potable water supply delivered through the Waterworks System and maintain the reliability of the Waterworks System.

EWSI may amend the Water Services Guidelines from time to time to reflect changes to the industry, EWSI's requirements or the changing needs of EWSI's Customers. A copy of the Water Services Guidelines and amendments thereto will be filed with the City Clerk for information purposes and can be accessed www.epcor.com.

The Water Services Guidelines and any amendments thereto shall be effective as of the date posted to EWSI's website. Without limitation to the foregoing and in the interest of greater clarity, the term "amend" in this clause includes the deletion of all or any portion of any Water Services Guideline previously filed with the City Clerk.

- (b) Without limiting the generality of Section 2.2(a) above, Water Services Guidelines may deal with any or all of the following subject matter:
 - procedures or requirements that a Customer must comply with before a Service Connection is installed or activated, or before Water Services are provided, or as a condition of ongoing provision of Water Services;
 - (ii) Customer Accounts, including without limitation provisions or requirements concerning: opening an Account, making payments on an Account, consequences for failure to pay Accounts in full, lost bills, dishonoured cheques, collection of delinquent Accounts, adjusting improperly billed Accounts, Water Service application fees, handling of confidential Customer Account information, closing an Account, and any other matter relating to Customer Accounts;
 - (iii) measurement of water consumption, including without limitation provisions or requirements concerning: Meter inspection and testing, Meter settings, chambers and installations, Meter reading, disputes concerning Meter data, estimates of consumption, private or subsidiary Meters, remote Meter reading devices, relocation of Meters, access for Meter readers, and adjustments to bills when Meters have malfunctioned;
 - (iv) procedures or requirements concerning investigation of Customer complaints and concerns;
 - (v) procedures or requirements for provision of temporary Water Services, including without limitation Water Services provided during the construction phase of a development;
 - (vi) procedures or requirements for upgrading, re-sizing relocating or otherwise changing a Service Connection, whether at the instigation of EWSI or at the request of a Customer;

- (vii) the Turn On and Turn Off of Water Services, whether at the instigation of EWSI or at the request of a Customer;
- (viii) supply of bulk water for firefighting and other purposes, including without limitation procedures and requirements concerning the maintenance of public or private fire hydrants and permissible use of water from fire hydrants.
- (c) The following are deemed to be Water Services Guidelines and are effective and binding upon every Customer, and may be amended or rescinded from time to time by EWSI:
 - (i) the EWSI document entitled "EWSI Service Standards";
 - (ii) the document entitled "Design and Construction Standards for the City of Edmonton; Volume 4 Water" (–"Design and Construction Standards");
 - (iii) the EWSI document entitled "Cross Connection Control Policy"; and
 - (iv) the EWSI document entitled "Guidelines for Working Around Water Infrastructure";
 - (v) the EWSI document entitled "Hydrant Servicing Guidelines";
 - (vi) the EWSI document entitled "Water and Sewer Connections Guidelines"; and

(iv)(vii)the EWSI document entitled "Water Utility Handbook".

(d) While EWSI is committed to, and will endeavour to comply with, its Water Services Guidelines, the operations of EWSI are complex and dynamic and the Water Services Guidelines may not appropriately or exhaustively deal with every situation that arises. EWSI, acting reasonably, may deviate from the provisions of the Water Services Guidelines or take action not specifically authorized by these Terms and Conditions or by the Water Services Guidelines at EWSI's sole discretion.

ARTICLE 3 - METHODS AND PROCEDURES FOR OBTAINING WATER SERVICES

3.1 Requirement for Account and Obligation to Pay

(a) (a) Prior to receiving any Water Services from EWSI, a Customer is obligated to open an Account. Customers shall pay in full for all Water Services provided by EWSI. If a Customer fails to open an Account when they have possession of the premises to which Water Services are being supplied, EWSI may bill the Customer for the Water Services received,

from their legal possession or occupancy date, whichever occurs first, and EWSI shall determine the retroactive billing by reasonably estimating the Customer's consumption.

EWSI will send a Customer a bill for Water Services provided to the Customer during the previous month, or an amount of time reasonably close to a month, calculated in accordance with Schedule 1. A Customer's obligation to pay the amount set out in the bill shall continue regardless of whether the Customer receives the bill. A late payment charge of 2.5% per month, not compounded, is applied to all charges on a Customer's Account, if a Customer does not pay a bill in full by the payment due date specified on the bill. If considered to be interest payable for credit advanced, then the late payment charge is equivalent to a maximum yearly rate of 45.6%. A dishonoured cheque charge is applied for each cheque returned for insufficient funds.

- (b) If at any time there is not a Customer with an Account open for premises to which Water Services are supplied, the Owner of such premises will be deemed to be the Customer at the premises and will be required to pay for all Water Services including, without limitation, Water Services not related to consumption, provided to the Premises until an Account is opened by another Customer. The Owner shall be liable for all charges related to identifying, searching for and contacting the Owner.
- (c) At the sole option of EWSI, an Owner of premises to which Water Services are supplied who rents or leases all or part of the premises to a tenant or lessee, may be required to open an Account for the supply of Water Services to the portion of the premises that are rented or leased from time to time.
- (d) EWSI may, without approval or consent of an Owner, upon not less than <u>3090</u> days written notice to the Owner, open a new Account in the name of the Owner in respect of leased premises if:
 - (i) the tenant or lessee is more than 60 days in arrears of payment for Water Services; and
 - (ii) it is physically impossible or impracticable to Turn Off Water Services to the tenant or lessee without adversely affecting Water Services to one or more other Customers that occupy the same premises and/or that receive Water Services through a common Service Connection.

In such a case, the Owner shall be required to pay for Water Services from the date on which the new account is opened by EWSI in the Owner's name. The Owner shall not be required to pay EWSI for the tenant or lessee's arrears for Water Services at that location, unless a provision in an agreement otherwise specifies.

(e) At the sole option of EWSI, where a Customer has more than one account, unpaid balances may be transferred and consolidated to the Customer account of EWSI's choice and without limiting any rights provided herein, EWSI may exercise its rights under Articles 5 and 10.

3.2 Customer Application for Water Services

- (a) At the request of a Customer and upon fulfillment of all conditions set out in these Terms and Conditions and in the Water Services Guidelines, EWSI will install and maintain a Service Connection to a Customer's premises abutting a street or right-of-way where there is a water main. Unless an agreement between EWSI and a Customer specifically provides otherwise:
 - (i) EWSI shall be and remain the owner of the Service Connection;
 - (ii) the Customer shall be and remain the Owner of the Private Service Line downstream of the Service Connection Point;
 - (iii) EWSI shall be and remain the owner of all water Meters and other measuring and monitoring devices associated with the Service Connection, regardless of whether they are located upstream or downstream of the Service Connection Point.
- (b) A Customer applying for Water Services involving a new Service Connection shall supply information regarding the location of the premises to be served, the manner in which the Service Connection will be utilized, and any other information that may be reasonably required by EWSI.
- (c) Before making a decision on a Customer application involving a new Service Connection, EWSI is allowed a reasonable time to verify the identity of the Customer and/or the accuracy of the information provided, and may require the Customer to sign a formal application for Water Services, in writing, which may be on a standard form approved by EWSI.
- (d) For all commercial and industrial Customers, and for any other Customer for whom provision of Water Services will involve installation of a new Service Connection or construction of new Facilities or an extension to or modification of the Waterworks System, an express written acknowledgement that the Customer has agreed to these Terms and Conditions is required before EWSI will take any steps toward providing the requested Water Services.
- (e) At EWSI's sole option, a Customer needing a new Service Connection or construction of new Facilities or an extension to or modification of the Waterworks System may be required to execute a Water Services Agreement, before EWSI approves any design or construction work.

- (f) Upon receipt of all required information, verification of the Customer's identity and the accuracy of the information, and execution of any applicable acknowledgement form or agreement, EWSI will:
 - (i) advise the Customer whether and on what terms EWSI is prepared to supply Water Services to the Customer;
 - (ii) in the case of a Customer requiring a new Service Connection, advise the Customer of the type and character of the Service Connection it is prepared to supply to the Customer, and any conditions (including without limitation, payments by the Customer) that must be satisfied as a condition of installation of a Service Connection and supply of Water Services.

3.3 Other Occupants Liability for Payment and Change of Customer of Record

Where the Customer of Record for a premise has vacated the premise or defaulted on payment of a bill for Water Service, other occupant(s) of the premise who continue to receive Water Service shall be deemed to be the Customer(s) and shall be liable for payment for Water Service provided in accordance with Schedule 1.

When a prospective Customer is applying for Water Service or an existing Customer has applied for the received Water Service at a premise and the preceding Customer for the premise has a history of non-payment, EWSI may request the prospective Customer or the current Customer to provide additional information requested by EWSI to determine the identity, organization and/or control of the person(s) occupying the premise, including, but not limited to, lease agreements and records describing the organization and control of business entities occupying the premise.

3.4 Rejection of Application for Water Services or Service Connection

EWSI may, without limitation, reject any Customer's request for a Service Connection or for Water Services when:

- (a) the Customer does not have currently in effect all approvals that may be required for the installation of the Service Connection;
- (b) the Customer refuses to enter into a Water Services Agreement or other form of agreement acceptable to EWSI;
- (c) any representation made by the Customer to EWSI for the purpose of obtaining a Service Connection, Water Services, or a continuation of Water Services is, in EWSI's reasonably held opinion, fraudulent, untruthful or misleading;

- (d) the Customer has not, when requested by EWSI to do so, provided a signed written application for Water Services;
- (e) the type of Water Services or Service Connection applied for is not available or not normally provided by EWSI in the locality where the Water Services or Service Connection is requested;
- (f) the requirements of the Water Services Guidelines have not been met;
- (g) the proposed Water Services or Service Connection, in EWSI's reasonably held opinion, has unusual characteristics that might adversely affect the quality of Water Services supplied to other Customers, public health or safety, the health or safety of EWSI's personnel, or the safety or reliability of any other Facilities or the Waterworks System;
- (h) a previous Customer at the site had a history of non-payment and EWSI believes, on reasonable grounds, that the defaulting Customer would continue to occupy the premises;
- (i) the Customer has an outstanding balance with EWSI for Water Services; or
- (j) the Customer has failed to provide the security required by EWSI.

3.5 Security Deposits

- (a) EWSI may at the time of a Customer's application for Water Services or at any time thereafter request a Customer to supply information reasonably required by EWSI to determine the Customer's credit history and/or credit risk. If a Customer fails to supply such information EWSI may refuse to supply, or discontinue supply of, Water Services to the Customer.
- (b) EWSI, in its sole discretion, may at the time of a Customer's application for Water Services or at any time thereafter require the Customer to post a security deposit or an increase to an existing security deposit in circumstances that may include, without limitation, the following:
 - late payment by the Customer for Water Services or other services provided by EWSI;
 - the Customer has issued more than one cheque or pre-authorized debit that has been returned for non-sufficient funds in any six month period;
 - (iii) there has been a significant increase in the Customer's rate of consumption of water;

- (iv) the Customer is applying for Turn On or for a new Water Services after having previously been Turned Off from Water Services for non-payment;
- (v) the Customer making the application for Water Service has a credit rating that is not satisfactory to EWSI; or
- (vi) the Customer is applying for a permit to use water from a fire hydrant: or

(vi)(vii) the Customer has a permit to use water from a fire hydrant and is issued EWSI-owned equipment for use in connection with the hydrants.-

- (c) EWSI, in its sole discretion, may determine that a Customer is not required to post a security deposit or is no longer required to maintain an existing security deposit, in circumstances that may include, without limitation, the following:
 - (i) the Customer has a good payment history with EWSI;
 - (ii) where a result satisfactory to EWSI is obtained from an external credit check; or
 - (iii) where the Customer provides to EWSI an indemnity bond or irrevocable letter of credit from a financial institution satisfactory to EWSI.
- (d) Unless extraordinary circumstances apply, the maximum security deposit EWSI will require from a Customer for Water Services not involving a new Service Connection is an amount equal to three times the amount EWSI estimates will be the average monthly billing to the Customer for Water Services. Notwithstanding this Section 3.5(d), if a Customer is required to post a security deposit pursuant to Section 3.5(b)(vii) above, then such amount shall be in addition to any other security deposit required under Section 3.5.
- (e) A deposit made by a Customer may be returned to the Customer after a satisfactory payment history over a period of 12 consecutive months or when the Customer's Water Services are terminated and the Customer's account is closed. Where a Customer's Water Services are terminated and the Customer's Account is closed for non-payment, prior to any refund, the deposit will be applied to the balance owing by the Customer to EWSI.
- (f) EWSI will pay to a Customer as soon as practicable after the end of each calendar year, or after the Customer's Account is closed, simple interest on the daily balance of any cash deposit held by EWSI in respect of the

Customer. The interest rate applicable to such payments is the interest rate specified under the *Residential Tenancies Act*, SA 2004, c R-17.1.

3.6 Customer Contracts

(a) Water Services Agreement

EWSI may, in its sole discretion, require a Customer previously connected or seeking to connect to the Waterworks System to sign a Water Services Agreement in respect of a Service Connection, as a condition of receiving or continuing to receive a Service Connection or Water Services.

(b) Assignment of Contractual Obligations

All Water Services, whether or not they require EWSI's assignment consent, that are properly assigned or otherwise transferred to a corporate Customer's affiliate or successor taking over the operation of a Customer's business and operations at premises subject to a pre-existing Account, shall be subject to the terms of the Customer's Water Services Agreements and billing history. Any change in service requirements as a result of such assignment or transfer shall be made in accordance with these Terms and Conditions. The existing contractual arrangements will remain in place until any new agreements have been approved and accepted by both parties.

3.7 Authorizations and Approvals for Service Connection

The Customer shall be responsible for obtaining all permits, certificates, licenses, inspections, reports, and other authorizations necessary for the installation and operation of the Service Connection. EWSI shall not be required to commence or continue installation or operation of a Service Connection unless and until the Customer has complied with the requirements of all governmental authorities, permits, certificates, licenses, inspections, reports and other authorizations, all right-of-way agreements, and all of EWSI's requirements applicable to the installation and operation of the Service Connection. EWSI reserves the right to verify that all necessary authorizations have been obtained by Customers.

3.8 Temporary Water Service and Construction Water Service

- (a) Where EWSI reasonably believes that a requested Water Service will be temporary, it may require the Customer requesting the Water Service to pay to EWSI in advance of construction the estimated cost of the necessary Facilities plus the estimated cost of installation and removal of Facilities, less the value of any salvaged material.
- (b) EWSI will provide temporary, unmetered Water Service wherever practicable to a Customer for purposes of facilitating construction of a new development. The Customer will pay a rate, charge or fee for such Water

Services based on the total cost of construction of the development, as specified in the Price Schedule. A Customer who is receiving unmetered Water Service for the construction phase of a development ceases to be entitled to take unmetered Water Service at the construction rate and is required to apply for metered Water Services when

- (i) a City occupancy permit is issued for the development; or
- (ii) the development is being used for its intended purpose;

whichever event occurs first.

(c) Where a Customer fails to apply for metered Water Services as required by this section, EWSI may bill the Customer retroactively for the unmetered water as if it were metered Water Services from the date a City occupancy permit was issued or the date upon which the development began to be used for its intended purpose, whichever is earlier. <u>EWSI shall determine</u> <u>t</u>The retroactive billing <u>shallby reasonably estimating the Customer's</u> <u>consumption be based on a three-month average</u>.

3.9 Scheduling for Service Connection

EWSI shall schedule Customers for Service Connection in accordance with the Water Services Guidelines, after:

- (a) the Customer has complied with EWSI's application requirements;
- (b) the Customer has complied with the requirements of all applicable construction and safety standards, applicable legislation and regulations, including City of Edmonton bylaws; and
- (c) the Customer's application for Water Services has been accepted by EWSI.

3.10 Customer to Notify EWSI of Changes

When a Customer has a change of name or contact information, (including without limitation: mailing address, telephone number(s), e-mail address) the Customer must immediately notify EWSI of such change. EWSI reserves the right to require that such notification be made in writing

3.11 Customer Usage Information

(a) EWSI shall provide standard Customer Usage Information to a Customer, or to an agent acting on behalf of a Customer, upon request and in the case of an agent only after receiving written consent to such disclosure from the Customer in a form satisfactory to EWSI, for the 12-month period preceding the date of the request or for such shorter period for which EWSI has collected that information.
(b) EWSI shall not be obligated to provide Customer Usage Information for a period greater than 24 months prior to the date of request. If a Customer requests Customer Usage Information for any time earlier than 24 months prior to the date of request, EWSI may in its sole discretion charge a fee for retrieving and supplying the information requested.

ARTICLE 4 - WATER SERVICE REQUIREMENTS AND FACILITIES

4.1 **Protection of EWSI's Facilities and Property of Other Customers**

(a) No Interference with Facilities

The Customer shall not install or allow to be installed on property owned or controlled by the Customer any temporary or permanent structures, fences or landscaping that could interfere with the proper and safe access to, or operation of EWSI's Facilities or result in non-compliance with applicable statutes, regulations, standards or codes.

Only an employee or authorized agent of EWSI shall remove, operate, or maintain EWSI Facilities. A Customer shall not obstruct access to or interfere with or alter any Meter, seal or other Facility or permit the same to be done by any person other than an employee or authorized agent of EWSI. If a Customer or a person authorized by a Customer fails to comply with this provision, the Customer is responsible to pay the applicable Service Charge and the cost of repairing or otherwise remedying any damage to or loss of Facilities located on the Customer's premises or premises controlled by the Customer, unless caused by circumstances, as determined in EWSI's sole discretion, to have been beyond the Customer's control.

_(b) Deep Ground Disturbance in Proximity to Water Facilities

Any party that proposes any construction involving ground disturbance to a depth exceeding two (2) metres within five (5) metres of the boundary of lands containing EWSI Facilities is required to enter into a Facility Proximity Agreement with EWSI, prior to performing the ground disturbance. The conditions of the agreement may at EPCOR's sole discretion include, but not be limited to, the following:

- (i) The EWSI Facility must be isolated and drained. Active customers on the isolated main, must be provided with temporary water service. Temporary servicing, and construction activity may be limited to the months of May to October. The constructor will be responsible for all costs associated with de-commissioning, temporary servicing and re-commissioning of the EWSI Facility.
- (ii) The water main is to be exposed by hydrovac at a minimum of two locations to confirm the existing location and the proposed clearances prior to any ground disturbance.

- (iii) A requirement to contact the Inspections Coordinator a minimum of 72 hours in advance of the hydrovac exposure to arrange for an EPCOR Inspector to be on-site.
- (iv) All Service Connections not required for the future building(s) must be formally abandoned at the main prior to excavation.
- (v) All appropriate measures must be taken to ensure the existing support around the water main is not disturbed by any of the construction activities. Any sloughing, settlement or undermining of the ground within five (5) metres of a EWSI Facility must be reported to EWSI. Any damage to the existing EWSI Facility resulting from the construction, how so ever caused, will be repaired at the sole cost of the constructor.
- (vi) The constructor must notify EWSI when the ground disturbance in proximity to the EWSI Facility is completed so that the Facility can be re-commissioned.
- (vii) An indemnification in favour of EPCOR for any and all costs or liabilities arising from the construction, including costs or liabilities arising in respect of any (A) water service interruption, defect or failure, (B) damage to any existing EWSI Facility, (C) damage to the property of third parties, (D) damage to a construction site, (E) delay of construction, other than as caused by any deliberate or negligent action of EPCOR
- (be) Protection of the Private Service Line, Equipment and Assets on Customer's Property

The Customer is solely responsible to take all necessary measures to prevent damage to the Private Service Line and any other equipment or assets connected to the Facilities on the Customer's property, including the EWSI Meter, due to any cause, including, without limitation, freezing and settlement or movement of the structure or soil through which the Private Service Line passes. EWSI shall not be liable for any repair, maintenance or replacement of any Private Service Line, except where damage to a Private Service Line is caused by a deliberate or negligent act of EWSI.

The Customer shall provide and maintain, at no cost to EWSI, the necessary space and protective barriers to safeguard Facilities installed or to be installed upon the Customer's premises. If the Customer refuses, EWSI may, at its option, provide and maintain such protective barriers, and charge the Customer for these Water Services. Such space, and protective barriers shall be in conformity with applicable laws and regulations and subject to EWSI's approval.

(cd) Compliance with Requirements and Use of Service Connection

The Customer shall ensure that the Private Service Line and any other equipment or assets comply with the requirements of any applicable code or regulation and with the Water Services Guidelines. The Customer shall not use a Service Connection or any Water Services received in a manner so as to cause interference with any other Customer's use of a Service Connection or Water Services. At EWSI's request, a Customer shall take whatever action is required to correct such interference or disturbance at the Customer's expense.

(de) Customer to Pay Relocation Costs

The Customer shall pay all costs of relocating EWSI's Facilities at the Customer's request, if such relocation is for the Customer's convenience, or if necessary to remedy any violation of law or regulation caused by the Customer. If requested by EWSI, the Customer shall pay the estimated cost of the relocation in advance.

(<u>e</u>f) Water Service to a New or Previously Unserviced Building on a Serviced Lot by an Extension of Existing Water Services

A Customer may, at their own expense, provide Water Services to a new or previously unserviced building on a serviced lot through an extension to an existing Water Service provided that:

- (i) the extension does not cross the property line on which the existing service is located;
- (ii) the connection to the Private Service Line occurs after the Meter;
- (iii) the water consumption for all of the buildings on the lot will be measured through one Meter, and billed together through a single account with EWSI's Billing Agent; and
- (iv) the Private Service Line must comply with the Alberta Safety Codes Act, the National Plumbing Code of Canada and other applicable legislation or codes.
- (fg) Water Service to a New or Previously Unserviced Building on a Serviced Lot by a New Service Connection

A Customer may, at their own expense, provide Water Services to a new or previously unserviced building on a serviced lot through a new Service Connection provided that:

- (i) each building on the lot has its own Meter, meter setting and unique site address;
- (ii) the new or previously unserviced building complies with the requirements of Article 8.1(b)

- (iii) each Service Connection on the lot is connected to the Facilities by a separate Private Service Line; and
- (iv) the Private Service Lines referred to in sub clause (iii) are not interconnected.
- (gh) Prohibited Extension of the Private Service Line, Piping, Equipment or Assets

A Customer shall not extend or permit the extension of a Private Service Line or any other customer-owned piping, equipment or other assets that are connected directly or indirectly to the Waterworks System, beyond the separately titled lot or parcel of land in respect of which they are used to supply Water Services through a Service Connection Point.

ARTICLE 5 - EASEMENTS, RIGHTS-OF-WAY, AND USE OF AND ACCESS TO FACILITIES

5.1 Easements and Rights-of-Way

At the request of EWSI a Customer shall grant or cause to be granted to EWSI, without cost to EWSI, such easements or rights-of-way over, upon or under property owned or controlled by the Customer as EWSI reasonably requires for the construction, installation, maintenance, repair, and operation of the Waterworks System.

5.2 Right of Entry

(a) EWSI's employees, agents and other representatives shall have the right to enter a Customer's premises at all reasonable times, or at any time during an event of Force Majeure, for the purpose of installing, maintaining, replacing, testing, monitoring, reading or removing EWSI's Facilities and for any other purpose incidental to the provision of Water Services. A Customer shall not prevent or hinder EWSI's entry to the Customer's premises for any such purpose. Without limiting the generality of the foregoing,

EWSI has the right to enter a Customer's premises at any reasonable hour in order to:

- (i) install, inspect, test, <u>read,</u> repair, replace or remove Facilities;
- (ii) perform necessary maintenance to Facilities;
- (iii) investigate or respond to a Customer complaint or inquiry;

- (iv) conduct an unannounced inspection where EWSI has reasonable grounds to believe that theft of Water Services or interference with Facilities (including but not limited to a water Meter) has occurred or is occurring:²/₂ and
- (v) take necessary corrective action to safeguard and maintain the Waterworks System.
- (b) EWSI will make reasonable efforts to notify the Customer in advance of entering a Customer's premises or to notify any other person who is at the Customer's premises and appears to have authority to permit entry, except:
 - (i) in cases of emergency;
 - (ii) where entry is permitted by order of a court or other authority having jurisdiction;
 - (iii) where otherwise legally empowered to enter;
 - (iv) where the purpose of the entry is in accordance with Section 5.2(a)(iv) and (v) of these Terms and Conditions.
- (c) EWSI may charge a "no access fee" sufficient to cover EWSI's reasonable costs, if EWSI's lawful entry to a Customer's premises is prevented or hindered, <u>including without limitation where EWSI determines</u>, in its sole <u>discretion</u>, the access to be unsafe, whether by a Customer not keeping a scheduled appointment or for any other cause.

5.3 Access to Waterworks System

- (a) A Customer shall be responsible for managing vegetation on the property owned or controlled by the Customer and to maintain adequate clearances to avoid interference with EWSI's Facilities.
- (b) A Customer shall not obstruct or hinder EWSI's free and direct access to any Facility, including without limitation any Service Connection, water main, valve, Curb Cock, fire hydrant, Meter or meter setting.
- (c) EWSI, in its sole discretion, may consider the presence of a dog to bea safety issue as an obstruction or a hindrance to access to any Facilities and may notify the Customer of any conditions or actions required to enable access to the Facility by appointment with the Customer.
- (d) Where a Customer contravenes any provision of Sections 5.1, 5.2 or 5.3 and fails to remedy such contravention within ten (10) days after receiving from EWSI a notice in writing to do so, then in addition to any other legal remedy available EWSI may take any steps necessary to remedy the

contravention and may charge any costs of so doing to the Customer's Account. These steps include, but are not limited to, turning off Water Services in accordance with Article 10 and charging a monthly no-access fee as set out in Schedule 1.

5.4 Customer Responsibility for Use of Facilities

- (a) A Customer shall not use the Waterworks System in a manner that interferes with any other Customer's use of the Waterworks System. At EWSI's request, the Customer shall take whatever action is required to correct any interference, disturbance or adverse effect at the Customer's expense.
- (b) No Customer shall install or allow any Cross Connection that could cause or allow drinking water, in any part of the Waterworks System to become contaminated or polluted in any way.
- (c) A Customer shall control Cross Connections by the installation, maintenance and testing of approved backflow prevention measures on any temporary or permanent connection to the potable water system, including fire lines starting at the point of service from the public potable water system and in a manner consistent with EWSI's Cross Connection Control Procedure Guide ("CCC Guide") amended from time to time to reflect changes to the industry standard and available on www.epcor.com.
- (d) A Customer must provide EWSI with 15 days advanced written notice of any use of superchlorinated water within their Private Service Line or any other customer-owned piping, equipment or other assets that are connected directly or indirectly to the Waterworks System.
- e) Where EWSI determines that a Cross Connection prohibited by this Section exists, EWSI shall give notice to the Customer to correct the prohibited Cross Connection at the expense of the Customer within the time specified in the notice.
- (f) Where the Customer fails to correct the Cross Connection in accordance with the notice, fails to allow EWSI to access the Cross Connection or where a Customer fails to comply with the terms of EWSI's CCC Guide, in addition to any other penalties, the Customer shall be subject to the following:

(i) EWSI may Turn Off the prohibited supply of water for such time as the Cross Connection continues however, if the prohibited supply of water cannot, in EWSI's sole discretion, be turned off, EWSI may correct the Cross Connection at the expense of the Customer, including charges for estimated consumption; and/or

(ii) one or all of the following penalties:

Unauthorized Cross Connection	\$1,500
Failure to install authorized backflow preventer	\$2,000
Failure to test a backflow preventer	\$1,500
Failure to retain test records on site	\$500
Failure to submit a passed backflow preventer test report within 30 days	\$500
Failure to submit a failed backflow preventer test report within 2 days	\$500
Failure to replace a failed backflow preventer within 96 hours of notification	\$1,500
Failure to allow access to site	\$500

- (g) A Customer will not use water from the Waterworks System, or allow water obtained from the Waterworks System to be used:
 - (i) in an unauthorized manner;
 - (ii) in a manner that will impede water use by other Customer;
 - (iii) unless an Account has been opened by the Customer;
 - (iv) unless the water has first passed through a water Meter, except in the case of unmetered Water Service in the construction phase of a development only.
- (h) If EWSI finds any unauthorized use of the Service Connection or Water Services or any tampering with a Meter, a seal or any other EWSI Facilities or unauthorized connection or reconnection, theft, fraud, or any intentional or unintentional use of water or Water Services whereby EWSI is denied full compensation for the Water Services provided, EWSI may make changes to its Meters, or other Facilities or take other corrective action required in order to prohibit the unauthorized use of the Facilities.
- (i) Upon finding any unauthorized use of water, EWSI may Turn Off the Service Connection immediately, without notice and shall charge the Customer all

costs incurred in correcting the condition, in addition to any charges for unmetered water consumed and any other rights and remedies which may be available to EWSI.

- (j) A Customer that uses water in contravention of this Section shall pay the following charges:
 - (i) The applicable rate for the water used, in accordance with the Price Schedule, and where necessary due to lack of metered data based on an estimate by EWSI of the amount of water used;
 - (ii) all costs incurred by EWSI in dealing with the contravention;
 - (iii) any other charge, fee or penalty provided by the Price Schedule, these Terms and Conditions and any applicable law or regulation.

ARTICLE 6 - WATERWORKS SYSTEM EXTENSIONS

6.1 Estimated Cost

Upon a Customer's request for a new or upgraded Service Connection involving construction of new Facilities or an extension to the Waterworks System, EWSI shall prepare a proposal outlining the estimated cost of the Service Connection including all necessary new Facilities or extensions to the Waterworks System.

Where a Customer-requested new or upgraded Service Connection requires cross-lot servicing, EWSI may in its sole discretion decline to construct the Service Connection..

6.2 Agreement in Writing for Waterworks System Extension

A new or upgraded Service Connection involving new Facilities or an extension to the Waterworks System shall not be constructed unless the Customer has executed a Water Services Agreement for the proposal with EWSI.

6.3 Customer Payment for Waterworks System Extension Costs

Unless otherwise specified:

- (a) in a Water Services Agreement; or
- (b) under the provisions of a water main cost sharing program offered by EWSI;

the full cost of any new Facilities or extensions to the Waterworks System shall be paid by the Customer whose new or upgraded Service Connection gives rise to the need for the new Facilities or extension to the Waterworks System.

6.4 Changes to Amount Payable by Customer

Following construction completion, and placing the new Facilities into pursuant to Article 6 hereof, the amount payable by the Customer will be changed to the actual full cost of the new Facilities. Where the actual full cost exceeds the estimate, EWSI will provide the customer with a written explanation for the change.

ARTICLE 7 - WATER SERVICE CONNECTIONS

7.1 Engineering, Design and Construction Requirements for Service Connections

- (a) Unless otherwise specified in a written agreement between EWSI and the Customer, it is the Customer's responsibility to supply at the Customer's cost:
 - any plans and engineering reports pertaining to the Service Connection that EWSI may reasonably require, signed and sealed by a Professional Engineer;
 - (ii) an engineering report describing the design, construction and materials proposed, including measures to prevent adverse effects of contaminated soils, groundwater, or adverse soil conditions on the Waterworks System;
 - (iii) proof to EWSI's satisfaction, that the Service Connection and the Private Service Line meet all requirements of these Terms and Conditions, the Design and Construction Standards and the Water Services Guidelines, and conform to the requirements of all applicable legislation including municipal bylaws and regulations;
 - (iv) in the case of a Service Connection that is 40 mm (1 ½ inches) or larger in diameter, proof of satisfactory bacteriological test results for the Water Service from a laboratory accredited to perform such tests by the Province of Alberta, approved, signed and stamped by a Professional Engineer.
- (b) The Customer shall be responsible for the installation and condition of the Private Service Line and all other piping and equipment or any other assets on the Customer's side of the Service Connection Point excluding the Meter that is owned by EWSI.
- (c) The Customer shall determine whether he requires any devices to protect his premises or property from damage that may result from the use of a Service Connection or Water Services. The Customer shall provide and install any such devices at the Customer's sole expense provided that they do not obstruct or interfere with EWSI's Facilities.

- (d) The Customer shall provide EWSI with written notice of plans to demolish a structure within 5 days following the Customer's application for a demolition permit for that structure from the City of Edmonton.
- (e) For the Customer sites described in sub-article 7.1(d), the Customer shall ensure that its Private Service Line is comprised of materials as prescribed in the Water Services Guidelines.

7.2 Multiple Dwellings

- (a) EWSI may require that each individual Dwelling within a Multiple Dwelling be metered separately and that a separate Account be opened in respect of each such Dwelling, regardless of the number of Service Connections through which water is delivered to the Multiple Dwelling.
- (b) Where EWSI and a Customer enter into a Water Services Agreement or other agreement in writing that provides for Water Service to a Multiple Dwelling to be delivered through a single Service Connection and measured by a single Meter at or downstream of that Service Connection Point, the applicable multi-residential rate in the Price Schedule will apply to the Water Service.
- (c) If a building has more than one self-contained unit, served by multiple Private Service Lines or by a Private Service Line with multiple branches, EWSI may require each self-contained unit to be metered separately and an Account to be opened in respect of each such Meter with the appropriate fire line and lawn services also put into Account.

ARTICLE 8 - METERS

8.1 Installation of Meters

(a) Provision and Ownership

EWSI shall supply, install, and seal one or more Standard Meters for the purpose of measuring the volume of water delivered to a Customer by way of a Service Connection subject to the following exceptions:

- (i) a Customer may decline the installation of a Standard Meter on request to EWSI provided that:
 - (a) the Customer receives Water Services at a site that is a <u>D</u>dwelling or Multiple Dwelling without a multiple-meter installation; and
 - (b) EWSI has regular, ongoing and safe access to the Non-Standard Meter.

- (ii) a Customer may request that a Standard Meter be replaced with a Non-Standard Meter on written request to EWSI provided that:
 - (a) the Customer receives Water Services at a site that is a <u>De</u>welling or Multiple Dwelling without a multiple-meter installation; and
 - (b) EWSI has regular, ongoing and safe access to the Non-Standard Meter.

The Standard Meter, Non-Standard Meter and related metering equipment shall remain the sole property of EWSI, regardless of whether the Customer has paid or reimbursed all or any part of EWSI's costs of supply and installation.

Any Customer that is subject to the exceptions listed in (i) and (ii) above shall be required to pay the Non-Standard Meter Reading Fee as set out in Schedule 1. In addition, a Customer shall be required to pay the Non-Standard Meter Reading Fee as set out in Schedule 1 upon a Customer's deemed refusal of the installation of a Standard Meter. A Customer is deemed to have refused the installation of a Standard Meter if the Customer does not respond to EWSI's reasonable communication efforts, as determined by EWSI, for the installation of the Standard Meter.

Any Customer that is subject to the exception listed in (ii) above shall be required to pay the Non-Standard Meter Installation Fee as set out in Schedule 1.

A Customer at a site that is metered by a Non-Standard Meter that has declined the installation of a Standard Meter may at any time request that EWSI install a Standard Meter at that site.

(b) Responsibility of Customer

Each Customer shall ensure that a location on or in the Customer's premises for Meter installation is provided, complete with an EWSI approved meter setting, as prescribed by Design and Construction Standards, and that safe and easy access to the Meter is provided for the purpose of reading or servicing the Meter, in accordance with all applicable requirements of the Water Services Guidelines as amended from time to time. The Meter location shall provide protection from freezing and physical damage. The Customer shall be liable for all Water Services received in connection with a burst Customer Meter resulting from inadequate protection.

All Meter installations, including placement, shall comply with EWSI's approved meter settings as prescribed by the Design and Construction Standards. Where the Customer fails to comply with the Design and Construction Standards, the Customer shall be subject to Turn Off in accordance with Article 10.2.

8.2 Access to Meters

EWSI may, at any reasonable time, access, read, inspect, replace, remove or test a Meter installed on or in property owned or controlled by the Customer.

8.3 Meter Testing

- (a) At the request of a Customer, EWSI shall arrange for on-site Meter verification and if necessary, shall arrange for a Meter to be tested by a person qualified to perform such work. EWSI shall charge a fee for responding to such Customer requests, as set forth in the Price Schedule. If, upon verification and/or testing, the Meter is found to be recording accurately (which for this purpose is defined as recording between 97% and 103% of actual consumption) then EWSI shall retain the fee. If the Meter is found to be recording inaccurately, outside the limits of 97% to 103%, then EWSI will refund the fee to the Customer and make adjustments to previous billings for Water Services, as required.
- (b) EWSI may at any time inspect, replace or test any Meter, on its own initiative, without a Customer request. In such case no fee is payable by the Customer.

8.4 Circumvention of Meter

If under any circumstances, a person other than an employee or agent of EWSI, prevents a Meter from accurately recording the total volume of water supplied, EWSI may Turn Off the Water Services or take any other appropriate actions to ensure accurate operation of the Meter. In the foregoing circumstances EWSI may estimate the quantity of water supplied but not recorded by the Meter. The Customer shall pay the cost of the estimated water consumption plus all costs related to the investigation and resolution of the matter.

8.5 Changes to Metering Equipment

- (a) Upon receipt of a written or verbally recorded request by a Customer, EWSI may provide metering services, other than standard metering service, in its discretion, acting reasonably, and may charge separate fees for such services. Following EWSI's acceptance of such a request, EWSI shall supply, install, test, replace and maintain the requested metering equipment. The Customer shall bear the cost of providing and installing the requested metering equipment, and the costs of operation and maintenance.
- (b) The Metering equipment shall become the property of EWSI and will be maintained by EWSI. EWSI shall bill the Customer prior to installation and the Customer shall prepay the cost of installation at least fifteen (15) Business Days prior to proposed installation date. If payment is not received

by fifteen (15) Business Days prior to the proposed installation date, EWSI shall have no obligation to proceed with the installation.

8.6 Stop and Waste Valves

It is the Customer's responsibility to ensure that the site's stop and waste valve is fully operational prior to the start of any metering services including, without limitation, installation, replacement, removal or testing of Meters.

ARTICLE 9 - CHANGES TO SERVICE CONNECTIONS OR OTHER FACILITIES

9.1 Requirement to Give Notice of Changes to Water Service Requirements

A Customer shall give to EWSI reasonable prior notice, written or verbally recorded, of any requested change to a Service Connection, to enable EWSI to determine whether or not it can accommodate such revised Water Service without changes to other EWSI Facilities.

9.2 Customer to Bear Cost of Changes to EWSI Facilities

If EWSI determines that any modifications, extensions or additions are required to existing Facilities to accommodate:

- (a) a Customer's request for change to a Service Connection; or
- (b) any material change to a Customer's consumption of water or use of Water Services, regardless of whether the Customer requests a change to the Service Connection

the Customer is obligated to pay the full cost of such modifications, extensions or additions to Facilities, unless otherwise specified in a Water Services Agreement or under the provisions of a water main cost sharing program offered by EWSI.

9.3 Adjustment of Curb Cock Casing to Grade

Upon the request of the Customer, EWSI shall within a reasonable time adjust a Curb Cock casing to grade at no charge. The Customer shall be responsible for any loss or damages arising from a Curb Cock casing protruding above grade, where no request for adjustment has been received by EWSI, or where a reasonable time for EWSI to complete the adjustment has not elapsed.

ARTICLE 10 - WATER SERVICE TURN OFF AND TURN ON

(a) A Turn Off does not remove the water present in a Customer's Private Service Line, equipment or other assets downstream of the Service Connection Point. It is the Customer's responsibility to drain or to otherwise

protect the private assets in a manner suitable for the Customer's purposes following the Turn Off.

(b) It shall be the Customer's responsibility to monitor the Turned Off supply for residual flow of water and to take any measures necessary to accommodate with any residual flow.

10.1 Turn Off at Customer Request

(a) Temporary Turn Off

Upon the request of the Customer and subject to payment of the applicable Water Services Turn On/Turn Off Charge(s), EWSI may temporarily Turn Off any Service Connection, provided that:

- the Customer is obligated to pay any costs incurred by EWSI as a direct result of a Customer's idle Service Connection that will not otherwise be recovered;
- the Customer is obligated to pay for services and associated fees and charges as required by City of Edmonton Bylaw 13777, as amended;
- (iii) upon a request to restore Water Service, the Customer is obligated to pay any applicable charges outlined under section 10.3; and
- (iv) if the Service Connection remains Turned Off for more than twelve (12) months, it will be considered permanently Turned Off and all costs related to providing a new Service Connection will apply to any request from the same or any other Customer to restore the Service Connection.
- (b) Permanent Turn Off

If a Customer requests that a Service Connection be permanently Turned Off, or if a permanent Turn Off is deemed to have occurred pursuant to Section 10.1(a)(iv), the Customer billing for that Water Service will be finalized. At the discretion of EWSI, the Facilities provided by EWSI will be removed provided that the Customer remains obligated to pay for services and associated fees and charges as required by City of Edmonton Bylaw 13777, as amended.

If the Customer subsequently requests that the Service Connection be restored, the Customer must pay all costs associated with the original Turn Off, removal of the Facilities and restoration of the Service Connection.

10.2 Turn Off by EWSI

(a) Turn Off without Notice

If EWSI believes there is any actual or potential danger to life or property, or in any other circumstances which in EWSI's sole judgement require such action, EWSI has the right to withhold Turn On or to Turn Off a Customer's Service Connection without prior notice to the Customer. More specifically, and without limitation of the foregoing, EWSI may exercise this right in the event that:

- (i) in the opinion of EWSI, the Customer has permitted the Private Service Line or any other Customer owned equipment or assets to become hazardous or to fail to comply with applicable law, standards and codes and/or EWSI requirements, or if the use of the Service Connection may cause damage to any other Facilities;
- (ii) in the opinion of EWSI, the Private Service Line, or any other Customer owned equipment or assets have or will become unsafe or defective. In this event, the Service Connection may not be restored until the Customer owned assets are approved by the appropriate authority;
- (iii) EWSI discovers or suspects theft by the Customer of any Water Services or EWSI Facilities;
- EWSI discovers or suspects any tampering with a Meter, a seal or any other EWSI Facilities;
- (v) EWSI requires access to change its Service Connection, Meter or any other equipment to deliver Water Services in a manner consistent with these Terms and Conditions of Service; or
- (vi) the Customer changes requirements for a Service Connection or Water Services without the permission of EWSI.

When the reason for Turn Off is a concern for the health or safety of the Customer, EWSI's employees or agents, or the general public, EWSI will Turn On the Water Service only when the health or safety concern is resolved and when the Customer has provided, or has paid EWSI's costs of providing, services, permits, authorizations, devices or equipment as may be necessary to resolve the health or safety concern.

(b) Turn Off with Notice

EWSI may withhold Turn On or may Turn Off a Customer's Service Connection (without prejudice to any of EWSI's other remedies) after

providing forty-eight (48) hours advance notice to the Customer, as applicable, in the following circumstances:

- (i) if the Customer fails to pay any amount due under these Terms and Conditions, except when the Customer has formally initiated a dispute of the amount due, in writing;
- (ii) as required by law;
- (iii) if the Customer is in violation of any of these Terms and Conditions or any of the terms of a Water Services Agreement with EWSI;
- (iv) any other circumstances that EWSI determines, in its sole discretion, acting reasonably, require the withholding Turn On or Turn Off of the Service Connection upon forty-eight (48) hours notice.
- (c) If a Customer's Service Connection is subject to a Turn Off pursuant to this Section 10.2(a), EWSI shall provide a written explanation to the Customer within a reasonable time after Turn Off, including the reason for Turn Off and the actions required for Turn On.

10.3 Turn On of Water Service

Before EWSI Turns On or restores Water Service, the Customer shall:

- (a) pay any amount owing to EWSI including written off accounts;
- (b) pay a Turn On charge in an amount set out in the Price Schedule; and
- (c) be in compliance with these Terms and Conditions or any of the terms of a Water Services Agreement with EWSI.

10.4 Removal of Facilities

Upon termination of Water Service, EWSI shall be entitled to remove any of its Facilities located upon the property of the Customer and to enter upon the Customer's property for that purpose.

ARTICLE 11 - CLOSING AN ACCOUNT

Upon receipt of a valid notice to close an Account, EWSI shall make reasonable efforts to read the Customer's Meter at a time requested by the Customer. EWSI shall conduct a final reading of the Customer's Meter within a reasonable time. The Customer shall pay all fees and charges remaining on the account including all Water Services provided up to the time of the final reading <u>Customer's requested</u> end-of-service date and any further fees and charges that accrue prior to the point at which the site is enrolled with a subsequent Customer.

ARTICLE 12 - GENERAL RESTRICTIONS AND PROHIBITIONS

- (a) Except for water obtained from the Waterworks System which has been enhanced or altered in a lawful manner for resale, no Customer or other person shall resell water obtained from the Waterworks System to any other person except in accordance with the terms and conditions of an executed written agreement with EWSI.
- (b) No Customer or other person shall construct or allow to be constructed more than one Service Connection to any premises without prior written consent of EWSI.
- (c) A Private Service Line must not cross from one separately titled property to another separately titled property even if these properties are owned by the same person. This includes properties on which buildings straddle existing property lines.
- (d) No Customer or other person shall install or cause to be installed a branch line or tap between a Meter and the Service Connection.
- (e) No person shall take or use water from the Waterworks System in contravention of an Order issued pursuant to the provisions of Section 14.6 of these Terms and Conditions.

ARTICLE 13 - LIABILITY AND INDEMNIFICATION

13.1 Limitation of EWSI Liability

- (a) Notwithstanding any other provision of these Terms and Conditions or any provision of any agreement between EWSI and a Customer relating to the provision of Water Services (an "EWSI Agreement") EWSI, its directors, officers, agents, employees and representatives ("EWSI Parties") shall not be liable to the Customer, its directors, officers, agents, employees and representatives ("Customer Parties") for any loss, injury, damage, expense, charge, cost or liability of any kind, including without limitation, liability for nuisance or any other tort that does not require a finding of intention or gross negligence, suffered or incurred by the Customer Parties, or any of them, whether of a direct, indirect, special or consequential nature, however or whenever caused, and whether in any way caused by or resulting from the acts or omissions of the EWSI Parties, or any of them, except for direct property damages incurred by the Customer as a direct result of a breach of these Terms and Conditions or applicable EWSI Agreement or other act or omission by an EWSI Party, which breach or other act or omission is caused by the gross negligence or intentional tort of such EWSI Party.
- (b) Any liability under this Section will be limited to an amount in proportion to the degree to which the EWSI Party is determined to be at fault. For the

purpose of the foregoing and without otherwise restricting the generality thereof, "direct property damage" shall not include loss of revenue, loss of profits, loss of earnings, loss of production, loss of contract, cost of capital, and loss of use of any facilities or property, or any other similar damage or loss whatsoever.

- (c) For greater certainty and without limiting the generality of the foregoing, EWSI is not liable for any loss, damage or physical harm to any person (except where caused by the gross negligence or intentional tort of an EWSI Party) and arising from or caused directly or indirectly, in whole or in part, by:
 - (i) any substandard condition or quality of water caused by any thing occurring downstream of a Service Connection Point;
 - (ii) any failure, defect, fluctuation, reduction or interruption in the provision of Water Services by EWSI to its Customers, whether resulting from the break or malfunction of any watermain, service, Meter, Private Service Line or attachment, or from the interruption in or cessation of water supply in connection with the repair or proper maintenance of the Waterworks System or for purposes of water conservation of for any other cause.
- (d) All limitations, protections and exclusions of liability contained in any provincial or federal legislation are in addition to and not in derogation of or substitution for the limitations of EWSI's liability contained in these Terms and Conditions.

13.2 Release

Subject to Section 13.1 above, none of the EWSI Parties (as defined above) will be liable to any of the Customer Parties (as defined above) for any damages, costs, expenses, injuries, losses, or liabilities suffered or incurred by the Customer Parties or any of them, however and whenever caused, and each Customer Party hereby forever releases each of the EWSI Parties from any liability or obligation in respect thereof.

13.3 EWSI Not Liable to Customer

For greater certainty and without limitation to the provisions of Sections 13.1 and 13.2, EWSI Parties shall not be liable to a Customer for any damages of any kind (except to the extent the damages are caused by the gross negligence or intentional tort of an EWSI Party) caused by or arising from any EWSI Party's act in compliance with, or as permitted by, these Terms and Conditions, a Water Services Agreement, or any legal or regulatory requirement related to provision of Water Services.

13.4 Customer Liability

- (a) In addition to any other liability provisions set out in these Terms and Conditions or any provision in a Water Services Agreement or any other agreement between a Customer and EWSI, a Customer Party (as defined above) shall be liable for any damages, costs, expenses, injuries, losses, or liabilities suffered or incurred by EWSI Parties (as defined above), whether of a direct or indirect nature, caused by or arising from any acts or omissions of an Customer Party that result in a breach ("Breach") of these Terms and Conditions or the applicable agreement, or any negligent or wilful acts or omissions of harm of a Customer Party whether or not they constitute a Breach.
- (b) A Customer shall indemnify and hold EWSI and its employees and agents harmless from and against any claim (including any claim by another Customer of EWSI) for any loss, damage, expense, charge, cost (including legal fees), fine, penalty or other liability of any kind suffered or incurred by EWSI arising out of or in any way connected with
 - (i) any failure by the Customer to comply with these Terms and Conditions,
 - (ii) any damages to EWSI's Facilities or the facilities of another Customer caused by equipment installed or actions taken or failed to be taken by the Customer;
 - (iii) any claim, damages, or loss suffered by the Customer as a result of any act or omission of the Agent acting for such Customer.
- (c) Any claim by a Customer for direct losses, damages, expenses, charges, costs or other liabilities not barred or restricted under these Terms and Conditions must be communicated in writing to EWSI within 180 days from the date of occurrence of the incident giving rise to the claim or the date on which the Customer ought reasonably to have become aware of the occurrence or incident, failing which EWSI shall have no liability or responsibility whatsoever to the Customer in respect of the claim.

13.5 Force Majeure

(a) Force Majeure Relief

If an event or circumstance of Force Majeure occurs that affects EWSI's ability to provide a Service Connection or Water Services, EWSI's obligations and responsibilities hereunder and under any agreement relating to Service Connections or provision of Water Services, so far as they are affected by the Force Majeure or the consequences thereof, shall be suspended until such Force Majeure or the consequences thereof are remedied and for such period thereafter

as may reasonably be required to restore the Service Connection or Water Services. The Minimum Charge, if applicable, will continue to be payable during the period in which EWSI claims relief by reason of Force Majeure.

(b) Notice

EWSI shall where practicable give notice of an event of Force Majeure to Customers affected and shall where practicable give notice to Customers affected when the Force Majeure event ceases to prevent performance of EWSI's obligations.

(c) Obligation to Remedy

EWSI shall promptly remedy the cause and effect of the Force Majeure insofar as it is reasonably able to do so.

(d) Strikes and Lockouts

Notwithstanding any other provision of these Terms and Conditions, the settlement of any strike, lockout or other industrial disturbance shall be wholly in the discretion of EWSI and EWSI may settle such strike, lockout or industrial disturbance at such time and on such terms and conditions as it may deem appropriate. No failure or delay in settling such strike, lockout or industrial disturbance shall constitute a cause or event within the control of EWSI or deprive EWSI of the benefits of this Section 13.5.

ARTICLE 14 - ADDITIONAL PROVISIONS RELATING TO WATER SERVICES

14.1 Ownership of Facilities

EWSI remains the owner of all Facilities necessary to provide Water Services to Customers, to and including the Service Connection point, unless a written agreement between EWSI and a Customer specifically provides otherwise. Payment made by a Customer for costs incurred by EWSI in installing Facilities does not entitle the Customer to ownership of any such Facilities, unless a written agreement between EWSI and the Customer specifically provides otherwise.

14.2 Special Provisions with Respect to City of Edmonton

- (a) EWSI may appoint the City's Infrastructure Services as its sub-contractor or agent for provision of some or all Service Connections required to be carried out by EWSI, provided however that EWSI may rescind or modify the scope of such appointment at any time, and provided also that such appointment does not have the effect of making these Terms and Conditions applicable to the City's Infrastructure Services.
- (b) The City shall not be obligated to pay EWSI for any water supplied by EWSI to the City for firefighting purposes.

14.3 **Proper Use of Water Services**

The Customers assume full responsibility for the proper use of the Service Connection and Water Services provided by EWSI and for the condition, suitability and safety of any and all Facilities on the Customer's premises or on premises owned by the Customer or premises controlled but not owned by the Customer. The Customer shall be liable for any loss, damage, expense, charge, cost or other liability of any kind, whether to EWSI, its agents or employees, EWSI property or otherwise, arising directly or indirectly by reason of

- (a) the routine presence of water under pressure in the Waterworks System,
- (b) the routine use of water delivered through the Waterworks System,
- (c) the Customer's improper or negligent use of water or Water Services or Facilities, or
- (d) the negligent acts or omissions or wilful acts or omissions of the Customer or any person permitted on the Customer's property.

14.4 Compliance with Applicable Legal Authorities

EWSI and all Customers are subject to, and shall comply with, all applicable federal, provincial and local laws, and all applicable orders or other actions of governmental authorities having jurisdiction. EWSI's obligation to provide or continue to supply a Service Connection or Water Services or to Turn Off a Service Connection or otherwise terminate Water Services, in respect of any Customer, is subject to the condition that all requisite governmental and regulatory approvals for the supply or continued provision of the Service Connection or Water Services or for their Turn Off or termination are obtained and in force.

14.5 Interference with EWSI's Property

No one other than an employee or authorized agent of EWSI shall be permitted to remove, operate, or maintain Meters and other Facilities owned by EWSI. A Customer shall not interfere with or alter Meters, seals, or other Facilities or permit the same to be done by any person other than the authorized agents or employees of EWSI.

14.6 Water Service Interruptions and EWSI Obligation to Respond

(a) While EWSI takes all reasonable efforts to guard against Water Services interruptions, it does not guarantee uninterrupted Water Services or any particular standard of Water Services. EWSI shall at any time, without liability whatsoever to any Customer, have the right to discontinue or

otherwise curtail, interrupt or reduce Water Services to Customers whenever EWSI reasonably determines, or when EWSI is directed by an authority having jurisdiction, that such discontinuance curtailment, interruption or reduction is:

- (i) necessary to facilitate construction, installation, maintenance, repair, replacement or inspection of any of EWSI's Facilities;
- (ii) necessary to facilitate a Customer's construction, installation, maintenance, repair or replacement of its infrastructure used to receive Water Services;
- (iii) pursuant to non payment of amounts due and payable on a Customer's Account;
- (iv) necessary to maintain safety and reliability of the Waterworks System; or
- (v) due to any other reason including: dangerous or hazardous circumstances, emergencies, forced outages, the need to restrict or regulate water consumption for purposes of conservation of water, shortages or potential shortages of water supply, or Force Majeure.
- (b) EWSI shall use reasonable efforts to;
 - (i) provide notice of any Water Services reduction or interruption;
 - (ii) minimize such interruption duration and occurrences;
 - (iii) schedule planned interruptions as much as possible at times convenient to Customers; and
 - (iv) restore extended Water Service interruptions due to water main breaks, plugged or collapsed water lines or other reasons as soon as practicable.
- (c) EWSI is obligated to make reasonable efforts to respond to a Customer requested service call within a reasonable time, and to minimize Water Service interruptions to Customers. The Customer shall pay the cost of a Customer-requested service call and all related work if the cause of the problem is outside the Waterworks System and is not the direct result of an act or omission of an employee, contractor or agent of EWSI that is grossly negligent or an intentional tort.
- (d) Either EWSI or the City, or both of them jointly, may at any time issue an Order directing all Customers to cease or restrict use of water from the Waterworks System in the manner and for the period of time specified in

the Order, and may cause such Order to be publicly disseminated via print or electronic media or by posting on the websites of EWSI or the City. A Customer is deemed to have received notice of such Order and to be aware of its content 24 hours after it is publicly disseminated, or at such sooner time as a copy of the Order is delivered to the Customer's service address as shown in the Customer's account by an employee, agent or other representative of EWSI or of the City.

14.7 Assignments

- (a) A Customer shall not assign any of its rights or obligations under these Terms and Conditions or a Water Services Agreement or any other agreement with EWSI relating to a Service Connection or Water Services without obtaining any necessary regulatory approvals and EWSI's approval where required in such agreement. No assignment shall relieve the Customer of any of its obligations under these Terms and Conditions until such obligations have been assumed by the assignee and EWSI has agreed to the assignment and novation. Any purported assignment by a Customer in violation of this section shall be void.
- (b) EWSI may assign all or any part of its rights or obligations under these Terms and Conditions or a Water Services Agreement, or any entitlement to payment under any Customer Account, to any Person with or without notice to the Customer.

14.8 No Waiver

The failure of EWSI or a Customer to insist upon strict performance of any provision of these Terms and Conditions or a Water Services Agreement or any other agreement between EWSI and the Customer relating to a Service Connection or Water Services, or to take advantage of any of its rights arising therefrom, shall not be construed as a waiver of any such provisions or the relinquishment of any such right or rights. No provision of these Terms and Conditions or a Water Services Agreement or any other agreement between EWSI and a Customer relating to a Service Connection or Water Services shall be deemed to have been waived, and no breach thereof shall be deemed to have been excused, unless such waiver or consent to excuse is in writing and signed by the party claimed to have waived or consented to excuse.

14.9 Law

These Terms and Conditions and any Water Services Agreement or other agreement between EWSI and a Customer relating to a Service Connection or Water Services shall be governed by the laws of the Province of Alberta and the federal laws of Canada applicable in the Province of Alberta, without regard to principles of conflicts of law. Any legal proceedings arising in connection with these

Terms and Conditions or any other agreement relating to a Service Connection or Water Services shall be brought in the courts of the Province of Alberta.

Schedule 3

Performance Based Water Rates and Wastewater Treatment Rates

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1.0 5-Year Term with Annual Adjustments Effective Each April 1st

This Schedule 3 sets out the Performance Based Regulation Plan and applies in respect of determinations and adjustments to the rates and charges under this Bylaw for the period from April 1, 202247 to March 31, 20272.

The rates and each component of, or adjustment to, the rates as set out below will be assessed on a calendar year basis. However, to meet the administrative requirements of compiling, verifying and reporting on results, actual rate adjustments will occur on April 1st of the year following the forecast year.

1.1 Consumption Charge

The consumption charges for the first year of the five year term, commencing April 1, 2022 are set out in Schedule 1 Part I – *Water Rates*. Commencing April 1st, 202317 and for each subsequent year on that date for each customer class of water service identified in Schedule 1 Part I – *Water Rates* and Part IV – *Wastewater Treatment Rates*, the consumption charge shall be adjusted. For each customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year") will be determined by the formula:

$$R_P X (1 + I_D) X (1 + I_F - 0.25\%) + R_S$$

Where,

- R_P means the rate that was in effect for a customer class during the 12 months immediately preceding April 1 of the Current Year;
- ID means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;
- IF means the forecast rate of inflation for the Current Year;
- Rs means the rate for a special rate adjustment as described in Sections 2.3 and 2.4 of this Schedule 3.

1.2 Fixed Monthly Service Charge

The fixed monthly service charges for the first year of the five year term, commencing April 1, 2022 are set out in Schedule 1 Part I – Water Rates. Commencing April 1st, 202317 and for each subsequent year on that date, for each customer class of water service identified in Schedule 1 Part I – Water Rates and for each customer class of wastewater treatment service identified in Schedule 1 Part IV – Wastewater Treatment Rates the fixed monthly service charge shall be adjusted in respect of the Current Year. The rate for the Current Year will be determined by the formula:

$$R_P X (1 + I_D) X (1 + I_F - 0.25\%) + R_S + Z$$

Where,

- R_P means the rate that was in effect for a customer class during the 12 months immediately preceding April 1 of the Current Year, before any non-routine adjustments are applied,
- ID means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year,
- IF means the forecast rate of inflation for the Current Year,
- Rs means the rate for a special rate adjustment as described in Sections 2.3 and 2.4 of this Schedule 3.
- Z means a non-routine adjustment as described in Section <u>45</u>.0 of this Schedule 3.

1.3 Wastewater Overstrength Surcharges Public Fire Protection Monthly Charge

<u>The Public Fire Protection Monthly Charge for the first year of the five year term, commencing April 1, 2022 are set out in Schedule 1 Part I – Water Rates.</u> Commencing April 1st, 20<u>2317</u> and for each subsequent year on that date, the Wastewater Overstrength Surcharge and Wastewater Additional Overstrength SurchargePublic Fire Protection Monthly Charge identified in Schedule 1 Part IV – Wastewater TreatmentWater Rates, shall be adjusted. For each customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year")Current Year will be determined by the formula:

Where,

- R_P means the rate that was in effect during the 12 months immediately preceding April 1 of the Current Year;
- ID means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;
- IF means the forecast rate of inflation for the Current Year.

Rs means the rate for a special rate adjustment as described in Section 2.4 of this Schedule 3.

1.4 Service Charges

The service charges for the first year of the five year term, commencing April 1, 2022 are set out in Schedule 1 Part I – *Water Rates*. Commencing April 1st, 2023 and for each subsequent year on that date, each service charge identified in Schedule 1 Part I – *Water Rates* shall be adjusted in respect of the Current Year. The rate for the Current Year will be determined by the formula:

 $R_P X (1 + I_D) X (1 + I_F - 0.25\%)$

Where,

- <u>R</u>_P means the rate that was in effect during the 12 months immediately preceding April 1 of the Current Year;
- <u>ID</u> means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;
- <u>IF</u> means the forecast rate of inflation for the Current Year.

2.0 Routine Adjustments

Each year, the following factors or adjustments, <u>if applicable</u>, will be used to determine appropriate adjustments to the fixed monthly service charge, <u>-</u>, consumption charge, <u>the public fire protection monthly charge and service charges and/or wastewater overstrength surcharges payable for Water Services and Wastewater Treatment Services:</u>

a) Inflation Factor;

b) Efficiency Factor;

a)c) Special Rate Adjustments.

The calculation and application of these factors or adjustments are described in subsections 2.1 to 2.4 below.

2.1 Inflation Factor

The fixed monthly service charge, <u>and</u> consumption charge, <u>public fire protection monthly</u> <u>charge and the service charges set out in Schedule 1, Part I will be subject to an annual</u> adjustment based upon a forecast of the rate of inflation supported by the Conference Board of Canada's forecast inflation for the upcoming year. For the purposes of this adjustment calculation, "inflation" will be determined on the basis of two components:

- a) a Consumer Price Index ("CPI") component, weighted at 605%, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Services V41694625 CPI, 2005 Basket, 2002 = 100, Alberta, All Items; and
- b) a Labour Cost component, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Series V1603533, weighted at <u>4035</u>%.

Once the calendar year is complete and the actual rate of inflation is known, the charges for the subsequent year will include an adjustment to correct for the difference between the forecast and actual rate of inflation for the calendar year. As the index utilized for the actual Labour Cost component may not be available for the complete calendar year, the consecutive 12 month period for which the index utilized for the Labour Cost component is most recently available is used as a substitute for the calendar year for purposes of the Labour Cost component inflation adjustment.

Both CPI and the Labour Cost components are available and verifiable:

- The actual CPI component for a given year will be the change in the CPI for Alberta. This measure is identified as the annual growth in Consumer Price Index (CPI): Statistics Canada CANSIM Series V41694625 – CPI, 2005 Basket, 2002 = 100, Alberta, All Items. Any publication issued by Statistics Canada which is intended to replace, supersede or otherwise revise this measure will be used in substitution for it, in performing the inflation calculation.
- 2. The actual labour cost component for a given year will be the annual growth in Average Hourly Earnings (AHE) for salaried employees (paid a fixed salary), including overtime, unadjusted for seasonal variation for selected industries classified using the North American Industry Classification System (NAICS), for Alberta, Industrial Aggregate (excluding unclassified businesses), based on the monthly Statistics Canada CANSIM Series V1603533. The annual growth in the AHE will be calculated based on the year-over-year percentage change from the AHE in the preceding year to the AHE in the given year, where:
 - AHE in the given year is the average of the most recent twelve consecutive months of series V1603533 available (and not including preliminary data) when EWSI finalizes its annual rate application for submission to the City Manager on or before March 1; and
 - AHE in the preceding year is the average of the preceding twelve consecutive months of series V1603533.

Any publication issued by Statistics Canada which is intended to replace, supersede or otherwise revise this measure will be used in substitution for it, in performing the inflation calculation.

As an exception to the inflation adjustment factor, if the rate of inflation (calculated in accordance with this section) is 1.75% or lower, EWSI may prepare a financial plan to demonstrate the need for a unit rate increase other than 1.5%. The inflation rate in the financial plan will be a surrogate for the value of I_D.

As a further exception to the inflation adjustment factor, if the rate of inflation is greater than 5.0%, EWSI may prepare a financial plan demonstrating the appropriateness of a unit rate increase less than the rate of inflation minus 0.25%. The inflation rate in the plan will be a surrogate for the value of I_D .

2.2 Efficiency Factor

The Efficiency Factor for the 2017-2021 2022-2026 PBR terms shall be 0.25%.

2.3 Special Rate Adjustments for Water Services

Three Four separate special rate adjustments are applied to water rates: (i) the Special Rate Adjustments for Re-Basing; and (ii) the Special Rate Adjustments for the Accelerated Programsto Increase the Monthly Service Connection Fee; and (iii) the Special Rate Adjustment for the Environmental Initiatives90 Day Deferral Program; and (iv) the Special Rate Adjustment for Public Fire Protection. Special rate adjustments for 2022 have been included in the Water Rates in Schedule 1, Part I.

2.3.1 Special Rate Adjustments for Re-Basing

In each of the years 2022, 2023, 2024, 2025 and 2026 2017, 2018, 2019, 2020 and 2021 (affecting Rates payable by Customers for the time periods April 1, 2022 to March 31, 2023, April 1, 2023 to March 31, 2024, April 1, 2024 to March 31, 2025, April 1, 2025 to March 31, 2026 and April 1, 2026 to March 31, 2027 April 1, 2017 to March 31, 2018, April 1, 2018 to March 31, 2019, April 1, 2019 to March 31, 2020, April 1, 2020 to March 31, 2021 and April 1, 2021 to March 31, 2022) a Special Rate Adjustment for Re-Basing will be added to the Consumption Charge and Fixed Monthly Service Charge in Schedule 1, Part I – Water Rates. These Special Rate Adjustments for Re-Basing are required to recover the difference between EWSI's revenue requirement forecast for the 2022-202617-2021 PBR term and the revenue that would be realized if annual rate increases were limited to PBR inflation.

The Special Rate Adjustment for Rebasing for 2022 has been included in the Water Rates in Schedule 1, Part I. The Special Rate Adjustment for Re-Basing will be applied in respect of 2023, 2024, 2025 and 20262017, 2018, 2019, 2020 and 2021 Rates after the Inflation and Efficiency factors have been calculated and applied for that year, and are in addition to any Non-Routine Adjustments applicable to that year. Each year, after the Special Rate Adjustments for Re-Basing have been factored into the 2022, 2023, 2024, 2025 and 20262017, 2018, 2019, 2020 and 2021 Rates, these adjustments will continue to form part of the basic Consumption Charges and Fixed

Monthly Service Charges for Water Services in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustment for Re-Basing applied to the Consumption Charges for each customer class and the Fixed Monthly Service Charges (based on meter size) for the years 2022, 2023, 2024, 2025 and 2026 2017, 2018, 2019, 2020 and 2021 is as follows:

Consumption	202217 Special	202318 Special	202419 Special	202520 Special	202621 Special
Charge	Rate	Rate	Rate	Rate	Rate Adjustment
(per cubic meter	Adjustment	Adjustment	Adjustment	Adjustment	
(m ³))					
Residential					
<u>0 – 10 m³</u>	\$ 0.0180 <u>0.0627</u>	\$ 0.0123 <u>0.0592</u>	\$ 0.0145 <u>0.0621</u>	\$ 0.0141 <u>0.0652</u>	\$ 0.0146
<u> 10.1 – 35 m³</u>	\$ 0.0197 0.0685	\$ 0.0135 0.0647	\$ 0.0159 0.0679	\$ 0.0154 0.0712	\$ 0.0159 0.0747
Over 35 m ³	\$ 0.0249 <u>0.0865</u>	\$ 0.0170 <u>0.0817</u>	\$ 0.0201 <u>0.0858</u>	\$ <u>0.0195_0.0900</u>	\$ 0.0201 <u>0.0944</u>
Multi-Residential					
<u>0 – 100 m³</u>	\$ (0.0389) <u>0.0592</u>	\$ 0.0123 <u>0.0559</u>	\$ 0.0145 <u>0.0586</u>	\$ 0.0141 <u>0.0615</u>	\$ 0.0146 <u>0.0646</u>
<u>100.1 – 1000 m³</u>	\$ (0.0326) <u>0.0495</u>	\$ 0.0103 <u>0.0467</u>	\$ 0.0122 <u>0.0491</u>	\$ <mark>0.0118</mark> <u>0.0515</u>	\$ 0.0122 <u>0.0540</u>
<u>Over 1000 m³</u>	\$ (0.0269) <u>0.0409</u>	\$ <mark>0.0085</mark> <u>0.0386</u>	\$ <mark>0.0101</mark> <u>0.0405</u>	\$ <mark>0.0098</mark> <u>0.0425</u>	\$ <mark>0.0101</mark> <u>0.0446</u>
Commercial					
<u>0 – 25 m³</u>	\$ 0.0541 <u>0.0493</u>	\$ 0.0123 <u>0.0466</u>	\$ 0.0145 <u>0.0489</u>	\$ 0.0141 <u>0.0513</u>	\$ 0.0146 <u>0.0538</u>
<u> 25.1 – 100 m³</u>	\$ 0.0541 <u>0.0493</u>	\$ 0.0123 <u>0.0466</u>	\$ 0.0145 <u>0.0489</u>	\$ 0.0141 <u>0.0513</u>	\$ 0.0146 <u>0.0538</u>
<u>100.1 – 1000 m³</u>	\$ 0.0499 <u>0.0455</u>	\$ 0.0114 <u>0.0430</u>	\$ 0.0134 <u>0.0451</u>	\$ 0.0130 <u>0.0473</u>	\$ 0.0134 <u>0.0496</u>
<u>1000.1 - 5000 m³</u>	\$ 0.0395 <u>0.0360</u>	\$ 0.0090 <u>0.0340</u>	\$ 0.0106 <u>0.0357</u>	\$ 0.0103 <u>0.0374</u>	\$ 0.0106 <u>0.0393</u>
Over 5000 m³	\$ 0.0318 <u>0.0290</u>	\$ 0.0072 <u>0.0274</u>	\$ 0.0085 <u>0.0287</u>	\$ 0.0083 <u>0.0301</u>	\$ 0.0086 <u>0.0316</u>
Residential					
<u>0 – 10 m3</u>	<u>\$0.0508</u>	<u>\$0.0477</u>	<u>\$0.0498</u>	<u>\$0.0520</u>	<u>\$0.0543</u>
<u>10.1 – 35 m3</u>	\$0.0555	\$0.0521	\$0.0544	\$0.0568	<u>\$0.0593</u>
<u>Over 35 m3</u>	<u>\$0.0701</u>	<u>\$0.0659</u>	<u>\$0.0688</u>	<u>\$0.0718</u>	<u>\$0.0749</u>
Multi-Residential					
<u>0 – 100 m3</u>	<u>\$0.0479</u>	<u>\$0.0450</u>	<u>\$0.0470</u>	<u>\$0.0491</u>	<u>\$0.0512</u>
<u>100.1 – 1000 m3</u>	<u>\$0.0401</u>	\$0.0377	\$0.0393	<u>\$0.0411</u>	<u>\$0.0429</u>
<u>Over 1000 m3</u>	<u>\$0.0331</u>	<u>\$0.0311</u>	<u>\$0.0325</u>	<u>\$0.0339</u>	<u>\$0.0354</u>
Commercial					
<u>0 – 25 m3</u>	\$0.0400	\$0.0375	\$0.0392	<u>\$0.0409</u>	<u>\$0.0427</u>
<u>25.1 – 100 m3</u>	<u>\$0.0400</u>	<u>\$0.0375</u>	<u>\$0.0392</u>	<u>\$0.0409</u>	<u>\$0.0427</u>
<u>100.1 – 1000 m3</u>	\$0.0369	\$0.0346	<u>\$0.0361</u>	\$0.0377	<u>\$0.0394</u>
<u>1000.1 - 5000 m3</u>	\$0.0292	<u>\$0.0274</u>	<u>\$0.0286</u>	<u>\$0.0299</u>	<u>\$0.0312</u>
<u>Over 5000 m3</u>	<u>\$0.0235</u>	<u>\$0.0221</u>	<u>\$0.0230</u>	<u>\$0.0240</u>	<u>\$0.0251</u>

Fixed	20 <u>22</u> 17 Special	202318 Special	20 <u>24</u> 19 Special	20 <u>25</u> 20 Special	20 <u>26</u> 21 Special
Monthly	Rate	Rate Adjustment	Rate Adjustment	Rate Adjustment	Rate Adjustment
Service	Adjustment				
Charge					
(based					
on meter					
<u>15 mm</u>	\$ (0.34) <u>0.22</u>	\$ <mark>0.05</mark> <u>0.36</u>	\$ <mark>0.06</mark> <u>0.37</u>	\$ <mark>0.06</mark> <u>0.39</u>	\$ 0.06 <u>0.41</u>
20 mm	\$ <mark>0.45</mark> <u>0.34</u>	\$ <mark>0.07</mark> <u>0.54</u>	\$ 0.08 <u>0.55</u>	\$ 0.08 <u>0.58</u>	\$ <mark>0.08</mark> <u>0.61</u>
25 mm	\$ 3.29 <u>0.56</u>	\$ 0.10 <u>0.90</u>	\$ 0.11 <u>0.92</u>	\$ 0.11 <u>0.97</u>	\$ <mark>0.11</mark> <u>1.02</u>
<u>40 mm</u>	\$ 10.27 <u>1.12</u>	\$ 0.17 <u>1.80</u>	\$ 0.20 <u>1.85</u>	\$ 0.19 <u>1.94</u>	\$ <mark>0.19</mark> <u>2.03</u>
50 mm	\$ 23.19 <u>1.80</u>	\$ 0.23 <u>2.88</u>	\$ 0.27 <u>2.95</u>	\$ 0.25 <u>3.10</u>	\$ 0.26 <u>3.25</u>
75 mm	\$ <mark>39.77</mark> <u>3.37</u>	\$ 0.45 <u>5.40</u>	\$ 0.53 <u>5.54</u>	\$ 0.50	\$ 0.51 <u>6.10</u>
<u>100 mm</u>	\$ 55.53 <u>5.61</u>	\$ 0.83 <u>9.00</u>	\$ 0.96 <u>9.23</u>	\$ 0.92 <u>9.69</u>	\$ <mark>0.94</mark> <u>10.17</u>
<u>150 mm</u>	\$ 126.78 <u>11.22</u>	\$ 1.55 <u>18.00</u>	\$ 1.81	\$ 1.72 <u>19.37</u>	\$ <mark>1.76</mark> <u>20.33</u>
200 mm	\$ 205.44 <u>17.95</u>	\$ 2.46 <u>28.81</u>	\$ 2.87 <u>29.54</u>	\$ 2.74 <u>31.00</u>	\$ 2.79 <u>32.53</u>
250 mm	\$ (31.98) <u>25.81</u>	\$ 5.74	\$ 6.70	\$ 6.40	\$ <mark>6.52</mark>
<u>300 mm</u>	\$ 350.92 <u>37.88</u>	\$ <mark>5.74</mark> <u>60.78</u>	\$ <mark>6.70</mark> <u>62.33</u>	\$ <mark>6.40</mark> <u>65.41</u>	\$ 6.52 <u>68.63</u>
45	¢0.40	¢0.00	¢0.20	¢0.04	¢0.22
<u>15 mm</u>	<u>\$0.18</u>	<u>\$0.29</u>	<u>\$0.30</u>	<u>\$0.31</u>	<u>\$0.32</u>
<u>20 mm</u> 25 mm	<u>\$0.27</u>	<u>\$0.44</u>	<u>\$0.44</u>	<u>\$0.46</u>	<u>\$0.48</u>
<u>20 mm</u>	<u>\$0.45</u>	<u>\$0.75</u>	<u>\$0.74</u>	<u> </u>	<u>\$0.01</u>
<u>40 mm</u>	<u>\$0.91</u>	<u>\$1.45</u>	<u>\$1.40</u>	<u>\$1.00</u>	<u>\$1.01</u>
<u>30 mm</u>	<u>\$1.40</u> \$2.72	<u>\$Z.3Z</u>	<u>\$2.37</u>	<u>\$2.47</u>	<u>\$2.30</u>
<u>100 mm</u>	<u>\$2.15</u> \$4.55	\$4.33 \$7.26	\$7.44 \$7.40	\$4.04 \$7.72	<u>\$4.04</u> \$9.06
150 mm	\$4.55	<u>\$7.20</u> \$14.51	<u>\$7.40</u> \$14.90	<u>\$1.15</u> \$15.45	<u>\$0.00</u> \$16.12
200 mm	<u>\$9.09</u> \$14.54	\$73.22	\$23.68	\$13.45 \$24 72	\$25.81
250 mm	\$20.01	\$22.22 \$22.28	\$21.00	\$25.51	\$27.01 \$27.10
300 mm	\$30.69	\$18.00	\$10 07	\$52.5 4 \$52.16	\$51.10
<u>500 mm</u>	<u>430.03</u>	<u></u>	<u> 943.31</u>		<u></u>

2.3.2 Special Rate Adjustments for the Accelerated Programsto Increase the Monthly Service Connection Fee

In each of the years 20222017, 2018, 2019, 2020 and 2021 (affecting water rates payable by Customers for the time periods April 1, 2022 to March 31, 2023April 1, 2017 to March 31, 2018, April 1, 2018 to March 31, 2019, April 1, 2019 to March 31, 2020, April 1, 2020 to March 31, 2021 and April 1, 2021 to March 31, 2022 respectively) a Special Rate Adjustments for the Accelerated Programsto Increase the Monthly Service Connection Fee will be added to the Fixed Monthly Service Charges Consumption Charge in Schedule 1, Part I – Water Rates and a corresponding decrease will be made to the Consumption Charges in Schedule 1, Part I – Water Rates. These Special Rate Adjustments for the Accelerated Programsto Increase the Monthly Service Connection Fee isare required to help decrease the long term consumption impacts related to the decline in consumption for future PBR applications. required to recover the \$67 million capital expenditures planned under the Accelerated Programs for all five years of the 2017-2021 PBR.

The Special Rate Adjustments for the Accelerated Programs will be applied in respect of 2017, 2018, 2019, 2020 and 2021 water rates after the Inflation and Efficiency factors have been calculated and applied for those years, and are in addition to any Non-Routine Adjustments applicable to those years. After the The Special Rate Adjustments for the Accelerated Programsto Increase the Monthly Service Connection Fee hasave been factored into the 2022 2017, 2018, 2019, 2020 and 2021 water rates in Schedule 1, Part I and, these adjustments will continue to form part of the basic Fixed Monthly Service Charges and Consumption Charges for Water Services in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustments for the Accelerated Programsto Increase the Monthly Service Connection Fee applied to water rates for the years 2022 2017, 2018, 2019, 2020 and 2021 applied to the Fixed Monthly Service Charges and Consumption Charges for each customer class are as follows:

Accelerated Programs			
Increase Monthly Service Connection Fee			
Fixed Monthly Service Charge (based on meter size)	2022 Special <u>Rate</u> Adjustment		
31201	Adjustitient		
15 mm 20 mm 25 mm 40 mm 50 mm 75 mm 100 mm 150 mm 200 mm 200 mm 300 mm	\$4.04 \$6.06 \$10.10 \$20.19 \$32.31 \$60.58 \$100.96 \$201.92 \$323.08 \$464.42 \$681.69		
15 mm 20 mm 25 mm 40 mm 50 mm 75 mm 100 mm 150 mm 200 mm 250 mm 300 mm	\$4.02 \$6.03 \$10.04 \$20.09 \$32.14 \$60.26 \$100.43 \$200.86 \$321.38 \$461.98 \$678.10		

Consumption Charge (per m ³)	20 <mark>2217</mark> Special Rate Adjustment
$\frac{\text{Residential}}{0 - 10 \text{ m}^3}$ $\frac{10.1 - 35 \text{ m}^3}{\text{Over 35 m}^3}$	<u>\$(0.2291)0.0145</u> <u>\$(0.2503)0.0159</u> <u>\$(0.3164)</u> 0.0201
<u>Multi-Residential</u> <u>0 – 100 m³</u> <u>100.1 – 1000 m³</u> <u>Over 1000 m³</u>	<u>\$(0.2163</u>) <mark>0.0141</mark> \$(0.1810) <mark>0.0118</mark> <u>\$(0.1496)</u> 0.0098
$\frac{\text{Commercial}}{0 - 25 \text{ m}^3}$ $\frac{25.1 - 100 \text{ m}^3}{100.1 - 1000 \text{ m}^3}$ $\frac{100.1 - 5000 \text{ m}^3}{0 \text{ ver } 5000 \text{ m}^3}$	<u>\$(0.1803)0.0111</u> <u>\$(0.1803)0.0111</u> \$ <u>0.0102 (0.1663)</u> \$ <u>0.0081(0.1316)</u> <u>\$(0.1059)</u> 0.0065
<u>Residential</u> <u>0 – 10 m3</u> <u>10.1 – 35 m3</u> <u>Over 35 m3</u>	<u>\$(0.2279)</u> <u>\$(0.2490)</u> <u>\$(0.3147)</u>
<u>Multi-Residential</u> <u>0 – 100 m3</u> <u>100.1 – 1000 m3</u> <u>Over 1000 m3</u>	<u>\$(0.2152)</u> <u>\$(0.1800)</u> <u>\$(0.1488)</u>
<u>Commercial</u> <u>0 - 25 m3</u> <u>25.1 - 100 m3</u> <u>100.1 - 1000 m3</u> <u>1000.1 - 5000 m3</u> <u>Over 5000 m3</u>	\$(0.1793) \$(0.1793) \$(0.1654) \$(0.1309) \$(0.1054)

2.3.3 Special Rate Adjustment for Environmental Initiativesthe 90 Day Deferral Program

In <u>2022</u> each of the years 2017, 2018, 2019, 2020 and 2021 (affecting rates payable for the period <u>April 1, 2022 to March 31, 2023</u> April 1, 2017-March 31, 2018, April 1, 2018 to March 31, 2019, April 1, 2019 to March 31, 2020, April 1, 2020 to March 31, 2021 and <u>April 1, 2021 to March 31, 2022</u>) a Special Rate Adjustment for <u>Environmental Initiatives the 90 Day Deferral Program</u> will be applied to the <u>Consumption Charges and</u> Fixed Monthly Service Charges in Schedule <u>1,1</u> Part I – Water Rates. This Special Rate Adjustment for <u>Environmental Initiatives the 90 Day</u> <u>Deferral Program</u> is required to recover the <u>\$1.311.6</u> million expenditures planned for the 2017-2021 PBR term related to the North Saskatchewan River Monitoring Program and the Green Power Initiative for the incremental bad debt expense, administration, and carrying costs associated with the 90 Day Deferral Program.
The Special Rate Adjustment for the 90 Day Deferral Program for 2022 has been included in the Water Rates in Schedule 1, Part I. The Special Rate Adjustment for Environmental Initiatives will be applied to 2017, 2018, 2019, 2020 and 2021 water rates after the Inflation and Efficiency factors have been calculated and applied and are in addition to any Non-Routine Adjustments applicable to that year. This Special Rate Adjustment will be removed from Customer bills in 2023. Each year, after the Special Rate Adjustment for Environmental Initiatives have been factored into the 2017, 2018, 2019, 2020 and 2021 water rates, these adjustments will continue to form part of the basic Consumption Charges and Fixed Monthly Charges for Water Services in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustment for <u>the Environmental Initiatives90 Day Deferral</u> <u>Program</u> applied to water rates for <u>the years 2022 and 2023</u> 2017, 2018, 2019, 2020 and 2021 and applied to <u>Consumption Charges and</u> Fixed Monthly Charges for each customer class is as follows:

Consumption Charge	2017 Special	2018 Special
(per cubic meter (m ^s))	Kate	Kate
Residential		
0 10 m³	\$0.0082	\$0.0056
10.1 – 35 m³	\$0.0089	\$0.0061
Over 35 m³	\$0.0113	\$0.0077
Multi-Residential		
0 – 100 m³	\$0.0079	\$0.0054
100.1 – 1000 m³	\$0.0067	<u>\$0.0045</u>
Over 1000 m³	\$0.0055	\$0.0038
Commercial		
0 – 25 m³	\$0.0062	\$0.0043
25.1 – 100 m³	\$0.0062	\$0.0043
100.1 – 1000 m³	\$0.0058	\$0.0039
1000.1 - 5000 m³	\$0.0046	\$0.0031
Over 5000 m³	\$0.0037	\$0.0025

90 Day Deferral Program		
Fixed Monthly Service Charge (based on meter size)	20 <u>22</u> 17 Special Rate Adjustment	20 <u>23</u> 48 Special Rate Adjustment <u>*</u>
15 mm 20 mm 25 mm 40 mm 50 mm 75 mm 100 mm 150 mm 200 mm 250 mm 300 mm	$\begin{array}{r} \frac{\$0.300.03}{\$0.450.03}\\ \frac{\$0.450.03}{\$0.740.04}\\ \frac{\$1.480.08}{\$2.370.10}\\ \frac{\$2.370.10}{\$4.450.21}\\ \frac{\$7.420.38}{\$14.840.71}\\ \frac{\$14.840.71}{\$23.74}\\ \frac{\$23.74}{\$34.13}\\ \frac{\$34.13}{2.62}\\ \frac{\$50.09}{2.62}\end{array}$	$\frac{\$(0.30)0.02}{\$(0.45)0.03}$ $\frac{\$(0.75)0.04}{\$(1.49)0.08}$ $\frac{\$(2.39)0.10}{\$(4.48)0.21}$ $\frac{\$(7.47)0.38}{\$(14.93)0.71}$ $\frac{\$(23.89)1.12}{\$(34.35)2.63}$ $\frac{\$(50.41)2.63}{\$(50.41)2.63}$
15 mm 20 mm 25 mm 40 mm 50 mm 75 mm 100 mm 150 mm 200 mm 250 mm 300 mm	\$0.30 \$0.44 \$0.74 \$1.48 \$2.37 \$4.44 \$7.41 \$14.81 \$23.70 \$34.07 \$50.01	$\frac{-\$(0.30)}{\$(0.45)}\$\lambda$ $\frac{\$(0.75)}{\$\lambda}$ $\frac{-\$(1.49)}{\$\lambda}$ $\frac{-\$(2.39)}{\$\lambda}$ $\frac{\$(4.47)}{\$\lambda}$ $\frac{\$(7.45)}{\$\lambda}$ $\frac{\$(7.45)}{\$\lambda}$ $\frac{\$(14.91)}{\$\lambda}$ $\frac{\$(23.85)}{\$\lambda}$ $\frac{\$(34.29)}{\$\lambda}$

* The 2023 Special Rate Adjustment for the 90-day Deferral Program will be determined following a true up of the 2022 Special Rate Adjustment to the actual amount incurred as a result of the 90-day Deferral Program. The 2023 Special Rate Adjustment for the 90-day Deferral Program will constitute a negative rate adjustment to remove the amount from rates for remainder of the PBR term following March 31, 2023.

2.3.4 Special Rate Adjustment for Public Fire Protection

In 2022 (affecting water rates payable by Customers for the time period April 1, 2022 to March 31, 2023) the Special Rate Adjustment for Public Fire Protection will be added to the Public Fire Protection Monthly Charge for Water Services in Schedule 1, Part I – Water Rates. The Special Rate Adjustment for Public Fire Protection is required to commence collection of the public fire protection revenue requirement through water rates, as directed by Edmonton City Council.

The Special Rate Adjustment for Public Fire Protection has been factored into the 2022 water rates in Schedule 1, Part I and these adjustments will continue to form part of the Public Fire Protection Monthly Charge in all subsequent years, to which

the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustment for Public Fire Protection applied to water rates for the year 2022 applied to the Public Fire Protection Monthly Charge for Water Services for each customer class is as follows:

Public Fire Protection			
Public Fire Protection Monthly Charge (based on meter size)	2022 Special <u>Rate</u> <u>Adjustment</u> <u>Residential</u>	2022 Special Rate Adjustment Multi-Residential	2022 Special Rate Adjustment Commercial
15 mm 20 mm 25 mm 40 mm 50 mm 75 mm 100 mm 150 mm 200 mm 250 mm 300 mm	\$2.59 \$3.88 \$6.47 \$12.95 \$20.72 \$38.84 \$64.74 \$129.48 \$207.16 \$297.80 \$437.11	\$2.54 \$3.81 \$6.36 \$12.72 \$20.34 \$38.15 \$63.58 \$127.15 \$203.44 \$292.45 \$429.26	\$5.87 \$8.81 \$14.68 \$29.36 \$46.97 \$88.07 \$146.78 \$293.55 \$469.68 \$675.17 \$991.03

2.4 Special Rate Adjustment for Wastewater Treatment Services

2.4.1 Special Rate Adjustments for Re-Basing

In each of the years 2017, 2018, 2019, 2020 and 2021 (affecting wastewater treatment rates payable by Customers for the time periods April 1, 2017 to March 31, 2018, April 1, 2018 to March 31, 2019, April 1, 2019 to March 31, 2020, April 1, 2020 to March 31, 2021 and April 1, 2021 to March 31, 2022) the Special Rate Adjustment for Re-Basing for Wastewater Treatment Services will be added to the Consumption Charge, Fixed Monthly Service Charge, the Wastewater Overstrength Surcharge, and the Wastewater Additional Overstrength Surcharge in Schedule 1, Part IV – *Wastewater Treatment Rates*. This Special Rate Adjustment for Re-Basing is required to recover the difference between EWSI's revenue requirement forecast for the 2017-2021 PBR term and the revenue that would be realized if annual rate increases were limited to PBR inflation.

The Special Rate Adjustment for Re-Basing for Wastewater Treatment Services will be applied in respect of 2017 2018, 2019, 2020 and 2021 wastewater treatment rates

after the Inflation and Efficiency factors have been calculated and applied for those years, and are in addition to any Non-Routine Adjustments applicable to those years. Each year, after the Special Rate Adjustment for Re-Basing for Wastewater Treatment Services have been factored into the 2017, 2018, 2019, 2020 and 2021 wastewater treatment rates, these adjustments will continue to form part of the basic Consumption Charge, Fixed Monthly Service Charge, and Wastewater Overstrength and Wastewater Additional Overstrength Surcharges for Wastewater Treatment Services in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustment for Re-Basing for Wastewater Treatment Services applied to wastewater treatment rates for the years 2017, 2018, 2019, 2020 and 2021 applied to the Consumption Charge for each customer class, the Fixed Monthly Service Charge and Wastewater Overstrength and Wastewater Additional Overstrength Surcharges is as follows:

Consumption Charge (per.m ³)	2017 Special Rate Adjustment	2018 Special Rate Adjustment	2019 Special Rate	2020 Special Rate Adjustment	2021 Special Rate Adjustment
(por m)		Auguetment	Augustinone	Auguotinone	Auguotinont
Residential All consumption	\$0.0333	\$0.0360	\$0.0375	\$0.0399	\$0.0423
Commercial 0 – 10,000 m ³ 10,000.1 – 100,000 Over 100 000 m ³	\$0.0333 \$0.0257 \$0.0134	\$0.0360 \$0.0279 \$0.0145	\$0.0375 \$0.0290 \$0.0152	\$0.0399 \$0.0308 \$0.0161	\$0.0423 \$0.0328 \$0.0171
	V 010101				
Fixed Monthly Service Charge					
	\$0.1737	\$0.1882	\$0.1961	\$0.2083	\$0.2212
Wastewater Surcharge					
	\$0,0208	\$0.0221	\$0.0235	\$0.0250	\$0.0265
	\$0.0200 \$0.0208	\$0.0221 \$0.0221	\$0.0235	\$0.0250 \$0.0250	\$0.0265 \$0.0265
c) oil and grease	\$0.0182	\$0.0193	\$0.0205	\$0.0218	\$0.0232
d) phosphorous	\$0.1733	\$0.1841	\$0.1955	\$0.2077	\$0.2205
e) suspended	\$0.0189	\$0.0201	\$0.0213	\$0.0227	\$0.0241
f) total kjeldahl	\$0.0442	\$0.0470	\$0.0499	\$0.0530	\$0.0563
Wastewater Overstrength					
a) BOD	\$0.0208	\$0.0221	\$0.0235	\$0.0250	\$0.0265
b) COD	\$0.0208	\$0.0221	\$0.0235	\$0.0250	\$0.0265
c) oil and grease	\$0.0182	\$0.0193	\$0.0205	\$0.0218	\$0.0232
d) phosphorous	\$0.1733	\$0.1841	\$0.1955	\$0.2077	\$0.2205
e) suspended	\$0.0189	\$0.0201	\$0.0213	\$0.0227	\$0.0241
f) total kjeldahl	\$0.0442	\$0.0470	\$0.0499	\$0.0530	\$0.0563

3.0 Water System Service Quality

Water System Service Quality is measured by the results of five indices -described in Section 3.1 - 3.5. <u>These are:</u>

- a) Water Quality Index;
- b) Customer Service Index;
- c) System Reliability and Optimization Index;
- d) Environmental Index; and

a)e) Safety Index.

Performance under each index is measured independently on a point basis with 100 base points available if the standards in all five areas are achieved. In total, up to 10% additional bonus points for performance above the standard are available. These bonus points are described below within each index.

For each full point scored below 100 base and bonus points, a penalty of \$67,000 will be assessed to a maximum of \$1,000,000. There is no reward for performance above 100 base and bonus points. For purposes of these calculations, point amounts will be rounded to the nearest tenth of a point and calculated on a calendar year basis.

The total penalty for the year will be applied as a rebate to customers in the year immediately following the performance year.

3.1 Water Quality Index

Description	The Water Quality Index is a summary of the percentage of the water
	quality tests that EPCOR Water Services performs on drinking water in
	Edmonton that meet all regulatory requirements. This measure is
	reported as % of tests conducted that meet all objectives. This index
	provides a measure of overall water quality in the city as it is delivered
	to the customer, and provides reassurance that water quality
	consistently meets much stricter limits than regulatory approval
	requirements.
<u>Formula</u>	The maximum base value of the treated water quality index is 3025 base points, as calculated under the formula:

Water Quality Index = 3025 X WQ%

99.7%

Where,

- WQ% means the percentage of the total number of water quality tests taken in the reporting period that do not yield suspect results; and
- _____99.7% _____is the water quality index standard.

No bonus points are available for the water quality index based on the formula. The maximum total water quality index points are 30.0.

Benchmark >= 99.7% YTD

A maximum of 0.5 bonus points is available for the water quality index based on the formula. The maximum total water quality index points is 25.5. Bonus points earned from other performance metrics cannot be used to offset water quality performance that is below the prescribed standard for any given year.

3.2 Customer Service Index

 Description
 The customer service index is a measure of the customer's perception and satisfaction with EWSI service, the aesthetic quality of water and speed of response. These measures are important because they represent the direct contact that customers have with EWSI.

The customer service index is the measure of four equally weighed components. The combined results of the four components produce the measure of the customer service index.

Formula The maximum base value of the customer service index is <u>15</u>20 base points as calculated under the following formula:

Customer Service Index = $\frac{1520}{X}$ $\frac{PSAF + HSF + RTF + PCIF}{4}$

Where,

PSAF means the post service audit factor,

HSF means the home-sniffing factor,

RTF means the response time factor; and

PCIF means the planned construction impact factor.

A maximum of 2.253 bonus points <u>areis</u> available for the customer service index based on the formula.

The maximum total customer service index points areis 17.2523.

<u>3.2.1</u> Post Service Audit Factor

 Description
 The post service audit factor (PSAF) is a measure of customer satisfaction of those customers who contact the EPCOR Water Emergency telephone line.

Formula (PAF)The PSAF is measured by the formula:

Post Service Audit Factor = $\frac{PSA\%}{75.04.9\%}$

Where,

PSA% _____means the percentage of the customers responding <u>"yes" to the Customer Satisfaction survey questions about as</u> <u>"completely" or "very satisfied" in the level of service</u> received from the EWSI Emergency group; and

_____7<u>5</u>4.09% _____is the post service audit standard.

Benchmark >=75.0%

 Definitions
 Customer Satisfaction = rating of Satisfaction survey questions identified in the Water Services Guidelines which shall include the following questions as of April 1, 2022 but may be changed in accordance with a direction from the Utility Committee:

- <u>EWSI makes it easy for customers to reach them?</u>
- EWSI's employees are helpful?
- EWSI's employees are knowledgeable?
- EWSI's employees are courteous?
- EWSI's employees provide satisfactory service?

"completely" or "very s	atisfied" in the level of service received from the EWSI Emergency
	group and rated as a 6 or 7 to questions of:
•	Overall satisfaction with the most recent call to the EPCOR Water

- Emergency telephone line; and
- Overall satisfaction with the response to the call.

3.2.4<u>3.2.2</u>Hon	ne Sniffing Fac	ctor
Description	Home Sniff results from	ing Factor (HSF) is a measure of customer satisfaction the home sniffing survey.
Formula	The HSF is	measured by the formula:
The home formula:	sniffing factor	(HSF) is measured by the
	<u>Hc</u>	$\frac{HS\%}{94.4\%}$
	Where,	
	HS%	means the percentage result of customer satisfaction for the home sniffing survey; and
	94.4%	is the home sniffing factor standard.
<u>Benchmark</u>	>=94.4%	
Definitions	Favourable	e Assessment – a rating between 0.0 and 0.5 (on the 0 to 3.0)

Reporting Frequency Annually

3.2.5 <u>3.2.3</u>	Response Time Factor
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 Description
 Response Time Factor (RTF) is a measure of the average number of minutes to confirm a water main break once a call is received at the EWSI dispatch office.

Formula The RTF is measured by the formula:

The response time factor (RTF) is measured by the formula:

Response Time Factor = $1 - \frac{RT - 25}{25}$

Where,

- ____RT means the average number of minutes to confirm a water main _____break once a call is received at the EWSI dispatch office; and
 - is the response time standard.

Benchmark <= 25 minutes YTD

DefinitionsWater Main Break - number of water main breaks that have occurred
in the waterworks system as a measure of the frequency of unplanned
interruptions that customers may experience over the course of a year.

Confirmation – Time when service person calls the dispatcher with confirmation that a water main break has occurred at the reported location.

Response Time – Time between call to report a main break and time when service person calls dispatch to confirm main break.

3.2.6 <u>3.2.4</u>	Planned Construction Impact Factor	
Description	The Planned Construction Impact Factor (PCIF) is a measure of EPCOR's effectiveness at minimizing customer impact of planned interruptions due to construction.	
Formula	The PCIF is measured by the formula:	
The pla	Inned construction impact factor (PIF) is measured by the formula: $\frac{\text{Planned Construction Impact Factor} = \frac{\frac{\text{TPCE}\%}{95.8\%}}{2}$	
	Where,	
	<u>T</u> PC <u>E</u> I% means the percentage of the total plann construction events where EWSI complies w required construction notification procedures; a	ned vith and
	95.8%is the planned construction impact standard.	
Benchmark	<= 95.8% YTD	
<u>Definitions</u>	Large-scale projects – Projects where entire lengths of water main and associated appurtenances are being renewed and which result the shutdown of water service to multiple properties. Interruption usually measured in weeks. Minimum five days advance notice customers is required.	<u>ain</u> t in 1 is 2 to
	Small-scale projects – Projects where components of the was system, such as a valve or hydrant, are repaired or modified Interruption is usually less than eight hours. Minimum one can advance notice to customers is required.	<u>ater</u> ed. day
	Notice to customers - Written information provided to customere regarding a planned interruption to their regular water service.	<u>ers</u>
	Length of time – Measured in calendar days and indicated in to notice to the Customer. This is measured as the difference betwee the start date and end date.	<u>the</u> en

3.3 System Reliability and Optimization Index

Description	The system reliability index is a measure calculated on the basis of four
	equally weighed components. The combined results of the four
	components produce the measure of the system reliability index.
Formula	The maximum base value of the system reliability index is 25 base
	points as calculated under the following formula:

The system reliability index is a measure calculated on the basis of four equally weighed components. The combined results of the four components produce the measure of the system reliability index. The maximum base value of the system reliability index is 25 base points as calculated under the following formula:

System Re	eliability Index = 25 X <u>MBF + MBRD</u>	<u>F + WLF+</u> =
Where,		
MBF	_means the water main break factor,	
MBRDF	means the water main break repair du	ration factor,
WLF	_means the water loss factor; and	
SE <u>E</u> F	means the system energy efficiency fa	actor.

A maximum of 3.25 bonus points is <u>are</u> available for the system reliability index based on the formula. The maximum total system reliability index points <u>areis</u> 28.25.

3.3.1 Water Main Break Factor

DescriptionThe Water Main Break Factor (MBF) is a measure of the frequency of
unplanned interruptions caused by water main breaks.

Formula The MBF is measured by the formula:

The water main break factor is measured by the formula:

<u>Water Main Break Factor = 1 – $\frac{MB - 365}{365}$ </u>

Where,

____MB means the number of water main breaks that occurred in the ____reporting period; and

<u>365</u>419 is the water main break standard.

Benchmark <= 365 YTD

DefinitionsWater Main Break - number of water main breaks that have occurred
in the waterworks system as a measure of the frequency of unplanned
interruptions that customers may experience over the course of a year.

3.3.2 Water Main Break Repair Duration Factor

DescriptionThe Water Main Break Repair Duration Factor (MBRDF) is a measure
of percentage of time that water main breaks are repaired within 24-
hours from the time the flow of water is shut-off (i.e. the time of
customer interruption).

Formula The MBRDF is measured by the formula:

The water main break repair duration factor (MRF) is measured by the formula:

Water Main Break Repair Duration Factor = <u>MBRD%</u> <u>95.4%</u>

Where,

- MBRD% means the percentage of water main breaks repaired and confirmed by EWSI within 24 hours from the time that the flow of water is shut off (i.e. the time of customer interruption) excluding those on arterial or collector roads; and
- 953.47% is the water main break repair duration standard.

Benchmark >= 95.4% YTD

- DefinitionsWater Main Break number of water main breaks that have occurredin the waterworks system as a measure of the frequency of unplannedinterruptions that customers may experience over the course of a year.
 - **Repair Duration -** The difference between the time the customer's water supply is interrupted and the time a water main break repair is completed.

Completed repair - A main break repair is considered complete when normal water service is restored to affected customers.

3.3.3 Water Loss Factor

Description The Water Loss Factor (WLF) is an indicator quantifying how well the water distribution system is managed (maintained, repaired and rehabilitated) for the control of real (leakage) losses at the current operating pressure.

Formula The water loss factor (WLF)WLF is measured by the formula:

The water loss factor (WLF) is measured by the formula:

Water Loss Factor = $1 - \frac{ILI - \underline{12.230}}{\underline{12.230}}$

_____Where,

- ILI means the Infrastructure Leakage Index, a performance indicator quantifying how well a water distribution system is managed for the control of real (leakage) water losses; and
- <u>12.230</u> is the infrastructure leakage standard.

To calculate the ILI, EWSI will apply the calculation recommended in the American Water Works Association (AWWA) manual M36 "Water Audits and Loss Control Programs", or any publication issued by the AWWA which is intended to replace this manual. This factor will be calculated based on prior year's information due to a time lag from when final values for all the parameters used to calculate the ILI can be obtained and when the Water System Service Quality results for a year are required to be reported under this Bylaw.

Benchmark <= 1.23

DefinitionsApparent Losses – Includes all types of inaccuracies associated with
customer metering as well as data handling errors (meter reading and
billing), plus unauthorized consumption (theft or illegal use).

 Real Losses
 Volume
 of
 Water
 Supplied
 less
 Authorized

 Consumption and Apparent Losses.
 Includes the physical water losses
 from the pressurized system and the utility's storage tanks, up to the point of customer consumption.
 In
 metered
 systems
 this is
 the customer meter.

Unavoidable Annual Real Losses (UARL) – The UARL is a theoretical reference value representing the technical low limit of leakage that could be achieved if all of today's best technology could be successfully applied. It is a key variable in the calculation of the Infrastructure Leakage Index (ILI).

Infrastructure Leakage Index (ILI) – The ratio of the current annual Real Losses to the Unavoidable Annual Real Losses (UARL). The ILI is a highly effective performance indicator for comparing (benchmarking) the performance of utilities in operational management of real losses.

Reporting Frequency Annually

3.3.4 System Energy Efficiency Factor

DescriptionThe System Energy Efficiency Factor (SEEF) is a measure of the
amount of energy used per 100,000 accounts.

Formula The SEEF is measured by the formula:

The system energy efficiency factor (SEF) is measured by the formula:

<u>System Energy Efficiency Factor = $\frac{281}{\text{SEE}}$ </u>

_____Where,

ENG <u>SEE</u> means <u>the</u> energy used <u>of all water facilities (in kWh) per</u> volume of water produced (in millions of litres) per 100,000 accounts; and,

ML means the total water production volume in millions of litres,

ACT means number of residential accounts receiving a monthly invoice; and

<u>309281</u> accounts.

is the system energy efficiency standard per 100,000

Benchmark <= 281

3.4 Environmental Index

Description	The environmental index measures the success of programs and
	policies designed to mitigate and report adverse environmental
	impacts. The index is a measure calculated on the basis of three
	weighed components.
<u>Formula</u>	The maximum base value of the environmental index is 15 base points
	as calculated under the following formula:
The environmental	index measures the success of programs and policies designed to
mitigate and report	adverse environmental impacts. The index is a measure calculated on
the basis of three we	eighed components. The maximum base value of the environmental index
is 15 base points as	s calculated under the following formula:
	Environmental Index = $15 \times \frac{\text{WCF} + \text{EIF} + \text{SRMF}}{1000 \text{WCF} + \text{EIF} + \text{SRMF}}$
	Where,
	WCF means the water conservation factor,
	EIF means the environment incident factor; and
	SRMF means the solids residual management factor.
	A maximum of 21.25 bonus points are is available for the
	environmental index based on the formula.
	The mention we total empire an ental index a sinte is any 470.05
	i ne maximum total environmental index points <u>is-are 176.2</u> 5.

3.4.1 Water Conservation Factor

 Description
 The Water Conservation Factor (WCF) is a measure of water use efficiency, the average Edmonton residential water consumption per household in cubic meters.

Formula

The water conservation factor (WCF)WCF is measured by the formula:

The water conservation factor (WCF) is measured by the formula:

	Water C	Conservation Factor =	<u>16.8</u> <u>WC</u>
	Where,		
	_WC	means the actual 10 year Edmonton residential consum	rolling average monthly nption per household; and
	1 <u>6</u> 7. <u>8</u> 2	is the water conservation star	ndard.
Benchmark	<= 16.8m ³		
Definitions	Domestic (Residential) Water Service	
	A domestic	(residential) water service is de	fined as a service:
	 supplied 	to premises used primarily for	domestic purposes;
	supplied where n single w	to premises used primarily for o more than four separate dwel ater meter; and	domestic purposes; lling units are metered by a

3.4.2 Environment Incident Factor

DescriptionThe Environment Incident Factor (EIF) measures the number of
incidents that are reportable to the municipal, provincial or federal
regulator and that are considered preventable.

 Formula
 The environment incident factor (EIF)EIF is measured by the formula:

The environment incident factor (EIF) is measured by the formula:

 $\frac{\text{Environmental Incident Factor} = \frac{2}{\text{EIPR}}$ Where,

EIRP means the number of reportable and preventable environmental incidents; and

<u>56</u> _____is the environmental incident standard.

Benchmark <= 5 YTD

DefinitionsReportable Incident – one that involves contravention of a municipal,
provincial or federal regulation or bylaw, or a spill or release to the
environment that is reportable as defined in provincial or federal
release reporting criteria.

Preventable Incident – one that meets the following criteria:

- An investigation of the incident demonstrates a failure to follow regulatory requirements or a documented EWSI procedure;
- An incident that is a recurrence of a similar reportable incident due to failure to implement corrective action that had been previously identified; or
- There is an administrative contravention including failure to notify or report to the regulator in a timely manner. Or to sample and test as required under the Approval to Operate issued by Alberta Environment and Water.

A reportable and preventable incident is one that is both reportable and preventable according to the above criteria. It is a government reportable incident that could have been prevented if reasonable diligence was exercised by EWSI.

If it can be demonstrated that EWSI took all reasonable measures to prevent the incident from occurring, the incident will not be considered preventable. Mitigating circumstances and external factors (i.e. unpredictable equipment failure, unusual weather conditions, the actions of external parties that are not controllable by EWSI) will be considered in determining if the incident was preventable.

<u>3.4.23.4.3</u> Solic	ds Residual Management Factor
Description	Solids Residual Management is a measure of time the EWSI Water Treatment plants operate in direct filtration mode which reduces the solids load of water returned to the North Saskatchewan river during water treatment.
<u>Formula</u>	The solids residual management factor (SRMF) is measure by the formula:
The solids r	residual management factor (SRF) is measure by the formula:
	Solids Residual Factor = <u>(DDF1 + DDF2) / 2</u> <u>120</u>
	Where,
	DDF1means the number of days that the Rossdale water treatment plant is operating in direct filtration mode,
	DDF2 means the number of days that the E.L. Smith water treatment plant is operating in direct filtration mode; and
	120is the solids residual management standard.
Benchmark	<= <u>120 days</u>
Definitions	A water treatment train is considered to be in Direct Filtration when the following two criteria are met:
	 Water is being processed by the train at a rate above 20 ML/d; and
	 Alum is either not being added to a train processing water or is being added at a rate below 15.
Reporting Frequen	cy Monthly

3.5 Safety Index

Description	The safety index is a measure of the success of programs and the
	application of policies that maximizes the safety of employees and the
	public. It is calculated on the basis of four equally weighed
	components. The combined results of the four components produce
	the measure of the safety index.
Formula	The maximum base value of the safety index is 15 base points and is
	calculated under the following formula:
The safety index is a	measure of the success of programs and the application of policies that
	maximizes the safety of employees and the public. It is calculated on
	the basis of four equally weighed components. The combined results
	of the four components produce the measure of the safety index. The
	maximum base value of the safety index is 15 base points is
	calculated under the following formula:
	Safety Index = 15 X $-$
	7
	Where,
	NMF means the near miss reporting factor,
	_WIOF means the worksite inspections and observations factor,
	LTF means the lost time frequency factor; and
	AIF means the all injury frequency factor.
7	
	A maximum of <u>2</u> 4.25 bonus points <u>-isare</u> available for the safety index based on the formula.

The maximum total safety index points is are 176.25.

<u>3.5.1</u> Near Miss Reporting Factor

 Description
 The Near Miss Reporting Factor (NMF) is a measure of the number of Near Miss reports completed each year.

Formula The near miss reporting factor (NMF) is measured by the formula:

The near miss reporting factor (NMF) is measured by the formula:

Near Mice Departing Factor	<u>NM + HI</u>
1100000000000000000000000000000000000	550

_____Where,

- ____NM means the number of near miss reports entered in the E<u>R</u>S system;
- HImeans the number of hazard identification reports entered in
the ERS system;and
 - _550 is the near miss reporting standard.

Benchmark >= 550 YTD

DefinitionsNear Miss: An unplanned event, unsafe condition or unsafe action that
did not result in contact, injury, illness, or damage - but had the potential
to do so.

Hazard Identification: An observed potential hazard that did not result in a near miss or incident on EWSI property.

3.5.33.5.2 Worksite Inspections and Observations Factor

 Description
 The Worksite Inspections and Observations Factor (WIOF) measures

 the number of work site inspections and observations completed each year.

Formula The WIOF is measured by the formula:

The worksite inspection factor (WIF) is measured by the formula:

Worksite Inspections and	<u>WIO</u>
Observations Factor =	1,032

_____Where,

WIO _____means the actual number of work site inspections and/_observations completed per year; and

1,032 _____is the worksite inspection standard.

Benchmark >= 1032 YTD

 Definitions
 Inspection procedures are as defined by Work Site Inspection Reports and Office Work Site Inspection Reports.

Observation procedures are as defined by the Safety Track observations process.

3.5.4 3.5.3	Lost Time Frequency Fa	actor
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Description	The Lost Time Frequency factor measures the effectiveness of a
	safety program as related to disability injuries and illnesses.
Formula	The Lost Time Frequency Factor is measured by the formula:

<u>The lost time frequency factor (LTF) is measured by the formula:</u>

Frequency Factor =

_____ Where,

LTFR _____ means the actual lost time frequency rate; and

_____0.4057 _____is the lost time frequency standard.

Benchmark <= 0.40 YTD

DefinitionsLost Time Incident – A work related disability injury or disability illness
that results in an employee missing time at work.

Exposure Hours - The total number of hours employees were exposed to the work site.

Lost Time Frequency Rate is calculated using the following formula defined in the Canadian Electrical Association Work Injury/Illness Standards:

<u>(# Disability Injuries + # Disability Illnesses) x 200,000</u> Exposure Hours

Where 200,000 represents 100 full time employees who work 40 hours per week for 50 weeks.

.5.53.5.4 All Injury Frequency Factor

DescriptionThe All Injury Frequency Factor measures the effectiveness of a safety
program as related to disability injuries and medical aid injuries.

Formula The All Injury Frequency Factor is measured by the formula:

_The all injury frequency factor (AIF) is measured by the formula:

	<u>1.00</u>
All Injury Frequency Factor =	AIFR

Where,

AIF<u>R</u> _____means the actual all injury frequency rate; and

_1.<u>00</u>54 is the all injury frequency rate standard.

Benchmark <= 1.00 YTD

Definitions Disability Injury Incident – A work related injury.

Medical Aid Injury - An injury that requires assessment and care by a physician.

Exposure Hours - The total number of hours employees were exposed to the work site.

All Injury Frequency Rate is calculated using the following formula defined in the Canadian Electrical Association Work Injury / Illness Standards:

(# Disability Injuries + # Medical Aid Injuries) x 200,000 Exposure Hours

Where 200,000 represents 100 full time employees who work 40 hours per week for 50 weeks.

3.6 Changes to Legislation or Regulation

In the event there is a change to: legislation, regulation, bylaws, policy order or directive (Law) affecting EWSI's performance standards, EWSI shall amend that standard or standards to comply with the change in Law.

4.0 Wastewater Treatment Service Quality

Wastewater Treatment System Service Quality is measured by the results of four indices described in Section 4.0.

Performance under each index is measured independently on a point basis with 100 base points available if the standards in all four areas are achieved. In total, up to 10% additional bonus points for performance above the standard are available. These bonus points are described below within each index.

For each full point scored below 100 base and bonus points, a penalty of \$27,000 will be assessed to a maximum of \$400,000. There is no reward for performance above 100 base and bonus points. For purposes of these calculations, point amounts will be rounded to the nearest tenth of a point and calculated on a calendar year basis.

The total penalty for the year will be applied as a rebate to customers in the year immediately following the performance year.

4.7 <u>4.Water Quality and Environmental IndexWater Quality and Environmental Index</u>

The water quality and environmental index measures the success of operational processes and procedures designed to manage the quality of effluent returned back the North Saskatchewan River and to manage adverse environmental impacts. The index is a measure calculated on the basis of two equally weighed components. The maximum base value of the water quality and environmental index is 55 base points as calculated under the following formula:

Water Quality and Environmental Index - 55 X	WQF + EIF
$\frac{1}{2} \frac{1}{2} \frac{1}$	2

Where,

WCF means the water quality factor; and

EIF means the environment incident factor

A maximum of 5.5 bonus points is available for the water quality and environmental index. The maximum total points for the water quality and environmental index is 60.5. Bonus points earned from other performance metrics cannot be used to offset water quality performance that is below the prescribed standard for any given year.

4.7.1 Water Quality Factor

The water quality factor (WQF) is measured by the formula:

Motor Quality Index	28.0
Water Quality Index =	WELP

Where,

WELP means the value of the Wastewater Effluent Limit Performance, which measures the percentage of the discharge limit for five parameters in the Gold Bar wastewater treatment plant's final effluent; and

28.0 is the water quality standard.

4.7.2 Environment Incident Factor

The environment incident factor (EIF) is measured by the formula:

Environment Incident Factor =	10
	EIRP

Where,

EIRP means the actual number of environmental incidents that are both reportable and preventable; and

10 is the environmental incident standard.

4.8 Customer Service Index

The customer service index is the measure of three equally weighed components. The combined results of the three components produce the measure of the customer service index. The maximum base value of 15 base points as calculated under the following formula:

Customer Service Index = 15 x	HS01F + HS24F + SUF
	3

Where,

HS01F means H₂S 1-hour exceedance factor,

HS24F means H₂S 24-hour exceedance factor; and

SUF means scrubber uptime factor.

A maximum of 1.5 bonus points is available for the customer service index. The maximum total customer services index points is 16.5.

4.8.1 H₂S – 1-Hour Exceedance Factor

The H₂S 1-hour exceedance factor (H₂S01F) is measured by the formula:

 $H_{2}S - 1 - Hour Exceedance Factor = \frac{6}{(GB1 + BEV1)/2}$

Where,

- GB1 means the number of exceedances of the 1-hour limit registered at the Gold Bar air quality monitoring station,
- BEV1 means the number of exceedances of the 1-hour limit registered at the Beverly air quality monitoring station; and
- 6 is the H₂S 1-hour exceedance standard.

4.8.2 H₂S – 24 Hour Exceedance Factor

The H₂S 24 hour exceedance factor (HS24F) is measured by the formula:

 $H_{2}S - 24 Hour Exceedance Factor = \frac{2}{(GB24 + BEV24) / 2}$

Where,

- GB24 means the number of exceedances of the 24-hour limit registered at the Gold Bar air quality monitoring station,
- BEV24 means the number of exceedances of the 24-hour limit registered at the Beverly air quality monitoring station; and

2 is the H₂S 24-hour exceedance standard.

4.8.3 Scrubber Uptime Factor

The scrubber uptime factor (SUF) is measured by the formula:

Scrubber Uptime Easter -	(SUP1+SUP2+SUP3+SUP4)/TTL
	90%

Where,

- SUP refers to a scrubber system's uptime or operating time as evidenced by the following component systems operating: a blower introducing foul air to a scrubber, chemical feed systems (2 systems), and a scrubber recirculation system
- SUP1 is the East Scrubber uptime in hours
- SUP2 is the West Scrubber uptime in hours
- SUP3 is the Fermenter Scrubber uptime in hours
- SUP4 is the EPT Scrubber uptime in hours
- TTL is the total hours in a year (for all four scrubbers combined) when scrubbers would be expected to be operating, i.e. foul air is present in the operating areas relevant to a scrubber

90% is the Scrubber Uptime standard

4.9 System Reliability and Optimization Index

The system reliability and optimization index is a measure of the performance of the Gold Bar Wastewater Treatment Plant. It is calculated on the basis of three equally weighed components. The maximum base value of the system reliability and optimization index is 15 base points as calculated under the following formula:

System Reliability Index – 15 X	EPTF + BUF + EEF
System Reliability index = 13 x	3

Where,

EPTF means the enhanced primary treatment factor,

BUF means biogas utilization factor; and

EEF means the energy efficiency factor.

A maximum of 1.5 bonus points is available for the system reliability and optimization index based on the formula. The maximum total system reliability and optimization index points is 16.5.

4.9.1 Enhanced Primary Treatment Factor

The enhanced primary treatment factor (EPTF) is measured by the formula:

Enhanced Drimony Treatment Faster -	EPT%
	80.0%

Where,

EPT% means the percentage of time that the enhanced primary treatment facility ran during wet weather events where the influent flow rate exceeds the EPT event threshold; and

80.0% is the enhanced primary treatment standard.

4.9.2 Biogas Utilization Factor

The biogas utilization factor (BUF) is measured by the formula:

 $\frac{\text{Biogas Utilization Factor} = \frac{\text{BGU/(BGU+NGU)}}{60\%}$

Where,

BGU means the total biogas used in both houses in GJ

NGU___ means the total natural gas used in GJ

60.0% is the biogas utilization standard.

4.9.3 Energy Efficiency Factor

The energy efficiency factor (EEF) is measured by the formula:

Enorgy Efficiency Easter -	514
	EN / ML

Where,

EN means energy used in all wastewater facilities in kWh,

ML means the total volume of wastewater effluent in millions of litres that either receives ultraviolet (UV) treatment or is membrane plant effluent; and

514 is the energy efficiency standard.

4.10 Safety Index

The safety index is a measure of the success of programs and the application of policies that maximizes the safety of employees and the public. It is calculated on the basis of four equally weighed components. The combined results of the four components produce the measure of the safety index. The maximum base value of the safety index is 15 base points as calculated under the following formula:

 $\frac{\text{NMF} + \text{WIF} + \text{LTF} + \text{AIF}}{4}$

Where,

NMF means the near miss reporting factor,

WIF means the worksite inspection factor,

LTF means the lost time frequency factor; and

AIF _____means the all injury frequency factor.

A maximum of 1.5 bonus points are available for the safety index based on the formulas. The maximum total safety points is 16.5.

4.10.1 Near Miss Reporting Factor

The near miss reporting factor (NMF) is measured by the formula:

Near Miss Reporting Factor =	NM
	220

Where,

NM means the number of near miss reports entered in the ESS system; and

220 is the near miss reporting standard.

4.10.2 Worksite Inspection Factor

The worksite inspection factor (WIF) is measured by the formula:

Worksite Inspection Factor =	WI
	919

Where,

WI means the actual number of worksite inspections / observations completed per year; and

919 is the worksite inspection standard.

4.10.3 Lost Time Frequency Factor

The lost time frequency factor (LTF) is measured by the formula:

Lost Timo Fraguenov Factor -	0.75
	LTF

Where,

LTF means the actual lost time frequency rate; and

0.75 is the lost time frequency standard.

4.10.4 All Injury Frequency Factor

The all injury frequency factor (AIF) is measured by the formula:

All Injuny Fraguanay Factor -	1.50
	AIF

Where,

AIF means the actual all injury frequency rate; and

1.50 is the injury frequency rate standard.

5.0<u>4.0</u>Non-Routine Adjustments

Non-routine adjustments are, by their nature unusual, significant in size or nature and beyond the scope of control of EWSI. Requests for non-routine adjustments will be considered separately for each of Water Services and Wastewater Treatment Services.

Costs resulting in an annual adjustment to EWSI's revenue requirement up to \$500,000 are not eligible for approval as a non-routine adjustment. Costs resulting in either an annual

adjustment to EWSI's revenue requirement less than \$3 million but either greater than \$500,000 or greater than \$1 million cumulatively are eligible for consideration and approval by the City Manager as a non-routine adjustment. Costs resulting in an annual adjustment to EWSI's revenue requirement equal to or greater than \$3 million are eligible for consideration and approval by City Council. Review of the non-routine adjustment application will consider the projected return on equity of EWSI.

If EWSI anticipates making a request for one or more non-routine adjustments to take effect on April 1 of the Current Year, EWSI will on or before December 1 of the immediately preceding calendar year submit its request for non-routine adjustments to the City Manager, and will include with such request sufficient information to enable the City Manager / City Council to evaluate the request. If after receiving the submission, the City Manager / City Council is satisfied that the non-routine adjustments should be included in the water rates and/or wastewater treatment rates calculated in accordance with this Bylaw, the City Manager will issue a confirmation letter on or before January 31 confirming that the nonroutine adjustments will be included in water and/or wastewater treatment rates to take effect on the April 1st next following.

All amounts approved as non-routine adjustments are approved and funded on an interim basis and shall be charged to EWSI's Adjustment Deferral Account (Water). EWSI shall, within a reasonable time frame following completion of the project funded by the non-routine adjustment, prepare a final true up of the non-routine adjustment funding based on actual costs. Where a non-routine adjustment is very significant in size, it may be charged to Adjustment Deferral Account. EWSI will determine a reasonable time frame over which to recover/credit the balance of the account. Carrying costs will be calculated on the Adjustment Deferral Account balance.

The rate impact of non-routine adjustments will be calculated and added to the Fixed Monthly Service Charge and allocated on a proportionate basis to customers.

5.1<u>4.1</u> Changes to Legislation, Regulation or Taxes

In the event there is a change to: legislation, regulation, bylaws, policy order or directive affecting EWSI's operations, including allocation of costs between city of Edmonton and Regional customers and including the common law and the law of equity; rates of tax or other mandatory amounts payable by EWSI to any level of government; the status of EWSI under existing legislation or the application of existing legislation to EWSI; then costs arising from any such event will be considered as non-routine.

5.24.2 Consequences of Force Majeure

Non-routine adjustments include any costs occasioned by Force Majeure events that are not recovered under a policy of insurance. For purposes of non-routine adjustments under this Schedule 3, events or circumstances of Force Majeure include: acts of God, strikes, lockouts or other industrial disturbances, acts of the Queen's enemies, wars, blockades, insurrections, riots, epidemics, landslides, lightning, floods, earthquakes, explosions, fires, civil

disturbances, mechanical breakdowns, regulatory requirements or approval conditions or other acts or interventions of any kind by federal, provincial, state or local governments or any of their agencies or boards, the order or direction of any court, and any other causes whether of the kind herein enumerated or otherwise, not within the reasonable control of EWSI and which by the exercise of reasonable diligence and at a reasonable cost EWSI is unable to prevent or overcome.

5.34.3 River Water Quality

If there is a significant change in river water quality to the extent that it affects EWSI's operating or capital costs, such costs will be considered as non-routine.

5.4<u>4.4</u> Deterioration of Waterworks or Wastewater Treatment Systems

If there is significant deterioration to the Waterworks System or Wastewater Treatment facilities, beyond reasonable projections, remediation costs will be considered as non-routine. Without limiting the foregoing, these circumstances may include unanticipated asset failure or deterioration requiring immediate repair or remediation.

5.5<u>4.5</u>Customer – initiated or City – initiated System Expansion

Costs incurred to create significant Waterworks System expansion or wastewater treatment facility expansion as a result of increases to the size of EWSI's Customer base and/or increased demand by Customers or the City for Water Services or Wastewater Treatment Services, beyond reasonable projections, will be considered as non-routine.

5.6<u>4.6</u>City - initiated Relocations of Waterworks Assets

Costs incurred to effect significant Waterworks System relocations, permanent or temporary moves or removals as a result of City requests will be considered as non-routine.

5.74.7 Franchise Fees

If there is an amendment to the Water Services Franchise Agreement or the Wastewater Treatment Franchise Agreement affecting water rates or wastewater treatment rates, the resultant impacts on the water rates and wastewater treatment rates will be deemed to be non-routine adjustments.

5.8<u>4.8</u> Environmental Initiatives

Costs incurred to comply with City directed initiatives to offset the impacts of climate change will be deemed to be non-routine adjustments.
Performance-Based Water Rates and Wastewater Treatment Rates

Costs incurred for capital projects (either directed by the City or identified by EWSI) which have a demonstrable positive environmental impact will be deemed to be non-routine adjustments.

4.9 Grant Funding

Cost reductions from the approved revenue requirement resulting from the receipt of grants or recognition of approved grants shall be considered as a negative non-routine adjustment.

6.0<u>5.0</u>Off-Ramp

This performance-based water and wastewater treatment regulation can be terminated with the mutual consent and agreement of EWSI and the City.

In the event of termination of this Performance-Based Regulation Plan, the balance of the Adjustment Deferral Account must be cleared within a one-year period from the date of termination.

7.06.0 Reporting and Filing Requirements

On March 1st of the year following the reporting year, EWSI will file with its regulator, the City, an *Annual Water Rate* and Wastewater Treatment Rate Filing. The filing will contain four parts:

- An audit report as outlined in Schedule 4;
- Rate Sheets The water rate and wastewater treatment rate forecast for each customer class of service for the period following the reporting period; and,
- Water System Service Quality Results The results of each of the components of the water system service quality indices.
- <u>Consumption Deferral Account Report</u>
- Wastewater Treatment Service Quality Results The results of each of the components of the wastewater treatment service quality indices.

An accountant will review the Annual Water Rate and Wastewater Treatment Rate-Filing, conduct an audit and prepare an audit report in accordance with the recommendations contained within Section 5805 of the Canadian Institute of Chartered Accountants HandbookCanadian generally accepted auditing standards. The audit report will address whether the water rates and wastewater treatment rates are calculated and presented in

Performance-Based Water Rates and Wastewater Treatment Rates

accordance with the requirements of this Bylaw. <u>The audit reports will be prepared by EPCOR</u> <u>Utilities Inc.'s Internal Audit department.</u>

The filing will be submitted to the City Manager. The City Manager will review the filing and, if appropriate, accept it prior to April 1st when adjusted rates come into effect. The filing, and the City Manager approval, will be posted on the EWSI web site and copies will be available at the business office of EWSI.

7.1<u>6.1</u> Rate Sheets

The Annual Water Rate and Wastewater Treatment Rate Filing will set out the water rate and wastewater treatment rate forecast for each customer class of service for the period following the reporting period. The rates will be calculated in accordance with this Bylaw.

7.26.2 Water System Service Quality & Wastewater Treatment Service Quality Results

The Annual Water Rate and Wastewater Treatment Rate Filing will contain the results of the water system service quality measures, the results of the wastewater treatment service quality measures and the resulting financial penalty, if any, as set out in this Bylaw.

6.3 Consumption Deferral Account

The Annual Water Rate Filing will contain a report showing the annual variance between EWSI's water consumption forecast and actual consumption for the previous calendar year.

Schedule 4

Pro-forma Annual Water Rate and Wastewater Treatment Rate Filing

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Residential Water Service

Applicable To all domestic water service customers within the city of Edmonton

A domestic service is defined as a service supplied to premises used primarily for domestic purposes, where no more than four separate dwelling units are metered by a single water meter and the service line to the premises is not greater than 50 millimeters in diameter.

If a business is conducted from premises that otherwise fall within the above definition of a domestic service, this Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises.

Rate Fixed Monthly Service Charge

See Fixed Monthly Water Service Charges

Consumption Charge

0 m ³ – 10.0 m ³	$\lambda \text{ per m}^3$
10.1 m ³ to 35.0 m ³	$\lambda per m^3$
Over 35.0 m ³	$\lambda per m^3$

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
<u>15 mm</u>	<u>\$ λ</u>
<u>20 mm</u>	<u>\$ λ</u>
<u>25 mm</u>	<u>\$ λ</u>
<u>40 mm</u>	<u>\$ λ</u>
<u>50 mm</u>	<u>\$ λ</u>
<u>75 mm</u>	<u>\$ λ</u>
<u>100 mm</u>	<u>\$ λ</u>
<u>150mm</u>	<u>\$ λ</u>
<u>200 mm</u>	<u>\$ λ</u>
<u>250mm</u>	<u>\$ λ</u>
<u>300 mm</u>	<u>\$ λ</u>

Multi-Residential Water Service

Applicable To all multi-residential service customers within the city of Edmonton

A multi-residential service is defined as a service supplied to premises used primarily for domestic purposes; where more than four separate dwelling units are metered by a single water meter.

If a business is conducted from premises that otherwise fall within the above definition of a multi-residential service, this Multi-Residential Water Service rate will apply; provided, however, that if the portion of the premises from which the business is conducted is separately metered, then a Commercial Water Service rate will apply to that portion of the premises

RateFixed Monthly Service ChargeSee Fixed Monthly Water Service Charges

Consumption Charge

$\lambda \text{ per m}^3$
$\lambda per m^3$
$\lambda per m^3$
$\lambda per m^3$

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
<u>15 mm</u>	<u>\$ λ</u>
<u>20 mm</u>	<u>\$ λ</u>
<u>25 mm</u>	<u>\$ λ</u>
<u>40 mm</u>	<u>\$ λ</u>
<u>50 mm</u>	<u>\$ λ</u>
<u>75 mm</u>	<u>\$ λ</u>
<u>100 mm</u>	<u>\$ λ</u>
<u>150mm</u>	<u>\$ λ</u>
<u>200 mm</u>	<u>\$ λ</u>
<u>250mm</u>	<u>\$ λ</u>
<u>300 mm</u>	<u>\$ λ</u>

Commercial Water Service

Applicable To all commercial, industrial and institutional customers within the city of Edmonton

To all water customers not otherwise defined as Residential or Multi-Residential water service customers per Part I of this Schedule or as hydrant or truck fill service water customers per Part III of this Schedule.

RateFixed Monthly Service ChargeSee Fixed Monthly Water Service Charges

Consumption Charge

$0 \text{ m}^3 - 25.0 \text{ m}^3$	$\lambda per m^3$
25.1 m ³ – 100.0 m ³	$\lambda per m^3$
100.1 m ³ – 1,000.0 m ³	$\lambda per m^3$
1,000.1 m ³ – 5,000.0 m ³	$\lambda per m^3$
Over 5,000 m ³	$\lambda per m^3$

Public Fire Protection Monthly Charge

Meter Size	Monthly Charge
<u>15 mm</u>	<u>\$ λ</u>
<u>20 mm</u>	<u>\$ λ</u>
<u>25 mm</u>	<u>\$ λ</u>
<u>40 mm</u>	<u>\$ λ</u>
<u>50 mm</u>	<u>\$ λ</u>
<u>75 mm</u>	<u>\$ λ</u>
<u>100 mm</u>	<u>\$ λ</u>
<u>150mm</u>	<u>\$ λ</u>
<u>200 mm</u>	<u>\$ λ</u>
<u>250mm</u>	<u>\$ λ</u>
<u>300 mm</u>	<u>\$ λ</u>

Fixed Monthly Water Service Charges

Applicable To all metered water customers within the city of Edmonton municipal boundaries.

Rate Fixed Monthly Water Service Charge

Meter Size	Monthly Charge
15 mm	\$λ
20 mm	\$λ
25 mm	\$λ
40 mm	\$λ
50 mm	\$λ
75 mm	\$λ
100 mm	\$λ
150mm	\$λ
200 mm	\$λ
250mm	\$λ
300 mm	\$λ

Effective Dates

Service Charges

Account Application Charge

 Applicable
 To all customers who apply for a new account or change accounts for water service within the city of Edmonton boundaries.

Rate

\$λ

Meter Installation or Removal Charge

 Applicable
 To all customers, but most commonly for seasonal customers for whom a meter is removed and installed annually, and for customer-initiated connection and disconnection of water meters and/or associated metering devices.

Rate	Up to 25 mm meter	\$λ
	40 mm to 50 mm meter	\$ λ
	Over 50 mm meter	Actual Cost
	Seasonal meters	Actual Cost

Meter Test Charge

ApplicableTo all customers who request that their EWSI water meterbe tested and the results of the test indicate that the meteris operating within prescribed standards.

Rate	Up to 25 mm meter	\$λ
	40 mm to 50 mm meter	\$ λ
	Over 50 mm meter	Actual Cost

Off-Cycle Meter Read Charge

Applicable	To all	cust	omers	who	req	uire a	a mete	er reading	g on a	date
	other	than	their	regula	arly	sche	duled	monthly	meter	read
	date.			-				-		

Rate

\$λ

Non-Standard Meter Read Charge

 Applicable
 To all customers who decline the installation of a Standard

 Meter.

Rate	\$λ per month
	Non-Standard Meter Installation Charge
Applicable	To all customers who after installing a Standard Meter revert back to a Non-Standard Meter.
Rate	\$
	Damage Repair Charge
<u>Applicable</u>	To all customers for whom EWSI must repair or replac damaged water valves, meters, remote meter readin devices or other EWSI equipment or appurtenances, wher the equipment or appurtenance is under the customer' care or has been operated or interfered with by th customer.
Rate	Actual Cost plus \$2
	Tampering Charge
Applicable	To all customers for whom EWSI must investigate, repain or replace damaged water infrastructure as a result of unauthorized use or tampering.
Rate	Cost to repair plus \$
	Thawing of Frozen Services Charge
Applicable	To all customers who require thawing of frozen services.
Rate	First visit no charge
	Second visit \$λ per hou
	Missed Appointment Charge
Applicable	To all customers who do not keep a scheduled appointmer for any EWSI representative.
Rate	<u>\$λ per missed appointmer</u>

<u>Applicable</u>	For instances in which EWSI does not keep a scheduled appointment for a customer without giving reasonable notice.
Rate	\$λ credit to customer per missed appointment
	No Access Charge
Applicable	To all customers who do not allow access by EWSI to install, inspect, test, maintain, repair, investigate, replace or remove Facilities, including reading a Meter, for a period of 6 consecutive months.
Rate	\$λ per month
	Customer Locate Fee
<u>Applicable</u>	To all customers who fail to notify EWSI that they have taken possession of a site and EWSI is required to conduct searches to identify the customer.
Rate	\$λ
	Hydrant Permit Charge
Applicable	To all customers who obtain water service through fire hydrants.
Rate	Hydrant Application Fee appual per permit \$
	Hydrant Meter Service Charge \$λ per month Consumption Charge
	All consumption will be charged at the current and effective rate for Part I Multi-Residential Water Service Consumption Charge for 0 m ³ –100.0 m ³ , as updated annually.
	Construction Service Charge
<u>Applicable</u>	To all customers who obtain water at a site during the construction period, prior to the premises going into account for billing.

Service Connection Fee

Applicable	The fee for a new water service installation	on is calculated on
	a cost of service basis in accordance	e with the Water
	Services Guidelines.	
Rate		Cost of service
	Water Service Turn-On / Turn-Off Charge	
Applicable	To all customers requesting a water servi	ice be turned on or
	off (excludes turn-on related to non-paym	ent on account).
Rate	During regular bours	\$λ ¹ per site visit
Hato	Required outside regular working hours -	$$ $$\lambda^2 per$
	site visit	<i><i>QN DO</i>1</i>
	Required within 48 hours of request	λ^3 per site visit

Water Service Turn-On Charge, After Turn-off for Non Payment

Applicable	To all customers who require a water service to be
	turned on after having been turned-off due to non-payment
	on account.

Rate	During regular hours	\$λ per site visit
	Required outside regular working hours	\$λ per site visit
	Required within 48 hours of request	\$λ per site visit

Fire Protection Service

- Applicable
 —To all customers within the city of Edmonton who receive

 standby
 water
 service
 to their
 private
 fire
 protection

 installations.
 installations.
 installation
 installation
- Rates Fixed Monthly Private Fire Protection Service Charges

Fire Line Service	<u>Monthly</u>
<u>50 mm</u>	\$ λ

<u>100 mm</u>	<u>\$λ</u>
<u>150mm</u>	<u>\$</u> λ
<u>200 mm</u>	<u>\$λ</u>
<u>250mm</u>	<u>\$λ</u>
<u>300 mm</u>	\$λ

Truck Fill Service

Applicable	———To all customers who obtain wat	er from a truck fill site
	within the city of Edmonton municipal b	oundaries.
Rate	Account Application Fee	\$λ
	Consumption Charge	\$λ per m ³
Effective Dates	These Part III Service Charges rates effective April 1, $20\lambda\lambda$	
	to March 31, 20 $\lambda\lambda$ are subject to change in future years	

under the terms of this bylaw.

Customer Rebate for Water Services

Applicable To all metered water customers within the city of Edmonton in the event that the Water System Service Quality does not meet the standard performance level.

Rebate Customer Rebate

Meter Size	Rebate
15 mm	\$λ
20 mm	\$λ
25 mm	\$λ
40 mm	\$λ
50 mm	\$λ
75 mm	\$λ
100 mm	\$λ
150mm	\$λ
200 mm	\$λ
250mm	\$λ
300 mm	\$λ

Effective Dates The total penalty for the year will be applied as a rebate to customer water bills in the year immediately following the performance year.

Residential Wastewater Treatment Service

Applicable	To all domestic service customers and multi-residential service customers located within the city of Edmonton which are serviced by or connected to the City's sewerage system.
	A domestic service and multi-residential service are defined on Rate Sheet 1 and 2, respectively.
Rates	Fixed Monthly Service Charge \$ λ per month
	Consumption Charge * All consumption \$ λ per m³ Consumption is based on water meter readings unless otherwise approved by EWSI and the City.
Effective Dates	These rates effective April 1, 20λλ to March 31, 20λλ are subject to change in future years under the terms of this bylaw.

Commercial Wastewater Treatment Service

Applicable	To all commercial, industrial and institutional customers within the city of Edmonton which are serviced by or connected to the City's sewerage system.	
	To all customers not otherwise defined as Residential Wastewater Treatment Service customers.	
Rates	Fixed Monthly Service Charge \$ λ per month	
	Consumption Charge *	
	<u>-0 m³ - 10,000.0 m³</u>	
	<u>-10,000.1 m³ - 100,000.0 m³ \$ λ per m³</u>	
	*Consumption is based on water meter readings unless otherwise approved by EWSI and the City.	
Effective Dates	These rates effective April 1, 20λλ to March 31, 20λλ are subject to change in future years under the terms of this bylaw.	

Wastewater Overstrength Surcharges

Applicable Applies to a customer who releases wastewater to the sewer system that contains one or more constituents that exceed the concentration indicated herein.

Rates:

Wastewater Overstrength Surcharge:

The Overstrength surcharge, applied to each m³ of water consumed, for each kilogram of surchargeable matter per m³ of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
(a) \$ λ for Biochemical Oxygen Demand (BOD)	<u></u>
- b) λ for Chemical Oxygen Demand (COD)	<u> </u>
$-$ c) \$ λ for oil and grease	<u> 100 mg/L</u>
$-$ d) λ for phosphorous	<u> </u>
$-$ e) \$ λ for suspended solids, and	
$-$ f) \$ λ for total kjeldahl nitrogen (TKN)	<u> </u>

----* Or twice the BOD concentration in the wastewater, whichever is greater.

Wastewater Additional Overstrength Surcharge:

The Additional Overstrength Surcharge, applied to each m³ of water consumed, for each kilogram of surchargeable matter per m³ of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
— a) \$ λ for Biochemical Oxygen Demand (BOD)	3,000 mg/L
— b) \$ λ for Chemical Oxygen Demand (COD)	6,000 mg/L*
— c) \$ λ for oil and grease	400 mg/L
	75 mg/L
— e) \$ λ for suspended solids, and	3,000 mg/L
	200 mg/L

-----* Or twice the BOD concentration in the wastewater, whichever is greater.

Customer Rebate for Wastewater Treatment Services

Applicable	 To all metered customers within the city of Edmonton in the event that the Wastewater Treatment Service Quality does not meet the standard performance level. 				
Rebate	Customer Rebate				
	applied to the Fixed Monthly Service Charge				
	– Residential Wastewater Treatment Service \$λ				
	Commercial Wastewater Treatment Service \$λ				
Effective Dates	The total penalty for the year will be applied as a rebate to customer wastewater treatment bills in the year immediately following the performance year.				

Description	Performance Standard	Actual Performance	Points Earned
Water Quality Index	99.7 %	λ	λ
Customer Service Index			
Post Service Audit Factor	74.9 75.0 %	λ	λ
Home Sniffing Factor	94.4 %	λ	λ
Response Time Factor	25	λ	λ
Planned Construction Impact Factor	95.8%	λ	λ
Total Customer Service Index			λ
System Reliability and Optimization Index			
Water Main Break Factor	<u>419365</u>	λ	λ
Water Main Break Repair Duration Factor	93.7<u>95.4</u> %	λ	λ
Water Loss Factor	2.0<u>1.23</u>	λ	λ
System Energy Efficiency Factor	309 281	λ	λ
Total System Reliability and Optimization Index			λ
Environmental Index			
Water Conservation Factor	17.2<u>16.8</u>	λ	λ
Environmental Incident Factor	6 5	λ	λ
Solids Residual Management Factor	120	λ	λ
Total Environmental Index			λ
Safety Index			λ
Near Miss Reporting Factor	550	λ	λ
Worksite Inspection Factor	1,032	λ	λ
Lost Time Frequency Factor	<u>0.570.40</u>	λ	λ
All Injury Frequency Factor	1.5 4 <u>1.00</u>	λ	λ
Total Safety Index			λ

$20\lambda\lambda$ Water System Service Quality Measures

Aggregate Points Earned (sum of all the above indices)

λ

Description	Performance Standard	Actual Performance	Points Earned
Points Required at Performance Standard			100.0
Points Above / (Below) Performance Standard			λ
Water System Service Quality Penalty, If Any			λ

This page sets out Water System Service Quality Measures for the period April 1, $20\frac{22}{17}$ to March 31, $202\frac{72}{2}$.

Description	Performance Standard	Actual Performance	Points Earned			
Water Quality and Environmental Index						
	28.0	$\frac{\lambda}{\lambda}$	$\mathbf{\lambda}$			
	10	$\frac{\lambda}{\lambda}$	≿			
Total Water Quality and Environmental Index			λ			
Customer Service Index						
	6	$\mathbf{\lambda}$	$\mathbf{\lambda}$			
$H_2S - 24$ -Hour Exceedance Factor	2	$\mathbf{\lambda}$	λ			
	90.0%	$\frac{\lambda}{\lambda}$	λ			
Total Customer Service Index			λ			
System Reliability and Optimization Index						
	80.0%	$\mathbf{\lambda}$	λ			
Biogas Utilization Factor	60.0%	$\frac{\lambda}{\lambda}$	$\mathbf{\lambda}$			
Energy Efficiency Factor	534	$\mathbf{\lambda}$	$\mathbf{\lambda}$			
Total System Reliability and Optimization Index			λ			
Safety Index						
	220	$\mathbf{\lambda}$	æ			
Worksite Inspection Factor	919	λ	æ			
Lost Time Frequency Factor	0.75	$\frac{1}{\lambda}$	$\boldsymbol{\lambda}$			
All Injury Frequency Factor	0.75	$\frac{\lambda}{\lambda}$	$\mathbf{\lambda}$			
Total Safety Index			λ			
Aggregate Points Earned (sum of all the above indices) —						
Points Required at Performance Standard						

20λλ Wastewater Treatment Service Quality Measures

Waterworks Bylaw No. <u>19626</u>-<u>17698</u> October 21, 2016 Page 18 of <u>20</u> Page 850 of 1297^{August 27, 2021 Utility Committee Report: FCS00743}

Points Above / (Below) Performance Standard	λ
Wastewater System Service Quality Penalty, If Any	 ≻

This page sets out Wastewater Treatment Service Quality Measures for the period April 1, 2017 to March 31 2022.

Pro-Forma Auditor's Report

AUDITOR'S REPORT ON RATE SHEETS 1, 2, 3, 4, 5 AND, 65, 6, 7, 8 AND 9

To the Senior Vice President, EPCOR Water Services Inc.

We have audited the rates for fixed monthly service charges, consumption charges, public fire protection charges, service charges, wastewater overstrength surcharges and the customer rebates included in Rate Sheets 1, 2, 3, 4, -5 and 6, -6, -7, -8 and -9 (hereinafter referred to as the "Rate Sheets") of EPCOR Water Services Inc. ("EWSI") for the 20xx Annual Water Rate and Wastewater Treatment Rate Filing calculated in accordance with City of Edmonton Bylaw 15816–19626_EPCOR Water Services and Wastewater Treatment Bylaw. EWSI management is responsible for the preparation and fair presentation of the financial information in the Rate Sheets. This financial information is the responsibility the management of EWSI. Our responsibility is to express an opinion on this financial information based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards and in conformance with the International Standards for the <u>Professional Practice of Internal Auditing</u>. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial information contained in the Rate Sheets is free of material misstatement. Such an audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the Rate Sheets.

In our opinion, the Rate Sheets for the 20xx Annual Water Rate and Wastewater Treatment Rate Filing present fairly, in all material respects, the rates for fixed monthly service charges, consumption charges, <u>public fire protection charges</u>, <u>service charges</u>, <u>and wastewater overstrength surcharges</u> and the customer rebates effective April 1, 20xx to March 31 20xx, calculated in accordance with City of Edmonton Bylaw <u>19626</u> **15816** EPCOR Water Services and Wastewater Treatment Bylaw.

It is understood that this report has been prepared to facilitate EWSI's reporting as required by Bylaw <u>19626</u> 15816 and it is not to be referred to or relied upon for any other purpose.

(signed)..... Chartered Professional Accountants

City Date



2000 – 10423 101 St NW, Edmonton, Alberta T5H 0E8 Canada epcor.com

July 27, 2021

Mr. Barry McNabb Director, Utility Regulation Financial and Corporate Services Department City of Edmonton

Dear Mr. McNabb:

Re: EPCOR Water Services Inc. 2022-2024/2026 PBR Compliance Application

1.0 INTRODUCTION

EPCOR Water Services Inc. ("EWSI") hereby submits its 2022-2024/2026 PBR Compliance Application. EWSI has made amendments to the EPCOR Water Services Bylaw 19626 and the EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 ("PBR Bylaws") in accordance with motions issued by the City of Edmonton Utility Committee on July 9, 2021. The following seven attachments, along with this letter, comprise EWSI's 2022-2024/2026 PBR Compliance Application:

- 1. Revised PBR Bylaw 19626 and Schedules (clean version)
- 2. Revised PBR Bylaw 19626 and Schedules (black-lined version compared to Bylaw 17698)
- 3. Revised PBR Bylaw 19627 and Schedules (clean version)
- 4. Revised PBR Bylaw 19627 and Schedules (black-lined version compared to Bylaw 18100)
- 5. Revised Water Financial Schedules
- 6. Revised Wastewater Treatment Financial Schedules
- 7. Revised Drainage Services Financial Schedules

The sections that follow include a summary of the Utility Committee's motions issued July 9, 2021 and EWSI's explanations of how it is addressing the motions (Section 2.0); a summary of the impacts on EWSI's revenue requirements for the 2022-2024/2026 PBR terms (Section 3.0); revised average customer bill tables for the 2022-2024/2026 PBR terms (Section 4.0); and additional proposed Bylaw amendments to reflect minor corrections (Section 5.0).

2.0 UTILITY COMMITTEE MOTIONS

On July 9, 2021 the Utility Committee issued the following two motions:

That Administration work with EPCOR to bring forward amendments to the applicable schedules to EPCOR Water Services Bylaw 19626 and EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 to reflect the following:

- 1. The adjustments noted by EPCOR Water Services Inc. in its response to the City of Edmonton PBR review reports (page 6, Attachment 3 of FCS00627) with respect to:
 - a) reduced debt costs in the amount of \$3.7 million; and
 - *b)* the reimbursement to customers for the capitalization of valve casings and service box replacements in the amount of \$5.2 million.
- 2. A deferral account for water consumption for each of Water Services, Wastewater Treatment and Drainage Services that would be accumulated during the 2022-2026 and 2022-2024 PBR terms and included in customer rates in each of the next PBR terms through a special rate adjustment.
- 3. A Return on Equity for Water Services for 2022-2026 and for Wastewater Treatment for 2022-2024 of 9.89% be reduced to 9.64% as a reflection of the risk reduction of the consumption deferral account (with no change to the requested Return on Equity for Drainage Services contained in the rates application).
- 4. An Efficiency Factor for Drainage Services for the 2022-2024 Performance Based Rates term of 0.50%.
- 5. That all non-routine adjustments applied for by Water Services, Wastewater Treatment and Drainage Services during the 2022-2026 and 2022-2024 Performance Based Rates terms be charged to the Adjustment Deferral Accounts. A two-step approach may be followed whereby EPCOR Water Services Inc. would receive interim approval and funding for the proposed adjustment with a final true up of funding being completed based on actual costs.

And

That Administration work with EPCOR to bring forward reports prior to the next Performance Based Rates term for Drainage Services and Wastewater Treatment effective April 1, 2025, providing further background and the appropriate regulatory treatment for the following items:

- 1. Improved disclosure of changes in accounting and capitalization policies and treatment;
- 2. Reporting the size of the workforce including actual and forecast full-time equivalents;
- 3. A review of how long-term debt interest rates are set for EPCOR Water Services Inc.; and
- 3. A review of the performance measures to ensure they are increasingly stringent and challenging over time.

Prior to the next PBR term, EWSI will review each of the items identified in the second motion and provide its analysis and recommendations to Utility Committee

EWSI has made the following adjustments to the applied-for PBR Bylaws and corresponding financial schedules in accordance with the first motion issued by the Utility Committee:

2.1.1 Debt Costs

In accordance with the Utility Committee motion, EWSI has reduced debt costs by \$3.7 million for determining both the Water and Wastewater Treatment rates for the 2022-2026 and 2022-2024 PBR terms respectively. This revision to debt costs is reflected in the revised Water and Wastewater Treatment Financial Schedules (Attachments 5 and 6 to this Compliance Application), specifically Schedule 14-1 and Schedule 17-3.

2.1.2 Valve Casings and Service Box Replacement Capitalizations

In accordance with the Utility Committee motion, EWSI has reduced costs by \$5.2 million for determining the Water rates for the 2022-2026 PBR term. This reimbursement is reflected in the revised Water Financial Schedules (Attachments 5 to this Compliance Application), specifically Schedule 13-1.

2.1.3 Deferral Account

In accordance with the Utility Committee motion, EWSI will ensure that an appropriate tracking and reporting mechanism is developed to track all variances of consumption from the forecast contained in the PBR applications. The variance of actual to forecast, either positive or negative, will be reflected in the next PBR applications as a special rate adjustment. EWSI has added the following reporting and filing requirements to Bylaw 19626 (Schedule 3, Section 6) and Bylaw 19627 (Schedule 3, Section 7):

Consumption Deferral Account

The Annual Water Rate Filing will contain a report showing the annual variance between EWSI's water consumption forecast and actual consumption for the previous calendar year.

Consumption Deferral Account

The Annual Drainage and Wastewater Treatment Rate Filing will contain a report showing the annual variance between EWSI's water consumption forecast and actual consumption for the previous calendar year.

2.1.4 Return on Equity

In accordance with the Utility Committee motion, EWSI has applied a 9.64% (9.89% less 0.25%) return on equity for determining both the Water and Wastewater Treatment rates for the 2022-

2026 and 2022-2024 PBR terms respectively. This revision to the return on equity is reflected in the revised Water and Wastewater Treatment Financial Schedules (Attachments 5 and 6 to this Compliance Application), specifically Schedule 14-1.

2.1.5 Drainage Services Efficiency Factor

In accordance with the Utility Committee motion, EWSI has applied a 0.50% efficiency factor for determining Drainage Services rates for the 2022-2024 term. Refer to revisions in Bylaw 19627, Schedule 3, Sections 1.1 - 1.3 and Section 2.2.

2.1.6 Non-Routine Adjustment Mechanisms

The PBR Bylaws have been updated to include a non-routine adjustment mechanism as defined by the motions. No adjustments to the current application's financial schedules have been made as the impact of the non-routine adjustment mechanism will only be reflected in the next PBR terms. The following provisions have been added to Bylaw 19626, Schedule 3, Section 4 and to Bylaw 19627, Schedule 3, Section 4:

All amounts approved as non-routine adjustments are approved and funded on an interim basis and shall be charged to EWSI's Adjustment Deferral Account (Water). EWSI shall, within a reasonable time frame following completion of the project funded by the nonroutine adjustment, prepare a final true up of the non-routine adjustment funding based on actual costs.

All amounts approved as non-routine adjustments are approved and funded on an interim basis and shall be charged to EWSI's Adjustment Deferral Account (Drainage or Wastewater) as applicable. EWSI shall, within a reasonable time frame following completion of the project funded by the non-routine adjustment, prepare a final true up of the non-routine adjustment funding based on actual costs.

3.0 REVISED REVENUE REQUIREMENTS

The combined impact of the above noted adjustments results in reductions to EWSI's forecast revenue requirement for each of Water, Wastewater Treatment and Drainage Services' Sanitary and Stormwater Utilities. Tables 3.0-1, 3.0-2, 3.0-3 and 3.0-4 present the revised forecast revenue requirements for the 2022-2024/2026 PBR terms. The 2021 approved (2021D) and 2021 forecast (2021F) amounts are provided for information.

Table 3.0-1 Forecast In-City Water Revenue Requirement (Revised Table 1.5-1 and 1.5-2 from Water PBR Application) 2022-2026

(\$ millions)

		А	В	С	D	E	F	G
	Cost Component	2021D	2021F	2022F	2023F	2024F	2025F	2026F
1	Operating Costs	101.7	94.4	95.4	97.6	99.3	100.7	102.7
2	Franchise Fee	16.9	15.5	16.8	17.9	18.8	19.6	20.5
3	Subtotal: Operating Costs	118.6	109.8	112.2	115.5	118.1	120.3	123.2
4	Depreciation Expense	33.3	35.8	38.9	41.3	44.3	46.4	47.7
5	Interest Expense	34.8	32.2	33.2	33.7	32.8	32.0	31.9
6	Return on Equity	49.0	41.7	51.3	52.9	54.8	55.7	55.7
7	Revenue Requirement before Revenue Offsets	235.7	219.5	235.6	243.5	250.0	254.5	258.5
8	Less: Revenue Offsets	(5.2)	(5.2)	(6.3)	(6.4)	(6.5)	(6.6)	(6.7)
9	Revenue Requirement (Jul 23, 2021)	230.5	214.3	229.4	237.2	243.5	247.9	251.8
10	Revenue Requirement (Feb 16, 2021)	230.5	214.3	232.3	240.6	247.1	251.1	255.8
11	Reduction in Revenue Requirement	-	-	(3.0)	(3.4)	(3.6)	(3.2)	(4.0)

Table 3.0-2 Forecast Wastewater Treatment Revenue Requirement (Revised Table 1.5-1 from Wastewater Treatment PBR Application) 2022-2024 (\$ millions)

		А	В	С	D	E
	Cost Component	2021D	2021F	2022F	2023F	2024F
1	Operating Costs	50.6	46.8	60.8	67.2	66.5
2	Franchise Fee	9.8	8.9	10.0	10.6	10.8
3	Subtotal: Operating Costs	60.4	55.7	70.8	77.7	77.3
4	Depreciation and Amortization	20.0	20.7	23.2	23.8	26.4
5	Return on Rate Base Financed by Debt	14.5	12.0	12.3	12.3	13.6
6	Return on Rate Base Financed by Equity	21.7	23.2	21.1	21.2	23.2
7	Revenue Requirement before Revenue Offsets	116.7	111.6	127.4	135.1	140.5
8	Less: Revenue Offsets	(3.0)	(2.7)	(5.9)	(7.2)	(7.3)
9	Revenue Requirement (Jul 23, 2021)	113.7	108.9	121.5	127.9	133.2
10	Revenue Requirement (Feb 16, 2021)	113.7	108.9	122.6	128.9	134.5
11	Reduction in Revenue Requirement	-	-	(1.1)	(1.0)	(1.3)

Table 3.0-3 Forecast Sanitary Utility Revenue Requirement (Revised Table 1.5-1 from Drainage PBR Application) 2022-2024 (\$ millions)

		А	В	С	D
		2021 F	2022 F	2023 F	2024 F
	Sanitary Utility excluding CORe				
1	Operating Costs	68.5	50.9	45.6	45.7
2	Franchise Fees and Property Taxes	9.9	9.6	9.9	10.4
3	Depreciation and Amortization	17.4	16.9	17.6	18.7
4	Return on Rate Base Financed by Debt	12.4	15.9	15.8	16.9
5	Return on Rate Base Financed by Equity	33.3	17.6	22.2	27.4
6	Revenue Requirement before Revenue Offsets	141.4	110.8	111.1	119.1
7	Less: Revenue Offsets	(9.0)	(5.6)	(4.5)	(4.6)
8	Sanitary Utility Revenue Requirement, excluding CORe	132.4	105.2	106.6	114.5
	CORe				
9	Operating Costs	4.1	5.4	4.1	5.5
10	Franchise Fees and Property Taxes	0.5	1.1	1.2	1.6
11	Depreciation and Amortization	0.8	1.5	2.1	2.7
12	Return on Rate Base Financed by Debt	0.9	2.0	2.5	3.4
13	Return on Rate Base Financed by Equity	(0.5)	4.1	5.4	7.1
14	Revenue Requirement – CORe	5.8	14.2	15.2	20.4
	Sanitary Utility				
15	Operating Costs	72.7	56.3	49.6	51.2
16	Franchise Fees and Property Taxes	10.3	10.8	11.2	12.1
17	Depreciation and Amortization	18.2	18.4	19.6	21.4
18	Return on Rate Base Financed by Debt	13.3	17.9	18.4	20.3
19	Return on Rate Base Financed by Equity	32.8	21.6	27.6	34.5
20	Revenue Requirement before Revenue Offsets	147.2	125.0	126.4	139.4
21	Less: Revenue Offsets	(9.0)	(5.6)	(4.5)	(4.6)
22	Revenue Requirement (Jul 23, 2021)	138.2	119.4	121.9	134.8
23	Revenue Requirement (Feb 16, 2021)	138.2	119.4	122.0	135.0
24	Reduction in Revenue Requirement	-	-	(0.1)	(0.2)

Table 3.0-4 Forecast Stormwater Utility Revenue Requirement (Revised Table 1.5-2 from Drainage PBR Application) 2022-2024 (\$ millions)

		А	В	С	D
		2021 F	2022 F	2023 F	2024 F
	Stormwater Utility excluding SIRP				
1	Operating Costs	50.9	47.8	48.4	48.9
2	Property Taxes	0.9	1.0	1.0	1.0
3	Depreciation and Amortization	20.4	21.9	22.3	23.4
4	Return on Rate Base Financed by Debt	11.6	15.4	15.3	16.4
5	Return on Rate Base Financed by Equity	(5.8)	17.0	21.5	26.6
6	Revenue Requirement before Revenue Offsets	77.9	102.9	108.4	116.2
7	Less: Revenue Offsets	(0.7)	(0.7)	(0.7)	(0.7)
8	Total Stormwater Utility Revenue Requirement, excluding SIRP	77.2	102.2	107.7	115.5
	SIRP				
9	Operating Costs	4.1	6.6	7.4	7.8
10	Depreciation and Amortization	-	1.7	4.1	6.3
11	Return on Rate Base Financed by Debt	-	1.2	2.7	4.0
12	Return on Rate Base Financed by Equity	0.1	2.4	5.6	8.3
13	Total Revenue Requirement - SIRP	4.1	12.0	19.8	26.4
15	Stormwater Utility	-	-	-	-
16	Operating Costs	55.0	54.4	55.8	56.7
17	Property Taxes	0.9	1.0	1.0	1.0
18	Depreciation and Amortization	20.4	23.6	26.4	29.7
19	Return on Rate Base Financed by Debt	11.6	16.6	18.0	20.3
20	Return on Rate Base Financed by Equity	(5.8)	19.4	27.1	34.9
21	Revenue Requirement before Revenue Offsets	82.0	114.9	128.2	142.6
22	Less: Revenue Offsets	(0.7)	(0.7)	(0.7)	(0.7)
23	Revenue Requirement (Jul 23, 2021)	81.3	114.2	127.5	141.8
24	Revenue Requirement (Feb 16, 2021)	81.3	114.2	127.6	142.0
25	Reduction in Revenue Requirement	-		(0.1)	(0.2)

4.0 REVISED CUSTOMER BILL TABLES

Based on the adjusted revenue requirements shown above, the revised average residential, multi-residential and commercial customer's water, wastewater treatment and Drainage Services bill are shown in tables 4.0-1 to 4.0-9 below:

Table 4.0-1 Average Residential Customer Water Bill Impact (Revised Table 12.2.5-1 from Water PBR Application) 2022-2026

	(\$/month)								
		А	В	С	D	Е	F		
							Total/		
		2022F	2023F	2024F	2025F	2026F	Average		
	Rate Increase over 2021 Decision:								
1	Normal Operations (i-x)	2.06%	2.06%	2.06%	2.06%	2.06%			
2	SRA – Re-basing	2.33%	2.33%	2.33%	2.33%	2.33%			
3	SRA – Fixed Charge Increase	2.36%							
4	SRA – 90 Day Deferral	0.79%	(0.70%)						
5	SRA – Fire Protection	6.86%							
6	Total Annual Rate Increase	14.40%	3.69%	4.39%	4.39%	4.39%			
	Average Bill Impact:								
7	Monthly Consumption per Customer - m ³	13.4	13.2	12.9	12.7	12.5			
8	Average Monthly Bill - \$	43.16	44.15	45.46	46.81	48.21			
9	Change in Bill - \$	1.88	0.99	1.31	1.34	1.40	6.93		
10	Change in Bill - % ¹	4.6%	2.3%	3.0%	3.0%	3.0%	3.2%		

Table 4.0-2 Average Multi-Residential Customer Water Bill Impact (Revised Table 12.2.5-2 from Water PBR Application) 2022-2026 (\$/month)

		А	В	С	D	E	F
							Total/
		2022F	2023F	2024F	2025F	2026F	Average
	Rate Increase over 2021 Decision:						
1	Normal Operations (i-x)	2.06%	2.06%	2.06%	2.06%	2.06%	
2	SRA – Re-basing	2.33%	2.33%	2.33%	2.33%	2.33%	
3	SRA – Fixed Charge Increase	(7.42%)					
4	SRA – 90 Day Deferral	0.19%	(0.19%)				
5	SRA – Fire Protection	1.60%					
6	Total Annual Rate Increase	(1.24%)	4.20%	4.39%	4.39%	4.39%	
	Average Bill Impact:						
7	Monthly Consumption per Customer - m ³	388.4	386.6	384.7	382.9	381.0	
8	Average Monthly Bill - \$	729.68	756.91	786.60	817.45	849.52	
9	Change in Bill - \$	(46.47)	27.24	29.68	30.85	32.07	73.36
10	Change in Bill - %	(6.0%)	3.7%	3.9%	3.9%	3.9%	1.9%

Table 4.0-3 Average Commercial Customer Water Bill Impact (Revised Table 12.2.5-3 from Water PBR Application) 2022-2026

	(\$/month)								
		А	В	С	D	E	F		
							Total/		
		2022F	2023F	2024F	2025F	2026F	Average		
	Rate Increase over 2021 Decision:								
1	Normal Operations (i-x)	2.06%	2.06%	2.06%	2.06%	2.06%			
2	SRA – Re-basing	2.33%	2.33%	2.33%	2.33%	2.33%			
3	SRA – Fixed Charge Increase	(3.08%)							
4	SRA – 90 Day Deferral	0.45%	(0.40%)						
5	SRA – Fire Protection	8.95%							
6	Total Annual Rate Increase	10.70%	3.99%	4.39%	4.39%	4.39%			
	Average Bill Impact:								
7	Monthly Consumption per Customer - m ³	90.1	94.0	96.5	93.6	90.7			
8	Average Monthly Bill - \$	194.33	208.26	221.30	225.41	229.45			
9	Change in Bill - \$	26.51	13.93	13.05	4.11	4.04	61.63		
10	Change in Bill - %	15.8%	7.2%	6.3%	1.9%	1.8%	6.6%		

Table 4.0-4 Average Residential Customer Wastewater Treatment Bill Impact (Revised Table 12.3-1 from Wastewater Treatment PBR Application) 2022-2024 (\$/month)

		Α	В	С	D
		2022F	2023F	2024F	Total /
					Average
	Rate Increase over 2021 Decision:				
1	Normal Operations (i-x)	2.01%	2.01%	2.01%	
2	Special Rate Adjustment- Re-basing	17.18%	(0.62%)	(0.62%)	
3	Special Rate Adjustment- 90 Day Deferral program	0.82%	(0.69%)		
4	Total Annual Rate Increase	20.00%	0.70%	1.39%	
	Average Bill Impact:				
5	Monthly Consumption per Customer - m ³	13.4	13.2	12.9	
6	Average Monthly Bill - \$	22.76	22.63	22.65	
7	Change in Bill - \$	2.25	(0.13)	0.02	2.14
8	Change in Bill - %	11.0%	(0.6%)	0.1%	3.5%

Table 4.0-5 Average Multi-Residential Customer Wastewater Treatment Bill Impact (Revised Table 12.3-2 from Wastewater Treatment PBR Application) 2022-2024 (\$/month)

		А	В	С	D
		2022F	2023F	2024F	Total / Average
	Rate Increase over 2021 Decision:				
1	Normal Operations (i-x)	2.01%	2.01%	2.01%	
2	Special Rate Adjustment- Re-basing	17.18%	(0.62%)	-0.62%	
3	Special Rate Adjustment- 90 Day Deferral program	0.04%	(0.03%)		
4	Total Annual Rate Increase	19.22%	1.36%	1.39%	
	Average Bill Impact:				
5	Monthly Consumption per Customer - m ³	388.4	386.6	384.7	
6	Average Monthly Bill - \$	485.28	489.54	494.00	
7	Change in Bill - \$	55.85	4.26	4.45	64.56
8	Change in Bill - %	13.0%	0.9%	0.9%	4.9%

Table 4.0-6 Average Commercial Customer Wastewater Treatment Bill Impact (Revised Table 12.3-3 from Wastewater Treatment PBR Application) 2022-2024 (\$/month)

		А	В	С	D
	Wastewater: Commercial	2022F	2023F	2024F	Total / Average
	Rate Increase over 2021 Decision:				
1	Normal Operations (i-x)	2.01%	2.01%	2.01%	
2	Special Rate Adjustment- Re-basing	17.18%	(0.62%)	(0.62%)	
3	Special Rate Adjustment- 90 Day Deferral program	0.15%	(0.12%)		
4	Total Annual Rate Increase	19.34%	1.26%	1.39%	
	Average Bill Impact:				
5	Monthly Consumption per Customer - m ³	91.9	95.8	97.7	
6	Average Monthly Bill - \$	119.54	125.98	130.16	
7	Change in Bill - \$	23.85	6.44	4.18	34.47
8	Change in Bill - %	24.9%	5.4%	3.3%	11.2%

Table 4.0-7 Average Residential Customer Drainage Services Bill Impact (Revised Table 13.4-1 from Drainage PBR Application) 2022-2024 (\$/month)

		А	В	С	D
		2022 F	2023 F	2024 F	Total / Average
	Sanitary Utility				
	Annual Rate Increase (%)				
1	Normal Operations (i-x)	2.08%	2.08%	2.08%	
2	SRA – Re-basing	(5.84%)	1.83%	1.83%	
3	SRA – 90 Day Deferral Program	0.90%	(0.93%)	0.00%	
4	Annual Rate Increase, excluding CORe	(2.86%)	2.99%	3.91%	
5	Impact of Declining Consumption	0.00%	(1.02%)	(1.04%)	
6	Current Year Bill Increase, excluding CORe	(2.86%)	1.97%	2.88%	0.7%
7	SRA – CORe	7.06%	(1.84%)	3.94%	3.0%
	Average Bill Impact (\$)				
8	Average Monthly Bill	27.41	27.45	29.32	
9	Change in Bill	1.10	0.04	1.87	3.01
10	Average Bill Increase (%)	4.2%	0.1%	6.8%	3.7%
	Stormwater Utility				
	Annual Rate Increase (%)				
11	Normal Operations (i-x)	2.08%	2.08%	2.08%	
12	SRA – Re-basing	(5.84%)	1.83%	1.83%	
13	SRA – 90 Day Deferral Program	0.72%	(0.75%)	0.00%	
14	Annual Rate Increase, excluding SRA – SIRP	(3.04%)	3.17%	3.91%	1.3%
15	SRA – SIRP	11.72%	6.48%	4.80%	7.7%
	Average Bill Impact (\$)				
16	Average Monthly Bill	14.96	16.40	17.83	
17	Change in Bill	1.20	1.44	1.43	4.07
18	Average Bill Increase (%)	8.7%	9.6%	8.7%	9.0%
	Combined Sanitary and Stormwater Utilities				
19	Average Monthly Bill	42.37	43.85	47.15	
20	Change in Bill	2.30	1.48	3.30	7.08
21	Average Bill Increase	5.7%	3.5%	7.5%	5.6%

Table 4.0-8Average Multi-Residential Customer Drainage Services Bill Impact
(Revised Table 13.4-2 from Drainage PBR Application)
2022-2024

(\$/month)

		А	В	C	D
					Total /
		2022 F	2023 F	2024 F	Average
	Sanitary Utility				
	Annual Rate Increase (%)				
1	Normal Operations (i-x)	2.08%	2.08%	2.08%	
2	SRA – Re-basing	(5.84%)	1.83%	1.83%	
3	SRA – 90 Day Deferral Program	0.23%	(0.24%)	0.00%	
4	Annual Rate Increase, excluding CORe	(3.52%)	3.67%	3.91%	
5	Impact of Declining Consumption	0.00%	(0.42%)	(0.42%)	
6	Current Year Bill Increase, excluding CORe	(3.52%)	3.25%	3.49%	1.1%
7	SRA – CORe	10.77%	(2.75%)	6.03%	4.7%
	Average Bill Impact (\$)				
8	Average Monthly Bill	537.50	540.16	591.58	
9	Change in Bill	36.31	2.67	51.42	90.39
10	Average Bill Increase (%)	7.2%	0.5%	9.5%	5.8%
	Stormwater Utility				
	Annual Rate Increase (%)				
11	Normal Operations (i-x)	2.08%	2.08%	2.08%	
12	SRA – Re-basing	(5.84%)	1.83%	1.83%	
13	SRA – 90 Day Deferral Program	0.72%	(0.75%)	0.00%	
14	Annual Rate Increase, excluding SRA – SIRP	(3.04%)	3.17%	3.91%	1.3%
15	SRA – SIRP	11.72%	6.48%	4.80%	7.7%
	Average Bill Impact (\$)				
16	Average Monthly Bill	117.13	128.43	139.62	
17	Change in Bill	9.36	11.30	11.19	31.86
18	Average Bill Increase (%)	8.7%	9.6%	8.7%	9.0%
	Combined Sanitary and Stormwater Utilities				
19	Average Monthly Bill	654.63	668.59	731.20	
20	Change in Bill	45.67	13.96	62.61	122.25
21	Average Bill Increase	7.5%	2.1%	9.4%	6.3%
Table 4.0-9 Average Commercial Customer Drainage Services Bill Impact (Revised Table 13.4-3 from Drainage Services Application) 2022-2024 (\$/month)

		А	В	С	D
					Total /
		2022 F	2023 F	2024 F	Average
	Sanitary Utility				
	Annual Rate Increase (%)				
1	Normal Operations (i-x)	2.08%	2.08%	2.08%	
2	SRA – Re-basing	(5.84%)	1.83%	1.83%	
3	SRA – 90 Day Deferral Program	0.52%	(0.54%)	0.00%	
4	Annual Rate Increase, excluding CORe	(3.23%)	3.37%	3.91%	
5	Impact of Declining Consumption	0.00%	3.73%	1.85%	
6	Current Year Bill Increase, excluding CORe	(3.23%)	7.10%	5.77%	3.2%
7	SRA – CORe	9.14%	(2.06%)	5.55%	4.2%
	Average Bill Impact (\$)				
8	Average Monthly Bill	132.02	138.67	154.37	
9	Change in Bill	7.36	6.66	15.70	29.72
10	Average Bill Increase (%)	5.9%	5.0%	11.3%	7.4%
	Stormwater Utility				
	Annual Rate Increase (%)				
11	Normal Operations (i-x)	2.08%	2.08%	2.08%	
12	SRA – Re-basing	(5.84%)	1.83%	1.83%	
13	SRA – 90 Day Deferral Program	0.72%	(0.75%)	0.00%	
14	Annual Rate Increase, excluding SRA - SIRP	(3.04%)	3.17%	3.91%	1.3%
15	SRA – SIRP	11.7%	6.5%	4.8%	7.7%
	Average Bill Impact (\$)				
16	Average Monthly Bill	185.50	203.46	221.20	
17	Change in Bill	14.80	17.96	17.74	50.50
18	Average Bill Increase (%)	8.7%	9.7%	8.7%	9.0%
	Combined Sanitary and Stormwater Utilities				
19	Average Monthly Bill	317.51	342.13	375.57	
20	Change in Bill	22.16	24.62	33.44	80.22
21	Average Bill Increase	7.5%	7.8%	9.8%	8.3%

The total average residential bill is shown in Table 4.0-10 below.

	(\$/	month)			
		Α	В	С	D
	Average Residential Bill	2021	2022	2023	2024
1	Prior year bill		100.17	100.57	102.24
2	PBR Inflation – Eff. Factor (i-x)		1.86	1.96	1.99
3	Impact of Consumption		(5.10)	(1.05)	(1.09)
4	SRA – Re-basing		1.97	1.55	1.59
5	SRA – Increase Fixed (Water Only)		0.89	-	-
6	SRA – 90 Day Deferral Program		0.77	(0.78)	-
7	Total Before SIRP, CORe and Fire	100.17	100.57	102.24	104.73
8	SRA - CORe	0.99	2.82	2.37	3.51
9	SRA - SIRP	0.70	2.29	3.33	4.25
10	Total Including SIRP, and CORe	101.86	105.67	107.94	112.50
11	SRA – Fire Protection	-	2.59	2.64	2.70
12	Monthly Water Cycle Utility Bill	101.86	108.26	110.59	115.19

Table 4.0-10
Average Residential Customer – Total Bill Impact
2022-2024

5.0 PBR BYLAW CORRECTIONS

In addition to the amendments above to address the Utility Committee's July 9, 2021 motion, EWSI has also made the following minor corrections to the Bylaws as explained below.

Drainage Services and Wastewater Treatment Bylaw 19627, Schedule 3, Section 2.3.3 and Water Serviced Bylaw 19626, Schedule 3, Section 2.3.3 – Special Rate Adjustments (SRA) for the 90-day Deferral Program

The originally-filed SRA for the 90-day Deferral Program specified the SRA for 2022 and the corresponding negative SRA in 2023 to remove the one-time effects of the 90 Day Deferral program on future routine rate adjustments. The 2022 SRAs in the Bylaws are based on EWSI's forecast of the incremental bad debts, administration and carrying costs incurred as a result of the 90-day Deferral Program. Because the actual costs could vary from these forecast amounts, EWSI proposes to establish a 2023 SRA in its 2023 annual rate filing which will adjust for any differences between forecast and actual costs of the 90-Day Deferral Program and remove the one-time effects of the 90 Day Deferral program on future routine adjustments. This will align with the AUC approach to ensure that charges to customers reflect the actual costs of the program.

Drainage Services and Wastewater Treatment Bylaw 19627, Schedule 3, Section 7 – Reporting and Filing Requirements

Through this amendment, EWSI proposes to change the date for filing its Annual Drainage and Wastewater Treatment Rate Filing from December 1 to March 1. A change to the reporting year from October 1- September 30 to January 1 – December 31 is also proposed. This amendment aligns the Reporting and Filing Requirements of Bylaw 19627 with the same requirements under Bylaw 19626.

Drainage Services and Wastewater Treatment Bylaw 19627, Schedule 3, Section 2.1 – Inflation Factor

The formula by which rates are adjusted includes an inflation factor adjustment for all services covered by Bylaw 19627. This includes an inflation factor the Wastewater Overstrength Surcharges (WOSA) and Wastewater Additional Overstrength Surcharges (WOASA) as set out in section 1.3 of the bylaw. EWSI's proposed amendment to section 2.1 clarifies the inclusion of the WOSA and the WAOSA as a charge subject to the inflation factor.

Drainage Services and Wastewater Treatment Bylaw 19627, Schedule 1 – Stormwater Charges

EWSI's Stormwater Utility charges are based, in part, on a site's municipal zoning designation. In the originally filed Schedule 1, EWSI indicated that the type of zoning relied on was the "effective zoning designation as it appears on the tax roll for the property." Effective zoning does not always reflect a property's actual use and as such, the more appropriate zoning to use in the calculation of Stormwater Utility charges is the zoning designation determined under the City of Edmonton's zoning bylaw.

Water Services Bylaw 19626, Schedule 3, Section 3.2.1 – Post Service Audit Factor

EWSI proposes to amend the metric for Customer Satisfaction to reflect the amendment it sought in its Application to align the customer survey process with other EPCOR Business Units and to allow for changes to the survey questions, subject to Utility Committee approval, during the PBR term. This proposed amendment does not amend the service standard from what was included in the PBR application.

Please contact me at (780) 412-3041 if you have any questions.

Sincerely,

[original signed by]

Darrell Manning Director, Regulatory and Operational Excellence EPCOR Water Services Inc.

Attachments

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Index of MFR Schedules

Part A	Total System Revenue Requirement
Financial Schedule 3-1	Summary of In-City Revenue Requirement
Financial Schedule 3-2	Summary of Fire Protection Revenue Requirement
Financial Schedule 4-1	Customers and Consumption
Financial Schedule 5-1	Summary of Operating Costs by Operational Function
Financial Schedule 5-2	Summary of Operating Costs by Cost Category
Financial Schedule 6-1	Power, Other Utilities and Chemical Costs
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Financial Schedule 7-2	Water Operations Costs by Cost Category
Financial Schedule 8-1	Billing, Meters and Customer Service Costs by Function
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Financial Schedule 9-1	EWSI Shared Service Costs by Function
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Financial Schedule 16-1	Necessary Working Capital
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Part C	PBR Rates
Financial Schedule 20-1	Current and Proposed Rates for Water Services
Financial Schedule 20-2	Proposed Special Rate Adjustments for Water Services

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Summary of In-City Revenue Requirement (\$ millions)

Line	Description	Cross Reference	2017 Actus		2018 Actual	20	019 Mual	2 For	020 ecast	2021 Forecast	2022 Eorecast	2023 Forecast	E	2024 vrocast	2025 Forecast	2026 Forecast	Cross Reference
110.	Description	Reference	Actuc		Actual		luui	1 01	coasi	10100031	Torcease	Torcease	10	100031	Torcease	Torcease	Reference
1 2	Operating Costs	S. 5-1	\$ 98	.8 3	\$ 97.2	\$	99.5	\$	101.8	\$ 103.3	\$ 103.6	\$ 106.7	\$	109.0	\$ 110.9	\$ 113.5	
3 4	Depreciation, net of Amortization of Contributions	S. 12-1	25	.9	27.1		28.4		30.5	32.7	35.5	37.9		40.7	42.6	43.8	
5 6	Return on Rate Base Financed by Debt	S. 14-1	27	.0	28.1		29.1		28.6	28.8	29.7	30.1		29.3	28.6	28.5	
7 8	Return on Rate Base Financed by Equity	S. 14-1	35	.7	40.2		34.3		41.1	40.0	45.8	47.3		49.0	49.8	49.7	_
9 10	In-City Revenue Requirement before Revenue Offse	ets	187	.4	192.5		191.3		202.0	204.7	214.6	222.0		227.9	231.9	235.5	
11 12	Revenue Offsets	S. 13-1	(5	.7)	(5.5)		(5.5)		(4.4)	(5.2)	(6.3)	(6.4)		(6.5)	(6.6)	(6.7)	-
13	In-City Revenue Requirement	-	\$ 181	.7 \$	5 187.1	\$ ·	185.8	\$	197.7	\$ 199.5	\$ 208.3	\$ 215.6	\$	221.4	\$ 225.3	\$ 228.8	_

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Summary of Fire Protection Revenue Requirement (\$ millions)

Line		Cross	2	017	2	018	2	019	2	020	2	021	2	022	2)23	20)24	2	025	2	026	Cross
No.	Description	Reference	A	ctual	Ac	ctual	Ac	tual	For	ecast	Reference												
1	Operating Costs	S. 5-1	\$	5.0	\$	5.5	\$	6.0	\$	5.9	\$	6.6	\$	8.6	\$	8.8	\$	9.1	\$	9.5	\$	9.7	
2																							
3	Depreciation, net of Amortization of Contribution	S. 12-1		2.0		2.2		2.5		2.8		3.1		3.4		3.5		3.7		3.8		3.9	
4																							
5	Return on Rate Base Financed by Debt	S. 14-1		2.7		2.9		3.2		3.3		3.4		3.6		3.6		3.5		3.4		3.4	
6																							
7	Return on Rate Base Financed by Equity	S. 14-1		3.6		2.9		2.2		2.4		1.7		5.5		5.6		5.8		5.9		6.0	
8																							
9	Total Fire Protection Revenue Requirement	-	\$	13.3	\$	13.6	\$	13.9	\$	14.4	\$	14.8	\$	21.0	\$	21.5	\$	22.0	\$	22.6	\$	23.0	

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Customers and Consumption

Line		Cross	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Cross
No.	Description	Reference	Actual	Actual	Actual	Forecast	Reference						
1	Customers (Average Active Services per Month)												
2	Residential		259,335	264,485	269,842	271,555	275,045	278,978	283,342	287,954	292,671	297,458	
3	Multi-Residential		3,752	3,765	3,779	3,774	3,781	3,789	3,800	3,811	3,823	3,834	
4	Commercial		19,438	20,474	19,896	19,821	19,827	19,920	20,101	20,283	20,468	20,654	
5	Total Customers		282,524	288,724	293,517	295,149	298,652	302,687	307,243	312,048	316,962	321,947	-
6		=											=
7	Annual Consumption (ML)												
8	Residential		45,478	45,832	44,603	48,438	49,160	44,870	44,784	44,712	44,630	44,569	
9	Multi-Residential		17,829	17,639	17,767	18,575	18,605	17,658	17,627	17,595	17,564	17,532	
10	Commercial		27,537	27,228	26,133	20,233	20,369	21,541	22,677	23,476	22,990	22,492	
11	Total Consumption (ML)	-	90,843	90,699	88,503	87,246	88,135	84,069	85,088	85,784	85,184	84,594	-
12		=											=
13	Average Monthly Consumption per Customer (m ³ per month)												
14	Residential		14.6	14.4	13.8	14.9	14.9	13.4	13.2	12.9	12.7	12.5	
15	Multi-Residential		396.0	390.4	391.8	410.2	410.0	388.4	386.6	384.7	382.9	381.0	
16	Commercial		118.1	110.8	109.5	85.1	85.6	90.1	94.0	96.5	93.6	90.7	

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Summary of Operating Costs by Operational Function (\$ millions)

Line No	Description	Cross Reference	2	2017 ctual	2	2018 Actual	4	2019 Actual	2 Fo	2020 recast	Fo	2021 precast	F	2022 precast	Eo	2023 precast	2 Fo	2024 recast	2 Fo	2025 recast	2 Fo	2026 recast	Cross Reference
110.	Desemption	Reference		otuui		otuur		lotaul	10	100001			<u> </u>	0100001		100401		100001		100401			Reference
1 2	Power, Other Utilities and Chemicals	S.6-1	\$	20.0	\$	17.9	\$	22.0	\$	21.9	\$	23.0	\$	23.0	\$	25.2	\$	25.7	\$	26.3	\$	26.9	
3	Water Operations																						
4	Water Treatment Plants	S. 7-1		17.4		19.1		18.9		21.9		22.6		24.0		24.1		24.6		25.1		25.6	
5	Water Distribution and Transmission	S. 7-1		25.7		26.7		26.5		23.1		23.0		22.9		22.8		23.2		23.7		24.2	
6	Operational Support Services	S. 7-1		12.2		13.7		13.7		11.9		12.6		12.7		12.9		13.1		13.4		13.7	
7	Less: Capitalized Overhead Costs	S. 7-1		(7.1)		(7.5)		(8.3)		(8.5)		(8.8)		(9.1)		(9.3)		(9.5)		(9.7)		(9.9)	
8 9	Sub-total	-		48.3		51.9		50.8		48.4		49.4		50.5		50.4		51.5		52.5		53.6	
10 11	Billing, Meters and Customer Service	S. 8-1		11.2		9.9		10.4		12.2		11.4		11.6		11.6		11.4		11.2		11.4	
12 13	EWSI Shared Services	S. 9-1		12.9		12.1		12.0		13.7		14.2		14.4		14.7		15.0		15.3		15.6	
14 15	Corporate Shared Services	S. 10-1		12.9		12.0		12.1		12.6		13.7		13.8		14.1		14.3		14.6		14.9	
16 17	Franchise Fees and Property Taxes	S. 11-1		14.6		15.0		14.9		15.8		16.2		17.6		18.8		19.7		20.5		21.4	
18 19	Total Operating Costs	•		119.8		118.8		122.3		124.7		127.8		130.9		134.7		137.6		140.5		143.8	
20 21	Less: BD Disallowances	-		(0.3)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)	S. 16-1
22	Total Operating Costs	S. 5-2	\$	119.6	\$	118.6	\$	122.1	\$	124.5	\$	127.6	\$	130.7	\$	134.5	\$	137.4	\$	140.2	\$	143.6	S. 19-1
23 24		•																					S. 19-2
25	In-City Share of Total Operating Costs	S. 19-1	\$	98.8	\$	97.2	\$	99.5	\$	101.8	\$	103.3	\$	103.6	\$	106.7	\$	109.0	\$	110.9	\$	113.5	S. 3-1
26 27	Portion of total operating costs	=		82.6%		82.0%		81.5%		81.8%		80.9%		79.3%		79.3%		79.3%		79.1%		79.0%	1
28	Fire Protection Share of Operating Costs	S. 19-2	\$	5.0	\$	5.5	\$	6.0	\$	5.9	\$	6.6	\$	8.6	\$	8.8	\$	9.1	\$	9.5	\$	9.7	S. 3-2
29	Portion of total operating costs	=		4.2%		4.6%		4.9%		4.8%		5.1%	Ī	6.6%		6.6%		6.7%		6.7%		6.7%	1

EPCOR Water Services Inc.

Minimum Filing Requirements for Water Services

Summary of Operating Costs by Cost Category

(\$ millions)

Line		Cross	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Cross
NO.	Description	Reference	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
1 2	Power and Other Utilities	S.6-1	\$ 11.6	\$ 10.0	\$ 10.3	\$ 11.0	\$ 11.4	\$ 10.5	\$ 12.3	\$ 12.7	\$ 13.0	\$ 13.3	
3 4	Chemicals	S.6-1	8.4	7.9	11.7	10.9	11.5	12.5	12.8	13.1	13.3	13.6	
5	Staff Costs and Employee Benefits												
6	Operations and Maintenance	S. 7-2	32.1	33.1	32.3	31.6	32.2	32.6	32.5	33.2	33.9	34.6	
7	Billing, Meters and Customer Service	S, 8-2	6.3	5.6	6.0	6.2	6.6	6.4	5.7	4.7	3.6	3.6	
8	EWSI Shared Services	S. 9-2	3.4	3.1	2.8	3.5	3.5	3.6	3.7	3.7	3.8	3.9	
9	Sub-total		41.7	41.7	41.1	41.2	42.4	42.6	41.9	41.6	41.3	42.1	
10													
11	Contractors and Consultants												
12	Operations and Maintenance	S. 7-2	7.1	9.4	9.3	7.6	8.0	8.6	8.4	8.6	8.7	8.9	
13	Billing, Meters and Customer Service	S, 8-2	0.4	0.4	0.4	0.0	0.1	1.2	1.6	1.6	1.6	1.6	
14	EWSI Shared Services	S. 9-2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
15	Sub-total		7.6	9.9	9.8	7.9	8.3	9.9	10.2	10.3	10.5	10.7	
16													
17	Materials and Supplies	S. 7-2	3.5	3.9	3.9	3.6	3.6	3.7	3.8	3.9	4.0	4.0	
18													
19	Vehicles												
20	Operations and Maintenance	S. 7-2	1.4	1.2	(0.6)	0.5	0.5	0.4	0.4	0.4	0.5	0.5	
21	Billing, Meters and Customer Service	S, 8-2	0.3	0.1	0.1	0.3	0.3	0.3	0.2	0.2	0.2	0.2	
22	Sub-total		1.6	1.3	(0.5)	0.8	0.8	0.7	0.7	0.6	0.6	0.6	•
23					,								
24	Other												
25	Operations and Maintenance	S. 7-2	4.2	4.4	5.9	5.1	5.1	5.2	5.3	5.4	5.5	5.6	
26	Billing, Meters and Customer Service	S, 8-2	0.3	0.4	0.7	0.7	1.5	1.2	1.2	1.2	1.2	1.2	
27	EWSI Shared Services	S. 9-2	(0.2)	(0.2)	(0.3)	0.1	0.2	0.2	0.2	0.2	0.2	0.2	
28	Sub-total		4.3	4.6	6.3	5.9	6.7	6.6	6.7	6.8	6.9	7.0	
29													
30	Customer Billing and Collection Services	S, 8-2	7.8	7.9	7.8	9.9	8.0	8.2	8.3	8.5	8.7	8.9	
31													
32	Meter Reading Services (Recoveries)	S, 8-2	(3.9)	(4.6)	(4.6)	(4.9)	(5.1)	(5.7)	(5.5)	(4.9)	(4.1)	(4.2)	
33													
34	EWSI Shared Service Allocation	S. 9-2	9.6	9.2	9.4	10.0	10.3	10.5	10.7	10.9	11.2	11.4	
35													
36	Corporate Shared Services	S. 10-1	12.9	12.0	12.1	12.6	13.7	13.8	14.1	14.3	14.6	14.9	
37													
38	Franchise Fees and Property Taxes	S. 11-1	14.6	15.0	14.9	15.8	16.2	17.6	18.8	19.7	20.5	21.4	
39			• • • • •	• • • • • •	• · · • • -	• • • • • =	• · ·		• • • • -	• • • • •	• • • • =	• • • • •	
40	Total Operating Costs	:	\$ 119.8	<u>\$ 118.8</u>	\$ 122.3	\$ 124.7	\$ 127.8	\$ 130.9	\$ 134.7	\$ 137.6	\$ 140.5	\$ 143.8	S. 5-1
	July 23, 2021			P		Qtul 297			August 27, 2	021 Utility C	ommittee Re	eport: FCS00	6 <mark>8</mark> f 4 9-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Power, Other Utilities and Chemical Costs (\$ millions)

Line		Cross	2017	2	2018	20	019	2	020	2	2021	2022		2023	2	2024	2	025	2	2026	Cross
No.	Description	Reference	Actual	Α	ctual	Act	tual	For	ecast	Fo	recast	Forecas	t F	Forecast	Fo	recast	For	ecast	For	recast	Reference
	_		•			•		•													
1	Power		\$ 10.9	9\$	9.4	\$	9.7	\$	10.4	\$	10.8	\$9.	3 9	5 11.6	\$	11.8	\$	12.0	\$	12.3	
2	Natural Gas		0.0	6	0.6		0.6		0.6		0.7	0.	7	0.8		0.9		1.0		1.0	
3	Sub-tota		11.6	6	10.0		10.3		11.0		11.4	10.	5	12.3		12.7		13.0		13.3	S. 5-2
4																					
5	Chemicals	_	8.4	ŀ	7.9		11.7		10.9		11.5	12.	5	12.8		13.1		13.3		13.6	S. 5-2
6		_																			
7	Total Power, Other Utilities and Chemical Costs	s =	\$ 20.0) \$	17.9	\$	22.0	\$	21.9	\$	23.0	\$ 23.) (5 25.2	\$	25.7	\$	26.3	\$	26.9	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Water Operations Costs by Function (\$ millions)

Line			Cross	2017	_	2018	2019	_	2020	_ 2	021	_ 2	022	_ 2	023	_ 20	024	_ 20	025	_ 2	026	Cross
No.	Description		Reference	Actua		Actual	Actua	Fo	precast	For	recast	For	ecast	For	recast	Fore	ecast	Fore	ecast	For	ecast	Reference
1	Water Treatment Plants			\$ 7	1 \$	73	\$ 7	3 \$	78	\$	8 1	\$	83	\$	85	\$	87	\$	89	\$	Q 1	
2	WTP & Reservoir Maintenance			7	4	84	¢ 8	3 3	10.0	Ψ	10.1	Ŷ	10.7	Ψ	10.9	Ψ	11.2	Ψ	11.4	Ψ	11.6	
4	WTP Engineering, Projects, SCADA and Co	ontrols		2	.9	3.3	3.	3	4.1		4.5		4.9		4.6		4.7		4.8		4.9	
5	S	Subtotal	S. 7-2	17	.4	19.1	18.	9	21.9		22.6		24.0		24.1		24.6		25.1		25.6	
6	-							-														,
7	Water Distribution and Transmission																					
8	Distribution Construction & Maintenance			12	.4	14.2	15.	6	10.0		11.2		11.3		11.4		11.7		11.9		12.2	
9	Distribution Operations			g	.7	9.8	10.	3	9.1		5.4		5.2		4.9		5.0		5.1		5.2	
10	Distribution Technical Services			3	.8	3.5	1.	5	1.8		1.9		1.8		1.8		1.8		1.8		1.9	
11	Distribution Infrastructure			0	.5	0.8	0.	9	0.9		1.0		1.1		1.1		1.1		1.2		1.2	
12	Dispatch, Locating & Staking			-		-	-		2.9		5.2		5.3		5.4		5.5		5.6		5.7	
13	Fleet Management			(0	.8)	(1.6)	(1.	8)	(1.7)		(1.7)		(1.8)		(1.8)		(1.9)		(1.9)		(2.0)	
14	S	Subtotal	S. 7-2	25	.7	26.7	26.	5	23.1		23.0		22.9		22.8		23.2		23.7		24.2	
15																						
16	Operations Support Services																					
17	Quality Assurance & Environment			5	.4	6.7	6.	8	6.2		6.9		6.7		6.8		7.0		7.1		7.3	
18	Water Operations Management			2	.8	2.8	3.	0	3.0		3.1		3.4		3.4		3.5		3.6		3.6	
19	Project and Asset Management			2	.1	2.0	1.	7	1.5		1.5		1.6		1.6		1.6		1.7		1.7	
20	Supply Chain Management & Security			1	.9	2.2	2.	2	1.2		1.1		1.1		1.0		1.1		1.1		1.1	
21	S	Subtotal	S. 7-2	12	.2	13.7	13.	7	11.9		12.6		12.7		12.9		13.1		13.4		13.7	
22																						
23	Less: Capitalized Overhead Costs		S. 7-2	(7	.1)	(7.5)	(8.	3)	(8.5)		(8.8)		(9.1)		(9.3)		(9.5)		(9.7)		(9.9)	
24	•			```	,		A.		, /		. /		, <i>I</i>		. /		· /		. /		, /	
25	Total Water Operations Costs		:	\$ 48	.3 \$	51.9	\$ 50.	8 \$	48.4	\$	49.4	\$	50.5	\$	50.4	\$	51.5	\$	52.5	\$	53.6	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Water Operations Costs by Cost Category (\$ millions)

Line	Cro	ss	2017		2018		2019	2	2020		2021		2022	2	023	2	2024	2	2025	2	2026	Cross
No.	Description Refere	ence	Actual		Actual	A	ctual	Fo	recast	Fo	orecast	Fo	recast	Foi	recast	Fo	recast	Fo	recast	Fo	recast	Reference
1	Water Treatment Plants																					
2	Staff Costs and Employee Benefits		\$ 14. [•]	\$	15.0	\$	15.2	\$	17.0	\$	17.7	\$	18.2	\$	18.6	\$	18.9	\$	19.3	\$	19.7	
3	Contractors and Consultants		1.1		2.0		1.7		2.7		2.8		3.6		3.3		3.4		3.4		3.5	
4	Materials and Supplies		1.0)	1.2		1.1		1.2		1.3		1.3		1.4		1.4		1.4		1.4	
5	Other		1.0)	0.8		0.6		0.8		0.7		0.7		0.8		0.8		0.8		0.8	
6	Vehicles	_	0.1		0.2		0.2		0.1		0.1		0.1		0.1		0.1		0.1		0.1	
7	Subtotal	_	17.4	Ļ	19.1		18.9		21.9		22.6		24.0		24.1		24.6		25.1		25.6	S. 7-1
8	Water Distribution and Transmission																					S. 5-2
9	Staff Costs and Employee Benefits		17.1	l	17.4		17.0		15.8		15.9		15.9		15.6		15.9		16.3		16.6	
10	Contractors and Consultants		4.6	6	5.3		6.0		3.5		3.4		3.4		3.5		3.5		3.6		3.7	
11	Materials and Supplies		2.0)	2.1		2.1		1.9		1.9		2.0		2.0		2.0		2.1		2.1	
12	Other		0.8	3	0.8		2.3		1.5		1.3		1.3		1.3		1.4		1.4		1.4	
13	Vehicles		1.2	2	1.0		(0.8)		0.3		0.4		0.3		0.3		0.3		0.3		0.4	
14	Subtotal	_	25.	7	26.7		26.5		23.1		23.0		22.9		22.8		23.2		23.7		24.2	S. 7-1
15	Operational Support Services	_																				•
16	Staff Costs and Employee Benefits		8.0)	8.2		8.4		7.2		7.4		7.5		7.6		7.8		7.9		8.1	
17	Contractors and Consultants		1.4	1	2.1		1.7		1.4		1.8		1.6		1.6		1.7		1.7		1.7	
18	Materials and Supplies		0.5	5	0.6		0.6		0.4		0.4		0.4		0.4		0.4		0.5		0.5	
21	Other		1.0)	1.2		1.2		1.0		1.0		1.0		1.1		1.1		1.1		1.1	
19	Insurance and 3rd Party Claims		0.9)	1.2		1.4		1.4		1.6		1.7		1.7		1.8		1.8		1.9	
20	Leased Transmission Facilities		0.4	1	0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4	
22	Subtotal	-	12.3	2	13.7		13.7		11.9		12.6		12.7		12.9		13.1		13.4		13.7	S. 7-1
23				-																		· · · · ·
24	Capitalized Overhead Costs		(7.1)	(7.5)		(8.3)		(8.5)		(8.8)		(9.1)		(9.3)		(9.5)		(9.7)		(9.9)	S. 7-1
25			,	/	(114)		(010)		(010)		(010)		(0.17)		(010)		(010)		(***)		(010)	S. 5-2
26	Total Operations and Maintenance Co	sts	\$ 48.3	3 \$	51.9	\$	50.8	\$	48.4	\$	49.4	\$	50.5	\$	50.4	\$	51.5	\$	52.5	\$	53.6	
27			(0.0))	(0,0)	Ŧ	0.0	Ŧ	0.0	Ŧ	0.0	Ŧ	-	Ŧ	-	Ŧ	-	Ŧ		Ŧ	-	
28			(0.0	,	(0.0)		0.0		0.0		0.0											
20	Total Operations and Maintenance Co	ete																				
20	Staff Costs and Employog Bonofits	313	¢ 32.	¢	33.1	¢	33.3	¢	21.6	¢	32.2	¢	32.6	¢	32.5	¢	33.5	¢	33.0	¢	34.6	
30	Contractors and Consultants		φ JZ. 7·	φ	0.1	φ	02.5	φ	76	ψ	32.Z 8 0	Ψ	32.0 8.6	ψ	32.J Q /	Ψ	90.Z	φ	23.9 8 7	φ	94.0 8 0	
22	Motorials and Supplies		7. 21		3.4		9.5		7.0		2.0		2.7		20.4		2.0		4.0		0.9	
3Z 22	Induced and and Ard Party Claima		3.) \	3.9		3.9		3.0		3.0		3.7		3.0		3.9		4.0		4.0	
33	Insurance and 3rd Party Claims		0.3	1	1.2		1.4		1.4		1.0		1.7		1.7		1.8		1.8		1.9	
34	Leased Transmission Facilities		0.4	+	0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4		0.4	
35	Venicies Other		1.4	+	1.2		(0.6)		0.5		0.5		0.4		0.4		0.4		0.5		0.5	
30	Other	_	2.9	1	2.8		4.1		3.2		3.0		3.1		3.2		3.2		3.3		3.3	
37	Total Water Onensting Orate		e 10		F 4 6	•	50.0	*	40.4	¢	40.4	~		*	F. 4	~	F 4 F	¢		~	F0 0	0.5.0
38	I otal water Operations Costs	=	\$ 48.3	55	51.9	\$	50.8	\$	48.4	\$	49.4	\$	50.5	\$	50.4	\$	51.5	\$	52.5	\$	53.6	S. 5-2
																						S. 7-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Billing, Meters and Customer Service Costs by Function (\$ millions)

Line		Cross	2	017	2	018	2	019	2	2020	20)21	20)22	2	023	2	024	20)25	2	026	Cross
No.	Description	Reference	Ac	tual	Ac	ctual	Ac	ctual	Fo	recast	Fore	ecast	For	ecast	For	ecast	For	ecast	Fore	ecast	For	recast	Reference
1	Customer Billing Costs		\$	7.8	\$	7.9	\$	7.8	\$	9.9	\$	8.0	\$	8.2	\$	8.3	\$	8.5	\$	8.7	\$	8.9	
2	Meter Services			2.7		1.3		2.2		2.1		3.3		3.3		3.2		2.9		2.4		2.5	
3	Customer Service			0.6		0.7		0.4		0.2		0.1		0.1		0.1		0.1		0.1		0.1	
4		•																					
5	Total Billing, Meters and Customer Service Costs	S. 8-2	\$	11.2	\$	9.9	\$	10.4	\$	12.2	\$	11.4	\$	11.6	\$	11.6	\$	11.4	\$	11.2	\$	11.4	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Billing, Meters and Customer Service Costs by Cost Category (\$ millions)

Line		Cross	201	17	20	018	20	019	20	20	20)21	20)22	20	023	20)24	20)25	20	026	Cross
No.	Description Re	eference	Act	ual	Ac	tual	Ac	tual	Fore	cast	Fore	ecast	Fore	ecast	For	ecast	Fore	ecast	Fore	ecast	For	ecast	Reference
1	Customer Billing and Collection Services	S. 18-1	\$	7.8	\$	7.9	\$	7.8	\$	9.9	\$	8.0	\$	8.2	\$	8.3	\$	8.5	\$	8.7	\$	8.9	
2	Meter Reading Services (Recoveries)			(3.9)		(4.6)		(4.6)		(4.9)		(5.1)		(5.7)		(5.5)		(4.9)		(4.1)		(4.2)	
3	Staff Costs and Employee Benefits			6.3		5.6		6.0		6.2		6.6		6.4		5.7		4.7		3.6		3.6	
4	Contractors and Consultants			0.4		0.4		0.4		0.0		0.1		1.2		1.6		1.6		1.6		1.6	
5	Other			0.3		0.4		0.7		0.7		1.5		1.2		1.2		1.2		1.2		1.2	
6	Vehicles			0.3		0.1		0.1		0.3		0.3		0.3		0.2		0.2		0.2		0.2	
7		-																					
8	Total Billing, Meters and Customer Service Costs		\$ `	11.2	\$	9.9	\$	10.4	\$	12.2	\$	11.4	\$	11.6	\$	11.6	\$	11.4	\$	11.2	\$	11.4	S. 5-2
		=																					S. 8-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services EWSI Shared Service Costs by Function (\$ millions)

Line		Cross	2	017	2	018	2	019	2	2020	2	021	2	022	2	023	20	024	2	025	2	026	Cross
No.	Description	Reference	Ac	tual	Ac	tual	A	ctual	Foi	recast	For	ecast	Reference										
1	Shared Services																						
2	Incentive Compensation		\$	2.8	\$	3.3	\$	2.9	\$	3.5	\$	3.5	\$	3.5	\$	3.6	\$	3.7	\$	3.8	\$	3.8	
3	Information Services			2.7		2.6		2.6		2.7		2.8		3.0		3.1		3.1		3.2		3.2	
4	Controller			1.5		1.4		1.5		1.8		1.5		1.5		1.5		1.6		1.6		1.6	
5	Health, Safety & Environment			1.2		1.2		1.1		1.2		1.2		1.3		1.3		1.3		1.4		1.4	
6	Technical Training			1.2		1.2		1.0		0.9		1.0		1.0		1.0		1.0		1.0		1.1	
7	Regulatory and Operational Excellence			0.5		0.2		0.5		0.9		1.1		1.0		1.0		1.0		1.0		1.1	
8	Executive Administration			0.7		0.7		0.7		0.7		0.7		0.7		0.7		0.8		0.8		0.8	
9	Other Shared Services	_		2.3		1.6		1.7		1.9		2.4		2.4		2.5		2.5		2.6		2.6	_
10		_																					
11	Total EWSI Shared Service Costs	S. 9-2	\$	12.9	\$	12.1	\$	12.0	\$	13.7	\$	14.2	\$	14.4	\$	14.7	\$	15.0	\$	15.3	\$	15.6	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services EWSI Shared Service Costs by Cost Category (\$ millions)

Line		Cross	20	017	:	2018		2019		2020	2	2021	2	2022	2	2023	2	2024	2	2025	2	2026	Cross
No.	Description	Reference	Ac	tual	A	Actual	A	Actual	Fo	orecast	Fo	recast	Reference										
1	EWSI Shared Service Costs																						
2	EWSI Shared Service Allocation	S. 18-1	\$	9.6	\$	9.2	\$	9.4	\$	10.0	\$	10.3	\$	10.5	\$	10.7	\$	10.9	\$	11.2	\$	11.4	S. 5-2
3	Staff Costs and Employee Benefits	5		3.4		3.1		2.8		3.5		3.5		3.6		3.7		3.7		3.8		3.9	
4	Contractors and Consultants			0.1		0.1		0.1		0.2		0.2		0.2		0.2		0.2		0.2		0.2	
5	Other	_		(0.2)		(0.2)		(0.3)		0.1		0.2		0.2		0.2		0.2		0.2		0.2	
6																							
7	Total EWSI Shared Service Costs	=	\$	12.9	\$	12.1	\$	12.0	\$	13.7	\$	14.2	\$	14.4	\$	14.7	\$	15.0	\$	15.3	\$	15.6	S. 9-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Corporate Shared Service Costs (\$ millions)

Line	-	Cross	2	017	2	018	2	019	_ 2	2020	_ 2	2021	2	2022	_ 20)23	_ 20	024	_ 20	025	_ 2	026	Cross
No.	Description	Reference	Ac	tual	Ac	ctual	A	ctual	Fo	recast	Foi	recast	Fo	recast	Fore	ecast	For	ecast	For	ecast	For	ecast	Reference
1	Corporate Administration Costs																						
2	Board and Executive		\$	0.8	\$	0.7	\$	0.7	\$	0.7	\$	0.8	\$	0.8	\$	0.8	\$	0.8	\$	0.8	\$	0.9	
3	Corporate Finance			0.9		0.8		0.8		0.7		0.6		0.6		0.6		0.6		0.6		0.6	
4	Treasury			0.4		0.3		0.3		0.3		0.4		0.4		0.4		0.4		0.5		0.5	
5	Risk Assurance & Advisory Services			0.4		0.4		0.3		0.4		0.5		0.5		0.5		0.5		0.5		0.5	
6	Human Resources			1.3		1.3		1.6		1.8		1.8		1.9		1.9		1.9		2.0		2.0	
7	Information Services			1.9		2.1		2.0		1.9		1.9		2.0		2.1		2.1		2.2		2.2	
8	Supply Chain			1.5		1.2		1.2		1.2		1.2		1.3		1.3		1.4		1.4		1.4	
9	Public and Government Affairs			0.9		1.0		1.1		1.1		1.1		1.1		1.1		1.1		1.2		1.2	
10	Legal Services			0.5		0.4		0.3		0.4		0.4		0.4		0.4		0.4		0.4		0.4	
11	Health, Safety & Environment			0.2		0.2		0.1		0.3		0.2		0.2		0.2		0.2		0.2		0.2	
12	Incentive Compensation			0.9		1.1		1.0		1.0		1.0		1.0		1.0		1.1		1.1		1.1	
13	Other Corporate Services			-		-		-		-		-		-		-		-		-		-	
14	Subtotal			9.8		9.3		9.5		9.7		10.0		10.2		10.4		10.6		10.8		11.0	-
15																							-
16	Asset Usage Fees																						
17	I/S Capital - Corporate			2.0		1.9		2.0		1.9		2.1		2.0		2.1		2.1		2.2		2.2	
18	Oracle			0.5		0.4		0.3		0.3		0.3		0.3		0.3		0.3		0.3		0.3	
19	Leasehold Improv EPCOR Tower			0.2		0.1		0.1		0.1		0.1		0.1		0.1		0.2		0.2		0.2	
20	HR System			0.2		0.1		0.1		0.1		0.1		0.0		0.0		0.0		0.0		0.1	
21	Customer Information System			-		-		-		0.3		1.0		1.0		1.0		1.0		1.0		1.0	
22	Other Corporate Assets			0.2		0.2		0.2		0.1		0.1		0.1		0.1		0.1		0.1		0.1	
23	Subtotal			3.1		2.7		2.7		2.9		3.8		3.6		3.7		3.8		3.8		3.9	-
24																							•
25	Total Corporate Shared Service Costs	S. 18-1	\$	12.9	\$	12.0	\$	12.1	\$	12.6	\$	13.7	\$	13.8	\$	14.1	\$	14.3	\$	14.6	\$	14.9	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Allocation of Corporate Shared Service Costs As a Percentage of Total Corporate Services Costs

Line			2017	2018	2019	2020	2021	2022-2026
No.	Shared Service	Basis of Allocation	Actual	Actual	Actual	Forecast	Forecast	Forecast
1	Corporate Shared Service							
2	Board & Executive	Composite	19.2%	15.7%	15.4%	14.9%	15.2%	15.3%
3 4 5	Corporate Finance Accounts Payable	Invoice Lines	22.8%	20.5%	19.6%	19.3%	19.6%	19.6%
6	Other	Composite	19.2%	15.7%	15.4%	15.0%	13.3%	13.3%
7 8	Treasury	·						
9 10	Treasurer Insurance and Physical Risk Management	Composite PP&E	18.2% 27.0%	15.2% 19.1%	15.5%	13.3%	14.6%	15.2%
11	Treasury Operations	50%(NI+Dep), 50% Debt	22.4%	19.4%	18.8%	18.2%	18.4%	18.4%
12	Valuation	Composite				13.3%	14.6%	15.2%
13	Taxation	Composite				15.0%	15.4%	15.4%
14 15	Risk Management							
16	Internal Audit	Composite	19.2%	15 7%	15 4%	15.0%	15 4%	15 4%
17	Insurance Risk Management	PP&F	27.0%	19.1%	19.0%	18.2%	18.7%	18.7%
18	Organizational Project Management	PP&E	211070	101170	101070	18.2%	18.7%	18.7%
19	Centre of Excellence	Composite				15.0%	15.4%	15.4%
20								
21	Information Services							
22	Major Capital Projects	Assets	25.8%	22.2%	19.4%	19.8%	20.2%	20.1%
23	Application Services	Assets	25.8%	22.2%	21.1%	20.6%	21.2%	21.1%
24	Infrastructure Operations	PC Count	14.6%	13.3%	14.1%	13.9%	14.4%	14.5%
25								
26	Human Resources	Headcount	20.8%	0.0%	17.6%	17.6%	17.9%	18.0%
27								

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Allocation of Corporate Shared Service Costs As a Percentage of Total Corporate Services Costs

Line			2017	2018	2019	2020	2021	2022-2026
No.	Shared Service	Basis of Allocation	Actual	Actual	Actual	Forecast	Forecast	Forecast
28	Supply Chain							
29	Mailroom	Headcount	22.5%	18.8%	18.8%	18.7%	19.0%	19.1%
30	Security	Headcount	22.5%	18.8%				
31	Disaster Recovery Planning	PC Count	17.3%	15.1%	14.7%	14.4%	15.0%	15.2%
32	Contract Management	PO Lines	14.3%	16.4%	15.7%	12.9%	15.7%	15.7%
33	Real Estate	Composite	19.2%	15.7%	15.4%	15.0%	15.4%	15.4%
34								
35	Public and Government Affairs	Composite	18.2%	16.4%	17.6%	18.5%	19.0%	17.8%
36								
37	Legal Services	Composite	19.2%	15.7%	15.4%	15.0%	15.4%	15.4%
38								
39	Health, Safety & Environment	Headcount	20.2%	17.1%	16.9%	16.7%	17.0%	17.0%
40								
41	Incentive Compensation	Avg Corp Costs Allocation	19.7%	16.7%	16.6%	16.4%	16.6%	16.6%
42								
43								
44	Sub-total		19.7%	16.8%	16.6%	16.4%	16.7%	16.6%
45	<u>-</u>							
46	Asset Usage Fees							
47	I/S Capital - Corporate	Average Corp IS Costs	20.9%	17.6%	16.5%	16.0%	16.7%	17.0%
48	Oracle	Average Corp Finance Costs & PO Lines	17.8%	17.1%	16.5%	16.3%	15.7%	15.7%
49	Leasehold Improv EPCOR Tower	Composite	13.9%	11.7%	12.6%	12.8%	13.4%	13.4%
50	HR System	Headcount	20.1%	16.1%	16.1%	16.7%	17.0%	17.0%
51	Customer Information System	Customer Count				8.6%	8.8%	8.8%
52	Other Corporate Assets	Composite	14.6%	12.4%	13.1%	13.5%	13.9%	14.0%
53	Sub-total		19.3%	16.6%	16.0%	14.4%	13.3%	13.3%
54								
55	Total Corporate Shared Service Costs		19.6%	16.7%	16.5%	15.9%	15.6%	15.6%

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Franchise Fees and Property Taxes (\$ millions)

Line	•	Cross	2	2017	2	2018	2	2019		2020	2	2021		2022	2	023	2	2024	2	2025	2	2026	Cross
No.	Description	Reference	Α	ctual	Α	ctual	Α	ctual	Fo	recast	Fo	recast	Fo	recast	For	recast	Fo	recast	Fo	recast	Fo	recast	Reference
1 2	Franchise fees Property and business taxes	S. 18-1 S. 18-1	\$	14.3 0.2	\$	14.8 0.2	\$	14.7 0.2	\$	15.6 0.3	\$	15.5 0.7	\$	16.8 0.8	\$	17.9 0.8	\$	18.8 0.9	\$	19.6 0.9	\$	20.5 0.9	
3 4	Total Franchise Fees and Property Taxes		\$	14.6	\$	15.0	\$	14.9	\$	15.8	\$	16.2	\$	17.6	\$	18.8	\$	19.7	\$	20.5	\$	21.4	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Depreciation Expense (\$ millions)

Line		Cross	2	2017	2	2018	2	2019	2	2020		2021		2022	2	2023	2	2024	2	2025	2	2026	Cross
No.	Description	Reference	Α	ctual	Α	ctual	Α	ctual	Fo	recast	Fc	precast	Fo	recast	Reference								
1	Gross Depreciation Provision																						
2	Water	S. 15-3	\$	43.1	\$	44.2	\$	47.2	\$	50.4	\$	53.8	\$	58.9	\$	62.7	\$	66.6	\$	69.6	\$	71.7	
3	Gains, losses and adjustments			(0.1)		(0.1)		(0.0)		-		-		-		-		-		(1.4)		-	
4	Total	-		42.9		44.1		47.2		50.4		53.8		58.9		62.7		66.6		68.1		71.7	-
5																							
6	Amortization of Contributions	S. 15-5		(10.3)		(9.9)		(11.0)		(11.5)		(12.0)		(13.1)		(14.2)		(14.8)		(15.4)		(16.0)	
7		-																					-
8	Total Depreciation Expense		\$	32.6	\$	34.2	\$	36.2	\$	38.9	\$	41.8	\$	45.8	\$	48.5	\$	51.8	\$	52.7	\$	55.7	S. 19-1
9		-																					S. 19-2
10																							
11	In-City Share of Total Depreciation Expense	S. 19-1	\$	25.9	\$	27.1	\$	28.4	\$	30.5	\$	32.7	\$	35.5	\$	37.9	\$	40.7	\$	42.6	\$	43.8	S. 3-1
12	Portion of total depreciation expense	-		79.4%		79.0%		78.4%		78.5%		78.2%		77.6%		78.1%		78.6%		80.9%		78.7%	-
13																							
14	Fire Protection Share of Depreciation Expense	S. 19-2	\$	2.0	\$	2.2	\$	2.5	\$	2.8	\$	3.1	\$	3.4	\$	3.5	\$	3.7	\$	3.8	\$	3.9	S. 3-2
15	Portion of total depreciation expense			6.1%		6.5%		6.9%		7.2%		7.4%		7.4%		7.2%		7.1%		7.2%		7.0%	

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Depreciation Rates

		2017-202	1	2022-202	6
Line		Annual	Economic	Annual	Economic
No.	Description	Depreciation Rate	Life (years)	Depreciation Rate	Life (years)
1	Water Treatment Plant	2.50%	40.0	2.50%	40.0
2	Reservoirs & Pumphouses	2.50%	40.0	2.50%	40.0
3	Distribution Mains	1.25%	80.0	1.25%	80.0
4	Transmission Mains	1.25%	80.0	1.25%	80.0
5	Hydrants	1.82%	55.0	1.82%	55.0
6	Meters	5.00%	20.0	5.00%	20.0
7	Services	1.54%	65.0	1.54%	65.0
8	General Plant (composite rate)	9.28%	10.8	9.76%	10.2
9	General Plant includes:				
10	Computer Equipment	25.00%	4.0	25.00%	4.0
11	Laboratory Equipment	10.00%	10.0	10.00%	10.0
12	Machinery & Equipment	10.00%	10.0	10.00%	10.0
13	Office Furniture & Equipment	12.50%	8.0	12.50%	8.0
14	Software Intangibles	10.00%	10.0	10.00%	10.0
15	Structures & Improvements	2.22%	45.0	2.22%	45.0
16	Vehicles	10.00%	10.0	10.00%	10.0
17	Inspection	-	-	10.00%	10.0
18	-				
19	Average	1.91%	52.4	2.03%	49.4

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Revenue Offsets (\$ millions)

Line		Cross	20	017	2	018	2	019	20)20	2	021	2	022	20)23	20	024	2	025	20)26	Cross
No.	Description	Reference	Act	tual	Ac	tual	Ac	tual	Fore	ecast	For	recast	For	ecast	Fore	ecast	For	ecast	For	ecast	Fore	ecast	Reference
1	Late Payment Penalty		\$	0.5	\$	0.5	\$	0.5	\$	0.3	\$	0.5	\$	0.5	\$	0.5	\$	0.6	\$	0.6	\$	0.6	
2	Connection Fees			1.2		1.2		1.1		1.0		1.1		1.1		1.1		1.1		1.1		1.2	
3	Temporary Service			1.4		1.5		1.4		1.1		1.5		1.6		1.6		1.6		1.7		1.7	
4	Meter Reading			-		-		-		0.3		0.3		0.3		0.3		0.3		0.3		0.3	
5	Surplus Sales			0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
6	Interest Income			-		-		-		0.0		-		-		-		-		-		-	
7	Water Permit Revenue			0.4		0.4		0.3		0.2		0.2		0.2		0.2		0.2		0.2		0.2	
8	Water Truckfill Revenue			0.4		0.4		0.4		0.5		0.5		0.5		0.5		0.5		0.5		0.5	
9	Facility Revenue			0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
10	Customer Service Revenue			0.4		0.4		0.3		0.3		0.3		0.3		0.3		0.3		0.3		0.3	
11	Misc. Revenue			1.4		1.0		1.5		0.5		0.8		0.8		0.8		0.8		0.8		0.8	
12	Reimbursement to Customers			-		-		-		-		-		1.0		1.0		1.0		1.0		1.0	
	Capitalization of Valve/Service Replacements																						
13		-																					
14	Total Revenue Offsets		\$	5.7	\$	5.5	\$	5.5	\$	4.4	\$	5.2	\$	6.3	\$	6.4	\$	6.5	\$	6.6	\$	6.7	S. 3-1
		=																					S. 16-1

S. 20-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Return on Rate Base (\$ millions)

Line No.	Description	Cross Reference	2017 Actual	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	Cross Reference
1	Mid-Year Rate Base, net	S. 15-1	\$1,160.9	\$1,221.0	\$1,285.7	\$1,362.1	\$1,463.3	\$1,537.3	\$1,580.5	\$1,629.3	\$1,654.4	\$1,653.4	
2													
3	Return on In-City Rate Base												
4	Share of Mid-Year Rate Base, net	COS	78.41%	78.26%	78.00%	78.08%	77.71%	77.22%	77.52%	77.89%	77.97%	77.88%	<u>.</u>
5	In-City Mid-Year Rate Base, net		910.3	955.6	1,002.8	1,063.5	1,137.1	1,187.1	1,225.3	1,269.0	1,289.9	1,287.6	-
6													
7	Deemed Capital Structure												
8	Debt Capital	S. 17-1	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	
9	Common Stock Equity	S. 17-1	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	-
10	Mid-Year Capital Structure		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	-
11													-
12	Cost Rates												
13	Debt Capital	S. 17-2	4.95%	4.90%	4.83%	4.48%	4.22%	4.17%	4.10%	3.85%	3.69%	3.69%	
14	Common Stock Equity		9.80%	10.51%	8.55%	9.66%	8.79%	9.64%	9.64%	9.64%	9.64%	9.64%	_
15	Weighted Average Cost of Capital		6.89%	7.15%	6.32%	6.55%	6.05%	6.36%	6.32%	6.17%	6.07%	6.07%	_
16													•
17	Return on Rate Base												
18	Debt Capital		27.0	28.1	29.1	28.6	28.8	29.7	30.1	29.3	28.6	28.5	S. 3-1
19	Common Stock Equity		35.7	40.2	34.3	41.1	40.0	45.8	47.3	49.0	49.8	49.7	S. 3-1
20	Total Return on In-City Rate Base		\$ 62.7	\$ 68.3	\$ 63.4	\$ 69.7	\$ 68.7	\$ 75.5	\$ 77.4	\$ 78.3	\$ 78.4	\$ 78.2	S. 19-1
21	•												S. 17-4
22	Return on Fire Protection Rate Base												
23	Share of Mid-Year Rate Base, net	COS	7.71%	8.20%	8.65%	9.06%	9.23%	9.24%	9.24%	9.19%	9.24%	9.40%	
24	Fire Protection Mid-Year Rate Base, net		89.5	100.1	111.2	123.4	135.1	142.1	146.0	149.8	152.9	155.4	•
25	,,												•
26	Capital Structure												
27	Debt Capital	S. 17-1	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	
28	Common Stock Equity	S. 17-1	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	
29	Mid-Year Capital Structure		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	•
30	•												•
31	Cost Rates												
32	Debt Capital	S. 17-2	4.95%	4.90%	4.83%	4.48%	4.22%	4.17%	4.10%	3.85%	3.69%	3.69%	
33	Common Stock Equity		10.04%	7.18%	4.88%	4.76%	3.19%	9.64%	9.64%	9.64%	9.64%	9.64%	
34	Weighted Average Cost of Capital		6.98%	5.81%	4.85%	4.59%	3.81%	6.36%	6.32%	6.17%	6.07%	6.07%	•
35	····g··········g············												
36	Return on Rate Base												
37	Debt Canital		27	29	30	33	34	3.6	3.6	35	34	34	S 3-2
20	Common Stock Equity		2.1	2.3	0.2	0.0	4 7	5.0	5.0	5.5 E 0	5.4	6.0	0.02
ა ბ 20	Common Slock Equily		3.0 ¢ 6.2	2.9 ¢ 5.9	¢ 5.4	¢ 57	1./	5.5 ¢ 0.0	0.0	5.ð	5.9 ¢ 0.2	6.U	S. 3-2
39			φ 0.2	φ υ.Ο	φ J.4	φ 3./	φ υ .Ι	φ 9.U	φ 9.2	φ 9.Z	φ 3.3	φ 9.4	S 17-4

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August 27, 2021 Utility Committee Report: FCS00743

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Rate Base (\$ millions)

Line		Cross	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Cross
No.	Description	Reference	Actual	Actual	Actual	Forecast	Reference						
1	Prior Year Property, Plant and Equipment	S. 15-2	\$2,192.3	\$2,299.8	\$2,413.1	\$2,545.3	\$2,699.1	\$2,911.2	\$3,052.2	\$3,207.0	\$3,353.2	\$3,461.6	
2	Prior Year Accumulated Depreciation	S. 15-3	(525.0)	(562.7)	(595.5)	(633.8)	(684.2)	(738.0)	(796.9)	(859.5)	(926.1)	(995.7)	
3	Prior Year Net Property		1,667.3	1,737.1	1,817.6	1,911.5	2,014.9	2,173.2	2,255.3	2,347.5	2,427.1	2,465.9	_
4		-											-
5	Current Year Property, Plant and Equipmen	S. 15-2	2,299.8	2,413.1	2,545.3	2,699.1	2,911.2	3,052.2	3,207.0	3,353.2	3,461.6	3,572.5	
6	Current Year Accumulated Depreciation	S. 15-3	(562.7)	(595.5)	(633.8)	(684.2)	(738.0)	(796.9)	(859.5)	(926.1)	(995.7)	(1,067.4)	
7	Current Year Net Property		1,737.1	1,817.6	1,911.5	2,014.9	2,173.2	2,255.3	2,347.5	2,427.1	2,465.9	2,505.1	-
8													-
9	Mid-Year Net Property		1,702.2	1,777.4	1,864.6	1,963.2	2,094.1	2,214.3	2,301.4	2,387.3	2,446.5	2,485.5	
10													
11	Materials and Supplies		3.3	3.5	3.6	3.8	3.9	4.0	4.1	4.2	4.3	4.4	
12													
13	Working Capital	S. 16-1	20.2	21.2	21.0	23.1	24.1	15.4	8.8	4.5	(0.1)	(9.7)	
14		-											-
15	Gross Mid-Year Water Rate Base		1,725.8	1,802.1	1,889.1	1,990.2	2,122.1	2,233.7	2,314.2	2,395.9	2,450.7	2,480.1	
16													
17	Mid-Year Net Contributions	S. 15-6	(564.9)	(581.1)	(603.4)	(628.1)	(658.8)	(696.4)	(733.8)	(766.7)	(796.3)	(826.7)	
18		-	· /	· /	. ,	· /	· /		· /	· /	· /	/	S. 14-1
19	Net Mid-Year Water Rate Base	-	\$ 1,160.9	\$1,221.0	\$1,285.7	\$1,362.1	\$1,463.3	\$1,537.3	\$1,580.5	\$1,629.3	\$1,654.4	\$1,653.4	S. 19-1

S. 19-2

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Property, Plant & Equipment (\$ millions)

Line		Cross	2017	2018	2019	2020 Forecast	2021 Eoropast	2022	2023 Eoroopat	2024 Eoroopot	2025 Forecast	2026 Eoropast	Cross
NO.		Reference	Actual	Actual	Actual	FUIECasi	Forecast	Forecast	FOIECasi	FOIECasi	Forecasi	Forecasi	Reference
1	Previous year balance		\$2,192.3	\$2,299.8	\$2,413.1	\$2,545.3	\$2,699.1	\$2,911.2	\$3,052.2	\$3,207.0	\$3,353.2	\$3,461.6	S. 15-1
2	Additions to Property Plant & Equipment	۰.											
1	EDCOP Funded	۱ ۹ ۲ ۲ ۸	00.3	04.0	105 /	1177	162.2	90.6	104.1	102.1	64.4	64.2	
4		3 . 13-4	90.3	94.9	105.4	117.7	103.3	09.0	104.1	102.1	04.4	04.2	
5	Developer Funded	S. 15-6	22.7	29.9	35.7	36.1	48.8	51.3	50.7	44.1	45.4	46.7	-
6			112.9	124.8	141.2	153.8	212.1	140.9	154.8	146.2	109.8	110.9	_
7													-
8	Retirements and Adjustments		(5.5)	(11.4)	(9.0)	-	-	-	-	-	(1.4)	-	_
9													
10	Current year balance		\$2,299.8	\$2,413.1	\$2,545.3	\$2,699.1	\$2,911.2	\$3,052.2	\$3,207.0	\$3,353.2	\$3,461.6	\$3,572.5	S. 15-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Accumulated Depreciation (\$ millions)

Line No.		Cross Reference	2017 Actual	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	Cross Reference
1 2	Previous year balance		\$ 525.0	\$ 562.7	\$ 595.5	\$ 633.8	\$ 684.2	\$ 738.0	\$ 796.9	\$ 859.5	\$ 926.1	\$ 995.7	S. 15-1
3 4	Gross Provision		43.1	44.2	47.2	50.4	53.8	58.9	62.7	66.6	69.6	71.7	S. 12-1
5 6	Retirements, Net Salvage and Adjustments	-	(5.4)	(11.4)	(8.9)	-	-	-	-	-	-	-	-
7	Current year balance	-	\$ 562.7	\$ 595.5	\$ 633.8	\$ 684.2	\$ 738.0	\$ 796.9	\$ 859.5	\$ 926.1	\$ 995.7	\$1,067.4	S. 15-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Construction Work in Progress (\$ millions)

Line		Cross	20	017	2	018	1	2019	2	2020	i	2021		2022	2	2023	2	2024	2	025	2	026	Cross
No.		Reference	Ac	tual	A	ctual	A	ctual	Fo	recast	Fo	recast	Fo	recast	Fo	recast	Fo	recast	For	recast	For	recast	Reference
1	Previous year balance		\$	3.8	\$	11.6	\$	13.3	\$	20.8	\$	27.3	\$	9.3	\$	11.3	\$	8.1	\$	7.5	\$	12.2	
2 3 4	Capital Expenditures	S. 15-5		98.1		96.5		113.0		124.2		145.3		91.5		100.9		101.5		69.1		66.3	
5 6	Write-offs and adjustments			-		-		-		-		-		-		-		-		-		-	
7 8	Less: Capital Additions	-		(90.3)		(94.9)		(105.4)		(117.7)		(163.3)		(89.6)		(104.1)		(102.1)		(64.4)		(64.2)	S. 15-2
9	Current year balance	_	\$	11.6	\$	13.3	\$	20.8	\$	27.3	\$	9.3	\$	11.3	\$	8.1	\$	7.5	\$	12.2	\$	14.3	

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Capital Expenditures by Project (\$ millions)

Line	Maine Ontenness and Desired	201	7	2018	201	9.	2020	_ 20	21	1	Fotal	2022	2023	2024	2025	2026	Total	Cross
NO.	Major Category and Project	Actu	ai	Actual	Actu	ai	Forecast	Fore	ecast	201	7 - 2021	Forecast	Forecast	Forecast	Forecast	Forecast	2022-2026	Reference
1	Pogulatory																	
2	Water Services Replacement and Refurbishment Program	\$	19	\$ 18	\$	24	\$ 41	\$	20	\$	12 1	\$ 58	\$ 60	\$ 42	\$ 43	\$ 44	\$ 24.7	
3	Accelerated Lead Service Replacement Program	Ψ	-	φ 1.0 -	Ψ.	<u> </u>	φ 1 .1 25	Ψ	3.5	Ψ	60	φ 0.0	φ 0.0 -	ψ -	φ - .0	Ψ -	φ 24.7	
2	Phosphoric Injection for Lead Control Project		-	0.1		1.2	1.1		9.4		11.8	-	-	-	-	-	-	
3	Projects < \$5 million		0.6	0.4		0.5	0.3		0.3		2.2	-	-	0.8	-	-	0.8	
4	Subtot	al	2.5	2.3		4.1	7.9		15.2		32.0	5.8	6.0	5.0	4.3	4.4	25.5	
3			-				-		-									
4	Growth/Customer Requirements																	
5	LRT Relocates Program		5.3	1.7		6.4	7.0		6.0		26.4	5.0	5.3	-	-	-	10.3	
4	Network Private Development Transmission Mains Program		6.8	2.3		8.5	2.5		5.5		25.6	4.6	3.0	2.3	3.0	2.0	15.0	
5	Water Main Cost Sharing Program		0.8	1.7		1.6	1.1		1.1		6.5	0.6	0.6	0.6	0.6	0.6	3.0	
6	Distribution System Modifications (PBR4)		1.3	0.7		1.6	2.1		1.4		7.0	1.1	1.2	1.2	1.2	1.3	6.0	
	Franchise Agreement Distribution Main Relocations (PBR5)																	
5	Private Development Construction Coordination Program		2.7	2.5	:	2.7	2.5		2.8		13.1	1.8	1.9	1.9	2.0	2.0	9.7	
6	Water Service Connections Program		5.0	7.2		5.1	3.8		5.3		26.4	5.4	5.5	5.7	5.8	6.0	28.4	
7	New Meter Purchases and Installations Program		2.0	2.4	:	2.5	2.6		2.5		11.9	2.6	2.7	2.8	2.8	2.9	13.9	
6	Discovery Park Reservoir Annexation Project		-	0.0		0.3	7.5		-		7.8	-	-	-	-	-	-	
7	QEII / 41 Avenue Crossing Project		-	-		-	-		0.3		0.3	-	0.1	14.1	-	-	14.1	
8	Yellowhead Trail Upgrades / Relocations Project		-	-		-	-		-		-	1.5	1.0	0.7	0.7	1.1	5.0	
7	New Water Distribution Mains (PBR4)		1.6	2.7	:	2.6	1.5		2.1		10.6	2.1	2.2	2.2	2.3	2.4	11.2	
	Customer Distribution Main Infrastructure Requests (PBR5)																	
8	Winterburn Booster Station Project		-	-		-	-		-		-	0.6	0.8	3.9	1.6	0.3	7.2	
9	Projects < \$5 million		3.2	3.0		0.3	1.8		2.2		10.5	1.0	0.1	0.1	0.1	0.1	1.2	
8	Subtot	al 2	8.8	24.2	3	1.6	32.4		29.3		146.1	26.4	24.3	35.6	20.3	18.6	125.1	
9																		
10	Health, Safety and Environment																	
9	Stage 2 and 3 Filter Conversion to Deep Bed Project		0.0	0.3		0.0	(0.0)		-		0.3	-	-	-	-	-	-	
10	Solar Power Systems (including BESS) Project		1.5	2.2		1.2	1.6		35.7		42.2	1.0	-	-	-	-	1.0	
11	Projects < \$5 million		0.8	0.5		1.0	0.6		0.5		3.3	2.4	2.4	1.6	1.9	2.1	10.4	
10	Subtot	al	2.3	3.0	:	2.3	2.2		36.1		45.9	3.4	2.4	1.6	1.9	2.1	11.4	
11																		
12	Reliability and Life Cycle Improvements																	
11	EL Smith Bypass Main (Ring Main) Project		-	0.2		0.4	4.5		5.9		11.0	-	-	-	-	-	-	
12	EL Smith Chemfeed Upgrades Program		1.2	1.1	:	2.0	2.4		1.8		8.4	0.6	1.0	0.4	0.7	0.8	3.5	
13	EL Smith HVAC Upgrades Program		0.3	0.7	:	3.8	0.2		-		5.1	-	-	-	-	-	-	
12	EL Smith Mechanical Reliability Program		1.1	1.9		1.7	1.0		0.6		6.4	0.8	0.8	0.8	0.6	0.6	3.6	
13	EL Smith Structural Rehabilitation Program		0.5	0.3		0.8	1.5		7.0		10.1	-	-	-	-	-	-	
14	Rossdale Electrical Upgrades Program		0.6	0.9		1.7	0.5		0.6		4.3	-	-	-	-	-	-	
13	Rossdale C1-2 Clarifier Upgrade Project		1.2	4.2		-	-		-		5.5	-	-	-	-	-	-	
14	Rossdale Chemfeed Upgrade Program		1.9	0.8	:	3.3	2.0		0.8		8.8	0.9	0.9	0.9	1.0	1.0	4.8	
15	Rossdale Filter Underdrains Project		2.2	3.5	:	2.4	0.1		-		8.1	-	-	-	-	-	-	
14	Reservoir Electrical Upgrades Program		0.4	1.2		0.6	0.5		-		2.7	0.3	0.3	0.3	0.4	0.4	1.7	
15	Obsolete Valve Replacements Program		1.5	1.3		1.9	3.6		2.8		11.1	1.1	1.2	1.2	1.2	1.3	6.0	
16	Obsolete Hydrant Replacements Program		1.3	1.8	:	2.1	2.4		2.1		9.7	2.1	2.2	2.2	2.3	2.4	11.2	
15	Water Meter Change Outs Program		2.9	3.0	:	2.9	2.5		2.5		13.9	-	-	-	2.9	2.9	5.8	

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Capital Expenditures by Project (\$ millions)

Line		2017	2018	2019	2020	2021	Total	2022	2023	2024	2025	2026	Total	Cross
No.	Major Category and Project	Actual	Actual	Actual	Forecast	Forecast	2017 - 2021	Forecast	Forecast	Forecast	Forecast	Forecast	2022-2026	Referen
16	Vahiala and Float Additiona Dragram	27	0.4	17	2.0	2.2	11.0	2.0	1.0	1 4	1.6		7.0	
10	SCADA System Llograde Program	3.7 0 Q	0.4	0.8	3.0 0.7	2.3	11.9	2.0	1.9	1.4	1.0	- 0.4	7.0	
16	Critical Pipeline Inspection Program	-	-	-	-	-	-	1.2	1.3	1.4	1.4	1.4	6.8	
17	Network Valve Chamber Refurbishment (PBR4)	4.0	4.4	3.8	4.0	4.0	20.2	2.0	2.1	2.1	2.2	2.2	10.7	
	Transmission Mains Replacement / Refurbishment (PBR4)						-	-						
	Transmission Mains and Appurtenances (PBR 5)													
18	Infill Fire Protection Program	-	-	-	-	-	-	3.9	3.9	4.0	4.1	4.2	20.2	
17	Water Main Reactive Renewal Program (PBR4)	13.3	15.8	16.7	13.6	14.7	74.1	5.5	5.6	5.8	5.9	6.1	29.0	
	Water Main Proactive Renewal Program (PBR4) Risk Based Distribution Main Renewals (PBR5)													
18	Reservoir Cell and Pumphouse Roof Replacement(PBR4)	2.6	0.7	0.5	0.0	3.5	7.4	2.1	2.2	2.4	1.0	1.9	9.6	
	Reservoir Structural Upgrades (PBR4)													
	Reservoir Structural Rehabilitation and Roof Replacement (PBR5)													
19	EL Smith HLPH Expansion Project	-	-	-	-	-	-	-	-	-	1.1	3.9	5.0	
18	EL Smith 5kV Upgrades and Electrical Room Expansion Project	-	-	-	-	-	-	5.0	-	-	-	-	5.0	
19	EL Smith Stage 1 Filter Upgrades Project	-	-	-	0.0	3.7	3.7	3.5	3.6	3.7	2.8	0.0	13.5	
20	Water Treatment Plants Flood Protection Project	-	0.0	0.2	1.4	4.0	5.6	5.9	8.8	0.7	3.1	4.4	22.9	
19	Projects < \$5 million	12.4	15.6	15.9	13.0	8.1	65.0	14.8	13.6	10.2	13.6	13.1	65.4	
20	Subtotal	52.0	58.9	63.1	57.9	65.3	297.3	53.2	50.3	38.3	46.7	46.9	235.4	
21														
20	Performance Efficiency and Improvement						-							
21	Water Main Cathodic Protection Program	3.8	3.2	3.0	3.9	3.9	17.8	2.9	2.9	3.0	3.1	3.2	15.1	
22	Water Distribution and Transmission Facility Project	-	-	0.0	12.7	9.3	22.1	-	-	-	-	-	-	
21	AMI Deployment Project	-	-	-	-	-	-	12.5	24.9	25.5	-	-	62.9	
22	Projects < \$5 million	1.0	0.8	1.2	3.2	0.5	6.7	1.0	0.8	0.8	1.7	0.8	5.1	
23	Subtotal	4.8	4.0	4.2	19.8	13.7	46.6	16.4	28.6	29.3	4.8	4.0	83.0	
22														
23	Accelerated		. –											
24	Accelerated Fire Protection Program	3.7	1.7	2.1	1.2	1.2	9.9	-	-	-	-	-	-	
23	Accelerated water Main Renewal Program	9.7	9.9	11.0	12.1	0.3	42.9	-	-	-	-	-	-	
24	Projects < \$5 million	-	-	-	-	-	-	-	-	-	-	-	-	
25	Subtotal	13.4	11.5	13.1	13.3	1.5	52.8	-	-	-	-	-	-	
24	Canital Expanditures, not of Cantributions	102 7	102.0	110 4	122.0	161 4	620.0	105.0	444 F	100 7	77.0	75.0	490.4	
20 26	Capital Experior Contributions	103.7	103.9	118.4	133.0	101.1	020.0	105.2	111.5	109.7	11.9	/ 5.9	480.4	
20													I	1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Capital Expenditures by Project (\$ millions)

Line		2017	2018	2019	2020	2021	Total	2022	2023	2024	2025	2026	Total	Cross
No.	Major Category and Project	Actual	Actual	Actual	Forecast	Forecast	2017 - 2021	Forecast	Forecast	Forecast	Forecast	Forecast	2022-2026	Reference
25	Contributions													
26	Water Service Connections Contributions	(3.9)	(4.3)	(2.7)	(2.6)	(3.3)	(16.7)	(5.4)	(5.5)	(5.7)	(5.8)	(6.0)	(28.4)	
27	New Water Distribution Mains Contributions (PBR4)	(1.4)	(2.8)	(2.0)	(1.0)	(2.0)	(9.3)	(2.1)	(2.2)	(2.2)	(2.3)	(2.4)	(11.2)	
	Customer Infrastructure Requests Contributions (PBR5)													
26	Private Development Construction Coordination Contributions	(0.3)	(0.3)	(0.1)	(0.2)	(0.3)	(1.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(1.0)	
27	Solar Power Systems (including BESS) Contributions	-	-	(0.5)	(5.2)	(7.7)	(13.4)	(3.6)	-	-	-	-	(3.6)	
28	Water Treatment Plants Flood Protection Contributions	-	-	-	(0.4)	(2.5)	(2.9)	(2.3)	(2.7)	(0.1)	(0.5)	(1.1)	(6.7)	
27	Subtotal	(5.6)	(7.4)	(5.4)	(9.4)	(15.8)	(43.5)	(13.7)	(10.7)	(8.2)	(8.8)	(9.6)	(51.0)	
28							-							
29	Capital Expenditures, net of Contributions	\$ 98.1	\$ 96.5	\$ 113.0	\$ 124.2	\$ 145.3	\$ 577.1	\$ 91.5	\$ 100.9	\$ 101.5	\$ 69.1	\$ 66.3	\$ 429.3	S. 15.4

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Contributions in Aid of Construction (\$ millions)

Line		Cross	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Cross
No.	Description	Reference	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
1	Prior Year Gross Contributions		\$ 707.6	\$ 730.2	\$ 760.2	\$ 795.9	\$ 832.0	\$ 880.8	\$ 932.2	\$ 982.9	\$1,027.0	\$1,072.4	_
2		_											_
3	Developer Contributions												
4	Contributed Assets		17.5	22.6	30.2	31.7	36.1	32.2	36.0	36.0	37.0	38.2	
5	Contributions		5.1	7.4	5.5	4.4	12.7	19.1	14.7	8.1	8.3	8.5	
6		_	22.7	29.9	35.7	36.1	48.8	51.3	50.7	44.1	45.4	46.7	S. 15-2
7		-											-
8	Current Year Gross Contributions		\$ 730.2	\$ 760.2	\$ 795.9	\$ 832.0	\$ 880.8	\$ 932.2	\$ 982.9	\$1,027.0	\$1,072.4	\$1,119.1	
9		=											=
10	Prior Year Accumulated Amortization		\$ 148.9	\$ 159.2	\$ 169.1	\$ 180.1	\$ 191.6	\$ 203.6	\$ 216.7	\$ 230.8	\$ 245.7	\$ 261.1	
11													
12	Gross Amortization		10.3	9.9	11.0	11.5	12.0	13.1	14.2	14.8	15.4	16.0	S. 12-1
13		-											-
14	Current Year Accumulated Amortization		159.2	169.1	180.1	191.6	203.6	216.7	230.8	245.7	261.1	277.1	
15		=											=
16													
17	Mid Year Net Contributions	=	\$ 564.9	\$ 581.1	\$ 603.4	\$ 628.1	\$ 658.8	\$ 696.4	\$ 733.8	\$ 766.7	\$ 796.3	\$ 826.7	S. 15-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Necessary Working Capital (\$ millions)

Line No.	Description	Cross Reference	2017 Actual	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	Cross Reference
	·												
1	Water Operating Costs	S. 5-1	\$ 119.6	\$ 118.6	\$ 122.1	\$ 124.5	\$ 127.6	\$ 130.7	\$ 134.5	\$ 137.4	\$ 140.2	\$ 143.6	
2	Less: Revenue Offsets	S. 13-1	(5.7)	(5.5)	(5.5)	(4.4)	(5.2)	(6.3)	(6.4)	(6.5)	(6.6)	(6.7)	
3			113.8	113.1	116.6	120.2	122.4	124.4	128.1	130.9	133.6	136.9	
4	O&M Lag Days		8.4	8.4	8.4	8.4	8.4	18.6	18.6	18.6	18.6	18.6	
5	Cash Operating Expenses Working Capital		2.6	2.6	2.7	2.8	2.8	6.3	6.5	6.7	6.8	7.0	
6													
7	Other revenue	S. 13-1						0.8	0.8	0.8	0.8	0.9	
8	GST Collected							0.0	0.0	0.0	0.0	0.0	
9	GST Collected Lag Days							5.5	5.5	5.5	5.5	5.5	
10	GST Collected Working Capital							0.0	0.0	0.0	0.0	0.0	
11													
12	Regulated O&M Expenses							130.7	134.5	137.4	140.2	143.6	
13	Less: Franchise Fees and Property Taxes							(17.6)	(18.8)	(19.7)	(20.5)	(21.4)	
14	Less: Salaries and Employee Benefits	S. 5-2						(42.6)	(41.9)	(41.6)	(41.3)	(42.1)	
15	Less: EWSI and Corporate Shared Services	S. 5-2						(24.3)	(24.8)	(25.3)	(25.8)	(26.3)	
16	CAPEX Non-Labour (80%)							73.2	80.7	81.2	55.3	53.0	
17	Expenses eligible for GST Input Tax Credits							119.4	129.8	132.0	107.9	106.9	
18	GST Input Tax Credits							6.0	6.5	6.6	5.4	5.3	
19	GST ITC Lag Days							21.0	21.0	21.0	21.0	21.0	
20	GST ITC Working Capital							0.3	0.4	0.4	0.3	0.3	
21								4= 0					
22	Net Depreciation	S. 12-1	32.8	34.3	36.2	38.9	41.8	45.8	48.5	51.8	54.2	55.7	
23	Depreciation Lag Days		43.8	43.8	43.8	43.8	43.8	51.1	51.1	51.1	51.1	51.1	
24	Depreciation working Capital	-	3.9	4.1	4.3	4.7	5.0	6.4	6.8	1.2	7.6	7.8	
20	Poturo on Dobt	S 17 2	33.0	24.0	24.0	27 /	27.9	20.2	20.7	28 5	27.5	27.2	
20	Combined Long Term Debt Log Dave	5. 17-2	01.2	01.2	01.2	01.3	01.2	39.3 40.5	39.7 40.5	30.5 40.5	37.5 40.5	37.3 40.5	
28	Long Term Debt Working Capital	•	83	85	87	91.5	91.5	40.5	40.5	40.0	40.5	40.5	
20	Long Term Debt Working Capital	-	0.5	0.0	0.7	3.4	3.5	4.4	4.4	4.5	4.2	4.1	
20	Return on Common Equity	S 17-4	45.2	40 Q	43.4	52.8	56.6	56.6	58.3	60.1	61 1	61.1	
31	Retained Earnings Lag Days	0. 17 4	43.8	43.8	43.8	43.8	43.8	51.1	51.1	51.1	51.1	51.1	
32	Common Equity (Retained Farnings) Working Canital		5.0	6.0	5.2	63	6.8	79	82	84	86	85	
33	Common Equity (Retained Earnings) Working Capital		0.4	0.0	0.2	0.0	0.0	7.5	0.2	0.4	0.0	0.0	
34	Dividends	S 17-4						20.0	35.0	45.0	55.0	75.0	
35	Dividends Lag Days	0.11 -						(182.5)	(182.5)	(182.5)	(182.5)	(182.5)	
36	Dividend Working Capital		-	-	-	-	-	(10.0)	(17.5)	(22.5)	(27.5)	(37.5)	
37		-						()	(0)	(0)	(=0)	(0.10)	
38	Total Working Capital		\$ 20.2	\$ 21.2	\$ 21.0	\$ 23.1	\$ 24.1	\$ 15.4	\$ 8.8	\$ 4.5	\$ (0.1)	\$ (9.7)	S. 15-1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Capital Structure (\$ millions)

Line		Cross	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Cross
No.	Description	Reference	Actual	Actual	Actual	Forecast	Reference						
1	Actual Capital Structure	;											
2	Mid-Year Balance												
3	Debt Capital	S. 17-2	\$ 674	\$ 708	\$ 743	\$ 806	\$ 881	\$ 918	\$ 945	\$ 980	\$ 997	\$ 1,004	
4	Common Stock Equity	S. 17-4	461	489	518	542	574	611	635	652	667	673	_
5		_	\$ 1,135	\$ 1,197	\$ 1,261	\$ 1,348	\$ 1,455	\$ 1,529	\$ 1,579	\$ 1,631	\$ 1,664	\$ 1,677	_
6		-											=
7	Actual Capital Structure	•											
8	Debt Capital		59.38%	59.16%	58.94%	59.80%	60.54%	60.05%	59.82%	60.04%	59.94%	59.86%	
9	Common Stock Equity		40.62%	40.84%	41.06%	40.20%	39.46%	39.95%	40.18%	39.96%	40.06%	40.14%	
10		-	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	,
11		-											=
12	Deemed Capital Structu	re											
13	Debt Capital		60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	S. 14-1
14	Common Stock Equity		40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	S. 14-1
15		-	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	1

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Debt Capital and Embedded Cost of Debt (\$ millions)

Line		Cross		2017		2018		2019		2020		2021		2022		2023		2024		2025		2026	Cross
No.	Description	Reference	Α	Actual	4	Actual	A	Actual	Fo	orecast	Fc	orecast	Fo	orecast	Reference								
1	Long-Term Debt		•		•		•		•		•		•		•		•		•		•		
2	Prior year balance	S. 17-3	\$	619.4	\$	668.8	\$	707.2	\$	769.7	\$	806.1	\$	871.4	\$	895.5	\$	926.0	\$	960.7	\$	963.7	
3	Current year balance	S. 17-3		668.8		707.2		769.7		806.1		871.4		895.5		926.0		960.7		963.7		978.1	
2	Mid-year balance			644.1		688.0		738.5		787.9		838.7		883.4		910.8		943.4		962.2		970.9	
3 4	Short Term Debt																						
3	Prior year balance			36.3		19.4		16.1		(10.1)		42.9		37.3		31.7		36.0		36.5		34.1	
4	Current year balance			19.4		16.1		(10.1)		42.9		37.3		31.7		36.0		36.5		34.1		31.7	
5	Mid-year balance			27.9		17.8		3.0		16.4		40.1		34.5		33.9		36.2		35.3		32.9	
4																							
5	Other Long-term Liabilities																						
6	Prior year balance			1.7		2.5		2.1		2.0		2.0		-		-		-		-		-	
5	Current year balance			2.5		2.1		2.0		2.0		2.0		-		-		-		-		-	
6	Mid-year balance			2.1		2.3		2.0		2.0		2.0		-		-		-		-		-	
7																							_
6	Mid-Year Debt Capital		\$	674.1	\$	708.1	\$	743.5	\$	806.2	\$	880.8	\$	918.0	\$	944.6	\$	979.6	\$	997.4	\$ ´	1,003.8	S. 17-1
7																							
8	Interest Expense																						
7	Interest on Long Term Debt	S. 17-3	\$	32.0	\$	33.5	\$	34.7	\$	35.7	\$	36.2	\$	37.4	\$	37.9	\$	36.9	\$	36.0	\$	36.2	
8	Interest on Short Term Debt	S. 18-1		1.3		1.2		1.2		0.4		1.0		0.8		0.8		0.9		0.9		0.8	
9																							
8	Total Interest Expense			33.4		34.7		35.9		36.1		37.1		38.3		38.7		37.8		36.8		37.0	
9																							
10	Embedded Cost of Debt			4.95%		4.90%		4.83%		4.48%		4.22%		4.17%		4.10%		3.85%		3.69%		3.69%	S. 14-1
EPCOR Water Services Inc. Minimum Filing Requirements for Water Long-Term Debt (\$ millions)

										P	rincipal O	utstandin	g								Interest E	xpense					
Line		Issue	Maturity	Principal	Interest	Cross	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Cross
No.	Description	Date	Date	Issued	Rate	Reference	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast Re	ference
	Intercompany Loans from EP	COR Utilitie	es Inc.																								
1	IC-EUI-80-0012	03-05-04	04-05-24	\$ 40.0	6.72%		\$ 40.0	\$ 40.0	\$ 40.0	\$ 40.0	\$ 40.0	\$ 40.0	\$ 40.0	\$-	\$-	\$-	\$ 2.7	\$ 2.7	\$ 2.7	\$ 2.7	\$ 2.7	\$ 2.7	\$ 2.7	\$ 0.9	\$-	\$ -	
2	IC-EUI-80-0013	02-05-05	02-05-25	50.4	6.06%		50.4	50.4	50.4	50.4	50.4	50.4	50.4	50.4	-	-	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	1.0	-	
3	IC-EUI-80-0014	31-03-06	31-03-26	40.0	5.60%		22.4	20.3	18.0	15.7	13.2	10.5	7.7	4.8	1.6	-	1.3	1.2	1.1	0.9	0.8	0.7	0.5	0.3	0.2	0.0	
4	IC-EUI-80-0016	31-03-06	31-03-26	15.0	5.60%		8.4	7.6	6.8	5.9	4.9	3.9	2.9	1.8	0.6		0.5	0.4	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.0	
5	IC-EUI-80-0017	01-12-05	01-12-26	30.0	5.38%		17.4	15.9	14.2	12.5	10.7	8.8	6.8	4.6	2.4		1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	
6	IC-EUI-80-0032	01-07-07	01-07-27	100.0	5.96%		64.3	59.4	54.2	48.8	43.0	36.8	30.3	23.4	16.0	8.3	3.9	3.6	3.3	3.0	2.6	2.3	1.9	1.5	1.1	0.6	
7	IC-EUI-80-0036	01-04-08	01-04-28	30.0	6.75%		20.5	19.1	17.6	16.0	14.3	12.5	10.5	8.5	6.2	3.9	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.6	0.5	0.3	
8	IC-EUI-80-0042	01-12-09	01-12-29	30.0	5.85%		21.9	20.6	19.2	17.7	16.2	14.6	12.8	11.0	9.0	7.0	1.3	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	
9	IC-EUI-80-0046	01-11-10	01-11-30	30.0	5.20%		22.8	21.5	20.2	18.8	17.3	15.7	14.1	12.4	10.6	8.7	1.2	1.2	1.1	1.0	0.9	0.9	0.8	0.7	0.6	0.5	
10	IC-EUI-80-0047	01-12-11	01-12-31	30.0	4.88%		23.8	22.6	21.3	20.0	18.5	17.1	15.5	13.9	12.2	10.4	1.2	1.1	1.1	1.0	1.0	0.9	0.8	0.7	0.7	0.6	
11	IC-EUI-80-0070	01-08-12	01-08-42	110.0	4.62%		110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	
12	IC-EUI-80-0075	01-12-13	01-12-43	60.0	4.73%		60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	
13	IC-EUI-80-0076	01-12-14	30-11-44	40.0	4.04%	*	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
14	IC-EUI-80-2015	01-12-15	01-12-45	45.0	4.20%	*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
15	IC-EUI-80-2016	01-12-16	01-12-46	45.0	3.82%	*	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
16	IC-EUI-80-2017	01-12-17	01-12-47	65.0	3.58%	*	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	0.2	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	
17	IC-EUI-80-2018	03-12-18	01-12-48	55.0	4.03%	*		55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	-	0.2	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	
18	IC-EUI-80-2019	01-12-19	01-12-49	80.0	3.13%	*		-	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	-	-	0.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
19	New Borrowing #1 2020	01-12-20	01-12-50	55.0	2.69%	*		-	-	55.0	55.0	55.0	55.0	55.0	55.0	55.0	-	-	-	0.1	1.5	1.5	1.5	1.5	1.5	1.5	
20	New Borrowing #1 2021	01-12-21	01-12-51	85.0	3.00%	*		-	-	-	85.0	85.0	85.0	85.0	85.0	85.0	-	-	-	-	0.2	2.6	2.6	2.6	2.6	2.6	
21	New Borrowing #1 2022	01-12-22	01-12-52	45.0	3.50%			-	-	-	-	45.0	45.0	45.0	45.0	45.0	-	-	-	-	-	0.1	1.6	1.6	1.6	1.6	
22	New Borrowing #1 2023	01-12-23	01-12-53	50.0	3.50%			-	-	-	-	-	50.0	50.0	50.0	50.0	-	-	-	-	-	-	0.1	1.8	1.8	1.8	
23	New Borrowing #1 2024	01-12-24	01-12-54	95.0	3.50%			-	-	-	-	-	-	95.0	95.0	95.0	-	-	-	-	-	-	-	0.3	3.3	3.3	
24	New Borrowing #1 2025	01-12-25	01-12-55	75.0	3.50%			-		-	-	-		-	75.0	75.0	-	-	-	-	-	-		-	0.2	2.6	
25	New Borrowing #1 2026	01-12-26	01-12-56	35.0	3.50%			-		-	-	-		-	-	35.0	-	-	-	-	-	-		-		0.1	
26	Total Intercompany Loa	ins from EP	COR Utilities	Inc.		S. 18-1	656.9	697.3	762.0	800.7	868.5	895.3	926.0	960.7	963.7	978.1	31.2	32.8	34.1	35.3	36.0	37.4	37.9	36.9	36.0	36.2	
27																											
28	City of Edmonton Debentures	s																									
29	11247 A	15-01-97	15-01-22	\$ 10.0	7.25%		3.6	3.0	2.3	1.6	0.8	-		-			0.3	0.2	0.2	0.1	0.1	0.0	-	-		-	
30	11247 B	03-11-97	03-11-22	0.4	6.38%		0.1	0.1	0.1	0.1	0.0	-		-			0.0	0.0	0.0	0.0	0.0	0.0	-	-		-	
31	11317 A	15-01-97	15-01-22	16.0	7.25%		5.7	4.7	3.7	2.5	1.3	-		-			0.4	0.3	0.3	0.2	0.1	0.0	-	-		-	
32	11317 B	02-07-98	02-07-23	0.3	5.75%		0.1	0.1	0.1	0.1	0.0	0.0		-			0.0	0.0	0.0	0.0	0.0	0.0	0.0	-		-	
33	11496 A	03-11-97	03-11-22	4.9	6.38%		1.6	1.4	1.0	0.7	0.4	-		-			0.1	0.1	0.1	0.1	0.0	0.0	-	-		-	
34	11664 A	02-07-98	02-07-23	0.6	5 75%		0.2	0.2	0.2	0.1	0.1	0.0		-	-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	-		_	
35	11664 B	15-12-98	15-12-23	0.0	5.75%		0.0	0.0	0.0	0.0	0.0	0.0		-	-		0.0	0.0	0.0	0.0	0.0	0.0	0.0			-	
36	11724 A	02-07-98	02-07-23	0.5	5.75%		0.2	0.2	0.1	0.1	0.1	0.0		-	-		0.0	0.0	0.0	0.0	0.0	0.0	0.0			-	
37	11724 B	15-12-98	15-12-23	0.0	5.75%		0.3	0.3	0.2	0.2	0.1	0.1		-	-		0.0	0.0	0.0	0.0	0.0	0.0	0.0			-	
38	Total City of Edmonton	Dehentures	.0 .2 20	0.0	0070	S 18-1	11 9	9.0	77	5.4	29	0.1		-	-	<u> </u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
30	. star ony or Eamonton i					5.101		5.5		0.4	2.3	0.2	-	-	-		0.5	0.1	0.0	0.4	0.2	0.0	0.0	-	-		
40	Total Long Term Debt						\$ 668 9	\$ 707 2	\$ 769 7	\$ 806 1	\$ 871 4	\$ 895 5	\$ 926 0	\$ 960 7	\$ 963 7	\$ 978 1	\$ 32.0	\$ 335	\$ 347	\$ 357	\$ 36.2	\$ 37.4	\$ 37 0	\$ 36.0	\$ 36.0	\$ 36.2	17-2
40	. eta. zong renn bebt						÷ 000.0	÷ 101.2	÷ 100.1	+ 000.1	÷ 011.4	+ 000.0	÷ 020.0	÷ 500.1	÷ 500.1	÷ 510.1	÷ 52.0	÷ 00.0	÷ 07.1	÷ 00.1	÷ 00.2	÷ 01.4	÷ 01.9	÷ 00.9	÷ 00.0	÷ 00.2	

*Note: Pursuant to Utility Committee Direction, Interest rates on debt issuances between 2014 and 2020 have been adjusted from BBB+ to A(low)

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Common Equity (\$ millions)

Line		Cross	2017		2018	2	2019	20)20	2	2021	2	2022	2	2023	:	2024		2025	:	2026	Cross
No.	Description	Reference	Actual	A	Actual	Α	Actual	Fore	ecast	Fo	recast	Fo	recast	Fo	recast	Fo	orecast	Fc	precast	Fo	recast	Reference
1	Common Share Conital																					
1	Common Share Capital		¢	¢		¢		¢		¢		¢		¢		¢		¢		¢		
2	Prior year balance		\$ -	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	
3	Current year balance		-		-		-		-		-		-		-		-		-		-	
2	Mid-Year balance		-		-		-		-		-		-		-		-		-		-	
ა ⊿	Detained Formings																					
4	Retained Earnings		110 6		472.0		E02 0	5	200.0		552.0		506.2		605 1		644.1		650 6		672 4	
ა ⊿			440.0)	473.9		503.6	5)3Z.Z		552.0		596.2		025.1		044.1		059.0		673.4	
4	Net Income		45.2	-	49.9		43.4		49.8		49.2		48.9		54.0		60.6		68.8		74.3	S. 14-1
5	Dividends		(20.0))	(20.0)		(15.0)	((30.0)		(5.0)		(20.0)		(35.0)		(45.0)		(55.0)		(75.0)	S. 16-1
4	Current year balance		473.8	3	503.8		532.2	5	52.0		596.2		625.1		644.1		659.6		673.4		672.7	
5	Mid-Year balance		461.2		488.8		518.0	5	642.1		574.1		610.6		634.6		651.9		666.5		673.0	
6	Mid Vers Orman English		¢ 404.0		400.0	*	540 0	~ -		^	5744	^		*		•	054.0	*	000 F	~		0 47 4
5	Mid-Year Common Equity		\$ 401.2	\$	488.8	þ	518.0	þ 0	04Z.1	Þ	5/4.1	Þ	610.6	\$	634.6	þ	651.9	Þ	000.0	\$	673.0	5. 17-1
6																						
1	'Reconciliation of Regulated Return on Equity to Net Incom	e																				
6	Regulated Return on Equity																					
7	In-City	S. 14-1	\$ 35.7	′\$	40.2	\$	34.3	\$	41.1	\$	40.0	\$	45.8	\$	47.3	\$	49.0	\$	49.8	\$	49.7	
8	Fire Protection	S. 14-1	3.6	6	2.9		2.2		2.4		1.7		5.5		5.6		5.8		5.9		6.0	
7	Regional, net of adjustments		4.1		4.2		4.4		4.5		4.9		5.3		5.3		5.4		5.4		5.4	
8	Total Regulated Return on Equity		43.4		47.3		40.9		47.9		46.6		56.6		58.3		60.1		61.1		61.1	
9	Reconciling items																					
8	Regional Disallowances		(0.2	2)	(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)	
9	Corporate Disallowances		(0.3	3)	(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)		(0.2)	
10	Losses on disposal of property, plant and equipment		0.1		0.1		0.0		-		-		-		-		-		1.4		-	
9	Billed revenue greater (less) than revenue requirement		-		-		-		-		-		(9.3)		(5.9)		(0.8)		5.1		12.1	
10	Regional interim to final rate true up		(0.1)	0.3		(0.3)		-		-		-		-		-		-		-	
11	Regulated return on debt financed portion of rate base																					
	greater than actual interest expense		1.9)	2.0		2.2		1.3		0.7		1.0		1.0		0.7		0.7		0.3	
10	AFUDC not deducted from regulated cost of debt		0.3	8	0.6		0.9		1.0		2.4		0.9		1.0		1.0		0.9		1.3	
11	Total Reconciling Items		1.9)	2.7		2.5		1.9		2.7		(7.7)		(4.3)		0.4		7.7		13.2	
12	Net Income		\$ 45.2	2 \$	49.9	\$	43.4	\$	49.8	\$	49.2	\$	48.9	\$	54.0	\$	60.6	\$	68.8	\$	74.3	

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Transactions with Affiliates (\$ millions)

Line No.	Affiliate and Service	2 A	017 ctual	2 A	018 ctual	A	2019 Actual	2 For	020 recast	2 For	2021 recast	2 Foi	2022 recast	20 For	023 ecast	2 For	024 ecast	20 Fore	25 ecast	20 Fore)26 ecast	Cross Reference
1	Revenues from the provision of services to the City of Edmonton																					
2	Public Fire Protection	\$	11.1	\$	11.3	\$	11.5	\$	12.0	\$	12.4	\$	3.1	\$	-	\$	-	\$	-	\$	-	
3	Water Sales (Parks & Facilities)		3.3		3.5		3.3		2.0		3.4		3.5		3.5		3.6		3.6		3.7	
4	Other		0.1		0.0	_	0.0		0.0		0.0	_	0.0	_	0.0		0.0	-	0.0	-	0.0	
5	Total	\$	14.4	\$	14.8	\$	14.9	\$	14.1	\$	15.9	\$	6.6	\$	3.5	\$	3.6	\$	3.7	\$	3.7	
6	Services provided by																					
0	City of Edmonton																					
0		¢	110	¢	110	¢	117	¢	15.6	¢	1 E E	¢	10.0	¢	17.0	¢	10.0	¢	10.6	¢	20 F	0 11 1
9 10	Property Taxon	Φ	14.3	Ф	14.0	Ф	14.7	Φ	15.0	Ф	15.5	Ф	0.01	Φ	17.9	Φ	10.0	Ф	19.0	Φ	20.5	S. 11-1
10	Property Taxes		0.2		0.2		0.2		0.3		0.7		0.0		0.0		0.9		0.9		0.9	5. 11-1 C 17.2
10	Mahile environment convictor		0.9		0.7		0.6		0.4		0.2		0.0		0.0		-		-		-	5. 17-5
12	Mobile equipment services		2.2		2.3		2.3		2.4		2.4		2.5		2.5		2.6		2.6		2.7	0.00
13	Meter Reading Services (Recoveries) from Drainage Services		(1.4)		-		-		-		-		-		-		-		-		-	S. 8-2
14	Other services		0.7		0.7		0.6		0.3		0.6		0.7		0.7		0.7		0.7		0.8	
15	lotal		17.0		18.7		18.4		19.0		19.4		20.8		22.0		23.0		23.9		24.8	
16																						
17	EPCOR Utilities Inc.																					
18	Corporate Shared Service Costs		12.9		12.0		12.1		12.6		13.7		13.8		14.1		14.3		14.6		14.9	S. 10-1
19	Interest on Intercompany Debentures		31.2		32.8		34.1		35.3		36.0		37.4		37.9		36.9		36.0		36.2	S. 17-3
20	Interest on Short-term debt		1.3		1.2		1.2		0.4		1.0		0.8		0.8		0.9		0.9		0.8	S. 17-2
21	Other Services				0.0		0.3		0.6		0.4		0.4		0.4		0.4		0.4		0.4	
22	Total		45.4		46.0		47.7		48.9		51.0		52.4		53.2		52.5		51.9		52.4	
23																						
24	EPCOR Distribution and Transmission Inc.																					
25	Meter reading services		(0.4)		(0.0)		(0.0)		(0.0)		(0.0)		(0.0)		(0.0)		(0.0)		(0.0)		(0.0)	S. 9-2
26	Other services		- 1		0.0		(0.0)		0.0		0.0		0.0		0.0		0.1		0.1		0.1	
27	Total		(0.4)		(0.0)		(0.0)		0.0		0.0		0.0		0.0		0.0		0.0		0.0	
28			. ,		. ,		. ,															
29	EPCOR Technologies Inc.																					
30	Hydrovac Charges and Space Rentals		1.2		1.7		1.8		1.5		1.7		1.7		1.8		1.8		1.8		1.9	
31	Other services		-		(0.1)		(0.1)		(0.1)		(0 1)		(0.1)		(0 1)		(0.1)		(0 1)		(0.1)	
32	Total		12		17		17		1 4		1.6		17		17		17		1.8		1.8	
22			1.2		1.7		1.7		1.4		1.0		1.7		1.7		1.7		1.0		1.0	
24	EPCOP Energy Alberta LP																					
25	Customer Billing and Collection Services		7 9		7.0		7 9		0.0		80		8.2		02		95		97		80	6 9 7
30 26	Motor Date Management		1.0		1.9		1.0		9.9		0.0		0.2		0.3		0.0		0.1		0.9	0.0-2
30	Trouble Call Support Services		-		0.3		0.3		0.1		-		-		- 0 F		-		-		-	
31 20	Total		- 70		- 01		0.3		10.6		0.5		0.5		0.0		0.0		0.0		0.0	
30	IUlai		0.1		0.1		0.4		10.6		6.3		0.1		0.9		9.1		9.2		9.4	
39																						

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Transactions with Affiliates (\$ millions)

Line	Affiliate and Service	2017 Actual	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Eorecast	2025 Forecast	2026 Forecast	Cross
INO.	Anniale and Service	Actual	Actual	Actual	FUIECasi	FUIECasi	FUIECasi	FUIECasi	FUIECasi	FOIECasi	FUIECasi	Reference
40	EPCOR Power Development											
41	Other Services (Recoveries)	-	(0.1)	(0.3)	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	
42	Total	-	(0.1)	(0.3)	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	
43	=			/	. ,				. ,		/	
44	EPCOR Commercial Services											
45	Commercial Services Rent (Recoveries)	-	(0.3)	(0.3)	(0.0)	-	-	-	-	-	-	
46	Total	-	(0.3)	(0.3)	(0.0)	-	-	-	-	-	-	
47	=		. ,									:
48	Services provided by (recovered from) other EWSI Business Units											
49	Water Shared Services	9.6	9.2	9.4	10.0	10.3	10.5	10.7	10.9	11.2	11.4	S. 9-2
50	Water sales to Wastewater Treatment Services	(0.5)	(0.4)	(0.4)	(0.4)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	
51	Meter Reading Services (Recoveries) from Wastewater Treatment	(2.1)	(2.4)	(2.4)	(2.5)	(2.5)	(2.8)	(2.7)	(2.4)	(2.0)	(2.1)	
52	Meter Reading Services (Recoveries) from Drainage Services	(0.4)	(2.4)	(2.4)	(2.5)	(2.5)	(2.8)	(2.7)	(2.4)	(2.0)	(2.1)	
53	Customer Service Fees - Drainage Services	0.1	0.4	0.4	0.0	-	-	-	-	-	-	
54	Drainage Services Rent (Recoveries)	-	-	-	(0.2)	(0.3)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	
55	Other Services- Drainage Services	-	0.0	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	
56	Meter Reading Services (Recoveries) from Other EWSI Business Units	-	(0.0)	(0.0)	(0.0)	-	-	-	-	-	-	
57	Lab Testing and Other Services from Other EWSI Business Units	-	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
58	Other services	-	-	-	-	-	-	-	-	-	-	
59	Total	6.7	4.6	4.1	4.1	4.2	3.8	4.2	5.0	6.0	6.2	
60	-											
61	Expenditures on capital projects arising from services provided by:											
62	City of Edmonton	1.5	0.4	0.6	0.4	0.5	0.5	0.5	0.5	0.5	0.5	
63	EPCOR Technologies Inc.	4.7	4.0	4.2	5.1	4.4	4.5	4.5	4.6	4.7	4.8	
64	EPCOR Corporate IT	0.7	0.9	1.2	2.2	1.4	1.4	1.5	1.5	1.5	1.5	
65	EPCOR Drainage Services	0.8	3.3	2.3	2.5	2.7	2.8	2.8	2.9	2.9	3.0	
66	EPCOR Distribution and Transmission Inc.	0.4	0.3	0.3	0.1	0.2	0.2	0.2	0.2	0.3	0.3	
67	Other EPCOR Business Units	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
68		\$ 8.2	\$ 8.9	\$ 8.6	\$ 10.4	\$ 9.3	\$ 9.5	\$ 9.6	\$ 9.8	\$ 10.0	\$ 10.1	

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services In-City Revenues at Existing Rates and Revenue Requirement (\$ millions)

Line		Cross	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Cross
No.	Description	Reference	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
1	In City Poyonuos at Existing Patos												
2	Residential		\$ 114.1	\$ 1175	\$ 116.6	\$ 1324	\$ 134.0	\$ 129.7	\$ 130.6	\$ 130.4	\$ 130.4	\$ 130.7	
2	Multi-Residential		φ 11 4 .1 20.1	φ 117.3 29.7	φ 110.0 30.5	ψ 102. 1 33.0	φ 10 1 .0 33.0	φ 120.7 32.5	φ 100.0 32.5	φ 100. 4 32.4	φ 130. 4 32.4	ψ 100.7 32.3	
4	Commercial		38.5	39.9	38.7	32.3	32.4	35.5	37.3	38.5	37.8	37.1	
5	Total In-City Revenues at Existing Rates	-	181.7	187.1	185.8	197.7	199.5	197.7	200.5	201.3	200.5	200.1	
6	· • •••• •••• •••• •••• ••• ••••••••••	=											
7	In-City Revenue Requirement												
8	Water Operating Costs	S. 5-1	119.6	118.6	122.1	124.5	127.6	130.7	134.5	137.4	140.2	143.6	
9	In-City Portion	COS	82.6%	82.0%	81.5%	81.8%	80.9%	79.3%	79.3%	79.3%	79.1%	79.0%	
10	Water Operating Costs Allocated to In-City		98.8	97.2	99.5	101.8	103.3	103.6	106.7	109.0	110.9	113.5	S. 5-1
11		-		-									
12	Depreciation	S. 12-1	32.6	34.2	36.2	38.9	41.8	45.8	48.5	51.8	52.7	55.7	
13	In-City Portion	COS	79.4%	79.0%	78.4%	78.5%	78.2%	77.6%	78.1%	78.6%	80.9%	78.7%	
14	Depreciation Allocated to In-City	-	25.9	27.1	28.4	30.5	32.7	35.5	37.9	40.7	42.6	43.8	S. 12-1
15		-											
16	Return on Rate Base												
17	Mid-Year Rate Base, net	S. 15-1	1,161	1,221	1,286	1,362	1,463	1,537	1,580	1,629	1,654	1,653	
18	In-City Portion	COS	78.4%	78.3%	78.0%	78.1%	77.7%	77.2%	77.5%	77.9%	78.0%	77.9%	
19	Mid-Year Rate Base Allocated to In-City		910.3	955.6	1,002.8	1,063.5	1,137.1	1,187.1	1,225.3	1,269.0	1,289.9	1,287.6	
20	Weighted Average Cost of Capital	S. 14-1	6.89%	7.15%	6.32%	6.55%	6.05%	6.36%	6.32%	6.17%	6.07%	6.07%	
21	Return on Mid-Year Rate Base Allocated to In-City	S. 14-1	62.7	68.3	63.4	69.7	68.7	75.5	77.4	78.3	78.4	78.2	
22													
23	Total In-City Revenue Requirement Before Revenue Of	fsets	187.4	192.5	191.3	202.0	204.7	214.6	222.0	227.9	231.9	235.5	
24	Less: Revenue Offsets	S. 13-1	(5.7)	(5.5)	(5.5)	(4.4)	(5.2)	(6.3)	(6.4)	(6.5)	(6.6)	(6.7)	
25	Total In-City Revenue Requirement	-	181.7	187.1	185.8	197.7	199.5	208.3	215.6	221.4	225.3	228.8	
26													
27	In-City Revenue Requirement by Customer Segment												
28	Residential	COS	114.1	117.5	116.6	132.4	134.0	131.9	135.5	138.8	141.8	144.6	
29	Multi-Residential	COS	29.1	29.7	30.5	33.0	33.0	33.4	33.9	34.3	35.0	35.7	
30	Commercial	COS	38.5	39.9	38.7	32.3	32.4	43.1	46.2	48.4	48.5	48.5	
31	Total In-City Revenue Requirement	-	181.7	187.1	185.8	197.7	199.5	208.3	215.6	221.4	225.3	228.8	
32		-											
33	Surplus/Shortfall by Customer Segment												
34	Residential		-	-	-	-	-	(2.2)	(4.9)	(8.4)	(11.4)	(13.9)	
35	Multi-Residential		-	-	-	-	-	(0.9)	(1.4)	(1.8)	(2.6)	(3.4)	
36	Commercial	-	-	-	-	-	-	(7.6)	(8.8)	(9.9)	(10.7)	(11.4)	
37	Total In-City Surplus/Shortfall	-	\$-	\$-	\$-	\$ -	\$-	\$ (10.6)	\$ (15.1)	\$ (20.2)	\$ (24.8)	\$ (28.7)	

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Public Fire Protection Revenues at Existing Rates and Revenue Requirement (\$ millions)

Line No.	Description	Cross Reference	2017 Actual	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	Cross Reference
1	Fire Protection Revenues at Existing Rates												
2	Public Fire Protection Revenues	S. 18-1	\$ 11.1	\$ 11.3	\$ 11.5	\$ 12.0	\$ 12.4	\$ 12.4	\$ 12.4	\$ 12.4	\$ 12.4	\$ 12.4	
3	Private Fire Protection Revenues		2.2	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
4	Total Fire Protection Revenues		13.3	13.6	13.9	14.4	14.8	14.8	14.8	14.8	14.8	14.8	
5													
6	Fire Protection Revenue Requirement												
7	Water Operating Costs	S. 5-1	119.6	118.6	122.1	124.5	127.6	130.7	134.5	137.4	140.2	143.6	
8	Fire Protection Portion	COS	4.22%	4.65%	4.90%	4.77%	5.13%	6.59%	6.58%	6.65%	6.75%	6.74%	
9	Water Operating Costs Allocated to Fire Protection		5.0	5.5	6.0	5.9	6.6	8.6	8.8	9.1	9.5	9.7	S. 3-2
10													
11	Depreciation and Amortization	S. 12-1	32.6	34.2	36.2	38.9	41.8	45.8	48.5	51.8	52.7	55.7	
12	Fire Protection Portion	COS	6.13%	6.53%	6.88%	7.20%	7.41%	7.38%	7.18%	7.06%	7.20%	6.97%	
13	Depreciation and Amortization Allocated to Fire Protection		2.0	2.2	2.5	2.8	3.1	3.4	3.5	3.7	3.8	3.9	S. 3-2
14													
15	Return on Rate Base												
16	Mid-Year Rate Base, net	S. 15-1	1,161	1,221	1,286	1,362	1,463	1,537	1,580	1,629	1,654	1,653	
17	Fire Protection Portion	COS	7.71%	8.20%	8.65%	9.06%	9.23%	9.24%	9.24%	9.19%	9.24%	9.40%	
18	Mid-Year Rate Base Allocated to Fire Protection		89.5	100.1	111.2	123.4	135.1	142.1	146.0	149.8	152.9	155.4	-
19	Weighted Average Cost of Capital	S. 14-1	6.98%	5.81%	4.85%	4.59%	3.81%	6.36%	6.32%	6.17%	6.07%	6.07%	
20	Return on Mid-Year Rate Base Allocated to Fire Protectio	S. 14-1	6.2	5.8	5.4	5.7	5.1	9.0	9.2	9.2	9.3	9.4	S. 3-2
21													
22	Total Fire Protection Revenue Requirement		13.3	13.6	13.9	14.4	14.8	21.0	21.5	22.0	22.6	23.0	
23													
24	Fire Protection Revenue Requirement												
25	Public Fire Protection Share	S. 18-1	11.1	11.3	11.5	12.0	12.4	18.2	18.6	19.1	19.5	19.9	
26	Private Fire Protection Share		2.2	2.3	2.3	2.4	2.4	2.8	2.9	3.0	3.0	3.1	
27			13.3	13.6	13.9	14.4	14.8	21.0	21.5	22.0	22.6	23.0	
28	Surplus (Shortfall)												•
29	Public Fire Protection		-	-	-	-	-	(5.8)	(6.2)	(6.6)	(7.1)	(7.5)	
30	Private Fire Protection		-	-	-	-	-	(0.4)	(0.6)	(0.6)	(0.7)	(0.7)	
31	Total Fire Protection Surplus/Shortfall		\$-	\$-	\$-	\$-	\$-	\$ (6.2)	\$ (6.8)	\$ (7.2)	\$ (7.8)	\$ (8.2)	

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Current and Proposed Rates for Water Services

Line No.	Description		2017 Actual		2018 Actual		2019 Actual		2020 Actual	F	2021 orecast	F	2022 Forecast	F	2023 orecast	F	2024 Forecast	F	2025 orecast	F	2026 orecast
1	Fixed Monthly Charge per Meter																				
2	5/8" (15 mm)	\$	7.03	\$	6.47	\$	6.63	\$	7.66	\$	7.81	\$	12.46	\$	12.71	\$	13.27	\$	13.85	\$	14.46
3	3/4" (20 mm)	\$	10.55	\$	9.70	\$	9.92	\$	11.45	\$	11.71	\$	18.70	\$	19.07	\$	19.91	\$	20.78	\$	21.69
4	1" (25 mm)	\$	17.62	\$	16.18	\$	16.52	\$	19.04	\$	19.52	\$	31.16	\$	31.78	\$	33.18	\$	34.63	\$	36.15
5	1.5" (40 mm)	\$	35.30	\$	32.40	\$	33.06	\$	38.06	\$	39.04	\$	62.32	\$	63.57	\$	66.36	\$	69.27	\$	72.31
6	2" (50 mm)	\$	56.55	\$	51.83	\$	52.81	\$	60.72	\$	62.47	\$	99.71	\$	101.70	\$	106.17	\$	110.83	\$	115.69
7	3" (75 mm)	\$	105.99	\$	97.19	\$	99.08	\$	113.97	\$	117.12	\$	186.96	\$	190.70	\$	199.07	\$	207.80	\$	216.92
8	4" (100 mm)	\$	176.52	\$	161.96	\$	165.22	\$	190.15	\$	195.20	\$	311.61	\$	317.83	\$	331.78	\$	346.33	\$	361.53
9	6" (150 mm)	\$	353.23	\$	323.96	\$	330.32	\$	380.02	\$	390.41	\$	623.21	\$	635.66	\$	663.55	\$	692.67	\$	723.07
10	8" (200 mm)	\$	565.18	\$	518.31	\$	528.45	\$	607.93	\$	624.65	\$	997.14	\$	1,017.05	\$	1,061.68	\$	1,108.27	\$	1,156.91
11	10" (250 mm)	\$	808.69	\$	744.49	\$	762.64	\$	880.43	\$	897.94	\$	1,433.39	\$	1,462.01	\$	1,526.17	\$	1,593.14	\$	1,663.05
12	12" (300 mm)	\$	1,191.59	\$	1,093.49	\$	1,115.77	\$	1,284.38	\$	1,318.02	\$	2,103.97	\$	2,145.97	\$	2,240.15	\$	2,338.45	\$	2,441.07
13																					
14	Consumption Charge per m3																				
15	Residential																				
16	0 m³ - 10.0 m³	\$	1.9550	\$	2.0047	\$	2.0612	\$	2.1290	\$	2.1809	\$	2.0487	\$	2.1387	\$	2.2325	\$	2.3305	\$	2.4328
17	10.1 m³ - 35.0 m³	\$	2.1357	\$	2.1902	\$	2.2520	\$	2.3260	\$	2.3826	\$	2.2382	\$	2.3364	\$	2.4389	\$	2.5460	\$	2.6577
18	> 35.0 m³	\$	2.6992	\$	2.7679	\$	2.8461	\$	2.9397	\$	3.0113	\$	2.8287	\$	2.9529	\$	3.0825	\$	3.2177	\$	3.3589
19																					
20	Multi-Residential																				
21	0 m ³ - 100.0 m ³	\$	1.8407	\$	1.8888	\$	1.9435	\$	2.0086	\$	2.0589	\$	1.9341	\$	2.0190	\$	2.1076	\$	2.2000	\$	2.2966
22	100.1 m ³ - 1000.0 m ³	\$	1.5399	\$	1.5801	\$	1.6259	\$	1.6804	\$	1.7225	\$	1.6180	\$	1.6891	\$	1.7632	\$	1.8406	\$	1.9213
23	Over 1000.0 m ³	\$	1.2724	\$	1.3057	\$	1.3436	\$	1.3887	\$	1.4235	\$	1.3372	\$	1.3959	\$	1.4571	\$	1.5211	\$	1.5878
24																					
25	Commercial	•	4 5005	•	4 = 000	•	4 9 4 9 9	•	4 0700	•	4 7400	^	4 9 4 9 9	•	4 0000	•	4 7500	•	4 0000	•	
26	$0 \text{ m}^3 - 25.0 \text{ m}^3$	\$	1.5285	\$	1.5699	\$	1.6169	\$	1.6728	\$	1.7162	\$	1.6122	\$	1.6829	\$	1.7568	\$	1.8339	\$	1.9143
27	25.1 m ³ - 100.0 m ³	\$	1.5285	\$	1.5699	\$	1.6169	\$	1.6728	\$	1.7162	\$	1.6122	\$	1.6829	\$	1.7568	\$	1.8339	\$	1.9143
28	100.1 m ³ - 1000.0 m ³	\$	1.4097	\$	1.4478	\$ \$	1.4912	\$ \$	1.5427	\$ \$	1.5826	\$	1.4867	\$ \$	1.5519	\$	1.6200	\$ \$	1.6911	\$ \$	1.7654
29	$1000.1 \text{ m}^{\circ} - 5000.0 \text{ m}^{\circ}$	\$	1.1158	\$	1.1459	\$	1.1803	\$	1.2211	\$	1.2528	\$	1.1/68	\$	1.2285	\$	1.2824	\$	1.3387	\$	1.3974
30	Over 5000 m ³	\$	0.8981	\$	0.9223	\$	0.9499	\$	0.9827	\$	1.0083	\$	0.9472	\$	0.9888	\$	1.0322	\$	1.0775	\$	1.1248
31												l									

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Current and Proposed Rates for Water Services

Line		Docorinti	on	20 ²	17 Upl	2	018 stual	2	2019 ctual	,	2020 Actual	Ec	2021		2022	E	2023	E	2024	E	2025 2025	E	2026
NO.		Descripti	on	ACI	uai	A	cluar	A	ciuai	,	Actual	ΓC	necasi	Г	orecasi	Г	orecasi	Г	orecasi	Г	Jiecasi	Г	Diecasi
32	Fire Prote	ection																					
33	Reside	ntial																					
34	5/8"	(15 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	2.59	\$	2.64	\$	2.70	\$	2.75	\$	2.81
35	3/4"	(20 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	3.88	\$	3.96	\$	4.05	\$	4.13	\$	4.21
36	1"	(25 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	6.47	\$	6.61	\$	6.74	\$	6.88	\$	7.02
37	1.5"	(40 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	12.95	\$	13.21	\$	13.49	\$	13.76	\$	14.05
38	2"	(50 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	20.72	\$	21.14	\$	21.58	\$	22.02	\$	22.48
39	3"	(75 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	38.84	\$	39.64	\$	40.46	\$	41.29	\$	42.14
40	4"	(100 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	64.74	\$	66.07	\$	67.43	\$	68.82	\$	70.24
41	6"	(150 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	129.48	\$	132.14	\$	134.87	\$	137.64	\$	140.48
42	8"	(200 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	207.16	\$	211.43	\$	215.79	\$	220.23	\$	224.77
43	10"	(250 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	297.80	\$	303.93	\$	310.19	\$	316.58	\$	323.10
44	12"	(300 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	437.11	\$	446.12	\$	455.31	\$	464.69	\$	474.26
45																							
46	Fire Prote	ection																					
47	Multi-R	esidential																					
48	5/8"	(15 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	2.54	\$	2.60	\$	2.65	\$	2.70	\$	2.76
49	3/4"	(20 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	3.81	\$	3.89	\$	3.97	\$	4.06	\$	4.14
50	1"	(25 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	6.36	\$	6.49	\$	6.62	\$	6.76	\$	6.90
51	1.5"	(40 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	12.72	\$	12.98	\$	13.24	\$	13.52	\$	13.80
52	2"	(50 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	20.34	\$	20.76	\$	21.19	\$	21.63	\$	22.07
53	3"	(75 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	38.15	\$	38.93	\$	39.73	\$	40.55	\$	41.39
54	4"	(100 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	63.58	\$	64.89	\$	66.22	\$	67.59	\$	68.98
55	6"	(150 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	127.15	\$	129.77	\$	132.44	\$	135.17	\$	137.96
56	8"	(200 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	203.44	\$	207.63	\$	211.91	\$	216.28	\$	220.73
57	10"	(250 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	292.45	\$	298.47	\$	304.62	\$	310.90	\$	317.30
58	12"	(300 mm)		\$	-	\$	-	\$	-	\$	-	\$	-	\$	429.26	\$	438.11	\$	447.13	\$	456.34	\$	465.74
59																							

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Current and Proposed Rates for Water Services

Line No.		Descripti	ion	2017 Actua	I	201 Actu	8 Ial	20 Ac	019 tual	20 Ac	020 tual	2 Fo	2021 recast	Fo	2022 precast	F	2023 orecast	F	2024 orecast	Fo	2025 precast	F	2026 orecast
60 61	Fire Prote	ection ercial		^		•		•		<u>^</u>		•		•		•	5.00	•	0.40	•		•	0.07
62	5/8"	(15 mm)		\$- -	-	\$	-	\$	-	\$	-	\$	-	\$	5.87	\$	5.99	\$	6.12	\$	6.24	\$	6.37
63	3/4"	(20 mm)		\$-	-	\$	-	\$	-	\$	-	\$	-	\$	8.81	\$	8.99	\$	9.17	\$	9.36	\$	9.55
64	1"	(25 mm)	C.	\$-	-	\$	-	\$	-	\$	-	\$	-	\$	14.68	\$	14.98	\$	15.29	\$	15.60	\$	15.92
65	1.5"	(40 mm)	Ś	\$-	-	\$	-	\$	-	\$	-	\$	-	\$	29.36	\$	29.96	\$	30.58	\$	31.21	\$	31.85
66	2"	(50 mm)	ç	\$-	-	\$	-	\$	-	\$	-	\$	-	\$	46.97	\$	47.94	\$	48.92	\$	49.93	\$	50.96
67	3"	(75 mm)	ç	\$-	-	\$	-	\$	-	\$	-	\$	-	\$	88.07	\$	89.88	\$	91.73	\$	93.62	\$	95.55
68	4"	(100 mm)	ç	\$-	-	\$	-	\$	-	\$	-	\$	-	\$	146.78	\$	149.80	\$	152.89	\$	156.03	\$	159.25
69	6"	(150 mm)	ç	\$-	-	\$	-	\$	-	\$	-	\$	-	\$	293.55	\$	299.60	\$	305.77	\$	312.07	\$	318.50
70	8"	(200 mm)	ç	\$-	-	\$	-	\$	-	\$	-	\$	-	\$	469.68	\$	479.36	\$	489.23	\$	499.31	\$	509.60
71	10"	(250 mm)	C.	\$-	-	\$	-	\$	-	\$	-	\$	-	\$	675.17	\$	689.08	\$	703.27	\$	717.76	\$	732.54
72	12"	(300 mm)	Ş	\$-	-	\$	-	\$	-	\$	-	\$	-	\$	991.03	\$	1,011.44	\$	1,032.28	\$ 1	,053.55	\$	1,075.25

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Proposed Special Rate Adjustments for Water Services

Line				Rebasing			Increa	ase Mont	hly Ser	vice C	onnectio	n Fee		90	Day Defe	erral			
No.	Description	2022	2023	2024	2025	2026	2022	2023	202	24	2025	2026	2022	2023	2024	20	25	202	26
1	Fixed Monthly Charge per Motor																		
י ר	Fixed Monthly Charge per Meter	¢ 0.19	¢ 0.20	¢ 0.20	¢ 0.21	¢ 0.22	¢ 402 9	¢	¢		¢	¢	¢ 0.20) ¢ (0.20)	¢	¢		¢	
2	3/8 (15 mm)	\$ 0.10	\$ 0.29	\$ 0.30	φ 0.31 ¢ 0.46	\$ 0.32 ¢ 0.49	\$ 4.02 v	ው - ድ	ዋ ድ	-	ው - ድ	ф -	\$ 0.30	(0.30)	ው - ድ	ф ¢	-	φ Φ	-
ა ⊿	3/4 (20 mm)	\$ 0.27 \$ 0.45	\$ 0.44 ¢ 0.72	\$ 0.44 ¢ 0.74	φ 0.40 ¢ 0.77	\$ 0.40 ¢ 0.01	\$ 0.03 G	φ - ¢	ф Ф	-	φ - Φ	ф -	\$ 0.44 ¢ 0.74	+ 5 (0.45) + ¢ (0.75)	ው - ድ	ф Ф	-	φ Φ	-
4	1 (25 mm)	\$ 0.45 ¢ 0.01	\$ 0.73 ¢ 1.45	\$ 0.74 ¢ 1.49	Φ 0.77	\$ 0.81 ¢ 1.61	\$ 10.04	ф - ф	¢ ¢	- :	ት - ድ	ф -	\$ U.74	+ \$ (0.75) • • • (1.40)	ን - ድ	¢	-	¢ ¢	-
5	1.5 (40 mm)	\$ 0.91 © 1.45	φ 1.45 ¢ 0.00	ຈ 1.40 ¢ 0.07	φ 1.00 ¢ 0.47	φ 1.01 ¢ 0.50	\$ 20.09	φ - ¢	ф Ф	-	φ - Φ	ф -	ົ້ອຸ 1.40	5 5 (1.49)	ው - ድ	ф Ф	-	φ Φ	-
0 7	2 (50 mm)	\$ 1.45 ¢ 0.70		φ 2.37		⇒ 2.58	\$ 32.14	ቅ - ተ	¢	-	ን - ድ	ъ - ¢	\$ 2.31 ¢ 4.4	\$ (2.39)	ֆ - «	Þ	-	¢	-
1	3 (75 mm)	\$ 2.73	\$ 4.35 ¢ 7.00	\$ 4.44 \$ 7.40		\$ 4.84 \$ 0.00	\$ 60.26	ф -	Þ	-	ን - ድ	5 - ¢	\$ 4.44	+ \$ (4.47)	ъ - с	Þ	-	¢	-
8	4" (100 mm)	\$ 4.55	\$ 7.26	\$ 7.40	\$ 1.13 © 45.45	\$ 8.06	\$ 100.43	⇒ - ¢	Ъ	-	ֆ - «	\$ - ¢	\$ 7.41	\$ (7.45)	ֆ - «	\$ ¢	-	\$ ¢	-
9	6" (150 mm)	\$ 9.09	\$ 14.51	\$ 14.80	\$ 15.45	\$ 16.13	\$ 200.86	⇒ -	Þ	-	\$- \$	\$ -	\$ 14.81	\$ (14.91)	ъ-	\$	-	\$	-
10	8" (200 mm)	\$ 14.54	\$ 23.22	\$ 23.68	\$ 24.72	\$ 25.81	\$ 321.38	\$- \$	\$	-	\$ -	\$ -	\$ 23.70) \$ (23.85)	\$ -	\$	-	\$	-
11	10" (250 mm)	\$ 20.91	\$ 33.38	\$ 34.04	\$ 35.54	\$ 37.10	\$ 461.98	\$- *	\$	-	\$ -	\$ -	\$ 34.07	\$ (34.29)	\$ -	\$	-	\$	-
12	12" (300 mm)	\$ 30.69	\$ 48.99	\$ 49.97	\$ 52.16	\$ 54.45	\$ 678.10	5 -	\$	- :	\$ -	\$-	\$ 50.01	\$ (50.33)	\$ -	\$	-	\$	-
13																			
14	Consumption Charge per m3																		
15	Residential						• • • • • • • •												
16	0 m³ - 10.0 m³	\$ 0.0508	\$ 0.0477	\$ 0.0498	\$ 0.0520	\$ 0.0543	\$(0.2279)	\$-	\$	- :	\$ -	\$ -	\$ -	\$ -	\$-	\$	-	\$	-
17	10.1 m³ - 35.0 m³	\$ 0.0555	\$ 0.0521	\$ 0.0544	\$ 0.0568	\$ 0.0593	\$(0.2490)	\$-	\$	- :	\$ -	\$ -	\$ -	\$ -	\$-	\$	-	\$	-
18	> 35.0 m³	\$ 0.0701	\$ 0.0659	\$ 0.0688	\$ 0.0718	\$ 0.0749	\$(0.3147) \$	\$-	\$	- :	\$-	\$-	\$-	\$-	\$-	\$	-	\$	-
19	Multi-Residential																		
20	0 m³ - 100.0 m³	\$ 0.0479	\$ 0.0450	\$ 0.0470	\$ 0.0491	\$ 0.0512	\$(0.2152)	\$-	\$	- 9	\$-	\$-	\$-	\$-	\$-	\$	-	\$	-
21	100.1 m ³ - 1000.0 m ³	\$ 0.0401	\$ 0.0377	\$ 0.0393	\$ 0.0411	\$ 0.0429	\$(0.1800) \$	\$-	\$	- 9	\$-	\$-	\$-	\$-	\$-	\$	-	\$	-
22	Over 1000.0 m ³	\$ 0.0331	\$ 0.0311	\$ 0.0325	\$ 0.0339	\$ 0.0354	\$(0.1488)	\$-	\$	- :	\$-	\$-	\$-	\$-	\$-	\$	-	\$	-
23	Commercial																		
24	0 m³ - 25.0 m³	\$ 0.0400	\$ 0.0375	\$ 0.0392	\$ 0.0409	\$ 0.0427	\$(0.1793)	\$-	\$	- :	\$-	\$-	\$-	\$-	\$-	\$	-	\$	-
25	25.1 m ³ - 100.0 m ³	\$ 0.0400	\$ 0.0375	\$ 0.0392	\$ 0.0409	\$ 0.0427	\$(0.1793)	\$-	\$	- :	\$-	\$-	\$-	\$-	\$-	\$	-	\$	-
26	100.1 m ³ - 1000.0 m ³	\$ 0.0369	\$ 0.0346	\$ 0.0361	\$ 0.0377	\$ 0.0394	\$(0.1654)	\$-	\$	- 9	\$-	\$-	\$-	\$-	\$-	\$	-	\$	-
27	1000.1 m ³ – 5000.0 m ³	\$ 0.0292	\$ 0.0274	\$ 0.0286	\$ 0.0299	\$ 0.0312	\$(0.1309)	\$-	\$	- :	\$-	\$-	\$-	\$-	\$-	\$	-	\$	-
28	Over 5000 m ³	\$ 0.0235	\$ 0.0221	\$ 0.0230	\$ 0.0240	\$ 0.0251	\$(0.1054)	\$-	\$	- :	\$-	\$-	\$-	\$-	\$-	\$	-	\$	-
29													-						

EPCOR Water Services Inc. Minimum Filing Requirements for Water Services Proposed Special Rate Adjustments for Water Services

30																Publ	ic Fire	e Prot	ectio	n											
31							Resid	dentia	I							M	ulti-Re	esider	ntial							Com	mercia	al			
32		_	2	022	20	023	20)24	20	025	20	026	1	2022	2	2023	20	024	2	025	2	026	 2022	2	023	20	024	20)25	2	026
33																															
34 I	Fixed M	onthly Charge per Meter																													
35	5/8"	(15 mm)	\$	2.59	\$	-	\$	-	\$	-	\$	-	\$	2.54	\$	-	\$	-	\$	-	\$	-	\$ 5.87	\$	-	\$	-	\$	-	\$	-
36	3/4"	(20 mm)	\$	3.88	\$	-	\$	-	\$	-	\$	-	\$	3.81	\$	-	\$	-	\$	-	\$	-	\$ 8.81	\$	-	\$	-	\$	-	\$	-
37	1"	(25 mm)	\$	6.47	\$	-	\$	-	\$	-	\$	-	\$	6.36	\$	-	\$	-	\$	-	\$	-	\$ 14.68	\$	-	\$	-	\$	-	\$	-
38	1.5"	(40 mm)	\$	12.95	\$	-	\$	-	\$	-	\$	-	\$	12.72	\$	-	\$	-	\$	-	\$	-	\$ 29.36	\$	-	\$	-	\$	-	\$	-
39	2"	(50 mm)	\$	20.72	\$	-	\$	-	\$	-	\$	-	\$	20.34	\$	-	\$	-	\$	-	\$	-	\$ 46.97	\$	-	\$	-	\$	-	\$	-
40	3"	(75 mm)	\$	38.84	\$	-	\$	-	\$	-	\$	-	\$	38.15	\$	-	\$	-	\$	-	\$	-	\$ 88.07	\$	-	\$	-	\$	-	\$	-
41	4"	(100 mm)	\$	64.74	\$	-	\$	-	\$	-	\$	-	\$	63.58	\$	-	\$	-	\$	-	\$	-	\$ 146.78	\$	-	\$	-	\$	-	\$	-
42	6"	(150 mm)	\$1	29.48	\$	-	\$	-	\$	-	\$	-	\$	127.15	\$	-	\$	-	\$	-	\$	-	\$ 293.55	\$	-	\$	-	\$	-	\$	-
43	8"	(200 mm)	\$ 2	07.16	\$	-	\$	-	\$	-	\$	-	\$ 2	203.44	\$	-	\$	-	\$	-	\$	-	\$ 469.68	\$	-	\$	-	\$	-	\$	-
44	10"	(250 mm)	\$ 2	97.80	\$	-	\$	-	\$	-	\$	-	\$ 2	292.45	\$	-	\$	-	\$	-	\$	-	\$ 675.17	\$	-	\$	-	\$	-	\$	-
45	12"	(300 mm)	\$4	37.11	\$	-	\$	-	\$	-	\$	-	\$ 4	429.26	\$	-	\$	-	\$	-	\$	-	\$ 991.03	\$	-	\$	-	\$	-	\$	-

EPCOR WATER SERVICES INC.

2022-2026 PERFORMANCE BASED RATES APPLICATIONS

REGULATORY SCHEDULE AND GUIDING OBJECTIVES

February 5, 2021	Utility Committee Meeting - review of proposed regulatory schedule and guiding objectives.
February 22, 2021	City Council Meeting - approval of regulatory schedule and guiding objectives.
Mid-February 2021	EWSI Rates Applications - submitted to the City Manager.
March 2021	Public Advertisement - EWSI first and second public advertisement of a Utility Committee meeting on June 25, 2021 and process for public submissions.
March 31, 2021	Deadline for Written Questions - to EWSI from Councillors, Utility Advisor and Administration.
April 26, 2021	EWSI Written Responses - to questions from Councillors, Utility Advisor and Administration.
May 31, 2021	Deadline for Public Submissions - to receive a written response from EWSI. Public submissions received after this date will be received for information only.
May 31, 2021	Report from Administration - on results of reasonableness review of applications (external consultant engaged to assist).
May 31, 2021	Report from the Utility Advisor - on review of applications.
June 14, 2021	EWSI Written Responses - to public submissions, Administration and Utility Advisor review of rates applications.
June 25, 2021	Utility Committee Meeting - to review rates applications and submissions from EWSI, Administration, Utility Advisor, and public. Recommendation to City Council regarding approval of rates applications and applicable bylaws.
July 2021	Amended Rates Applications - EWSI amends applications and applicable bylaws (if required based on direction from Utility Committee).
July/August 2021	City Council Meeting - approval of rates applications and three readings of applicable bylaws.

Guiding Objectives (Note 1)

Assessment of EWSI's proposed rates shall reflect the following objectives:

- (i) EWSI is entitled to a reasonable margin of profit from operations in relation to the provision of utility services within the boundaries of the city of Edmonton;
- (ii) The citizens of the city of Edmonton must be provided with safe and reliable utility services;
- (iii) All customer charges will be based upon cost of service;
- (iv) Rates will be sufficient to ensure the continued development of utility infrastructure to reasonably ensure the satisfaction of these objectives;
- (v) Utility services are to be provided in a manner that reflects reasonable environmental management and aligns with City objectives;
- (vi) Service levels and EWSI performance will be assessed with reference to industry benchmarks and or EWSI's historical performance; and,
- (vii) The timing of a decision and the effective date for rates approved must reflect the financial needs of EWSI.

Note 1 - guiding objectives as prescribed in the now repealed EPCOR Edmonton Regulated Utilities Procedures Bylaw 12294.



UTILITY COMMITTEE REPORT

Bylaw 19627 - EPCOR Drainage Services and Wastewater Treatment Bylaw - A Bylaw to Replace Bylaw 18100 - EPCOR Drainage Services Bylaw

Recommendation of the Committee

That Bylaw 19627, EPCOR Drainage Services and Wastewater Treatment Bylaw, be given the appropriate readings.

History

At the August 27, 2021, Utility Committee meeting, the August 27, 2021, Financial and Corporate Services report FCS00743 and FCS00744 were considered together.

Related motion passed at the August 27, 2021, Utility Committee meeting

That Bylaw 19626, EPCOR Water Services Bylaw, be given the appropriate readings.

Attachment

August 27, 2021, Financial and Corporate Services report FCS00744

Bylaw 19627 - EPCOR Drainage Services and Wastewater Treatment Bylaw

A Bylaw to Replace Bylaw 18100 - EPCOR Drainage Services Bylaw

Recommendation

That Utility Committee recommend to the August 30, 2021, City Council meeting:

That Bylaw 19627, EPCOR Drainage Services and Wastewater Treatment Bylaw, be given the appropriate readings.

Purpose

To establish new customer rates and terms and conditions of service for Drainage Services and Wastewater Treatment provided by EPCOR Water Services Inc. for the three year period April 1, 2022 to March 31, 2025.

Readings

Bylaw 19627 is ready for three readings, pending recommendations and directions provided by the Utility Committee at the August 27, 2021 meeting.

A majority vote of City Council on all three readings is required for passage.

If Council wishes to give three readings during a single meeting, then prior to moving third reading, Council must unanimously agree "That Bylaw 19627 be considered for third reading."

Advertising and Signing

This Bylaw has been advertised in the Edmonton Journal and the Edmonton Sun on April 1, 2021 and April 8, 2021. The Bylaw can be signed and thereby passed following third reading by City Council.

Position of Administration

Administration supports this Bylaw.

Administration completed a reasonableness review of the 2022-2024 Drainage Services and Wastewater Treatment Performance Based Rates Applications submitted by EWSI in February 2021, and highlighted certain areas that Utility Committee may

wish to consider further to determine if adjustments to the rates applications are warranted (June 25, 2021, Utility Committee, Financial and Corporate Services report FCS00624).

Administration has also reviewed the Drainage Services and Wastewater Treatment Performance Based Rates Compliance Application submitted by EWSI on July 27, 2021 and confirms that EWSI has appropriately amended the applicable schedules in the proposed Bylaw 19627 to incorporate the adjustments included in the motion passed by Utility Committee at the June 25/July 9, 2021 meeting.

Previous Council/Committee Action

At the June 25/July 9, 2021 Utility Committee meeting, the following motions were passed:

That Administration work with EPCOR to bring forward amendments to the applicable schedules to EPCOR Water Services Bylaw 19626 and EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 to reflect the following:

- 1. The adjustments noted by EPCOR Water Services Inc. in its response to the City of Edmonton PBR review reports (page 6, Attachment 3 of FCS00627) with respect to:
 - a. reduced debt costs in the amount of \$3.7 million; and
 - b. the reimbursement to customers for the capitalization of valve casings and service box replacements in the amount of \$5.2 million.
- 2. A deferral account for water consumption for each of Water Services, Wastewater Treatment and Drainage Services that would be accumulated during the 2022-2026 and 2022-2024 PBR terms and included in customer rates in each of the next PBR terms through a special rate adjustment.
- 3. A Return on Equity for Water Services for 2022-2026 and for Wastewater Treatment for 2022-2024 of 9.89% be reduced to 9.64% as a reflection of the risk reduction of the consumption deferral account (with no change to the requested Return on Equity for Drainage Services contained in the rates application).
- 4. An Efficiency Factor for Drainage Services for the 2022-2024 Performance Based Rates term of 0.50%.
- 5. That all non-routine adjustments applied for by Water Services, Drainage Services and Wastewater Treatment during the 2022-2026 and 2022-2024 Performance Based Rates terms be charged to the Adjustment Deferral Accounts. A two step approach would be followed whereby EPCOR Water Services Inc., may receive interim approval and funding for the proposed

adjustment with a final true up of funding being completed based on actual costs.

That Administration work with EPCOR to bring forward reports prior to the next Performance Based Rates term for Drainage Services and Wastewater Treatment effective April 1, 2025, providing further background and the appropriate regulatory treatment for the following items:

- 1. Improved disclosure of changes in accounting and capitalization policies and treatment;
- 2. Reporting the size of the workforce including actual and forecast full- time equivalents;
- 3. A review of how long-term debt interest rates are set for EPCOR Water Services Inc.;
- 4. A review of the performance measures to ensure they are increasingly stringent and challenging over time; and
- 5. A review of the deferral account and other adjustment mechanisms to deal with variations in usage.

Report Summary

This report includes the Performance Based Rates (PBR) Compliance Application and proposed Bylaw 19627 - EPCOR Drainage Services and Wastewater Treatment Bylaw submitted by EPCOR Water Services Inc. (EWSI) to establish new customer rates and terms and conditions of service for Drainage Services and Wastewater Treatment for the three year period April 1, 2022 to March 31, 2025.

The proposed EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 (Attachment 1) replaces the existing Bylaw 18100 - EPCOR Drainage Services Bylaw (blackline version Attachment 2).

The Compliance Application (Attachment 3) incorporates amendments to the proposed EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 in accordance with the motions passed by the Utility Committee on July 9, 2021.

The Drainage Services and Wastewater Treatment 2022-2024 PBR Compliance Application Financial Schedules are included as Attachments 4 and 5, respectively.

Report

Background

EWSI provides water, wastewater treatment and drainage services to the City of Edmonton. The City of Edmonton has franchise agreements with EWSI that grant

EWSI the exclusive right to provide these services within the boundaries of the City of Edmonton. As a utility, EWSI is subject to regulation to ensure services are provided at a fair price and that appropriate service levels are maintained. City Council maintains regulatory oversight responsibility for the water, wastewater treatment and drainage utilities owned and operated by EWSI. The provincial *Public Utilities Act* and *Municipal Government Act* provide City Council with the authority to pass bylaws relating to municipal public utilities, including those owned and operated by municipally controlled corporations, and to set terms, costs, or charges relating to those public utilities within the boundaries of the City of Edmonton. As regulator, City Council is expected to balance the interests of the customers (high quality and reliable services at reasonable costs) with the interests of EWSI (financially sustainable utility that provides fair investment returns).

City Council has approved separate bylaws to establish the customer rates and terms and conditions of service under performance based regulation for each of EPCOR Water Services and Wastewater Treatment Bylaw 17698 and EPCOR Drainage Services Bylaw 18100. Council approved Bylaw 17698 on October 25, 2016 that set customer rates for water services and wastewater treatment services charged by EWSI for the five year period of April 1, 2017 to March 31, 2022. This was the fourth performance based regulation term for water services, which were first regulated under performance based regulation beginning in 2002, and was the second performance based regulation term for wastewater treatment services, which were first regulated under performance based regulation beginning in 2012. With the transfer of drainage services from the City of Edmonton to EWSI effective September 1, 2017, Council approved Bylaw 18100 on September 12, 2017 that sets customer rates for drainage services charged by EWSI for the period January 1, 2018 to March 31, 2022.

To better align wastewater collection and wastewater treatment, from both the ratepayer and regulator perspectives, EPCOR is proposing to amend both the Water Services and Wastewater Treatment Bylaw 17698 and Drainage Services Bylaw 18100 to include wastewater treatment rates together with the sanitary and stormwater rates (i.e., Drainage Services rates) in the Drainage Services and Wastewater Treatment Bylaw 19627 effective April 1, 2022.

The Water Services PBR Compliance Application and corresponding proposed EPCOR Water Services Bylaw 19626 are included in the August 27, 2021, Utility Committee, Financial and Corporate Services report FCS00743.

Summary of PBR Applications

In February 2021, EWSI submitted PBR Applications and a proposed EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 for approval by City Council to establish customer rates for Drainage Services and Wastewater Treatment for the three year period April 1, 2022 to March 31, 2025. At that time, EWSI also

submitted a PBR application for approval by City Council to establish customer rates for Water Services for the five year period April 1, 2022 to March 31, 2027.

The main elements of the Drainage Services and Wastewater Treatment applications to set customer rates effective April 1, 2022 to March 31, 2025 include the following:

- A mechanism to adjust customer rates, fees and charges annually under a performance based regulation formula (e.g., Inflation Factor ("I") less Efficiency Factor ("X"));
- Special Rate Adjustments (SRAs) required to recover the costs not covered under the performance based regulation formula (I-X);
- A mechanism for non-routine adjustments under the performance based regulation framework, similar to Bylaw 17698 for Water and Wastewater Treatment Services and Bylaw 18100 for Drainage Services;
- Terms and Conditions of service; and
- Service quality metrics and targets, detailed in a similar manner to Bylaw 17698.

Regulatory Process and Utility Committee Deliberations

The regulatory process and guiding objectives for Utility Committee and City Council to assess the EWSI PBR Applications were approved by Council on February 22, 2021 (Attachment 6).

On June 25/July 9, 2021, Utility Committee reviewed the EWSI PBR Applications including the following reports:

- FCS00456 proposed bylaw and rates application to establish new customer rates for Water Services;
- FCS00483 proposed bylaw and rates applications to establish new customer rates for Drainage Services and Wastewater Treatment;
- FCS00623 written responses from EWSI to questions from Councillors, the Utility Advisor and Administration, in addition to written submissions from the public;
- FCS00624 reasonableness review of the rates applications by Administration;
- FCS00625 review of the rates applications by the Utility Advisor; and
- FCS00627 responses from EWSI to written submissions from the public and the reviews completed by Administration and the Utility Advisor of the rates applications.

At the conclusion of its deliberations of the EWSI PBR rates applications on July 9, 2021, Utility Committee passed a motion that Administration work with EPCOR to bring forward amendments to the applicable schedules to EPCOR Water Services Bylaw 19626 and EPCOR Drainage Services and Wastewater Treatment Bylaw 19627. The amendments included:

- reduced debt costs in the amount of \$3.7 million and the reimbursement to customers for the capitalization of valve casings and service box replacements in the amount of \$5.2 million;
- a deferral account for water consumption for each of Water Services, Wastewater Treatment and Drainage Services that would be accumulated during the 2022-2026 and 2022-2024 PBR terms and included in customer rates in each of the next PBR terms through a special rate adjustment;
- a decrease in the applied for return on equity for Water Services for 2022-2026 and for Wastewater Treatment for 2022-2024 from 9.95 to 9.64 percent, with no change to the requested return on equity for Drainage Services contained in the rates application;
- an increase in the applied for efficiency factor for Drainage Services for the 2022-2024 PBR term from 0.25 to 0.50 percent; and
- that all non-routine adjustments applied for by Water Services, Drainage Services and Wastewater Treatment during the 2022-2026 and 2022-2024 PBR terms be charged to the Adjustment Deferral Accounts. A two step approach would be followed whereby EWSI may receive interim approval and funding for the proposed adjustment with a final true up of funding being completed based on actual costs.

On July 27, 2021, EWSI submitted a PBR Compliance Application (Attachment 3) that incorporates amendments to the proposed EPCOR Water Services Bylaw 19626 (August 27, 2021, Financial and Corporate Services report FCS00743) and EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 in accordance with the directions from the Utility Committee on July 9, 2021.

Administration has reviewed the PBR Compliance Application and confirms that EWSI has appropriately amended the applicable schedules in the proposed Bylaws 19626 and 19627 to incorporate the adjustments included in the motions passed by Utility Committee. As detailed in Tables 3.0-1 to 3.0-4 of the Compliance Application, the adjustments result in a cumulative reduction in the applied for revenue requirements for Water Services over the five year period 2022-2026 in the amount of \$17.2 million in total, for Wastewater Treatment over the three year period 2022-2024 in the amount of \$3.4 million in total, and for Drainage Services over the three year period 2022-2024 in the amount of \$0.6 million in total.

Corporate Outcomes and Performance Management.

Corporate Outcome(s): The	City of Edmonton h	as sustainable and accessi	ble infrastructure.
Outcome(s)	Measure(s)	Result(s)	Target(s)

Oversight and transparency of EPCOR water, wastewater and drainage services. Annual and periodic reporting to Utility Committee of financial performance, operating and capital programs, and service quality levels.	Annual Progress Report - Water, Wastewater, Drainage (Fall 2020) Annual Operational Plan (Feb 2021) Performance Based Rates Applications (Feb 2021)	Annual Progress Report - Water, Wastewater, Drainage (June) Annual Operational Plan (Q1)
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Public Engagement

The public had an opportunity to provide feedback at the Utility Committee meeting held on June 25, 2021 regarding the EWSI PBR applications. The process for the review and approval of the EWSI rates applications was advertised in the Edmonton Journal and the Edmonton Sun on April 1, 2021 and April 8, 2021. EWSI also completed a stakeholder engagement process as part of the PBR application development to ensure that programs and initiatives aligned with stakeholder expectations.

Budget/Financial Implications

Approval of EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 will have financial implications on EPCOR's Drainage Services and Wastewater Treatment revenues, therefore impacting the EPCOR franchise fee and dividend received annually by the City.

Legal Implications

Public utilities owned or operated by municipalities providing service within that municipality are generally regulated by their municipal councils, as they are exempt from Alberta Utilities Commission regulation pursuant to s. 78.2 of the *Public Utilities Act*, RSA 2000, H-16. Public utilities that are not owned or operated by municipalities and that supply water, heat, light or power are regulated by the Alberta Utilities Commission. Public utilities that are owned or operated by a municipally controlled corporation and provide a utility service within the boundaries of the municipality are exempt from regulation by the Alberta Utilities Commission pursuant to s. 75.4 of the *Municipal Government Act*, RSA 2000, C-26.

EPCOR Water Services and Wastewater Treatment Bylaw 17698 and EPCOR Drainage Services Bylaw 18100 set out a mechanism for setting and adjusting fees, rates and charges for water, wastewater treatment and drainage services for a period that expires March 31, 2022. Therefore, new bylaws are required to set fees, rates and charges to be effective April 1, 2022.

Attachments

- 1. Bylaw 19627 Proposed EPCOR Drainage Services and Wastewater Treatment Bylaw (Clean Version)
- 2. Bylaw 19627 Proposed EPCOR Drainage Services and Wastewater Treatment Bylaw (Blackline Version)
- 3. EPCOR Water Services Inc. 2022-2024/2026 PBR Compliance Application
- 4. EPCOR Water Services Inc. Drainage Services 2022-2024 PBR Compliance Application Financial Schedules
- 5. EPCOR Water Services Inc. Wastewater Treatment 2022-2024 PBR Compliance Application Financial Schedules
- 6. EWSI 2022-2026 PBR Applications Regulatory Schedule and Guiding Objectives

Others Reviewing this Report

- C. Owen, Deputy City Manager, Communications and Engagement
- K. Fallis-Howell, Acting City Solicitor



CITY OF EDMONTON

BYLAW 19627

EPCOR DRAINAGE SERVICES AND WASTEWATER TREATMENT BYLAW

THE CITY OF EDMONTON BYLAW 19627

EPCOR DRAINAGE SERVICES AND WASTEWATER TREATMENT BYLAW

Whereas, pursuant to section 3 of the *Municipal Government Act*, RSA 2000, c M-26, the purposes of a municipality are to provide services, facilities and other things that are necessary or desirable for all or a part of the municipality;

And whereas, pursuant to section 7 of the *Municipal Government Act*, Edmonton City Council may pass bylaws respecting public utilities;

Edmonton City Council enacts:

PURPOSE	1	The I (a)	purpose of this bylaw is to approve: Rates, fees and charges for Drainage Services and Wastewater Treatment Services provided by EPCOR Water Services Inc. to Customers in the city of Edmonton and others, and a mechanism whereby such Rates will be adjusted on an annual basis, for the period of April 1, 2022 to March 31, 2025;
		(b)	Terms and Conditions for Drainage Services, and a mechanism whereby Drainage Services Guidelines consistent with the Terms and Conditions may be implemented by EPCOR Water Services Inc. and amended or replaced from time to time; and
		(c)	The Performance Based Regulation Plan for the period of April 1, 2022 – March 31, 2025.
DEFINITIONS	2	2 In this bylaw, unless otherwise specified or th otherwise requires:	
		(a)	"City" many the municipal corporation of the City
			of Edmonton;
		(b)	"City Manager" means the chief Administrative Officer of the City or delegate;
		(b) (c)	 "City Manager" means the chief Administrative Officer of the City or delegate; "Customer" means any person more particularly described as a "Customer" in Schedule 2 of this bylaw or is otherwise responsible for paying EWSI;

combined wastewater streams by any means and services related to or incidental to such services;

- (e) "**Drainage Services Franchise Agreement**" means a Franchise Agreement between EWSI and the City in respect of Drainage Services, dated September 1, 2017, including all amendments or replacements thereto;
- (f) "**Drainage Services Guidelines**" means those requirements, standards, specifications, procedures, protocols or guidelines adopted by EWSI pursuant to Schedule 2 or any other Schedule under this bylaw
- (g) **"EWSI**" means EPCOR Water Services Inc. or its successor;
- (h) "**Performance Based Regulation Plan**" means the Performance Based Regulation Plan for the period of April 1, 2022 to March 31, 2025, as more particularly described in Schedule 3 of this bylaw;
- (i) "Price Schedule" means the Rates in respect of Drainage Services or Wastewater Treatment Services more particularly described in Schedule 1 of this bylaw, as approved by the City and in effect at the time;
- (j) "**Rate**" means the rates, fees, riders and charges applicable to Drainage Services provided by EWSI within the city of Edmonton; and
- (k) "**Rate Sheets**" means the documents styled as Rate Sheets in Schedule 4 of this bylaw, intended for use as templates for the format in which EWSI's annual requests for Rates are to be filed with the City Manager.
- (l) "Wastewater Treatment Franchise Agreement" means a Franchise Agreement in respect of Wastewater Treatment Services between EWSI and the City, dated March 31, 2009, including all amendments or replacements thereto;
- (m) **"Wastewater Treatment Services**" means the treatment of wastewater and the storage, pumping

and disposal of treated wastewater by any means and the right to charge and recover a fee for such services in accordance with the provisions of the Wastewater Treatment Franchise Agreement.

- **RULES FOR** 3 The marginal notes and headings in this bylaw are for reference purposes only. **INTERPRETATION**
- RATES 4 Rates, fees and charges for the 12-month period April 1, 2022 - March 31, 2023 are approved and shall be **EFFECTIVE APRIL** 1,2022 charged in accordance with Schedule 1.
- For each 12 month period from April 1, 2023 to March **RATES AFTER** 5 31, 2025 Rates for the provision of Drainage Services **MARCH 31, 2023** and Wastewater Treatment Services by EWSI will be established in accordance with Section 8 and are subject to applicable adjustments as set out in Schedule 3 of this bylaw.

TERMS AND CONDITIONS

6 The Terms and Conditions of Drainage Service attached hereto in Schedule 2 of this bylaw are approved.

7 All Drainage Services and Wastewater Treatment Services provided within the boundaries of the city of Edmonton shall be provided by EWSI except for:

- Services which are provided by a person on property of which that person is the owner or tenant for use solely by that person and solely on the property, or
- Drainage Services or Wastewater Treatment (b) Services for which EWSI has provided written consent for another person to perform.
- Any adjustments to a Price Schedule made under Section **PRICE SCHEDULE** 8 **ADJUSTMENTS** 5 shall be made as follows:
 - (a) On or Before March 1st in each year commencing 2023 and ending in 2024, EWSI shall file for information with the City Manager Rates Sheets effective for the upcoming 12 month period from

Drainage Services or Wastewater Treatment (a)

April 1 to March 31, reflecting the Rates in accordance with this bylaw.

- (b) The filings referred to in subsection (a) above must include sufficient information for the City Manager to determine if the performance-based Rates for the upcoming year have been calculated in accordance with the provisions of Schedule 3 of this bylaw.
- (c) If, after reviewing the filings referred to in subsection (a) above, the City Manager is satisfied that the performance-based Rates included in the Rate Sheets have been calculated in accordance with this bylaw, the City Manager shall issue a compliance letter on or before March 15th of each year confirming that the performance-based Rates in the Rate Sheet for the upcoming year have been calculated in accordance with this bylaw.
- (d) Once the compliance letter has been issued in accordance with the provisions of subsection (c), EWSI is authorized to provide Drainage Services and Wastewater Treatment Services pursuant to the Rate Sheets filed in accordance with the provisions of this section.
- (e) The City Manager shall keep a record of all filings made in accordance with this bylaw.
- **EFFECTIVE DATE** 9 This bylaw comes into effect April 1, 2022.
- **REPEAL** 10 Upon this Bylaw becoming effective, Bylaw No. 18100, as amended, is hereby repealed.

SCHEDULES 11 The following schedules are included in, and form part of this bylaw:

Schedule 1 – Price Schedule

Part I – Sanitary and Stormwater Rates Part II – Service Fees and Charges Part III – Wastewater Treatment Rates

Schedule 2 – Terms and Conditions of Drainage Service

Schedule 3 – Performance Based Rates: Sanitary, Stormwater and Wastewater Treatment Rates

Schedule 4 – Pro-forma Annual Drainage and Wastewater Rate Filing

READ a first time this	day of	2021;
READ a second time this	day of	2021;
READ a third time this	day of	2021;
SIGNED AND PASSED this	day of	2021;

THE CITY OF EDMONTON

MAYOR

CITY CLERK

Schedule 1

Price Schedule

Rate Sheet 1

Applicable To all domestic service Customers within the city of Edmonton.

Sanitary Utility Service Charges April 1, 2022 – March 31, 2025

Sanitary utility charges are calculated and levied on each Premises on a monthly basis and are comprised of a Flat Monthly Charge and a Variable Monthly Charge.

Flat Monthly Charge

The Flat Monthly Charge is levied on each Premises based on the size of the Premises' water meter.

Effective Dates and Adjustments for Future Years

The Flat Monthly Charge for the period April 1, 2022 – March 31, 2023 is set out below. Flat Monthly Charges for the period April 1, 2023 to March 31, 2025 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the charges set out below, with new charge approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rate Flat Monthly Charge

Meter Size	Monthly Charge*
16mm	\$10.65
20mm	\$19.18
25mm	\$29.83
40mm	\$57.53
50mm	\$78.84
75mm	\$162.90
100mm	\$303.42
150mm	\$573.93
200mm	\$915.70
250mm	\$2,272.48
300mm	\$2,272.48
400mm	\$2,486.63
500mm	\$2,677.33

*These charges are subject to change, as permitted by the terms of this bylaw.

Variable Monthly Charge

The Variable Monthly Charge is based on the cubic metre rate in the Variable Monthly Charge Table, subject to adjustments as permitted by this bylaw, and measured by one of the following metered flows:

- i. water consumption for the premises;
- ii. sewer discharge for a premises on which a sewer meter has been installed in accordance with this bylaw; or
- iii. water consumption for the premises as discounted by the application of a utility credit as approved in accordance with this bylaw.

Effective Dates and Adjustments for Future Years

The Variable Monthly Charge for the period April 1, 2022 – March 31, 2023 is set out below. Variable Monthly Charges for the period April 1, 2023 to March 31, 2025 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Variable Monthly Charge Table

Premises	Rate per m ³
All premises (except large wholesale)	\$1.2493
Large Wholesale* with Collection System	\$0.6996

* Large Wholesale means a premises designated as such by EWSI in accordance with this bylaw.

Rate Sheet 2

Stormwater Utility Service April 1, 2022- March 31, 2025

Applicable To all persons, firms or bodies corporate that receive Water Services or other services related to or incidental to Water Services from EWSI pursuant to Bylaw 19626, as amended, and where the context or circumstances so require includes any person who makes or has made an application for Water Services or otherwise seeks to receive Water Services, and also includes any person acting as an agent or representative of such person, as well as a registered owner or tenant of property to which Water Services are being delivered.

> To all persons, firms or bodies corporate that receive Drainage Services, directly or indirectly, or other services related to or incidental to Drainage Services pursuant to this Bylaw or otherwise seeks to receive Drainage Services, and also includes any person acting as an agent or representative of such person, as well as a registered owner or tenant of property to which Drainage Services are being delivered.

All owners or occupants of Premises within the city of Edmonton share costs associated with Stormwater service: Stormwater utility charges are levied on all owners or occupants of Premises that receive Water Services and all other Premises that benefit either directly or indirectly from the conveyance of Stormwater by EWSI facilities. Stormwater utility charges are calculated based on a monthly rate using the following formula:

Stormwater utility charge = **A x I x R x rate**

A is:	 the area of premises (m²), and the proportion of building lot area attributable to each unit for multiple units sharing a single building or property
I is	- the development intensity factor of 1.0, except for properties where owners have demonstrated that they contribute significantly less stormwater per m ² to the City's sewerage system during rainfalls than other similarly zoned properties by making an application for a reduction in the intensity development factor pursuant to this bylaw.
R is	- the runoff coefficient based on the zoning of the premises.

The zoning designation used to calculate a property's Stormwater utility charge is the zoning designation determined by the City of Edmonton through its bylaws or otherwise. If a property's zoning designation is not referenced within the Runoff Coefficient Table, EWSI shall, in its sole

discretion, use the zoning designation within the Runoff Coefficient Table that most closely aligns with the property's zoning designation.

EWSI reserves the right to adjust Stormwater billing factors (area, development intensity factor or runoff coefficient) to ensure that a property's Stormwater utility charge reflects service received by the property.

Runoff Coefficient Table

R	Zoning
0.10	AG
0.20	A, RR
0.30	AP, US (schools)
0.50	RF1, RF2, RF3, RF4, RMH, IH, MA, AGU
0.65	RSL, RF5, RF6, RA7, RPL
0.75	RA8, US (except schools), PU
0.90	RA9, RMX, CNC, CSC, CB1, CHY, CO, IB,
	IM, AGI, DC
0.95	CB2, CMX

Rate

The Stormwater Utility Service Rate for the period of April 1, 2022 – March 31, 2023, unless otherwise adjusted by other mechanisms permitted by this bylaw, is:

Rate	\$0.056908

The Stormwater Utility Service Rate for the period April 1, 2023 to March 31, 2025 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rate set out above, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Service Fees and Charges – April 1, 2022 – March 31, 2025

1. Application Fees

2022 Fee
\$189.58
Subject to estimate
based on cost of
service
\$142.06
\$400.00
\$225.00
\$400.00

2. Sanitary Sewer Trunk Charges

Applicable

To all owners of a premises abutting an EWSI or City right-of-way in which there is a sanitary or combined sewer, the sanitary sewer trunk charge shall be levied

- (a) when a development permit is issued for development, redevelopment, or renovation on the premises;
- (b) if no development permit is required, when a building permit is issued for development, redevelopment, or renovation on the premises; or
- (c) when an application is made for sewer service to the premises.

For the purpose of calculating the sanitary sewer trunk charge, "secondary suite", "garden suite", and "garage suite", as well as reference to "use classes", have the same meaning as defined by the City of Edmonton Zoning Bylaw, Bylaw 12800, as amended.

Dwelling unit means a self-contained room or rooms with sleeping and cooking facilities, as defined in the City of Edmonton Zoning Bylaw, Bylaw 12800, as amended.

Residential means a premises used primarily for domestic purposes, where no more than four dwelling units are metered by a single water meter and the meter size to the premises is not greater than 50mm.
Part II – Services Fees and Charges

Sanitary sewer trunk charges are calculated as follows:

Dwelling	2022 Fee*	2023 Fee**	2024 Fee**	2025 Fee**
1-2 dwelling units,	\$λ	\$λ	\$λ	\$λ
excluding secondary				
suites, garden suites, or				
garage suites				
2 dwelling units where		\$λ	\$λ	\$λ
one unit is a secondary	\$λ			
suite, garden suite, or				
garage suite				
3 or more dwelling units	\$λ	\$λ	\$λ	\$λ
Commercial	\$λ	\$λ	\$λ	\$λ
Industrial	\$λ	\$λ	\$λ	\$λ
Institutional	\$λ	\$λ	\$λ	\$λ

For development, redevelopment, or renovation of premises for residential use classes:

*Sanitary sewer trunk charges for 2022-2025 shall be adjusted in accordance with an adjustment notice provided by the city of Edmonton, as applicable.

Notwithstanding the above, if a sanitary sewer trunk charge is levied on premises as a result of the redevelopment or renovation of premises, the sanitary sewer trunk charge will be calculated using the following formula:

	sanitary sewer trunk charge = $A - B$
A is:	- the sanitary sewer trunk charge that would have been levied based on the above fees;
B is:	- the sanitary sewer trunk charge previously levied and paid for the premises prior to the redevelopment or renovation on the premises; or
	 if the redevelopment or renovation of the premises is for residential use classes, then the sanitary sewer trunk charge that would have been paid had a sanitary sewer trunk charge been levied with respect to the development that existed on the premises prior to the date of the redevelopment or renovation. if the result is a negative figure, the sanitary sewer trunk charge will be deemed to be \$0

3. Other Service Charges

Hauled Wastewater

The fee for Hauled Wastewater is calculated based on vehicle size:

2022 Fee \$26.27 per axle, excluding the first steering axle
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If the Hauled Wastewater contains settleable solids in a concentration greater than 100 mL/L, the hauled wastewater fee is double the amount per axle indicated in the table above.

Missed Appointment Fees

To all customers who do not keep a scheduled appointment with an EWSI representative

2022 Missed Flood Assessment Appointment Fee	\$60.00
2022 Missed Obstruction Removal Appointment Fee	\$200.00

No-Access Fee

To all Customers who request EWSI to investigate sewer trouble but fail to provide access to the sanitary cleanout as required by EWSI's Drainage Services Guidelines.

2022 No-Access Fee \$200.00*

*This is fee is subject to waiver or reimbursement if the Customer provides access to the sanitary cleanout as required by EWSI's Drainage Services Guidelines within 30 days of the initial investigation request.

Investigation Fee

To all Customers who request EWSI to investigate sewer trouble where the result of the investigation indicates that the sewer trouble is caused by a private plumbing issue.

2022 Investigation Fee 5200.00 for second and subsequent appointments

Service Connection Fees

The fee for new sewer connections is calculated on a cost of service basis in accordance with the Drainage Services Guidelines.

Miscellaneous fees

EWSI may impose any other fees on the owner or developer of premises provided that those fees are reasonably connected to the provision of the sewer service to that premises.

Wastewater Treatment Rates

Wastewater Treatment Rates for the period of April 1, 2022 – March 31, 2023, unless otherwise adjusted by other mechanisms permitted by this bylaw, are set out below:

Residential Wastewater Treatment Service

ApplicableTo all domestic service Customers and multi-residential service Customers
located within the city of Edmonton which are serviced by or connected to
the City's sewerage system.

A domestic service is defined as a service supplied to premises used primarily for domestic purposes, where no more than four separate dwelling units are metered by a single water meter and the service line to the premises is not greater than 50 millimeters in diameter.

If a business is conducted from premises that otherwise fall within the above definition of a domestic service, Commercial Wastewater Treatment Service rates apply; provided however, that if a portion of the premises from which the business is conducted is separately metered, then a Commercial Wastewater Treatment Services rate will apply only to that portion of the premises.

Effective Dates and Adjustments for Future Years

Fixed Monthly Services Charges and Consumption Charges for the period April 1, 2023 to March 31, 2025 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of Schedule 1 of this Bylaw.

Rates	Fixed Monthly Service Charge	\$6.22 per month \$1.2334 per m ³	
	Consumption Charge * All consumption		
		\$1.200 ; por m	

* Consumption is based on water meter readings unless otherwise approved by EWSI and the City.

Commercial Wastewater Treatment Service

ApplicableTo all commercial, industrial and institutional Customers within the city
of Edmonton which are serviced by or connected to the City's sewerage
system.

To all Customers not otherwise defined as Residential Wastewater Treatment Service Customers.

Effective Dates and Adjustments for Future Years

Fixed Monthly Services Charges and Consumption Charges for the period April 1, 2023 to March 31, 2025 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rates	Fixed Monthly Service Charge	\$6.22 per month
	Consumption Charge *	
	$0 \text{ m}^3 - 10,000.0 \text{ m}^3$	\$1.2334 per m ³
	$10,000.1 \text{ m}^3 - 100,000.0 \text{ m}^3$	0.9542 per m^3
	Over 100,000.0 m ³	0.4979 per m^3

* Consumption is based on water meter readings unless otherwise approved by EWSI and the City.

Wastewater Treatment Rate: Sanitary Utility Credit

Applicable To non-residential wastewater treatment service Customers who can clearly demonstrate that there is a water loss experience between their water consumed and their discharges to the sanitary sewer system on a continuous monthly basis.

The Customer must submit a written application to EPCOR, as required by Schedule 2 to the Bylaw.

Wastewater Overstrength Surcharges

Applicable Applies to a Customer who releases wastewater to the sewer system that contains one or more constituents that exceed the concentration indicated in this Schedule.

Effective Dates and Adjustments for Future Years

The Wastewater Overstrength Surcharges for the period April 1, 2023 to March 31, 2025 will be determined and adjusted as outlined in Schedule 3 of this Bylaw, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rates

Wastewater Overstrength Surcharge:

The Overstrength Surcharge, applied to each m^3 of water consumed, for each kilogram of surchargeable matter per m^3 of wastewater that exceeds the concentration indicated for that matter shall be:

		Concentrations Above:
a)	\$0.7743 for Biochemical Oxygen Demand (BOD)	300 mg/L
b)	\$0.7743 for Chemical Oxygen Demand (COD)	600 mg/L*
c)	\$0.6769 for oil and grease	100 mg/L
d)	\$6.4427 for phosphorous	10 mg/L
e)	\$0.7028 for suspended solids, and	300 mg/L
f)	\$1.6445 for total kjeldahl nitrogen (TKN)	50 mg/L
* 0.	teries the DOD concentration in the encodermation endications is and	

* Or twice the BOD concentration in the wastewater, whichever is greater.

Wastewater Additional Overstrength Surcharge:

The Additional Overstrength Surcharge, applied to each m³ of water consumed, for each kilogram of surchargeable matter per m³ of wastewater that exceeds the concentration indicated for that matter shall be:

		Concentrations Above:
a)	\$0.7743 for Biochemical Oxygen Demand (BOD)	3,000 mg/L
b)	\$0.7743 for Chemical Oxygen Demand (COD)	6,000 mg/L*
c)	\$0.6769 for oil and grease	400 mg/L
d)	\$6.4427 for phosphorous	75 mg/L
e)	\$0.7028 for suspended solids, and	3,000 mg/L
f)	\$1.6445 for total kjeldahl nitrogen (TKN)	200 mg/L
* Or	twice the BOD concentration in the wastewater, whichever is a	greater.

Wastewater Overstrength Surcharges Adjustment

Applicable To Customers to whom the Wastewater Overstrength Surcharges apply and who own and operate facilities that produce and deposit into the sewer system 25,000 m³ or more per month of wastewater with a Biochemical Oxygen Demand equal to or greater than 100 tonnes per month with a ratio of Chemical Oxygen Demand to Biochemical Oxygen Demand (5-day test) less than 2.0.

It must be demonstrated through a technical assessment by EWSI that the impact of treating the Customer's wastewater stream at the Gold Bar Wastewater Treatment Plant will be significantly beneficial for biological nutrient removal. The Customer must provide, at its own cost, all information, samples and other materials that EWSI may require to complete this technical assessment. The Customer will be responsible for the full cost of the EWSI technical assessment.

This adjustment does not apply to Residential Wastewater Treatment Service Customers.

A Customer who wishes to be considered for this adjustment must submit a request in writing to EWSI for review of its Wastewater Overstrength Surcharge and eligibility for the adjustment. EWSI reserves the right to accept or deny any application and the amount and duration of the adjustment will be at the sole discretion of EWSI, as determined by the EWSI study reflecting the Gold Bar Wastewater Treatment Plant operation. Only one Wastewater Overstrength Surcharges Adjustment will be applied to any one Customer at one time.

Rate A discount from the regular rates for Wastewater Overstrength Surcharges where the level of discount to the Customer will be determined on a case-by-case basis.

Effective Dates This rate is effective as of and when EWSI amends or approves the rate for the period April 1, 2022 to March 31, 2025.

Wastewater Overstrength Surcharges: Supplementary Information

1. Key Terms

- a. **Biochemical oxygen demand (BOD)** means the quantity of oxygen required for the biochemical degradation of organic material and the oxygen used to oxidize inorganic material such as sulphides and ferrous iron during a 5-day, 20 degree Celsius incubation period and may measure the oxygen used to oxidize reduced forms of nitrogen, as determined by using a standard procedure.
- b. **Chemical oxygen demand (COD)** means a measure of the oxygen equivalent of the organic content of a sample that is susceptible to oxidation by a strong chemical oxidant, as determined by using a standard procedure.
- c. **Flow monitoring point** means an access point to the building drain, building sewer, private drainage system or sewer service for the purpose of collecting representative samples of the wastewater being released from the premises.
- d. **Oil and grease** means any solvent extractable material of animal, vegetable or mineral origin, as determined by using a standard procedure.
- e. **Phosphorus** means all forms of phosphorus in a sample, as determined by using a standard procedure.
- f. **Suspended solids** means the portion of total solids retained by a filter, as determined by using a standard procedure.
- g. **Total Kjeldahl Nitrogen (TKN)** means organically bound nitrogen plus ammonia nitrogen, as determined by using a standard procedure.

2. <u>Determination of Wastewater Overstrength Surcharges</u>

EWSI or its agent:

- a. will collect a composite sample of the wastewater being released over any 24 hour period or part thereof;
- b. will determine the concentration of the surchargeable constituents in the sample, using a standard procedure;
- c. will calculate the average concentration of each constituent from a minimum of four (4) composite samples taken over a period of more than seven (7) days, and not longer than a 12 month period;

- d. may, where the concentration(s) of the overstrength constituent(s) are in the same range as those used to establish the existing overstrength surcharge, use the existing mean concentrations to set the overstrength surcharge rate until such time as the concentrations fall outside the existing range;
- e. will calculate the average number of kilograms of each surchargeable constituent per cubic metre of wastewater, that exceeds the concentration indicated in Part IV "Wastewater Overstrength Surcharge" and "Wastewater Additional Overstrength Surcharge" of this Schedule; and,
- f. will calculate the Wastewater Overstrength Surcharges which will appear on the Customer's utility bill using the following formula:

Overstrength surcharge (\$) =

$$\frac{m^{3}\{(Ob (Cxb - 300) + Oc(Cxc - Cac) + Oo(Cxo - 100) + Op(Cxp - 10) + Os (Cxs - 300) + On(Cxn - 50)\}}{100,000}$$

Where:

- m³ is the total water consumption in cubic meters (or, if approved, sewer metering);
- Ob, Oc, Oo, Op, Os and On are the Overstrength surcharge set out in Part IV for each kilogram of BOD, COD, oil and grease, phosphorus, suspended solids, and TKN, respectively.
- Cxb, Cxc, Cxo, Cxp, Cxs, Csn are the average concentrations in milligrams per liter (mg/L) of BOD, COD, oil and grease, phosphorus, suspended solids and TKN, respectively, in the sampled wastewater.
- Cac is 600 or double the average BOD concentration in mg/L, whichever is greater.
- The additional surcharge is calculated using the above formula but substituting 3000, 400, 75, 3000 and 200 for 300, 100, 10, 300 and 50, respectively, and Cac is 6000 or double the average BOD concentration in mg/L, whichever is greater.
- Where the remainder of a subtraction is a negative number, that component of the formula becomes equal to zero.

Wastewater Overstrength Surcharges: Supplementary Information

3. <u>Application of Wastewater Overstrength Surcharges</u>

a. Single Business, Multiple Sewers:

Where the wastewater from a premises is released through two or more building sewers and where there is no accurate measurement of the individual flows being released, the release that would produce the highest surcharge will be used to determine the overstrength surcharge on all releases.

b. Multiple Businesses, Single Water & Sewer Service:

Wastewater released through a single sewer service from a premises with two or more separate businesses serviced by a single water service will be considered as being released by the person responsible for the payment of the utility bill for that water meter.

- c. **Multiple Businesses, Multiple Water Services & Single Sewer Service** Wastewater released through a single sewer service from a premises with two or more separate businesses, each serviced by separately metered water services, will be considered as being released from each of the separate businesses, in proportion to the separate business' water consumption, unless it is shown to the satisfaction of EWSI or its agent, by the owner of the premises, that:
 - i. the portion of the wastewater that is overstrength is being released from only one of the businesses serviced by a separate metered water service on the premises; and,
 - ii. the release from that business can be monitored separately from the other businesses.

Wastewater Overstrength Surcharges: Supplementary Information

4. <u>Review of Wastewater Overstrength Surcharges</u>

A Customer may request a review of the Wastewater Overstrength Surcharge or the Additional Overstrength Surcharge, or both, by applying in writing to EWSI to have the specific charges reviewed.

The Customer making the request will supply to EWSI:

- a. analytical data from analyses of composite samples:
 - i. collected over the period of time over which the surcharge was calculated;
 - ii. collected from the flow monitoring point in accordance with section 2(a) of this Wastewater Overstrength Surcharge: Supplementary Information;
 - iii. analyzed in accordance with section 2(b) of this Wastewater Overstrength Surcharge: Supplementary Information; and,
 - iv. supported by the analytical data indicating the accuracy and precision of the analyses; and
- b. any other information EWSI deems necessary to carry out the review.

EWSI will determine whether the Wastewater Overstrength Surcharge, the Additional Overstrength Surcharge, or both, should be recalculated for the time period being reviewed.

Schedule 2

Terms and Conditions of Drainage and Wastewater Treatment Service

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INTRODUCTION TO TERMS AND CONDITIONS

These Terms and Conditions, as approved by the municipal council of the City of Edmonton, form part of Bylaw 18100 (the "EPCOR Drainage Services Bylaw") which regulates the provision of Drainage Services in the city of Edmonton by EPCOR Water Services Inc. ("EWSI"). The EPCOR Drainage Services Bylaw, which also includes the EWSI Price Schedule in effect from time to time, is enacted pursuant to the powers vested in the City under the provisions of the *Municipal Government Act*. R.S.A. 2000 C. M-26.

These Terms and Conditions apply to EWSI and its relationship with all of its Customers. Every Customer, by applying for or using a Service Connection or Drainage Services or other services of any kind provided by EWSI under the authority of these Terms and Conditions, is deemed to have accepted these Terms and Conditions and is bound by and subject to them.

Unless otherwise agreed in writing by EWSI and a Customer, provision of Drainage Services or other services by EWSI to Customers will occur only in accordance with these Terms and Conditions.

ARTICLE 1 - DEFINITIONS AND INTERPRETATION

1.1 Definitions

The following words and phrases, whenever used in these Terms and Conditions or in an application, contract or agreement for service under these Terms and Conditions, shall have the meanings set forth below:

"Account" means a written and/or digital record of use of Drainage Services or other services by a Customer, including the amounts payable from time to time by the Customer to EWSI;

"Authorized Agent" means a person who has a valid EWSI access permit as set out in the Drainage Services Guidelines;

"**Billing and Customer Care Matters**" includes the provisions described in Articles 3.1, 3.3 and 3.5 of the EPCOR Water Services and Wastewater Treatment Bylaw;

"Biohazardous Agent, Risk Group 4" means an agent that is likely to cause serious or lethal human disease for which preventive or therapeutic interventions are not usually available;

"Business Day" means a day, which is not a Saturday, Sunday or a statutory holiday in the Province of Alberta, and "day" means any calendar day;

"City" means the municipal corporation of the City of Edmonton;

"City right-of-way" means land in which the City has an interest, including road right-of-ways and easements in favour of the City;

"**Combined Sewer**" means a sewer used for the collection and transmission of Wastewater and Stormwater;

"Customer" means any Person, firm or body corporate that receives Drainage Services or other services related to or incidental to the Drainage Services from EWSI pursuant to the EPCOR Drainage Services Bylaw and where the context or circumstances so require includes any Person who makes or has made an application for Water Services or otherwise seeks to receive Water Services, and also includes any Person acting as an agent or representative of a Customer, as well as a registered Owner of property to which Drainage Services are being delivered;

"Disturbed Ground" means terrain (surface or sub-surface) that is disturbed and that may require incremental construction techniques or support systems to provide stability;

"Drainage Services" includes but is not limited to the collection, storage, pumping and monitoring of sanitary, storm and combined waste streams by any means in accordance with the provisions of the Drainage Services Franchise Agreement, any and all incidental services more particularly described in these Terms and Conditions, and the use of physical plant, equipment, apparatus, appliances, property and Facilities owned or employed by EWSI or used in connection with EWSI in providing the Drainage Services for the property of any Customer;

"Drainage Services Agreement" means any agreement under which EWSI has or may incur an obligation to provide Drainage Services to one or more Customers, and may at EWSI's sole option include any servicing agreement entered into by the City to which EWSI is not a party to the extent that the servicing agreement addresses the provision of Drainage Services to a Customer;

"Dwelling" means a private residence with sleeping and cooking facilities used or intended to be used permanently or semi-permanently as a residence ;

"EPCOR Water Services and Wastewater Treatment Bylaw" means City of Edmonton Bylaw 17698 as amended.

"EWSI" means EPCOR Water Services Inc. or its successor;

Drainage Services Bylaw No. 19627

"EWSI right-of-way" means land in which the EWSI has an interest, including road right-ofways and easements in favour of the EWSI;

"Facilities" means any infrastructure forming part of the Sewerage System owned or used by EWSI.

"Flow Monitoring Point" means an access point to Sewer Service or Private Drainage System for a premises, examples of which include manholes and dip wells;

"Force Majeure" means circumstances not reasonably within the control of EWSI, including acts of God, strikes, lockouts or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, high water, washouts, inclement weather, orders or acts of civil or military authorities, civil disturbances, explosions, breakdown or accident to equipment, mechanical breakdowns, intervention of federal, provincial or local government or any of their agencies or boards, the order or direction of any court, and any other cause, whether of the kind herein described or otherwise;

"Foundation Drainage System" means a system of pipes, fittings, traps and appurtenances used to convey Subsurface Water;

"Hauled Wastewater" means Wastewater transported by vehicle for disposal;

"Hazardous Waste" has the same meaning as in the *Waste Control Regulation*, Alta Reg. 192/1996 to the *Environmental Protection and EnhancementAct*, RSA 2000, c E-12 as amended and any successor to that legislation;

"High Potential Contaminant Release Area" means an area where activities occur that have a high potential to Release Prohibited Waste, Restricted Waste or Hazardous Waste and includes:

- (a) the loading dock of a building and the area within one metre of the loading dock;
- (b) the area within two metres of any device used to compact refuse;
- (c) auto wrecker storage yards;
- (d) the area where non-residential vehicles or equipment are washed and the surrounding two metres in each direction;
- (e) the area where the transfer of materials takes place and the surrounding two metres in each direction; and

(f) any other area designated by EWSI;

"Lot Grading Plan" means a drainage design plan signed and sealed by a professional acceptable to the City Manager;

"Multiple Dwelling" means a wholly or partially residential development containing more than one Dwelling, whether or not the development is within a single building or structure, which receives Water Services through a total number of Service Connection Points that is less than the total number of Dwellings in the residential development;

"Owner" means:

- (a) the registered Owner of a parcel of land in the register maintained by the Registrar of Land Titles under the *Land Titles Act;* or
- (b) a Person who has purchased the parcel from the Person mentioned in sub clause (a) pursuant to an agreement for purchase and sale;

"Person" means an individual, partnership, association, corporation, organization, business, cooperative, trustee, executor, administrator or legal representative;

"Premises" means a parcel of land and any buildings situated on that land;

"**Price Schedule**" means the rates, fees and charges for Drainage Services more particularly described in Schedule 1 of the EPCOR Drainage Services Bylaw, as approved by the City and in effect at the time;

"Private Drainage System" means an Owner's assembly of pipes, fittings, traps and appurtenances used to convey Wastewater, Stormwater and Subsurface Water to the Sewer Service;

"Prohibited Waste" means matter prohibited from entering the Sewerage System as set out in Appendix A;

"Release" means to directly or indirectly conduct matter by spilling, discharging, depositing, disposing of, abandoning, leaking, seeping, pouring, draining, emptying, or any other means;

"**Restricted Waste**" means matter only permitted in the Sewerage System in limited quantities as set out in Appendix B and Appendix C;

"Sanitary Sewer" means a sewer used for the collection and transmission of Wastewater;

"Service Connection" means all of the Facilities required to achieve a physical connection between an EWSI sewer main abutting Customer property and a Private Drainage System to allow a Customer to access the Sewerage System and obtain Drainage Services;

"Service Connection Point" means the point where a Service Connection owned by EWSI and forming part of the Sewerage System physically connects to a Private Drainage System (which will ordinarily, but not necessarily, be a point at or near a Customer's property line);

"Sewer Service" means the pipe connecting a Private Drainage System to the Sewerage System;

"Sewerage System" means all EWSI owned infrastructure for the collection, storage, transportation and pumping of Wastewater and Stormwater and includes sewers, ditches, channels, Stormwater management facilities, Wastewater treatment facilities, sludge treatment facilities, biosolids storage and disposal facilities;

"Storm Sewer" means a sewer used for the collection and transmission of Stormwater and Subsurface Water;

"Stormwater" means surface run-off water that is the result of natural precipitation;

"Subsurface Water" means naturally occurring water that collects or flows beneath the ground surface filling the porous space of sediment, soil and rocks;

"Terms and Conditions" means the terms and conditions in respect of Drainage Services described herein.

"Wastewater" means water discharged from a premises; and

"Watercourse" means:

- (a) the bed and shore of a river, stream, lake, creek, lagoon, swamp, marsh or other natural body of water; or
 - (b) a canal, ditch, reservoir, Stormwater management facility or other manmade surface drainage feature;

whether or not it contains or conveys water continuously or intermittently.

1.2 Conflicts

If there is any conflict between a provision in these Terms and Conditions, and a provision in a Drainage Services Agreement or other agreement between EWSI and a Customer, the provision in these Terms and Conditions shall govern unless an express term of the Drainage Services Agreement or other agreement states otherwise.

1.3 Extended Meanings

In these Terms and Conditions, words importing the singular number shall include the plural and vice versa, words importing the masculine gender shall include the feminine and neuter genders and vice versa. Words importing a Person shall include a Person, firm, partnership, corporation, organization or association (including, without limitation, individual members of any unincorporated entity).

1.4 Headings

The division of these Terms and Conditions into sections, subsections and other subdivisions and the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation of these Terms and Conditions.

ARTICLE 2 - GENERAL PROVISIONS

2.1 Fundamental Obligations of EWSI and of Customers

- (a) EWSI will provide Drainage Services, at the fees, rates or other charges specified in the Price Schedule in accordance with these Terms and Conditions and with applicable provisions of the Drainage Services Guidelines. All additional services provided by EWSI to a Customer will be billed to the Customer in accordance with an agreement between the Customer and EWSI. The general costs of operating and maintaining the Sewerage System are covered by the rates for Drainage Services set out in the Price Schedule. EWSI will operate and maintain the Drainage System at no additional charge to any Customer beyond the fees, rates and charges for Drainage Services set out in the Price Schedule or in a Drainage Services Agreement, except for costs arising from:
 - (i) requirements or requests for specific non-routine services not more particularly described in the Price Schedule, or the acts or omissions of any particular Customer or defined group of Customers; and
 - (ii) repairs or remedies of any loss or damage to Facilities or other property that is caused by a Customer or any other party for whom a Customer is responsible in law, including, without limitation, any costs or damages described in any judgment of a court in EWSI's favour.

Such additional costs may at EWSI's sole option (and in addition to any other legally available remedies) be added to a Customer's Account as an additional amount due and payable by the Customer to EWSI.

- (b) When EWSI performs a repair on its Facilities affecting a Customer's property, EWSI will make all reasonable efforts to return the property to its original or similar to original condition as soon as practicable after the repair is completed.
- (c) Where any Facilities required to supply Drainage Services to a Customer are located in Disturbed Ground, or where any other unusual condition exists, EWSI's obligation to construct does not include incremental construction costs required to stabilize such Facilities or the disturbed ground, or to address other unusual conditions. The Customer may at EWSI's sole option be required to pay all additional construction costs in such circumstances, including the costs of any required support system.

2.2 Billing and Customer Accounts

The Terms and Conditions applicable to Billing and Customer Care Matters as provided in EPCOR Water Services and Wastewater Treatment Bylaw, Schedule 2, shall apply.

2.3 Drainage Services Guidelines

- (a) EWSI may adopt written requirements, standards, specifications, procedures, protocols or guidelines supplementary to these Terms and Conditions (the "Drainage Services Guidelines") as EWSI deems advisable for the purpose of clarifying or explaining:
 - (i) any fee, rate or other charge set out in the Price Schedule, including the circumstances and the manner in which such fee, rate or charge will be applied and billed to a Customer;
 - (ii) the manner in which EWSI's obligations under the EPCOR Drainage Services Bylaw and any applicable federal or provincial legislation or regulations will be fulfilled and the impacts on Customers;
 - (iii) EWSI's operating policies and procedures, and its requirements in relation to provision of Drainage Services or other services, including without limitation requirements intended to: provide security for costs incurred by EWSI, ensure the health and safety of employees, ensure the safety of the infrastructure used for the collection, storage, transportation and pumping of sanitary, storm and combined waste streams, and ensure and maintain the reliability of the Drainage System.

EWSI may amend the Drainage Services Guidelines from time to time to reflect changes to the industry, EWSI's requirements or the changing needs of EWSI's Customers. A copy of the

Drainage Services Guidelines and amendments thereto will be filed with the City Manager for information purposes and can be accessed at <u>www.epcor.com</u>.

The Drainage Services Guidelines and any amendments thereto shall be effective as of the date posted to EWSI's website. Without limitation to the foregoing and in the interest of greater clarity, the term "amend" in this clause includes the deletion of all or any portion of any Drainage Services Guideline previously filed with the City Manager.

- (b) Without limiting the generality of Section 2.3(a) above, Drainage Services Guidelines may deal with any or all of the following subject matter:
 - (i) procedures or requirements concerning investigation of Customer complaints and concerns;
 - (ii) procedures or requirements for provision of temporary Drainage Services, including without limitation Drainage Services provided during the construction phase of a development;
 - (iii) procedures or requirements for upgrading, re-sizing relocating or otherwise changing a Drainage Service Connection, whether at the instigation of EWSI or at the request of a Customer;
- (c) Without limiting the generality of Section 2.3 (a) above, Drainage Services Guidelines shall include:
 - Guidelines for public access to information related to Drainage Services consistent with the requirements of the Freedom of Information and Protection of Privacy Act, RSA 2000 c F-25, as amended; and
 - (ii) Guidelines for EWSI's Public Engagement Program consistent with the City's public engagement policy as may be amended.
- (d) The following are deemed to be Drainage Services Guidelines and are effective and binding upon every Customer. The guidelines referenced in subsections (i) (viii) may be amended or rescinded from time to time by EWSI. The guidelines referenced in subsections (ix) and (x) may be amended from time to time by EWSI.
 - Code of Practice: Oil, Grease & Sediment Interceptor Installation & Maintenance Requirements and Vehicle/Equipment Service & Washing; (S.5, Bylaw 19137, February 19, 2020)
 - (ii) Code of Practice: Hauled Wastewater Discharge Requirements;
 - (iii) Code of Practice: Dental Amalgam Separator Installation & Maintenance Requirements;

- (iv) Code of Practice: Fat, Oil & Grease and Solids Interceptor Installation & Maintenance Requirements and Commercial/Institutional Food Preparation; (S.6, Bylaw 19137, February 19, 2020)
- (v) Code of Practice: Large Volume Releases;
- (vi) Code of Practice: Commercial / Industrial Line Flushing;
- (vii) Code of Practice: Flow Monitoring Point Installation Requirements;
- (viii) The document entitled "Design and Construction Standards for the City of Edmonton – Volume 3 Drainage";
- (ix) Guidelines for Public Access to Drainage Services information;
- (x) Guidelines for Public Engagement Program; and
- (xi) The document entitled " EPCOR Drainage Services Water and Sewer Connections Guidelines"
- (e) While EWSI is committed to, and will endeavour to comply with, its Drainage Services Guidelines, the operations of EWSI are complex and dynamic and the Drainage Services Guidelines may not appropriately or exhaustively deal with every situation that arises. With the exception of the Drainage Service Guidelines provided by Article 2.3(c), EWSI, acting reasonably, may deviate from the provisions of the Drainage Services Guidelines or take action not specifically authorized by these Terms and Conditions or by the Drainage Services Guidelines at EWSI's sole discretion.

ARTICLE 3 - SEWER CONNECTIONS AND ALTERATIONS

3.1 Sewerage System

- (a) No Person or Owner shall:
 - (i) construct or alter any sewer or Sewer Service;
 - (ii) alter any surface grades or elevations; or
 - (iii) install or alter a culvert;

within a City or EWSI right-of-way, unless a permit authorizing the construction or alteration has been issued by EWSI.

(b) The Owner of a premises with an access abutting a City or EWSI right-ofway containing a culvert shall maintain the culvert in order to keep it free from obstruction

3.2 Sanitary Connection Required

The Owner of premises abutting a City or EWSI right-of-way in which there is a Sanitary or Combined Sewer shall apply to EWSI to have the Private Drainage System connected to the Sanitary or Combined Sewer prior to occupancy of the premises.

3.3 New Sanitary Service

When EWSI provides notice to an Owner that a Sanitary Sewer is newly available in the City or EWSI right-of-way abutting the Owner's premises, the Owner shall connect the Private Drainage System from the premises in the manner directed by EWSI.

3.4 Surface Drainage Connection Required

- (a) The Owner of premises other than single family or duplex residential premises shall provide a Private Drainage System for Stormwater from:
 (i) roofs;
 - (ii) parking areas;
 - (iii) storage areas;
 - (iv) paved areas; and
 - (v) courtyards.
- (b) The Owner of a premises requiring a Private Drainage System pursuant to this section shall apply to EWSI to connect that Private Drainage System to:
 - (i) a Storm Sewer where available;
 - (ii) a Combined Sewer where a Storm Sewer is not available; or
 - (iii) a location designated by EWSI.

3.5 High Potential Contaminant Release Areas

- (a) The Owner of a premises containing a High Potential Contaminant Release Area shall ensure:
 - (i) that the High Potential Contaminant Release Area drains to a separate drain from the surrounding area;
 - (ii) that run-off from the area surrounding the High Potential Contaminant Release Area does not enter the High Potential Contaminant Release Area; and

- (iii) that the High Potential Contaminant Release Area drains either:
 - (A) to a Stormwater pretreatment facility prior to draining to the Storm Sewer; or
 - (B) to the Sanitary or Combined Sewer, but only if:
 - i) the High Potential Contaminant Release Area is covered;
 - ii) the High Potential Contaminant Release Area is less than the greater of:
 - (I) 8 square metres per loading dock; or
 - (II) 250 square metres in total area; or
 - iii) approval has been given by EWSI.

3.6 Foundation Drainage

The Owner of a premises shall apply to EWSI to have the Foundation Drainage System for the premises connected to:

- (a) a Storm Sewer where available; or
- (b) a location designated by EWSI.

3.7 Sewer Alterations

The Owner of a premises may apply to EWSI to have EWSI alter:

- (a) the size of the Sewer Service to the premises; or
- (b) the elevation of the Sewer Service to the premises.

3.8 Temporary Sewer Service

The Owner of a premises that does not abut a City or EWSI right-of-way in which there is a Sanitary or Combined Sewer may apply to EWSI for temporary Sewer Service.

ARTICLE 4 - SEWER CONNECTION REGULATIONS

4.1 Combined Sewer Regulations

- (a) The Owner of premises, other than single family or duplex residential premises, serviced by a Combined Sewer:
 - (i) shall install separate Private Drainage Systems for Stormwater and Wastewater; and
 - (ii) may combine the Private Drainage Systems at the property line.
- (b) When a Storm Sewer becomes available in a City or EWSI right-of-way abutting the premises referenced in this section, EWSI may require the Private Drainage System for Stormwater be connected to the Storm Sewer.

4.2 Roof Leaders

The Owner of single family or duplex residential premises shall not connect roof leaders to a Combined Sewer unless EWSI has directed that the roof leaders be connected to the Combined Sewer.

4.3 Flow Monitoring Points

- (a) The Customer or Owner of a premises serviced by the Sewerage System shall install and maintain an accessible Flow Monitoring Point, consistent with the Flow Monitoring Point Installation & Maintenance Requirement Code of Practice, on each pipe leaving the property:
 - (i) when the pipe is new;
 - (ii) when the premises is redeveloped; or
 - (iii) when required to do so by EWSI.
- (b) A Flow Monitoring Point required by this section shall be constructed and maintained in accordance with the Flow Monitoring Point Installation & Maintenance Requirements Code of Practice as provided in the Drainage Service Guidelines.
- (c) The Owner of a premises shall ensure that EWSI has a safe and reasonable means of accessing the Flow Monitoring Point.
- (d) Unless exempted by EWSI, this section applies to all premises except single-family or duplex properties that discharge only Wastewater from domestic sources.

4.4 Interceptors

- (a) The Customer or Owner of any premises in which there is commercial or institutional food preparation shall provide, install and maintain a fat, oil and grease interceptor consistent with the requirements in the Fat, Oil & Grease and Solids Interceptor Installation & Maintenance Requirements and Commercial/Institutional Food Preparation Code of Practice:
 - (i) on all fixtures that may release fat, oil, grease or solids; or
 - (ii) downstream of all fixtures that may release fat, oil, grease or solids.
- (b) The Customer or Owner of a premises in which vehicles or equipment are serviced, repaired, disassembled or washed shall provide an oil, grease and sediment interceptor consistent with the specification of the Oil, Grease and Sand Interceptor Installation and Maintenance Requirements Code of Practice:
 - (i) on all fixtures that may release oil, grease or sediment; or

- (ii) downstream of all fixtures that may release oil, grease or sediment.
- (c) The Owner of a premises shall install an interceptor when required to do so by EWSI.
- (d) All interceptors required by this section shall be installed and maintained in accordance with the applicable Code of Practice.
- (S.7, 8, 9, 10, 11, 12, Bylaw 19137, February 19, 2020)

4.5 Dental Amalgam

- (a) The Owner of a premises in which a dental facility is located shall install a dental amalgam separator on all fixtures that may release dental amalgam waste to the Sewerage System.
- (b) All separators required by this section shall be installed and maintained in accordance with the Dental Amalgam Separator Installation & Maintenance Requirements Code of Practice as provided in the Drainage Service Guidelines.
- (c) This section does not apply to premises:
 - (i) practicing exclusively Orthodontics and Dentofacial Orthopedics;
 Oral and Maxillofacial Surgery, Oral Medicine and Pathology, Oral and Maxillofacial Radiology, or Periodontics; or
 - (ii) exempted, in writing, by EWSI.

4.6 Screening and Pretreatment

The Owner of a premises shall install screens or pretreatment facilities or modify pretreatment processes, within the Private Drainage System for the premises when required to do so by the EWSI.

4.7 Monitoring Devices

- (a) The Owner of a premises shall install and maintain monitoring devices when required to do so by EWSI.
- (b) An Owner required to install and maintain a monitoring device pursuant to this section shall:
 - (a) submit the data produced by the monitoring device to EWSI on a monthly basis; and
 - (b) notify EWSI immediately when the monitoring device detects a Release of a Hazardous, Prohibited or Restricted Waste.

4.8 Interference

No Person or Owner shall alter, remove or destroy any:

(a) device, facility or infrastructure in a Private Drainage System used to control the rate of release to the Sewerage System;

- (b) drainage devices, facilities or infrastructure installed on private property that have been required or approved by the EWSI; or
- (c) part of the Sewerage System.

4.9 **Property Limitations**

- (a) The Owner of a premises shall not extend the Private Drainage System for the premises to any other separately titled lot.
- (b) This section does not apply to extensions to:
 - (i) the City or EWSI right-of-way; or
 - (ii) common property under the *Condominium Property Act*, RSA 2000, c C-22 as amended.

4.10 Abandonment

The Owner of a premises where the Private Drainage System has been, or will be, abandoned shall cap the Sewer Service in a manner acceptable to EWSI.

4.11 Construction and Maintenance of Private Drainage Systems

The Owner of a premises shall be responsible for the construction, maintenance and repair of the Private Drainage System.

4.12 Stormwater Management Facilities

- (a) A Person shall not wade, swim, boat, fish, skate, allow pets to enter or carry on any other recreational activity on or in a EWSI Stormwater management facility except as permitted by EWSI. (S. 13, Bylaw 19137, February 19, 2020)
- (b) A Person shall not remove any water from or modify access to an EWSI Stormwater management facility except as permitted by EWSI.
- (c) A Person shall not facilitate any of the activities prohibited by this section.

ARTICLE 5 - RELEASES

5.1 No Release

No Person shall release or permit the release of any matter into the Sewerage System or any Watercourse except as permitted in this Article.

5.2 No Prohibited Waste

No Person shall release or permit the release of any Prohibited Waste into the Sewerage System except as permitted in this Article.

5.3 No Restricted Waste

No Person shall release or permit the release of any Restricted Waste into the Sewerage System except as permitted in this Article.

5.4 No Hazardous Waste

No Person shall release or permit the release of any Hazardous Waste into the Sewerage System except as permitted in this Article.

5.5 Waste Management

- (a) A Person who keeps, stores or transports a Prohibited or Restricted Waste shall do so in a manner that ensures that the Prohibited or Restricted Waste is not Released into the Sewerage System.
- (b) A Person who keeps or stores a Prohibited or Restricted Waste shall ensure that those materials are sequestered through secondary containment, barriers and/or distance to ensure that the Prohibited or Restricted Waste is not Released into the Sewerage System.

5.6 No Dilution

No Person shall dilute Wastewater in order to enable the release of that Wastewater in accordance with this Article.

5.7 Large Volume Releases

- (a) No Person shall Release Wastewater that exceeds a volume of 10 cubic metres, into the Sewerage System except as permitted in this Article.
- (b) A Person may Release Wastewater that exceeds a volume of 10 cubic metres, into the Sewerage System if the Release is performed in accordance with the Large Volume Releases Code of Practice as established in the Drainage Service Guidelines established by EWSI.

5.8 Sanitary Sewer Permitted Releases

The following may be Released into a Sanitary Sewer:

- (a) Wastewater that does not contain:
 - (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste
- (b) roof drainage and Subsurface Water from premises connected for that purpose in accordance with this bylaw;
- (c) water obtained from a source other than EWSI in a volume less than or equal to 1 cubic metre per day;
- (d) Stormwater from a High Potential Contaminant Release Area that is (i) covered; or
 - (ii) less than the greater of:

- (A) 8 square metres per loading dock; or
- (B) 250 square metres in total area; and
- (e) Stormwater from a site used by the City for the storage of snow.

5.9 Combined Sewer Permitted Releases

The following may be Released into a Combined Sewer:

- (a) Wastewater that does not contain;
 - (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste;
- (b) Stormwater, except Stormwater from:
 - (i) a High Potential Contaminant Release Area; or
 - (ii) roof drainage or foundation drainage on single family or duplex residential premises;
- (c) run-off water resulting solely from:
 - (i) street cleaning;
 - (ii) extinguishing fires;
 - (iii) garden and lawn maintenance; and
 - (iv) washing of single family or duplex residential premises;
- (d) water to which no matter has been added, except from a High Potential Contaminant Release Area;
- (e) roof drainage and Subsurface Water from premises connected for that purpose in accordance with this bylaw;
- (f) water obtained from a source other than EWSI in a volume less than or equal to 1 cubic metre per day; and
- (g) Stormwater from a High Potential Contaminant Release Area treated so that it does not contain:
 - (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or

(iii) a Restricted Waste; (S. 14, 15, Bylaw 19137, February 19, 2020)

5.10 Sanitary and Combined Sewer Permitted Releases

The following may be Released into a Sanitary Sewer or a Combined Sewer if prior written approval for the Release has been given by EWSI:

- (a) Wastewater, Stormwater or Subsurface Water from a remediation site;
- (b) Stormwater and Subsurface Water from a premises when required;
- a limited quantity of Wastewater containing Prohibited Waste or Restricted Waste, if the Release can be shown to have a minimal adverse effect on the Sewerage System;
- (d) Wastewater from a swimming pool, tank, pond, vessel, reservoir or other containment device or structure if the volume of the device or structure is 10 cubic metres or greater;
- (e) Wastewater from line flushing activity, if the line flushing activity is performed in accordance with the Commercial/Industrial Line Flushing Code of Practice as established in the Drainage Services Guidelines;
- (f) non-residential Wastewater containing a Restricted Waste where it can be demonstrated that the best available technology cannot meet the concentration levels set out in Appendix B;
- (g) non-residential Wastewater containing a Restricted Waste provided that a satisfactory plan to control and reduce the Release of the Restricted Waste has been developed and implemented;
- (h) water obtained from a source other than EWSI in a volume greater than 1 cubic metre per day;
- (i) non-contact cooling water; and
- (j) any other matter that EWSI considers, on reasonable grounds, it is in the public interest to Release to the Sanitary Sewer.

5.11 Storm Sewer Permitted Releases

The following may be Released into a Storm Sewer, Stormwater management facility or Watercourse:

(a) Stormwater or Subsurface Water, except from a remediation site or a High Potential Contaminant Release area, that does not contain:

- (i) a Hazardous Waste;
- (ii) a Prohibited Waste; or
- (iii) a Restricted Waste;
- (b) run-off water resulting solely from:
 - (i) street cleaning;
 - (ii) extinguishing fires;
 - (iii) garden and lawn maintenance; and
 - (iv) washing of single family or duplex residential premises;
- (c) Wastewater resulting from exterior cleaning in a High Potential Contaminant Release Area that has been treated so that it does not contain:

 (i) a Hazardous Waste;

 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste; and
- (d) Stormwater from a High Potential Contaminant Release Area that has been treated so that it does not contain:
 - (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste.
- (e) Discharge from watermain unidirectional flushing and/or hydrant flushing

5.12 Storm Sewer Permitted Releases requiring EWSI Approval

The following may be Released into a Storm Sewer if prior written approval for the Release has been given by EWSI:

- (a) Stormwater or Subsurface Water from a remediation site;
- (b) Wastewater resulting from the exterior cleaning of buildings, structures or fixtures, other than single family or duplex residential premises, that does not contain:
 - (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste;

- (c) Wastewater from line flushing activity, if the line flushing activity is performed in accordance with the Commercial/Industrial Line Flushing Code of Practice as established in the Drainage Services Guidelines;
- (d) non-residential Stormwater containing a Restricted Waste provided that a plan to control and reduce the Release of Restricted Wastes has been developed and implemented to the satisfaction of EWSI; and
- (e) any other matter that EWSI considers, on reasonable grounds, it is in the public interest to Release to the Storm Sewer.

5.13 Hauled Wastewater

- (a) No Person shall Release, discharge or permit the Release or discharge of Hauled Wastewater unless the discharge:
 - (i) is made by a Person holding a valid business licence issued by the City with proof of that licence displayed on the vehicle;
 - (ii) is made at a location and in a manner approved by EWSI;
 - (iii) is documented in a manner directed by EWSI;
 - (iv) uses a discharge hose at the approved location placed securely in the discharge portal;
 - (v) either:
 - (A) contains only the matters set out in Article 5.9; or
 - (B) is from solely domestic sources and contains no Hazardous Waste; and
 - (vi) is done in accordance with the Hauled Wastewater Discharge Requirements Code of Practice as established by the Drainage Services Guidelines.
- (b) When the Release or discharge of Hauled Wastewater has been prohibited by EWSI in accordance with these Terms and Conditions, the Person prohibited from releasing or discharging the Hauled Wastewater must provide to EWSI the following information, in writing, within seven days of the prohibition:
 - (i) the name and relevant contact information of the generator of the Wastewater that was prohibited;
 - (ii) the address from which the Wastewater that was prohibited originated;

- (iii) a description of the location and equipment from which the Wastewater that was prohibited was collected;
- (iv) the composition of the Wastewater that was prohibited; and
- (v) the final location at which the Wastewater was Released.

5.14 Residue Disposal

Any Person who treats Wastewater or Stormwater prior to Release to the Sewerage System must:

- (a) dispose of any residue generated in that treatment process in a manner acceptable to EWSI;
- (b) maintain for a minimum of two years accurate records on the amount of residue stored, transported and disposed; and
- (c) provide EWSI with the records kept on the storage, transportation and disposal of the residue upon request.

5.15 Compliance Program

A Person may Release matter in accordance with a compliance program approved by EWSI.

5.16 Release Reporting

- (a) Any Person who Releases or permits the Release of any matter other than those permitted in this Article shall, immediately after becoming aware of the Release, notify:
 - (i) EWSI;
 - (ii) the Owner of the premises from which the Release originated, if known; and
 - (iii) any other Person who may be directly affected by the Release.
- (b) The notification of EWSI shall include:
 - (i) the name of the Person causing or permitting the Release;
 - (ii) the location of the Release;
 - (iii) the name of the Person reporting the Release;
 - (iv) the date and time of the Release;
 - (v) the type of material Released and any associated hazards;
 - (vi) the volume of material Released; and
 - (vii) corrective action taken or anticipated to control the release.
5.17 Release Control

Any Person who Releases or permits the release of any matter other than those permitted in this Article shall, immediately after becoming aware of the Release, take all reasonable steps to:

- (a) confine, remedy and repair the effects of the Release;
- (b) remove or otherwise dispose of the matter in a manner that minimizes any adverse effects; and
- (c) prevent future releases of matter other than those permitted in this Article.

5.18 Owner Report

- (a) The Owner and/or Customer of a premises from which a Release has been reported shall submit a written report to EWSI within seven days of the Release. (S.17, Bylaw 19137, February 19, 2020)
- (b) A report required by this Article shall include:
 - (i) the date and time of the Release;
 - (ii) the location of the Release;
 - (iii) the duration of the Release;
 - (iv) the rate of the Release;
 - (v) composition of the Release, including the composition and amount of each substance in the Release;
 - (vi) the circumstances leading to the Release;
 - (vii) the steps taken to minimize, control or stop the Release;
 - (viii) the procedures that will be implemented to prevent similar Releases in the future;
 - (ix) a summary of any harm caused by the Release; and
 - (x) any other information required by EWSI.

ARTICLE 6 - SURFACE DRAINAGE

6.1 Release of Stormwater and Subsurface Water

The Owner and/or Customer of a premises must control the Release of Stormwater and Subsurface Water when directed to do so by EWSI including:

(S.18, Bylaw 19137, February 19, 2020)

(a) the rate of Release of Stormwater and Subsurface Water to the Sewerage System or any surface drainage feature; and

(b) the location of the Release of Stormwater and Subsurface Water from the premises.

6.2 Compliance with Encumbrances

The Owner and/or Customer of a premises shall comply with the terms and conditions of any restrictive covenant, easement agreement, utility right-of-way or any other document registered on the certificate of title for that premises in which EWSI has an interest, including encumbrances designed to protect: (S.19, Bylaw 19137, February 19, 2020)

- (a) a drainage structure;
- (b) a swale;
- (c) a ditch;
- (d) the overflow area of a Stormwater management facility;
- (e) the stability of a slope; or
- (f) any other surface drainage feature.

ARTICLE 7 - APPLICATIONS, PERMITS AND APPROVALS

7.1 Requirement for Account and Obligation to Pay

Subject to Article 7.5, prior to receiving any Drainage Services from EWSI, an Owner, or Customer is obligated to open an account for water services as required by EPCOR Water Services and Wastewater Treatment Bylaw.

7.2 Applications for Connections

- (a) A Customer applying for new Sewer Service to the premises or an alteration to an existing Sewer Service to the premises must submit the following to EWSI:
 - (i) an application in a form acceptable to EWSI;
 - (ii) the sanitary sewer trunk charge;
 - (iii) any additional charges applicable to the construction or alteration of the Sewer Service; and
 - (iv) any additional information required by EWSI.
- (b) The Owner of a premises other than a single family or duplex residential premises must also submit the following to EWSI when applying for new Sewer Service to the premises or an alteration to an existing Sewer Service to the premises, signed and sealed by a professional acceptable to EWSI:
 - (i) a site mechanical and lot grading plan approved by the City;
 - (ii) an assessment of the potential for the premises to Release contaminated surface water to the Sewerage System, pipe bedding or Watercourse, including:

- (A) all existing information regarding soil contaminants on site;
- (B) all bore hole logs;
- (C) all Subsurface Water and soil sampling data; and
- (D) any other information required by EWSI;
- (iii) an assessment of the potential to Release Wastewater or Stormwater in contravention of this bylaw; and
- (iv) plans for facilities, means and monitoring to prevent soil or Subsurface Water from contaminated sites from adversely affecting or entering the Sewerage System.

7.3 Applications to Release Matter

A Person applying to Release matter into the Sewerage System must submit to EWSI:

- (a) An application in a form acceptable to EWSI; and
- (b) Any fees payable as set out in Schedule 1, Part II;

7.4 Applications for Compliance Program Approval

A Person applying for the approval of a compliance program must submit to EWSI:

- (a) an application in a form acceptable to EWSI;
- (b) the compliance program specifications signed and sealed by a professional acceptable to EWSI; and
- (c) the fee payable for a compliance program approval application as set out in Schedule 1, Part II.

7.5 Applications for Sewer Metering Approval

A Person applying for the approval of sewer metering in place of water metering for the purpose of sanitary utility charges must submit to EWSI:

- (a) an application in a form acceptable to EWSI;
- (b) a report on the proposed sewer metering signed and sealed by a professional acceptable to EWSI; and
- (c) the fee payable for a sewer metering approval application as set out in Schedule 1, Part II.

7.6 Applications for Utility Credit

A Person applying for the approval of credit on their sanitary utility charges or Stormwater utility charges must submit to EWSI:

(a) an application in a form acceptable to EWSI;

- (b) a report showing the evidentiary basis for the credit claimed;
- (c) other information as required by the Terms and Conditions of the Utility Credit Programs; and
- (d) the fee payable for a utility credit application as set out in Schedule 1, Part II.

7.7 Compliance with Conditions

The holder of a permit or approval must comply with the terms and conditions imposed on the permit or approval.

EWSI may revoke, suspend or refuse to re-issue, vary, or impose conditions on any permit or approval if, in the opinion of EWSI, the permit or approval holder has failed to comply with the terms and conditions of the permit or approval or for any other reason which in EWSI's sole judgment requires such action.

The onus of proving a permit or approval has been issued in relation to any activity otherwise regulated, restricted or prohibited by the Terms and Conditions is on the Person alleging the existence of such a permit on a balance of probabilities;

The onus of proving that a Person is exempt from the provisions of the Terms and Conditions requiring a permit or approval is on the Person alleging the exemption on a balance of probabilities

7.8 **Rejection of Application for Drainage Services**

EWSI may, without limitation, reject any Customer's request for Drainage Services when:

- (a) the Customer has not complied with the requirements of the Terms and Conditions;
- (b) the Customer does not have currently in effect all approvals that may be required for the installation of the Sewer Service;
- (c) the Customer refuses to enter into a Drainage Services Agreement or other form of agreement acceptable to EWSI;
- (d) any representation made by the Customer to EWSI for the purpose of obtaining or continuing Drainage Services is, in EWSI's reasonably held opinion, fraudulent, untruthful or misleading;
- (e) the Customer has not, when requested by EWSI to do so, provided a signed written application for Drainage Services;
- (f) the type of Drainage Services or Sewer Service applied for is not available or not normally provided by EWSI in the locality where the Drainage Services are requested;
- (g) the requirements of the Drainage Services Guidelines have not been met;

- (h) the proposed Drainage Services or Service Connection, in EWSI's reasonably held opinion, has unusual characteristics that might adversely affect the quality of Drainage Services supplied to other Customers, public health or safety, the health or safety of EWSI's personnel, or the safety or reliability of any other Facilities or the Sewerage System;
- (i) a previous Customer at the site had a history of non-payment and EWSI believes, on reasonable grounds, that the defaulting Customer would continue to occupy the premises;
- (j) the Customer has an outstanding balance with EWSI for Water or Drainage Services; or
- (k) the Customer has failed to provide the security required by EWSI.

7.9 Customer Contracts

(a) Drainage Services Agreement

EWSI may, in its sole discretion, require a Customer previously connected or seeking to connect to the Drainage System to sign a Drainage Services Agreement in respect of a Service Connection, as a condition of receiving or continuing to receive a Service Connection or Drainage Services.

(b) Assignment of Contractual Obligations

All Drainage Services, whether or not they require EWSI's assignment consent, that are properly assigned or otherwise transferred to a corporate Customer's affiliate or successor taking over the operation of a Customer's business and operations at premises subject to a pre-existing Account, shall be subject to the terms of the Customer's Drainage Services Agreements and billing history. Any change in service requirements as a result of such assignment or transfer shall be made in accordance with these Terms and Conditions. The existing contractual arrangements will remain in place until any new agreements have been approved and accepted by both parties.

7.10 Authorizations and Approvals for Service Connection

The Customer shall be responsible for obtaining all permits, certificates, licenses, inspections, reports, and other authorizations necessary for the installation and operation of the Service Connection. EWSI shall not be required to commence or continue installation or operation of a Service Connection unless and until the Customer has complied with the requirements of all governmental authorities, permits, certificates, licenses, inspections, reports and other authorizations, all right-of-way agreements, and all of EWSI's requirements applicable to the installation and operation of the Service Connection. EWSI reserves the right to verify that all necessary authorizations have been obtained by Customers.

7.11 Scheduling for Service Connection

EWSI shall schedule Customers for Sewer Service after:

(a) the Customer has complied with EWSI's application requirements;

- (b) the Customer has complied with the requirements of all applicable construction and safety standards, applicable legislation and regulations, including City of Edmonton bylaws; and
- (c) the Customer's application for Drainage Services has been accepted by EWSI.

ARTICLE 8 - DRAINAGE SERVICE REQUIREMENTS AND FACILITIES

8.1 Protection of EWSI's Facilities and Property of Other Customers

(a) No Interference with Facilities

Without prior approval, the Customer shall not install or allow to be installed on property owned or controlled by the Customer any temporary or permanent structures, fences or landscaping that could interfere with the proper and safe access to, or operation of EWSI's Facilities or result in noncompliance with applicable statutes, regulations, standards or codes.

Only an EWSI employee or Authorized Agent shall remove, operate, enter, access, attach, affix to or maintain EWSI Facilities. A Customer shall not obstruct access to or interfere with any Facility or permit the same to be done by any Person other than an employee or authorized agent of EWSI. If a Customer or a Person authorized by a Customer fails to comply with this provision, the Customer is responsible to pay the cost of repairing or otherwise remedying any damage to or loss of Facilities located on the Customer's premises or premises controlled by the Customer, unless caused by circumstances, as determined in EWSI's sole discretion, to have been beyond the Customer's control.

- (b) Deep Ground Disturbance in Proximity to Drainage Facilities Any party that proposes any construction involving ground disturbance to a depth exceeding two (2) metres within five (5) metres of the boundary of lands containing EWSI Facilities is required to enter into a Facility Proximity Agreement with EWSI, prior to performing the ground disturbance.
- (c) Protection of the Private Drainage System, Equipment and Assets on Customer's Property The Customer is solely responsible to take all necessary measures to prevent damage to the Private Drainage System and any other equipment or assets connected to the Facilities on the Customer's property due to any cause, including, without limitation, freezing and settlement or movement of the structure or soil through which the Private Drainage System passes. EWSI shall not be liable for any repair, maintenance or replacement of any portion of the Private Drainage System, except where damage to the Private Drainage System is caused by a deliberate or gross negligent act of EWSI.

The Customer shall provide and maintain, at no cost to EWSI, the necessary space and protective barriers to safeguard Facilities installed or to be installed upon the Customer's premises. If the Customer refuses, EWSI may, at its option, provide and maintain such protective barriers, and charge the Customer for these Drainage Services. Such space, and protective barriers shall be in conformity with applicable laws and regulations and subject to EWSI's approval.

- (d) Compliance with Requirements and Use of Service Connection The Customer shall ensure that the Private Drainage System and any other equipment or assets comply with the requirements of any applicable code or regulation and with the Drainage Services Guidelines. The Customer shall not use a Service Connection or any Drainage Services received in a manner so as to cause interference with any other Customer's use of a Service Connection or Drainage Services. At EWSI's request, a Customer shall take whatever action is required to correct such interference or disturbance at the Customer's expense.
- (e) Customer to Pay Relocation Costs The Customer shall pay all costs of relocating EWSI's Facilities at the Customer's request, if such relocation is for the Customer's convenience, or if necessary to remedy any violation of law or regulation caused by the Customer. If requested by EWSI, the Customer shall pay the estimated cost of the relocation in advance.

ARTICLE 9 - EASEMENTS, RIGHTS-OF-WAY, AND USE OF AND ACCESS TO FACILITIES

9.1 Easements and Rights - of-Way

At the request of EWSI an Owner shall grant or cause to be granted to EWSI, without cost to EWSI, such easements or rights-of-way over, upon or under property owned or controlled by the Owner as EWSI reasonably requires for the construction, installation, maintenance, repair, and operation of the Sewerage System.

9.2 Right of Entry

(a) EWSI's employees, agents and other representatives shall have the right to enter a Customer's premises at all reasonable times, or at any time during an event of Force Majeure, for the purpose of installing, maintaining, replacing, testing, monitoring, reading or removing EWSI's Facilities and for any other purpose incidental to the provision of Drainage Services. A Customer shall not prevent or hinder EWSI's entry to the Customer's premises for any such purpose. Without limiting the generality of the foregoing, EWSI has the right to enter a Customer's premises at any reasonable hour in order to:

- (i) install, inspect, test, repair, replace or remove Facilities;
- (ii) perform necessary maintenance to Facilities;
- (iii) investigate or respond to a Customer complaint or inquiry;
- (iv) conduct an unannounced inspection where EWSI has reasonable grounds to believe that interference with Facilities has occurred or is occurring and
- (v) take necessary corrective action to safeguard and maintain the Drainage System.
- (b) EWSI will make reasonable efforts to notify the Customer in advance of entering a Customer's premises or to notify any other Person who is at the Customer's premises and appears to have authority to permit entry, except:
 (i) in cases of emergency;
 - (ii) where entry is permitted by order of a court or other authority having jurisdiction;
 - (iii) where otherwise legally empowered to enter;
 - (iv) where the purpose of the entry is in accordance with Article 9 of these Terms and Conditions.
- (c) EWSI may charge a "no access fee" sufficient to cover EWSI's reasonable costs, if EWSI's lawful entry to a Customer's premises is prevented or hindered, whether by a Customer not keeping a scheduled appointment or for any other cause.

9.3 Access to Sewerage System

- (a) A Customer shall be responsible for managing vegetation on the property owned or controlled by the Customer and to maintain adequate clearances to avoid interference with EWSI's Facilities.
- (b) A Customer shall not obstruct or hinder EWSI's free and direct access to any of its Facilities.
- (c) EWSI, in its sole discretion, may consider the presence of a dog to be an obstruction or a hindrance to access to any Facilities and may notify the Customer of any conditions or actions required to enable access to the Facility by appointment with the Customer.
- (d) Where a Customer contravenes any provision of Sections 9.1, 9.2 or 9.3 and fails to remedy such contravention within ten (10) days after receiving from

EWSI a notice in writing to do so, then in addition to any other legal remedy available EWSI may take any steps necessary to remedy the contravention and may charge any costs of so doing to the Customer's Account. These steps include, but are not limited to, turning off water services in accordance with EPCOR Water Services and Wastewater Treatment Bylaw.

9.4 Customer Responsibility for Use of Facilities

A Customer shall not use the Sewerage System in a manner that interferes with any other Customer's use of the Sewerage System. At EWSI's request, the Customer shall take whatever action is required to correct any interference, disturbance or adverse effect at the Customer's expense.

ARTICLE 10 - SEWERAGE SYSTEM EXTENSIONS

10.1 Estimated Cost

Upon a Customer's request for a new or upgraded Service Connection involving construction of new Facilities or an extension to the Sewerage System, EWSI shall prepare a proposal outlining the estimated cost of the Service Connection including all necessary new Facilities or extensions to the Sewerage System.

Where a Customer-requested new or upgraded Service Connection requires cross-lot servicing, EWSI may in its sole discretion decline to construct the Service Connection.

10.2 Agreement in Writing for Sewerage System Extension

A new or upgraded Service Connection involving new Facilities or an extension to the Sewerage System shall not be constructed unless the Customer has executed a Drainage Services Agreement for the proposal with EWSI.

10.3 Customer Payment for Sewerage System Extension Costs

Unless otherwise specified in a Drainage Services Agreement the full cost of any new Facilities or extensions to the Sewerage System shall be paid by the Customer whose new or upgraded Service Connection gives rise to the need for the new Facilities or extension to the Sewerage System.

10.4 Changes to Amount Payable by Customer

Following construction completion, and placing the new Facilities into service pursuant to Article 9 hereof, the amount payable by the Customer will be changed to the actual full cost of the new Facilities. Where the actual full cost exceeds the estimate, EWSI will provide the customer with a written explanation for the change.

ARTICLE 11 - DRAINAGE SERVICE CONNECTIONS

11.1 Engineering, Design and Construction Requirements for Service Connections

- (a) Unless otherwise specified in a written agreement between EWSI and the Customer, it is the Customer's responsibility to supply at the Customer's cost:
 - (i) any plans and engineering reports pertaining to the Service Connection that EWSI may reasonably require, signed and sealed by a Professional Engineer;
 - (ii) an engineering report describing the design, construction and materials proposed, including measures to prevent adverse effects of contaminated soils, groundwater, or adverse soil conditions on the Drainage System;
 - (iii) proof to EWSI's satisfaction, that the Service Connection and the Private Service Line meet all requirements of these Terms and Conditions, the Design and Construction Standards and the Drainage Services Guidelines, and conform to the requirements of all applicable legislation including municipal bylaws and regulations;
- (b) The Customer shall be responsible for the installation and condition of the Private Service Line and all other piping and equipment or any other assets on the Customer's side of the Service Connection Point.
- (c) The Customer shall determine whether he requires any devices to protect his premises or property from damage that may result from the use of a Service Connection or Drainage Services. The Customer shall provide and install any such devices at the Customer's sole expense provided that they do not obstruct or interfere with EWSI's Facilities.

ARTICLE 12 - CHANGES TO SERVICE CONNECTIONS OR OTHER FACILITIES

12.1 Requirement to Give Notice of Changes to Drainage Service Requirements

A Customer shall give to EWSI reasonable prior notice, written or verbally recorded, of any requested change to a Service Connection, to enable EWSI to determine whether or not it can accommodate such revised Drainage Service without changes to other EWSI Facilities.

12.2 Customer to Bear Cost of Changes to EWSI Facilities

If EWSI determines that any modifications, extensions or additions are required to existing Facilities to accommodate:

(a) a Customer's request for change to a Service Connection; or

(b) any material change to a Customer's use of Drainage Services, regardless of whether the Customer requests a change to the Service Connection

the Customer is obligated to pay the full cost of such modifications, extensions or additions to Facilities, unless otherwise specified in a Drainage Services Agreement or under the provisions of a water main cost sharing program offered by EWSI.

ARTICLE 13 - GENERAL RESTRICTIONS AND PROHIBITIONS

13.1 Discontinuation of Drainage Service

In addition to any other remedy or penalty, EWSI may discontinue the provision of Drainage Services to any premises if the Customer of that premises is in breach of these Terms and Conditions and no less than forty-eight hours advance notice of the discontinuance is provided to the Customer of the premises.

13.2 Discontinuation of Water Service

In addition to any other remedy or penalty, EWSI may, in its sole discretion, discontinue or limit the provision of water services as provided by EPCOR Water Services and Wastewater Treatment Bylaw to any premises if the Customer of that premises is in breach of these Terms and Conditions and no less than forty-eight hours advance notice of the discontinuance is provided to the Customer of the premises.

13.3 Prohibition of Release

In addition to any other remedy, EWSI may prohibit a Person from releasing or discharging hauled Wastewater if that Person is in breach of these Terms and Conditions.

13.4 Refusal to Approve Plans

In addition to any other remedy or penalty, EWSI may refuse to approve any plans for a premises until the owner of the premises has complied with this bylaw.

13.5 Obstruction

A Person shall not obstruct or hinder any Person in the exercise or performance of the Person's powers pursuant to these Terms and Conditions.

13.6 Contravention of Terms and Conditions

When a Customer or Person contravenes any provision of these Terms and Conditions, in addition to any other legally available remedy, EWSI may take any steps reasonably necessary to remedy the contravention and may charge any costs of so doing to the Customer's or Person's Account.

ARTICLE 14 - LIABILITY AND INDEMNIFICATION

14.1 Limitation of EWSI Liability

- Notwithstanding any other provision of these Terms and Conditions or any (a) provision of any agreement between EWSI and a Customer relating to the provision of Drainage Services (an "EWSI Agreement") EWSI, its directors, officers, agents, employees and representatives ("EWSI Parties") shall not be liable to the Customer, its directors, officers, agents, employees and representatives ("Customer Parties") for any loss, injury, damage, expense, charge, cost or liability of any kind, including without limitation, liability for nuisance or any other tort that does not require a finding of intention or gross negligence, suffered or incurred by the Customer Parties, or any of them, whether of a direct, indirect, special or consequential nature, however or whenever caused, and whether in any way caused by or resulting from the acts or omissions of the EWSI Parties, or any of them, except for direct property damages incurred by the Customer as a direct result of a breach of these Terms and Conditions or applicable EWSI Agreement or other act or omission by an EWSI Party, which breach or other act or omission is caused by the gross negligence or intentional tort of such EWSI Party.
- (b) Any liability under this Section will be limited to an amount in proportion to the degree to which the EWSI Party is determined to be at fault. For the purpose of the foregoing and without otherwise restricting the generality thereof, "direct property damage" shall not include loss of revenue, loss of profits, loss of earnings, loss of production, loss of contract, cost of capital, and loss of use of any Facilities or property, or any other similar damage or loss whatsoever.
- (c) For greater certainty and without limiting the generality of the foregoing, EWSI is not liable for any loss, damage or physical harm to any Person (except where caused by the gross negligence or intentional tort of an EWSI Party) and arising from or caused directly or indirectly, in whole or in part, by any:
 - (i) any failure, defect, fluctuation, reduction or interruption in the provision of Drainage Services by EWSI to its Customers, whether resulting from the break or malfunction of any sewer main, service, Private Service Line or attachment, or from the interruption in or cessation of Drainage Services Connection with the repair or proper maintenance of the Drainage System.
- (d) All limitations, protections and exclusions of liability contained in any provincial or federal legislation are in addition to and not in derogation of or substitution for the limitations of EWSI's liability contained in these Terms and Conditions.

14.2 Release

Subject to Section 14.1 above, none of the EWSI Parties (as defined above) will be liable to any of the Customer Parties (as defined above) for any damages, costs, expenses, injuries, losses, or liabilities suffered or incurred by the Customer Parties or any of them, however and whenever caused, and each Customer Party hereby forever releases each of the EWSI Parties from any liability or obligation in respect thereof.

14.3 EWSI Not Liable to Customer

For greater certainty and without limitation to the provisions of Sections 14.1 and 14.2, EWSI Parties shall not be liable to a Customer for any damages of any kind (except to the extent the damages are caused by the gross negligence or intentional tort of an EWSI Party) caused by or arising from any EWSI Party's act in compliance with, or as permitted by, these Terms and Conditions, a Drainage Services Agreement, or any legal or regulatory requirement related to provision of Drainage Services.

14.4 Customer Liability

- (a) In addition to any other liability provisions set out in these Terms and Conditions or any provision in a Drainage Services Agreement or any other agreement between a Customer and EWSI, a Customer Party (as defined above) shall be liable for any damages, costs, expenses, injuries, losses, or liabilities suffered or incurred by EWSI Parties (as defined above), whether of a direct or indirect nature, caused by or arising from any acts or omissions of a Customer Party that result in a breach ("Breach") of these Terms and Conditions or the applicable agreement, or any negligent or wilful acts or omissions of harm of a Customer Party whether or not they constitute a Breach.
- (b) A Customer shall indemnify and hold EWSI and its employees and agents harmless from and against any claim (including any claim by another Customer of EWSI) for any loss, damage, expense, charge, cost (including legal fees), fine, penalty or other liability of any kind suffered or incurred by EWSI arising out of or in any way connected with:
 - (i) any failure by the Customer to comply with these Terms and Conditions;
 - (ii) any damages to EWSI's Facilities or the facilities of another Customer caused by equipment installed or actions taken or failed to be taken by the Customer;
 - (iii) any claim, damages, or loss suffered by the Customer as a result of any act or omission of an agent acting for such Customer.
- (c) Any claim by a Customer for direct losses, damages, expenses, charges, costs or other liabilities not barred or restricted under these Terms and Conditions must be communicated in writing to EWSI within 180 days

from the date of occurrence of the incident giving rise to the claim or the date on which the Customer ought reasonably to have become aware of the occurrence or incident, failing which EWSI shall have no liability or responsibility whatsoever to the Customer in respect of the claim.

14.5 Force Majeure

(a) Force Majeure Relief

If an event or circumstance of Force Majeure occurs that affects EWSI's ability to provide a Service Connection or Drainage Services, EWSI's obligations and responsibilities hereunder and under any agreement relating to Service Connections or provision of Drainage Services, so far as they are affected by the Force Majeure or the consequences thereof, shall be suspended until such Force Majeure or the consequences thereof are remedied and for such period thereafter as may reasonably be required to restore the Service Connection or Drainage Services. Flat Monthly Service Charges, if applicable, will continue to be payable during the period in which EWSI claims relief by reason of Force Majeure.

(b) Notice

EWSI shall where practicable give notice of an event of Force Majeure to Customers affected and shall where practicable give notice to Customers affected when the Force Majeure event ceases to prevent performance of EWSI's obligations.

(c) Obligation to Remedy

EWSI shall promptly remedy the cause and effect of the Force Majeure insofar as it is reasonably able to do so.

(d) Strikes and Lockouts

Notwithstanding any other provision of these Terms and Conditions, the settlement of any strike, lockout or other industrial disturbance shall be wholly in the discretion of EWSI and EWSI may settle such strike, lockout or industrial disturbance at such time and on such terms and conditions as it may deem appropriate. No failure or delay in settling such strike, lockout or industrial disturbance shall constitute a cause or event within the control of EWSI or deprive EWSI of the benefits of this Section 14.5.

ARTICLE 15 - ADDITIONAL PROVISIONS RELATING TO DRAINAGE SERVICES

15.1 Ownership of Facilities

EWSI remains the owner of all Facilities necessary to provide Drainage Services to Customers or Owners, to and including the Service Connection Point, unless a written agreement between EWSI and a Customer specifically provides otherwise. Payment made by a Customer for costs incurred by EWSI in installing Facilities does not entitle the Customer to ownership of any such Facilities, unless a written agreement between EWSI and the Customer specifically provides otherwise.

15.2 Proper Use of Drainage Services

The Customers assume full responsibility for the proper use of the Service Connection and Drainage Services provided by EWSI and for the condition, suitability and safety of any and all Facilities on the Customer's premises or on premises owned by the Customer or premises controlled but not owned by the Customer. The Customer shall be liable for any loss, damage, expense, charge, cost or other liability of any kind, whether to EWSI, its agents or employees, EWSI property or otherwise, arising directly or indirectly by reason of

- (a) the routine use of the Drainage System,
- (b) the Customer's improper or negligent use of Drainage Services, Sewer Service Facilities, or the Sewerage System; or
- (c) the negligent acts or omissions or wilful acts or omissions of the Customer or any Person permitted on the Customer's property.

15.3 Compliance with Applicable Legal Authorities

EWSI and all Customers are subject to, and shall comply with, all applicable federal, provincial and local laws, and all applicable orders or other actions of governmental authorities having jurisdiction. EWSI's obligation to provide or continue to supply a Service Connection or Drainage Services or otherwise terminate Drainage Services, in respect of any Customer, is subject to the condition that all requisite governmental and regulatory approvals for the supply or continued provision of the Service Connection or Drainage Services or or termination are obtained and in force.

15.4 Powers of EWSI

Without restricting any other power, duty or function in this bylaw EWSI may:

- (a) carry out any inspection to determine compliance with this bylaw;
- (b) take any steps or carry out any actions required to enforce this bylaw;
- (c) take any steps or carry out any actions required to remedy a contravention or release which, in EWSI's reasonable opinion, appears to be a contravention of this bylaw;
- (d) establish areas where activities restricted by this bylaw are permitted;
- (e) establish forms for the purpose of this bylaw;

- (f) issue permits and approvals with such terms and conditions as are deemed appropriate;
- (g) establish criteria to be met for a permit or approval to be issued pursuant to this bylaw;
- (h) waive or vary any fee payable pursuant to this bylaw; and
- (i) delegate any powers, duties or functions under this bylaw to an employee of EWSI.

15.5 Interference with EWSI's Property

No one other than an EWSI employee or Authorized Agent shall be permitted to remove, operate, enter, access, affix to or maintain Facilities owned by EWSI. A Customer shall not interfere with or alter Facilities or permit the same to be done by any Person other than the authorized agents or employees of EWSI.

15.6 Drainage Services Interruptions and EWSI Obligation to Respond

- (a) While EWSI takes all reasonable efforts to guard against Drainage Services interruptions, it does not guarantee uninterrupted Drainage Services or any particular standard of Drainage Services. EWSI shall at any time, without liability whatsoever to any Customer, have the right to discontinue or otherwise curtail, interrupt or reduce Drainage Services to Customers whenever EWSI reasonably determines, or when EWSI is directed by an authority having jurisdiction, that such discontinuance curtailment, interruption or reduction is:
 - (i) necessary to facilitate construction, installation, maintenance, repair, replacement or inspection of any of EWSI's Facilities;
 - (ii) necessary to facilitate a Customer's construction, installation, maintenance, repair or replacement of its infrastructure used to for Drainage Services;
 - (iii) pursuant to non payment of amounts due and payable on a Customer's Account;
 - (iv) necessary to maintain safety and reliability of the Sewerage System; or
 - (v) due to any other reason including: dangerous or hazardous circumstances, emergencies, forced outages, or Force Majeure.
- (b) EWSI shall use reasonable efforts to;
 - (i) provide notice of any Drainage Services reduction or interruption;

- (ii) minimize such interruption duration and occurrences;
- (iii) schedule planned interruptions as much as possible at times convenient to Customers; and
- (iv) restore extended Drainage Service interruptions due to sewer main breaks, plugged or collapsed sewer lines or other reasons as soon as practicable.
- (c) EWSI is obligated to make reasonable efforts to respond to a Customer requested service call within a reasonable time, and to minimize Drainage Service interruptions to Customers. The Customer shall pay the cost of a Customer-requested service call and all related work if the cause of the problem is outside the Sewerage System and is not the direct result of an act or omission of an employee, contractor or agent of EWSI that is grossly negligent or an intentional tort.
- (d) Either EWSI or the City, or both of them jointly, may at any time issue an Order directing all Customers to cease or restrict use of the Sewerage System in the manner and for the period of time specified in the Order, and may cause such Order to be publicly disseminated via print or electronic media or by posting on the websites of EWSI or the City. A Customer is deemed to have received notice of such Order and to be aware of its content 24 hours after it is publicly disseminated, or at such sooner time as a copy of the Order is delivered to the Customer's service address as shown in the Customer's account by an employee, agent or other representative of EWSI or of the City.

15.7 Assignments

- (a) A Customer shall not assign any of its rights or obligations under these Terms and Conditions or a Drainage Services Agreement or any other agreement with EWSI relating to a Service Connection or Drainage Services without obtaining any necessary regulatory approvals and EWSI's approval where required in such agreement. No assignment shall relieve the Customer of any of its obligations under these Terms and Conditions until such obligations have been assumed by the assignee and EWSI has agreed to the assignment and novation. Any purported assignment by a Customer in violation of this section shall be void.
- (b) EWSI may assign all or any part of its rights or obligations under these Terms and Conditions or a Drainage Services Agreement, or any entitlement to payment under any Customer Account, to any Person with or without notice to the Customer.

15.8 No Waiver

The failure of EWSI or a Customer to insist upon strict performance of any provision of these Terms and Conditions or a Drainage Services Agreement or any other agreement between EWSI and the Customer relating to a Service Connection or Drainage Services, or to take advantage of any of its rights arising therefrom, shall not be construed as a waiver of any such provisions or the relinquishment of any such right or rights. No provision of these Terms and Conditions or a Drainage Services Agreement or any other agreement between EWSI and a Customer relating to a Service Connection or Drainage Services shall be deemed to have been waived, and no breach thereof shall be deemed to have been excused, unless such waiver or consent to excuse is in writing and signed by the party claimed to have waived or consented to excuse.

15.9 Law

- (a) These Terms and Conditions and any Drainage Services Agreement or other agreement between EWSI and a Customer relating to a Service Connection or Drainage Services shall be governed by the laws of the Province of Alberta and the federal laws of Canada applicable in the Province of Alberta, without regard to principles of conflicts of law. Any legal proceedings arising in connection with these Terms and Conditions or any other agreement relating to a Service Connection or Drainage Services shall be brought in the courts of the Province of Alberta.
- (b) Nothing in these Terms and Conditions, including the issuance of a permit, any approval, and any inspections conducted by EWSI, relieves any Person of their legal duty to comply with these Terms and Conditions.

Appendix A – Prohibited Wastes

The following are designated as Prohibited Wastes:

- 1. any matter in a concentration that may cause a hazard to human health;
- 2. any flammable liquid or explosive matter that, by itself or in combination with another substance, is capable of causing or contributing to an explosion or supporting combustion;
- 3. any matter that by itself or in combination with another substance is capable of obstructing the flow of or interfering with the operation or performance of the Sewerage System, Watercourse, or treatment facility including but not limited to:
 - a. agricultural wastes;
 - b. animals, including fish and fowl or portions thereof that will not pass a two centimetre screen;
 - c. ashes;
 - d. asphalt;
 - e. concrete and cement based products;
 - f. gardening wastes;
 - g. glass;
 - h. gravel, into the sanitary Sewerage System;
 - i. metal;
 - j. hair and hair clippings;
 - k. cardboard and paper, excluding toilet tissue into the Sanitary Sewer or Combined Sewer;
 - l. plastics;
 - m. personal hygiene products;
 - n. rags, paper towels and cloth;
 - o. rock;
 - p. sediment, into the sanitary Sewerage System; (S.20, Bylaw 19137, February 19, 2020)
 - q. sharps;
 - r. soil;
 - s. straw;

- t. tar;
- u. wash water from washing equipment used in the mixing and delivery of concrete and cement based products;
- v. wood, and wood sawdust or shavings;
- w. grit or skimmings from interceptors, catch basins, pretreatment facilities or private Wastewater disposal systems; or
- x. sludge from interceptors, catch basins, pretreatment facilities or private Wastewater disposal systems;
- 4. any matter with corrosive properties that, by itself or in combination with another substance, may cause damage to any Sewerage System or treatment facility;
- 5. any matter, other than domestic Wastewater, that by itself or in combination with another substance is capable of creating an air pollution problem outside a Sewerage System or in and around a treatment facility;
- 6. any matter that, by itself or in combination with another substance, is capable of preventing safe entry into a Sewerage System or treatment facility;
- 7. any matter that:
 - a. consists of two or more separate liquid layers; or
 - b. is capable of forming a separate liquid layer when it comes in contact with Stormwater or Wastewater;
- 8. any matter that, by itself or in combination with another substance, is detrimental to the operation or performance of the Sewerage System, Watercourse, treatment facility, or the environment, including but not limited to:
 - a. biological waste;
 - b. elemental mercury;
 - c. paint, stains and coatings, including oil and water based;
 - d. prescription drugs and any other pharmaceutical products;
 - e. pesticides and herbicides; and
 - f. used automotive and machine oils and lubricants;
- 9. radioactive material in solid form;
- 10. effluent from an industrial garbage grinder;
- 11. any matter that has the potential to:

- a. cause a hazard to human health and that cannot be effectively mitigated by Wastewater treatment;
- b. cause a hazard to the environment;
- c. cause a hazard to workers responsible for operating and maintaining the Sewerage System or a treatment facility;
- d. cause an adverse effect to the Sewerage System;
- e. cause an adverse effect to a treatment facility;
- f. result in the Wastewater being Released by the treatment facility in contravention of regulatory requirements; or
- g. restrict the beneficial use of biosolids from a treatment facility.
- 12. any matter that contains a Biohazardous Agent, Risk Group 4.

Appendix B – Restricted Wastes Applicable to Sanitary and Combined Sewers

The following are designated as Restricted Wastes when present in Wastewater, Stormwater, or Subsurface Water being Released to a Sanitary or Combined Sewer in excess of the limits set out below.

Unless expressed otherwise, concentrations are expressed as total concentrations.

Notwithstanding any limit set out below, EWSI may require or allow a premises to adhere to site-specific limits where EWSI determines it appropriate to do so. (S.21, Bylaw 19137, February 19, 2020)

1. CONTAMINANTS

Contaminant	Concentration (mg/L)
Biochemical oxygen demand (B.O.D.)	10,000
Chemical oxygen demand (C.O.D.)	20,000
Oil and grease	500
Phosphorus (P)	200
Suspended solids (S.S.)	5,000
Total Kjeldahl nitrogen (T.K.N.) or Ammonia (S.22, Bylaw 19137,	500
February 19, 2020)	

2. INORGANIC CONSTITUENTS

Inorganic Constituent	Concentration (mg/L)
Antimony	5.0
Arsenic (As)	1.0
Cadmium (Cd)	0.10
Chlorine (total) (Cl ₂)	5.0
Chromium (hexavalent) (Cr^{+6})	2.0
Chromium (total) (Cr)	4.0
Copper (Cu)	1.0
Cyanide (CN ⁻)	2.0
Lead (Pb)	1.0
Mercury (Hg)	0.10
Molybdenum (Mo)	5.0
Nickel (Ni)	4.0
Silver (Ag)	5.0
Selenium (Se)	1.0
Sulphide (S=)	3.0
Thallium (Tl)	1.0
Zinc (Zn)	2.0

3. ORGANIC COMPOUNDS

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Organic Compound	Concentration (mg/L)
Hydrocarbons	100
Phenols	1.0

4. pH

pH (Hydrogen ion) less than 6.0 or greater than 11.5

5. **TEMPERATURE**

temperature greater than 75 degrees Celsius

6. OTHER

a. radioactive material in a concentration greater than allowed under the *Nuclear Safety and Control Act*, SC 1997, c 9 and associated regulations;

Appendix C – Restricted Wastes Applicable to Storm Sewers and Watercourses

The following are designated as Restricted Wastes when present in Wastewater, Stormwater, or Subsurface Water being Released to the Storm Sewer or a Watercourse in excess of the limits set out below.

Unless expressed otherwise, concentrations are expressed as total concentrations.

Notwithstanding any limit set out below, EWSI may require a premises to adhere to site-specific limits where EWSI determines it appropriate to do so.

1. CONTAMINANTS

Contaminant	Concentration (mg/L)
Biochemical oxygen demand (B.O.D.)	50
Chemical oxygen demand (C.O.D.)	100
Oil and grease	15
Phosphorus (P)	1.0
E.coli.	200 MPN / 100 mL or 200 counts / 100 mL

2. INORGANIC CONSTITUENTS

Inorganic Constituent	Concentration (mg/L)
Ammonia Nitrogen (NH3-N)	1.4
Arsenic (As)	0.050
Cadmium (Cd)	0.0005
Chlorine (total) (Cb)	0.020
Chromium (hexavalent) (Cr^{+6})	0.010
Chromium (total) (Cr)	0.089
Copper (Cu)	0.160
Cyanide (CN ⁻)	0.050
Lead (Pb)	0.020
Mercury (Hg)	0.00013
Nickel (Ni)	0.080
Silver (Ag)	0.001
Selenium (Se)	0.010
Thallium (Tl)	0.008
Zinc (Zn)	0.30

3. ORGANIC COMPOUNDS

Organic Compound	Concentration (mg/L)
Benzene	0.37
Ethylbenzene	0.090
Toluene	0.039
Xylene	0.5

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Organic Compound	Concentration (mg/L)
Carbon tetrachloride	0.0133
Phenols	0.005
Tetrachloroethylene	0.0044
Trichloroethylene	0.0076

(S.24, Bylaw 19137, February 19, 2020)

4. pH

pH less than 6.0 or greater than 9.0, except uncontaminated runoff resulting from natural precipitation

5. **TEMPERATURE**

temperature greater than 60 degrees Celsius

6. OTHER

- a. dye or colouring material that produces a colour value greater than or equal to 50 true colour units, or that causes discolouration of the dye containing water so that the colour cannot be determined by the visual comparison method, except where the dye is used by EWSI as a tracer;
- b. radioactive material in a concentration greater than allowed under the *Nuclear Safety and Control Act*, SC 1997, c 9 and associated regulations;
- c. foam or any other matter that, by itself or in combination with another substance, is capable of producing foam that will persist for five minutes or more, with the exception of foam used in a Wastewater treatment facility;

Schedule 3

Performance Based Rates: Sanitary, Stormwater and Wastewater Treatment Rates

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1.0 3-Year Term with Annual Adjustments Effective Each April 1st

This Schedule 3 sets out the Performance Based Regulation Plan and applies in respect of adjustments to the rates, fees and charges as set out in Schedule 1, under this bylaw for the period from April 1, 2022- March 31, 2025.

The rates and each component of, or adjustment to, the rates as set out below will be assessed on a calendar year basis. However, to meet the administrative requirements of compiling, verifying and reporting on results, actual rate adjustments will occur on April 1st of the year following the forecast year.

1.1 Variable Rate and Consumption Charges

The variable rate charges and consumption charges for the first year of the three-year term, commencing April 1, 2022 are set out in Schedule 1 Parts I and III. Commencing April 1, 2023 and for each subsequent year on that date for each customer class billed for Sanitary Utility Service, Stormwater Utility Service, and/or Residential or Commercial Wastewater Treatment Service identified in Schedule 1 Part I, Sanitary and Stormwater Rates, or Part III Wastewater Treatment Service, the consumption or variable charge shall be adjusted. For each customer or customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year") will be determined by the formula:

$$RP X (1 + ID) X (1 + IF - E) + RS$$

Where,

- RP means the rate that was in effect for a customer or customer class during the 12 months immediately preceding April 1 of the Current Year;
- ID means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;
- IF means the forecast rate of inflation for the Current Year;
- E means the efficiency factor as described in Section 2.2. of this Schedule 3.
- RS means the rate for a special rate adjustment as described in Sections 2.3 and 2.4 of this Schedule 3.
- 1.2 Fixed and Flat Monthly Service Charges and Service Fees and Charges

The fixed and flat monthly service charges and the Service Fees and Charges for the first year of the three-year term, commencing April 1, 2022 are set out in Schedule 1, Parts I, II and III. Commencing

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April 1, 2023 and for each subsequent year on that date, the Flat Monthly Charge for Sanitary Utility Service in Schedule 1, Part I, the Fixed Monthly Service Charge for Residential or Commercial Wastewater Treatment Service in Schedule 1, Part III and the Service Fees and Charges in Schedule 1, Part II shall be adjusted. For each customer or customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year") will be determined by the formula:

$$RP X (1 + ID) X (1 + IF - E) + RS + Z$$

Where,

RP	means the rate, fee or charge that was in effect for a customer or customer class during the 12 months immediately preceding April 1 of the Current Year, before any non-routine adjustments are applied,
ID	means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year,
IF	means the forecast rate of inflation for the Current Year,
E	means the efficiency factor as described in Section 2.2. of this Schedule 3.
RS	means the rate for a special rate adjustment as described in Sections 2.3 and 2.4 of this Schedule 3.
Ζ	means a non-routine adjustment as described in Section 5.0 of this Schedule 3.

1.3 Wastewater Overstrength Surcharges

The Wastewater Overstrength Surcharges for the first year of the three-year term, commencing April 1, 2022 are set out in Schedule 1, Part III. Commencing April 1st, 2023 and for each subsequent year on that date, the Wastewater Overstrength Surcharge and Wastewater Additional Overstrength Surcharge identified in Schedule 1 Part III – Wastewater Treatment Rates, shall be adjusted. For each customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year") will be determined by the formula:

$$RP X (1 + ID) X (1 + IF - E) + RS$$

Where,

- RP means the rate that was in effect during 12 months immediately preceding April 1 of the Current Year;
- ID means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;

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- IF means the forecast rate of inflation for the Current Year;
- E means the efficiency factor as described in Section 2.2. of this Schedule 3.
- RS means the rate for a special rate adjustment as described in Section 2.4 of this Schedule 3.

2.0 Routine Adjustments

Each year, the following factors or adjustments will be used to determine appropriate adjustments to the variable rate charges, the fixed and flat monthly service charges, the service fees and charges and the wastewater overstrength surcharges payable for Drainage and Wastewater Treatment Services:

- a) Inflation Factor;
- b) Efficiency Factor;
- c) Special Rate Adjustments.

The calculation and application of these factors or adjustments are described in subsections 2.1 to 2.4 below.

2.1 Inflation Factor

The flat and variable rates and charges and the service fees and charges for Drainage Services will be subject to an annual adjustment based upon a forecast of the rate of inflation supported by the Conference Board of Canada's forecast inflation for the upcoming year. For the purposes of this adjustment calculation, "inflation" will be determined on the basis of two components:

- a) a Consumer Price Index ("CPI") component, weighted at 40%, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Services V41694625 CPI, 2005 Basket, 2002 = 100, Alberta, All Items; and
- b) a Labour Cost component, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Series V1603533, weighted at 60%.

The fixed monthly service charge, consumption charges, wastewater overstrength surcharges and wastewater additional overstrength surcharges for Wastewater Treatment Services will be subject to an annual adjustment based upon a forecast of the rate of inflation supported by the Conference Board of Canada's forecast inflation for the upcoming year. For the purposes of this adjustment calculation, "inflation" will be determined on the basis of two components:

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- a) a Consumer Price Index ("CPI") component, weighted at 65%, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Services V41694625 CPI, 2005 Basket, 2002 = 100, Alberta, All Items; and
- b) a Labour Cost component, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Series V1603533, weighted at 35%.

Once the calendar year is complete and the actual rate of inflation is known, the charges for the subsequent year will include an adjustment to correct for the difference between the forecast and actual rate of inflation for the calendar year. As the index utilized for the actual Labour Cost component may not be available for the complete calendar year, the consecutive 12 month period for which the index utilized for the Labour Cost component is most recently available is used as a substitute for the calendar year for purposes of the Labour Cost component inflation adjustment.

Both CPI and the Labour Cost components are available and verifiable:

- 1. The actual CPI component for a given year will be the change in the CPI for Alberta. This measure is identified as the annual growth in Consumer Price Index (CPI): Statistics Canada CANSIM Series V41694625 CPI, 2005 Basket, 2002 = 100, Alberta, All Items. Any publication issued by Statistics Canada which is intended to replace, supersede or otherwise revise this measure will be used in substitution for it, in performing the inflation calculation.
- 2. The actual labour cost component for a given year will be the annual growth in Average Hourly Earnings (AHE) for salaried employees (paid a fixed salary), including overtime, unadjusted for seasonal variation for selected industries classified using the North American Industry Classification System (NAICS), for Alberta, Industrial Aggregate (excluding unclassified businesses), based on the monthly Statistics Canada CANSIM Series V1603533. The annual growth in the AHE will be calculated based on the year-over-year percentage change from the AHE in the preceding year to the AHE in the given year, where:
 - AHE in the given year is the average of the most recent twelve consecutive months of series V1603533 available (and not including preliminary data) when EWSI finalizes its annual rate application for submission to the City Manager on or before March 1; and
 - AHE in the preceding year is the average of the preceding twelve consecutive months of series V1603533.

Any publication issued by Statistics Canada which is intended to replace, supersede or otherwise revise this measure will be used in substitution for it, in performing the inflation calculation.

As an exception to the inflation adjustment factor, if the rate of inflation (calculated in accordance with this section) is 1.75% or lower, EWSI may prepare a financial plan to demonstrate the need for a unit rate increase other than 1.5%. The inflation rate in the financial plan will be a surrogate for the value of I_D.

As a further exception to the inflation adjustment factor, if the rate of inflation is greater than 5.0%, EWSI may prepare a financial plan demonstrating the appropriateness of a unit rate increase less than the rate of inflation minus 0.25%. The inflation rate in the plan will be a surrogate for the value of I_D.

2.2 Efficiency Factor

The Efficiency Factor for the 2022-2024 PBR term for Wastewater Treatment fixed monthly service charges and consumption charges, wastewater overstrength surcharges and wastewater additional overstrength surcharges shall be 0.25%.

The Efficiency Factor for the 2022-2024 PBR term for Sanitary Utility flat monthly service charges, Sanitary Utility variable monthly charges and Stormwater Utility rates shall be 0.50%.

2.3 Special Rate Adjustments for Sanitary, Stormwater and Wastewater Treatment Services

2.3.1 Special Rate Adjustments for Re-Basing – Drainage

In each of the years 2022, 2023 and 2024 (affecting sanitary and Stormwater utility rates and Flat Monthly Service Charges payable by Customers for the time periods April 1, 2022- March 31, 2023, April 1, 2023 to March 31, 2024, April 1, 2024 – March 31, 2025) the Special Rate Adjustment for Re-Basing for Drainage Services will be added to the sanitary and Stormwater Variable Rate Charges and the Flat Monthly Service Charges in Schedule 1, Part I – *Sanitary and Stormwater Rates*. These Special Rate Adjustments for Re-Basing are required to recover the difference between EWSI's revenue requirement forecast for the 2022-2024 PBR term and the revenue that would be realized if annual rate increases were limited to PBR inflation.

The Special Rate Adjustments for Re-Basing for Sanitary and Stormwater Services will be applied in respect of 2022, 2023 and 2024 Sanitary and Stormwater rates after the Inflation and Efficiency factors have been calculated and applied for those years, and are in addition to any Non-Routine Adjustments applicable to those years. Each year, after the Special Rate Adjustments for Re-Basing for Sanitary and Stormwater Services have been factored into the 2022, 2023 and 2024 rates and charges, these adjustments will continue to form part of the basic Variable Charges and Flat Monthly Service Charges in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustments for Re-Basing for Sanitary and Stormwater Services applied to the Sanitary and Stormwater Rates and to the Flat Monthly Service Charges for the years 2022, 2023 and 2024 are as follows:

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Stormwater Utility Rate	2022 Special Rate	2023 Special Rate	2024 Special Rate
	Adjustment	Adjustment	Adjustment
	\$(0.002805)	\$0.000978	\$0.001009

Sanitary Utility Rate	2022 Special Rate Adjustment	2023 Special Rate Adjustment	2024 Special Rate Adjustment
All Premises (except large wholesale)	\$(0.06096)	\$0.02110	\$0.02191
Large Wholesale with Collection System	\$(0.03414)	\$0.01181	\$0.01227

Sanitary Utility Flat Monthly Service Charge (based on meter size)	2022 Special Rate Adjustment	2023 Special Rate Adjustment	2024 Special Rate Adjustment
16mm	\$(0.61)	\$0.22	\$0.22
20mm	\$(1.10)	\$0.39	\$0.40
25mm	\$(1.71)	\$0.61	\$0.62
40mm	\$(3.30)	\$1.17	\$1.19
50mm	\$(4.53)	\$1.60	\$1.63
75mm	\$(9.35)	\$3.31	\$3.36
100mm	\$(17.42)	\$6.16	\$6.27
150mm	\$(32.94)	\$11.65	\$11.85
200mm	\$(52.56)	\$18.59	\$18.91
250mm	\$(130.44)	\$46.13	\$46.93
300mm	\$(130.44)	\$46.13	\$46.93
400mm	\$(142.73)	\$50.48	\$51.35
500mm	\$(153.68)	\$54.35	\$55.29

The Special Rate Adjustments for re-basing Stormwater and sanitary rates and charges for 2022 have been included in the Sanitary and Stormwater Rates in Schedule 1, Part I.

2.3.2 Special Rate Adjustments for Re-Basing - Wastewater

In each of the years 2022, 2023 and 2024 (affecting wastewater treatment rates payable by Customers for the time periods April 1, 2022 – March 31, 2023, April 1, 2023 to March 31, 2024, April 1, 2024 – March 31, 2025) the Special Rate Adjustment for Re-Basing for Wastewater Treatment Services will be added to the Consumption Charge, Fixed Monthly Service Charge, the Wastewater Overstrength Surcharge, and the Wastewater Additional Overstrength Surcharge in Schedule 1, Part III – *Wastewater Treatment Rates*. This Special Rate Adjustment for Re-Basing is required to recover the difference between EWSI's revenue requirement forecast for the 2022-2024 PBR term and the revenue that would be realized if annual rate increases were limited to PBR inflation.

The Special Rate Adjustment for Re-Basing for Wastewater Treatment Services will be applied in respect of 2022, 2023 and 2024 wastewater treatment rates after the Inflation and Efficiency factors have been calculated and applied for those years, and are in addition to any Non-Routine Adjustments applicable to those years. Each year, after the Special Rate Adjustment for Re-Basing for Wastewater Treatment Services have been factored into the 2022, 2023 and 2024 wastewater treatment rates, these adjustments will continue to form part of the basic Consumption Charge, Fixed Monthly Service Charge, and Wastewater Overstrength and Wastewater Additional Overstrength Surcharges for Wastewater Treatment Services in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustment for Re-Basing for Wastewater Treatment Services applied to wastewater treatment rates for the years 2022, 2023 and 2024 applied to the Consumption Charge for each customer class, the Fixed Monthly Service Charge and Wastewater Overstrength and Wastewater Additional Overstrength Surcharges is as follows:

Consumption Charge (per m ³)	2022 Special Rate Adjustment	2023 Special Rate Adjustment	2024 Special Rate Adjustment
Residential			
All consumption	\$0.1777	\$(0.0077)	\$(0.0078)
Multi-Residential	\$0.1777	\$(0.0077)	\$(0.0078)
Commercial			
$0 - 10,000 \text{ m}^3$	\$0.1777	\$(0.0077)	\$(0.0078)
$10,000.1 - 100,000 \text{ m}^3$	\$0.1375	\$(0.0059)	\$(0.0060)
Over 100,000 m ³	\$0.0717	\$(0.0031)	\$(0.0031)
Fixed Monthly Service	\$0.8746	\$(0.0388)	\$(0.0383)
Wastewater Overstrength Surcharge			
a) BOD	\$0.1113	\$(0.0048)	\$(0.0049)
b) COD	\$0.1113	\$(0.0048)	\$(0.0049)

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Consumption (per r	Charge n ³)	2022 Special Rate Adjustment	2023 Special Rate Adjustment	2024 Special Rate Adjustment
c) oil and greas	e	\$0.0973	\$(0.0042)	\$(0.0043)
d) phosphorous		\$0.9257	\$(0.0401)	\$(0.0407)
e) suspended so	olids	\$0.1010	\$(0.0044)	\$(0.0044)
f) total kjeldah	1	\$0.2363	\$(0.0102)	\$(0.0104)
Wastewater Add	litional			
Overstrength Su	rcharge			
a) BOD		\$0.1113	\$(0.0048)	\$(0.0049)
b) COD		\$0.1113	\$(0.0048)	\$(0.0049)
c) oil and greas	e	\$0.0973	\$(0.0042)	\$(0.0043)
d) phosphorous		\$0.9257	\$(0.0401)	\$(0.0407)
e) suspended so	olids	\$0.1010	\$(0.0044)	\$(0.0044)
f) total kjeldah	1	\$0.2363	\$(0.0102)	\$(0.0104)

The Special Rate Adjustments for re-basing Wastewater Treatment rates and Charges for 2022 have been included in Wastewater Treatment Rates in Schedule 1, Part III.

2.3.3 Special Rate Adjustments for the 90-day Deferral Program

In 2022 (affecting rates payable for the period April 1, 2022 to March 31, 2023) Special Rate Adjustments for the 90-Day Deferral Program will be applied to the Stormwater Utility Rate, the Sanitary Utility Flat Monthly Charge and the Wastewater Fixed Monthly Charge set out in Schedule 1, Parts I and III. These Special Rate Adjustments for the 90-Day Deferral Program are required to recover the \$1.6 million for the incremental bad debt expense, administration, and carrying costs associated with the 90-Day Deferral Program.

The Special Rate Adjustments for the 90-Day Deferral Program for 2022 have been included in the Sanitary and Stormwater Rates in Schedule 1, Part I and in Wastewater Treatment Rates in Schedule 1, Part III. These Special Rate Adjustment will be removed from Customer bills in 2023.

The Special Rate Adjustment for the 90-Day Deferral Program applied to the Fixed Monthly Charge for Wastewater for 2022 and 2023 is as follows:

Fixed Monthly Service Charge - Wastewater	2022 Special Rate Adjustment	2023 Special Rate Adjustment*
	\$0.1547	\$λ

The Special Rate Adjustment for the 90-Day Deferral Program applied to the Stormwater Utility Rate for 2022 and 2023 is as follows:

Stormwater Utility	2022 Special Rate	2023 Special Rate
Rate	Adjustment	Adjustment*
	\$0.000358	\$λ

* The 2023 Special Rate Adjustment for the 90-day Deferral Program will be determined following a true up of the 2022 Special Rate Adjustment based on actual costs incurred as a result of the 90-day Deferral Program. The 2023 Special Rate Adjustment for the 90-day Deferral Program will constitute a negative rate adjustment to remove the 2022 Special Rate Adjustment from rates for remainder of the PBR term following March 31, 2023.

The Special Rate Adjustment for the 90-Day Deferral Program applied to the Sanitary Utility Flat Monthly Service Charge for 2022 and 2023 is as follows:

Sanitary Utility Flat Monthly Service Charge (based on meter size)	2022 Special Rate Adjustment	2023 Special Rate Adjustment*
16mm	\$0.23	\$λ
20mm	\$0.41	\$λ
25mm	\$0.64	\$λ
40mm	\$1.23	\$λ
50mm	\$1.68	\$λ
75mm	\$3.47	\$λ
100mm	\$6.47	\$λ
150mm	\$12.23	\$λ
200mm	\$19.52	\$λ
250mm	\$48.44	\$λ
300mm	\$48.44	\$λ
400mm	\$53.01	\$λ
500mm	\$57.05	\$λ

* The 2023 Special Rate Adjustment for the 90-day Deferral Program will be determined following a true up of the 2022 Special Rate Adjustment based on actual costs incurred as a result of the 90-day Deferral Program. The 2023 Special Rate Adjustment for the 90-day Deferral Program will constitute a negative rate adjustment to remove the 2022 Special Rate Adjustment from rates for remainder of the PBR term following March 31, 2023.
2.3.4 Special Rate Adjustment for Corrosion and Odour Reduction Strategy (CORe)

In each of the years 2023, 2024 and 2025 a Special Rate Adjustment to recover the costs of the CORe program will be added to sanitary variable rate in Schedule 1, Part I – Sanitary and Stormwater Rates. This Special Rate Adjustment for the CORe Program is required to recover the costs of a program to prevent the formation of hydrogen sulfide gas which will reduce odour impacts and lengthen the life of the sewer network through corrosion mitigation.

The Special Rate Adjustment has been included in the Sanitary and Stormwater Rates, Schedule 1, Part I for 2022. The Special Rate Adjustment for the CORe program applied to the Sanitary Utility Rate for 2022, 2023 and 2024 is as follows:

Sanitary Utility Rate	2022 Special Rate Adjustment	2023 Special Rate Adjustment	2024 Special Rate Adjustment	
All Premises (except large wholesale)	\$0.21003	\$(0.03040)	\$0.09199	
Large Wholesale with Collection System	\$0.11762	\$(0.01702)	\$0.05151	

2.3.5 Special Rate Adjustment for Stormwater Integrated Resource Plan (SIRP)

In each of the years 2022, 2023 and 2024 a Special Rate Adjustment to recover the costs of the SIRP will be added to Stormwater rate in Schedule 1, Part I – Sanitary and Stormwater Rates. This Special Rate Adjustment for the SIRP is required to recover the costs of a flood mitigation program.

The Special Rate Adjustment has been included in the Sanitary and Stormwater Rates, Schedule 1, Part I for 2022. The Special Rate Adjustment for the SIRP, applied to the Stormwater Utility Rate for 2022, 2023 and 2024, is as follows:

Stormwater Utility	2022 Special Rate	2023 Special Rate	2024 Special Rate
Rate	Adjustment	Adjustment	Adjustment
	\$0.008726	\$0.003965	\$0.003493

2.4 Non-routine Adjustments

Commencing April 1, 2023 and for each subsequent year on that date the flat charge for Sanitary or Stormwater utility service and/or the fixed charge for Wastewater Treatment service may be adjusted in accordance with the non-routine adjustment clause, Article 5.0 herein, as applicable.

2.5 Sanitary Sewer Trunk Charge

Commencing April 1, 2023 and for each subsequent year on that date the Sanitary Sewer Trunk Charge shall be adjusted in accordance with an adjustment notice provided by the City of Edmonton, as applicable. If applicable, the City of Edmonton will provide an adjustment notice on or before November 15 of the calendar year immediately preceding the year in relation to which the adjustment to the Sanitary Sewer Trunk Charge will be made.

3.0 Drainage Services Quality

Drainage Services Quality is measured by the results of four indices described in Sections 3.1 - 3.4.

These are:

- Environment Index
- Customer Service Index
- System Reliability and Optimization Index
- Safety Index

Performance under each index is measured independently on a point basis with 100 base points available if the standards in all four areas are achieved. In total, up to 10 additional bonus points for performance above the standard are available. These bonus points are described within each index.

If Drainage Services does not meet the standard, financial penalties are applied to a maximum of \$1,000,000 per annum. If a penalty amount is assessed, that amount is returned to the customers in the form of a rate rebate. The proposed weighting and penalty amounts applicable to each performance category for Drainage Services are detailed in the table below.

Performance Category		A Weighting	B Maximum Penalty
1	Environmental Index	35%	\$350,000
2	Customer Services Index	20%	\$200,000
3	System Reliability/Optimization Index	30%	\$300,000
4	Safety Index	15%	\$150,000
	Total	100%	\$1,000,000

Drainage Services Performance Measures Indices and Penalties

For each full point scored below 100 base and bonus points, a penalty of \$67,000 will be assessed to a maximum of \$1,000,000. There is no reward for performance above 100 base and bonus points. For purposes of these calculations, point amounts will be rounded to the nearest tenth of a point and calculated on a calendar year basis.

EPCOR has an obligation to maintain all documentation related to the tracking and scoring of each index and be prepared to present it on request during an audit, in order to satisfy the requirements of Bylaw 19627. The final score for each index and the individual performance measures that comprise each index will be published annually on the EPCOR Drainage Services Inc. external website. The audited performance measure results will also be provided to the City of Edmonton as part of the approval process for new rate increases.

	Chart 1.0 – Environment Index		Standard
1.1	Stormwater Flow Monitoring	Storm Drainage Area Monitored	63.0%
1.2	Environmental Incidents	Environmental Incidents	50
1.3	Green Hectares	Area with Runoff Managed by Green Infrastructure	Annual 2022 – 45 2023 – 90 2024 – 180

	Chart 2.0 – Customer Service		Standard
2.1	Service Maintenance Calls	Service Maintenance Calls resolved within 24 hours	80.0%
2.2	Emergency Dig Ups - Service Restored	Emergency Dig Up Services Restored within 48 hours from Time Received from Operations	98.0%
2.3	Service Connections - Average Time	Service Connections - meeting 6 week target	85.0%
2.4	Sewer Odour Hotspots	City Wide Coverage Area of Sewer Odour Hotspots	2022 - 15% 2023 - 14.5% 2024 - 14%

Chart 3.0 - System Reliability and Optimization Index

Standard Blocked Sewers per 100 Kms 2.10

3.2	Sewer Renewal	Sewers Renewed, km	60.0
3.3	Infrastructure Condition Rating - Minimum Level	Infrastructure at or above Minimum Level of Condition Rating,	90.0%
3.4	Full Property Flood Proofing Inspections	Number of Inspections Completed	750

Chart 4.0 - Safety Index

Blocked Sewers

3.1

	Chart 4.0 - Safety Index		Standard
4.1	Near Misses	Near Misses	750
4.2	Worksite Inspections and Observations	Worksite Inspections and Observations	1300
4.3	LTIF	LTIF	0.75
4.4	AIF	AIF	4.0

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3.1 Environmental Index

Description	The envi programs environm three equ	ronmental index measures the su and policies designed to mi nental impacts. The index is a measu ally weighed components.	ccess of Drainage Services tigate and report adverse ure calculated on the basis of
Formula	The maximum base value of the environmental index is 35.0 base points as calculated under the following formula:		
	Enviro	nmental Index = 35.0 x	SWFM + EIF +GH
			5
	Where,		
	SWFMmeans the storm water flow monitoring factor,EIFmeans the environment incident factor; and		
	GH	means the green hectares factor.	
	35.0 = points available for this index		
	A maxim based on	um of 3.5 bonus points is available the formula.	for the environmental index
	The maximum total environmental index points is 38.5.		

3.1.1 Storm Wa	ater Flow Monitoring Factor
Description	The Storm Water Flow Monitoring factor is a measure of the percentage of storm drainage area being monitored relative to all qualified hydrologically-effective drainage areas serviced by outfalls.
Formula	The Storm Water Flow Monitoring factor (SWFM) is measured by the formula:
	Storm Water Flow Monitoring Factor = $\frac{\text{SDAM}}{63.0\%}$ Where,
	SDAM means percentage of storm drainage area being monitored; and
	63.0% is the Storm Water Flow Monitoring standard.
Benchmark	≥63.0%
Definitions	The percentage of storm drainage area being monitored (SDAM) is calculated as follows:
% of storr	n drainage area being monitored =100 x Qualifying Area (hectares) Qualifying Area (hectares)
	Monitored Area - means the sum of effective drainage areas serviced by permanent outfall monitoring stations.
	Qualifying Area - means the sum of hydrologically-effective drainage areas serviced by outfalls as per Drainage Design Standards section 18.13.5.
	This applies to storm outfall sizes as specified in the design guidelines as follows:
	• Equal to or greater than 1200 mm to the North Saskatchewan River; or
	• Equal to or greater than 900 mm to Whitemud, Blackmud, or Mill creeks; or
	• Equal to or greater than 500 mm to other creeks; or
	• Equivalent capacities for multiple outfalls for the development area; or
	• Upstream of the E.L. Smith Water Treatment Plant.

Reporting Frequency Annually

3.1.2 Environment Incident Management

Description	The Envir incidents regulator.	conment Incident Management factor measures the number of that are reportable to the municipal, provincial or federal
Formula	The environment incident factor (EIF) is measured by the formula: Environment Incident Factor = $\frac{50}{\text{EIR}}$ Where, EIR means the actual number of environmental incidents that are reportable; and	
	50	is the environmental incident standard
Benchmark	≤ 50	
Definitions	<i>Reportable</i> provincial environme reporting of	<i>e Incident</i> – one that involves contravention of a municipal, or federal regulation or bylaw, or a spill or release to the ent that is reportable as defined in provincial or federal release criteria.
Reporting Frequency	Monthly	

3.1.3 Green Hectares

Description	The Green Hectares factor measures the area when the volume of green infrastructure managed runoff is spread evenly to a 15 mm depth.		
Formula	The green	hectares factor (GH) is measured by the formula:	
	Green	Hectares (GH) = GHMR Annual Standard	
	Where,		
	GHMR means the area (hectares) when run-off (m3) managed by gree infrastructure is spread evenly to a 15 mm depth; and		
	45	is the GHMR annual standard for 2022	
	90	is the GHMR annual standard for 2023	
	180	is the GHMR annual standard for 2024	
Benchmark	>= 45 for 2	2022, > 90 for 2023 and >180 for 2024	
Definitions	A greened hectare represents a volume of runoff managed by a green infrastructure (GI) or low impact development (LID) practice.		
	GI/LID programs may include storm water storage, bio retention, soils cells, and pocket / small storage.		
	One greened hectare is equivalent to 15mm of managed stormwater from one hectare of developed drainage area of 150m3 of managed stormwater.		
Reporting Frequency	Quarterly		

3.2 Customer Service Index

Description	The customer service index measures the success of Drainage Services programs and policies pertaining to customer service. The index is a measure calculated on the basis of four equally weighed components.	
Formula	The maximum base value of the customer service index is 20.0 base points as calculated under the following formula:	
	Customer Service Index = $20.0 \text{ x} - \frac{\text{SMC} + \text{EDU} + \text{SC} + \text{SOH}}{4}$	
	Where,	
	SMC means service maintenance calls factor,	
	EDU means emergency dig-ups with service restored factor;	
	SC means service connections factor; and,	
	SOH means sewer odour hotspots factor.	
	20 = points available for this index	
	A maximum of 2.0 bonus points is available for the environmental index based on the formula.	

The maximum total environmental index points is 22.0.

3.2.1 Service Maintenance Calls

Description	The service maintenance calls factor is a measure of the percentage of service maintenance sewer trouble calls resolved within 24 hours.			
Formula	The service maintenance calls factor (SMC) is measured by the formula: Service Maintenance Calls Factor = $\frac{SMCR}{80.0\%}$ Where,			
	SMCR me res	ans percer olved with	tage of service maint in 24 hours; and	enance sewer trouble calls
	80.0% is t	he service	maintenance calls fac	tor standard.
Benchmark	≥80.0%			
Definitions	The percentage of service maintenance sewer trouble calls resolved within 24 hours (SMCR) is calculated as follows:			
	SMCR	SMCR = 100Total # of Sewer Trouble Work Orders Closed within 24 Hours		
			Total Number of Se	ewer Trouble Work Orders
	The start and determined as	t and completion time for each sewer trouble work order is led as follows:		
	Start Time	means record started	s the time when a 31 led in IVARA and a s l	1 call request is received, ewer trouble work order is
	Completion Ti	ime means in IVA	s the time when a crew ARA after resolving th	w deactivates a work order the sewer trouble.
Reporting Frequency	Monthly			

3.2.2 Emergency Dig-Ups with Service Restored

Description	The emergency dig-ups with service restored factor is a measure of the percentage of emergency dig ups restored within 48 hours from the time the call is referred from Drainage Operations to Drainage Construction as an emergency dig-up.				
Formula	The emergency dig-ups with service restored (EDU) factor is measured by the formula:				
Eme	rgency Dig	-Ups with Servic	e Restored Factor =	EDUR 98.0%	
	Where,	/here,			
	EDUR	means the perce hours; and	entage of emergency dig ups res	stored within 48	
	98.0%	is the emergenc	y dig-ups with service restored	standard.	
Benchmark	≥98.0%				
Definitions	The percentage of emergency dig-ups restored within 48 hour(s) is calculated as follows:			48 hour(s) is	
	ED	EDUR = 100 x <u>Number of services restored within 48 hours</u> Total number of emergency dig-up responses			
	Where,				
	Date and t informs D	ime received mea rainage Construc	ns the date and time when Drain tion of an emergency dig-up.	nage Operations	
	Date and t the custor restoration	Date and time restored means the date and time that service is restored to the customer. Note: there may still be additional repairs and / or estoration work needed to complete the work that do not impact estoration of service.			
Reporting Frequency	Monthly				

3.2.3 Service Connections

Description	The servic the install connection	The service connections factor is a measure of the success in completing the installation of new sanitary, storm, and common trench water service connection (\leq 50 mm) projects within a predetermined time frame.			
Formula	The service	The service connections factor is measured by the formula:			
	Service	Connections Factor (SC) = -	SC6 85.0%		
	Where,				
	SC6	means the percentage of installati and common trench water serv projects completed within 6 weeks	tions of new sanitary, storm, trice connection (\leq 50 mm) s; and		
	85.0%	is the service connections standard	1		
Benchmark	≥85.0%				
Definitions	The service	The service connections average time is measured by the formula:			
	Service (Connections Average Time =	Start Date – End Date 7		
	Where,				
	Start Date	means the construction ready date	; and		
	End Date	means the construction completion	n date		
	The perce measured	percentage of service connections completed within 6 weeks (SC6) usured by the formula:			
	Service Conn	ections Within 6 Weeks = 100 x	Service Connections Completed Within 6 Weeks Total Service Connections Completed		
Reporting Frequency	Monthly		-		

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3.2.4 Sewer Odour Hotspots

Description	The sewer odour hots	The sewer odour hotspots factor is a measure of the percentage of sewer odour hotspots relative to city wide coverage area.		
Formula	The sewer	The sewer odour hotspots (SOH) factor is measured by the formula:		
S	ewer Odour Hots Where,	spots Factor = Annual Standard SOHP		
	SOHP	means the percentage in city wide coverage area of sewer odour hotspots; and		
	15.0%	is the sewer odour hotspot annual standard for 2022		
	14.5%	is the sewer odour hotspot annual standard for 2023		
	14.0%	is the sewer odour hotspot annual standard for 2024		
Benchmark	≤=15.0% f	For 2022, < =14.5% for 2023 and <= 14.0% for 2024		
Definitions	The percercal calculated	The percentage in city wide coverage area of sewer odour hotspots is calculated using the following formula:		
	SC Where,	$PHP = 100 \text{ x}$ $\frac{\text{Area of sewer odour hotspots}}{\text{Total municipality area}}$		
	Area of se spatial der kilometer;	ewer odour hotspots means the region where the odour report nsity exceeds a defined threshold of 10 reports per square and		
	Total mun at the start	icipality area means Municipal franchise area and will be fixed ing period of the performance metric.		
Reporting Frequen	cy Annually	Annually		

3.3 System Reliability and Optimization Index

Description	The syste performan equally we	The system reliability and optimization index is a measure of the performance of Drainage Services. It is calculated on the basis of four equally weighed components.		
Formula	The maxir is 35.0 bas	The maximum base value of the system reliability and optimization index is 35.0 base points as calculated under the following formula:		
S	System Reliability	Index = 30.0 x $\frac{\text{BSF} + \text{SR} + \text{ICRML} + \text{FPFPI}}{4}$		
	Where,			
	BSF	means the blocked sewer factor,		
	SR	means sewer renewal factor;		
	ICRML	means the infrastructure condition rating minimum level factor; and		
	FPFPI	means the full property flood proofing inspections factor.		
	30.0	is the points available for this index.		
	A maximu optimizati	um of 3 bonus points is available for the system reliability and on index based on the formula.		

The maximum total system reliability and optimization index points is 33.

3.3.1 Blocked Sewers Factor

Description	The Blocked Sewers Factor is a measure of the effectiveness of the Drainage Services Preventive Maintenance program which involves proactive cleaning and inspection of wastewater sewer mains.			
Formula	The blocked sewers factor (BSF) is measured by the formula:			
	B	ocked Sewers Factor = 2.10 BSR	<u> </u>	
	Where,			
	BSR	means the number of blocked sewers per one hundred (kilometers of sanitary and combined sewer pipe; and		
	2.10	is the blocked sewers factor standard	d.	
Benchmark	≤2.10			
Definitions	Blocked Sewer – blocked sewer mains that caused sanitary and combined sewer systems to back up and which required the deployment of equipment and labour to clear - regardless of the cause (e.g. roots, greases, debris, poor hydraulics or structure). A blocked sewer main may result in sewage back up, sewer service interruption or overflow.			
	Sanitary S	ewer – sewer mains that carry sanitar	ry sewage.	
	Combined combined	ned Sewer – sewer mains that carry both sanitary and storm sewage ned.		
	Storm Sev sewer mai	ver – sewer mains that carry storm ns are <u>not included</u> in this factor.	water flow. Storm water	
Reporting Frequency	Monthly			

3.3.2 Sewer Renewal Factor

Description	The Sew as part Rehabilit Coordina Service Program	er Renewal Factor is a measure of the of the Neighbourhood Renewal tation Program, Arterial and Colle ation Program, SIRP Proactive Pipe Re Renewal Program and CORe Lar	e sewers renewed / relined Program, Local Sewer ector Roadway Renewal elining Program, Proactive ge Trunk Rehabilitation	
Formula	The Sew	er Renewal Factor (SR) is measured by	y the formula:	
		Sewer Renewal Factor =	SRR 60.0	
	Where,			
	SRR	means the km of sewers renewed Neighbourhood Renewal Program, I Projects and Arterial and Collecto Projects, SIRP Proactive Pipe Rel Service Renewal Program and Rehabilitation Program.	/ relined as part of the Local Sewer Rehabilitation or Renewal Coordination ining Program, Proactive CORe Large Trunk	
	60.0	is the Sewer Renewal standard.		
Benchmark	≥60.0 kı	n		
Definitions	Drainage rehabilita	e Neighbourhood Renewal Program ation of Drainage Infrastructure compr	– means renewal and/or ised of:	
	 main sewers; Catch Basin leads and Service Laterals, and Catch Basin and Manhole repairs 			
	and is b conditior	based on a coordination schedule was assessment risk ranking priority estab	ith Transportation or the blished by Drainage.	
	Local Se emergene inspectio	ewer Rehabilitation program – mea cy main sewers identified by Drai on or through customer complaints.	ns rehabilitation of non- nage Operations routing	
	Arterial a rehabilita	and Collector Roadway Renewal Coordation of sewers, Catch Basin leads, Ca	dination program - means atch Basins and Manholes	

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following the Transportation Arterial & Collector Rehab /Reconstruction program schedules

SIRP Proactive Pipe Relining program - means relining of sanitary and combined pipes in surface ponding areas intended to reduce the risk of basement flooding due to inflow and infiltration.

Proactive Service Renewal program – means renewal of services that have structural and/or maintenance issues but are not in adequate condition for relining.

CORe Large Trunk Rehabilitation program – means renewal of major trunks

Reporting Frequency Monthly

3.3.3 Infrastructure Condition Rating Factor				
Description	The Infrastructure Condition Rating Factor is a measure of the percentage of infrastructure at or above a minimum level of condition rating.			
Formula	The Infrastructure Condition Rating Factor is measured by the formula:			
	Infrastructure Condition Rating Factor = $\frac{ICR}{90.0\%}$			
	Where,			
	ICR	means the percentage of infrastructure assets with a physical condition rating of Very Good, Good or Fair Condition; and		
	90.0%	is the infrastructure minimum level of condition standard.		
Benchmark	\geq 90.0%			
Definitions	<i>Infrastructure Condition Rating (ICR)</i> – refers to the percentage of infrastructure assets with a physical condition rating of Very Good, Good or Fair Condition.			
	Infrastructure Condition Rating is calculated using the following formula:Total replacement value (\$) of physical condition rated assetsICR = 100 xwith a Fair or better condition rating Total replacement value (\$) of physical condition			
		rated assets with all ratings		
	Total replacement value (\$) of physical condition rated assets with a Fair or better condition rating means those assets with a physical condition rating of Very Good, Good or Fair.			
	Total repl ratings me Good, Fai	lacement value (\$) of physical condition rated assets with all eans those assets with a physical condition rating of Very Good, r, Poor or Very Poor.		
Reporting Frequency	Annually			

3.3.4	Full Property	Flood Proofing	Inspections
5.5.	I ull I lopelty	11000 110011115	mopeetions

Description	The Full Property Flood Proofing Inspection factor measures the number of full flood proofing inspections completed and that include an inspection report provided to the property owner.		
Formula	The full property flood proofing inspection factor (FPFPI) is measured by the formula:		
	Ful	Il Property Flood Proofing Inspection FPFI (FPFPI) = 750	
	Where,		
	FPFI	means the actual number of full property flood proofing inspections completed that include an inspection report provided to the property owner; and	
	750	is the full property flood proofing inspection standard	
Benchmark	≥750		
Definitions	<i>Full Property Flood Proofing Inspection</i> – a full flood proofing inspection of a property that results in the development of a property flood proofing report that includes recommended improvements.		
Reporting Frequency	Monthly		

3.4 Safety Index

Description	The safety index is a measure of the success of programs and the application of policies that maximizes the safety of employees and the public. It is calculated on the basis of four equally weighed components. The combined results of the four components produce the measure of the safety index.
Formula	The maximum base value of the safety index is 15.0 base points and is calculated under the following formula:
	Safety Index = $15.0 \qquad \frac{\text{NMF} + \text{WIOF} + \text{LTF} + \text{AIF}}{4}$
	Where,
	NMF means the near miss reporting factor,
	WIOF means the worksite inspection and observation factor,
	LTF means the lost time frequency factor; and
	AIF means the all injury frequency factor.
	15.0 = points available for this index
	A maximum of 1.5 bonus points is available for the safety index based on the formula.
	The maximum total safety index points is 16.5.

Description	The Near Miss Reporting Factor is a measure of the number of Near Miss and Hazard Identification reports completed each year.			
Formula	The near r	miss reporting factor (NMF) is measured by the formula:		
		Near Miss Reporting Factor =	<u>NM + HI</u> 750	
	Where,			
	NM	means the number of near miss reports entered in the ERS system;		
	HI	means the number of hazard ide the ERS system; and	entification reports entered in	
	750	is the near miss reporting standar	[.] d.	
Benchmark	≥750			
Definitions	Near Miss : An unplanned event, unsafe condition or unsafe action that did not result in contact, injury, illness, or damage - but had the potential to do so.			
	Hazard Identification: An observed potential hazard that did not result in a near miss or incident on EPCOR property.			
Reporting Frequency	Monthly			

3.4.1 Near Miss Reporting Factor

Description	The Work Site Inspections and Observations Factor measures the number of work site inspections and observations completed each year.		
Formula	The worksite inspections and observations factor (WIOF) is measured by the formula:		
	W	Vorksite Inspections and Observations Factor=	WIO 1300
	Where,		
	WIO	means the actual number of worksite inspections / completed per year; and	observations
	1300	is the worksite inspection standard.	
Benchmark	≥1300		
Definitions	Inspection Office Wo	<i>n procedures</i> are as defined by Work Site Inspection ork Site Inspection Reports	Reports and
	Observati process.	on procedures are as defined by the Safety Track	observations
Reporting Frequency	Monthly		

3.4.3 Lost Time Frequency Factor

Description	The Lost Time Frequency Factor measures the effectiveness of a safety program as related to disability injuries and illnesses		
Formula	The lost time frequency factor (LTFF) is measured by the formula:		ured by the formula:
	Los	t Time Frequency Factor =	0.75 LTFR
	Where,		
	LTFR	means the actual lost time frequen	cy rate; and
	0.75	is the lost time frequency standard	L.
Benchmark	≤0.75		
Definitions	Lost Time Incident – A work related disability injury or disability illness that results in an employee missing time at work Exposure Hours - The total number of hours employees were exposed to the work site		y injury or disability illness rk
	Lost Time Frequency Rate is calculated using the following formula defined in the Canadian Electrical Association Work Injury / Illness Standards:		
	(#D Wher 40 ho	Disability Injuries + # Disability Illr Exposure Hours e 200,000 represents 100 full time urs per week for 50 weeks	nesses) x 200,000 employees who work

Reporting Frequency Monthly

3.4.4 All Injury Frequency Rate Factor

Description	The All Injury Frequency Rate Factor measures the effectiveness of a safety program as related to disability injuries and medical aid injuries		
Formula	The all injury frequency factor (AIFF) is measured by the formula:		
	All	Injury Frequency Factor =	4.0 AIFR
	Where,		
	AIFR	means the actual all injury fr	requency rate; and
	4.0	is the all injury frequency ra	te standard.
Benchmark	≤4.0		
Definitions	Lost Time Incident – A work related injury or illness that results in employee missing time at work		njury or illness that results in an
	<i>Medical Aid Injury (MA)</i> - An injury that requires assessment and care b a physician		
	<i>Exposure Hours</i> - The total number of hours employees were exposed to the work site		
	All Injury Lost-Time which occu	<i>Frequency</i> - This is based on Injuries, plus the total numb urred in the calendar year. The	the total number of Fatalities and ber of Medical Treatment Injuries e following formula shall be used:
_	(# Fatalities	+ # Lost-Time Incidents + # N	Medical Aid Injuries) x 200,000
		Exposur	e Hours
	Where 200 week for 5),000 represents 100 full time of weeks.	employees who work 40 hours per
Reporting Frequency	Monthly		

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4.0 Wastewater Treatment Service Quality

Wastewater Treatment System Service Quality is measured by the results of four indices described in Sections 4.1- 4.4.

Performance under each index is measured independently on a point basis with 100 base points available if the standards in all four areas are achieved. In total, up to 10% additional bonus points for performance above the standard are available. These bonus points are described below within each index.

If Wastewater Treatment Services does not meet the standard, financial penalties are applied to a maximum of \$1,000,000 per annum. If a penalty amount is assessed, that amount is returned to the customers in the form of a rate rebate. The proposed weighting and penalty amounts applicable to each performance category for Wastewater Treatment Services are detailed in the table below.

Performance Category		A Weighting	B Maximum Penalty
1	Water Quality & Environmental Index	45%	\$180,000
2	Customer Services Index	15%	\$60,000
3	System Reliability/Optimization Index	25%	\$100,000
4	Safety Index	15%	\$60,000
	Total	100%	\$400,000

Wastewater Treatment Services Performance Measures Indices and Penalties

For each full point scored below 100 base and bonus points, a penalty of \$27,000 will be assessed to a maximum of \$400,000. There is no reward for performance above 100 base and bonus points. For purposes of these calculations, point amounts will be rounded to the nearest tenth of a point and calculated on a calendar year basis.

Chart 1.0 – Water Quality and Environmental Index

1.1WELPI FactorPercentage below limits26.0%1.2Environmental Incident FactorNumber of incidents5

Standard

	Chart 2.0 – Customer Service Index	Standard	
2.1	$H_2S - 1$ Hour Exceedances Factor	Number of exceedances	4
2.2	H ₂ S – 24 Hour Exceedances Factor	Number of exceedances	1
2.3	Scrubber Uptime Percentage Factor	Percentage uptime	96.0%

	Chart 3.0 - System Reliability and Optimization Index		
3.1	Enhanced Primary Treatment Factor	Percentage in use	94%
3.2	Bio-solids Inventory Reduction	Relative Reduction	1.05
3.3	Energy Efficiency Factor	kWh/ML of effluent	508

Chart 4.0 - Safety Index

Standard

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r			
4.1	Near Miss Reporting Factor	Number of Reports	220
4.2	Worksite Inspections and Observations	Number completed	919
4.3	Lost Time Frequency Factor	Frequency / Exposure	0.75
4.4	All Injury Frequency Factor	Frequency / Exposure	1.0

4.1 Water Quality and Environmental Index

Description The water quality and environmental index measures the success of operational processes and procedures designed to manage the quality of effluent returned back the North Saskatchewan River and to manage adverse environmental impacts. The index is a measure calculated on the basis of two equally weighed components.

FormulaThe maximum base value of the water quality and environmental index is
45 base points as calculated under the following formula:

Water Quality and Environmental Index = 45 x <u>WQF + EIF</u> 2

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Where,	
WQF	means the water quality factor,
EIF	means the environmental incident factor, and
45	is the points available for this index.

A maximum of 4.5 bonus points is available for the water quality and environmental index.

The maximum total points for the water quality and environmental index is 49.5.

4.1.1 Water Quality Index

Description The *Water Quality Index* is determined by the Wastewater Effluent Limit Performance (WELP) measure which is a measure of the performance of the Wastewater Treatment process at the Gold Bar Wastewater Treatment Plant.

Formula The water quality index (WQI) is measured by the formula:

Water Quality Index -	26.0
water Quanty index =	WELP

Where,

WELP means the value of the Wastewater Effluent Limit Performance, which measures the percentage of the discharge limit for five parameters in the Gold Bar wastewater treatment plant's final effluent; and

26.0 is the water quality standard.

Benchmark <= 26.0 YTD

Definitions WELP = Wastewater Effluent Limit Performance

Reporting Frequency Monthly

4.1.2 Environmental Incident Factor

Description	The Environmental Incident Factor the number of incidents that are reportable to the municipal, provincial or federal regulator and that are considered preventable.	
Formula	The environ	mental incident factor (EIF) is measured by the formula:
	En	$\frac{5}{\text{Factor} = \text{EIRP}}$
	Where,	
	EIRP	means the actual number of environmental incidents that are both reportable and preventable; and
	5	is the environmental incident standard.
Benchmark	<= 5 YTD	
Definitions	<i>Reportable</i> provincial o environmen reporting cr	<i>Incident</i> – one that involves contravention of a municipal, or federal regulation or bylaw, or a spill or release to the it that is reportable as defined in provincial or federal release iteria.
	Preventable	e Incident – one that meets the following criteria:
	• An i regu	nvestigation of the incident demonstrates a failure to follow latory requirements or a documented EPCOR procedure, or
	• An i failu iden	ncident that is a recurrence of a similar reportable incident due to ire to implement corrective action that had been previously tified, or
	• There reported the reported to require the reported to require the reported to require the reported to report to r	re is an administrative contravention including failure to notify or ort to the regulator in a timely manner. Or to sample and test as irred under the Approval to Operate issued by Alberta ironment and Water
	A reportable preventable incident tha exercised by	<i>e and preventable incident</i> is one that is both reportable and according to the above criteria. It is a government reportable t could have been prevented if reasonable diligence was y EPCOR

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If it can be demonstrated that EPCOR took all reasonable measures to prevent the incident from occurring, the incident will not be considered preventable. Mitigating circumstances and external factors (i.e. unpredictable equipment failure, unusual weather conditions, the actions of external parties that are not controllable by EPCOR will be considered in determining if the incident was preventable.

Reporting Frequency Monthly

4.2 Customer Se	rvice Index		
Description	The customer service index is the measure of three equally weighed components. The combined results of the three components produce the measure of the customer service index.		
Formula	The maximum base value of 15 base points as calculated under the following formula:		
	Cus	tomer Service Index = 15 x HS01F + HS24F + SUF	
	Where,	3	
	HS01F	means H2S 1-hour exceedance factor,	
	HS24F	means H2S 24-hour exceedance factor; and	
	SUF	means scrubber uptime factor.	
	15	is the points available for this index.	
	A maximum	naximum of 1.5 bonus points is available for the customer service index	
	The maximum total customer services index points is 16.5.		
4.2.1 $H_2S - 1$ -Hou	r Exceedance F	Factor	
Description	The $H2S - 1$ the odour contained of the odo	<i>Hour Exceedance Factor</i> is a measure of the performance of ntrol systems at the Gold Bar Wastewater Treatment Plant.	
Formula	The H2S 1-hour exceedance factor (HS01F) is measured by the formula:		
	H2S	1-Hour Exceedance Factor = $\frac{4}{(GB1 + BEV1) / 2}$	
	Where,		
	GB1	means the number of exceedances of the 1-hour limit registered at the Gold Bar air quality monitoring station,	
	BEV1	means the number of exceedances of the 1-hour limit registered at the Beverly air quality monitoring station; and	
	4	the H2S 1-hour exceedance standard.	

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Benchmark	<= 4 YTD			
Definitions	na	na		
Reporting Frequen	cy Mont	hly		
4.2.2 $H_2S - 24$ Ho	ur Exceedance	Factor		
Description	The $H2S - 24$ the odour contained	The $H2S - 24$ -Hour Exceedance Factor is a measure of the performance of the odour control systems at the Gold Bar Wastewater Treatment Plant.		
Formula	The H2S 24-	The H2S 24-hour exceedance factor (HS24F) is measured by the formula:		
	H2	S 24-Hour Exceedance Factor = $\frac{1}{(GB24 + BEV24) / 2}$		
	Where,			
	GB24	means the number of exceedances of the 24-hour limit registered at the Gold Bar air quality monitoring station,		
	BEV24	means the number of exceedances of the 24-hour limit registered at the Beverly air quality monitoring station; and		
	1	the H2S 24-hour exceedance standard.		
Benchmark	<= 1 YTD			
Definitions	na			
Reporting Frequency Monthly				
4.2.3 Scrubber Up	time Factor			
Description	The <i>Scrubber Uptime Factor</i> is a measure of the performance of the odour control systems at the Gold Bar Wastewater Treatment Plant.			
Formula	The scrubber	uptime factor (SUF) is measured by the formula:		
		Scrubber Uptime Factor = <u> SUP1+SUP2+SUP3+SUP4) / TTL</u> 96%		

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Where,

	SUP	refers to a scrubber system's uptime or operating time as evidenced by the following component systems operating: a blower introducing foul air to a scrubber, chemical feed systems (2 systems), and a scrubber recirculation system
	SUP1	is the East Scrubber uptime in hours
	SUP2	is the West Scrubber uptime in hours
	SUP3	is the Fermenter Scrubber uptime in hours
	SUP4	is the EPT Scrubber uptime in hours
	TTL	is the total hours in a year (for all four scrubbers combined) when scrubbers would be expected to be operating, i.e. foul air is present in the operating areas relevant to a scrubber
	96%	is the Scrubber Uptime standard
Benchmark	<= 96% YTD	
Definitions	na	
Reporting Frequency	y Month	ly

4.3 System Reliability and Optimization Index

Description	The system reliability and optimization index is a measure of the performance of the Gold Bar Wastewater Treatment Plant. It is calculated on the basis of three equally weighed components		
Formula	The maximum base value of the system reliability and optimization index is 25 base points as calculated under the following formula:		
		System Reliability Index = 25 x	EPTF + BSIRF+ EEF 3
	Where,		
	EPTF	means the enhanced primary tre	eatment factor,
Delen N	10(07		$D_{} = 41 = 651$

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	BSIRF	means bio-solids inventory reduction factor; and	d
	EEF	means the energy efficiency factor.	
	25	is the points available for this index.	
	A maximum of 2.5 bonus points is available for the system reliability and optimization index based on the formula. The maximum total system reliability and optimization index points is 27.5.		
4.3.1 Enhanced Prin	nary Treatment	Factor	
			c c
Description	the Enhanced	Primary Treatment (EPT) process at the Gold Ba	ar Wastewater
	Treatment Plan	nt.	
Formula	The enhanced primary treatment factor (EPTF) is measured by the formula:		
			EPT%
		Enhanced Primary Treatment Factor =	94.0%
	Where.		
	EPT%	means the percentage of time that the enhanced treatment facility ran during wet weather events	primary where the
		influent flow rate exceeds the EPT event thresh	old; and
	94.0%	is the enhanced primary treatment standard.	
Benchmark	>= 94.0% YT	D	
Definitions	EPT Event – A effluent flows	A continuous period of time (one or more hours) exceed the EPT Event Threshold.	when total
	EPT Event Th	reshold – Influent Flow Rate exceeds 420 ML/d	
Reporting Frequency	y Month	ly	

4.3.2 Bio-solids Inventory Reduction Factor

Description	The biosolids inventory reduction factor is a measure of the reduction in biosolids inventory at the Clover Bar Biosolids Recycling Facility.		
Formula	The biosolids formula:	The biosolids inventory reduction factor (BSIRF) is measured by the formula:	
	Bio-solids In	ventory Reduction Factor = $\frac{BSIR}{1.05}$	
	Where,		
	BSIR	means the three year average (current year and the prior two years) of the ratio of the total dry tonnes of biosolids remove from the lagoons to the total dry tonnes of biosolids deposited in the lagoons, and	
	1.05	is the biosolids reduction factor standard.	
Benchmark	< 1.05		
Definitions	The biosolids inventory reduction (BSIR) is calculated as follows:		
	Biosolids	Inventory Reduction = $\frac{\text{Dry tonnes out}}{\text{Dry tonnes in}}$	
Where,			
	Dry tonnes out - means, the dry tonnes of biosolids transferred from the biosolids storage lagoons at the Clover Bar Biosolids Recycling Facility to beneficial use programs (e.g. compost or land application).		
	Dry tonnes in - means the dry tonnes of biosolids contained in sludge transfers from the Gold Bar and Capital Regions wastewater treatment facilities to the biosolids storage lagoons at the Clover Bar Biosolids Recycling Facility.		
	Biosolids inv biosolids stor	rentory – means the accumulated biosolids contained in the rage lagoons at the Clover Bar Biosolids Recycling Facility.	
Reporting Frequence	cy Mont	hly	

4.3.3 Energy Efficiency Factor

Description	The Energy Efficiency Factor is a measure of the energy consumed in the treatment of wastewater at the Gold Bar Wastewater Treatment Plant.		
Formula	The energy efficiency factor (EEF) is measured by the formula:		
	Energy Efficiency Factor = $\frac{508}{\text{EN / ML}}$		
	Where,		
	EN	means energy used in all wastewater facilities in kWh,	
	ML	means the total volume of wastewater effluent in millions of litres that either receives ultraviolet (UV) treatment or is membrane plant effluent; and	
	508	is the energy efficiency standard.	
Benchmark	>= 508 YTD		
Definitions	na		
Reporting Frequenc	y Month	ıly	

4.4 Safety Index

Description	The safety index is a measure of the success of programs and the application of policies that maximizes the safety of employees and the public. It is calculated on the basis of four equally weighed components. The combined results of the four components produce the measure of the safety index.
Formula	The maximum base value of the safety index is 15 base points is calculated under the following formula:

Safety Index =
$$15 \text{ x} - \frac{\text{NMF} + \text{WIOF} + \text{LTF} + \text{AIF}}{4}$$

Where,

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	NMF	means the near miss reporting factor,	
	WIOF	means the worksite inspections and observations factor,	
	LTF	means the lost time frequency factor; and	
	AIF	means the all injury frequency factor.	
	15.0	= points available for this index	
	A maximum o the formula.	f 1.5 bonus points is available for the safety index based on	
	The maximum	total safety index points is 16.5.	
4.4.1 Near Miss Rep	porting Factor		
Description	The Near Miss Reporting Factor is a measure of the number of Near Miss reports completed each year.		
Formula	The near miss reporting factor (NMF) is measured by the formula:		
	Near Miss R	deporting Factor = $\frac{NM + HI}{220}$	
	Where,		
	NM	means the number of near miss reports entered in the ERS system;	
	HI	means the number of hazard identification reports entered in the ERS system; and	
	220	is the near miss reporting standard.	
Benchmark	>= 220 YTD		
Definitions	na		
Reporting Frequency	y Month	ly	

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Performance-Based Sanitary, Stormwater and Wastewater Treatment Rates

4.4.2 Worksite Ins	pections and O	bservations Factor
Description	The Worksite Inspections and Observations Factor measures the number of work site inspections and observations completed each year.	
Formula	The worksite inspections and observations factor (WIOF) is measured by the formula:	
	Worksite	Inspections and Observations Factor = $\frac{\text{WIO}}{919}$
	Where,	
	WIO	means the actual number of worksite inspections and observations completed per year; and
	919	is the worksite inspection standard.
Benchmark	>= 919 YTD	
Definitions	Inspection procedures are as defined by Work Site Inspection Reports and Office Work Site Inspection Reports	
	<i>Observation</i> process.	procedures are as defined by the Safety Track observations
Reporting Frequen	cy Mont	thly
4.4.3 Lost Time Fr	requency Facto	r
Description	The Lost Tir program as r	ne Frequency Factor measures the effectiveness of a safety elated to disability injuries and illnesses
Formula	The lost time	e frequency factor (LTFF) is measured by the formula:
	Lo	ost Time Frequency Factor = $\frac{0.75}{\text{LTFR}}$
	Where,	
	LTFR	means the actual lost time frequency rate; and
	0.75	is the lost time frequency standard.

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Performance-Based Sanitary, Stormwater and Wastewater Treatment Rates

Benchmark	<= 0.75 YTD
Definitions	<i>Lost Time Incident</i> – A work related disability injury or disability illness that results in an employee missing time at work
	<i>Exposure Hours</i> - The total number of hours employees were exposed to the work site
	<i>Lost Time Frequency Rate</i> is calculated using the following formula defined in the Canadian Electrical Association Work Injury / Illness Standards:
	(# Disability Injuries + # Disability Illnesses) x 200,000 Exposure Hours
Reporting Freque	icy Monthly
4.4.4 All Injury F	requency Factor
Description	The All Injury Frequency Rate Factor measures the effectiveness of a safety program as related to disability injuries and medical aid injuries
Formula	The all injury frequency factor (AIFF) is measured by the formula:
	All Injury Frequency Factor = $\frac{1.0}{\text{AIF}}$
	Where,
	AIF means the actual all injury frequency rate; and
	1.0 is the all injury frequency rate standard.
Benchmark	<= 1.0 YTD
Definitions	<i>Lost Time Incident</i> – A work related injury or illness that results in an employee missing time at work
	<i>Medical Aid Injury (MA)</i> - An injury that requires assessment and care by a physician
	<i>Exposure Hours</i> - The total number of hours employees were exposed to the work site

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All Injury Frequency - This is based on the total number of Fatalities and Lost-Time Injuries, plus the total number of Medical Treatment Injuries which occurred in the calendar year. The following formula shall be used:

(# Fatalities + # Lost-Time Incidents + # Medical Aid Injuries) x 200,000 Exposure Hours

Where 200,000 represents 100 full time employees who work 40 hours per week for 50 weeks.

Reporting Frequency Monthly

5.0 Non-Routine Adjustments

Non-routine adjustments are, by their nature unusual, significant in size or nature and beyond the scope of control of EWSI. Requests for non-routine adjustments will be considered for each of Stormwater, Sanitary Utility Services and Wastewater Treatment Services and can include either a positive or a negative adjustment.

Costs resulting in an annual adjustment to EWSI's total revenue requirement for the Sanitary and Stormwater Utilities of up to \$500,000 are not eligible for approval as a non-routine adjustment. Costs resulting in either an annual adjustment to EWSI's total revenue requirement for the Sanitary and Stormwater Utilities of less than \$3 million but either greater than \$500,000 or greater than \$1 million cumulatively are eligible for consideration and approval by the City Manager as a non-routine adjustment. Costs resulting in an annual adjustment to EWSI's total revenue requirement for the Sanitary and Stormwater Utilities equal to or greater than \$3 million are eligible for consideration and approval by City Council. Review of the non-routine adjustment application will consider the projected return on equity.

If EWSI anticipates making a request for one or more non-routine adjustments to take effect on April 1, 2023, April 1, 2024 or April 1, 2025 (the Rate Adjustment Year) EWSI will on or before December 1 of the calendar year immediately preceding the Rate Adjustment Year submit its request for non-routine adjustments to the City Manager, and will include with such request sufficient information to enable the City Manager / City Council to evaluate the request. If after receiving the submission, the City Manager / City Council is satisfied that the non-routine adjustments should be included in the Sanitary or Stormwater variable rate calculated in accordance with this bylaw, the City Manager will issue a confirmation letter on or before January 31 confirming that the non-routine adjustments will be included in the Sanitary and Stormwater rates to take effect on the April 1st next following.

All amounts approved as non-routine adjustments are approved and funded on an interim basis and shall be charged to EWSI's Adjustment Deferral Account (Drainage or Wastewater) as applicable. EWSI shall, within a reasonable time frame following completion of the project funded by the non-routine adjustment, prepare a final true up of the non-routine adjustment funding based on actual costs.

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EWSI will determine a reasonable time frame over which to recover/credit the balance of the account. Carrying costs will be calculated on the Drainage Adjustment Deferral Account balance.

The rate impact of non-routine adjustments will be calculated and added to the flat or fixed charge for either Sanitary or Stormwater Utility Charges, as applicable.

5.1 Changes to Legislation, Regulation or Taxes

In the event there is a change to: legislation, regulation, bylaws, policy order or directive affecting EWSI's operations, including the common law and the law of equity; rates of tax or other mandatory amounts payable by EWSI to any level of government; the status of EWSI under existing legislation or the application of existing legislation to EWSI; then costs arising from any such event will be considered as non-routine.

5.2 Consequences of Force Majeure

Non-routine adjustments include any costs occasioned by Force Majeure events that are not recovered under a policy of insurance. For purposes of non-routine adjustments under this Schedule 3, events or circumstances of Force Majeure include: acts of God, strikes, lockouts or other industrial disturbances, acts of the Queen's enemies, wars, blockades, insurrections, riots, epidemics, landslides, lightning, floods, earthquakes, explosions, fires, civil disturbances, mechanical breakdowns, regulatory requirements or approval conditions or other acts or interventions of any kind by federal, provincial, state or local governments or any of their agencies or boards, the order or direction of any court, and any other causes whether of the kind herein enumerated or otherwise, not within the reasonable control of EWSI and which by the exercise of reasonable diligence and at a reasonable cost EWSI is unable to prevent or overcome.

5.3 Deterioration of Drainage or Wastewater Treatment Systems

If there is significant deterioration to the Drainage System or Wastewater Treatment facilities, beyond reasonable projections, remediation costs will be considered as non-routine. Without limiting the foregoing, these circumstances may include unanticipated asset failure or deterioration requiring immediate repair or remediation.

5.4 Customer – initiated or City – initiated System Expansion

Costs incurred to create significant Sewerage System or Wastewater Treatment facilities expansion as a result of increases to the size of EWSI's Customer base and/or increased demand by Customers or the City for Drainage or Wastewater Treatment Services, beyond reasonable projections, will be considered as non-routine.

5.5 City - initiated Relocations of Drainage Assets

Costs incurred to effect significant Sewerage System relocations, permanent or temporary moves or removals as a result of City requests will be considered as non-routine.

5.6 Franchise Agreement

If there is an amendment to the Drainage Services Franchise Agreement or the Wastewater Treatment Franchise Agreement affecting Stormwater or sanitary rates or wastewater treatment rates, the resultant impacts on the Stormwater, sanitary and or wastewater treatment rates will be deemed to be non-routine adjustments.

5.7 City Initiatives

Costs incurred to comply with City directed initiatives such as, and without limiting the foregoing, environmental initiatives or projects connected with accelerated flood mitigation will be deemed to be non-routine adjustments.

5.8 Flood Mitigation

Costs incurred to implement flood mitigation projects or initiatives will be considered as non-routine.

5.9 Grant Funding

Cost reductions to the approved revenue requirement resulting from the receipt or recognition of approved grants will be considered as a negative non-routine adjustment.

6.0 Off-Ramp

This performance-based drainage and wastewater treatment regulation can be terminated with the mutual consent and agreement of EWSI and the City.

In the event of termination of this Performance-Based Regulation Plan, the balance of the Adjustment Deferral Account must be cleared within a one-year period from the date of termination.

7.0 Reporting and Filing Requirements

On March 1st of the year following the reporting year (January 1 – December 31), EWSI will file with its regulator, the City, an *Annual Drainage and Wastewater Treatment Rate Filing*. The filing will contain five parts:

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- An audit report as outlined in Schedule 4, if rates are adjusted pursuant to Article 4 herein;
- Rate Sheets The rates for each calendar year as outlined in Schedule 4; and
- Drainage Service Quality Results A report on EWSI's performance related to service quality metrics.
- Wastewater Treatment Service Quality Results the results of each of the components of the wastewater treatment service quality indices.
- Consumption Deferral Account Report

If rates are adjusted pursuant to Article 5.0, the non-routine adjustment clause, an accountant will review the *Annual Drainage and Wastewater Treatment Rate Filing*, conduct an audit and prepare an audit report in accordance with Canadian generally accepted auditing standards. The audit report will address whether the Stormwater, sanitary and the wastewater treatment rates are calculated and presented in accordance with the requirements of this bylaw. The audit reports will be prepared by EPCOR Utilities Inc.'s Internal Audit department.

The filing will be submitted to the City Manager. The City Manager will review the filing and, if appropriate, accept it on or before April 1st as applicable. The filing, and the City Manager approval, will be posted on the EWSI website and copies will be available at the business office of EWSI.

7.1 Rate Sheets

The Annual Drainage and Wastewater Treatment Rate Filing will set out the rate forecast for Stormwater and Sanitary Utility and Wastewater Treatment and will set out the service fees and charges for each calendar year. The rates will be calculated in accordance with this bylaw.

7.2 Drainage and Wastewater Treatment Service Quality Results

The Annual Drainage and Wastewater Treatment Rate Filing will contain the results of the drainage and wastewater treatment services quality measures, and the resulting financial penalty, if any, as set out in this Bylaw.

7.3 Consumption Deferral Account

The Annual Drainage and Wastewater Treatment Rate Filing will contain a report showing the annual variance between EWSI's water consumption forecast and actual consumption for the previous calendar year.

Drainage Services Bylaw No. 19627

Schedule 4

Pro-forma Annual Drainage Rate and Wastewater Treatment Rate Filing

Table	of	Contents
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Stormwater Utility Charges

January 1, $20\lambda\lambda$ to December 31, $20\lambda\lambda$

Applicable To all domestic service customers within the city of Edmonton.

Stormwater utility charges are levied on each premises and calculated based on a monthly rate using the following formula:

stormwater utility charge = $A \times I \times R \times rate$

A is:	 the area of premises (m²), and the proportion of building lot area attributable to each unit for multiple units sharing a single building or property
I is	- the development intensity factor of 1.0, except for properties where owners have demonstrated that they contribute significantly less stormwater per m ² to the City's sewerage system during rainfalls than other similarly zoned properties by making an application for a reduction in the intensity development factor pursuant to this bylaw.

R is - the runoff coefficient based on the zoning of the premises:

R	Zoning
0.10	AG
0.20	A, RR
0.30	AP, US (schools)
0.50	RF1, RF2, RF3, RF4, RMH, IH, MA, AGU
0.65	RSL, RF5, RF6, RA7, RPL
0.75	RA8, US (except schools), PU
0.90	RA9, RMX, CNC, CSC, CB1, CHY, CO, IB, IM, AGI, DC
0.95	CB2, CMX

rate is:

\$ \lambda lambda lambda

Sanitary Utility Charges

January 1, $20\lambda\lambda$ to December 31, $20\lambda\lambda$

Applicable To all domestic service customers within the city of Edmonton.

Sanitary utility charges are calculated and levied on each premises on a monthly basis and are comprised of both:

(a) a Flat Monthly Service Charge based on the meter size for the premises according to the following rates; and

Meter Size	Flat Monthly Service Charge
16mm	\$λ
20mm	\$λ.
25mm	\$λ
40mm	\$λ
50mm	\$λ
75mm	\$λ
100mm	\$λ
150mm	\$λ
200mm	\$λ
250mm	\$λ
300mm	\$λ
400mm	\$λ
500mm	\$λ

- (b) a variable monthly charge based on the rates below for monthly metered:
 - i. water consumption for the premises;
 - ii. sewer discharge for a premises on which a sewer meter has been installed in accordance with this bylaw; or
 - iii. water consumption for the premises as discounted by the application of a utility credit as approved in accordance with this bylaw.

Premises	Rate per m ³
All premises (except large wholesale)	\$λ
Large Wholesale* with Collection System	\$λ

 $\ast\,$ Large Wholesale means a premises designated as such by EWSI in accordance with this bylaw.

Application Fees

January 1, 20 $\lambda\lambda$ to December 31, 20 $\lambda\lambda$

Application Type	20λλ
Application to release matter	\$λ
Application to approve a compliance program	\$λ
Records search	\$λ
Application for reduction in stormwater utility credit	
Initial Application Renewal application	\$ \lambda \$ \lambda
Application for sanitary utility credit	\$λ

Sanitary Sewer Trunk Charges

January 1, 20 $\lambda\lambda$ to December 31, 20 $\lambda\lambda$

Applicable To all owners of a premises abutting an EWSI or City right-of-way in which there is a sanitary or combined sewer, the sanitary sewer trunk charge shall be levied when a development permit is issued for development, redevelopment, or renovation on the premises but if no development permit is required, when a building permit is issued for development, redevelopment, or renovation on the premises or when an application is made for sewer service to the premises.

For the purpose of calculating the sanitary sewer trunk charge, "secondary suite", "garden suite", and "garage suite", as well as reference to "use classes", have the same meaning as defined by the City of Edmonton Zoning Bylaw, Bylaw 12800, as amended.

Dwelling unit means a self-contained room or rooms with sleeping and cooking facilities, as defined in the City of Edmonton Zoning Bylaw, Bylaw 12800, as amended.

Residential means a premises used primarily for domestic purposes, where no more than four dwelling units are metered by a single water meter and the meter size to the premises is not greater than 50mm.

Sanitary sewer trunk charges are calculated as follows:

(a) For development, redevelopment, or renovation of premises for residential use classes:

Dwelling	20 λλ Fee
1-2 dwelling units, excluding secondary suites, garden	\$λ
suites, or garage suites	
2 dwelling units where one unit is a secondary suite, garden	\$λ
suite, or garage suite	
3 or more dwelling units	\$λ
Commercial	\$λ
Industrial	\$λ
Institutional	\$λ

Notwithstanding the above, if a sanitary sewer trunk charge is levied on premises as a result of the redevelopment or renovation of premises, the sanitary sewer trunk charge will be calculated using the following formula:

	sanitary sewer trunk charge = $A - B$
A is:	- the sanitary sewer trunk charge that would have been levied based on the above fees;
B is:	 the sanitary sewer trunk charge previously levied and paid for the premises prior to the redevelopment or renovation on the premises; or if the redevelopment or renovation of the premises is for residential use classes, then the sanitary sewer trunk charge that would have been paid had a sanitary trunk charge been levied with respect to the development that existed on the premises prior to the date of the redevelopment or renovation. if the result is a negative figure, the sanitary sewer trunk charge will be deemed to be \$0

Hauled Wastewater

January 1, 20 $\lambda\lambda$ to December 31, 20 $\lambda\lambda$

The fee for hauled wastewater is calculated based on vehicle size:

20 λλ Fee	λ per axle, excluding the first steering axle

If the hauled wastewater contains settleable solids in a concentration greater than 100 mL/L, the hauled wastewater fee is double the amount per axle indicated in the table above.

Missed Appointment Fees

January 1, 20 $\lambda\lambda$ to December 31, 20 $\lambda\lambda$

To all customers who do not keep a scheduled appointment with an EWSI representative

Missed Flood Assessment Appointment Fee	\$λ
Missed Obstruction Removal Appointment Fee	\$λ

No-Access Fee

January 1, $20\lambda\lambda$ to December 31, $20\lambda\lambda$

To all Customers who request EWSI to investigate sewer trouble but fail to provide access to the sanitary cleanout as required by EWSI's Drainage Services Guidelines.

$\varphi \chi$

*This is fee is subject to waiver or reimbursement if the Customer provides access to the sanitary cleanout as required by EWSI's Drainage Services Guidelines within 30 days of the initial investigation request. **Investigation Fee**

January 1, $20\lambda\lambda$ to December 31, $20\lambda\lambda$

To all Customers who request EWSI to investigate sewer trouble where the result of the investigation indicates that the sewer trouble is caused by a private plumbing issue.

Investigation Fee $\$ \$ λ f	or second and subsequent appointments
--------------------------------------	---------------------------------------

Commercial Wastewater Treatment Service

Applicable	To all commercial, industrial and institutional customers within the city of Edmonton which are serviced by or connected to the City's sewerage system.					
	To all customers not otherwise define Treatment Service customers.	ned as Residential Wastewater				
Rates	Fixed Monthly Service Charge	λ per month				
	Consumption Charge *					
	$0 \text{ m}^3 - 10,000.0 \text{ m}^3$	$\lambda \text{ per } \text{m}^3$				
	$10,000.1 \text{ m}^3 - 100,000.0 \text{ m}^3$	$\lambda per m^3$				
	>100.000 m ³	$\lambda per m^3$				
	* Consumption is based on water meter readings unless otherwise approved by EWSI and the City.					
Effective Dates	These rates effective April 1, $20\lambda\lambda$ to Man in future years under the terms of this by	rch 31, 20 $\lambda\lambda$ are subject to change aw.				

Wastewater Overstrength Surcharges

Applicable Applies to a customer who releases wastewater to the sewer system that contains one or more constituents that exceed the concentration indicated herein.

Rates:

Wastewater Overstrength Surcharge

The Overstrength surcharge, applied to each m^3 of water consumed, for each kilogram of surchargeable matter per m^3 of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
a) λ for Biochemical Oxygen Demand (BOD)	300 mg/L
b) λ for Chemical Oxygen Demand (COD)	600 mg/L*
c) λ for oil and grease	100 mg/L
d) λ for phosphorous	10 mg/L
e) λ for suspended solids, and	300 mg/L
f) λ for total kjeldahl nitrogen (TKN)	50 mg/L

* Or twice the BOD concentration in the wastewater, whichever is greater.

Wastewater Additional Overstrength Surcharge

The Additional Overstrength Surcharge, applied to each m³ of water consumed, for each kilogram of surchargeable matter per m³ of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
a) λ for Biochemical Oxygen Demand (BOD)	3,000 mg/L
b) λ for Chemical Oxygen Demand (COD)	6,000 mg/L*
c) λ for oil and grease	400 mg/L
d) λ for phosphorous	75 mg/L
e) λ for suspended solids, and	3,000 mg/L
f) λ for total kjeldahl nitrogen (TKN)	200 mg/L

* Or twice the BOD concentration in the wastewater, whichever is greater.

Effective Dates

These rates effective April 1, $20\lambda\lambda$ to March 31, $20\lambda\lambda$ are subject to change in future years under the terms of this bylaw.

Customer Rebate for Wastewater Treatment Services

Applicable	To all metered customers within the city of Edmonton Wastewater Treatment Service Quality does not performance level.	in the event that the meet the standard
Rebate	Customer Rebate applied to the Fixed Monthly Service Charge	
	Residential Wastewater Treatment Service Commercial Wastewater Treatment Service	\$ λ \$ λ
Effective Dates	The total penalty for the year will be applied as a wastewater treatment bills in the year immedia performance year.	rebate to customer tely following the

Pro-Forma Auditor's Report

AUDITOR'S REPORT ON RATE SHEETS 1, 2, 3, 4, and 5

To the Senior Vice President responsible for Drainage Services, EPCOR Water Services Inc.

We have audited the rates for flat monthly service charges, variable charges, and service fees and charges included in Rate Sheets 1, 2, 3, 4, and 5 (hereinafter referred to as the "Rate Sheets") of EPCOR Water Services Inc. ("EWSI") for the 20xx Annual Drainage Rate Filing calculated in accordance with City of Edmonton Bylaw 18100 EPCOR Drainage Services Bylaw. EWSI management is responsible for the preparation and fair presentation of the financial information in the Rate Sheets. Our responsibility is to express an opinion on this financial information based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards and in conformance with the International Standards for the Professional Practice of Internal Auditing. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial information contained in the Rate Sheets is free of material misstatement. Such an audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the Rate Sheets.

In our opinion, the Rate Sheets for the 20xx Annual Drainage Rate Filing present fairly, in all material respects, the rates for flat monthly service charges, variable charges and service fees and charges effective January 1, 20xx to December 31 20xx, calculated in accordance with City of Edmonton Bylaw 18100 EPCOR Drainage Services Bylaw.

It is understood that this report has been prepared to facilitate EWSI's reporting as required by Bylaw 18100 and it is not to be referred to or relied upon for any other purpose.

(signed)..... Chartered Professional Accountants

City Date



CITY OF EDMONTON

BYLAW 1810019627

EPCOR DRAINAGE SERVICES <u>AND</u> <u>WASTEWATER TREATMENT BYLAW</u>BYLAW

(CONSOLIDATED FEBRUARY 19, 2020)

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THE CITY OF EDMONTON BYLAW <u>1810019627</u>

EPCOR DRAINAGE SERVICES AND WASTEWATER TREATMENT BYLAW

Whe reas, pursuant to section 3 of the *Municipal Government Act*, RSA 2000, c M -26, the purposes of a municipality are to provide services, facilities and other things that are necessary or desirable for all or a part of the municipality;

And whereas, pursuant to section 7 of the *Municipal Government Act*, Edmonton City Council may pass bylaws respecting public utilities;

Edmonton City Council enacts:

PURPOSE	1	The r(a)	Durpose of this bylaw is to approve: Rates, fees and charges for Drainage Services and <u>Wastewater Treatment Services</u> provided by EPCOR Water Services Inc. to Customers in the city of Edmonton and others, and a mechanism whereby such Rates will be adjusted on an annual basis, for the period of January April 1, 202218 to March 31, 20222025;
		(b)	Terms and Conditions for Drainage Services, and a mechanism whereby Drainage Services Guidelines not inconsistent <u>consistent</u> with the Terms and Conditions may be implemented by EPCOR Water Services Inc. and amended or replaced from time to time; and
		(c)	The Performance Based Regulation Plan for the period of January 1, 2018 to March 31, 2022 <u>April 1, 2022 – March 31, 2025</u> .
DEFINITIONS	5 2	In th other	is by law, unless otherwise specified or the context wise requires:
		(a)	" City " means the municipal corporation of the City of Edmonton;
		(b)	" City Manager " means the chief Administrative Officer of the City or delegate;
		(c)	" Customer " means any person more particularly described as a "Customer" in Schedule 2 of this by law or is otherwise responsible for paying EWSI;
		(d) Pa	"Drainage Services" means the collection, storage,

combined wastewater streams by any means and services related to or incidental to such services;

- (e) "**Drainage Services Franchise Agreement**" means a Franchise Agreement between EWSI and the City in respect of Drainage Services, dated September 1, 2017, including all amendments or replacements thereto;
- (f) "**Drainage Services Guidelines**" means those requirements, standards, specifications, procedures, protocols or guidelines adopted by EWSI pursuant to Schedule 2 or any other Schedule under this bylaw
- (g) **"EWSI**" means EPCOR Water Services Inc. or its successor;
- (h) "Performance Based Regulation Plan" means the Performance Based Regulation Plan for the period of January 1, 2018 April 1, 2022 to March 31, 2022 2025, as more particularly described in Schedule 3 of this bylaw;
- (i) "Price Schedule" means the Rates in respect of Drainage Services or Wastewater Treatment Services more particularly described in Schedule 1 of this bylaw, as approved by the City and in effect at the time;
- (j) "**Rate**" means the rates, fees, riders and charges applicable to Drainage Services provided by EWSI within the city of Edmonton; and
- (k) "Rate Sheets" means the documents styled as Rate Sheets in Schedule 4 of this by law, intended for use as templates for the format in which EWSI's annual requests for Rates are to be_-filed with the City M anager.
- (l) "Wastewater Treatment Franchise Agreement" means a Franchise Agreement in respect of Wastewater Treatment Services between EWSI and the City, dated March 31, 2009, including all amendments or replacements thereto;
- (m) "Wastewater Treatment Services" means the treatment of wastewater and the storage, pumping Page Hisport of the storage water by any reparsed of the storage of the stor

the right to charge and recover a fee for such services in accordance with the provisions of the Wastewater Treatment Franchise Agreement.

RULES FOR 3 The marginal notes and headings in this bylaw are for **INTERPRETATION** reference purposes only.

44 Rates, fees and charges for <u>12 month the 12-month</u> period January 1, 2018 December 31, 2018 April 1, 2022 -March 31 - 2023 are approved and shall be charged in accordance with Schedule 1. 2018APRIL 1, 2022

For each 12 month period from January 1, 2019 to **RATES AFTER** 5 December 31, 2021 and for the 3 month period from JANUARY 1, 2019MARCH 31, January 1, 2022 to March 31, 2022, April 1, 2023 to March 31, 2025 Rates for the provision of Drainage 2023 Services and Wastewater Treatment Services by EWSI will be established in accordance with Section 8 and are subject to applicable adjustments as set out in Schedule 3 of this by law. are approved and shall be charged in accordance with Schedule 1 of this

> by law, subject to applicable adjustments as set out in Schedule 3 of this bylaw, and will be established in accordance with Section 8 of this bylaw.

TERMS AND CONDITIONS

RATES

EFFECTIVE

JANUARY 1.

- The Terms and Conditions of Drainage Service attached 6 hereto in Schedule 2 of this bylaw are approved.
 - 7 All Drainage Services and Wastewater Treatment Services provided within the boundaries of the city of Edmonton shall be provided by EWSI except for:
 - Drainage Services or Wastewater Treatment (a) Services which are provided by a person on property of which that person is the owner or tenant for use solely by that person and solely on the property, or
 - Drainage Services or Wastewater Treatment (b) Services for which EWSI has provided written consent for another person to perform.

PRICE SCHEDULE 8 **ADJUSTMENTS**

Any adjustments to a Price Schedule made under Section 5 shall be made as follows:

- (a) On or Before <u>December M arch</u> 1st in each year commencing <u>2018-2023</u> and ending in <u>20202024</u>, EWSI shall file for information with the City M anager Rates Sheets effective for the up coming 12 month period from <u>January April</u> 1 to <u>December M arch</u> 31, reflecting the Rates in accordance with this bylaw.
- (b) On or Before December 1, 2021, EWSI shall file for information with the City Manager Rates Sheets effective for the upcoming 3 month period from January 1, 2022 to March 31, 2022 reflecting the Rates in accordance with this bylaw.
- (b) The filings referred to in subsections (a) and (b) above must include sufficient information for the City Manager to determine if the performancebased Rates for the upcoming year have been calculated in accordance with the provisions of Schedule 3 of this bylaw.

(c)

- (c) If, after reviewing the filings referred to in subsections (a) and (b) above, the City Manager is satisfied that the performance-based drainage Rates included in the Rate Sheets have been calculated in accordance with this bylaw, the City Manager shall issue a compliance letter on or before December March 15th of each year confirming that the performance-based Rates in the Rate Sheet for the upcoming year have been calculated in accordance with this bylaw.
- (d) Once the compliance letter has been issued in accordance with the provisions of subsection (cd), EWSI is authorized to provide Drainage Services and Wastewater Treatment Services pursuant to the Rate Sheets filed in accordance with the provisions of this section.
- (e) The City Manager shall keep a record of all filings made in accordance with this bylaw.

EFFECTIVE DATE

89 This bylaw comes into effect January 1, 2018. April 1, 2022.

REPEAL	<u>10</u>	Upon this Bylaw becoming effective, Bylaw No. 18100, as amended, is hereby repealed.
SCHEDULES	9 <u>11</u>	The following schedules are included in, and form part of this bylaw:
		Schedule 1 – Price Schedule
		Part I – Drainage Sanitary and Stormwater Rates
		 Sanitary Utility: flat/variable Stormwater Utility
		Part II – Service Fees and Charges
		 Application fees
		 Sanitary Sewer Trunk charges
		Hauled Wastewater
		<u>Part III – Wastewater Treatment Rates</u>
		Schedule 2 – Terms and Conditions of Drainage Service
		Schedule 3 – Performance Based Drainage Rates <u>:</u> Sanitary, Stormwater and Wastewater Treatment Rates

Schedule 4 – Pro-forma Annual Drainage <u>and</u> <u>Wastewater</u> Rate Filing

READ a first time this	day of	2021;
READ a second time this	day of	2021;
READ a third time this	day of	2021;
SIGNED AND PASSED this	day of	2021;

THE CITY OF EDMONTON

MAYOR

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(NOTE: Consolidation made under Section 69 of the *Municipal Government Act*, R.S.A. 2000, c.M. 26 and Bylaw 16620 Section 16, and printed under the City Manager's authority)

Bylaw 18100, passed by Council September 12, 2017

Amendments: Bylaw 19137, February 19, 2020

Schedule 1

Price Schedule

Rate Sheet 1

Applicable To all domestic service <u>C</u>eustomers within the city of Edmonton.

Sanitary Utility Service Charges January 1, 2018 – March 31, 2022 (S.2, Bylaw 19137, February 19, 2020) April 1, 2022 – March 31, 2025

Sanitary utility charges are calculated and levied on each Premises on a monthly basis and are comprised of <u>a Flat Monthly Charge and a Variable Monthly Charge.both</u>:

(a) a Flat Monthly Service Charge as set out in the Flat Monthly Service Charge table based on the meter size for the premises according to the following rates; and

The Flat Monthly Charge is levied on each Premises based on the size of the Premises' water meter.

Effective Dates and Adjustments for Future Years

The Flat Monthly Charge for the period April 1, 2022 – March 31, 2023 is set out below. Flat Monthly Charges for the period April 1, 2023 to March 31, 2025 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the charges set out below, with new charge approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

RateFlat Monthly Charge

Meter Size	Flat Monthly Service
	Charge*
Meter Size	January 1, 2022 Monthly
	Charge*
<u>16mm</u>	\$10.66 \$10.84
<u>20mm</u>	\$19.19 \$19.50
<u>25mm</u>	<u> </u>
<u>40mm</u>	\$57.56 \$58.50
<u>50mm</u>	\$78.88
<u>75mm</u>	<u>\$162.99</u> \$165.75
<u>100mm</u>	\$303.59 \$308.76
<u>150mm</u>	\$574.25 \$583.93 •
200mm	\$916.22

Meter Size	Monthly Charge*
<u>250mm</u>	<u>\$2,273.75</u>
300mm	<u>\$2,273.75</u>
<u>400mm</u>	<u>\$2,488.02</u>
500mm	<u>\$2,678.83</u>
<u>16mm</u>	<u>\$10.65</u>
<u>20mm</u>	<u>\$19.18</u>
<u>25mm</u>	<u>\$29.83</u>
<u>40mm</u>	<u>\$57.53</u>
<u>50mm</u>	<u>\$78.84</u>
<u>75mm</u>	<u>\$162.90</u>
<u>100mm</u>	<u>\$303.42</u>
<u>150mm</u>	<u>\$573.93</u>
<u>200mm</u>	<u>\$915.70</u>
<u>250mm</u>	<u>\$2,272.48</u>
<u>300mm</u>	<u>\$2,272.48</u>
<u>400mm</u>	<u>\$2,486.63</u>
<u>500mm</u>	\$2,677.33

*These rates charges are subject to change, as permitted by the terms of this bylaw.

Variable Monthly Charge

The Variable Monthly Charge is based on the cubic metre rate in the Variable Monthly Charge Table, subject to adjustments as permitted by this bylaw, and measured by one of the following metered flows:

- i. water consumption for the premises;
- ii. sewer discharge for a premises on which a sewer meter has been installed in accordance with this bylaw; or
- iii. water consumption for the premises as discounted by the application of a utility credit as approved in accordance with this bylaw.

Effective Dates and Adjustments for Future Years

The Variable Monthly Charge for the period April 1, 2022 – March 31, 2023 is set out below. Variable Monthly Charges for the period April 1, 2023 to March 31, 2025 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation

occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

(b) a variable monthly charge based on the rates below for monthly metered:

i. water consumption for the premises;

ii.<u>i.</u> sewer discharge for a premises on which a sewer meter has been installed in accordance with this bylaw; or

iii. water consumption for the premises as discounted by the application of a utility credit as approved in accordance with this bylaw.

Variable Monthly Charge Table

Premises	January 1,
	2022Rate per m ³
All premises (except large wholesale)	\$1.2493
	<u>\$1.2499</u> \$1.0495
Large Wholesale* with Collection System	<u>\$0.6996</u>
	\$0.7000 \$0.58772

* Large Wholesale means a premises designated as such by EWSI in accordance with this bylaw.

Rate Sheet 2

Stormwater Utility <u>Charges Service January 1, 2018</u> <u>March 31, 2022 April 1, 2022- March 31, 2025</u> (S.3, Bylaw 19137, February 19, 2020)

<u>Applicable</u>	To all persons, firms or bodies corporate that receive Water Services or other services related to or incidental to Water Services from EWSI pursuant to Bylaw 19626, as amended, and where the context or circumstances so require includes any person who makes or has made an application for Water Services or otherwise seeks to receive Water Services, and also includes any person acting as an agent or representative of such person, as well as a registered owner or tenant of property to which Water Services are being delivered.
	To all persons, firms or bodies corporate that receive Drainage Services, directly or indirectly, or other services related to or incidental to Drainage Services pursuant to this Bylaw or otherwise seeks to receive Drainage Services, and also includes any person acting as an agent or representative of such person, as well as a registered owner or tenant of property to which Drainage Services are being delivered.
All owners or occupant Stormwater service: S <u>P</u> premises that received indirectly from the corr and are calculated base	ts of Premises within the city of Edmonton share costs associated with tormwater utility charges are levied on each-all owners or occupants of Water Services and all other Premises that benefit either directly or newspance of Stormwater by EWSI facilities. Stormwater utility charges ed on a monthly rate using the following formula:
	- <u>S</u> stormwater utility charge = A x I x R x rate
A is:	 the area of premises (m²), and the proportion of building lot area attributable to each unit for multiple units sharing a single building or property
I is	- the development intensity factor of 1.0, except for properties where owners have demonstrated that they contribute significantly less stormwater per m ² to the City's sewerage system during rainfalls than other similarly zoned properties by making an application for a reduction in the intensity development factor pursuant to this bylaw.

R is ______the runoff coefficient based on the zoning of the premises where zoning means the effective zoning designation as it appears on the tax roll for that premises.÷

The zoning designation used to calculate a property's Stormwater utility charge is the effective zoning designation determined by the City of Edmonton through its bylaws or otherwise.—as it appears on the tax roll for that property. If a property's effective zoning designation is not referenced within the Runoff Coefficient Table, EWSI shall, in its sole discretion, use the zoning designation within the Runoff Coefficient Table that most closely aligns with the property's effective zoning designation.

EWSI reserves the right to adjust Stormwater billing factors (area, development intensity factor or runoff coefficient) to ensure that a property's Stormwater utility charge reflects service received by the property.

Runoff Coefficient Table

R	Zoning
<u>0.10</u>	AG
0.20	A, AG, RR
0.30	AP, US (schools)
0.50	RF1, RF2, RF3, RF4, RMH, IH, MA, AGU
0.65	RSL, RF5, RF6, RA7, RPL
0.75	RA8, US (except schools), PU
0.90	RA9, RMX, CNC, CSC, CB1, CHY, CO, IB,
	IM, AGI, DC
0.95	CB2, CMX

<u>Rate</u>

The Stormwater Utility Service Rate for the period of April 1, 2022 – March 31, 2023, unless otherwise adjusted by other mechanisms permitted by this bylaw, is:

Rate	\$0.056908 \$0.056935
	<u>\$0.048171</u>

The Stormwater Utility Service Rate for the period April 1, 2023 to March 31, 2025 will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rate set out above, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

	January 1, 2018	January 1, 2019	January 1, 2020	January 1, 2021	January 1, 2022
Rate	\$0.040649	\$0.042506	\$0.044252	\$0.046159	\$0.048171

Service Fees and Charges – <u>April 1, 2022 – March 31, 2025</u>January 1, 2018 - <u>March 31, 2022</u> (S.4, Bylaw 19137, 2020)

1. Application Fees

Application Type	2022 Fee
Application to release matter	\$398.79 <u>\$189.58</u>
Application to approve a compliance program	\$398.79Subject to estimate based on cost of service
Records search	<u>\$124.04</u> \$142.06
Application for reduction in stormwater utility credit	
Initial application Renewal application Application for sewer metering approval	<u>\$4001000.00</u> <u>\$225.00</u> \$370.97
Application for sanitary utility credit Application for reduction in stormwater utility intensity development factor	<u>\$400850.00</u> \$370.97

2. Sanitary Sewer Trunk Charges

Applicable

To all owners of a premises abutting an EWSI or City right-of-way in which there is a sanitary or combined sewer, the sanitary sewer trunk charge shall be levied

- (a) when a development permit is issued for development, redevelopment, or renovation on the premises;
- (b) if no development permit is required, when a building permit is issued for development, redevelopment, or renovation on the premises; or
- (c) when an application is made for sewer service to the premises.

For the purpose of calculating the sanitary sewer trunk charge, "secondary suite", "garden suite", and "garage suite", as well as reference to "use classes", have the same meaning as defined by the City of Edmonton Zoning Bylaw, Bylaw 12800, as amended.

Dwelling unit means a self-contained room or rooms with sleeping and cooking facilities, as defined in the City of Edmonton Zoning Bylaw, Bylaw 12800, as amended.

Part II – Services Fees and Charges

Residential means a premises used primarily for domestic purposes, where no more than four dwelling units are metered by a single water meter and the meter size to the premises is not greater than 50mm.

Sanitary sewer trunk charges are calculated as follows:

For development, redevelopment, or renovation of premises for residential use classes:

Dwelling	20 <u>22</u> 18	20 <u>23</u> 19	20 <u>24</u> 20	20 <u>25</u> 21
	Fee*	Fee**	Fee**	Fee**
1-2 dwelling units,	\$λ	\$λ	\$λ	\$λ
excluding secondary				
suites, garden suites, or				
garage suites				
2 dwelling units where		\$λ	\$λ	\$λ
one unit is a secondary	\$λ			
suite, garden suite, or				
garage suite				
3 or more dwelling units	\$λ	\$λ	\$λ	\$λ
Commercial	\$λ	\$λ	\$λ	\$λ
Industrial	\$λ	\$λ	\$λ	\$λ
Institutional	\$λ	\$λ	\$λ	\$λ

*Sanitary sewer trunk charges for 2022-202518 shall be adjusted in accordance with an adjustment notice provided by the city of Edmonton, as applicable.

****Sanitary sewer trunk charges for 2019 to 2022 shall be adjusted in accordance with Schedule 3.**

Notwithstanding the above, if a sanitary sewer trunk charge is levied on premises as a result of the redevelopment or renovation of premises, the sanitary sewer trunk charge will be calculated using the following formula:

sanitary sewer trunk charge = A - B

A is:

the sanitary sewer trunk charge that would have been levied based on the above fees;

		Part II – Services Fees and Charges
B is:	-	the sanitary sewer trunk charge previously levied and paid for the premises prior to the redevelopment or renovation on the premises; or
	-	if the redevelopment or renovation of the premises is for residential use classes, then the sanitary sewer trunk charge that would have been paid had a sanitary sewer trunk charge been levied with respect to the development that existed on the premises prior to the date of the redevelopment or renovation. if the result is a negative figure, the sanitary sewer trunk charge will be deemed to be \$0

3. Other Service Charges

Hauled Wastewater

The fee for \underline{Hh} auled \underline{Ww} astewater is calculated based on vehicle size:

2018-Fee	\$22.6626.27 per axle, excluding the first steering axle
2019 Fee	\$23.34 per axle, excluding the first steering axle
2020 Fee	\$24.04 per axle, excluding the first steering axle
2021 Fee	\$24.76 per axle, excluding the first steering axle
2022 Fee	\$25.50 per axle, excluding the first steering axle

If the <u>H</u>hauled <u>W</u>wastewater contains settleable solids in a concentration greater than 100 mL/L, the hauled wastewater fee is double the amount per axle indicated in the table above.

Missed Appointment Fees

To all customers who do not keep a scheduled appointment with an EWSI representative

Missed Flood Assessment Appointment Fee	<u>\$60.00</u>
Missed Obstruction Removal Appointment Fee	<u>\$200.00</u>

No-Access Fee

To all Customers who request EWSI to investigate sewer trouble but fail to provide access to the sanitary cleanout as required by EWSI's Drainage Services Guidelines.

No-Access Fee

\$200.00*

*This is fee is subject to waiver or reimbursement if the Customer provides access to the sanitary cleanout as required by EWSI's Drainage Services Guidelines within 30 days of the initial investigation request.

Part II – Services Fees and Charges

Investigation Fee

To all Customers who request EWSI to investigate sewer trouble where the result of the investigation indicates that the sewer trouble is caused by a private plumbing issue.

Investigation Fee \$200.00 for second and subsequent appointments

Service Connection Fees

The fee for new sewer connections is calculated on a cost of service basis in accordance with the Drainage Services Guidelines.

Miscellaneous fees

EWSI may impose any other fees on the owner<u>or developer</u> of premises provided that those fees are reasonably connected to the provision of the sewer service to that premises.

Wastewater Treatment Rates

Wastewater Treatment Rates for the period of April 1, 2022 – March 31, 2023, unless otherwise adjusted by other mechanisms permitted by this bylaw, are set out below:

Residential Wastewater Treatment Service

ApplicableTo all domestic service Ceustomers and multi-residential service
Ceustomers located within the city of Edmonton which are serviced by or
connected to the City's sewerage system.

A domestic service is defined as a service supplied to premises used primarily for domestic purposes, where no more than four separate dwelling units are metered by a single water meter and the service line to the premises is not greater than 50 millimeters in diameter.

A domestic service and multi-residential service are defined in Part I of this Schedule. If a business is conducted from premises that otherwise fall within the above definition of a domestic service, Commercial Wastewater Treatment Service rates apply; provided however, that if a portion of the premises from which the business is conducted is separately metered, then a Commercial Wastewater Treatment Services rate will apply only to that portion of the premises.

Effective Dates and Adjustments for Future Years

Fixed Monthly Services Charges and Consumption Charges for the period April 1, $20\underline{2317}$ to March 31, $202\underline{52}$ will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of Schedule 1 of this Bylaw.

Rates	Fixed Monthly Service Charge	<u>\$6.22\$6.254</u> .15 per month	
	Consumption Charge * All consumption * Consumption is based on water approved by EWSI and the City.	<u>\$1.2334</u> <u>0.7944</u> per m ³ meter readings unless otherwise	
Commercial Wastewater Treatment Service

ApplicableTo all commercial, industrial and institutional Ceustomers within the city
of Edmonton which are serviced by or connected to the City's sewerage
system.

To all \underline{Ce} ustomers not otherwise defined as Residential Wastewater Treatment Service \underline{Ce} ustomers.

Effective Dates and Adjustments for Future Years

Fixed Monthly Services Charges and Consumption Charges for the period April 1, $20\underline{23}\underline{17}$ to March 31, $202\underline{52}$ will be determined by applying the adjustment factors in Schedule 3 of this Bylaw to the rates set out below, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6-of this Bylaw.

Rates	Fixed Monthly Service Charge	<u>\$6.22\$6.25</u> 4.15 per month
	Consumption Charge * $0 m^3 - 10,000.0 m^3$ $10,000.1 m^3 - 100,000.0 m^3$ Over 100,000.0 m ³	\$1.2334\$1.23910.7944 per m ³ \$0.9542\$0.95866146 per m ³ \$0.4979\$0.50023207 per m ³

* Consumption is based on water meter readings unless otherwise approved by EWSI and the City.

Wastewater Treatment Rate: Sewer Metering

- ApplicableTo non-residential wastewater treatment service customers discharging
more than 50,000 m³ per month to the City's sanitary sewer system and
who wish to apply for sewer metering in place of water meter readings.
 - The customer must submit a written application to The City, following the terms and processes outlined in the City of Edmonton Bylaw 9675, Sewers Use Bylaw, as amended.

Wastewater Treatment Rate: Sewer Sanitary Utility Credit

Applicable To non-residential wastewater treatment service <u>C</u>eustomers who can clearly demonstrate that there is a water loss experience between their water consumed and their discharges to the sanitary sewer system on a continuous monthly basis.

The <u>C</u>eustomer must submit a written application to <u>The CityEPCOR</u>, following the terms and processes outlined in the City of Edmonton Bylaw 9675, Sewers Use Bylaw, as amended.as required by Schedule 2 to the Bylaw.

Wastewater Overstrength Surcharges

Applicable Applies to a <u>C</u>eustomer who releases wastewater to the sewer system that contains one or more constituents that exceed the concentration indicated in this Schedule.

Effective Dates and Adjustments for Future Years

The Wastewater Overstrength Surcharges for the period April 1, 202317 to March 31, 202542 will be determined and adjusted as outlined in Schedule 3 of this Bylaw, with new rate approval and implementation occurring on an annual basis in accordance with the adjustment methodology prescribed in Section 6 of this Bylaw.

Rates

Wastewater Overstrength Surcharge:

The Overstrength Surcharge, applied to each m^3 of water consumed, for each kilogram of surchargeable matter per m^3 of wastewater that exceeds the concentration indicated for that matter shall be:

		Concentrations Above:
a)	<u>\$0.7743</u> \$0.77794977 for Biochemical Oxygen Demand (BOD)	300 mg/L
b)	<u>\$0.7743</u> for Chemical Oxygen Demand (COD)	600 mg/L*
c)	<u>\$0.6769</u> \$0.68014352 for oil and grease	100 mg/L
d)	<u>\$6.4427</u> for phosphorous	10 mg/L
e)	<u>\$0.7028</u> , 70614517 for suspended solids, and	300 mg/L
f)	<u>\$1.6445</u> \$1.65220570 for total kjeldahl nitrogen (TKN)	50 mg/L
* 0	is the DOD concentration in the reset events of which even is create	

* Or twice the BOD concentration in the wastewater, whichever is greater.

Wastewater Additional Overstrength Surcharge:

The Additional Overstrength Surcharge, applied to each m³ of water consumed, for each kilogram of surchargeable matter per m³ of wastewater that exceeds the concentration indicated for that matter shall be:

		Concentrations Above:
a)	<u>\$0.7743</u> \$0.77794977 for Biochemical Oxygen Demand (BOD)	3,000 mg/L
b)	<u>\$0.7743</u> \$0.77794977 for Chemical Oxygen Demand (COD)	6,000 mg/L*
c)	<u>\$0.6769</u> \$0.68014352 for oil and grease	400 mg/L
d)	<u>\$6.4427\$6.4728</u> 4.1412 for phosphorous	75 mg/L
e)	<u>\$0.7028</u> \$0.7061.4517 for suspended solids, and	3,000 mg/L
f)	<u>\$1.6445</u> \$1.65220570 for total kjeldahl nitrogen (TKN)	200 mg/L
* Or tw		

Wastewater Overstrength Surcharges Adjustment

ApplicableTo Ceustomers to whom the Wastewater Overstrength Surcharges apply
and who own and operate facilities that produce and deposit into the sewer
system 25,000 m³ or more per month of wastewater with a Biochemical
Oxygen Demand equal to or greater than 100 tonnes per month with a ratio
of Chemical Oxygen Demand to Biochemical Oxygen Demand (5-day
test) less than 2.0.

It must be demonstrated through a technical assessment by EWSI that the impact of treating the <u>C</u>eustomer's wastewater stream at the Gold Bar Wastewater Treatment Plant will be significantly beneficial for biological nutrient removal. The <u>C</u>eustomer must provide, at its own cost, all information, samples and other materials that EWSI may require to complete this technical assessment. The <u>C</u>eustomer will be responsible for the full cost of the EWSI technical assessment.

This adjustment does not apply to Residential Wastewater Treatment Service <u>C</u>eustomers. This adjustment does not supersede or override any provisions of the Sewers Use Bylaw 9675.

A <u>C</u>eustomer who wishes to be considered for this adjustment must submit a request in writing to EWSI for review of its Wastewater Overstrength Surcharge and eligibility for the adjustment. EWSI reserves the right to accept or deny any application and the amount and duration of the adjustment will be at the sole discretion of EWSI, as determined by the EWSI study reflecting the Gold Bar Wastewater Treatment Plant operation. Only one Wastewater Overstrength Surcharges Adjustment will be applied to any one <u>C</u>eustomer at one time.

- RateA discount from the regular rates for Wastewater Overstrength Surcharges
where the level of discount to the Ceustomer will be determined on a case-
by-case basis.
- **Effective Dates** This rate is effective as <u>of</u> and when EWSI amends or approves the rate for the period April 1, 202217 to March 31, 202542.

Wastewater Overstrength Surcharges: Supplementary Information

1. <u>Key Terms</u>

- a. **Biochemical oxygen demand (BOD)** means the quantity of oxygen required for the biochemical degradation of organic material and the oxygen used to oxidize inorganic material such as sulphides and ferrous iron during a 5-day, 20 degree Celsius incubation period and may measure the oxygen used to oxidize reduced forms of nitrogen, as determined by using a standard procedure.
- b. **Chemical oxygen demand (COD)** means a measure of the oxygen equivalent of the organic content of a sample that is susceptible to oxidation by a strong chemical oxidant, as determined by using a standard procedure.
- c. **Flow monitoring point** means an access point to the building drain, building sewer, private drainage system or sewer service for the purpose of collecting representative samples of the wastewater being released from the premises.
- d. **Oil and grease** means any solvent extractable material of animal, vegetable or mineral origin, as determined by using a standard procedure.
- e. **Phosphorus** means all forms of phosphorus in a sample, as determined by using a standard procedure.
- f. **Suspended solids** means the portion of total solids retained by a filter, as determined by using a standard procedure.
- g. **Total Kjeldahl Nitrogen (TKN)** means organically bound nitrogen plus ammonia nitrogen, as determined by using a standard procedure.

2. <u>Determination of Wastewater Overstrength Surcharges</u>

EWSI or its agent:

- a. will collect a composite sample of the wastewater being released over any 24 hour period or part thereof;
- b. will determine the concentration of the surchargeable constituents in the sample, using a standard procedure;
- c. will calculate the average concentration of each constituent from a minimum of four (4) composite samples taken over a period of more than seven (7) days, and not longer than a 12 month period;

- d. may, where the concentration(s) of the overstrength constituent(s) are in the same range as those used to establish the existing overstrength surcharge, use the existing mean concentrations to set the overstrength surcharge rate until such time as the concentrations fall outside the existing range;
- e. will calculate the average number of kilograms of each surchargeable constituent per cubic metre of wastewater, that exceeds the concentration indicated in Part IV "Wastewater Overstrength Surcharge" and "Wastewater Additional Overstrength Surcharge" of this Schedule; and,
- f. will calculate the Wastewater Overstrength Surcharges which will appear on the <u>C</u>eustomer's utility bill using the following formula:

Overstrength surcharge (\$) =

$$\frac{m^{3}\{(Ob (Cxb - 300) + Oc(Cxc - Cac) + Oo(Cxo - 100) + Op(Cxp - 10) + Os (Cxs - 300) + On(Cxn - 50)\}}{100,000}$$

Where:

- m³ is the total water consumption in cubic meters (or, if approved, sewer metering);
- Ob, Oc, Oo, Op, Os and On are the Overstrength surcharge set out in Part IV for each kilogram of BOD, COD, oil and grease, phosphorus, suspended solids, and TKN, respectively.
- Cxb, Cxc, Cxo, Cxp, Cxs, Csn are the average concentrations in milligrams per liter (mg/L) of BOD, COD, oil and grease, phosphorus, suspended solids and TKN, respectively, in the sampled wastewater.
- Cac is 600 or double the average BOD concentration in mg/L, whichever is greater.
- The additional surcharge is calculated using the above formula but substituting 3000, 400, 75, 3000 and 200 for 300, 100, 10, 300 and 50, respectively, and Cac is 6000 or double the average BOD concentration in mg/L, whichever is greater.
- Where the remainder of a subtraction is a negative number, that component of the formula becomes equal to zero.

Wastewater Overstrength Surcharges: Supplementary Information

3. Application of Wastewater Overstrength Surcharges

a. Single Business, Multiple Sewers:

Where the wastewater from a premises is released through two or more building sewers and where there is no accurate measurement of the individual flows being released, the release that would produce the highest surcharge will be used to determine the overstrength surcharge on all releases.

b. Multiple Businesses, Single Water & Sewer Service:

Wastewater released through a single sewer service from a premises with two or more separate businesses serviced by a single water service will be considered as being released by the person responsible for the payment of the utility bill for that water meter.

- c. **Multiple Businesses, Multiple Water Services & Single Sewer Service** Wastewater released through a single sewer service from a premises with two or more separate businesses, each serviced by separately metered water services, will be considered as being released from each of the separate businesses, in proportion to the separate business' water consumption, unless it is shown to the satisfaction of EWSI or its agent, by the owner of the premises, that:
 - i. the portion of the wastewater that is overstrength is being released from only one of the businesses serviced by a separate metered water service on the premises; and,
 - ii. the release from that business can be monitored separately from the other businesses.

Wastewater Overstrength Surcharges: Supplementary Information

4. <u>Review of Wastewater Overstrength Surcharges</u>

A <u>C</u>eustomer may request a review of the Wastewater Overstrength Surcharge or the Additional Overstrength Surcharge, or both, by applying in writing to EWSI to have the specific charges reviewed.

The <u>C</u>eustomer making the request will supply to EWSI:

- a. analytical data from analyses of composite samples:
 - i. collected over the period of time over which the surcharge was calculated;
 - ii. collected from the flow monitoring point in accordance with section 2(a) of this Wastewater Overstrength Surcharge: Supplementary Information;
 - iii. analyzed in accordance with section 2(b) of this Wastewater Overstrength Surcharge: Supplementary Information; and,
 - iv. supported by the analytical data indicating the accuracy and precision of the analyses; and
- b. any other information EWSI deems necessary to carry out the review.

EWSI will determine whether the Wastewater Overstrength Surcharge, the Additional Overstrength Surcharge, or both, should be recalculated for the time period being reviewed.

Schedule 2

Terms and Conditions of Drainage <u>and</u> <u>Wastewater Treatment</u> Service

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INTRODUCTION TO TERMS AND CONDITIONS

These Terms and Conditions, as approved by the municipal council of the City of Edmonton, form part of Bylaw 18100 (the "EPCOR Drainage Services Bylaw") which regulates the provision of Drainage Services in the city of Edmonton by EPCOR Water Services Inc. ("EWSI"). The EPCOR Drainage Services Bylaw, which also includes the EWSI Price Schedule in effect from time to time, is enacted pursuant to the powers vested in the City under the provisions of the *Municipal Government Act*. R.S.A. 2000 C. M-26.

These Terms and Conditions apply to EWSI and its relationship with all of its Customers. Every Customer, by applying for or using a Service Connection or Drainage Services or other services of any kind provided by EWSI under the authority of these Terms and Conditions, is deemed to have accepted these Terms and Conditions and is bound by and subject to them.

Unless otherwise agreed in writing by EWSI and a Customer, provision of Drainage Services or other services by EWSI to Customers will occur only in accordance with these Terms and Conditions.

ARTICLE 1 - DEFINITIONS AND INTERPRETATION

1.1 **Definitions**

The following words and phrases, whenever used in these Terms and Conditions or in an application, contract or agreement for service under these Terms and Conditions, shall have the meanings set forth below:

"Account" means a written and/or digital record of use of Drainage Services or other services by a Customer, including the amounts payable from time to time by the Customer to EWSI;

"Authorized Agent" means a person who has a valid EWSI access permit as set out in the Drainage Services Guidelines;

"Billing and Customer Care Matters" includes the provisions described in Articles 3.1, 3.3 and 3.5 of the EPCOR Water Services and Wastewater Treatment Bylaw;

"Biohazardous Agent, Risk Group 4" means an agent that is likely to cause serious or lethal human disease for which preventive or therapeutic interventions are not usually available;

"Business Day" means a day, which is not a Saturday, Sunday or a statutory holiday in the Province of Alberta, and "day" means any calendar day;

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"City" means the municipal corporation of the City of Edmonton;

"City right-of-way" means land in which the City has an interest, including road right-of-ways and easements in favour of the City;

"**Combined Sewer**" means a sewer used for the collection and transmission of Wastewater and Stormwater;

"Customer" means any Person, firm or body corporate that receives Drainage Services or other services related to or incidental to the Drainage Services from EWSI pursuant to the EPCOR Drainage Services Bylaw and where the context or circumstances so require includes any Person who makes or has made an application for Water Services or otherwise seeks to receive Water Services, and also includes any Person acting as an agent or representative of a Customer, as well as a registered Owner of property to which Drainage Services are being delivered;

"Disturbed Ground" means terrain (surface or sub-surface) that is disturbed and that may require incremental construction techniques or support systems to provide stability;

"Drainage Services" includes but is not limited to the collection, storage, pumping and monitoring of sanitary, storm and combined waste streams by any means in accordance with the provisions of the Drainage Services Franchise Agreement, any and all incidental services more particularly described in these Terms and Conditions, and the use of physical plant, equipment, apparatus, appliances, property and Facilities owned or employed by EWSI or used in connection with EWSI in providing the Drainage Services for the property of any Customer;

"Drainage Services Agreement" means any agreement under which EWSI has or may incur an obligation to provide Drainage Services to one or more Customers, and may at EWSI's sole option include any servicing agreement entered into by the City to which EWSI is not a party to the extent that the servicing agreement addresses the provision of Drainage Services to a Customer;

"Dwelling" means a private residence with sleeping and cooking facilities used or intended to be used permanently or semi-permanently as a residence ;

"EPCOR Water Services and Wastewater Treatment Bylaw" means City of Edmonton Bylaw 17698 as amended.

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"EWSI" means EPCOR Water Services Inc. or its successor;

"EWSI right-of-way" means land in which the EWSI has an interest, including road right-ofways and easements in favour of the EWSI;

"Facilities" means any infrastructure forming part of the Sewerage System owned or used by EWSI.

"Flow Monitoring Point" means an access point to Sewer Service or Private Drainage System for a premises, examples of which include manholes and dip wells;

"Force Majeure" means circumstances not reasonably within the control of EWSI, including acts of God, strikes, lockouts or other industrial disturbances, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, high water, washouts, inclement weather, orders or acts of civil or military authorities, civil disturbances, explosions, breakdown or accident to equipment, mechanical breakdowns, intervention of federal, provincial or local government or any of their agencies or boards, the order or direction of any court, and any other cause, whether of the kind herein described or otherwise;

"Foundation Drainage System" means a system of pipes, fittings, traps and appurtenances used to convey Subsurface Water;

"Hauled Wastewater" means Wastewater transported by vehicle for disposal;

"Hazardous Waste" has the same meaning as in the *Waste Control Regulation*, Alta Reg. 192/1996 to the *Environmental Protection and EnhancementAct*, RSA 2000, c E-12 as amended and any successor to that legislation;

"High Potential Contaminant Release Area" means an area where activities occur that have a high potential to Release Prohibited Waste, Restricted Waste or Hazardous Waste and includes:

- (a) the loading dock of a building and the area within one metre of the loading dock;
- (b) the area within two metres of any device used to compact refuse;
- (c) auto wrecker storage yards;
- (d) the area where non-residential vehicles or equipment are washed and the surrounding two metres in each direction;

- (e) the area where the bulk-transfer of materials takes place and the surrounding two metres in each direction; and
- (f) any other area designated by EWSI;

"Lot Grading Plan" means a drainage design plan signed and sealed by a professional acceptable to the City Manager;

"Multiple Dwelling" means a wholly or partially residential development containing more than one Dwelling, whether or not the development is within a single building or structure, which receives Water Services through a total number of Service Connection Points that is less than the total number of Dwellings in the residential development;

"Owner" means:

- (a) the registered Owner of a parcel of land in the register maintained by the Registrar of Land Titles under the *Land Titles Act;* or
- (b) a Person who has purchased the parcel from the Person mentioned in sub clause (a) pursuant to an agreement for purchase and sale;

"Person" means an individual, partnership, association, corporation, organization, business, cooperative, trustee, executor, administrator or legal representative;

"Premises" means a parcel of land and any buildings situated on that land;

"**Price Schedule**" means the rates, fees and charges for Drainage Services more particularly described in Schedule 1 of the EPCOR Drainage Services Bylaw, as approved by the City and in effect at the time;

"Private Drainage System" means an Owner's assembly of pipes, fittings, traps and appurtenances used to convey Wastewater, Stormwater and Subsurface Water to the Sewer Service;

"Prohibited Waste" means matter prohibited from entering the Sewerage System as set out in Appendix A;

"Release" means to directly or indirectly conduct matter by spilling, discharging, depositing, disposing of, abandoning, leaking, seeping, pouring, draining, emptying, or any other means;

"**Restricted Waste**" means matter only permitted in the Sewerage System in limited quantities as set out in Appendix B and Appendix C;

"Sanitary Sewer" means a sewer used for the collection and transmission of Wastewater;

"Service Connection" means all of the Facilities required to achieve a physical connection between an EWSI sewer main abutting Customer property and a Private Drainage System to allow a Customer to access the Sewerage System and obtain Drainage Services;

"Service Connection Point" means the point where a Service Connection owned by EWSI and forming part of the Sewerage System physically connects to a Private Drainage System (which will ordinarily, but not necessarily, be a point at or near a Customer's property line);

"Sewer Service" means the pipe connecting a Private Drainage System to the Sewerage System;

"Sewerage System" means all EWSI owned infrastructure for the collection, storage, transportation and pumping of Wastewater and Stormwater and includes sewers, ditches, channels, Stormwater management facilities, Wastewater treatment facilities, sludge treatment facilities, biosolids storage and disposal facilities;

"Storm Sewer" means a sewer used for the collection and transmission of Stormwater and Subsurface Water;

"Stormwater" means surface run-off water that is the result of natural precipitation;

"Subsurface Water" means <u>naturally occurring</u> water <u>that collects or flows beneath the ground</u> surface filling the porous space of sediment, soil and rocks; at a depth of not more than 15 metres beneath the surface of the ground;

"Terms and Conditions" means the terms and conditions in respect of Drainage Services described herein.

"Wastewater" means water discharged from a premises; and

"Watercourse" means:

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- (a) the bed and shore of a river, stream, lake, creek, lagoon, swamp, marsh or other natural body of water; or
 - (b) a canal, ditch, reservoir, Stormwater management facility or other manmade surface drainage feature;

whether or not it contains or conveys water continuously or intermittently.

1.2 **Conflicts**

If there is any conflict between a provision in these Terms and Conditions, and a provision in a Drainage Services Agreement or other agreement between EWSI and a Customer, the provision in these Terms and Conditions shall govern unless an express term of the Drainage Services Agreement or other agreement states otherwise.

1.3 Extended Meanings

In these Terms and Conditions, words importing the singular number shall include the plural and vice versa, words importing the masculine gender shall include the feminine and neuter genders and vice versa. Words importing a Person shall include a Person, firm, partnership, corporation, organization or association (including, without limitation, individual members of any unincorporated entity).

1.4 Headings

The division of these Terms and Conditions into sections, subsections and other subdivisions and the insertion of headings are for convenience of reference only and shall not affect the construction or interpretation of these Terms and Conditions.

ARTICLE 2 - GENERAL PROVISIONS

2.1 **Fundamental Obligations of EWSI and of Customers**

- (a) EWSI will provide Drainage Services, at the fees, rates or other charges specified in the Price Schedule in accordance with these Terms and Conditions and with applicable provisions of the Drainage Services Guidelines. All additional services provided by EWSI to a Customer will be billed to the Customer in accordance with an agreement between the Customer and EWSI. The general costs of operating and maintaining the Sewerage System are covered by the rates for Drainage Services set out in the Price Schedule. EWSI will operate and maintain the Drainage System at no additional charge to any Customer beyond the fees, rates and charges for Drainage Services set out in the Price Schedule. EWSI will operate schedule or in a Drainage Services Agreement, except for costs arising from:
 - (i) requirements or requests for specific non-routine services not more particularly described in the Price Schedule, or the acts or omissions of any particular Customer or defined group of Customers; and
 - (ii) repairs or remedies of any loss or damage to Facilities or other property that is caused by a Customer or any other party for whom a

Customer is responsible in law, including, without limitation, any costs or damages described in any judgment of a court in EWSI's favour.

Such additional costs may at EWSI's sole option (and in addition to any other legally available remedies) be added to a Customer's Account as an additional amount due and payable by the Customer to EWSI.

- (b) When EWSI performs a repair on its Facilities affecting a Customer's property, EWSI will make all reasonable efforts to return the property to its original or similar to original condition as soon as practicable after the repair is completed.
- (c) Where any Facilities required to supply Drainage Services to a Customer are located in Disturbed Ground, or where any other unusual condition exists, EWSI's obligation to construct does not include incremental construction costs required to stabilize such Facilities or the disturbed ground, or to address other unusual conditions. The Customer may at EWSI's sole option be required to pay all additional construction costs in such circumstances, including the costs of any required support system.

2.2 **Billing and Customer Accounts**

The Terms and Conditions applicable to Billing and Customer Care Matters as provided in EPCOR Water Services and Wastewater Treatment Bylaw, Schedule 2, shall apply.

2.3 **Drainage Services Guidelines**

- (a) EWSI may adopt written requirements, standards, specifications, procedures, protocols or guidelines supplementary to these Terms and Conditions (the "Drainage Services Guidelines") as EWSI deems advisable for the purpose of clarifying or explaining:
 - (i) any fee, rate or other charge set out in the Price Schedule, including the circumstances and the manner in which such fee, rate or charge will be applied and billed to a Customer;
 - (ii) the manner in which EWSI's obligations under the EPCOR Drainage Services Bylaw and any applicable federal or provincial legislation or regulations will be fulfilled and the impacts on Customers;
 - (iii) EWSI's operating policies and procedures, and its requirements in relation to provision of Drainage Services or other services, including without limitation requirements intended to: provide security for costs incurred by EWSI, ensure the health and safety of employees, ensure the safety of the infrastructure used for the collection, storage, transportation and pumping of sanitary, storm and combined waste streams, and ensure and maintain the reliability of the Drainage System.

EWSI may amend the Drainage Services Guidelines from time to time to reflect changes to the industry, EWSI's requirements or the changing needs of EWSI's Customers. A copy of the Drainage Services Guidelines and amendments thereto will be filed with the City Manager for information purposes and can be accessed <u>at-www.epcor.com</u>.

The Drainage Services Guidelines and any amendments thereto shall be effective as of the date posted to EWSI's website. Without limitation to the foregoing and in the interest of greater clarity, the term "amend" in this clause includes the deletion of all or any portion of any Drainage Services Guideline previously filed with the City Manager.

- (b) Without limiting the generality of Section 2.3(a) above, Drainage Services Guidelines may deal with any or all of the following subject matter:
 - (i) procedures or requirements concerning investigation of Customer complaints and concerns;
 - (ii) procedures or requirements for provision of temporary Drainage Services, including without limitation Drainage Services provided during the construction phase of a development;
 - (iii) procedures or requirements for upgrading, re-sizing relocating or otherwise changing a Drainage Service Connection, whether at the instigation of EWSI or at the request of a Customer;
- (c) Without limiting the generality of Section 2.3 (a) above, Drainage Services Guidelines shall include:
 - Guidelines for public access to information related to Drainage Services consistent with the requirements of the Freedom of Information and Protection of Privacy Act, RSA 2000 c F-25, as amended; and
 - (ii) Guidelines for EWSI's Public Engagement Program consistent with the City's public engagement policy as may be amended.
- (d) The following are deemed to be Drainage Services Guidelines and are effective and binding upon every Customer. The guidelines referenced in subsections (i) (viii) may be amended or rescinded from time to time by EWSI. The guidelines referenced in subsections (ix) and (x) may be amended from time to time by EWSI.
 - Code of Practice: Oil, Grease & Sediment Interceptor Installation & Maintenance Requirements and Vehicle/Equipment Service & Washing; (S.5, Bylaw 19137, February 19, 2020)
 - (ii) Code of Practice: Hauled Wastewater Discharge Requirements;
 - (iii) Code of Practice: Dental Amalgam Separator Installation &

Maintenance Requirements;

- (iv) Code of Practice: Fat, Oil & Grease <u>and Solids</u> Interceptor Installation & Maintenance Requirements and Commercial/Institutional Food Preparation; (S.6, Bylaw 19137, February 19, 2020)
- (v) Code of Practice: Large Volume Releases;
- (vi) Code of Practice: Commercial / Industrial Line Flushing;
- (vii) Code of Practice: Flow Monitoring Point Installation Requirements;
- (viii) The document entitled "Design and Construction Standards for the City of Edmonton – Volume 3 Drainage";
- (ix) Guidelines for Public Access to Drainage Services information; and
- (x) Guidelines for Public Engagement Program; and
- (xi) The document entitled " EPCOR Drainage Services Water and Sewer Connections Guidelines"-
- (e) While EWSI is committed to, and will endeavour to comply with, its Drainage Services Guidelines, the operations of EWSI are complex and dynamic and the Drainage Services Guidelines may not appropriately or exhaustively deal with every situation that arises. With the exception of the Drainage Service Guidelines provided by Article 2.3(c), EWSI, acting reasonably, may deviate from the provisions of the Drainage Services Guidelines or take action not specifically authorized by these Terms and Conditions or by the Drainage Services Guidelines at EWSI's sole discretion.

ARTICLE 3 - SEWER CONNECTIONS AND ALTERATIONS

3.1 Sewerage System

- (a) No Person or Owner shall:
 - (i) construct or alter any sewer or Sewer Service;
 - (ii) alter any surface grades or elevations; or
 - (iii) install or alter a culvert;

within a City or EWSI right-of-way, unless a permit authorizing the construction or alteration has been issued by EWSI.

(b) The Owner of a premises with an access abutting a City or EWSI right-ofway containing a culvert shall maintain the culvert in order to keep it free from obstruction

3.2 Sanitary Connection Required

The Owner of premises abutting a City or EWSI right-of-way in which there is a Sanitary or Combined Sewer shall apply to EWSI to have the Private Drainage System connected to the Sanitary or Combined Sewer prior to occupancy of the premises.

3.3 **New Sanitary Service**

When EWSI provides notice to an Owner that a Sanitary Sewer is newly available in the City or EWSI right-of-way abutting the Owner's premises, the Owner shall connect the Private Drainage System from the premises in the manner directed by EWSI.

3.4 Surface Drainage Connection Required

- (a) The Owner of premises other than single family or duplex residential premises shall provide a Private Drainage System for Stormwater from:
 (i) roofs;
 - (ii) parking areas;
 - (iii) storage areas;
 - (iv) paved areas; and
 - (v) courtyards.
- (b) The Owner of a premises requiring a Private Drainage System pursuant to this section shall apply to EWSI to connect that Private Drainage System to:
 - (i) a Storm Sewer where available;
 - (ii) a Combined Sewer where a Storm Sewer is not available; or
 - (iii) a location designated by EWSI.

3.5 **High Potential Contaminant Release Areas**

- (a) The Owner of a premises containing a High Potential Contaminant Release Area shall ensure:
 - (i) that the High Potential Contaminant Release Area drains to a separate drain from the surrounding area;
 - (ii) that run-off from the area surrounding the High Potential Contaminant Release Area does not enter the High Potential Contaminant Release Area; and

- (iii) that the High Potential Contaminant Release Area drains either:
 - (A) to a Stormwater pretreatment facility prior to draining to the Storm Sewer; or
 - (B) to the Sanitary or Combined Sewer, but only if:
 - i) the High Potential Contaminant Release Area is covered;
 - ii) the High Potential Contaminant Release Area is less than the greater of:
 - (I) 8 square metres per loading dock; or
 - (II) 250 square metres in total area; or
 - iii) approval has been given by EWSI.

3.6 **Foundation Drainage**

The Owner of a premises shall apply to EWSI to have the Foundation Drainage System for the premises connected to:

- (a) a Storm Sewer where available; or
- (b) a location designated by EWSI.

3.7 **Sewer Alterations**

The Owner of a premises may apply to EWSI to have EWSI alter:

- (a) the size of the Sewer Service to the premises; or
- (b) the elevation of the Sewer Service to the premises.

3.8 **Temporary Sewer Service**

The Owner of a premises that does not abut a City or EWSI right-of-way in which there is a Sanitary or Combined Sewer may apply to EWSI for temporary Sewer Service.

ARTICLE 4 - SEWER CONNECTION REGULATIONS

4.1 **Combined Sewer Regulations**

- (a) The Owner of premises, other than single family or duplex residential premises, serviced by a Combined Sewer:
 - (i) shall install separate Private Drainage Systems for Stormwater and Wastewater; and
 - (ii) may combine the Private Drainage Systems at the property line.
- (b) When a Storm Sewer becomes available in a City or EWSI right-of-way abutting the premises referenced in this section, EWSI may require the Private Drainage System for Stormwater be connected to the Storm Sewer.

4.2 **Roof Leaders**

The Owner of single family or duplex residential premises shall not connect roof leaders to a Combined Sewer unless EWSI has directed that the roof leaders be connected to the Combined Sewer.

4.3 **Flow Monitoring Points**

- (a) The Owner-Customer or Owner of a premises serviced by the Sewerage System shall install and maintain an accessible Flow Monitoring Point, consistent with the Flow Monitoring Point Installation & Maintenance Requirement Code of Practice, on each pipe leaving the property:

 (i) when the pipe is new;
 - (ii) when the premises is redeveloped; or
 - (iii) when required to do so by EWSI.
- (b) A Flow Monitoring Point required by this section shall be constructed and maintained in accordance with the <u>Flow Monitoring Point Installation &</u> <u>Maintenance Requirements C</u>eode of <u>Pp</u>ractice as provided in the Drainage Service Guidelines.
- (c) The Owner of a premises shall ensure that EWSI has a safe and reasonable means of accessing the Flow Monitoring Point.
- (d) Unless exempted by EWSI, this section applies to all premises except (e) single-family or duplex properties that discharge residential properties discharging only Wastewater from domestic sources.; or
 (a) minor redevelopments exempted by EWSI.

4.4 Interceptors

- (a) The <u>Owner Customer or Owner of any premises in which there is</u> commercial or institutional food preparation shall provide, install and <u>maintain</u> a fat, oil and grease interceptor <u>consistent with the requirements</u> in the Fat, Oil & Grease and Solids Interceptor Installation & Maintenance <u>Requirements and Commercial/Institutional Food Preparation Code of</u> <u>Practice</u>:
 - (i) on all fixtures that may release fat, oil<u>, or grease or solids;</u> or
 - (ii) downstream of all fixtures that may release fat, oil, <u>or</u> grease <u>or</u> <u>solids</u>.
- (b) The <u>Owner Customer or Owner of a premises in which vehicles or</u> equipment are serviced, repaired, disassembled or washed shall provide an oil, grease and sediment interceptor <u>consistent with the specification of the</u>

Oil, Grease and Sand Interceptor Installation and Maintenance Requirements Code of Practice;

- (i) on all fixtures that may release oil, grease or sediment; or
- (ii) downstream of all fixtures that may release oil, grease or sediment.
- (c) The Owner of a premises shall install an interceptor when required to do so by EWSI.
- (d) All interceptors required by this section shall be installed and maintained in accordance with the <u>applicable Code of Practice</u>. <u>code of practice as</u> provided in the Drainage Service Guidelines.
- (S.7, 8, 9, 10, 11, 12, Bylaw 19137, February 19, 2020)

4.5 **Dental Amalgam**

- (a) The Owner of a premises in which a dental facility is located shall install a dental amalgam separator on all fixtures that may release dental amalgam waste to the Sewerage System.
- (b) All separators required by this section shall be installed and maintained in accordance with the <u>Dental Amalgam Separator Installation & Maintenance</u> <u>Requirements Ceode of Ppractice as provided in the Drainage Service</u> Guidelines.
- (c) This section does not apply to premises:
 - practicing exclusively Orthodontics and Dentofacial Orthopedics;
 Oral and Maxillofacial Surgery, Oral Medicine and Pathology, Oral and Maxillofacial Radiology, or Periodontics; or
 - (ii) exempted, in writing, by EWSI.

4.6 **Screening and Pretreatment**

The Owner of a premises shall install screens or pretreatment facilities <u>or modify pretreatment</u> <u>processes</u>, within the Private Drainage System for the premises when required to do so by the EWSI.

4.7 **Monitoring Devices**

- (a) The Owner of a premises shall install and maintain monitoring devices when required to do so by EWSI.
- (b) An Owner required to install and maintain a monitoring device pursuant to this section shall:
 - (a) submit the data produced by the monitoring device to EWSI on a monthly basis; and
 - (b) notify EWSI immediately when the monitoring device detects a Release of a Hazardous, Prohibited or Restricted Waste.

4.8 Interference

No Person or Owner shall alter, remove or destroy any:

- (a) device, facility or infrastructure in a Private Drainage System used to control the rate of release to the Sewerage System;
- (b) drainage devices, facilities or infrastructure installed on private property that have been required or approved by the EWSI; or
- (c) part of the Sewerage System.

4.9 **Property Limitations**

- (a) The Owner of a premises shall not extend the Private Drainage System for the premises to any other separately titled lot.
- (b) This section does not apply to extensions to:
 - (i) the City or EWSI right-of-way; or
 - (ii) common property under the *Condominium Property Act*, RSA 2000, c C-22 as amended.

4.10 Abandonment

The Owner of a premises where the Private Drainage System has been, or will be, abandoned shall cap the Sewer Service in a manner acceptable to EWSI.

4.11 Construction and Maintenance of Private Drainage Systems

The Owner of a premises shall be responsible for the construction, maintenance and repair of the Private Drainage System.

4.12 Stormwater Management Facilities

- (a) A Person shall not wade, swim, boat, fish, skate, allow pets to enter or carry on any other recreational activity on or in a EWSI Stormwater management facility except as permitted by EWSI. (S. 13, Bylaw 19137, February 19, 2020)
- (b) A Person shall not remove any water from <u>or modify access to an</u> EWSI Stormwater management facility except as permitted by EWSI.

(b)(c)A Person shall not facilitate any of the activities prohibited by this section.

ARTICLE 5 - RELEASES

5.1 No Release

No Person shall release or permit the release of any matter into the Sewerage System or any Watercourse except as permitted in this Article.

5.2 No Prohibited Waste

No Person shall release or permit the release of any Prohibited Waste into the Sewerage System except as permitted in this Article.

5.3 No Restricted Waste

No Person shall release or permit the release of any Restricted Waste into the Sewerage System except as permitted in this Article.

5.4 **No Hazardous Waste**

No Person shall release or permit the release of any Hazardous Waste into the Sewerage System except as permitted in this Article.

5.5 Waste Management

- (a) A Person who keeps, stores or transports a Prohibited or Restricted Waste shall do so in a -manner that ensures that the Prohibited or Restricted Waste is not Released into the Sewerage System.
- (b) A Person who keeps or stores a Prohibited or Restricted Waste shall ensure that those materials are sequestered through secondary containment, barriers and/or distance to ensure that the Prohibited or Restricted Waste is not Released into the Sewerage System.

5.6 No Dilution

No Person shall dilute Wastewater in order to enable the release of that Wastewater in accordance with this Article.

5.7 Large Volume Releases

- (a) No Person shall Release Wastewater that exceeds a volume of 10 cubic metres, into the Sewerage System except as permitted in this Article.
- (b) A Person may Release Wastewater that exceeds a volume of 10 cubic metres, into the Sewerage System if the Release is performed in accordance with the <u>Large Volume Releases Ceode of Ppractice as established in the</u> Drainage Service Guidelines established by EWSI.

5.8 Sanitary Sewer Permitted Releases

The following may be Released into a Sanitary Sewer:

- (a) Wastewater that does not contain:
 - (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste
- (b) roof drainage and Subsurface Water from premises connected for that purpose in accordance with this bylaw;
- (c) water obtained from a source other than EWSI in a volume less than or equal to 1 cubic metre per day;

- (d) Stormwater from a High Potential Contaminant Release Area that is (i) covered; or
 - (ii) less than the greater of:
 - (A) 8 square metres per loading dock; or
 - (B) 250 square metres in total area; and
- (e) Stormwater from a site used by the City for the storage of snow.

5.9 **Combined Sewer Permitted Releases**

The following may be Released into a Combined Sewer:

- (a) Wastewater that does not contain;
 - (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste;
- (b) Stormwater, except Stormwater from:
 - (i) a High Potential Contaminant Release Area; or
 - (ii) roof drainage or foundation drainage on single family or duplex residential premises;
- (c) run-off water resulting solely from: (i) street cleaning;
 - (ii) extinguishing fires;
 - (iii) garden and lawn maintenance; and
 - (iv) washing of single family or duplex residential premises;
- (d) water to which no matter has been added, except from a High Potential Contaminant Release Area;
- (e) roof drainage and Subsurface Water from premises connected for that purpose in accordance with this bylaw;

(c)(f) water obtained from a source other than EWSI in a volume less than or equal to 1 cubic metre per day; and

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(d)(g)Stormwater from a High Potential Contaminant Release Area treated so that it does not contain:

- (i) a Hazardous Waste;
- (ii) a Prohibited Waste; or
- (iii) a Restricted Waste; (S. 14, 15, Bylaw 19137, February 19, 2020)

5.10 Sanitary and Combined Sewer Permitted Releases

The following may be Released into a Sanitary Sewer or a Combined Sewer if prior written approval for the Release has been given by EWSI:

- (a) Wastewater, Stormwater or Subsurface Water from a remediation site;
- (b) Stormwater and Subsurface Water from a premises when required;
- (c) a limited quantity of Wastewater containing Prohibited Waste or Restricted Waste, if the Release can be shown to have a minimal adverse effect on the Sewerage System;
- (d) Wastewater from a swimming pool, tank, pond, vessel, reservoir or other containment device or structure if the volume of the device or structure is 10 cubic metres or greater;
- (e) Wastewater from line flushing activity, if the line flushing activity is performed in accordance with the <u>Commercial/Industrial Line Flushing</u> <u>C</u>eode of <u>P</u>practice as established in the Drainage Services Guidelines;
- (f) non-residential Wastewater containing a Restricted Waste where it can be demonstrated that the best available technology cannot meet the concentration levels set out in Appendix B;
- (g) non-residential Wastewater containing a Restricted Waste provided that a satisfactory plan to control and reduce the Release of the Restricted Waste has been developed and implemented;
- (h) water obtained from a source other than EWSI in a volume greater than 1 cubic metre per day;
- (i) non-contact cooling water; and
- (j) any other matter that EWSI considers, on reasonable grounds, it is in the public interest to Release to the Sanitary Sewer.

5.11 Storm Sewer Permitted Releases

The following may be Released into a Storm Sewer, Stormwater management facility or Watercourse:

- (a) Stormwater or Subsurface Water, except from a remediation site or a High Potential Contaminant Release area, that does not contain:
 - (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste;
- (b) run-off water resulting solely from:
 - (i) street cleaning;
 - (ii) extinguishing fires;
 - (iii) garden and lawn maintenance; and
 - (iv) washing of single family or duplex residential premises; (S.16, Bylaw 19137, February 18, 2020)
- (c) Wastewater resulting from exterior cleaning in a High Potential Contaminant Release Area that has been treated so that it does not contain:
 (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste; and
- (d) Stormwater from a High Potential Contaminant Release Area that has been treated so that it does not contain:
 - (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste.

(e) Discharge from watermain unidirectional flushing and/or hydrant flushing

5.12 Storm Sewer Permitted Releases requiring EWSI Approval

The following may be Released into a Storm Sewer if prior written approval for the Release has been given by EWSI:

(a) Stormwater or Subsurface Water from a remediation site;

- (b) Wastewater resulting from the exterior cleaning of buildings, structures or fixtures, other than single family or duplex residential premises, that does not contain:
 - (i) a Hazardous Waste;
 - (ii) a Prohibited Waste; or
 - (iii) a Restricted Waste;
- (c) Wastewater from line flushing activity, if the line flushing activity is performed in accordance with the <u>Commercial/Industrial Line Flushing</u> Ceode of Ppractice as established in the Drainage Services Guidelines;
- (d) non-residential Stormwater containing a Restricted Waste provided that a plan to control and reduce the Release of Restricted Wastes has been developed and implemented to the satisfaction of EWSI; and
- (e) any other matter that EWSI considers, on reasonable grounds, it is in the public interest to Release to the Storm Sewer.

5.13 Hauled Wastewater

- (a) No Person shall Release, discharge or permit the Release or discharge of <u>H</u>hauled Wastewater unless the discharge:
 - (i) is made by a Person holding a valid business licence issued by the City with proof of that licence displayed on the vehicle;
 - (ii) is made at a location and in a manner approved by EWSI;
 - (iii) is documented in a manner directed by EWSI;
 - (iv) uses a discharge hose at the approved location placed securely in the discharge portal;
 - (v) either:
 - (A) contains only the matters set out in Article 5.9; or
 - (B) is from solely domestic sources and contains no Hazardous Waste; and
 - (vi) is done in accordance with the <u>Hauled Wastewater Discharge</u> <u>Requirements Ceode of Pp</u>ractice as established by the Drainage Services Guidelines.
- (b) When the Release or discharge of Hauled Wastewater has been prohibited by EWSI in accordance with these Terms and Conditions, the Person prohibited from releasing or discharging the <u>Hhauled Wastewater must</u>

provide to EWSI the following information, in writing, within seven days of the prohibition:

- (i) the name and relevant contact information of the generator of the Wastewater that was prohibited;
- (ii) the address from which the Wastewater that was prohibited originated;
- (iii) a description of the location and equipment from which the Wastewater that was prohibited was collected;
- (iv) the composition of the Wastewater that was prohibited; and
- (v) the final location at which the Wastewater was Released.

5.14 **Residue Disposal**

The Owner of a premises Any Person who treats Wastewater or Stormwater prior to Release to the Sewerage System must:

- (a) dispose of any residue generated in that treatment process in a manner acceptable to EWSI;
- (b) maintain for a minimum of two years accurate records on the amount of residue stored, transported and disposed; and
- (c) provide EWSI with the records kept on the storage, transportation and disposal of the residue upon request.

5.15 **Compliance Program**

A Person may Release matter in accordance with a compliance program approved by EWSI.

5.16 **Release Reporting**

- (a) Any Person who Releases or permits the Release of any matter other than those permitted in this Article shall, immediately after becoming aware of the Release, notify:
 - (i) EWSI;
 - (ii) the Owner of the premises from which the Release originated, if known; and
 - (iii) any other Person who may be directly affected by the Release.
- (b) The notification of EWSI shall include:
 - (i) the name of the Person causing or permitting the Release;
 - (ii) the location of the Release;

- (iii) the name of the Person reporting the Release;
- (iv) the date and time of the Release;
- (v) the type of material Released and any associated hazards;
- (vi) the volume of material Released; and
- (vii) corrective action taken or anticipated to control the release.

5.17 **Release Control**

Any Person who Releases or permits the release of any matter other than those permitted in this Article shall, immediately after becoming aware of the Release, take all reasonable steps to:

- (a) confine, remedy and repair the effects of the Release; and
- (b) remove or otherwise dispose of the matter in a manner that minimizes any adverse effects; and
 (b)(c) prevent future releases of matter other than those permitted in this Article.-

5.18 **Owner Report**

- (a) The Owner and/or Customer of a premises from which a Release has been reported shall submit a written report to EWSI within seven days of the Release. (S.17, Bylaw 19137, February 19, 2020)
- (b) A report required by this Article shall include:
 - (i) the date and time of the Release;
 - (ii) the location of the Release;
 - (iii) the duration of the Release;
 - (iv) the rate of the Release;
 - (v) composition of the Release, including the composition and amount of each substance in the Release;
 - (vi) the circumstances leading to the Release;
 - (vii) the steps taken to minimize, control or stop the Release;
 - (viii) the procedures that will be implemented to prevent similar Releases in the future;
 - (ix) a summary of any harm caused by the Release; and
 - (x) any other information required by EWSI.

ARTICLE 6 - SURFACE DRAINAGE

6.1 **Release of Stormwater and Subsurface Water**

The Owner and/or Customer of a premises must control the Release of Stormwater and Subsurface Water when directed to do so by EWSI including:

(S.18, Bylaw 19137, February 19, 2020)

- (a) the rate of Release of Stormwater and Subsurface Water to the Sewerage System or any surface drainage feature; and
- (b) the location of the Release of Stormwater and Subsurface Water from the premises.

6.2 **Compliance with Encumbrances**

The Owner and/or Customer of a premises shall comply with the terms and conditions of any restrictive covenant, easement agreement, utility right-of-way or any other document registered on the certificate of title for that premises in which EWSI has an interest, including encumbrances designed to protect: (S.19, Bylaw 19137, February 19, 2020)

- (a) a drainage structure;
- (b) a swale;
- (c) a ditch;
- (d) the overflow area of a Stormwater management facility;
- (e) the stability of a slope; or
- (f) any other surface drainage feature.

ARTICLE 7 - APPLICATIONS, PERMITS AND APPROVALS

7.1 **Requirement for Account and Obligation to Pay**

Subject to Article 7.5, prior to receiving any Drainage Services from EWSI, an Owner, or Customer is obligated to open an account for water services as required by EPCOR Water Services and Wastewater Treatment Bylaw.

7.2 **Applications for Connections**

- (a) A Customer applying for new Sewer Service to the premises or an alteration to an existing Sewer Service to the premises must submit the following to EWSI:
 - (i) an application in a form acceptable to EWSI;
 - (ii) the sanitary sewer trunk charge;
 - (iii) any additional charges applicable to the construction or alteration of the Sewer Service; and
 - (iv) any additional information required by EWSI.

- (b) The Owner of a premises other than a single family or duplex residential premises must also submit the following to EWSI when applying for new Sewer Service to the premises or an alteration to an existing Sewer Service to the premises, signed and sealed by a professional acceptable to EWSI:
 - (i) a site mechanical and lot grading plan approved by the City;
 - (ii) an assessment of the potential for the premises to Release contaminated surface water to the Sewerage System, pipe bedding or Watercourse, including:
 - (A) all existing information regarding soil contaminants on site;
 - (B) all bore hole logs;
 - (C) all Subsurface Water and soil sampling data; and
 - (D) any other information required by EWSI;
 - (iii) an assessment of the potential to Release Wastewater or Stormwater in contravention of this bylaw; and
 - (iv) plans for facilities, means and monitoring to prevent soil or Subsurface Water from contaminated sites from adversely affecting or entering the Sewerage System.

7.3 Applications to Release Matter

A Person applying to Release matter into the Sewerage System must submit to EWSI:

- (a) An application in a form acceptable to EWSI; and
- (b) Any fees payable as set out in Schedule 1, Part II;

7.4 Applications for Compliance Program Approval

A Person applying for the approval of a compliance program must submit to EWSI:

- (a) an application in a form acceptable to EWSI;
- (b) the compliance program specifications signed and sealed by a professional acceptable to EWSI; and
- (c) the fee payable for a compliance program approval application as set out in Schedule 1, Part II.

7.5 Applications for Sewer Metering Approval

A Person applying for the approval of sewer metering in place of water metering for the purpose of sanitary utility charges must submit to EWSI:

(a) an application in a form acceptable to EWSI;

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- (b) a report on the proposed sewer metering signed and sealed by a professional acceptable to EWSI; and
- (c) the fee payable for a sewer metering approval application as set out in Schedule 1, Part II.

7.6 Applications for Utility Credit or Large Wholesale Designation

A Person applying for the approval of credit on their sanitary utility charges or Stormwater utility charges must submit to EWSI:

- (a) an application in a form acceptable to EWSI;
- (b) a report showing the evidentiary basis for the credit claimed;
- (b)(c)other information as required by the Terms and Conditions of the Utility Credit Programs; and
- (c)(d) the fee payable for a utility credit application as set out in Schedule 1, Part II.
- (b) A Person applying for approval for a premises to be designated as large wholesale must submit to EWSI:
- (a) an application in a form acceptable to EWSI;
- (b) a report showing the evidentiary basis for the large wholesale designation, including proof of the satisfactory operation and maintenance of a Private Drainage System containing a large interconnected collection system on the premises; and
- (c) the fee payable for a large wholesale designation application as set out in Schedule 1, Part II.

7.7 **Compliance with Conditions**

The holder of a permit or approval must comply with the terms and conditions imposed on the permit or approval.

EWSI may revoke, suspend or refuse to re-issue, vary, or impose conditions on any permit or approval if, in the opinion of EWSI, the permit or approval holder has failed to comply with the terms and conditions of the permit or approval or for any other reason which in EWSI's sole judgment requires such action.

The onus of proving a permit or approval has been issued in relation to any activity otherwise regulated, restricted or prohibited by the Terms and Conditions is on the Person alleging the existence of such a permit on a balance of probabilities;

The onus of proving that a Person is exempt from the provisions of the Terms and Conditions requiring a permit or approval is on the Person alleging the exemption on a balance of probabilities

7.8 **Rejection of Application for Drainage Services**

EWSI may, without limitation, reject any Customer's request for Drainage Services when:

- (a) the Customer has not complied with the requirements of the Terms and Conditions;
- (b) the Customer does not have currently in effect all approvals that may be required for the installation of the Sewer Service;
- (c) the Customer refuses to enter into a Drainage Services Agreement or other form of agreement acceptable to EWSI;
- (d) any representation made by the Customer to EWSI for the purpose of obtaining or continuing Drainage Services is, in EWSI's reasonably held opinion, fraudulent, untruthful or misleading;
- (e) the Customer has not, when requested by EWSI to do so, provided a signed written application for Drainage Services;
- (f) the type of Drainage Services or Sewer Service applied for is not available or not normally provided by EWSI in the locality where the Drainage Services are requested;
- (g) the requirements of the Drainage Services Guidelines have not been met;
- (h) the proposed Drainage Services or Service Connection, in EWSI's reasonably held opinion, has unusual characteristics that might adversely affect the quality of Drainage Services supplied to other Customers, public health or safety, the health or safety of EWSI's personnel, or the safety or reliability of any other Facilities or the Sewerage System;
- (i) a previous Customer at the site had a history of non-payment and EWSI believes, on reasonable grounds, that the defaulting Customer would continue to occupy the premises;
- (j) the Customer has an outstanding balance with EWSI for Water or Drainage Services; or
- (k) the Customer has failed to provide the security required by EWSI.

7.9 **Customer Contracts**

(a) Drainage Services Agreement

EWSI may, in its sole discretion, require a Customer previously connected or seeking to connect to the Drainage System to sign a Drainage Services Agreement in respect of a Service Connection, as a condition of receiving or continuing to receive a Service Connection or Drainage Services.

(b) Assignment of Contractual Obligations

All Drainage Services, whether or not they require EWSI's assignment consent, that are properly assigned or otherwise transferred to a corporate

Customer's affiliate or successor taking over the operation of a Customer's business and operations at premises subject to a pre-existing Account, shall be subject to the terms of the Customer's Drainage Services Agreements and billing history. Any change in service requirements as a result of such assignment or transfer shall be made in accordance with these Terms and Conditions. The existing contractual arrangements will remain in place until any new agreements have been approved and accepted by both parties.

7.10 Authorizations and Approvals for Service Connection

The Customer shall be responsible for obtaining all permits, certificates, licenses, inspections, reports, and other authorizations necessary for the installation and operation of the Service Connection. EWSI shall not be required to commence or continue installation or operation of a Service Connection unless and until the Customer has complied with the requirements of all governmental authorities, permits, certificates, licenses, inspections, reports and other authorizations, all right-of-way agreements, and all of EWSI's requirements applicable to the installation and operation of the Service Connection. EWSI reserves the right to verify that all necessary authorizations have been obtained by Customers.

7.11 Scheduling for Service Connection

EWSI shall schedule Customers for Sewer Service after:

- (a) the Customer has complied with EWSI's application requirements;
- (b) the Customer has complied with the requirements of all applicable construction and safety standards, applicable legislation and regulations, including City of Edmonton bylaws; and
- (c) the Customer's application for Drainage Services has been accepted by EWSI.

ARTICLE 8 - DRAINAGE SERVICE REQUIREMENTS AND FACILITIES

8.1 **Protection of EWSI's Facilities and Property of Other Customers**

(a) No Interference with Facilities

Without prior approval, the Customer shall not install or allow to be installed on property owned or controlled by the Customer any temporary or permanent structures, fences or landscaping that could interfere with the proper and safe access to, or operation of EWSI's Facilities or result in noncompliance with applicable statutes, regulations, standards or codes.

Only an <u>EWSI</u> employee or <u>A</u>euthorized <u>A</u>egent of <u>EWSI</u> shall remove, operate, <u>enter</u>, <u>access</u>, <u>attach</u>, <u>affix to</u> or maintain EWSI Facilities. A Customer shall not obstruct access to or interfere with any Facility or permit the same to be done by any Person other than an employee or authorized agent of EWSI. If a Customer or a Person authorized by a Customer fails to comply with this provision, the Customer is responsible to pay the cost

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of repairing or otherwise remedying any damage to or loss of Facilities located on the Customer's premises or premises controlled by the Customer, unless caused by circumstances, as determined in EWSI's sole discretion, to have been beyond the Customer's control.

- (b) Deep Ground Disturbance in Proximity to Drainage Facilities Any party that proposes any construction involving ground disturbance to a depth exceeding two (2) metres within five (5) metres of the boundary of lands containing EWSI Facilities is required to enter into a Facility Proximity Agreement with EWSI, prior to performing the ground disturbance.
- (c) Protection of the Private Drainage System, Equipment and Assets on Customer's Property The Customer is solely responsible to take all necessary measures to prevent damage to the Private Drainage System and any other equipment or assets connected to the Facilities on the Customer's property due to any cause, including, without limitation, freezing and settlement or movement of the structure or soil through which the Private Drainage System passes. EWSI shall not be liable for any repair, maintenance or replacement of any portion of the Private Drainage System, except where damage to the Private Drainage System is caused by a deliberate or gross negligent act of EWSI.

The Customer shall provide and maintain, at no cost to EWSI, the necessary space and protective barriers to safeguard Facilities installed or to be installed upon the Customer's premises. If the Customer refuses, EWSI may, at its option, provide and maintain such protective barriers, and charge the Customer for these Drainage Services. Such space, and protective barriers shall be in conformity with applicable laws and regulations and subject to EWSI's approval.

(d) Compliance with Requirements and Use of Service Connection The Customer shall ensure that the Private Drainage System and any other equipment or assets comply with the requirements of any applicable code or regulation and with the Drainage Services Guidelines. The Customer shall not use a Service Connection or any Drainage Services received in a manner so as to cause interference with any other Customer's use of a Service Connection or Drainage Services. At EWSI's request, a Customer

disturbance at the Customer's expense.

(e) Customer to Pay Relocation Costs The Customer shall pay all costs of relocating EWSI's Facilities at the Customer's request, if such relocation is for the Customer's convenience, or if necessary to remedy any violation of law or regulation caused by the

shall take whatever action is required to correct such interference or

Customer. If requested by EWSI, the Customer shall pay the estimated cost of the relocation in advance.

ARTICLE 9 - EASEMENTS, RIGHTS-OF-WAY, AND USE OF AND ACCESS TO FACILITIES

9.1 **Easements and Rights-of-Way**

At the request of EWSI an Owner shall grant or cause to be granted to EWSI, without cost to EWSI, such easements or rights-of-way over, upon or under property owned or controlled by the Owner as EWSI reasonably requires for the construction, installation, maintenance, repair, and operation of the Sewerage System.

9.2 **Right of Entry**

(a) EWSI's employees, agents and other representatives shall have the right to enter a Customer's premises at all reasonable times, or at any time during an event of Force Majeure, for the purpose of installing, maintaining, replacing, testing, monitoring, reading or removing EWSI's Facilities and for any other purpose incidental to the provision of Drainage Services. A Customer shall not prevent or hinder EWSI's entry to the Customer's premises for any such purpose. Without limiting the generality of the foregoing,

EWSI has the right to enter a Customer's premises at any reasonable hour in order to:

- (i) install, inspect, test, repair, replace or remove Facilities;
- (ii) perform necessary maintenance to Facilities;
- (iii) investigate or respond to a Customer complaint or inquiry;
- (iv) conduct an unannounced inspection where EWSI has reasonable grounds to believe that interference with Facilities has occurred or is occurring and
- (v) take necessary corrective action to safeguard and maintain the Drainage System.
- (b) EWSI will make reasonable efforts to notify the Customer in advance of entering a Customer's premises or to notify any other Person who is at the Customer's premises and appears to have authority to permit entry, except:
 (i) in cases of emergency;
 - (ii) where entry is permitted by order of a court or other authority having jurisdiction;

- (iii) where otherwise legally empowered to enter;
- (iv) where the purpose of the entry is in accordance with Article 9 of these Terms and Conditions.
- (c) EWSI may charge a "no access fee" sufficient to cover EWSI's reasonable costs, if EWSI's lawful entry to a Customer's premises is prevented or hindered, whether by a Customer not keeping a scheduled appointment or for any other cause.

9.3 Access to Sewerage System

- (a) A Customer shall be responsible for managing vegetation on the property owned or controlled by the Customer and to maintain adequate clearances to avoid interference with EWSI's Facilities.
- (b) A Customer shall not obstruct or hinder EWSI's free and direct access to any of its Facilities.
- (c) EWSI, in its sole discretion, may consider the presence of a dog to be an obstruction or a hindrance to access to any Facilities and may notify the Customer of any conditions or actions required to enable access to the Facility by appointment with the Customer.
- (d) Where a Customer contravenes any provision of Sections 9.1, 9.2 or 9.3 and fails to remedy such contravention within ten (10) days after receiving from EWSI a notice in writing to do so, then in addition to any other legal remedy available EWSI may take any steps necessary to remedy the contravention and may charge any costs of so doing to the Customer's Account. These steps include, but are not limited to, turning off water services in accordance with EPCOR Water Services and Wastewater Treatment Bylaw.

9.4 **Customer Responsibility for Use of Facilities**

A Customer shall not use the Sewerage System in a manner that interferes with any other Customer's use of the Sewerage System. At EWSI's request, the Customer shall take whatever action is required to correct any interference, disturbance or adverse effect at the Customer's expense.

ARTICLE 10 - SEWERAGE SYSTEM EXTENSIONS

10.1 Estimated Cost

Upon a Customer's request for a new or upgraded Service Connection involving construction of new Facilities or an extension to the Sewerage System, EWSI shall prepare a proposal outlining the estimated cost of the Service Connection including all necessary new Facilities or extensions to the Sewerage System.

Where a Customer-requested new or upgraded Service Connection requires cross-lot servicing, EWSI may in its sole discretion decline to construct the Service Connection.

10.2 Agreement in Writing for Sewerage System Extension

A new or upgraded Service Connection involving new Facilities or an extension to the Sewerage System shall not be constructed unless the Customer has executed a Drainage Services Agreement for the proposal with EWSI.

10.3 **Customer Payment for Sewerage System Extension Costs**

Unless otherwise specified in a Drainage Services Agreement the full cost of any new Facilities or extensions to the Sewerage System shall be paid by the Customer whose new or upgraded Service Connection gives rise to the need for the new Facilities or extension to the Sewerage System.

10.4 **Changes to Amount Payable by Customer**

Following construction completion, and placing the new Facilities into service pursuant to Article 9 hereof, the amount payable by the Customer will be changed to the actual full cost of the new Facilities. Where the actual full cost exceeds the estimate, EWSI will provide the customer with a written explanation for the change.

ARTICLE 11 - DRAINAGE SERVICE CONNECTIONS

- 11.1 Engineering, Design and Construction Requirements for Service Connections
 - (a) Unless otherwise specified in a written agreement between EWSI and the Customer, it is the Customer's responsibility to supply at the Customer's cost:
 - (i) any plans and engineering reports pertaining to the Service Connection that EWSI may reasonably require, signed and sealed by a Professional Engineer;
 - (ii) an engineering report describing the design, construction and materials proposed, including measures to prevent adverse effects of contaminated soils, groundwater, or adverse soil conditions on the Drainage System;
 - (iii) proof to EWSI's satisfaction, that the Service Connection and the Private Service Line meet all requirements of these Terms and Conditions, the Design and Construction Standards and the Drainage Services Guidelines, and conform to the requirements of all applicable legislation including municipal bylaws and regulations;
 - (b) The Customer shall be responsible for the installation and condition of the Private Service Line and all other piping and equipment or any other assets on the Customer's side of the Service Connection Point.

(c) The Customer shall determine whether he requires any devices to protect his premises or property from damage that may result from the use of a Service Connection or Drainage Services. The Customer shall provide and install any such devices at the Customer's sole expense provided that they do not obstruct or interfere with EWSI's Facilities.

ARTICLE 12 - CHANGES TO SERVICE CONNECTIONS OR OTHER FACILITIES

12.1 Requirement to Give Notice of Changes to Drainage Service Requirements

A Customer shall give to EWSI reasonable prior notice, written or verbally recorded, of any requested change to a Service Connection, to enable EWSI to determine whether or not it can accommodate such revised Drainage Service without changes to other EWSI Facilities.

12.2 Customer to Bear Cost of Changes to EWSI Facilities

If EWSI determines that any modifications, extensions or additions are required to existing Facilities to accommodate:

- (a) a Customer's request for change to a Service Connection; or
- (b) any material change to a Customer's use of Drainage Services, regardless of whether the Customer requests a change to the Service Connection

the Customer is obligated to pay the full cost of such modifications, extensions or additions to Facilities, unless otherwise specified in a Drainage Services Agreement or under the provisions of a water main cost sharing program offered by EWSI.

ARTICLE 13 - GENERAL RESTRICTIONS AND PROHIBITIONS

13.1 **Discontinuation of Drainage Service**

In addition to any other remedy or penalty, EWSI may discontinue the provision of Drainage Services to any premises if the Customer of that premises is in breach of these Terms and Conditions and no less than forty-eight hours advance notice of the discontinuance is provided to the Customer of the premises.

13.2 **Discontinuation of Water Service**

In addition to any other remedy or penalty, EWSI may, in its sole discretion, discontinue <u>or limit</u> the provision of water services as provided by EPCOR Water Services and Wastewater Treatment Bylaw to any premises if the Customer of that premises is in breach of these Terms and Conditions and no less than forty-eight hours advance notice of the discontinuance is provided to the Customer of the premises.

13.3 **Prohibition of Release**

In addition to any other remedy, EWSI may prohibit a Person from releasing or discharging hauled Wastewater if that Person is in breach of these Terms and Conditions.

13.4 **Refusal to Approve Plans**

In addition to any other remedy or penalty, EWSI may refuse to approve any plans for a premises until the owner of the premises has complied with this bylaw.

13.5 **Obstruction**

A Person shall not obstruct or hinder any Person in the exercise or performance of the Person's powers pursuant to these Terms and Conditions.

13.6 **Contravention of Terms and Conditions**

When a Customer or Person contravenes any provision of these Terms and Conditions, in addition to any other legally available remedy, EWSI may take any steps reasonably necessary to remedy the contravention and may charge any costs of so doing to the Customer's or Person's Account.

ARTICLE 14 - LIABILITY AND INDEMNIFICATION

14.1 Limitation of EWSI Liability

- Notwithstanding any other provision of these Terms and Conditions or any (a) provision of any agreement between EWSI and a Customer relating to the provision of Drainage Services (an "EWSI Agreement") EWSI, its directors, officers, agents, employees and representatives ("EWSI Parties") shall not be liable to the Customer, its directors, officers, agents, employees and representatives ("Customer Parties") for any loss, injury, damage, expense, charge, cost or liability of any kind, including without limitation, liability for nuisance or any other tort that does not require a finding of intention or gross negligence, suffered or incurred by the Customer Parties, or any of them, whether of a direct, indirect, special or consequential nature, however or whenever caused, and whether in any way caused by or resulting from the acts or omissions of the EWSI Parties, or any of them, except for direct property damages incurred by the Customer as a direct result of a breach of these Terms and Conditions or applicable EWSI Agreement or other act or omission by an EWSI Party, which breach or other act or omission is caused by the gross negligence or intentional tort of such EWSI Party.
- (b) Any liability under this Section will be limited to an amount in proportion to the degree to which the EWSI Party is determined to be at fault. For the purpose of the foregoing and without otherwise restricting the generality thereof, "direct property damage" shall not include loss of revenue, loss of profits, loss of earnings, loss of production, loss of contract, cost of capital, and loss of use of any Facilities or property, or any other similar damage or loss whatsoever.
- (c) For greater certainty and without limiting the generality of the foregoing, EWSI is not liable for any loss, damage or physical harm to any Person

(except where caused by the gross negligence or intentional tort of an EWSI Party) and arising from or caused directly or indirectly, in whole or in part, by any:

- (i) any failure, defect, fluctuation, reduction or interruption in the provision of Drainage Services by EWSI to its Customers, whether resulting from the break or malfunction of any sewer main, service, Private Service Line or attachment, or from the interruption in or cessation of Drainage Services Connection with the repair or proper maintenance of the Drainage System.
- (d) All limitations, protections and exclusions of liability contained in any provincial or federal legislation are in addition to and not in derogation of or substitution for the limitations of EWSI's liability contained in these Terms and Conditions.

14.2 **Release**

Subject to Section 14.1 above, none of the EWSI Parties (as defined above) will be liable to any of the Customer Parties (as defined above) for any damages, costs, expenses, injuries, losses, or liabilities suffered or incurred by the Customer Parties or any of them, however and whenever caused, and each Customer Party hereby forever releases each of the EWSI Parties from any liability or obligation in respect thereof.

14.3 **EWSI Not Liable to Customer**

For greater certainty and without limitation to the provisions of Sections 14.1 and 14.2, EWSI Parties shall not be liable to a Customer for any damages of any kind (except to the extent the damages are caused by the gross negligence or intentional tort of an EWSI Party) caused by or arising from any EWSI Party's act in compliance with, or as permitted by, these Terms and Conditions, a Drainage Services Agreement, or any legal or regulatory requirement related to provision of Drainage Services.

14.4 **Customer Liability**

- (a) In addition to any other liability provisions set out in these Terms and Conditions or any provision in a Drainage Services Agreement or any other agreement between a Customer and EWSI, a Customer Party (as defined above) shall be liable for any damages, costs, expenses, injuries, losses, or liabilities suffered or incurred by EWSI Parties (as defined above), whether of a direct or indirect nature, caused by or arising from any acts or omissions of a Customer Party that result in a breach ("Breach") of these Terms and Conditions or the applicable agreement, or any negligent or wilful acts or omissions of harm of a Customer Party whether or not they constitute a Breach.
- (b) A Customer shall indemnify and hold EWSI and its employees and agents harmless from and against any claim (including any claim by another Customer of EWSI) for any loss, damage, expense, charge, cost (including

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legal fees), fine, penalty or other liability of any kind suffered or incurred by EWSI arising out of or in any way connected with:

- (i) any failure by the Customer to comply with these Terms and Conditions;
- (ii) any damages to EWSI's Facilities or the facilities of another Customer caused by equipment installed or actions taken or failed to be taken by the Customer;
- (iii) any claim, damages, or loss suffered by the Customer as a result of any act or omission of an agent acting for such Customer.
- (c) Any claim by a Customer for direct losses, damages, expenses, charges, costs or other liabilities not barred or restricted under these Terms and Conditions must be communicated in writing to EWSI within 180 days from the date of occurrence of the incident giving rise to the claim or the date on which the Customer ought reasonably to have become aware of the occurrence or incident, failing which EWSI shall have no liability or responsibility whatsoever to the Customer in respect of the claim.

14.5 Force Majeure

(a) Force Majeure Relief

If an event or circumstance of Force Majeure occurs that affects EWSI's ability to provide a Service Connection or Drainage Services, EWSI's obligations and responsibilities hereunder and under any agreement relating to Service Connections or provision of Drainage Services, so far as they are affected by the Force Majeure or the consequences thereof, shall be suspended until such Force Majeure or the consequences thereof are remedied and for such period thereafter as may reasonably be required to restore the Service Connection or Drainage Services. Flat Monthly Service Charges, if applicable, will continue to be payable during the period in which EWSI claims relief by reason of Force Majeure.

(b) Notice

EWSI shall where practicable give notice of an event of Force Majeure to Customers affected and shall where practicable give notice to Customers affected when the Force Majeure event ceases to prevent performance of EWSI's obligations.

(c) Obligation to Remedy

EWSI shall promptly remedy the cause and effect of the Force Majeure insofar as it is reasonably able to do so.

(d) Strikes and Lockouts

Notwithstanding any other provision of these Terms and Conditions, the settlement of any strike, lockout or other industrial disturbance shall be wholly in the discretion of EWSI and EWSI may settle such strike, lockout or industrial disturbance at such time and on such terms and conditions as it may deem appropriate. No failure or delay in settling such strike, lockout or industrial disturbance shall constitute a cause or event within the control of EWSI or deprive EWSI of the benefits of this Section 14.5.

ARTICLE 15 - ADDITIONAL PROVISIONS RELATING TO DRAINAGE SERVICES

15.1 **Ownership of Facilities**

EWSI remains the owner of all Facilities necessary to provide Drainage Services to Customers or Owners, to and including the Service Connection Point, unless a written agreement between EWSI and a Customer specifically provides otherwise. Payment made by a Customer for costs incurred by EWSI in installing Facilities does not entitle the Customer to ownership of any such Facilities, unless a written agreement between EWSI and the Customer specifically provides otherwise.

15.2 **Proper Use of Drainage Services**

The Customers assume full responsibility for the proper use of the Service Connection and Drainage Services provided by EWSI and for the condition, suitability and safety of any and all Facilities on the Customer's premises or on premises owned by the Customer or premises controlled but not owned by the Customer. The Customer shall be liable for any loss, damage, expense, charge, cost or other liability of any kind, whether to EWSI, its agents or employees, EWSI property or otherwise, arising directly or indirectly by reason of

- (a) the routine use of the Drainage System,
- (b) the Customer's improper or negligent use of Drainage Services, Sewer Service Facilities, or the Sewerage System; or
- (c) the negligent acts or omissions or wilful acts or omissions of the Customer or any Person permitted on the Customer's property.

15.3 Compliance with Applicable Legal Authorities

EWSI and all Customers are subject to, and shall comply with, all applicable federal, provincial and local laws, and all applicable orders or other actions of governmental authorities having jurisdiction. EWSI's obligation to provide or continue to supply a Service Connection or Drainage Services or otherwise terminate Drainage Services, in respect of any Customer, is subject to the condition that all requisite governmental and regulatory approvals for the supply or continued provision of the Service Connection or Drainage Services or or termination are obtained and in force.

15.4 **Powers of EWSI**

Without restricting any other power, duty or function in this bylaw EWSI may:

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- (a) carry out any inspection to determine compliance with this bylaw;
- (b) take any steps or carry out any actions required to enforce this bylaw;
- (c) take any steps or carry out any actions required to remedy a contravention or release which, in EWSI's reasonable opinion, appears to be a contravention of this bylaw;
- (d) establish areas where activities restricted by this bylaw are permitted;
- (e) establish forms for the purpose of this bylaw;
- (f) issue permits and approvals with such terms and conditions as are deemed appropriate;
- (g) establish criteria to be met for a permit or approval to be issued pursuant to this bylaw;
- (h) waive or vary any fee payable pursuant to this bylaw; and
- (i) delegate any powers, duties or functions under this bylaw to an employee of EWSI.

15.5 Interference with EWSI's Property

No one other than an <u>EWSI</u> employee or <u>A</u>authorized <u>A</u>agent of <u>EWSI</u> shall be permitted to remove, operate, <u>enter</u>, <u>access</u>, <u>affix to</u> or maintain Facilities owned by EWSI. A Customer shall not interfere with or alter Facilities or permit the same to be done by any Person other than the authorized agents or employees of EWSI.

15.6 Drainage Services Interruptions and EWSI Obligation to Respond

- (a) While EWSI takes all reasonable efforts to guard against Drainage Services interruptions, it does not guarantee uninterrupted Drainage Services or any particular standard of Drainage Services. EWSI shall at any time, without liability whatsoever to any Customer, have the right to discontinue or otherwise curtail, interrupt or reduce Drainage Services to Customers whenever EWSI reasonably determines, or when EWSI is directed by an authority having jurisdiction, that such discontinuance curtailment, interruption or reduction is:
 - (i) necessary to facilitate construction, installation, maintenance, repair, replacement or inspection of any of EWSI's Facilities;
 - (ii) necessary to facilitate a Customer's construction, installation, maintenance, repair or replacement of its infrastructure used to for Drainage Services;
 - (iii) pursuant to non payment of amounts due and payable on a Customer's Account;
 - (iv) necessary to maintain safety and reliability of the Sewerage System; or
 - (v) due to any other reason including: dangerous or hazardous circumstances, emergencies, forced outages, or Force Majeure.

- (b) EWSI shall use reasonable efforts to;
 - (i) provide notice of any Drainage Services reduction or interruption;
 - (ii) minimize such interruption duration and occurrences;
 - (iii) schedule planned interruptions as much as possible at times convenient to Customers; and
 - (iv) restore extended Drainage Service interruptions due to sewer main breaks, plugged or collapsed sewer lines or other reasons as soon as practicable.
- (c) EWSI is obligated to make reasonable efforts to respond to a Customer requested service call within a reasonable time, and to minimize Drainage Service interruptions to Customers. The Customer shall pay the cost of a Customer-requested service call and all related work if the cause of the problem is outside the Sewerage System and is not the direct result of an act or omission of an employee, contractor or agent of EWSI that is grossly negligent or an intentional tort.
- (d) Either EWSI or the City, or both of them jointly, may at any time issue an Order directing all Customers to cease or restrict use of the Sewerage System in the manner and for the period of time specified in the Order, and may cause such Order to be publicly disseminated via print or electronic media or by posting on the websites of EWSI or the City. A Customer is deemed to have received notice of such Order and to be aware of its content 24 hours after it is publicly disseminated, or at such sooner time as a copy of the Order is delivered to the Customer's service address as shown in the Customer's account by an employee, agent or other representative of EWSI or of the City.

15.7 Assignments

- (a) A Customer shall not assign any of its rights or obligations under these Terms and Conditions or a Drainage Services Agreement or any other agreement with EWSI relating to a Service Connection or Drainage Services without obtaining any necessary regulatory approvals and EWSI's approval where required in such agreement. No assignment shall relieve the Customer of any of its obligations under these Terms and Conditions until such obligations have been assumed by the assignee and EWSI has agreed to the assignment and novation. Any purported assignment by a Customer in violation of this section shall be void.
- (b) EWSI may assign all or any part of its rights or obligations under these Terms and Conditions or a Drainage Services Agreement, or any entitlement to payment under any Customer Account, to any Person with or without notice to the Customer.

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15.8 No Waiver

The failure of EWSI or a Customer to insist upon strict performance of any provision of these Terms and Conditions or a Drainage Services Agreement or any other agreement between EWSI and the Customer relating to a Service Connection or Drainage Services, or to take advantage of any of its rights arising therefrom, shall not be construed as a waiver of any such provisions or the relinquishment of any such right or rights. No provision of these Terms and Conditions or a Drainage Services Agreement or any other agreement between EWSI and a Customer relating to a Service Connection or Drainage Services shall be deemed to have been waived, and no breach thereof shall be deemed to have been excused, unless such waiver or consent to excuse is in writing and signed by the party claimed to have waived or consented to excuse.

15.9 **Law**

- (a) These Terms and Conditions and any Drainage Services Agreement or other agreement between EWSI and a Customer relating to a Service Connection or Drainage Services shall be governed by the laws of the Province of Alberta and the federal laws of Canada applicable in the Province of Alberta, without regard to principles of conflicts of law. Any legal proceedings arising in connection with these Terms and Conditions or any other agreement relating to a Service Connection or Drainage Services shall be brought in the courts of the Province of Alberta.
- (b) Nothing in these Terms and Conditions, including the issuance of a permit, any approval, and any inspections conducted by EWSI, relieves any Person of their legal duty to comply with these Terms and Conditions.

Appendix A – Prohibited Wastes

The following are designated as Prohibited Wastes:

- 1. any matter in a concentration that may cause a hazard to human health;
- 2. any flammable liquid or explosive matter that, by itself or in combination with another substance, is capable of causing or contributing to an explosion or supporting combustion;
- 3. any matter that by itself or in combination with another substance is capable of obstructing the flow of or interfering with the operation or performance of the Sewerage System, Watercourse, or treatment facility including but not limited to:
 - a. agricultural wastes;
 - b. animals, including fish and fowl or portions thereof that will not pass a two centimetre screen;
 - c. ashes;
 - d. asphalt;
 - e. concrete and cement based products;
 - f. gardening wastes;
 - g. glass;
 - h. gravel, into the sanitary Sewerage System;
 - i. metal;
 - j. hair and hair clippings;
 - k. cardboard and paper, excluding toilet tissue into the Sanitary Sewer or Combined Sewer;
 - l. plastics;
 - m. personal hygiene products;
 - n. rags, paper towels and cloth;
 - o. rock;
 - p. sediment, into the sanitary Sewerage System; (S.20, Bylaw 19137, February 19, 2020)
 - q. sharps;
 - r. soil;
 - s. straw;

- t. tar;
- u. wash water from washing equipment used in the mixing and delivery of concrete and cement based products;
- v. wood, and wood sawdust or shavings;
- w. grit or skimmings from interceptors, catch basins, pretreatment facilities or private Wastewater disposal systems; or
- x. sludge from interceptors, catch basins, pretreatment facilities or private Wastewater disposal systems;
- 4. any matter with corrosive properties that, by itself or in combination with another substance, may cause damage to any Sewerage System or treatment facility;
- 5. any matter, other than domestic Wastewater, that by itself or in combination with another substance is capable of creating an air pollution problem outside a Sewerage System or in and around a treatment facility;
- 6. any matter that, by itself or in combination with another substance, is capable of preventing safe entry into a Sewerage System or treatment facility;
- 7. any matter that:
 - a. consists of two or more separate liquid layers; or
 - b. is capable of forming a separate liquid layer when it comes in contact with Stormwater or Wastewater;
- 8. any matter that, by itself or in combination with another substance, is detrimental to the operation or performance of the Sewerage System, Watercourse, treatment facility, or the environment, including but not limited to:
 - a. biological waste;
 - b. elemental mercury;
 - c. paint, stains and coatings, including oil and water based;
 - d. prescription drugs and any other pharmaceutical products;
 - e. pesticides and herbicides; and
 - f. used automotive and machine oils and lubricants;
- 9. radioactive material in solid form;
- 10. effluent from an industrial garbage grinder;
- 11. any matter that has the potential to:

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- a. cause a hazard to human health and that cannot be effectively mitigated by Wastewater treatment;
- b. cause a hazard to the environment;
- c. cause a hazard to workers responsible for operating and maintaining the Sewerage System or a treatment facility;
- d. cause an adverse effect to the Sewerage System;
- e. cause an adverse effect to a treatment facility;
- f. result in the Wastewater being Released by the treatment facility in contravention of regulatory requirements; or
- g. restrict the beneficial use of biosolids from a treatment facility.
- 12. any matter that contains a Biohazardous Agent, Risk Group 4.

Appendix B – Restricted Wastes Applicable to Sanitary and Combined Sewers

The following are designated as Restricted Wastes when present in Wastewater, Stormwater, or Subsurface Water being Released to a Sanitary or Combined Sewer in excess of the limits set out below.

Unless expressed otherwise, concentrations are expressed as total concentrations.

Notwithstanding any limit set out below, EWSI may require or allow a premises to adhere to site-specific limits where EWSI determines it appropriate to do so. (S.21, Bylaw 19137, February 19, 2020)

1. CONTAMINANTS

Contaminant	Concentration (mg/L)
Biochemical oxygen demand (B.O.D.)	10,000
Chemical oxygen demand (C.O.D.)	20,000
Oil and grease	500
Phosphorus (P)	200
Suspended solids (S.S.)	5,000
Total Kjeldahl nitrogen (T.K.N.) or Ammonia (S.22, Bylaw 19137,	500
February 19, 2020)	500

2. INORGANIC CONSTITUENTS

Inorganic Constituent	Concentration (mg/L)
Antimony	5.0
Arsenic (As)	1.0
Cadmium (Cd)	0.10
Chlorine (total) (Cb)	5.0
Chromium (hexavalent) (Cr^{+6})	2.0
Chromium (total) (Cr)	4.0
Copper (Cu)	1.0
Cyanide (CN ⁻)	2.0
Lead (Pb)	1.0
Mercury (Hg)	0.10
Molybdenum (Mo)	5.0
Nickel (Ni)	4.0
Silver (Ag)	5.0
Selenium (Se)	1.0
Sulphide (S ⁼)	3.0
Thallium (Tl)	1.0
Zinc (Zn)	2.0

3. ORGANIC COMPOUNDS

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Organic Compound	Concentration (mg/L)
Hydrocarbons	100
Phenols	1.0

4. pH

pH (Hydrogen ion) less than 6.0 or greater than 11.5

5. **TEMPERATURE**

temperature greater than 75 degrees Celsius

6. OTHER

a. radioactive material in a concentration greater than allowed under the *Nuclear Safety and Control Act*, SC 1997, c 9 and associated regulations;

Appendix C – Restricted Wastes Applicable to Storm Sewers and Watercourses

The following are designated as Restricted Wastes when present in Wastewater, Stormwater, or Subsurface Water being Released to the Storm Sewer or a Watercourse in excess of the limits set out below.

Unless expressed otherwise, concentrations are expressed as total concentrations.

Notwithstanding any limit set out below, EWSI may require a premises to adhere to site-specific limits where EWSI determines it appropriate to do so.

1. CONTAMINANTS

Contaminant	Concentration (mg/L)
Biochemical oxygen demand (B.O.D.)	50
Chemical oxygen demand (C.O.D.)	100
Oil and grease	15
Phosphorus (P)	1.0
E.coli	200 MPN / 100 mL or 200 counts / 100 mL

2. INORGANIC CONSTITUENTS

Inorganic Constituent	Concentration (mg/L)
Ammonia Nitrogen (NH3-N)	1.4
Arsenic (As)	0.050
Cadmium (Cd)	0.0005
Chlorine (total) (Cb)	0.020
Chromium (hexavalent) (Cr^{+6})	0.010
Chromium (total) (Cr)	0.089
Copper (Cu)	0.160
Cyanide (CN ⁻)	0.050
Lead (Pb)	0.020
Mercury (Hg)	0.00013
Nickel (Ni)	0.080
Silver (Ag)	0.001
Selenium (Se)	0.010
Thallium (Tl)	0.008
Zinc (Zn)	0.30

3. ORGANIC COMPOUNDS

Organic Compound	Concentration (mg/L)
Benzene	0.37
Ethylbenzene	0.090
Toluene	0.039
Xylene	0.5

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Organic Compound	Concentration (mg/L)
Carbon tetrachloride	0.0133
Phenols	0.005
Tetrachloroethylene	0.0044
Trichloroethylene	0.0076

(S.24, Bylaw 19137, February 19, 2020)

4. pH

pH less than 6.0 or greater than 9.0, except uncontaminated runoff resulting from natural precipitation

5. TEMPERATURE

temperature greater than 60 degrees Celsius

6. OTHER

- a. dye or colouring material that produces a colour value greater than or equal to 50 true colour units, or that causes discolouration of the dye containing water so that the colour cannot be determined by the visual comparison method, except where the dye is used by EWSI as a tracer;
- b. radioactive material in a concentration greater than allowed under the *Nuclear Safety and Control Act*, SC 1997, c 9 and associated regulations;
- c. foam or any other matter that, by itself or in combination with another substance, is capable of producing foam that will persist for five minutes or more, with the exception of foam used in a Wastewater treatment facility;

Schedule 3

Performance Based <u>Rates: Sanitary,</u> <u>Stormwater and Drainage Wastewater</u> <u>Treatment</u> Rates

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1.0 <u>35-Year Term with Annual Adjustments Effective Each January April</u> 1st

This Schedule 3 sets out the Performance Based Regulation Plan and applies in respect of adjustments to the rates, fees and charges as set out in Schedule 1, under this bylaw for the period from April 1, 2022- March 31, 2025. January 1, 2018 to March 31, 2022.

The rates and each component of, or adjustment to, the rates as set out below will be assessed on a calendar year basis. However, to meet the administrative requirements of compiling, verifying and reporting on results, actual rate adjustments will occur on April 1st of the year following the forecast year.

Actual rate adjustments, if applicable, will occur on the first day of January 2018, 2019, 2020, 2021 and 2022.

1.1 Variable Rate and Consumption Charges

The variable rate charges and consumption charges for the first year of the three-year term, commencing April 1, 2022 are set out in Schedule 1 Parts I and III. Commencing April 1, 2023 and for each subsequent year on that date for each customer class billed for Sanitary Utility Service, Stormwater Utility Service, and/or Residential or Commercial Wastewater Treatment Service identified in Schedule 1 Part I, Sanitary and Stormwater Rates, or Part III Wastewater Treatment Service, the consumption or variable charge shall be adjusted. For each customer or customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year") will be determined by the formula:

RP X (1 + ID) X (1 + IF -
$$E \frac{0.25\%}{1.25\%}$$
 + RS

Where,

- <u>RP</u> means the rate that was in effect for a customer or customer class during the 12 months immediately preceding April 1 of the Current Year;
- ID means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year;
- IF means the forecast rate of inflation for the Current Year;
- **E** means the efficiency factor as described in Section 2.2. of this Schedule 3.
- RS means the rate for a special rate adjustment as described in Sections 2.3 and 2.4 of this Schedule 3.
- 1.2 Fixed and Flat Monthly Service Charges and Service Fees and Charges

The fixed and flat monthly service charges and the Service Fees and Charges for the first year of the three-year term, commencing April 1, 2022 are set out in Schedule 1, Parts I, II and III. Commencing April 1, 2023 and for each subsequent year on that date, the Flat Monthly Charge for Sanitary Utility Service in Schedule 1, Part I, the Fixed Monthly Service Charge for Residential or Commercial Wastewater Treatment Service in Schedule 1, Part III and the Service Fees and Charges in Schedule 1, Part II shall be adjusted. For each customer or customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year") will be determined by the formula:

RPX(1 + ID)X(1 + IF - E0.25%) + RS + Z

Where,

- <u>RP</u> means the rate, fee or charge that was in effect for a customer or customer class during the 12 months immediately preceding April 1 of the Current Year, before any non-routine adjustments are applied,
- <u>ID</u> means the difference between the forecast rate of inflation and the actual rate of inflation for the calendar year immediately preceding the Current Year,
- IF means the forecast rate of inflation for the Current Year,
- **E** means the efficiency factor as described in Section 2.2. of this Schedule 3.
- <u>RS</u> means the rate for a special rate adjustment as described in Sections 2.3 and 2.4 of this Schedule 3.
- Z means a non-routine adjustment as described in Section 5.0 of this Schedule 3.
- <u>1.3 Wastewater Overstrength Surcharges</u>

The Wastewater Overstrength Surcharges for the first year of the three-year term, commencing April 1, 2022 are set out in Schedule 1, Part III. Commencing April 1st, 2023 and for each subsequent year on that date, the Wastewater Overstrength Surcharge and Wastewater Additional Overstrength Surcharge identified in Schedule 1 Part III – Wastewater Treatment Rates, shall be adjusted. For each customer class, the rate for the year in which the April 1st adjustment takes effect (hereinafter called the "Current Year") will be determined by the formula:

RP X (1 + ID) X (1 + IF - E
$$0.25\%$$
) + **RS**

Where,

<u>RP</u> means the rate that was in effect during 12 months immediately preceding April 1 of the Current Year;

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- IDmeans the difference between the forecast rate of inflation and the actual rate of
inflation for the calendar year immediately preceding the Current Year;
- IF means the forecast rate of inflation for the Current Year;
- **E** means the efficiency factor as described in Section 2.2. of this Schedule 3.
- <u>RS</u> means the rate for a special rate adjustment as described in Section 2.4 of this <u>Schedule 3.</u>

2.0 Rate Adjustments Routine Adjustments

Each year, the following factors or adjustments will be used to determine appropriate adjustments to the variable rate charges, the fixed and flat monthly service charges, the service fees and charges and the wastewater overstrength surcharges payable for Drainage and Wastewater Treatment Services:

- a) Inflation Factor;
- b) Efficiency Factor;

c) Special Rate Adjustments.

The calculation and application of these factors or adjustments are described in subsections 2.1 to 2.4 below.

2.1 Inflation Factor

The flat and variable rates and charges and the service fees and charges for Drainage Services will be subject to an annual adjustment based upon a forecast of the rate of inflation supported by the Conference Board of Canada's forecast inflation for the upcoming year. For the purposes of this adjustment calculation, "inflation" will be determined on the basis of two components:

- a) a Consumer Price Index ("CPI") component, weighted at 40%, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Services V41694625 – CPI, 2005 Basket, 2002 = 100, Alberta, All Items; and
- b) a Labour Cost component, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Series V1603533, weighted at 60%.

The fixed monthly service charge, and consumption charges, wastewater overstrength surcharges and wastewater additional overstrength surcharges for Wastewater Treatment Services will be subject to an annual adjustment based upon a forecast of the rate of inflation supported by the

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Conference Board of Canada's forecast inflation for the upcoming year. For the purposes of this adjustment calculation, "inflation" will be determined on the basis of two components:

- a) a Consumer Price Index ("CPI") component, weighted at 65%, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Services V41694625 – CPI, 2005 Basket, 2002 = 100, Alberta, All Items; and
- b) a Labour Cost component, based on the annual Conference Board of Canada's forecast for Statistics Canada CANSIM Series V1603533, weighted at 35%.

Once the calendar year is complete and the actual rate of inflation is known, the charges for the subsequent year will include an adjustment to correct for the difference between the forecast and actual rate of inflation for the calendar year. As the index utilized for the actual Labour Cost component may not be available for the complete calendar year, the consecutive 12 month period for which the index utilized for the Labour Cost component is most recently available is used as a substitute for the calendar year for purposes of the Labour Cost component inflation adjustment.

Both CPI and the Labour Cost components are available and verifiable:

- The actual CPI component for a given year will be the change in the CPI for Alberta. This measure is identified as the annual growth in Consumer Price Index (CPI): Statistics Canada CANSIM Series V41694625 – CPI, 2005 Basket, 2002 = 100, Alberta, All Items. Any publication issued by Statistics Canada which is intended to replace, supersede or otherwise revise this measure will be used in substitution for it, in performing the inflation calculation.
- 2. The actual labour cost component for a given year will be the annual growth in Average Hourly Earnings (AHE) for salaried employees (paid a fixed salary), including overtime, unadjusted for seasonal variation for selected industries classified using the North American Industry Classification System (NAICS), for Alberta, Industrial Aggregate (excluding unclassified businesses), based on the monthly Statistics Canada CANSIM Series V1603533. The annual growth in the AHE will be calculated based on the year-over-year percentage change from the AHE in the preceding year to the AHE in the given year, where:
 - AHE in the given year is the average of the most recent twelve consecutive months of series V1603533 available (and not including preliminary data) when EWSI finalizes its annual rate application for submission to the City Manager on or before March 1; and
 - AHE in the preceding year is the average of the preceding twelve consecutive months of series V1603533.

Any publication issued by Statistics Canada which is intended to replace, supersede or otherwise revise this measure will be used in substitution for it, in performing the inflation calculation.

As an exception to the inflation adjustment factor, if the rate of inflation (calculated in accordance with this section) is 1.75% or lower, EWSI may prepare a financial plan to demonstrate the need for a unit rate increase other than 1.5%. The inflation rate in the financial plan will be a surrogate for the value of I_D.

As a further exception to the inflation adjustment factor, if the rate of inflation is greater than 5.0%, EWSI may prepare a financial plan demonstrating the appropriateness of a unit rate increase less than the rate of inflation minus 0.25%. The inflation rate in the plan will be a surrogate for the value of I_D.

2.2 Efficiency Factor

The Efficiency Factor for the 2022-2024 PBR term for Wastewater Treatment fixed monthly service charges and consumption charges, wastewater overstrength surcharges and wastewater additional overstrength surcharges shall be 0.25%.

The Efficiency Factor for the 2022-2024 PBR term for Sanitary Utility flat monthly service charges, Sanitary Utility variable monthly charges and Stormwater Utility rates shall be 0.50%.

2.3 Special Rate Adjustments for Sanitary, Stormwater and Wastewater Treatment Services

2.3.1 Special Rate Adjustments for Re-Basing – Drainage

In each of the years 2022, 2023 and 2024 (affecting sanitary and Stormwater utility rates and Flat Monthly Service Charges payable by Customers for the time periods April 1, 2022- March 31, 2023, April 1, 2023 to March 31, 2024, April 1, 2024 – March 31, 2025) the Special Rate Adjustment for Re-Basing for Drainage Services will be added to the sanitary and Stormwater Variable Rate Charges and the Flat Monthly Service Charges in Schedule 1, Part I – *Sanitary and Stormwater Rates*. These Special Rate Adjustments for Re-Basing are required to recover the difference between EWSI's revenue requirement forecast for the 2022-2024 PBR term and the revenue that would be realized if annual rate increases were limited to PBR inflation.

The Special Rate Adjustments for Re-Basing for Sanitary and Stormwater Services will be applied in respect of 2022, 2023 and 2024 Sanitary and Stormwater rates after the Inflation and Efficiency factors have been calculated and applied for those years, and are in addition to any Non-Routine Adjustments applicable to those years. Each year, after the Special Rate Adjustments for Re-Basing for Sanitary and Stormwater Services have been factored into the 2022, 2023 and 2024 rates and charges, these adjustments will continue to form part of the basic Variable Charges and Flat Monthly Service Charges in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

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The Special Rate Adjustments for Re-Basing for Sanitary and Stormwater Services applied to the Sanitary and Stormwater Rates and to the Flat Monthly Service Charges for the years 2022, 2023 and 2024 are as follows:

Stormwater Utility Rate	2022 Special Rate	2023 Special Rate	2024 Special Rate
	Adjustment	Adjustment	Adjustment
	<u>\$(0.002805)</u>	<u>\$0.000978</u>	<u>\$0.001009</u>
	<u>\$(0.002902)</u>	<u>\$0.000885</u>	<u>\$0.000913</u>

Sanitary Utility Rate	2022 Special Rate	2023 Special Rate	<u>2024 Special Rate</u>
	Adjustment	Adjustment	<u>Adjustment</u>
<u>All Premises (except</u>	<u>\$(0.06096)</u>	<u>\$0.02110</u>	<u>\$0.02191</u>
<u>large wholesale)</u>	<u>\$(0.6307)</u>	<u>\$0.01908</u>	<u>\$0.01983</u>
Large Wholesale with	<u>\$(0.03414)</u>	<u>\$0.01181</u>	\$0.01227
Collection System	<u>\$(0.03532)</u>	<u>\$0.01069</u>	<u>\$0.01110</u>

<u>Sanitary Utility Flat</u> <u>Monthly Service Charge</u>	<u>2022 Special</u> <u>Rate</u>	2023 Special Rate	2024 Special <u>Rate</u>
<u>(based on meter size)</u>	<u>Adjustment</u>	<u>Adjustment</u>	<u>Adjustment</u>
<u>16 mm</u>	\$(0.63)	<u>\$0.20</u>	<u>\$0.20</u>
<u>20 mm</u>	<u>\$(1.14)</u>	<u>\$0.35</u>	<u>\$0.36</u>
<u>25 mm</u>	\$(1.77)	<u>\$0.55</u>	<u>\$0.56</u>
<u>40 mm</u>	<u>\$(3.42)</u>	<u>\$1.06</u>	<u>\$1.07</u>
<u>50 mm</u>	<u>\$(4.68)</u>	<u>\$1.45</u>	<u>\$1.47</u>
75 mm	\$(9.67)	<u>\$2.99</u>	<u>\$3.04</u>
<u>100 mm</u>	<u>\$(18.02</u>	<u>\$5.57</u>	<u>\$5.67</u>
<u>150 mm</u>	<u>\$(34.08)</u>	<u>\$10.54</u>	<u>\$10.72</u>
<u>200 mm</u>	<u>\$(54.38)</u>	<u>\$16.81</u>	<u>\$17.11</u>
<u>250 mm</u>	<u>\$(134.95)</u>	<u>\$41.72</u>	<u>\$42.46</u>
<u>300 mm</u>	<u>\$(134.95)</u>	<u>\$41.72</u>	<u>\$42.46</u>
<u>400 mm</u>	<u>\$(147.67)</u>	<u>\$45.65</u>	<u>\$46.46</u>
<u>500 mm</u>	<u>\$(159.00)</u>	<u>\$49.15</u>	<u>\$50.03</u>
<u>16mm</u>	\$(0.61)	\$0.22	\$0.22
<u>20mm</u>	<u>\$(1.10)</u>	<u>\$0.39</u>	<u>\$0.40</u>

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<u>25mm</u>	<u>\$(1.71)</u>	<u>\$0.61</u>	\$0.62
<u>40mm</u>	<u>\$(3.30)</u>	\$1.17	\$1.19
<u>50mm</u>	\$(4.53)	\$1.60	\$1.63
<u>75mm</u>	<u>\$(9.35)</u>	\$3.31	\$3.36
<u>100mm</u>	\$(17.42)	\$6.16	\$6.27
<u>150mm</u>	\$(32.94)	<u>\$11.65</u>	<u>\$11.85</u>
<u>200mm</u>	\$(52.56)	<u>\$18.59</u>	<u>\$18.91</u>
<u>250mm</u>	<u>\$(130.44)</u>	<u>\$46.13</u>	<u>\$46.93</u>
<u>300mm</u>	<u>\$(130.44)</u>	<u>\$46.13</u>	<u>\$46.93</u>
<u>400mm</u>	<u>\$(142.73)</u>	<u>\$50.48</u>	\$51.35
<u>500mm</u>	<u>\$(153.68)</u>	<u>\$54.35</u>	<u>\$55.29</u>

The Special Rate Adjustments for re-basing Stormwater and sanitary rates and charges for 2022 have been included in the Sanitary and Stormwater Rates in Schedule 1, Part I.

2.3.2 Special Rate Adjustments for Re-Basing - Wastewater

In each of the years 2022, 2023 and 2024 (affecting wastewater treatment rates payable by Customers for the time periods April 1, 2022 – March 32, 2023, April 1, 2023 to March 31, 2024, April 1, 2024 – March 31, 2025) the Special Rate Adjustment for Re-Basing for Wastewater Treatment Services will be added to the Consumption Charge, Fixed Monthly Service Charge, the Wastewater Overstrength Surcharge, and the Wastewater Additional Overstrength Surcharge in Schedule 1, Part III – *Wastewater Treatment Rates*. This Special Rate Adjustment for Re-Basing is required to recover the difference between EWSI's revenue requirement forecast for the 2022-2024 PBR term and the revenue that would be realized if annual rate increases were limited to PBR inflation.

The Special Rate Adjustment for Re-Basing for Wastewater Treatment Services will be applied in respect of 2022, 2023 and 2024 wastewater treatment rates after the Inflation and Efficiency factors have been calculated and applied for those years, and are in addition to any Non-Routine Adjustments applicable to those years. Each year, after the Special Rate Adjustment for Re-Basing for Wastewater Treatment Services have been factored into the 2022, 2023 and 2024 wastewater treatment rates, these adjustments will continue to form part of the basic Consumption Charge, Fixed Monthly Service Charge, and Wastewater Overstrength and Wastewater Additional Overstrength Surcharges for Wastewater Treatment Services in all subsequent years, to which the annual Routine Adjustment Factors set out in subsections 2.1 and 2.2 above will be applied.

The Special Rate Adjustment for Re-Basing for Wastewater Treatment Services applied to wastewater treatment rates for the years 2022, 2023 and 2024 applied to the Consumption Charge for each customer class, the Fixed Monthly Service Charge and Wastewater Overstrength and Wastewater Additional Overstrength Surcharges is as follows:

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Consumption Charge (per m ³)	<u>2022 Special Rate</u> Adjustment	<u>2023 Special Rate</u> <u>Adjustment</u>	<u>2024 Special Rate</u> <u>Adjustment</u>
Residential All consumption	<u>\$0.1834</u>	<u>\$(0.0009)</u>	<u>\$(0.0009)</u>
Multi Residential All consumption	<u>\$0.1834</u>	\$(0.0009)	\$(0.0009)
Commercial 0 10,000 m ³ 10,000.1 100,000 Over 100,000 m ³	<u>\$0.1834</u> <u>\$0.1419</u> <u>\$0.0740</u>	<u>\$(0.0009)</u> \$(0.0007) <u>\$(0.0004)</u>	<u>\$(0.0009)</u> <u>\$(0.0007)</u> <u>\$(0.0004)</u>
<u>Fixed Monthly</u> <u>Service Charge</u>	<u>\$0.9026</u>	<u>\$(0.0047)</u>	<u>\$(0.0046)</u>
<u>Wastewater</u> Surcharge			
 a) <u>BOD</u> b) <u>COD</u> c) <u>oil and grease</u> d) <u>phosphorous</u> e) <u>suspended</u> f) total kjeldahl 	\$0.1148 \$0.1148 \$0.1004 \$0.9553 \$0.1042 \$0.2438	\$(0.0006) \$(0.0006) \$(0.0005) <u>\$(0.0048)</u> <u>\$(0.0005)</u> \$(0.0012)	\$(0.0006) <u>\$(0.0006)</u> <u>\$(0.0005)</u> <u>\$(0.0049)</u> <u>\$(0.0005)</u> <u>\$(0.0013)</u>
Wastewater Overstrength			
a) <u>BOD</u> b) <u>COD</u> c) <u>oil and grease</u> d) <u>phosphorous</u> e) <u>suspended</u> f) total kieldabl	<u>\$0.1148</u> <u>\$0.1148</u> <u>\$0.1004</u> <u>\$0.9553</u> <u>\$0.1042</u> <u>\$0.2438</u>	\$(0.0006) \$(0.0006) \$(0.0005) \$(0.0048) \$(0.0005) \$(0.0012)	\$(0.0006) <u>\$(0.0006)</u> <u>\$(0.0005)</u> <u>\$(0.0049)</u> <u>\$(0.0005)</u> <u>\$(0.0013)</u>

Consumption Charge	2022 Special Rate	2023 Special Rate	2024 Special Rate
<u>Residential</u>			
All consumption	<u>\$0.1777</u>	<u>\$(0.0077)</u>	<u>\$(0.0078)</u>
Multi-Residential	<u>\$0.1777</u>	<u>\$(0.0077)</u>	<u>\$(0.0078)</u>
Commercial			
<u>0 – 10,000 m³</u>	<u>\$0.1777</u>	<u>\$(0.0077)</u>	<u>\$(0.0078)</u>
<u>10,000.1 – 100,000 m³</u>	\$0.1375	<u>\$(0.0059)</u>	<u>\$(0.0060)</u>
<u>Over 100,000 m³</u>	<u>\$0.0717</u>	<u>\$(0.0031)</u>	<u>\$(0.0031)</u>
Fixed Monthly Service	<u>\$0.8746</u>	<u>\$(0.0388)</u>	<u>\$(0.0383)</u>

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W	astewater Overstrength			
Su	<u>ircharge</u>			
a)	BOD	<u>\$0.1113</u>	<u>\$(0.0048)</u>	<u>\$(0.0049)</u>
b)	COD	<u>\$0.1113</u>	<u>\$(0.0048)</u>	<u>\$(0.0049)</u>
c)	oil and grease	<u>\$0.0973</u>	<u>\$(0.0042)</u>	<u>\$(0.0043)</u>
d)	phosphorous	\$0.9257	<u>\$(0.0401)</u>	<u>\$(0.0407)</u>
e)	suspended solids	<u>\$0.1010</u>	<u>\$(0.0044)</u>	<u>\$(0.0044)</u>
f)	<u>total kjeldahl</u>	<u>\$0.2363</u>	<u>\$(0.0102)</u>	<u>\$(0.0104)</u>
W	astewater Additional			
0	verstrength Surcharge			
a)	BOD	<u>\$0.1113</u>	<u>\$(0.0048)</u>	<u>\$(0.0049)</u>
b)	COD	<u>\$0.1113</u>	<u>\$(0.0048)</u>	<u>\$(0.0049)</u>
c)	oil and grease	<u>\$0.0973</u>	<u>\$(0.0042)</u>	<u>\$(0.0043)</u>
d)	phosphorous	<u>\$0.9257</u>	<u>\$(0.0401)</u>	<u>\$(0.0407)</u>
e)	suspended solids	\$0.1010	<u>\$(0.0044)</u>	<u>\$(0.0044)</u>
f)	<u>total kjeldahl</u>	<u>\$0.2363</u>	<u>\$(0.0102)</u>	<u>\$(0.0104)</u>

The Special Rate Adjustments for re-basing Wastewater Treatment rates and Charges for 2022 have been included in Wastewater Treatment Rates in Schedule 1, Part III.

2.3.3 Special Rate Adjustments for the 90-day Deferral Program

In 2022 (affecting rates payable for the period April 1, 2022 to March 31, 2023) Special Rate Adjustments for the 90-Day Deferral Program will be applied to the Stormwater Utility Rate, the Sanitary Utility Flat Monthly Charge and the Wastewater Fixed Monthly Charge set out in Schedule 1, Parts I and III. These Special Rate Adjustments for the 90-Day Deferral Program are required to recover the \$1.6 million for the incremental bad debt expense, administration, and carrying costs associated with the 90-Day Deferral Program.

The Special Rate Adjustments for the 90-Day Deferral Program for 2022 have been included in the Sanitary and Stormwater Rates in Schedule 1, Part I and in Wastewater Treatment Rates in Schedule 1, Part III. These Special Rate Adjustment will be removed from Customer bills in 2023.

The Special Rate Adjustment for the 90-Day Deferral Program applied to the Fixed Monthly Charge for Wastewater for 2022 and 2023 is as follows:

Fixed Monthly Service Charge - Wastewater	2022 Special Rate Adjustment	2023 Special Rate Adjustment <u>*</u>
	\$0.1547	<u>\$0.1555</u> \$ λ

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The Special Rate Adjustment for the 90-Day Deferral Program applied to the Stormwater Utility Rate for 2022 and 2023 is as follows:

Stormwater Utility	2022 Special Rate	2023 Special Rate
Rate	Adjustment	Adjustment <u>*</u>
	\$0.000358	<u>\$(0.000359</u>) <u>}\$ λ</u>

* The 2023 Special Rate Adjustment for the 90-day Deferral Program will be determined following a true up of the 2022 Special Rate Adjustment based on actual costs incurred as a result of the 90-day Deferral Program. The 2023 Special Rate Adjustment for the 90-day Deferral Program will constitute a negative rate adjustment to remove the 2022 Special Rate Adjustment from rates for remainder of the PBR term following March 31, 2023.

The Special Rate Adjustment for the 90-Day Deferral Program applied to the Sanitary Utility Flat Monthly Service Charge for 2022 and 2023 is as follows:

Sanitary Utility Flat	2022 Special	2023 Special
Monthly Service Charge	Rate	Rate
(based on meter size)	Adjustment	Adjustment*
<u>16mm</u>	<u>\$0.23</u>	\$(0.23) \$ λ
<u>20mm</u>	<u>\$0.41</u>	- \$(0.41) \$ λ
<u>25mm</u>	<u>\$0.64</u>	<u>- \$(0.64)\$ λ</u>
<u>40mm</u>	<u>\$1.23</u>	-\$(1.23) \$ λ
<u>50mm</u>	<u>\$1.68</u>	_\$(1.69) \$ λ
<u>75mm</u>	<u>\$3.47</u>	_\$(3.49) \$ λ
<u>100mm</u>	<u>\$6.47</u>	_\$(6.50) \$ λ
<u>150mm</u>	<u>\$12.23</u>	\$(12.30) \$ λ
<u>200mm</u>	<u>\$19.52</u>	<u>-\$(19.63)</u> \$ λ
<u>250mm</u>	<u>\$48.44</u>	_\$(48.71) \$ λ
<u>300mm</u>	<u>\$48.44</u>	\$(48.71) \$ λ
<u>400mm</u>	<u>\$53.01</u>	\$(53.90) \$ λ
<u>500mm</u>	<u>\$57.05</u>	- \$(57.39) \$ λ

* The 2023 and 2024 Special Rate Adjustment for the 90-day Deferral Program will be determined following a true up of the 2022 Special Rate Adjustment based on actual costs incurred as a result of the 90-day Deferral Program. The 2023 and 2024 Special Rate Adjustment for the 90-day Deferral Program will constitute a negative rate adjustment to remove the 2022 Special Rate Adjustment from rates for remainder of the PBR term following March 31, 2023.

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2.3.4 Special Rate Adjustment for Corrosion and Odour Reduction Strategy (CORe)

In each of the years 2023, 2024 and 2025 a Special Rate Adjustment to recover the costs of the CORe program will be added to sanitary variable rate in Schedule 1, Part I – Sanitary and Stormwater Rates. This Special Rate Adjustment for the CORe Program is required to recover the costs of a program to prevent the formation of hydrogen sulfide gas which will reduce odour impacts and lengthen the life of the sewer network through corrosion mitigation.

The Special Rate Adjustment has been included in the Sanitary and Stormwater Rates, Schedule 1, Part I for 2022. The Special Rate Adjustment for the CORe program applied to the Sanitary Utility Rate for 2022, 2023 and 2024 is as follows:

Sanitary Utility Rate	<u>2022 Special Rate</u> <u>Adjustment</u>	2023 Special Rate Adjustment	2024 Special Rate Adjustment
<u>All Premises (except</u> large wholesale)	<u>\$0.21003</u>	<u>\$(0.03040)</u> <u>\$(0.03039)</u>	<u>\$0.09199</u>
Large Wholesale with Collection System	<u>\$0.11762</u>	<u>\$(0.01702)</u>	<u>\$0.05151</u> <u>\$0.05152</u>

2.3.5 Special Rate Adjustment for Stormwater Integrated Resource Plan (SIRP)

In each of the years 2022, 2023 and 2024 a Special Rate Adjustment to recover the costs of the SIRP will be added to Stormwater rate in Schedule 1, Part I – Sanitary and Stormwater Rates. This Special Rate Adjustment for the SIRP is required to recover the costs of a flood mitigation program.

The Special Rate Adjustment has been included in the Sanitary and Stormwater Rates, Schedule 1, Part I for 2022. The Special Rate Adjustment for the SIRP, applied to the Stormwater Utility Rate for 2022, 2023 and 2024, is as follows:

<u>Stormwater Utility</u>	2022 Special Rate	2023 Special Rate	2024 Special Rate
<u>Rate</u>	Adjustment	Adjustment	Adjustment
	<u>\$0.008726</u>	<u>\$0.003965</u>	\$0.003493
	<u>\$0.008727</u>	<u>\$0.003964</u>	<u>\$0.003494</u>

<u>1.12.4</u>Non-routine Adjustments

Commencing January 1st, 20<u>23</u>19 and for each subsequent year on that date the <u>variable-flat</u> charge for <u>Sanitary or Stormwater utility service the Sanitary Utility Charge and/ or the Stormwater Utility Rate</u> and/or the fixed charge for Wastewater Treatment service -may be adjusted in accordance with the non-routine adjustment clause, Article <u>4.05.0</u> herein, as applicable.

<u>1.22.5</u> Sanitary Sewer Trunk Charge

Commencing January 1, 2018-2023 and for each subsequent year on that date the Sanitary Sewer Trunk Charge shall be adjusted in accordance with an adjustment notice provided by the City of Edmonton, as applicable. If applicable, the City of Edmonton will provide an adjustment notice on or before November 15 of the calendar year immediately preceding the year in relation to which the adjustment to the Sanitary Sewer Trunk Charge will be made.
3.0 Sewerage System Service Quality Drainage Services Quality

Drainage Services Quality is measured by the results of four indices described in Sections 3.1 - 3.4.

These are:

- Environment Index
- Customer Service Index
- System Reliability and Optimization Index
- Safety Index

Performance under each index is measured independently on a point basis with 100 base points available if the standards in all four areas are achieved. In total, up to 10 additional bonus points for performance above the standard are available. These bonus points are described within each index.

If Drainage Services does not meet the standard, financial penalties are applied to a maximum of \$1,000,000 per annum. If a penalty amount is assessed, that amount is returned to the customers in the form of a rate rebate. The proposed weighting and penalty amounts applicable to each performance category for Drainage Services are detailed in the table below.

_	Performance Category	<u>A</u> Weighting	<u>B</u> <u>Maximum</u> <u>Penalty</u>
<u>1</u>	Environmental Index	<u>350%</u>	<u>\$3500,000</u>
<u>2</u>	Customer Services Index	<u>20%</u>	\$200,000
<u>3</u>	System Reliability/Optimization Index	<u>305%</u>	<u>\$3050,000</u>
<u>4</u>	Safety Index	<u>15%</u>	<u>\$150,000</u>
	Total	<u>100%</u>	\$1,000,000

Drainage Services Performance Measures Indices and Penalties

For each full point scored below 100 base and bonus points, a penalty of \$67,000 will be assessed to a maximum of \$1,000,000. There is no reward for performance above 100 base and bonus points. For purposes of these calculations, point amounts will be rounded to the nearest tenth of a point and calculated on a calendar year basis.

EPCOR has an obligation to maintain all documentation related to the tracking and scoring of each index and be prepared to present it on request during an audit, in order to satisfy the requirements of Bylaw 19627. The final score for each index and the individual performance measures that comprise each index will be published annually on the EPCOR Drainage Services Inc. external website. The audited performance measure results will also be provided to the City of Edmonton as part of the approval process for new rate increases.

-	<u> Chart 1.0 – Environment Index</u>		Standard
<u>1.1</u>	Stormwater Flow Monitoring	Storm Drainage Area Monitored	<u>63.0%</u>
<u>1.2</u>	Environmental Incidents	Environmental Incidents	<u>50</u>
<u>1.3</u>	Green Hectares	Area with Runoff Managed by Green Infrastructure	<u>Annual</u> <u>2022 – 45</u> <u>2023 – 90</u> <u>2024 – 180</u>

_	<u>Chart 2.0 – Customer Service</u>	-	<u>Standard</u>
<u>2.1</u>	Service Maintenance Calls	Service Maintenance Calls resolved within 24 hours	<u>80.0%</u>
<u>2.2</u>	Emergency Dig Ups - Service Restored	Emergency Dig Up Services Restored within 48 hours from Time Received from Operations	<u>98.0%</u>
<u>2.3</u>	Service Connections - Average Time	Service Connections - meeting 6 week target	<u>85.0%</u>
<u>2.4</u>	Sewer Odour Hotspots	<u>City Wide Coverage Area of Sewer Odour</u> <u>Hotspots</u>	$\frac{2022 - 15\%}{2023 - 14.5\%}$ $\frac{2024 - 14\%}{2024 - 14\%}$

-	Chart 3.0 - System Reliability and Optimization Index		Standard
<u>3.1</u>	Blocked Sewers	Blocked Sewers per 100 Kms	<u>2.10</u>
<u>3.2</u>	Sewer Renewal	Sewers Renewed, km	<u>60.0</u>
<u>3.3</u>	Infrastructure Condition Rating - Minimum Level	Infrastructure at or above Minimum Level of Condition Rating,	<u>90.0%</u>
<u>3.4</u>	Full Property Flood Proofing Inspections	Number of Inspections Completed	<u>750</u>

-	<u>Chart 4.0 - Safety Index</u>		<u>Standard</u>
<u>4.1</u>	<u>Near Misses</u>	<u>Near Misses</u>	<u>750</u>
<u>4.2</u>	Worksite Inspections and Observations	Worksite Inspections and Observations	<u>1300</u>
<u>4.3</u>	LTIF	LTIF	<u>0.75</u>

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<u>4.4</u>	AIF		AIF	4.0
3.1	Environmental Index			
	Description	The enviro programs environme three equal	onmental index measures the success of Dr and policies designed to mitigate and ntal impacts. The index is a measure calculate ly weighed components.	rainage Services report adverse d on the basis of
	Formula	The maximum base value of the environmental index is 35.0 base points		
		Environmental Index = 35.0 x <u>SWFM + EIF +GH</u> <u>3</u>		
		Where,		
		SWFM	means the storm water flow monitoring factor	<u>or,</u>
		EIF	means the environment incident factor; and	
		GH	means the green hectares factor.	
		350.0	= points available for this index	
		<u>A maximu</u>	m of 3.5 bonus points is available for the envi	ronmental index
		based on th	ie formula.	
		The maxim	num total environmental index points is 38.5.	

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<u>3.1.1 Storm W</u>	Vater Flow Monitoring Factor
Description	The Storm Water Flow Monitoring factor is a measure of the percentage of storm drainage area being monitored relative to all qualified hydrologically-effective drainage areas serviced by outfalls.
Formula	The Storm Water Flow Monitoring factor (SWFM) is measured by the formula:
	<u>Storm Water Flow Monitoring Factor = <u>SDAM</u> <u>Where,</u></u>
	SDAM means percentage of storm drainage area being monitored; and
	63.0% is the Storm Water Flow Monitoring standard.
Benchmark	<u>≥63.0%</u>
Definitions	The percentage of storm drainage area being monitored (SDAM) is calculated as follows:
<u>% of storm dr</u>	rainage area being monitored =100 xMonitored Area (hectares)Qualifying Area (hectares)
	Monitored Area - means the sum of effective drainage areas serviced by permanent outfall monitoring stations.
	Qualifying Area - means the sum of hydrologically-effective drainage areas serviced by outfalls as per Drainage Design Standards section 18.13.5.
	This applies to storm outfall sizes as specified in the design guidelines as <u>follows:</u>
	• Equal to or greater than 1200 mm to the North Saskatchewan River; or
	• Equal to or greater than 900 mm to Whitemud, Blackmud, or Mill creeks; or
	• Equal to or greater than 500 mm to other creeks; or
	• Equivalent capacities for multiple outfalls for the development area; or
	• Upstream of the E.L. Smith Water Treatment Plant.

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Reporting Frequency Annually

3.1.2 Environment Inc	ident Management
Description	The Environment Incident Management factor measures the number of incidents that are reportable to the municipal, provincial or federal regulator.
<u>Formula</u>	The environment incident factor (EIF) is measured by the formula:
	$\underline{\text{Environment Incident Factor} = \frac{50}{\underline{\text{EIR}}}$
	Where,
	EIR means the actual number of environmental incidents that are reportable; and
	50 is the environmental incident standard
Benchmark	<u>≤ 50</u>
Definitions	<i>Reportable Incident</i> – one that involves contravention of a municipal, provincial or federal regulation or bylaw, or a spill or release to the environment that is reportable as defined in provincial or federal release reporting criteria.
Reporting Frequency	Monthly

3.1.3 Green Hectares		
Description	The Green Hectares factor measures the area when the volume of green infrastructure managed runoff is spread evenly to a 15 mm depth.	
Formula	The green hectares factor (GH) is measured by the formula:	
	$\underline{\text{Green Hectares (GH)} = \frac{\underline{\text{GHMR}}}{\underline{22.0 \text{ Annual Standard}}}$	
	Where,	
	GHMRmeans the area (hectares) when run-off (m3) managed by greeninfrastructure is spread evenly to a 15 mm depth; and	
	4522.0 is the GHMR annual standard for 2022	
	90 is the GHMR annual standard for 2023	
	180 is the GHMR annual standard for 2024	
Benchmark	>= 45 22.0 for 2022, > 90 for 2023 and >180 for 2024	
Definitions	A greened hectare represents a volume of runoff managed by a green infrastructure (GI) or low impact development (LID) practice.	
	<u>GI/LID programs may include storm water storage, bio retention, soils cells, and pocket / small storage.</u>	
	One greened hectare is equivalent to 15mm of managed stormwater from one hectare of developed drainage area of 150m3 of managed stormwater.	
Reporting Frequency	Quarterly	

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<u>3.2 Customer Service Index</u>

Description	The customer service index measures the success of Drainage Services
	programs and policies pertaining to customer service. The index is a
	measure calculated on the basis of four equally weighed components.
Farmerla	The manimum hass value of the sustainer service index is 20.0 hass resints
Formula	The maximum base value of the customer service index is 20.0 base points
	as calculated under the following formula:
	$\underline{\text{Customer Service Index} = 20.0 \text{ x}}_{4} \qquad \underline{\text{SMC} + \text{EDU} + \text{SC} + \text{SOH}}_{4}$
	Where,
	SMC means service maintenance calls factor,
	EDU means emergency dig-ups with service restored factor;
	SC means service connections factor; and,
	SOH means sewer odour hotspots factor.
	20 = points available for this index
	A maximum of 2.0 bonus points is available for the environmental index
	based on the formula.
	The maximum total environmental index points is 22.0.

3.2.1 Service Maintena	ance Calls
Description	The service maintenance calls factor is a measure of the percentage of service maintenance sewer trouble calls resolved within 24 hours.
Formula	The service maintenance calls factor (SMC) is measured by the formula:
	$\frac{\text{Service Maintenance Calls Factor} = \frac{\text{SMCR}}{80.0\%}$ Where,
	<u>SMCR</u> means percentage of service maintenance sewer trouble calls resolved within 24 hours; and
	80.0% is the service maintenance calls factor standard.
Benchmark	<u>≥80.0%</u>
Definitions	The percentage of service maintenance sewer trouble calls resolved within 24 hours (SMCR) is calculated as follows:
	SMCR = 100Total # of Sewer Trouble Work Orders Closed within 24 HoursTotal Number of Sewer Trouble Work Orders
	The start and completion time for each sewer trouble work order is determined as follows:
	Start Timemeans the time when a 311 call request is received, recorded in IVARA and a sewer trouble work order is started
	Completion Time means the time when a crew deactivates a work order in IVARA after resolving the sewer trouble.
Reporting Frequency	Monthly

3.2.2 Emergency Dig-Ups with Service Restored

Description	The emergency dig-ups with service restored factor is a measure of the	
	percentage of emergency dig ups restored within 48 hours from the time	
	the call is referred from Drainage Operations to Drainage Construction as	
	an emergency dig-up.	
<u>Formula</u>	The emergency dig-ups with service restored (EDU) factor is measured by the formula:	
	Emergency Dig-Ups with Service Restored Factor = \underline{EDUR} 98.0%	
	Where,	
	EDUR means the percentage of emergency dig ups restored within 48 hours; and	
	98.0% is the emergency dig-ups with service restored standard.	
Benchmark	<u>≥98.0%</u>	
Definitions	The percentage of emergency dig-ups restored within 48 hour(s) is calculated as follows:	
	$\underline{\text{EDUR} = 100 \text{ x}} \qquad \underline{\text{Number of services restored within 48 hours}} \\ \underline{\text{Total number of emergency dig-up responses}}$	
	Where,	
	Date and time received means the date and time when Drainage Operations informs Drainage Construction of an emergency dig-up.	
	Date and time restored means the date and time that service is restored to the customer. Note: there may still be additional repairs and / or restoration work needed to complete the work that do not impact restoration of service.	
Reporting Frequen	cy Monthly	

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Description	The service connections factor is a measure of the succe	ess in completing
	connection (\leq 50 mm) projects within a predetermined tir	<u>ne frame.</u>
Formula	The service connections factor is measured by the formu-	<u>la:</u>
	$\frac{\text{Service Connections Factor (SC)} = \frac{SC6}{85.09}$	<u>%</u>
	Where,	
	SC6means the percentage of installations of new and common trench water service connec projects completed within 6 weeks; and	<u>z sanitary, storm,</u> ction (≤50 mm)
	85.0% is the service connections standard	
Benchmark	<u>≥85.0%</u>	
Definitions	The service connections average time is measured by the	formula:
	<u>Service Connections Average Time =</u>	<u>t Date – End Date</u> <u>7</u>
	Where,	
	Start Date means the construction ready date; and	
	End Date means the construction completion date	
	The percentage of service connections completed within measured by the formula:	<u>6 weeks (SC6) is</u>
	Service	e Connections
	Service Connections Within 6 Weeks = 100 x	<u>5 Weeks</u> tal Service

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3.2.4 Sewer Odour Ho	3.2.4 Sewer Odour Hotspots	
Description	The sewer odour hotspots factor is a measure of the percentage of sewer	
	odour notspots relative to city wide coverage area.	
<u>Formula</u>	The sewer odour hotspots (SOH) factor is measured by the formula:	
Sewe	r Odour Hotspots Factor = <u>Annual Standard16.7</u>	
	Where,	
	SOHP means the percentage in city wide coverage area of sewer odour hotspots; and	
	15.06.7% is the sewer odour hotspots annual factor standard for 2022	
	is the sewer odour hotspot annual standard for 2023	
	is the sewer odour hotspot annual standard for 2024.	
Benchmark	≤=15.0 16.7 % for 2022, < =14.5% for 2023 and <= 14.0% for 2024	
Definitions	The percentage in city wide coverage area of sewer odour hotspots is calculated using the following formula:	
	$\frac{\text{SOHP} = 100 \text{ x}}{\text{Where,}} \qquad \frac{\text{Area of sewer odour hotspots}}{\text{Total municipality area}}$	
	Area of sewer odour hotspots means the region where the odour report spatial density exceeds a defined threshold of 10 reports per square kilometer; and	
	Total municipality area means Municipal franchise area and will be fixed at the starting period of the performance metric.	
Reporting Frequency	Annually	

3.3 System Reliability and Optimization Index

Description	The system reliability and optimization index is a measure of the performance of Drainage Services. It is calculated on the basis of four equally weighed components.
<u>Formula</u>	The maximum base value of the system reliability and optimization index is 35.0 base points as calculated under the following formula:
	$\frac{BSF + SR + ICRML +}{FPFPI}$ 4
	Where,
	BSFmeans the blocked sewer factor,SRmeans sewer renewal factor;ICRMLmeans the infrastructure condition rating minimum level factor; and
	FPFPImeans the full property flood proofing inspections factor.
	30.0 is the points available for this index.
	A maximum of 3 bonus points is available for the system reliability and optimization index based on the formula.
	The maximum total system reliability and optimization index points is 33.

Description	The Blocked Sewers Factor is a measure of the effectiveness of the
	Drainage Services Preventive Maintenance program which involves
	proactive cleaning and inspection of wastewater sewer mains.
<u>Formula</u>	The blocked sewers factor (BSF) is measured by the formula:
	Blocked Sewers Factor = 2.10
	BSR
	Where,
	BSR means the number of blocked sewers per one hundred (100)
	<u>Kilometers of sanitary and combined sewer pipe; and</u>
	2.10 is the blocked servers factor standard
	2.10 Is the blocked sewers factor standard.
Benchmark	< 2.10
Definitions	Blocked Sewer – blocked sewer mains that caused sanitary and combined
	sewer systems to back up and which required the deployment of equipment
	and labour to clear - regardless of the cause (e.g. roots, greases, debris,
	poor hydraulics or structure). A blocked sewer main may result in sewage
	back up, sewer service interruption or overflow.
	Sanitary Sewer – sewer mains that carry sanitary sewage.
	Combined Server community that community that is made to be the
	<u>Combined Sewer – sewer mains that carry both sanitary and storm sewage</u>
	<u>combined.</u>
	Storm Sewer – sewer mains that carry storm water flow Storm water
	sewer mains are not included in this factor
	sewer mains are not included in this factor.
Reporting Frequency	Monthly

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3.3.2 Sewer Renewal Factor

Description	The Sewer Renewal Factor is a measure of the sewers renewed / relined
	as part of the Neighbourhood Renewal Program, Local Sewer
	Rehabilitation Programjects, and Arterial and Collector Roadway
	Renewal Coordination Program, jects.SIRP Proactive Pipe Relining
	Program, Proactive Service Renewal Program and CORe Large Trunk
	Rehabilitation Program.
Formula	The Sewer Renewal Factor (SR) is measured by the formula:
	$\underline{\text{Sewer Renewal Factor} = } \underline{\underline{\text{SRR}}} \\ \underline{\underline{\text{60.0}}}$
	Where,
	SRRmeans the km of sewers renewed / relined as part of the Neighbourhood Renewal Program, Local Sewer Rehabilitation Projects and Arterial and Collector Renewal Coordination Projects, SIRP Proactive Pipe Relining Program, Proactive Service Renewal Program and CORe Large Trunk Rehabilitation Program.
	60.0 is the Sewer Renewal standard.
Benchmark	$\geq 60.0 \text{ km}$
Definitions	Drainage Neighbourhood Renewal Program – means renewal and/or rehabilitation of Drainage Infrastructure comprised of:
	• main sewers of up to 750 mm in diameter
	Catch Basin leads and Service Laterals, and
	Catch Basin and Manhole repairs
	and is based on a coordination schedule with Transportation or the condition assessment risk ranking priority established by Drainage.
	Local Sewer Rehabilitation program project – means rehabilitation of non-
	emergency main sewers of up to 750 mm identified by Drainage
	Operations routing inspection or through customer complaints.
	Arterial and Collector Roadway Renewal Coordination program ject -
	means rehabilitation of sewers-up to 750 mm, Catch Basin leads, Catch

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Basins and Manholes following the Transportation Arterial & Collector Rehab /Reconstruction program schedules

SIRP Proactive Pipe Relining program - means relining of sanitary and combined pipes in surface ponding areas intended to reduce the risk of basement flooding due to inflow and infiltration.

Proactive Service Renewal program – means renewal of services that have structural and/or maintenance issues but are not in adequate condition for relining.

<u>CORe Large Trunk Rehabilitation program – means renewal of major</u> <u>trunks</u>

Reporting Frequency Monthly

3.3.3 Infrastructure Co	3.3.3 Infrastructure Condition Rating Factor	
Description	The Infrastructure Condition Rating Factor is a measure of the percentage of infrastructure at or above a minimum level of condition rating.	
<u>Formula</u>	The Infrastructure Condition Rating Factor is measured by the formula:	
	$\underline{\text{Infrastructure Condition Rating Factor} = \frac{\underline{\text{ICR}}}{90.0\%}$	
	Where,	
	ICRmeans the percentage of infrastructure assets with a physical condition rating of Very Good, Good or Fair Condition; and	
	90.0% is the infrastructure minimum level of condition standard.	
Benchmark	<u>≥90.0%</u>	
Definitions	<i>Infrastructure Condition Rating (ICR)</i> – refers to the percentage of infrastructure assets with a physical condition rating of Very Good, Good or Fair Condition.	
	Infrastructure Condition Rating is calculated using the following formula:	
	ICR = 100 xTotal replacement value (\$) of physical condition rated assetsICR = 100 xwith a Fair or better condition rating Total replacement value (\$) of physical condition rated assets with all ratings	
	Total replacement value (\$) of physical condition rated assets with a Fair or better condition rating means those assets with a physical condition rating of Very Good, Good or Fair.	
	Total replacement value (\$) of physical condition rated assets with all ratings means those assets with a physical condition rating of Very Good, Good, Fair, Poor or Very Poor.	
Reporting Frequency	Annually	

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3.3.4 Full Property Flo	od Proofing Inspections
<u>Description</u>	The Full Property Flood Proofing Inspection factor measures the number of full flood proofing inspections completed and that include an inspection report provided to the property owner.
	the formula:
	$\frac{Full Property Flood Proofing Inspection}{(FPFPI) =} \frac{FPFI}{750}$ Where, $FPFI$ means the actual number of full property flood proofing
	inspections completed that include an inspection report provided to the property owner; and
	750 is the full property flood proofing inspection standard
Benchmark	<u>≥750</u>
Definitions	<i>Full Property Flood Proofing Inspection</i> – a full flood proofing inspection of a property that results in the development of a property flood proofing report that includes recommended improvements.
Reporting Frequency	Monthly

3.4 Safety Index

Description	The safety index is a measure of the success of programs and the application of policies that maximizes the safety of employees and the public. It is calculated on the basis of four equally weighed components. The combined results of the four components produce the measure of the safety index.
<u>Formula</u>	The maximum base value of the safety index is 15.0 base points and is calculated under the following formula:
	$\frac{\text{Safety Index} = 15.0}{\underline{4}}$
	Where,NMFmeans the near miss reporting factor,WIOFmeans the worksite inspection and observation factor,LTFmeans the lost time frequency factor; andAIFmeans the all injury frequency factor.
	15.0 = points available for this index
	A maximum of 1.5 bonus points is available for the safety index based on the formula.
	The maximum total safety index points is 16.5.

3.4.1 Near Miss Report	ting Factor	
Description	The Near Miss Reporting Factor is a measure of the number of Near Miss and Hazard Identification reports completed each year.	
Formula	The near miss reporting factor (NMF) is measured by the formula:	
	$\frac{\text{Near Miss Reporting Factor} = \frac{\text{NM} + \text{HI}}{750}$	
	Where,	
	NM means the number of near miss reports entered in the ERS system;	
	HI means the number of hazard identification reports entered in the ERS system; and	
	is the near miss reporting standard.	
Benchmark	<u>≥750</u>	
Definitions	Near Miss: An unplanned event, unsafe condition or unsafe action that did not result in contact, injury, illness, or damage - but had the potential to do so.	
	Hazard Identification: An observed potential hazard that did not result	
Reporting Frequency	Monthly	

3.4.2 Work Site Inspections and Observations Factor

Description	The Work Site Inspections and Observations Factor measures the number of work site inspections and observations completed each year.	
<u>Formula</u>	The worksite inspections and observations factor (WIOF) is measured by the formula:	
	Worksite Inspections and Observations Factor= \underline{WIO} 1300	
	Where,	
	WIOmeans the actual number of worksite inspections / observationscompleted per year; and	
	1300 is the worksite inspection standard.	
Benchmark	<u>≥1300</u>	
Definitions	Inspection procedures are as defined by Work Site Inspection Reports and Office Work Site Inspection Reports	
	Observation procedures are as defined by the Safety Track observations process.	
Reporting Frequency	Monthly	

3.4.3 Lost Time Frequ	<u>3.4.3 Lost Time Frequency Factor</u>	
Description	The Lost Time Frequency Factor measures the effectiveness of a safety program as related to disability injuries and illnesses	
Formula	The lost time frequency factor (LTFF) is measured by the formula:	
	$\frac{\text{Lost Time Frequency Factor} = \frac{0.75}{\text{LTFR}}$	
	Where,	
	LTFR means the actual lost time frequency rate; and	
	0.75 is the lost time frequency standard.	
Benchmark	<u><0.75</u>	
Definitions	<i>Lost Time Incident</i> – A work related disability injury or disability illness that results in an employee missing time at work	
	<i>Exposure Hours</i> - The total number of hours employees were exposed to the work site	
	Lost Time Frequency Rate is calculated using the following formula defined in the Canadian Electrical Association Work Injury / Illness Standards:	
	(# Disability Injuries + # Disability Illnesses) x 200,000 <u>Exposure Hours</u> Where 200,000 represents 100 full time employees who work 40 hours per week for 50 weeks	

Reporting Frequency Monthly

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3.4.4 All Injury Freq	uency Rate Factor		
Description	The All Injury Frequency Rate Factor measures the effectiveness of a		
	safety program as related to disability injuries and medical and injuries		
Formula	The all injury frequency factor (AIFF) is measured by the formula:		
	<u>All Injury Frequency Factor = $\frac{4.0}{\text{AIFR}}$</u>		
	Where,		
	AIFR means the actual all injury frequency rate; and		
	4.0 is the all injury frequency rate standard.		
Benchmark	<u>≤4.0</u>		
Definitions	<i>Lost Time Incident</i> – A work related injury or illness that results in an employee missing time at work		
	Medical Aid Injury (MA) - An injury that requires assessment and care by a physician		
	<i>Exposure Hours</i> - The total number of hours employees were exposed to the work site		
	<u>All Injury Frequency</u> - This is based on the total number of Fatalities and Lost-Time Injuries, plus the total number of Medical Treatment Injuries which occurred in the calendar year. The following formula shall be used:		
	(# Fatalities + # Lost-Time Incidents + # Medical Aid Injuries) x 200,000		
-	Exposure Hours		
	Where 200,000 represents 100 full time employees who work 40 hours per week for 50 weeks.		
Reporting Frequency	Monthly		

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4.0 Wastewater Treatment Service Quality

Wastewater Treatment System Service Quality is measured by the results of four indices described in Sections 4.1- 4.4.

Performance under each index is measured independently on a point basis with 100 base points available if the standards in all four areas are achieved. In total, up to 10% additional bonus points for performance above the standard are available. These bonus points are described below within each index.

If Wastewater Treatment Services does not meet the standard, financial penalties are applied to a maximum of \$1,000,000 per annum. If a penalty amount is assessed, that amount is returned to the customers in the form of a rate rebate. The proposed weighting and penalty amounts applicable to each performance category for Wastewater Treatment Services are detailed in the table below.

	<u>r chartles</u>		
_	Performance Category	<u>A</u> <u>Weighting</u>	<u>B</u> <u>Maximum</u> <u>Penalty</u>
<u>1</u>	Water Quality & Environmental Index	<u>45%</u>	<u>\$180,000</u>
<u>2</u>	Customer Services Index	<u>15%</u>	<u>\$60,000</u>
<u>3</u>	System Reliability/Optimization Index	<u>25%</u>	<u>\$100,000</u>
<u>4</u>	Safety Index	<u>15%</u>	<u>\$60,000</u>
	Total	100%	\$400,000

Wastewater Treatment Services Performance Measures Indices and Penalties

For each full point scored below 100 base and bonus points, a penalty of \$27,000 will be assessed to a maximum of \$400,000. There is no reward for performance above 100 base and bonus points. For purposes of these calculations, point amounts will be rounded to the nearest tenth of a point and calculated on a calendar year basis.

<u>Chart 1.0 – Water Quality and</u> Environmental Index

<u>1.1</u>	WELPI Factor	Percentage below limits	26.0%
<u>1.2</u>	Environmental Incident Factor	Number of incidents	<u>5</u>

<u> Chart 2.0 – Customer Service Index</u>

Standard

Standard

<u>2.1</u>	<u>$H_2S - 1$ Hour Exceedances Factor</u>	Number of exceedances	<u>4</u>
<u>2.2</u>	<u>H₂S – 24 Hour Exceedances Factor</u>	Number of exceedances	<u>1</u>
<u>2.3</u>	Scrubber Uptime Percentage Factor	Percentage uptime	<u>96.0%</u>

-	<u>Chart 3.0 - System Reliability and Optimization Index</u>		
<u>3.1</u>	Enhanced Primary Treatment Factor	Percentage in use	<u>94%</u>
<u>3.2</u>	Bio-solids Inventory Reduction	Relative Reduction	<u>1.05</u>
<u>3.3</u>	Energy Efficiency Factor	kWh/ML of effluent	<u>508</u>

_	Chart 4.0 - Safety Index	-	<u>Standard</u>
<u>4.1</u>	Near Miss Reporting Factor	Number of Reports	<u>220</u>
<u>4.2</u>	WorksiteInspectionsandObservations	Number completed	<u>919</u>
<u>4.3</u>	Lost Time Frequency Factor	Frequency / Exposure	<u>0.75</u>
<u>4.4</u>	All Injury Frequency Factor	Frequency / Exposure	1.0

4.1 Water Quality and Environmental Index

Description	The water quality and environmental index measures the success of
	operational processes and procedures designed to manage the quality of
	effluent returned back the North Saskatchewan River and to manage
	adverse environmental impacts. The index is a measure calculated on the
	basis of two equally weighed components.
<u>Formula</u>	The maximum base value of the water quality and environmental index is 45 base points as calculated under the following formula:
	Water Quality and Environmental Index = 45 x WQF + EIF
	2
	Where,

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	WQF means the water quality factor,
	EIF means the environmental incident factor, and
	45 is the points available for this index.
	A maximum of 4.5 bonus points is available for the water quality and environmental index. The maximum total points for the water quality and environmental index is 49.5.
4.1.1 Water Quality	Index
Description	The <i>Water Quality Index</i> is determined by the Wastewater Effluent Limit Performance (WELP) measure which is a measure of the performance of the Wastewater Treatment process at the Gold Bar Wastewater Treatment Plant.
<u>Formula</u>	The water quality index (WQI) is measured by the formula: $\underline{Water Quality Index} =$ $\underline{26.0}$ WELP
	Where,WELPmeans the value of the Wastewater Effluent LimitPerformance, which measures the percentage of the discharge limit for fiveparameters in the Gold Bar wastewater treatment plant's final effluent; and26.0 is the water quality standard.
Benchmark	<= 26.0 YTD
Definitions	WELD - Westewater Effluent Limit Derformance
<u>Reporting Frequency</u>	<u>Monthly</u>
4.1.2 Environmental	Incident Factor

Description	The Environmental Incident Factor the number of incidents that are reportable to the municipal, provincial or federal regulator and that are considered preventable.		
Formula	The environmental incident factor (EIF) is measured by the formula:Environmental Incident 5 Factor =EIRP		
	Where,		
	EIRPmeans the actual number of environmental incidents that are both reportable and preventable; and		
	5 is the environmental incident standard.		
Benchmark	<= 5 YTD		
Definitions	<u>Reportable Incident</u> – one that involves contravention of a municipal, provincial or federal regulation or bylaw, or a spill or release to the environment that is reportable as defined in provincial or federal release reporting criteria.		
	<u>Preventable Incident – one that meets the following criteria:</u>		
	• An investigation of the incident demonstrates a failure to follow regulatory requirements or a documented EPCOR procedure, or		
	• An incident that is a recurrence of a similar reportable incident due to failure to implement corrective action that had been previously identified, or		
	• There is an administrative contravention including failure to notify or report to the regulator in a timely manner. Or to sample and test as required under the Approval to Operate issued by Alberta Environment and Water		
	<u>A reportable and preventable incident is one that is both reportable and preventable according to the above criteria. It is a government reportable incident that could have been prevented if reasonable diligence was exercised by EPCOR</u>		
	If it can be demonstrated that EPCOR took all reasonable measures to prevent the incident from occurring, the incident will not be considered		

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preventable. Mitigating circumstances and external factors (i.e. unpredictable equipment failure, unusual weather conditions, the actions of external parties that are not controllable by EPCOR will be considered in determining if the incident was preventable.

Reporting Frequency Monthly

Description	The customer service index is the measure of three equally weighed
	measure of the customer service index.
Formula	The maximum base value of 15 base points as calculated under the following
	<u>formula:</u>
	$\underline{\text{Customer Service Index} = 15 \text{ x}} \qquad \underline{\text{HS01F} + \text{HS24F} + \text{SUF}}$
	Where,
	HS01F means H2S 1-hour exceedance factor,
	HS24F means H2S 24-hour exceedance factor; and
	SUF means scrubber uptime factor.
	15 is the points available for this index.
	A maximum of 1.5 bonus points is available for the customer service index
	The maximum total customer services index points is 16.5.
<u>4.2.1 H₂S – 1-</u> F	The maximum total customer services index points is 16.5. Hour Exceedance Factor
<u>4.2.1 H₂S – 1-H</u> Description	The maximum total customer services index points is 16.5.Hour Exceedance FactorThe H2S – 1-Hour Exceedance Factor is a measure of the performance of the odour control systems at the Gold Bar Wastewater Treatment Plant.
<u>4.2.1 H₂S – 1-F</u> Description Formula	The maximum total customer services index points is 16.5. Hour Exceedance Factor The H2S – 1-Hour Exceedance Factor is a measure of the performance of the odour control systems at the Gold Bar Wastewater Treatment Plant. The H2S 1-hour exceedance factor (HS01F) is measured by the formula:
<u>4.2.1 H₂S – 1-H</u> Description Formula	The maximum total customer services index points is 16.5.Hour Exceedance FactorThe $H2S - 1$ -Hour Exceedance Factor is a measure of the performance of the odour control systems at the Gold Bar Wastewater Treatment Plant.The H2S 1-hour exceedance factor (HS01F) is measured by the formula:H2S 1-Hour Exceedance Factor = $\frac{4}{(GB1 + BEV1)/2}$
<u>4.2.1 H₂S – 1-F</u> Description Formula	The maximum total customer services index points is 16.5.Hour Exceedance FactorThe $H2S - 1$ -Hour Exceedance Factor is a measure of the performance of the odour control systems at the Gold Bar Wastewater Treatment Plant.The H2S 1-hour exceedance factor (HS01F) is measured by the formula:H2S 1-hour Exceedance Factor = $\frac{4}{(GB1 + BEV1)/2}$ Where,
<u>4.2.1 H₂S – 1-H</u> Description Formula	The maximum total customer services index points is 16.5. Hour Exceedance Factor The $H2S - 1$ -Hour Exceedance Factor is a measure of the performance of the odour control systems at the Gold Bar Wastewater Treatment Plant. The H2S 1-hour exceedance factor (HS01F) is measured by the formula: H2S 1-Hour Exceedance Factor = $\frac{4}{(GB1 + BEV1)/2}$ Where, $GB1$ means the number of exceedances of the 1-hour limit registered at the Gold Bar air quality monitoring station,
<u>4.2.1 H₂S – 1-H</u> Description Formula	The maximum total customer services index points is 16.5.Hour Exceedance FactorThe $H2S - 1$ -Hour Exceedance Factor is a measure of the performance of the odour control systems at the Gold Bar Wastewater Treatment Plant.The H2S 1-hour exceedance factor (HS01F) is measured by the formula:H2S 1-Hour Exceedance Factor = $\frac{4}{(GB1 + BEV1)/2}$ Where,GB1 means the number of exceedances of the 1-hour limit registered at the Gold Bar air quality monitoring station,BEV1 means the number of exceedances of the 1-hour limit registered at the Beverly air quality monitoring station; and

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Benchmark	<= 4 YTD
Definitions	na
Reporting Freque	ency Monthly
<u>4.2.2 $H_2S - 24 H_2$</u>	Hour Exceedance Factor
Description	The <i>H2S</i> – 24-Hour Exceedance Factor is a measure of the performance of the odour control systems at the Gold Bar Wastewater Treatment Plant.
<u>Formula</u>	The H2S 24-hour exceedance factor (HS24F) is measured by the formula:
	<u>H2S 24-Hour Exceedance Factor = $\frac{1}{(GB24 + BEV24) / 2}$</u>
	Where,
	GB24means the number of exceedances of the 24-hour limit registered at the Gold Bar air quality monitoring station,
	BEV24means the number of exceedances of the 24-hour limit registered at the Beverly air quality monitoring station; and
	1 the H2S 24-hour exceedance standard.
Benchmark	<= 1 YTD
Definitions	<u>na</u>
<u>Reporting Freque</u>	ency Monthly
4.2.3 Scrubber U	Jptime Factor
Description	The Scrubber Uptime Factor is a measure of the performance of the odour control systems at the Gold Bar Wastewater Treatment Plant.
Formula	The scrubber uptime factor (SUF) is measured by the formula:
	Scrubber Uptime Factor = <u>Scrubber Uptime Factor = 96%</u>

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	Where,		
	<u>SUP</u>	refers to a scrubber system's uptime or operating time as evidenced by the following component systems operating: a blower introducing foul air to a scrubber, chemical feed systems (2 systems), and a scrubber recirculation system	
	SUP1	is the East Scrubber uptime in hours	
	SUP2	is the West Scrubber uptime in hours	
	SUP3	is the Fermenter Scrubber uptime in hours	
	SUP4	is the EPT Scrubber uptime in hours	
	TTL	is the total hours in a year (for all four scrubbers combined) when scrubbers would be expected to be operating, i.e. foul air is present in the operating areas relevant to a scrubber	
	96%	is the Scrubber Uptime standard	
Benchmark	<= 96% YTL	2	
Definitions	na		
Reporting Frequen	ncy Mont	<u>hly</u>	
4.3 System Reliability an	d Optimization	Index	
Description	The system r	eliability and optimization index is a measure of the	
	the basis of the	hree equally weighed components	
<u>Formula</u>	The maximum base value of the system reliability and optimization index is 25 base points as calculated under the following formula:		
	<u>Sys</u>	tem Reliability Index = 25 x <u>EPTF + BSIRFBUF + EEF</u> <u>3</u>	
	Where, EPTF	means the enhanced primary treatment factor,	

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	BUFBSIRF means bio-solids inventory reduction factormeans biogas
	utilization factor; and
	EEF means the energy efficiency factor.
	25 is the points available for this index.
	A maximum of 2.5 bonus points is available for the system reliability and
	optimization index based on the formula.
	The maximum total system reliability and optimization index points is 27.5.
4.3.1 Enhanced	Primary Treatment Factor
Description	The Enhanced Primary Treatment Factor is a measure of the performance of
Description	the Enhanced Primary Treatment (EPT) process at the Gold Bar Wastewater
	Treatment Plant.
Formula	The enhanced primary treatment factor (EPTF) is measured by the formula:
	EPT%
	Enhanced Primary Treatment Factor = $\frac{94.0\%}{94.0\%}$
	Where
	where,
	EPT% means the percentage of time that the enhanced primary
	influent flow rate exceeds the EPT event threshold; and
	94.0% is the enhanced primary treatment standard.
Benchmark	>= 94.0% YTD
Definitions	EPT Event – A continuous period of time (one or more hours) when total
	effluent flows exceed the EPT Event Threshold.
	EPT Event Threshold – Influent Flow Rate exceeds 420 ML/d
Donosting Enga	Monthly
Keporung r requ	Jency wolding

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4.3.2 Bio-solids Inventory Reduction Factor

Description	The biosolids inventory reduction factor is a measure of the reduction in
	biosolids inventory at the Clover Bar Biosolids Recycling Facility.
Formula	The biosolids inventory reduction factor (BSIRF) is measured by the
	formula:
	Bio solide Inventory Reduction Factor - BSIR
	$\frac{BIO-SONDS INVENTORY Reduction Factor =}{1.05}$
	Where,
	BSIR means the three year average (current year and the prior two
	years) of the ratio of the total dry tonnes of biosolids removed
	deposited in the lagoons, and
	1.05 is the biosolids reduction factor standard.
Benchmark	< 1.05
Definitions	The biosolids inventory reduction percentage (BSIRP) is calculated as
	follows:
	Biosolide Inventory Reduction - Dry tonnes out
	<u>Dry tonnes in</u>
Where,	
	Dry tonnes out - means, the dry tonnes of biosolids transferred from the
	biosolids storage lagoons at the Clover Bar Biosolids Recycling Facility to
	beneficial use programs (e.g. compost or land application).
	Dry tonnes in - means the dry tonnes of biosolids contained in sludge
	transfers from the Gold Bar and Capital Regions wastewater treatment
	Recycling Facility.
	Dry tonnes out - means, the dry tonnes of biosolids transferred from the
	biosolids storage lagoons at the Clover Bar Biosolids Recycling Facility to
	beneticial use programs (e.g. compost or land application).
	Biosolids inventory – means the accumulated biosolids contained in the
	biosolids storage lagoons at the Clover Bar Biosolids Recycling Facility.

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Reporting Frequency Monthly

Biogas Utilization Factor

The biogas utilization factor (BUF) is measured by the formula:

 $\frac{\text{Biogas Utilization Factor} =}{\frac{\text{BGU/(BGU+NGU)}}{60\%}}$

Where,

BGU means the total biogas used in both houses in GJ

NGU means the total natural gas used in GJ

60.0% is the biogas utilization standard.

4.3.3 Energy Efficiency Factor

DescriptionThe Energy Efficiency Factor is a measure of the energy consumed in the
treatment of wastewater at the Gold Bar Wastewater Treatment Plant.

Formula The energy efficiency factor (EEF) is measured by the formula:

 $\underline{\text{Energy Efficiency Factor}} = \frac{\underline{508}}{\underline{\text{EN}} / \underline{\text{ML}}}$

Where,

	EN	means energy used in all wastewater facilities in kWh,		
	ML	means the total volume of wastewater effluent in millions of litres that either receives ultraviolet (UV) treatment or is membrane plant effluent; and		
	508	is the energy efficiency standard.		
Benchmark	>= 508 YTD			
Definitions	na			
Reporting Frequency Monthly				

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4.4 Safety Index

Description The safety index is a measure of the success of programs and the approximation of the success of the succe			
	of policies that maximizes the safety of employees and the public. It is		
	calculated on the basis of four equally weighed components. The combine		
	results of the four components produce the measure of the safety index.		
Formula	The maximum base value of the safety index is 15 base points is calculate		
<u>I of mulu</u>	under the following formula:		
	NMF + WIOF + LTF + AIF		
	<u>Safety Index = 15 x</u> $\underline{4}$		
	Where,		
	NMF means the near miss reporting factor,		
	WIOF means the worksite inspections and observations factor,		
	LTF means the lost time frequency factor; and		
	AIF means the all injury frequency factor.		
	15.0 = points available for this index		
	A maximum of 1.5 bonus points is available for the safety index based on		
	the formula.		
	The maximum total safety index points is 16.5.		
4 4 1 NT NT			
4.4.1 Near Mis	s Reporting Factor		
Description	The Near Miss Reporting Factor is a measure of the number of Near Miss		
	reports completed each year.		
Formula	The near miss reporting factor (NMF) is measured by the formula:		
	NM + HI		
	<u>Near Miss Reporting Factor = $\frac{220}{220}$</u>		
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	Where,	
	NM means the number of near miss reports entered in the ERS system;	
	HImeans the number of hazard identification reports entered in the ERS system; and	
	220 is the near miss reporting standard.	
Benchmark	>= 220 YTD	
Definitions	<u>na</u>	
Reporting Freque	ncy Monthly	
4.4.2 Worksite Ins	spections and Observations Factor	
Description	The Worksite Inspections and Observations Factor measures the number of work site inspections and observations completed each year.	
<u>Formula</u>	The worksite inspections and observations factor (WIOF) is measured by the formula:	
	Worksite Inspections and Observations Factor = \underline{WIO} 919	
	Where,	
	WIOmeans the actual number of worksite inspections and observations completed per year; and	
	919 is the worksite inspection standard.	
Benchmark	>= 919 YTD	
Definitions	Inspection procedures are as defined by Work Site Inspection Reports and Office Work Site Inspection Reports	
	Observation procedures are as defined by the Safety Track observations process.	

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Reporting Frequency Monthly

4.4.3 Lost Time Frequency Factor

Description	The Lost Time Frequency Factor measures the effectiveness of a safety		
	program as related to disability injuries and illnesses		
Formula	The lost time frequency factor (LTFF) is measured by the formula:		
	$\frac{\text{Lost Time Frequency Factor} = \frac{0.75}{\text{LTFR}}$		
	Where,		
	LTFR means the actual lost time frequency rate; and		
	0.75 is the lost time frequency standard.		
Benchmark	<= 0.75 YTD		
Definitions	<i>Lost Time Incident</i> – A work related disability injury or disability illness that results in an employee missing time at work		
	Exposure Hours - The total number of hours employees were exposed to the work site		
	Lost Time Frequency Rate is calculated using the following formula defined in the Canadian Electrical Association Work Injury / Illness Standards:		
	<u>(# Disability Injuries + # Disability Illnesses) x 200,000</u> <u>Exposure Hours</u>		
Reporting Frequency Monthly			
4.4.4 All Injury Fre	equency Factor		
Description	The All Injury Frequency Rate Factor measures the effectiveness of a safety program as related to disability injuries and medical aid injuries		
<u>Formula</u>	The all injury frequency factor (AIFF) is measured by the formula:		

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	<u>All Injury Frequency Factor = $\frac{1.0}{\underline{AIF}}$</u>			
	Where,			
	AIF means the actual all injury frequency rate; and			
	1.0 is the all injury frequency rate standard.			
Benchmark	<u><= 1.0 YTD</u>			
Definitions	Lost Time Incident – A work related injury or illness that results in an employee missing time at work			
	<u>Medical Aid Injury (MA)</u> - An injury that requires assessment and care by a physician			
	<i>Exposure Hours</i> - The total number of hours employees were exposed to the work site			
	<u>All Injury Frequency</u> - This is based on the total number of Fatalities and Lost-Time Injuries, plus the total number of Medical Treatment Injuries which occurred in the calendar year. The following formula shall be used:			
-	(# Fatalities + # Lost-Time Incidents + # Medical Aid Injuries) x 200,000 Exposure Hours			
	Where 200,000 represents 100 full time employees who work 40 hours per week for 50 weeks.			
<u>Reporting Frequency</u>	<u>Monthly</u>			

For the period January 1, 2018 — December 31, 2019, EWSI shall report annually on its performance as measured by the metrics set out below:

	Index	Measure	2018	2019
	Metric		Target	Target
1	Water Quality and Environmental Index			
2	Edmonton Watershed Containment Index Score	Index Score	6.9	6.9
3	Total Loading TSS	Kg/Year	50,000	50,000
4	Customer Service Index			
5	Emergencies Responded to Within 2 Hours	Percentage	87.0%	87.0%
6	Number of Blocked Mainline Sewers	#/100 km Length	2.1	2.2
7	Mature Neighbourhoods at 1:100 Service Level	Percentage	16.0%	16.0%

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8	Odor Complaints	# of Complaints	Reduction from	Reduction from
	•	*	Previous Year	Previous Year
9	Reliability & Optimization Index			
10	Pipe Capacity Rating - Sanitary	Percentage @2/B or Better	96.0%	96.0%
11-	Pipe Capacity Rating - Storm	Percentage @2/B or Better	50.0%	50.0%
12	Pipe Capacity Rating Combined Sewer Overflow	Percentage @2/B or Better	80.0%	80.0%
13	Infrastructure at or Above the Minimum Level of Condition Rating	Percentage	90.0%	90.0%
14	Capital (as rehabilitation) Re-invested Compared to Total System Replacement	% Reinvestment	0.81%	0.81%
15	Safety Index			
16	Employee Engagement (survey every 2 years)	Survey Score	70	n/a
17	Employee Turnover (excluding retirements)	% per 100 FTE	6.0%	6.0%
18	Lost Time Frequency Factor	Freq./exposure	0.5	0.5

2.05.0 Non-Routine Adjustments

Non-routine adjustments are, by their nature unusual, significant in size or nature and beyond the scope of control of EWSI. Requests for non-routine adjustments will be considered for each of Stormwater, and Sanitary Utility Services and Wastewater Treatment Services and can include either a positive or a negative adjustment.

Costs resulting in an annual adjustment to EWSI's total revenue requirement for the Sanitary and Stormwater Utilities of up to \$500,000 are not eligible for approval as a non-routine adjustment. Costs resulting in either an annual adjustment to EWSI's total revenue requirement for the Sanitary and Stormwater Utilities of less than \$3 million but either greater than \$500,000 or greater than \$1 million cumulatively are eligible for consideration and approval by the City Manager as a non-routine adjustment. Costs resulting in an annual adjustment to EWSI's total revenue requirement for the Sanitary and Stormwater Utilities equal to or greater than \$3 million are eligible for consideration and approval by City Council. Review of the non-routine adjustment application will consider the projected return on equity.

If EWSI anticipates making a request for one or more non-routine adjustments to take effect on January 1, 2023, 19 January 1, -2024 or January 1, 20250, -2021 or 2022 (the Rate Adjustment Year) EWSI will on or before September 1 of the calendar year immediately preceding the Rate Adjustment Year submit its request for non-routine adjustments to the City Manager, and will include with such request sufficient information to enable the City Manager / City Council to evaluate the request. If after receiving the submission, the City Manager / City Council is satisfied that the non-routine adjustments should be included in the Sanitary or Stormwater variable rate calculated in accordance with this bylaw, the City Manager will issue a confirmation letter on or before October 15 confirming

that the non-routine adjustments will be included in the Sanitary and Stormwater rates to take effect on the January 1st next following.

All amounts approved as non-routine adjustments are approved and funded on an interim basis and shall be charged to EWSI's Adjustment Deferral Account (Drainage or Wastewater) as applicable. EWSI shall, within a reasonable time frame following completion of the project funded by the non-routine adjustment, prepare a final true up of the non-routine adjustment funding based on actual costs. Where a non-routine adjustment is very significant in size, it may be charged to the Drainage Adjustment Deferral Account. EWSI will determine a reasonable time frame over which to recover/credit the balance of the account. Carrying costs will be calculated on the Drainage Adjustment Deferral Account balance.

The rate impact of non-routine adjustments will be calculated and added to the <u>variable rateflat or fixed</u> charge for either Sanitary or Stormwater Utility Charges, as applicable.

2.1<u>5.1</u> Changes to Legislation, Regulation or Taxes

In the event there is a change to: legislation, regulation, bylaws, policy order or directive affecting EWSI's operations, including the common law and the law of equity; rates of tax or other mandatory amounts payable by EWSI to any level of government; the status of EWSI under existing legislation or the application of existing legislation to EWSI; then costs arising from any such event will be considered as non-routine.

2.25.2 Consequences of Force Majeure

Non-routine adjustments include any costs occasioned by Force Majeure events that are not recovered under a policy of insurance. For purposes of non-routine adjustments under this Schedule 3, events or circumstances of Force Majeure include: acts of God, strikes, lockouts or other industrial disturbances, acts of the Queen's enemies, wars, blockades, insurrections, riots, epidemics, landslides, lightning, floods, earthquakes, explosions, fires, civil disturbances, mechanical breakdowns, regulatory requirements or approval conditions or other acts or interventions of any kind by federal, provincial, state or local governments or any of their agencies or boards, the order or direction of any court, and any other causes whether of the kind herein enumerated or otherwise, not within the reasonable control of EWSI and which by the exercise of reasonable diligence and at a reasonable cost EWSI is unable to prevent or overcome.

2.35.3 Deterioration of Drainage or Wastewater Treatment Systems

If there is significant deterioration to the Drainage System <u>or Wastewater Treatment</u> facilities, beyond reasonable projections, remediation costs will be considered as non-routine. <u>Without limiting the foregoing, these circumstances may include unanticipated asset failure or deterioration requiring immediate repair or remediation.</u>

2.45.4 Customer – initiated or City – initiated System Expansion

Costs incurred to create significant Sewerage System <u>or Wastewater Treatment facilities</u> expansion as a result of increases to the size of EWSI's Customer base and/or increased demand by Customers or the City for Drainage <u>or Wastewater Treatment</u> Services, beyond reasonable projections, will be considered as non-routine.

2.55.5 City - initiated Relocations of Drainage Assets

Costs incurred to effect significant Sewerage System relocations, permanent or temporary moves or removals as a result of City requests will be considered as non-routine.

2.65.6 Franchise Agreement

If there is an amendment to the Drainage Services Franchise Agreement <u>or the Wastewater Treatment</u> <u>Franchise Agreement</u> affecting <u>drainage Stormwater or sanitary</u> rates <u>or wastewater treatment rates</u>, the resultant impacts on the <u>drainage Stormwater</u>, <u>sanitary</u> and <u>or wastewater treatment</u> rates will be deemed to be non-routine adjustments.

2.7<u>5.7</u> City Initiatives

Costs incurred to comply with City directed initiatives such as, and without limiting the foregoing, environmental initiatives or projects connected with accelerated flood mitigation will be deemed to be non-routine adjustments.

2.8<u>5.8</u> Flood Mitigation

Costs incurred to implement accelerated flood mitigation projects or initiatives will be considered as non-routine.

5.9 Grant Funding

Cost reductions to the approved revenue requirement resulting from the receipt or recognition of approved grants will be considered as a negative non-routine adjustment.

3.0<u>6.0</u>Off-Ramp

This performance-based <u>d</u>-Drainage and wastewater treatment regulation can be terminated with the mutual consent and agreement of EWSI and the City.

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In the event of termination of this Performance-Based Regulation Plan, the balance of the Adjustment Deferral Account must be cleared within a one-year period from the date of termination.

4.07.0 Reporting and Filing Requirements

On December 1st <u>March 1st</u> of the year following the reporting year (<u>January 1 – December 31</u>) (October 1 – September 30), EWSI will file with its regulator, the City, an *Annual Drainage and* <u>Wastewater Treatment</u> Rate Filing. The filing will contain three <u>five</u> parts:

- An audit report as outlined in Schedule 4, if rates are adjusted pursuant to Article 4 herein;
- Rate Sheets The rates for each calendar year as outlined in Schedule 4; and
- Drainage Service Quality Results A report on EWSI's performance related to service quality metrics.
- <u>Wastewater Treatment Service Quality Results the results of each of the components of the wastewater treatment service quality indices.</u>
- <u>Consumption Deferral Account Report</u>

If rates are adjusted pursuant to Article <u>54.0</u>, the non-routine adjustment clause, an accountant will review the *Annual Drainage <u>and Wastewater Treatment</u> Rate Filing*, conduct an audit and prepare an audit report in accordance with the recommendations contained within Section 5805 of the Canadian Institute of Chartered Accountants HandbookCanadian generally accepted auditing standards. The audit report will address whether the drainage rates Stormwater, sanitary and the wastewater treatment rates are calculated and presented in accordance with the requirements of this bylaw. The audit reports will be prepared by EPCOR Utilities Inc.'s Internal Audit department.

The filing will be submitted to the City Manager. The City Manager will review the filing and, if appropriate, accept it on or before December 15th as applicable. The filing, and the City Manager approval, will be posted on the EWSI website and copies will be available at the business office of EWSI.

4.1<u>7.1</u> Rate Sheets

The Annual Drainage and Wastewater Treatment Rate Filing will set out the rate forecasts for Stormwater and Sanitary Utility and Wastewater Treatment and will set out the service fees and charges for each calendar year. The rates will be calculated in accordance with this bylaw.

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4.27.2 Drainage and Wastewater Treatment Service Quality Results

The Annual Drainage and Wastewater Treatment Rate Filing will contain the results of the drainage and wastewater treatment services quality measures, and the resulting financial penalty, if any, as set out in this Bylaw.

For the period January 1, 2018 December 31, 2019 The *Annual Drainage Rate Filing* will contain a report on the drainage system service quality measures for the purpose of tracking and reporting on performance. There will be no financial penalty related to performance metrics.

4.37.3 Consumption Deferral Account

The Annual Drainage and Wastewater Treatment Rate Filing will contain a report showing the annual variance between EWSI's water consumption forecast and actual consumption for the previous calendar year.

Schedule 4

Pro-forma Annual Drainage Rate and Wastewater Treatment Rate Filing

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Stormwater Utility Charges

January 1, $20\lambda\lambda$ to December 31, $20\lambda\lambda$

Applicable To all domestic service customers within the city of Edmonton.

Stormwater utility charges are levied on each premises and calculated based on a monthly rate using the following formula:

A is:	-	the area of premises (m ²), and the proportion of building lot area attributable to each unit for multiple units sharing a single building or property
I is	-	the development intensity factor of 1.0, except for properties where owners have demonstrated that they contribute significantly less stormwater per m^2 to the City's sewerage system during rainfalls than other similarly zoned properties by making an application for a reduction in the intensity development factor pursuant to this bylaw.

R is - the runoff coefficient based on the zoning of the premises:

R	Zoning
<u>0.20</u> 0.10	A, AG, RR
<u>0.20</u>	<u>A, RR</u>
0.30	AP, US (schools)
0.50	RF1, RF2, RF3, RF4, RMH, IH, MA, AGU
0.65	RSL, RF5, RF6, RA7, RPL
0.75	RA8, US (except schools), PU
0.90	RA9, RMX, CNC, CSC, CB1, CHY, CO, IB, IM, AGI, DC
0.95	CB2, CMX

rate is:

\$ \lambda lambda lambda

Sanitary Utility Charges

January 1, 20 $\lambda\lambda$ to December 31, 20 $\lambda\lambda$

Applicable To all domestic service customers within the city of Edmonton.

Sanitary utility charges are calculated and levied on each premises on a monthly basis and are comprised of both:

(a) a Flat Monthly Service Charge based on the meter size for the premises according to the following rates; and

Meter Size	Flat Monthly Service Charge
16mm	\$λ
20mm	\$λ.
25mm	\$λ
40mm	\$λ
50mm	\$λ
75mm	\$λ
100mm	\$λ
150mm	\$λ
200mm	\$λ
250mm	\$λ
300mm	\$λ
400mm	\$λ
500mm	\$λ

- (b) a variable monthly charge based on the rates below for monthly metered:
 - i. water consumption for the premises;
 - ii. sewer discharge for a premises on which a sewer meter has been installed in accordance with this bylaw; or
 - iii. water consumption for the premises as discounted by the application of a utility credit as approved in accordance with this bylaw.

Premises	Rate per m ³
All premises (except large wholesale)	\$λ
Large Wholesale* with Collection System	\$λ

* Large Wholesale means a premises designated as such by EWSI in accordance with this bylaw.

Application Fees

January 1, 20 $\lambda\lambda$ to December 31, 20 $\lambda\lambda$

Application Type	20λλ
Application to release matter	\$λ
Application to approve a compliance program	\$λ
Records search	\$λ
Application for sewer metering approval	<u>\$-</u> λ
Application for reduction in stormwater utility intensity credit	
Initial Application	\$λ
Renewal application	\$λ
development factor	—
Application for sanitary utility credit	\$λ
Application for large wholesale designation	<u>\$-</u> λ

Sanitary Sewer Trunk Charges

January 1, 20 $\lambda\lambda$ to December 31, 20 $\lambda\lambda$

Applicable To all owners of a premises abutting an EWSI or City right-of-way in which there is a sanitary or combined sewer, the sanitary sewer trunk charge shall be levied when a development permit is issued for development, redevelopment, or renovation on the premises but if no development permit is required, when a building permit is issued for development, redevelopment, or renovation on the premises or when an application is made for sewer service to the premises.

For the purpose of calculating the sanitary sewer trunk charge, "secondary suite", "garden suite", and "garage suite", as well as reference to "use classes", have the same meaning as defined by the City of Edmonton Zoning Bylaw, Bylaw 12800, as amended.

Dwelling unit means a self-contained room or rooms with sleeping and cooking facilities, as defined in the City of Edmonton Zoning Bylaw, Bylaw 12800, as amended.

Residential means a premises used primarily for domestic purposes, where no more than four dwelling units are metered by a single water meter and the meter size to the premises is not greater than 50mm.

Sanitary sewer trunk charges are calculated as follows:

(a) For development, redevelopment, or renovation of premises for residential use classes:

Dwelling	20 λλ Fee
1-2 dwelling units, excluding secondary suites, garden	\$λ
suites, or garage suites	
2 dwelling units where one unit is a secondary suite, garden	\$λ
suite, or garage suite	
3 or more dwelling units	\$λ
Commercial	\$λ
Industrial	\$λ
Institutional	\$λ

Notwithstanding the above, if a sanitary sewer trunk charge is levied on premises as a result of the redevelopment or renovation of premises, the sanitary sewer trunk charge will be calculated using the following formula:

Rate Sheet 4

S	anitary sewer trunk charge = $A - B$
A is: -	the sanitary sewer trunk charge that would have been levied based on the above fees;
B is: -	 the sanitary sewer trunk charge previously levied and paid for the premises prior to the redevelopment or renovation on the premises; or if the redevelopment or renovation of the premises is for residential use classes, then the sanitary sewer trunk charge that would have been paid had a sanitary trunk charge been levied with respect to the development that existed on the premises prior to the date of the redevelopment or renovation. if the result is a negative figure, the sanitary sewer trunk charge will be deemed to be \$0

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Hauled Wastewater

January 1, $20\lambda\lambda$ to December 31, $20\lambda\lambda$

The fee for hauled wastewater is calculated based on vehicle size:

20 λλ Fee	λ per axle, excluding the first steering axle

If the hauled wastewater contains settleable solids in a concentration greater than 100 mL/L, the hauled wastewater fee is double the amount per axle indicated in the table above.

Missed Appointment Fees

January 1, $20\lambda\lambda$ to December 31, $20\lambda\lambda$

To all customers who do not keep a scheduled appointment with an EWSI representative

Missed Flood Assessment Appointment Fee	<u>\$ λ</u>
Missed Obstruction Removal Appointment Fee	<u>\$ λ</u>

No-Access Fee

January 1, $20\lambda\lambda$ to December 31, $20\lambda\lambda$

To all Customers who request EWSI to investigate sewer trouble but fail to provide access to the sanitary cleanout as required by EWSI's Drainage Services Guidelines.

No-Access Fee	<u>\$ λ *</u>	
*This is fee is subject to waiver or reimbur	sement if the Customer provides access to the sanitary	cleanout
as required by EWSI's Drainage Services	Guidelines within 30 days of the initial investigation re	quest.

Investigation Fee

January 1, $20\lambda\lambda$ to December 31, $20\lambda\lambda$

To all Customers who request EWSI to investigate sewer trouble where the result of the investigation indicates that the sewer trouble is caused by a private plumbing issue.

Investigation Fee	λ for second and subsequent appointments
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Commercial Wastewater Treatment Service

Applicable	To all commercial, industrial and institution	nal customers within the city of					
	Edmonton which are serviced by or con	nnected to the City's sewerage					
	system.						
	To all customers not otherwise define	ed as Residential Wastewater					
	Treatment Service customers.						
Rates	Fixed Monthly Service Charge	λ per month					
	Consumption Charge *						
	$0 \text{ m}^3 - 10,000.0 \text{ m}^3$	$\lambda \text{ per } \text{m}^3$					
	$10,000.1 \text{ m}^3 - 100,000.0 \text{ m}^3$	$\lambda \text{ per } \text{m}^3$					
	>100,000 m ³	$\lambda \text{ per } \text{m}^3$					
	* Consumption is based on water meter readings unless otherwise						
approved by EWSI and the City.							
Effective Dates	These rates effective April 1, 20λλ to Marc	ch 31, 20λλ are subject to change					
	in future years under the terms of this byla	W.					

Wastewater Overstrength Surcharges

 Applicable
 Applies to a customer who releases wastewater to the sewer system that contains one or more constituents that exceed the concentration indicated herein.

Rates:

Wastewater Overstrength Surcharge

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The Overstrength surcharge, applied to each m³ of water consumed, for each kilogram of surchargeable matter per m³ of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
a) λ for Biochemical Oxygen Demand (BOD)	300 mg/L
b) λ for Chemical Oxygen Demand (COD)	600 mg/L*
c) λ for oil and grease	100 mg/L
d) λ for phosphorous	10 mg/L
e) λ for suspended solids, and	300 mg/L
f) \$λ for total kjeldahl nitrogen (TKN)	50 mg/L

* Or twice the BOD concentration in the wastewater, whichever is greater.

Wastewater Additional Overstrength Surcharge

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The Additional Overstrength Surcharge, applied to each m³ of water consumed, for each kilogram of surchargeable matter per m³ of wastewater that exceeds the concentration indicated for that matter shall be:

	Concentrations Above:
a) λ for Biochemical Oxygen Demand (BOD)	3,000 mg/L
b) λ for Chemical Oxygen Demand (COD)	6,000 mg/L*
c) λ for oil and grease	400 mg/L
d) λ for phosphorous	75 mg/L
e) λ for suspended solids, and	3,000 mg/L
f) λ for total kjeldahl nitrogen (TKN)	200 mg/L

* Or twice the BOD concentration in the wastewater, whichever is greater.

Effective DatesThese rates effective April 1, 20λλ to March 31, 20λλ are subject to change
in future years under the terms of this bylaw.

Customer Rebate for Wastewater Treatment Services

Applicable	To all metere	ed customer	s within	the city of	of Edmo	onton	in the	ever	nt that the
	Wastewater	Treatment	Service	Quality	does	not	meet	the	standard
	performance	level.							

Customer Rebate	
applied to the Fixed Monthly Service Charge	
Residential Wastewater Treatment Service	<i>د</i> ۶
Commercial Wastewater Treatment Service	\$λ \$λ
-	Customer Rebate applied to the Fixed Monthly Service Charge Residential Wastewater Treatment Service Commercial Wastewater Treatment Service

Effective DatesThe total penalty for the year will be applied as a rebate to customer
wastewater treatment bills in the year immediately following the
performance year.

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Pro-Forma Auditor's Report

AUDITOR'S REPORT ON RATE SHEETS 1, 2, 3, 4, and 5

To the Senior Vice President responsible for Drainage Services, EPCOR Water Services Inc.

We have audited the rates for flat monthly service charges, variable charges, and service fees and charges included in Rate Sheets 1, 2, 3, 4, and 5 (hereinafter referred to as the "Rate Sheets") of EPCOR Water Services Inc. ("EWSI") for the 20xx Annual Drainage Rate Filing calculated in accordance with City of Edmonton Bylaw 18100 EPCOR Drainage Services Bylaw. <u>EWSI management is responsible for the preparation and fair presentation of the financial information in the Rate Sheets. This financial information is the responsibility the management of EWSI. Our responsibility is to express an opinion on this financial information based on our audit.</u>

We conducted our audit in accordance with Canadian generally accepted auditing standards and in conformance with the International Standards for the Professional Practice of Internal Auditing. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial information contained in the Rate Sheets is free of material misstatement. Such an audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the Rate Sheets.

In our opinion, the Rate Sheets for the 20xx Annual Drainage Rate Filing present fairly, in all material respects, the rates for flat monthly service charges, variable charges and service fees and charges effective January 1, 20xx to December 31 20xx, calculated in accordance with City of Edmonton Bylaw 18100 EPCOR Drainage Services Bylaw.

It is understood that this report has been prepared to facilitate EWSI's reporting as required by Bylaw 18100 and it is not to be referred to or relied upon for any other purpose.

(signed)..... Chartered Professional Accountants

City Date



2000 – 10423 101 St NW, Edmonton, Alberta T5H 0E8 Canada epcor.com

July 27, 2021

Mr. Barry McNabb Director, Utility Regulation Financial and Corporate Services Department City of Edmonton

Dear Mr. McNabb:

Re: EPCOR Water Services Inc. 2022-2024/2026 PBR Compliance Application

1.0 INTRODUCTION

EPCOR Water Services Inc. ("EWSI") hereby submits its 2022-2024/2026 PBR Compliance Application. EWSI has made amendments to the EPCOR Water Services Bylaw 19626 and the EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 ("PBR Bylaws") in accordance with motions issued by the City of Edmonton Utility Committee on July 9, 2021. The following seven attachments, along with this letter, comprise EWSI's 2022-2024/2026 PBR Compliance Application:

- 1. Revised PBR Bylaw 19626 and Schedules (clean version)
- 2. Revised PBR Bylaw 19626 and Schedules (black-lined version compared to Bylaw 17698)
- 3. Revised PBR Bylaw 19627 and Schedules (clean version)
- 4. Revised PBR Bylaw 19627 and Schedules (black-lined version compared to Bylaw 18100)
- 5. Revised Water Financial Schedules
- 6. Revised Wastewater Treatment Financial Schedules
- 7. Revised Drainage Services Financial Schedules

The sections that follow include a summary of the Utility Committee's motions issued July 9, 2021 and EWSI's explanations of how it is addressing the motions (Section 2.0); a summary of the impacts on EWSI's revenue requirements for the 2022-2024/2026 PBR terms (Section 3.0); revised average customer bill tables for the 2022-2024/2026 PBR terms (Section 4.0); and additional proposed Bylaw amendments to reflect minor corrections (Section 5.0).

2.0 UTILITY COMMITTEE MOTIONS

On July 9, 2021 the Utility Committee issued the following two motions:

That Administration work with EPCOR to bring forward amendments to the applicable schedules to EPCOR Water Services Bylaw 19626 and EPCOR Drainage Services and Wastewater Treatment Bylaw 19627 to reflect the following:

- 1. The adjustments noted by EPCOR Water Services Inc. in its response to the City of Edmonton PBR review reports (page 6, Attachment 3 of FCS00627) with respect to:
 - a) reduced debt costs in the amount of \$3.7 million; and
 - *b)* the reimbursement to customers for the capitalization of valve casings and service box replacements in the amount of \$5.2 million.
- 2. A deferral account for water consumption for each of Water Services, Wastewater Treatment and Drainage Services that would be accumulated during the 2022-2026 and 2022-2024 PBR terms and included in customer rates in each of the next PBR terms through a special rate adjustment.
- 3. A Return on Equity for Water Services for 2022-2026 and for Wastewater Treatment for 2022-2024 of 9.89% be reduced to 9.64% as a reflection of the risk reduction of the consumption deferral account (with no change to the requested Return on Equity for Drainage Services contained in the rates application).
- 4. An Efficiency Factor for Drainage Services for the 2022-2024 Performance Based Rates term of 0.50%.
- 5. That all non-routine adjustments applied for by Water Services, Wastewater Treatment and Drainage Services during the 2022-2026 and 2022-2024 Performance Based Rates terms be charged to the Adjustment Deferral Accounts. A two-step approach may be followed whereby EPCOR Water Services Inc. would receive interim approval and funding for the proposed adjustment with a final true up of funding being completed based on actual costs.

And

That Administration work with EPCOR to bring forward reports prior to the next Performance Based Rates term for Drainage Services and Wastewater Treatment effective April 1, 2025, providing further background and the appropriate regulatory treatment for the following items:

- 1. Improved disclosure of changes in accounting and capitalization policies and treatment;
- 2. Reporting the size of the workforce including actual and forecast full-time equivalents;
- 3. A review of how long-term debt interest rates are set for EPCOR Water Services Inc.; and
- 3. A review of the performance measures to ensure they are increasingly stringent and challenging over time.

Prior to the next PBR term, EWSI will review each of the items identified in the second motion and provide its analysis and recommendations to Utility Committee

EWSI has made the following adjustments to the applied-for PBR Bylaws and corresponding financial schedules in accordance with the first motion issued by the Utility Committee:

2.1.1 Debt Costs

In accordance with the Utility Committee motion, EWSI has reduced debt costs by \$3.7 million for determining both the Water and Wastewater Treatment rates for the 2022-2026 and 2022-2024 PBR terms respectively. This revision to debt costs is reflected in the revised Water and Wastewater Treatment Financial Schedules (Attachments 5 and 6 to this Compliance Application), specifically Schedule 14-1 and Schedule 17-3.

2.1.2 Valve Casings and Service Box Replacement Capitalizations

In accordance with the Utility Committee motion, EWSI has reduced costs by \$5.2 million for determining the Water rates for the 2022-2026 PBR term. This reimbursement is reflected in the revised Water Financial Schedules (Attachments 5 to this Compliance Application), specifically Schedule 13-1.

2.1.3 Deferral Account

In accordance with the Utility Committee motion, EWSI will ensure that an appropriate tracking and reporting mechanism is developed to track all variances of consumption from the forecast contained in the PBR applications. The variance of actual to forecast, either positive or negative, will be reflected in the next PBR applications as a special rate adjustment. EWSI has added the following reporting and filing requirements to Bylaw 19626 (Schedule 3, Section 6) and Bylaw 19627 (Schedule 3, Section 7):

Consumption Deferral Account

The Annual Water Rate Filing will contain a report showing the annual variance between EWSI's water consumption forecast and actual consumption for the previous calendar year.

Consumption Deferral Account

The Annual Drainage and Wastewater Treatment Rate Filing will contain a report showing the annual variance between EWSI's water consumption forecast and actual consumption for the previous calendar year.

2.1.4 Return on Equity

In accordance with the Utility Committee motion, EWSI has applied a 9.64% (9.89% less 0.25%) return on equity for determining both the Water and Wastewater Treatment rates for the 2022-

2026 and 2022-2024 PBR terms respectively. This revision to the return on equity is reflected in the revised Water and Wastewater Treatment Financial Schedules (Attachments 5 and 6 to this Compliance Application), specifically Schedule 14-1.

2.1.5 Drainage Services Efficiency Factor

In accordance with the Utility Committee motion, EWSI has applied a 0.50% efficiency factor for determining Drainage Services rates for the 2022-2024 term. Refer to revisions in Bylaw 19627, Schedule 3, Sections 1.1 - 1.3 and Section 2.2.

2.1.6 Non-Routine Adjustment Mechanisms

The PBR Bylaws have been updated to include a non-routine adjustment mechanism as defined by the motions. No adjustments to the current application's financial schedules have been made as the impact of the non-routine adjustment mechanism will only be reflected in the next PBR terms. The following provisions have been added to Bylaw 19626, Schedule 3, Section 4 and to Bylaw 19627, Schedule 3, Section 4:

All amounts approved as non-routine adjustments are approved and funded on an interim basis and shall be charged to EWSI's Adjustment Deferral Account (Water). EWSI shall, within a reasonable time frame following completion of the project funded by the nonroutine adjustment, prepare a final true up of the non-routine adjustment funding based on actual costs.

All amounts approved as non-routine adjustments are approved and funded on an interim basis and shall be charged to EWSI's Adjustment Deferral Account (Drainage or Wastewater) as applicable. EWSI shall, within a reasonable time frame following completion of the project funded by the non-routine adjustment, prepare a final true up of the non-routine adjustment funding based on actual costs.

3.0 REVISED REVENUE REQUIREMENTS

The combined impact of the above noted adjustments results in reductions to EWSI's forecast revenue requirement for each of Water, Wastewater Treatment and Drainage Services' Sanitary and Stormwater Utilities. Tables 3.0-1, 3.0-2, 3.0-3 and 3.0-4 present the revised forecast revenue requirements for the 2022-2024/2026 PBR terms. The 2021 approved (2021D) and 2021 forecast (2021F) amounts are provided for information.

Table 3.0-1 Forecast In-City Water Revenue Requirement (Revised Table 1.5-1 and 1.5-2 from Water PBR Application) 2022-2026

(\$ millions)

		А	В	С	D	E	F	G
	Cost Component	2021D	2021F	2022F	2023F	2024F	2025F	2026F
1	Operating Costs	101.7	94.4	95.4	97.6	99.3	100.7	102.7
2	Franchise Fee	16.9	15.5	16.8	17.9	18.8	19.6	20.5
3	Subtotal: Operating Costs	118.6	109.8	112.2	115.5	118.1	120.3	123.2
4	Depreciation Expense	33.3	35.8	38.9	41.3	44.3	46.4	47.7
5	Interest Expense	34.8	32.2	33.2	33.7	32.8	32.0	31.9
6	Return on Equity	49.0	41.7	51.3	52.9	54.8	55.7	55.7
7	Revenue Requirement before Revenue Offsets	235.7	219.5	235.6	243.5	250.0	254.5	258.5
8	Less: Revenue Offsets	(5.2)	(5.2)	(6.3)	(6.4)	(6.5)	(6.6)	(6.7)
9	Revenue Requirement (Jul 23, 2021)	230.5	214.3	229.4	237.2	243.5	247.9	251.8
10	Revenue Requirement (Feb 16, 2021)	230.5	214.3	232.3	240.6	247.1	251.1	255.8
11	Reduction in Revenue Requirement	-	-	(3.0)	(3.4)	(3.6)	(3.2)	(4.0)

Table 3.0-2 Forecast Wastewater Treatment Revenue Requirement (Revised Table 1.5-1 from Wastewater Treatment PBR Application) 2022-2024 (\$ millions)

		А	В	С	D	E
	Cost Component	2021D	2021F	2022F	2023F	2024F
1	Operating Costs	50.6	46.8	60.8	67.2	66.5
2	Franchise Fee	9.8	8.9	10.0	10.6	10.8
3	Subtotal: Operating Costs	60.4	55.7	70.8	77.7	77.3
4	Depreciation and Amortization	20.0	20.7	23.2	23.8	26.4
5	Return on Rate Base Financed by Debt	14.5	12.0	12.3	12.3	13.6
6	Return on Rate Base Financed by Equity	21.7	23.2	21.1	21.2	23.2
7	Revenue Requirement before Revenue Offsets	116.7	111.6	127.4	135.1	140.5
8	Less: Revenue Offsets	(3.0)	(2.7)	(5.9)	(7.2)	(7.3)
9	Revenue Requirement (Jul 23, 2021)	113.7	108.9	121.5	127.9	133.2
10	Revenue Requirement (Feb 16, 2021)	113.7	108.9	122.6	128.9	134.5
11	Reduction in Revenue Requirement	-	-	(1.1)	(1.0)	(1.3)

Table 3.0-3 Forecast Sanitary Utility Revenue Requirement (Revised Table 1.5-1 from Drainage PBR Application) 2022-2024 (\$ millions)

		А	В	С	D
		2021 F	2022 F	2023 F	2024 F
	Sanitary Utility excluding CORe				
1	Operating Costs	68.5	50.9	45.6	45.7
2	Franchise Fees and Property Taxes	9.9	9.6	9.9	10.4
3	Depreciation and Amortization	17.4	16.9	17.6	18.7
4	Return on Rate Base Financed by Debt	12.4	15.9	15.8	16.9
5	Return on Rate Base Financed by Equity	33.3	17.6	22.2	27.4
6	Revenue Requirement before Revenue Offsets	141.4	110.8	111.1	119.1
7	Less: Revenue Offsets	(9.0)	(5.6)	(4.5)	(4.6)
8	Sanitary Utility Revenue Requirement, excluding CORe	132.4	105.2	106.6	114.5
	CORe				
9	Operating Costs	4.1	5.4	4.1	5.5
10	Franchise Fees and Property Taxes	0.5	1.1	1.2	1.6
11	Depreciation and Amortization	0.8	1.5	2.1	2.7
12	Return on Rate Base Financed by Debt	0.9	2.0	2.5	3.4
13	Return on Rate Base Financed by Equity	(0.5)	4.1	5.4	7.1
14	Revenue Requirement – CORe	5.8	14.2	15.2	20.4
	Sanitary Utility				
15	Operating Costs	72.7	56.3	49.6	51.2
16	Franchise Fees and Property Taxes	10.3	10.8	11.2	12.1
17	Depreciation and Amortization	18.2	18.4	19.6	21.4
18	Return on Rate Base Financed by Debt	13.3	17.9	18.4	20.3
19	Return on Rate Base Financed by Equity	32.8	21.6	27.6	34.5
20	Revenue Requirement before Revenue Offsets	147.2	125.0	126.4	139.4
21	Less: Revenue Offsets	(9.0)	(5.6)	(4.5)	(4.6)
22	Revenue Requirement (Jul 23, 2021)	138.2	119.4	121.9	134.8
23	Revenue Requirement (Feb 16, 2021)	138.2	119.4	122.0	135.0
24	Reduction in Revenue Requirement	-	-	(0.1)	(0.2)

Table 3.0-4 Forecast Stormwater Utility Revenue Requirement (Revised Table 1.5-2 from Drainage PBR Application) 2022-2024 (\$ millions)

		А	В	С	D
		2021 F	2022 F	2023 F	2024 F
	Stormwater Utility excluding SIRP				
1	Operating Costs	50.9	47.8	48.4	48.9
2	Property Taxes	0.9	1.0	1.0	1.0
3	Depreciation and Amortization	20.4	21.9	22.3	23.4
4	Return on Rate Base Financed by Debt	11.6	15.4	15.3	16.4
5	Return on Rate Base Financed by Equity	(5.8)	17.0	21.5	26.6
6	Revenue Requirement before Revenue Offsets	77.9	102.9	108.4	116.2
7	Less: Revenue Offsets	(0.7)	(0.7)	(0.7)	(0.7)
8	Total Stormwater Utility Revenue Requirement, excluding SIRP	77.2	102.2	107.7	115.5
	SIRP				
9	Operating Costs	4.1	6.6	7.4	7.8
10	Depreciation and Amortization	-	1.7	4.1	6.3
11	Return on Rate Base Financed by Debt	-	1.2	2.7	4.0
12	Return on Rate Base Financed by Equity	0.1	2.4	5.6	8.3
13	Total Revenue Requirement - SIRP	4.1	12.0	19.8	26.4
15	Stormwater Utility	-	-	-	-
16	Operating Costs	55.0	54.4	55.8	56.7
17	Property Taxes	0.9	1.0	1.0	1.0
18	Depreciation and Amortization	20.4	23.6	26.4	29.7
19	Return on Rate Base Financed by Debt	11.6	16.6	18.0	20.3
20	Return on Rate Base Financed by Equity	(5.8)	19.4	27.1	34.9
21	Revenue Requirement before Revenue Offsets	82.0	114.9	128.2	142.6
22	Less: Revenue Offsets	(0.7)	(0.7)	(0.7)	(0.7)
23	Revenue Requirement (Jul 23, 2021)	81.3	114.2	127.5	141.8
24	Revenue Requirement (Feb 16, 2021)	81.3	114.2	127.6	142.0
25	Reduction in Revenue Requirement	-	-	(0.1)	(0.2)

4.0 REVISED CUSTOMER BILL TABLES

Based on the adjusted revenue requirements shown above, the revised average residential, multi-residential and commercial customer's water, wastewater treatment and Drainage Services bill are shown in tables 4.0-1 to 4.0-9 below:

Table 4.0-1 Average Residential Customer Water Bill Impact (Revised Table 12.2.5-1 from Water PBR Application) 2022-2026

	(\$/month)						
		А	В	С	D	Е	F
							Total/
		2022F	2023F	2024F	2025F	2026F	Average
	Rate Increase over 2021 Decision:						
1	Normal Operations (i-x)	2.06%	2.06%	2.06%	2.06%	2.06%	
2	SRA – Re-basing	2.33%	2.33%	2.33%	2.33%	2.33%	
3	SRA – Fixed Charge Increase	2.36%					
4	SRA – 90 Day Deferral	0.79%	(0.70%)				
5	SRA – Fire Protection	6.86%					
6	Total Annual Rate Increase	14.40%	3.69%	4.39%	4.39%	4.39%	
	Average Bill Impact:						
7	Monthly Consumption per Customer - m ³	13.4	13.2	12.9	12.7	12.5	
8	Average Monthly Bill - \$	43.16	44.15	45.46	46.81	48.21	
9	Change in Bill - \$	1.88	0.99	1.31	1.34	1.40	6.93
10	Change in Bill - % ¹	4.6%	2.3%	3.0%	3.0%	3.0%	3.2%

Table 4.0-2 Average Multi-Residential Customer Water Bill Impact (Revised Table 12.2.5-2 from Water PBR Application) 2022-2026 (\$/month)

		А	В	С	D	E	F
							Total/
		2022F	2023F	2024F	2025F	2026F	Average
	Rate Increase over 2021 Decision:						
1	Normal Operations (i-x)	2.06%	2.06%	2.06%	2.06%	2.06%	
2	SRA – Re-basing	2.33%	2.33%	2.33%	2.33%	2.33%	
3	SRA – Fixed Charge Increase	(7.42%)					
4	SRA – 90 Day Deferral	0.19%	(0.19%)				
5	SRA – Fire Protection	1.60%					
6	Total Annual Rate Increase	(1.24%)	4.20%	4.39%	4.39%	4.39%	
	Average Bill Impact:						
7	Monthly Consumption per Customer - m ³	388.4	386.6	384.7	382.9	381.0	
8	Average Monthly Bill - \$	729.68	756.91	786.60	817.45	849.52	
9	Change in Bill - \$	(46.47)	27.24	29.68	30.85	32.07	73.36
10	Change in Bill - %	(6.0%)	3.7%	3.9%	3.9%	3.9%	1.9%

Table 4.0-3 Average Commercial Customer Water Bill Impact (Revised Table 12.2.5-3 from Water PBR Application) 2022-2026

(\$/month)

		А	В	С	D	Е	F
							Total/
		2022F	2023F	2024F	2025F	2026F	Average
	Rate Increase over 2021 Decision:						
1	Normal Operations (i-x)	2.06%	2.06%	2.06%	2.06%	2.06%	
2	SRA – Re-basing	2.33%	2.33%	2.33%	2.33%	2.33%	
3	SRA – Fixed Charge Increase	(3.08%)					
4	SRA – 90 Day Deferral	0.45%	(0.40%)				
5	SRA – Fire Protection	8.95%					
6	Total Annual Rate Increase	10.70%	3.99%	4.39%	4.39%	4.39%	
	Average Bill Impact:						
7	Monthly Consumption per Customer - m ³	90.1	94.0	96.5	93.6	90.7	
8	Average Monthly Bill - \$	194.33	208.26	221.30	225.41	229.45	
9	Change in Bill - \$	26.51	13.93	13.05	4.11	4.04	61.63
10	Change in Bill - %	15.8%	7.2%	6.3%	1.9%	1.8%	6.6%

Table 4.0-4 Average Residential Customer Wastewater Treatment Bill Impact (Revised Table 12.3-1 from Wastewater Treatment PBR Application) 2022-2024 (\$/month)

		А	В	С	D
		2022F	2023F	2024F	Total /
					Average
	Rate Increase over 2021 Decision:				
1	Normal Operations (i-x)	2.01%	2.01%	2.01%	
2	Special Rate Adjustment- Re-basing	17.18%	(0.62%)	(0.62%)	
3	Special Rate Adjustment- 90 Day Deferral program	0.82%	(0.69%)		
4	Total Annual Rate Increase	20.00%	0.70%	1.39%	
	Average Bill Impact:				
5	Monthly Consumption per Customer - m ³	13.4	13.2	12.9	
6	Average Monthly Bill - \$	22.76	22.63	22.65	
7	Change in Bill - \$	2.25	(0.13)	0.02	2.14
8	Change in Bill - %	11.0%	(0.6%)	0.1%	3.5%

Table 4.0-5 Average Multi-Residential Customer Wastewater Treatment Bill Impact (Revised Table 12.3-2 from Wastewater Treatment PBR Application) 2022-2024 (\$/month)

		А	В	С	D
		2022F	2023F	2024F	Total / Average
	Rate Increase over 2021 Decision:				
1	Normal Operations (i-x)	2.01%	2.01%	2.01%	
2	Special Rate Adjustment- Re-basing	17.18%	(0.62%)	-0.62%	
3	Special Rate Adjustment- 90 Day Deferral program	0.04%	(0.03%)		
4	Total Annual Rate Increase	19.22%	1.36%	1.39%	
	Average Bill Impact:				
5	Monthly Consumption per Customer - m ³	388.4	386.6	384.7	
6	Average Monthly Bill - \$	485.28	489.54	494.00	
7	Change in Bill - \$	55.85	4.26	4.45	64.56
8	Change in Bill - %	13.0%	0.9%	0.9%	4.9%

Table 4.0-6 Average Commercial Customer Wastewater Treatment Bill Impact (Revised Table 12.3-3 from Wastewater Treatment PBR Application) 2022-2024 (\$/month)

		А	В	С	D
	Wastewater: Commercial	2022F	2023F	2024F	Total / Average
	Rate Increase over 2021 Decision:				
1	Normal Operations (i-x)	2.01%	2.01%	2.01%	
2	Special Rate Adjustment- Re-basing	17.18%	(0.62%)	(0.62%)	
3	Special Rate Adjustment- 90 Day Deferral program	0.15%	(0.12%)		
4	Total Annual Rate Increase	19.34%	1.26%	1.39%	
	Average Bill Impact:				
5	Monthly Consumption per Customer - m ³	91.9	95.8	97.7	
6	Average Monthly Bill - \$	119.54	125.98	130.16	
7	Change in Bill - \$	23.85	6.44	4.18	34.47
8	Change in Bill - %	24.9%	5.4%	3.3%	11.2%

Table 4.0-7 Average Residential Customer Drainage Services Bill Impact (Revised Table 13.4-1 from Drainage PBR Application) 2022-2024 (\$/month)

		А	В	С	D
		2022 F	2023 F	2024 F	Total / Average
	Sanitary Utility				
	Annual Rate Increase (%)				
1	Normal Operations (i-x)	2.08%	2.08%	2.08%	
2	SRA – Re-basing	(5.84%)	1.83%	1.83%	
3	SRA – 90 Day Deferral Program	0.90%	(0.93%)	0.00%	
4	Annual Rate Increase, excluding CORe	(2.86%)	2.99%	3.91%	
5	Impact of Declining Consumption	0.00%	(1.02%)	(1.04%)	
6	Current Year Bill Increase, excluding CORe	(2.86%)	1.97%	2.88%	0.7%
7	SRA – CORe	7.06%	(1.84%)	3.94%	3.0%
	Average Bill Impact (\$)				
8	Average Monthly Bill	27.41	27.45	29.32	
9	Change in Bill	1.10	0.04	1.87	3.01
10	Average Bill Increase (%)	4.2%	0.1%	6.8%	3.7%
	Stormwater Utility				
	Annual Rate Increase (%)				
11	Normal Operations (i-x)	2.08%	2.08%	2.08%	
12	SRA – Re-basing	(5.84%)	1.83%	1.83%	
13	SRA – 90 Day Deferral Program	0.72%	(0.75%)	0.00%	
14	Annual Rate Increase, excluding SRA – SIRP	(3.04%)	3.17%	3.91%	1.3%
15	SRA – SIRP	11.72%	6.48%	4.80%	7.7%
	Average Bill Impact (\$)				
16	Average Monthly Bill	14.96	16.40	17.83	
17	Change in Bill	1.20	1.44	1.43	4.07
18	Average Bill Increase (%)	8.7%	9.6%	8.7%	9.0%
	Combined Sanitary and Stormwater Utilities				
19	Average Monthly Bill	42.37	43.85	47.15	
20	Change in Bill	2.30	1.48	3.30	7.08
21	Average Bill Increase	5.7%	3.5%	7.5%	5.6%

Table 4.0-8Average Multi-Residential Customer Drainage Services Bill Impact
(Revised Table 13.4-2 from Drainage PBR Application)
2022-2024

(\$/month)

		А	В	C	D
					Total /
		2022 F	2023 F	2024 F	Average
	Sanitary Utility				
	Annual Rate Increase (%)				
1	Normal Operations (i-x)	2.08%	2.08%	2.08%	
2	SRA – Re-basing	(5.84%)	1.83%	1.83%	
3	SRA – 90 Day Deferral Program	0.23%	(0.24%)	0.00%	
4	Annual Rate Increase, excluding CORe	(3.52%)	3.67%	3.91%	
5	Impact of Declining Consumption	0.00%	(0.42%)	(0.42%)	
6	Current Year Bill Increase, excluding CORe	(3.52%)	3.25%	3.49%	1.1%
7	SRA – CORe	10.77%	(2.75%)	6.03%	4.7%
	Average Bill Impact (\$)				
8	Average Monthly Bill	537.50	540.16	591.58	
9	Change in Bill	36.31	2.67	51.42	90.39
10	Average Bill Increase (%)	7.2%	0.5%	9.5%	5.8%
	Stormwater Utility				
	Annual Rate Increase (%)				
11	Normal Operations (i-x)	2.08%	2.08%	2.08%	
12	SRA – Re-basing	(5.84%)	1.83%	1.83%	
13	SRA – 90 Day Deferral Program	0.72%	(0.75%)	0.00%	
14	Annual Rate Increase, excluding SRA – SIRP	(3.04%)	3.17%	3.91%	1.3%
15	SRA – SIRP	11.72%	6.48%	4.80%	7.7%
	Average Bill Impact (\$)				
16	Average Monthly Bill	117.13	128.43	139.62	
17	Change in Bill	9.36	11.30	11.19	31.86
18	Average Bill Increase (%)	8.7%	9.6%	8.7%	9.0%
	Combined Sanitary and Stormwater Utilities				
19	Average Monthly Bill	654.63	668.59	731.20	
20	Change in Bill	45.67	13.96	62.61	122.25
21	Average Bill Increase	7.5%	2.1%	9.4%	6.3%

Table 4.0-9 Average Commercial Customer Drainage Services Bill Impact (Revised Table 13.4-3 from Drainage Services Application) 2022-2024 (\$/month)

		А	В	С	D
					Total /
		2022 F	2023 F	2024 F	Average
	Sanitary Utility				
	Annual Rate Increase (%)				
1	Normal Operations (i-x)	2.08%	2.08%	2.08%	
2	SRA – Re-basing	(5.84%)	1.83%	1.83%	
3	SRA – 90 Day Deferral Program	0.52%	(0.54%)	0.00%	
4	Annual Rate Increase, excluding CORe	(3.23%)	3.37%	3.91%	
5	Impact of Declining Consumption	0.00%	3.73%	1.85%	
6	Current Year Bill Increase, excluding CORe	(3.23%)	7.10%	5.77%	3.2%
7	SRA – CORe	9.14%	(2.06%)	5.55%	4.2%
	Average Bill Impact (\$)				
8	Average Monthly Bill	132.02	138.67	154.37	
9	Change in Bill	7.36	6.66	15.70	29.72
10	Average Bill Increase (%)	5.9%	5.0%	11.3%	7.4%
	Stormwater Utility				
	Annual Rate Increase (%)				
11	Normal Operations (i-x)	2.08%	2.08%	2.08%	
12	SRA – Re-basing	(5.84%)	1.83%	1.83%	
13	SRA – 90 Day Deferral Program	0.72%	(0.75%)	0.00%	
14	Annual Rate Increase, excluding SRA - SIRP	(3.04%)	3.17%	3.91%	1.3%
15	SRA – SIRP	11.7%	6.5%	4.8%	7.7%
	Average Bill Impact (\$)				
16	Average Monthly Bill	185.50	203.46	221.20	
17	Change in Bill	14.80	17.96	17.74	50.50
18	Average Bill Increase (%)	8.7%	9.7%	8.7%	9.0%
	Combined Sanitary and Stormwater Utilities				
19	Average Monthly Bill	317.51	342.13	375.57	
20	Change in Bill	22.16	24.62	33.44	80.22
21	Average Bill Increase	7.5%	7.8%	9.8%	8.3%

The total average residential bill is shown in Table 4.0-10 below.

	(\$/	month)			
		Α	В	С	D
	Average Residential Bill	2021	2022	2023	2024
1	Prior year bill		100.17	100.57	102.24
2	PBR Inflation – Eff. Factor (i-x)		1.86	1.96	1.99
3	Impact of Consumption		(5.10)	(1.05)	(1.09)
4	SRA – Re-basing		1.97	1.55	1.59
5	SRA – Increase Fixed (Water Only)		0.89	-	-
6	SRA – 90 Day Deferral Program		0.77	(0.78)	-
7	Total Before SIRP, CORe and Fire	100.17	100.57	102.24	104.73
8	SRA - CORe	0.99	2.82	2.37	3.51
9	SRA - SIRP	0.70	2.29	3.33	4.25
10	Total Including SIRP, and CORe	101.86	105.67	107.94	112.50
11	SRA – Fire Protection	-	2.59	2.64	2.70
12	Monthly Water Cycle Utility Bill	101.86	108.26	110.59	115.19

Table 4.0-10
Average Residential Customer – Total Bill Impact
2022-2024

5.0 PBR BYLAW CORRECTIONS

In addition to the amendments above to address the Utility Committee's July 9, 2021 motion, EWSI has also made the following minor corrections to the Bylaws as explained below.

Drainage Services and Wastewater Treatment Bylaw 19627, Schedule 3, Section 2.3.3 and Water Serviced Bylaw 19626, Schedule 3, Section 2.3.3 – Special Rate Adjustments (SRA) for the 90-day Deferral Program

The originally-filed SRA for the 90-day Deferral Program specified the SRA for 2022 and the corresponding negative SRA in 2023 to remove the one-time effects of the 90 Day Deferral program on future routine rate adjustments. The 2022 SRAs in the Bylaws are based on EWSI's forecast of the incremental bad debts, administration and carrying costs incurred as a result of the 90-day Deferral Program. Because the actual costs could vary from these forecast amounts, EWSI proposes to establish a 2023 SRA in its 2023 annual rate filing which will adjust for any differences between forecast and actual costs of the 90-Day Deferral Program and remove the one-time effects of the 90 Day Deferral program on future routine adjustments. This will align with the AUC approach to ensure that charges to customers reflect the actual costs of the program.

Drainage Services and Wastewater Treatment Bylaw 19627, Schedule 3, Section 7 – Reporting and Filing Requirements

Through this amendment, EWSI proposes to change the date for filing its Annual Drainage and Wastewater Treatment Rate Filing from December 1 to March 1. A change to the reporting year from October 1- September 30 to January 1 – December 31 is also proposed. This amendment aligns the Reporting and Filing Requirements of Bylaw 19627 with the same requirements under Bylaw 19626.

Drainage Services and Wastewater Treatment Bylaw 19627, Schedule 3, Section 2.1 – Inflation Factor

The formula by which rates are adjusted includes an inflation factor adjustment for all services covered by Bylaw 19627. This includes an inflation factor the Wastewater Overstrength Surcharges (WOSA) and Wastewater Additional Overstrength Surcharges (WOASA) as set out in section 1.3 of the bylaw. EWSI's proposed amendment to section 2.1 clarifies the inclusion of the WOSA and the WAOSA as a charge subject to the inflation factor.

Drainage Services and Wastewater Treatment Bylaw 19627, Schedule 1 – Stormwater Charges

EWSI's Stormwater Utility charges are based, in part, on a site's municipal zoning designation. In the originally filed Schedule 1, EWSI indicated that the type of zoning relied on was the "effective zoning designation as it appears on the tax roll for the property." Effective zoning does not always reflect a property's actual use and as such, the more appropriate zoning to use in the calculation of Stormwater Utility charges is the zoning designation determined under the City of Edmonton's zoning bylaw.

Water Services Bylaw 19626, Schedule 3, Section 3.2.1 – Post Service Audit Factor

EWSI proposes to amend the metric for Customer Satisfaction to reflect the amendment it sought in its Application to align the customer survey process with other EPCOR Business Units and to allow for changes to the survey questions, subject to Utility Committee approval, during the PBR term. This proposed amendment does not amend the service standard from what was included in the PBR application.

Please contact me at (780) 412-3041 if you have any questions.

Sincerely,

[original signed by]

Darrell Manning Director, Regulatory and Operational Excellence EPCOR Water Services Inc.

Attachments
EPCOR Water Services Inc.

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Index of MFR Schedules

Part A	Total System Revenue Requirement
Financial Schedule 3-1	Summary of Sanitary Utility Revenue Requirement
Financial Schedule 3-2	Summary of Stormwater Utility Revenue Requirement
Financial Schedule 4-1	Customers and Consumption - Sanitary Utility
Financial Schedule 4-2	Customers and Billing Determinants - Stormwater Utility
Financial Schedule 5-1	Summary of Operating Costs by Operational Function
Financial Schedule 5-2	Summary of Operating Costs by Cost Category
Financial Schedule 7-1	Drainage Operations Costs by Function
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Part B	Cost of Service by Customer Segment
Financial Schedule 19-1	Revenue at Existing Rates and Revenue Requirement
Financial Schedule 19-2	Cost of Service Summary
Part C	PBR Rates
Financial Schedule 20-1	Current and Proposed Rates for Drainage Services
Financial Schedule 20-2	Proposed Special Rate Adjustments for Drainage Services

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Summary of Sanitary Utility Revenue Requirement (\$ millions)

Line		Cross		2018		2019		2020		2021	2	2022	2	2023	2	2024
No.	Description	Reference	A	Actual	A	Actual	Fo	orecast	Fc	recast	Fo	recast	Fo	recast	Fo	recast
1	Sanitary Utility excluding COBe															
2	Operating Costs	S 5-1	\$	57.6	\$	60.3	\$	63.5	\$	68.5	\$	50.9	\$	45.6	\$	45.7
3	operating coold	0.01	Ψ	07.0	Ψ	00.0	Ψ	00.0	Ψ	00.0	Ψ	00.0	Ψ	40.0	Ψ	40.7
4	Franchise Fees and Property Taxes	S. 11-1		9.3		9.5		9.8		9.9		9.6		9.9		10.4
5	Depresiation and Americation	0 10 1		16.4		14.0		16.0		17 4		16.0		17.6		10.7
7	Depreciation and Amonization	3. 12-1		10.4		14.9		10.2		17.4		10.9		17.0		10.7
8	Return on Rate Base Financed by Debt	S 14-1		14 2		11.2		11.6		12.4		15.9		15.8		16.9
9	······································															
10	Return on Rate Base Financed by Equity	S. 14-1		31.3		36.5		35.8		33.3		17.6		22.2		27.4
11																
12	Revenue Requirement before Revenue Offsets			128.8		132.4		136.8		141.4		110.8		111.1		119.1
13				(0.0)		(0.0)		(0.0)		(0.0)		(=		<i></i>		
14	Less: Revenue Offsets	S. 13-1		(6.8)		(8.9)		(9.2)		(9.0)		(5.6)		(4.5)		(4.6)
15	Total Sanitary Utility Payanua Paguirament, avalud			122.0		100 E		127 6		122.4		105 2		106 6		1145
17	Total Sanitary Othity Revenue Requirement, exclud			122.0		123.5		127.0		132.4		103.2		100.0		114.5
18	CORe															
19	Operating Costs	S. 5-1	\$	-	\$	0.0	\$	1.8	\$	4.1	\$	5.4	\$	4.1	\$	5.5
20																
21	Franchise Fees and Property Taxes	S. 11-1		-		-		0.3		0.5		1.1		1.2		1.6
22																
23	Depreciation and Amortization	S. 12-1		-		-		0.1		0.8		1.5		2.1		2.7
24	Patura on Pata Paga Einangad by Dabt	S 14 1						0.2		0.0		2.0		25		2.4
20	Retuin on Rate base Financed by Debt	3. 14-1		-		-		0.2		0.9		2.0		2.5		3.4
27	Return on Rate Base Financed by Equity	S. 14-1		-		(0.0)		0.8		(0.5)		4.1		5.4		7.1
28																
29	Revenue Requirement before Revenue Offsets			-		-		3.2		5.8		14.2		15.2		20.4
30																
31	Less: Revenue Offsets	S. 13-1		-		-		-		-		-		-		-
32	Total Boyonus Poquiroment - COPe		¢	_	¢	_	¢	3.2	¢	5 8	¢	14.2	¢	15 2	¢	20.4
34	Total Revenue Requirement - CORe		φ		φ		φ	5.2	φ	5.0	φ	14.2	φ	13.2	φ	20.4
35	Sanitary Utility															
36	Operating Costs		\$	57.6	\$	60.3	\$	65.3	\$	72.7	\$	56.3	\$	49.6	\$	51.2
37																
38	Franchise Fees and Property Taxes			9.3		9.5		10.0		10.3		10.8		11.2		12.1
39	-															
40	Depreciation and Amortization			16.4		14.9		16.3		18.2		18.4		19.6		21.4
41	Return on Rate Base Financed by Debt			14.2		11 2		11.8		13.3		17 9		18.4		20.3
43	Return of Nate Base Financed by Debt			14.2		11.2		11.0		10.0		17.5		10.4		20.5
44	Return on Rate Base Financed by Equity			31.3		36.5		36.6		32.8		21.6		27.6		34.5
45																
46	Revenue Requirement before Revenue Offsets			128.8		132.4		140.0		147.2		125.0		126.4		139.4
47				(0.0)		(0.0)		10.0		10.0				· · -·		
48 40	Less: Revenue Offsets			(6.8)		(8.9)		(9.2)		(9.0)		(5.6)		(4.5)		(4.6)
49 50	Total Sanitary Utility Revenue Requirement		\$	122.0	\$	123.5	\$	130.8	\$	138.2	\$	119.4	\$	121.9	\$	134.8

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Summary of Stormwater Utility Revenue Requirement (\$ millions)

Line		Cross	2	2018	2	2019	2	2020	2	2021	2	2022	2	2023	2	2024
No.	Description	Reference	Α	ctual	Α	ctual	Fo	recast	Fo	recast	Fo	recast	Fo	recast	Fo	recast
1	Stormuster Utility evoluting SIDD															
1	Operating Casts	0 5 4	¢	12.0	¢	47.6	¢	40.0	¢	50.0	¢	47.0	¢	40.4	¢	49.0
2	Operating Costs	5. 0-1	φ	43.0	φ	47.0	ф	49.2	φ	50.9	þ	47.0	φ	40.4	φ	40.9
4	Property Taxes	S 11-1		0.6		0.5		0.6		ΛQ		10		10		10
5	Topony Taxes	0. 11-1		0.0		0.0		0.0		0.5		1.0		1.0		1.0
6	Depreciation and Amortization	S. 12-1		15.6		17.8		19.1		20.4		21.9		22.3		23.4
7	•									-						
8	Return on Rate Base Financed by Debt	S. 14-1		12.7		10.1		10.7		11.6		15.4		15.3		16.4
9																
10	Return on Rate Base Financed by Equity	S. 14-1		(6.6)		(7.9)		(7.0)		(5.8)		17.0		21.5		26.6
11																
12	Revenue Requirement before Revenue Offsets			66.0		68.0		72.7		77.9		102.9		108.4		116.2
13				·				()		(a =)		·		(a _)		(a _)
14	Less: Revenue Offsets	S. 13-1		(3.5)		(1.2)		(0.7)		(0.7)		(0.7)		(0.7)		(0.7)
15	Total Otomoustan Utility Devenue Description and such dias CIDD		•	60 F			•	70.0	*	77.0		400.0		407 7	•	
10	Total Stormwater Utility Revenue Requirement, excluding SIRP		\$	62.5	Þ	66.8	Þ	/2.0	þ	11.2	Þ	102.2	Þ	107.7	Þ	115.5
17	SIDD															
10	Operating Costs	S 5 1	¢		¢	0.0	¢	23	¢	11	¢	6.6	¢	74	¢	78
20	Operating Costs	0.0-1	ψ	-	Ψ	0.0	Ψ	2.0	ψ	4.1	Ψ	0.0	Ψ	7.4	Ψ	7.0
21	Property Taxes	S. 11-1		-		-		-		-		-		-		-
22																
23	Depreciation and Amortization	S. 12-1		-		-		-		-		1.7		4.1		6.3
24																
25	Return on Rate Base Financed by Debt	S. 14-1		-		-		-		-		1.2		2.7		4.0
26																
27	Return on Rate Base Financed by Equity	S. 14-1		-		(0.0)		0.9		0.1		2.4		5.6		8.3
28												40.0		10.0		00.4
29	Revenue Requirement before Revenue Offsets			-		-		3.2		4.1		12.0		19.8		26.4
30	Less: Revenue Offsets	S 13 1														
32	Less. Revenue Onsets	0.10-1		-		-		-		-		-		-		
33	Total Revenue Requirement - SIRP		\$	-	\$	-	\$	3.2	\$	4.1	\$	12.0	\$	19.8	\$	26.4
34	· · · · · · · · · · · · · · · · · · ·		<u> </u>		<u> </u>		<u> </u>		<u> </u>		*		<u> </u>		-	
35	Stormwater Utility															
36	Operating Costs		\$	43.8	\$	47.6	\$	51.5	\$	55.0	\$	54.4	\$	55.8	\$	56.7
37																
38	Property Taxes			0.6		0.5		0.6		0.9		1.0		1.0		1.0
39																
40	Depreciation and Amortization			15.6		17.8		19.1		20.4		23.6		26.4		29.7
41	Poturn on Pate Page Eingnood by Dobt			10.7		10.1		10.7		11 6		16.6		10.0		20.2
42	Return on Rate Base Financed by Debt			12.7		10.1		10.7		11.0		10.0		16.0		20.5
44	Return on Rate Base Financed by Equity			(6.6)		(8.0)		(6.1)		(5.8)		19.4		27 1		34.9
45	Total of the buot Finance by Equity			(0.0)		(0.0)		(0.1)		(0.0)		101		L 1.1		51.0
46	Revenue Requirement before Revenue Offsets			66.0		68.0		75.9		82.0		114.9		128.2		142.6
47																
48	Less: Revenue Offsets			(3.5)		(1.2)		(0.7)		(0.7)		(0.7)		(0.7)		(0.7)
49																
50	Total Stormwater Utility Revenue Requirement		\$	62.5	\$	66.8	\$	75.2	\$	81.3	\$	114.2	\$	127.5	\$	141.8

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Customers and Consumption - Sanitary Utility

Line		2018	2019	2020	2021	2022	2023	2024
No.	Description	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
1	Total Customers - Average per month							
2	Residential	264,384	269,724	271,447	274,935	278,868	283,230	287,839
3	Multi-Residential	3,765	3,779	3,774	3,781	3,789	3,800	3,811
4	Commercial	16,846	17,062	16,984	16,984	17,069	17,240	17,412
5	Large Wholesale	1	1	1	1	1	1	1
6	Total Customers - Average	284,995	290,567	292,206	295,702	299,726	304,271	309,064
7	-							
8	Total Annual Consumption (ML)							
9	Residential	45,901	44,575	48,419	49,141	44,853	44,766	44,694
10	Multi-Residential	17,679	17,756	18,575	18,605	17,658	17,627	17,595
11	Commercial	21,576	20,995	15,974	15,974	16,856	17,876	18,496
12	Large Wholesale	2,099	2,031	1,815	1,869	1,963	1,948	1,927
13	Total Consumption (ML)	87,255	85,356	84,782	85,589	81,330	82,218	82,713
14	-							
15	Average Monthly Consumption per Customer (m ³ per month)							
16	Residential	14.5	13.8	14.9	14.9	13.4	13.2	12.9
17	Multi-Residential	391.3	391.6	410.2	410.0	388.4	386.6	384.7
18	Commercial	106.7	102.5	78.4	78.4	82.3	86.4	88.5
19	Large Wholesale	174,932	169,228	151,239	155,776	163,565	162,368	160,575

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Customers and Billing Determinants - Stormwater Utility

Line	•	2018	2019	2020	2021	2022	2023	2024
No.	Description	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
1	Total Customers - Average per month							
2	Residential	264,384	269,724	272,232	275,730	279,674	284,049	288,672
3	Multi-Residential	3,765	3,779	3,742	3,749	3,757	3,768	3,780
4	Commercial	16,846	17,062	16,825	16,825	16,909	17,078	17,249
5	Total	284,994	290,566	292,799	296,305	300,340	304,895	309,700
6								
7	Stormwater Billing Determinants per Customer*							
8	Residential	263	262	263	263	263	263	263
9	Multi-Residential	1,939	1,984	2,057	2,057	2,057	2,057	2,057
10	Commercial	3,043	3,104	3,259	3,259	3,259	3,259	3,259
11								
12	Annual Stormwater Billing Determinants (thousands)							
13	Residential	835,743	847,048	858,257	869,287	881,719	895,512	910,086
14	Multi-Residential	87,592	89,986	92,376	92,561	92,746	93,024	93,303
15	Commercial	615,153	635,486	657,914	657,914	661,204	667,816	674,494
16	Commercial - Leakage	-	-	2,696	12,415	26,255	35,525	43,895
17	Total	1,538,487	1,572,520	1,611,243	1,632,177	1,661,924	1,691,877	1,721,779

*Stormwater billing determinants per customer are the product of the area of the premises, the development intensity factor and the runoff coefficient based on the zoning of the premises for the average customer in each customer class.

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Summary of Operating Costs by Operational Function (\$ millions)

Line	–	Cross	1	2018		2019	_	2020	_	2021	_	2022	_ 2	2023	_ 2	2024	Cross
NO.	Description	Reference	Α	ctual	P	Actual	Fo	orecast	FC	recast		precast	Fo	recast	Fo	recast	Reference
1	Operations																
2	Drainage Operations	S. 7-1	\$	48.8	\$	49.8	\$	51.3	\$	56.3	\$	43.1	\$	38.5	\$	39.2	
3	One Water Planning and Project Support	S. 7-1		12.3		17.4		16.9		17.0		16.9		17.1		17.4	
4	Operational Support Services	S. 7-1		3.2		2.4		2.5		3.9		0.4		(0.1)		(0.1)	
5	SIRP	S. 7-1		-		0.0		2.3		4.1		4.3		4.5		4.6	
6	CORE	S. 7-1		-		0.0		1.8		4.1		3.3		2.2		3.1	
7				64.4		69.6		74.8		85.5		68.0		62.2		64.1	
8																	
9	Billing, Meters and Customer Service	S. 8-1		7.6		7.1		9.0		7.3		7.7		7.7		7.5	
10																	
11	Drainage Services Administration	S. 9-1		15.4		16.7		18.0		18.6		18.6		18.9		19.4	
12																	
13	Corporate Shared Services	S. 10-1		14.0		14.5		15.0		16.3		16.3		16.6		17.0	
14																	
15	Total Operating Costs		\$	101.4	\$	107.9	\$	116.8	\$	127.7	\$	110.6	\$	105.4	\$	107.9	S. 16-1
16																	
17	Allocation of Operating Costs																
18	Sanitary Utility Portion, excluding CORe		\$	57.6	\$	60.3	\$	63.5		68.5		50.9		45.6		45.7	S. 3-1
19	CORe			-		0.0		1.8		4.1		5.4		4.1		5.5	S. 3-1
20	Total Sanitary Utility Operating Costs			57.6		60.3		65.3		72.7		56.3		49.6		51.2	
21																	
22	Stormwater Utility Portion, excluding SIRP			43.8		47.6		49.2		50.9		47.8		48.4		48.9	S. 3-2
23	SIRP			-		0.0		2.3		4.1		6.6		7.4		7.8	S. 3-2
24	Total Stormwater Utility Operating Costs			43.8		47.6		51.5		55.0		54.4		55.8		56.7	
25																	
26	Total Operating Costs		\$	101.4	\$	107.9	\$	116.8		127.7		110.6		105.4		107.9	

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Summary of Operating Costs by Cost Category (\$ millions)

Line		Cross	2018	2	019	:	2020	2	2021		2022	2	2023		2024	Cross
No.	Description	Reference	Actual	Α	ctual	Fo	recast	Fo	recast	Fo	recast	Fo	recast	Fc	orecast	Reference
4	Otaff Ocata and Englands Day of the															
1	Staff Costs and Employee Benefits	0.7.0	¢ 00.0	٠	40.0	۴	07.0	۴	10.4	~	40.0	۴	40 5	۴	40.4	
2	Operations and Maintenance	5.7-2	\$ 30.0	\$	42.8	\$	37.6	\$	49.4	\$	48.6	\$	48.5	\$	49.4	
3	Drainage Services Administration	5.9-2	8.5		9.3		8.9		9.1		9.0		9.2		9.3	-
4	Sub-total		45.1		52.0		46.5		58.4		57.6		57.7		58.7	
5		0.7.0	04.0		40.7		00.0		00.0		40.4		• •			
0	Operations and Maintenance	5.7-2	24.0		10.7		26.9		28.6		13.4		8.0		8.9	
1	Drainage Services Administration	5.9-2	1.7		1.7		1.1		2.5		2.5		2.4		2.6	-
8	Sub-total		25.7		12.5		28.0		31.1		15.9		10.5		11.6	
9																
10	Materials and Supplies	0 7 0			10.0		- 1						o -			
11	Operations and Maintenance	S. 7-2	5.7		19.0		5.4		6.6		6.3		6.5		6.6	
12	Drainage Services Administration	S. 9-2	1.3		0.9		0.8		1.0		1.0		1.0		1.0	-
13	Sub-total		7.0		20.0		6.3		7.6		7.3		7.5		7.6	
14																
15	Customer Billing and Collections	S. 8-1	5.2		4.7		6.6		4.8		4.9		5.0		5.1	
16																
17	Meter Reading Services	S. 8-1	2.4		2.4		2.4		2.5		2.8		2.7		2.4	
18																
19	Corporate Shared Services	S. 10-1	14.0		14.5		15.0		16.3		16.3		16.6		17.0	
20																
21	Vehicles															
22	Operations and Maintenance	S. 7-2	0.4		(4.5)		(2.2)		(4.9)		(5.7)		(5.8)		(5.9)	
23																
24	EWSI Shared Services Allocation															
25	Operations and Maintenance	S. 7-2	-		(0.1)		1.1		2.1		1.8		1.8		1.9	
26	Drainage Services Administratior	S. 9-2	-		-		2.2		1.8		1.7		1.7		1.8	-
27	Sub-total		-		(0.1)		3.4		3.9		3.5		3.6		3.7	
28																
29	Other															
30	Operations and Maintenance	S. 7-2	(2.3)		1.8		6.0		3.7		3.5		3.1		3.2	
31	Drainage Services Administratior	S. 9-2	3.8		4.7		4.9		4.4		4.5		4.5		4.6	
32	Sub-total	-	1.5		6.5		10.9		8.1		8.0		7.7		7.8	•
33		-														-
34	Total Operating Costs		\$ 101.4	\$	107.9	\$	116.8	\$	127.7	\$	110.6	\$	105.4	\$	107.9	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Drainage Operations Costs by Function (\$ millions)

Line			Cross	2	018	2	2019	_ 2	020	_ 2	2021		2022	_ 2	2023	_ 2024	Cross
No.	Function/Sub-function		Reference	A	ctual	Α	ctual	Foi	recast	Foi	recast	Fo	recast	Fo	orecast	Forecast	Reference
1	Drainage Operations																
2	Biosolids Management Program			\$	13.4	\$	14.0	\$	14.8	\$	16.9	\$	4.5	\$	-	\$-	
3	Pipeline Maintenance				16.6		17.5		18.0		19.6		18.70		18.27	18.61	
4	Flow Control Facilities				10.7		10.7		11.1		11.6		11.73		11.95	12.16	
5	Monitoring and Compliance				5.4		5.7		5.9		6.3		6.16		6.28	6.39	
6	General Maintenance				2.7		1.9		1.6		1.9		1.97		2.01	2.05	
7		Subtotal	S. 7-2		48.8		49.8		51.3		56.3		43.10		38.51	39.21	
8	One Water Planning and Project S	Support	-														_
9	One Water Planning				9.1		8.1		6.8		7.0		6.79		6.77	6.90	
10	Engineering				1.2		1.2		2.0		2.2		2.23		2.27	2.31	
11	Project Management				2.2		2.0		2.8		2.8		2.90		2.95	3.00	
12	Open Cut Services				0.5		2.9		2.5		2.0		2.07		2.10	2.14	
13	In House Tunneling				0.5		1.8		1.6		1.9		1.87		1.91	1.94	
14	Construction Management		_		(1.1)		1.4		1.2		1.1		1.04		1.06	1.08	_
15		Subtotal	S. 7-2		12.3		17.4		16.9		17.0		16.89		17.05	17.37	_
16	Operational Support Services																
17	Facility Operations				3.1		4.2		4.7		6.5		3.84		3.51	3.61	
18	Supply Chain				1.7		1.4		1.6		1.4		1.35		1.34	1.28	
19	Equipment Dispatch				(1.5)		(3.3)		(3.9)		(4.0)		(4.76)		(4.90)	(4.99)
20		Subtotal	S. 7-2		3.2		2.4		2.5		3.9		0.43		(0.05)	(0.10)
21																	
22	SIRP		S. 7-2		-		0.0		2.3		4.1		4.28		4.47	4.56	
23																	
24	CORe		S. 7-2		-		0.0		1.8		4.1		3.31		2.24	3.09	_
25																	
26	Total Operations and Maintenanc	e Costs		\$	64.4	\$	69.6	\$	74.8	\$	85.5	\$	68.0	\$	62.2	\$ 64.1	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Drainage Operations Costs by Cost Category (\$ millions)

Line		2018	2019	2020	2021	2022	2023	2024	Cross
No.	Function/Sub-function	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
1	Drainage Operations								
2	Staff Costs and Employee Benefits	\$ 23.2	\$ 25.0	\$ 25.9	\$ 27.4	\$ 26.4	\$ 26.1	\$ 26.7	
3	Contractors and Consultants	17.9	4.6	19.3	21.9	9.6	5.1	5.2	
4	Materials and Supplies	3.7	16.9	2.7	3.5	3.5	3.5	3.6	
5	Vehicles	2.9	3.1	3.2	3.4	3.4	3.4	3.5	
6	Other	1.1	0.2	0.2	0.3	0.3	0.3	0.3	
7	Subtotal	48.8	49.8	51.3	56.3	43.1	38.5	39.2	S. 7-1
8	Planning and Project Support								-
9	Staff Costs and Employee Benefits	11.5	13.2	11.0	13.5	13.7	13.8	14.1	
10	Contractors and Consultants	4.4	3.1	3.3	2.5	2.1	2.2	2.2	
11	Materials and Supplies	0.3	0.5	0.4	0.7	0.8	0.8	0.8	
12	Vehicles	0.1	0.1	0.0	-	-	-	-	
13	Other	(4.0)	0.5	2.1	0.3	0.3	0.3	0.3	
14	Subtotal	12.3	17.4	16.9	17.0	16.9	17.1	17.4	S. 7-1
15	Operational Support Services								-
16	Staff Costs and Employee Benefits	1.8	4.5	(1.3)	4.4	4.4	4.4	4.4	
17	Contractors and Consultants	1.7	3.0	2.7	2.9	1.2	1.2	1.3	
18	Materials and Supplies	1.7	1.6	1.8	1.3	1.0	1.1	1.1	
19	Vehicles	(2.5)	(7.7)	(5.5)	(8.3)	(9.0)	(9.2)	(9.4)	
20	EWSI Shared Services Allocation	- /	(0.1)	1.1	2.1	1.8	1.8	1.9	
21	Other	0.6	1.1	3.6	1.5	1.1	0.6	0.7	
22	Subtotal	3.2	2.4	2.5	3.9	0.4	(0.1)	(0.1)	S. 7-1
23	NRA-SIRP						/		•
24	Staff Costs and Employee Benefits	-	(0.0)	1.1	2.5	2.4	2.4	2.5	
25	Contractors and Consultants	-	0.0	1.1	-	-	0.1	0.1	
26	Materials and Supplies	-	(0.0)	0.0	0.0	0.0	0.0	0.0	
27	Vehicles	-	-	0.1	-	-	-	-	
28	Other	-	(0.0)	0.0	1.7	1.9	1.9	1.9	
29	Subtotal	-	0.0	2.3	4.1	4.3	4.5	4.6	S. 7-1
30	NRA-CORE								-
31	Staff Costs and Employee Benefits	-	0.0	0.8	1.7	1.8	1.8	1.8	
32	Contractors and Consultants	-	0.0	0.5	1.4	0.5	(0.6)	0.2	
33	Materials and Supplies	-	0.0	0.5	1.1	1.1	1.1	1.1	
34	Vehicles	-	0.0	0.0	-	-	-	-	
35	Other	-	-	0.0	-	-	-	-	
36	Subtotal	-	0.0	1.8	4.1	3.3	2.2	3.1	-
37									-
38	Total Operations and Maintenance Costs	\$ 64.4	\$ 69.6	\$ 74.8	\$ 85.5	\$ 68.0	\$ 62.2	\$ 64.1	S. 5-2

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Customer Billing and Meter Services (\$ millions)

Line No.	Description	20 Ac	018 tual:	2 2	2019 Actual	2 Fo	2020 recast	2 Fo	2021 recast	2 Foi	022 recast	2 Fo	2023 recast	2024 Foreca	ist	Cross Reference
1 2	Customer Billing Services Meter Services	\$	5.2 2.4	\$	4.7 2.4	\$	6.6 2.4	\$	4.8 2.5	\$	4.9 2.8	\$	5.0 2.7	\$ 5 2	5.1 2.4	S. 18-1 S. 18-1
3 4	Total Billing, Meter and Customer Service Costs	\$	7.6	\$	7.1	\$	9.0	\$	7.3	\$	7.7	\$	7.7	\$7	<u>.5</u>	S. 5-1 S. 5-2

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Drainage Services Administration Costs by Function (\$ millions)

Line		Cross	2	018	2	2019	2	2020	:	2021	2	022	2	2023	2	024	Cross
No.	Description	Reference	Ac	tual	Α	ctual	Fo	recast	Fo	orecast	For	ecast	Fo	recast	For	ecast	Reference
			•	~ 4	•		•		•		•		•		•		
1	Information Services		\$	3.4	\$	3.3	\$	3.6	\$	3.7	\$	3.9	\$	3.9	\$	4.0	
2	Health, Safety & Loss Prevention			0.9		1.2		1.0		1.5		1.5		1.6		1.6	
3	Technical Training			1.7		1.5		1.5		1.6		1.6		1.7		1.7	
4	Financial Services			2.7		2.4		1.6		1.7		1.7		1.7		1.9	
5	Public & Government Affairs			1.9		2.3		2.1		2.4		2.4		2.4		2.5	
6	Human Resources			0.6		0.8		0.7		0.7		0.7		0.8		0.8	
7	Executive Administration			1.1		1.3		1.5		1.5		1.5		1.6		1.6	
8	Operational Excellence			0.8		1.1		1.3		1.4		1.3		1.4		1.4	
9	Incentive Compensation			1.2		2.0		2.9		2.6		2.4		2.4		2.5	
10	DVP Drainage Services			0.6		0.6		1.9		1.4		1.5		1.5		1.5	
11	Other			0.4		(0.0)		(0.1)		-		-		-		-	
12																	
13	Total Drainage Services Administration Costs	S. 9-2	\$	15.4	\$	16.7	\$	18.0	\$	18.6	\$	18.6	\$	18.9	\$	19.4	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Drainage Services Administration Costs by Cost Category (\$ millions)

Line No.	Cost Category	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	Cross Reference
1	Staff Costs and Employee Benefits	8.5	9.3	8.9	9.1	9.0	9.2	9.3	
2	Contractors and Consultants	1.7	1.7	1.1	2.5	2.5	2.4	2.6	
3	Materials and Supplies	1.3	0.9	0.8	1.0	1.0	1.0	1.0	
4	Vehicles	0.0	0.0	-	-	-	-	-	
5	EWSI Shared Services Allocation	-	-	2.2	1.8	1.7	1.7	1.8	
6	Other	3.8	4.7	4.9	4.4	4.5	4.5	4.6	
7	-								
8	Total Drainage Services Administration Costs	15.4	16.7	18.0	18.6	18.6	18.9	19.4	S. 7-2
	-								S. 9-1

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Corporate Shared Service Costs (\$ millions)

Line Nos.	Description	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	Cross Reference
	•								
1	Corporate Shared Services								
2	Board	0.4	0.4	0.4	0.4	0.4	0.4	0.4	
3	Executive	0.6	0.7	0.7	0.8	0.8	0.8	0.8	
4	Corporate Finance	0.9	1.0	0.9	0.9	0.9	0.9	0.9	
5	Treasury	0.4	0.5	0.5	0.7	0.7	0.7	0.7	
6	Internal Audit and Risk Management	0.8	0.7	0.8	0.8	0.8	0.8	0.8	
7	Human Resources	1.6	2.0	2.1	2.3	2.3	2.3	2.4	
8	Information Services	2.2	2.2	2.1	2.2	2.2	2.3	2.3	
9	Supply Chain Management	1.6	1.8	1.7	1.8	1.9	1.9	2.0	
10	Public and Government Affairs	0.8	0.7	0.7	0.7	0.8	0.8	0.9	
11	Legal Services	0.5	0.5	0.5	0.6	0.6	0.6	0.6	
12	Health, Safety and Environment	0.2	0.2	0.3	0.2	0.2	0.2	0.2	
13	At-Risk Compensation	1.4	1.2	1.2	1.3	1.3	1.3	1.3	
14	Business Development Disallowances	(0.3)	(0.3)	(0.2)	(0.2)	(0.2)	(0.3)	(0.3)	
15	Subtotal	11.2	11.4	11.7	12.4	12.6	12.9	13.1	-
16	Asset Usage Fees								-
17	Leasehold Improvements - EPCOR Tower	0.1	0.2	0.2	0.2	0.2	0.2	0.2	
18	IS-Capital - Corporate	1.8	2.1	2.2	2.3	2.2	2.2	2.2	
19	CIS	-	-	0.2	0.8	0.7	0.8	0.8	
20	Oracle	0.5	0.4	0.4	0.4	0.4	0.4	0.4	
21	Other Corporate Assets	0.4	0.3	0.2	0.2	0.2	0.2	0.2	
22	Subtotal	2.9	3.0	3.3	3.9	3.7	3.7	3.8	-
23	=								-
24	Total Corporate Administration Costs	\$ 14.0	\$ 14.5	\$ 15.0	16.3	16.3	16.6	17.0	S. 5-1
	-								S. 18-1

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Allocation of Corporate Shared Service Costs As a Percentage of Total Corporate Services Costs

Line	1		2018	2019	2020	2021	2022-2024
No.	Cost Components	Basis of Allocation	Actual	Actual	Actual	Actual	Forecast
1	Corporate Shared Services						
2	Board & Executive	Composite	22.8%	23.1%	22.4%	23.0%	22.9%
4	Ormanda Finance						
5		Composito	00.00/	00 40/	00 40/	22.00/	22.00/
6	Corporate Finance		22.8%	23.1%	22.4%	23.0%	22.9%
6	Accounts Payable	Invoice Lines	18.1%	19.0%	19.0%	19.0%	19.0%
8	Accounts Receivable	Accounts Receivable	0.0%	0.0%	0.0%	10.8%	10.8%
10	Other	Composite	22.070	23.170	22.470	23.076	22.970
11	Treasury						
12	Treasurer	Composite	24 5%	22 7%	28.3%	27 1%	28.2%
13	Treasury Operations	50%(NI+Dep) 50% Debt	18.0%	17.6%	18.8%	20.0%	20.5%
14	Taxation	Composite	22.8%	23.1%	22.4%	23.0%	22.9%
15							
16	Internal Audit and Risk Management						
17	Internal Audit	Composite	22.8%	23.1%	22.4%	23.0%	22.9%
18	Insurance Risk Management	PP&E	40.4%	40.4%	40.9%	40.9%	40.9%
19							
20	Information Services						
21	Major Capital Projects	Assets	21.3%	20.9%	20.8%	21.4%	20.8%
22	Application Services	Assets	21.3%	20.9%	20.8%	21.4%	20.8%
23	Infrastructure Operations	PC Count	14.9%	16.3%	16.4%	17.5%	17.3%
24							
25	Human Resources						
26	Human Resource, Payroll, Corporate Technical Training	Canadian Headcount	23.4%	23.2%	22.6%	23.9%	23.3%
27	Total Rewards, Talent Management, Learning & Developme	Headcount	21.3%	20.9%	20.8%	21.4%	20.8%
28	Our when Oh a in Manual and a state						
29	Supply Chain Management	Considion Headequint	02 40/	22.20/	22 60/	22.00/	22.20/
30	Dreeuroment		23.4%	23.2%	22.0%	23.9%	23.3%
22	Procurement Port and Escility Operations	PO Lilles Composito	19.4%	19.1%	19.1%	19.1%	19.1%
32		Composite	22.070	23.170	22.470	23.0%	22.970
34	Public and Government Affairs						
35	Director, Corporate Communications	Weighted Avg of PG&A Costs	13.3%	11.3%	11.5%	11.6%	13.5%
36	Government Relations	Composite	22.8%	23.1%	22.4%	23.0%	22.9%
37	Community Relations and Corporate Comunications	Net Income	12.6%	10.5%	10.6%	10.4%	12.6%
38							
39	Legal Services	Composite	22.8%	23.1%	22.4%	23.0%	22.9%
40							
41	Health, Safety & Environment	Composite	22.8%	23.1%	22.4%	23.0%	22.9%
42							
43	Incentive Compensation	Avg Corp Costs Allocation	20.6%	20.6%	20.3%	21.1%	21.0%
44	• • • • • •						
45	Sub-total		20.6%	20.4%	20.3%	21.1%	21.0%
46	Asset Users Free and Determine Assets						
47	Asset Usage Fees and Return on Assets	Direct IS ALLE	16 00/	10 10/	17.00/	10 50/	10.00/
40		Direct IS - AUF	10.0%	10.1%	17.9%	10.0%	10.0%
49	Uraule	Composito	20.9%	20.9%	20.0% 20.20/	20.9% 21.10/	20.8%
50	Leasenou Improvements - EFGOR TOWER	Customer Count	20.0%	20.0%	20.3% 6 7%	∠1.1% 6.7%	£1.0%
52	Other Corporate Assets		18.6%	15 1%	1/ 6%	0.7 % 1/1 R%	1/ 20/
53	Other Outporate Associa		10.070	10.470	14.070	14.070	14.370
54	Total Asset Usage Fee		17.7%	18.2%	16.7%	14.3%	13.9%
55	U U						
56	Total Corporate Shared Services Allocation		20.0%	20.1%	19.2%	18.8%	18.8%

-

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Franchise Fees and Property Taxes (\$ millions)

Line		2018	2019	2020	2021	2022	2023	2024	Cross
No.	Description	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
1	Franchise fees	8.9	9.3	9.7	9.8	10.2	10.5	11.4	S. 18-1
2	Property and business taxes	0.9	0.8	1.0	1.4	1.6	1.6	1.6	S. 18-1
3									•
4	Total Franchise Fees and Property Taxes	9.8	10.0	10.6	11.2	11.8	12.1	13.1	
5	-								•
6	Allocated to:								
7	Sanitary Utility, excluding CORe	9.3	9.5	9.8	9.9	9.6	9.9	10.4	S. 3-1
8	CORe	-	-	0.3	0.5	1.1	1.2	1.6	S. 3-1
9	Stormwater, excluding SIRP	0.6	0.5	0.6	0.9	1.0	1.0	1.0	S. 3-2
10	SIRP	-	-	-	-	-	-	-	S. 3-2
11	-								-
12	Total Franchise Fees and Property Taxes	9.8	10.0	10.6	11.2	11.8	12.1	13.1	

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services **Depreciation Expense** (\$ millions)

Line		Cross	2018	2019	2020	2021	2022	2023	2024	Cross
No.	Description	Reference	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
1	Gross Depreciation Expense									
2	Sanitary Utility	S. 15-3	\$ 33.1	\$ 24.5	\$ 27.9	\$ 29.3	\$ 28.8	\$ 29.8	\$ 30.9	
3	Sanitary Utility Portion of Combined	S. 15-3	6.3	6.1	2.8	3.6	5.1	5.7	6.3	_
4	Sub-tota	1	39.4	30.6	30.6	33.0	33.9	35.5	37.2	_
5										
6	CORe	S. 15-3	-	-	0.1	0.8	1.5	2.1	2.7	_
7										
8	Stormwater Utility	S. 15-3	19.5	31.9	41.3	42.4	42.9	43.7	45.1	
9	Stormwater Utility Portion of Combined	S. 15-3	10.6	10.4	4.7	6.0	8.1	9.0	9.9	_
10	Sub-tota	1	30.1	42.3	46.0	48.4	51.1	52.7	55.0	-
11										
12	SIRP	S. 15-3	-	-	-	-	1.8	4.3	6.7	_
13										
14	Total Gross Depreciation Expense		69.5	73.0	76.7	82.2	88.3	94.6	101.6	_
15										
16	Amortization of Contributions									
17	Sanitary Utility	S. 15-6	(22.7)	(15.4)) (14.4)	(15.5)	(16.9)	(17.8)	(18.3)	
18	Sanitary Utility Portion of Combined	S. 15-6	(0.3)	(0.3)) (0.0)	(0.1)	(0.1)	(0.1)	(0.2)	
19	Sub-tota	I	(23.0)	(15.7)) (14.4)) (15.6)	(17.0)	(17.9)	(18.5)	-
20				· · · · · ·						-
21	Stormwater Utility	S. 15-6	(14.1)	(24.1)	(26.8)	(27.9)	(29.0)	(30.2)	(31.4)	
22	Stormwater Utility Portion of Combined	S. 15-6	(0.4)	(0.5)) (0.0)	(0.1)	(0.2)	(0.2)	(0.3)	
23	Sub-tota		(14.5)	(24.6)) (26.8)	(28.0)	(29.2)	(30.4)	(31.6)	-
24							, , , , , , , , , , , , , , , , , , ,			-
25	SIRP	S. 15-6	-	-	-	-	(0,1)	(0.2)	(0.3)	
26							(-)	(-)	()	-
27	Total Amortization of Contributions		(37.5)	(40.3)	(41.3)	(43.6)	(46.3)	(48.5)	(50.5)	
28			(01.0)	(1010)	(110)	(1010)	(1010)	(1010)	(0010)	_
29	Total Depreciation Expense, net of Amortization	ı	32.0	32.7	35.5	38.6	42.0	46.0	51.1	
30	······································	-							•	=
31	Allocated to:									
32	Sanitary Litility excluding Core		16.4	1/ 0	16.2	17 /	16.0	17.6	18.7	S 3 1
22			10.4	14.5	0.1	17.4	10.9	2.1	0.7	S. J-1
24	Total Sonitory Utility		- 16.4	- 14.0	16.2	10.0	1.5	10.6	2.1	- 3. 3-1
34 25	Stermuster Utility evoluting CIDD		10.4	14.9	10.3	10.2	10.4	19.0	21.4	-
30	Stormwater Utility, excluding SIKP		0.01	17.8	19.1	20.4	21.9	<u>کک</u>	23.4	5. 3-2
30			-	-	-	-	1.7	4.1	0.3	- 5. 3-2
<i>ও।</i>	I Otal Stormwater Utility		15.6	17.8	19.1	20.4	23.6	26.4	29.7	-
38 20	Total Denne sisting Frances and			ac -	or -		40.0	40.0		0.40.4
39	i otal Depreciation Expense, net	:	32.0	32.7	35.5	38.6	42.0	46.0	51.1	5. 16-1
40		-			-					
vo 4 1	Difference = pre Apr 1, 2022 SIRP depreciation	Finand	igecil~24(9 SQheb219	f12-1(162.5)	(829.5)	(572.6)	-	-	

July 21, 2021 Difference = pre Apr 1, 2022 SIRP depreciation

Finand Contracting Scheber 72-1(162.5)

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EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Depreciation Rates

		2018-202	21	2022-202	24	Table
Line		Annual	Economic	Annual	Economic	4.4-1
No.	Description	Depreciation Rate	Life (vears)	Depreciation Rate	Life (vears)	row ref
-						
1	Sanitary pipes	1.33%	75.0	1.33%	75.0	1
2	Stormwater pipes	1.33%	75.0	1.33%	75.0	1
3	Combined pipes	1.33%	75.0	1.33%	75.0	1
4	Catch Basin Manhole	1.33%	75.0	1.33%	75.0	2
5	Catch Basin	1.33%	75.0	1.33%	75.0	2
6	Manholes	1.33%	75.0	1.33%	75.0	2
7	Other stormwater structures	1.33%	75.0	1.33%	75.0	3
8	Stormwater Management Facilities	1.33%	75.0	1.33%	75.0	3
9	Lagoons	1.33%	75.0	1.33%	75.0	4
10	Service connections	1.33%	75.0	1.33%	75.0	5
11	Storage tanks	1.33%	75.0	1.33%	75.0	6
12	Outfalls	1.33%	75.0	1.33%	75.0	7
13	Culverts	1.33%	75.0	1.33%	75.0	8
14	Inlets / Outlets	1.33%	75.0	1.33%	75.0	9
15	Computer equipment - hardware	20.00%	5.0	20.00%	5.0	10
16	Low Impact Development - engineered soil	4.00%	25.0	4.00%	25.0	10
17	Laboratory equipment	20.00%	5.0	20.00%	5.0	11
18	Ventilation units	6.67%	15.0	6.67%	15.0	11
19	Construction equipment & tools	10.00%	10.0	10.00%	10.0	12
20	Process control systems / SCADA	10.00%	10.0	10.00%	10.0	12
21	Construction equipment & tools - TBM	Variable - usag	e based	10.00%	10.0	16
22	Pump Station Equipment Enhancements / Treatment	5.00%	20.0	5.00%	20.0	17
23	Office furniture & equipment	16.67%	6.0	16.67%	6.0	18
24	Software intangibles	20.00%	5.0	20.00%	5.0	19
25	Buildings - office / pump stations	2.27%	44.0	2.27%	44.0	20
26	Buildings - trailers / warehouse	10.00%	10.0	10.00%	10.0	21
27	Buildings - leasehold improvements	10.00%	10.0	10.00%	10.0	22
28	Vehicles - cars	14.29%	7.0	14.29%	7.0	23
29	Vehicles - others	10.00%	10.0	10.00%	10.0	24
30	Average	2.00%	50.0	1.89%	53.0	-

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Revenue Offsets (\$ millions)

Line No.	Description	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	Cross Reference
1	Biosolids	3.2	4.1	4.7	4.3	1.2	-	-	
2	Compliance and monitoring	1.2	3.9	4.0	4.1	3.8	3.9	3.9	
3	Pipeline Maintenance	0.9	0.7	0.6	0.7	0.7	0.7	0.7	
4	Late payment charges	0.8	0.5	0.3	0.5	0.5	0.6	0.6	
5	Other	4.3	0.9	0.2	0.1	0.1	0.1	0.1	
6									-
7	Total Revenue Offsets	10.3	10.0	9.9	9.7	6.3	5.2	5.3	S. 16-1
8									
9	Allocated to:								
10	Sanitary Utility Portion	6.8	8.9	9.2	9.0	5.6	4.5	4.6	S. 3-1
11	Stormwater Utility Portion	3.5	1.2	0.7	0.7	0.7	0.7	0.7	S. 3-2
12	----							•••	
13	Total Revenue Offsets	10.3	10.0	9.9	9.7	6.3	5.2	5.3	<u>.</u>

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Return on Rate Base (\$ millions)

Line	Description	Cross	2018 Actual	2019 Actual	2020 Forecast	2021 Eorocast	2022 Forecast	2023 Forecast	2024 Eorocast	Cross
110.	Description	Kererence	Actual	Actual	Torecast	Torecast	Torecast	Torecast	Torecast	Reference
1	Sanitary Utility excluding CORe	S 15 1	606 1	646.6	600.6	762.6	709.2	940.0	006 0	
2	Wild-Teal Nate Dase, Het	3. 10-1		040.0	099.0	702.0	190.2	040.9	000.0	
4	Capital Structure									
5	Debt Capital	S. 17-1	33.76%	51.36%	55.53%	59.79%	60.00%	60.00%	60.00%	
7	Mid-Year Capital Structure	5. 17-1	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
8										
9	Cost Rates	0.47.0	0.050/	0.000/	0.000/	0.740	0.000		0.470/	
10	Common Stock Equity	5. 17-2	6.95% 7.79%	3.38%	2.98%	2.71%	3.32%	3.14% 6.61%	3.17%	
12	Weighted Average Cost of Capital		7.51%	7.38%	6.78%	5.98%	4.19%	4.53%	4.99%	S. 14-2
13										
14	Return on Rate Base		14.0	11.0	11.6	10.4	15.0	15.0	16.0	0.24
15	Common Stock Equity		31.3	36.5	35.8	33.3	15.9	22.2	27.4	S. 3-1 S. 3-1
17	Total Return on Rate Base		45.5	47.7	47.4	45.6	33.5	38.1	44.3	
18										
19 20	CORe Mid-Vear Rate Base net	S 15-1		_	10.2	54.8	102.1	134.8	178 3	
21		0.10-1		-	10.2	54.0	102.1	104.0	170.5	
22	Capital Structure									
23	Debt Capital				60.00%	60.00%	60.00%	60.00%	60.00%	
24 25	Mid-Year Capital Structure		0.00%	0.00%	100.00%	40.00%	100.00%	100.00%	100.00%	
26										
27	Cost Rates									
28	Debt Capital				2.98%	2.71%	3.32%	3.14%	3.17%	
30	Weighted Average Cost of Capital		0.00%	0.00%	9.28%	0.73%	5.97%	5.86%	5.88%	
31	5 5 5 1									
32	Return on Rate Base									
33	Debt Capital Common Stock Equity		-	- (0.0)	0.2	0.9	2.0	2.5	3.4	S. 3-1 S. 3-1
35	Total Return on Rate Base			(0.0)	0.8	0.4	6.1	7.9	10.5	0.0-1
36										
37	Stormwater Utility excluding SIRP				• • · · · ·	740.0				
38	Mid-Year Rate Base, net	S. 15-1	\$ 541.6	\$ 583.4	\$ 647.4	/13.8	//2.1	813.1	860.3	
40	Capital Structure									
41	Debt Capital		33.76%	51.36%	55.53%	59.79%	60.00%	60.00%	60.00%	
42	Common Stock Equity		66.24%	48.64%	44.47%	40.21%	40.00%	40.00%	40.00%	
44			100.0070	100.0070	100.0070	100.0070	100.0070	100.0070	100.0070	
45	Cost Rates									
46	Debt Capital		6.95%	3.38%	2.98%	2.71%	3.32%	3.14%	3.17%	
47 48	Common Stock Equity Weighted Average Cost of Capital		-1.84%	-2.80%	-2.44%	-2.03%	5.50%	6.61%	7.73%	
49	troighted / troidge coor of capital			0.01 /0	0.0170	0.0170		1.0070		
50	Return on Rate Base									
51	Debt Capital	0 17 4	12.7	10.1	10.7	11.6	15.4	15.3	16.4	S. 3-2
52 53	Total Return on Rate Base	5. 17-4	\$ 6.1	\$ 2.2	\$ 3.7	(5.6)	32.4	36.8	42.9	5. 3-2
54										
55	SIRP									
56 57	Mid-Year Rate Base, net	S. 15-1	<u>\$</u> -	\$ -	\$ 8.5	31.3	81.2	141.1	207.7	
58	Capital Structure									
59	Debt Capital						60.00%	60.00%	60.00%	
60 61	Common Stock Equity Mid-Year Capital Structure		0.00%	0.00%	0.00%	0.00%	40.00%	40.00%	40.00%	
62				0.0070	0.0070	0.0070	100.0070	100.0070	100.0070	
63	Cost Rates									
64	Debt Capital	S. 17-2					3.32%	3.14%	3.17%	
66	Weighted Average Cost of Capital		0.00%	0.00%	0.00%	0.00%	9.95%	5.86%	5.88%	
67	····g·······g···p-····									
68	Return on Rate Base									
69	Debt Capital	C 17 4		(0.0)			1.2	2.7	4.0	S. 3-2
70	Total Return on Rate Base	5. 17-4	\$ -	\$ (0.0)	\$ 0.9	\$ 0.1	3.6	8.3	12.2	5. 3-2
72			_ <u>.</u>	. ()						
73	Return on Debt Financed Portion of Rate Base		· ···-	· ··-	· ··-					
74 75	Sanitary Stormwater		\$ 14.2 12.7	\$ 11.2 10.1	३ 11.6 10.7	12.4	15.9 15.4	15.8 15.3	16.9 16.4	
76	SIRP		-	-	-	-	1.2	2.7	4.0	
77	CORe			-	0.2	0.9	2.0	2.5	3.4	
78	Total Return on Debt Financed Portion of Rate Bas	e	\$ 26.9	\$ 21.3	\$ 22.5	24.9	34.5	36.3	40.6	S. 16-1
79 80	Return on Equity Financed Portion of Rate Base									
81	Sanitary		31.3	36.5	35.8	33.3	17.6	22.2	27.4	
82	Stormwater		(6.6)	(7.9)	(7.0)	(5.8)	17.0	21.5	26.6	
83 84	SIRP		-	(0.0)	0.9	0.1	2.4	5.6 5.4	8.3	
85	Total Return on Equity Financed Portion of Rate Ba	ise	24.7	28.5	30.5	27.0	41.0	54.7	69.3	S. 16-1

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Rate Base (\$ millions)

Line No.	Description	Cross Reference	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	Cross Reference
	·									
1	Sanitary Utility excluding CORe	S 15-2	\$ 1 653 2	¢ 1 728 2	¢ 1 831 2	\$ 1 060 7	\$ 2 003 2	\$ 2 200 8	\$ 2 308 7	
3	Mid-Year Property, Plant and Equipment - Sanitary Utility Portion of Combined	S. 15-2	\$1,000.2 167.2	193.7	211.2	228.4	241.1	\$2,203.0 247.1	\$ 2,300.7 252.2	
4	Mid-Year Property, Plant and Equipment - Sanitary Utility Total		1,820.4	1,921.9	2,042.4	2,198.1	2,334.2	2,456.8	2,560.8	
5									(
6	Mid-Year Accumulated Depreciation - Sanitary Utility	S. 15-3	(406.4)	(433.6)	(458.1)	(486.7)	(502.3)	(531.6)	(561.9)	
8	Mid-Year Accumulated Depreciation - Sanitary Ounty Ponton of Combined	5. 15-5	(456.7)	(488.7)	(515.5)	(543.9)	(558.9)	(588.9)	(620.4)	
9				(100.1)	(010.0)	(0.10.0)	(000.0)	(000.0)	(020.1)	
10	Mid-Year Net Property		1,363.7	1,433.2	1,526.9	1,654.1	1,775.3	1,867.9	1,940.4	
11	Materials and Ownelling		0.0	0.0	0.5	0.5		0.5	0.5	
12	Materials and Supplies		0.0	0.0	0.5	0.5	0.5	0.5	0.5	
14	Working Capital	S. 16-1	5.5	5.4	4.6	4.8	5.3	6.2	7.2	
15										
16	Gross Mid-Year Sanitary Utility Rate Base		1,369.9	1,439.2	1,531.9	1,659.4	1,781.2	1,874.7	1,948.2	
17	Mid-Year Net Contributions - Sanitary Litility	S 15.6	(746.2)	(750.6)	(701.5)	(852.2)	(03/ 7)	(082.3)	(1 006 0)	
19	Mid-Year Net Contributions - Sanitary Utility Portion of Combined	S. 15-6	(17.6)	(33.1)	(40.9)	(44.6)	(48.2)	(51.6)	(1,000.3)	
20	Mid-Year Net Contributions		(763.8)	(792.6)	(832.3)	(896.8)	(983.0)	(1,033.8)	(1,061.4)	
21										.
22	Net Mid-Year Sanitary Utility Rate Base excluding CORe		606.1	646.6	699.6	762.6	798.2	840.9	886.8	S. 14-1
23 24	CORe									
25	Mid-Year Property Plant and Equipment	S. 15-2	\$-	\$-	\$ 10.2	\$ 55.3	\$ 103.8	\$ 138.3	\$ 184.2	
26	Mid-Year Accumulated Depreciation	S. 15-3		-	(0.1)	(0.5)	(1.7)	(3.5)	(5.9)	
27				•						
28	Net MID-Year CORE Rate Base		> -	ş -	\$ 10.2	\$ 54.8	\$ 102.1	\$ 134.8	\$ 1/8.3	5. 14-1
30	Stormwater Utility excluding SIRP									
31	Mid-Year Property, Plant and Equipment - Stormwater Utility	S. 15-2	\$2,430.2	\$2,588.2	\$2,749.3	\$ 2,896.5	\$ 3,043.6	\$3,184.9	\$ 3,329.6	
32	Mid-Year Property, Plant and Equipment - Stormwater Utility Portion of Combine	s. 15-2	279.3	331.5	360.1	376.7	386.5	390.0	396.9	
33	Mid-Year Property, Plant and Equipment		2,709.5	2,919.7	3,109.5	3,273.2	3,430.2	3,574.9	3,726.5	
34	Mid-Year Accumulated Depreciation - Stormwater Utility	S. 15-3	(347.5)	(372.4)	(408.2)	(450.1)	(492.8)	(536.1)	(580.5)	
36	Mid-Year Accumulated Depreciation - Stormwater Utility Portion of Combined	S. 15-3	(84.1)	(94.3)	(97.9)	(94.4)	(90.8)	(90.5)	(92.1)	
37	Mid-Year Accumulated Depreciation		(431.6)	(466.7)	(506.1)	(544.4)	(583.5)	(626.6)	(672.6)	
38	Mid Veer Net Brevert		0.077.0	2 452 0	2 602 4	0 700 0	2 0 4 6 7	2040.2	2 052 0	
39 40	Mid-real Net Property		2,211.9	2,455.0	2,003.4	2,720.0	2,040.7	2,940.3	3,053.9	
41	Materials and Supplies		1.0	1.0	0.8	0.8	0.8	0.8	0.8	
42										
43	Working Capital	S. 16-1	9.3	9.3	7.8	7.9	8.6	9.8	11.4	
44 45	Gross Mid-Year Stormwater Utility Rate Base		2 288 2	2 463 3	2 612 0	2 737 5	2 856 0	2 958 9	3 066 1	
46				_,	_,	_,	_,	_,		
47	Mid-Year Net Contributions - Stormwater Utility	S. 15-6	(1,717.2)	(1,823.3)	(1,894.9)	(1,950.2)	(2,006.6)	(2,064.5)	(2,120.1)	
48	Mid-Year Net Contributions - Stormwater Utility Portion of Combined	S. 15-6	(29.4)	(56.6)	(69.7)	(73.5)	(77.4)	(81.4)	(85.7)	
49 50	Mid-Year Net Contributions		(1,746.6)	(1,879.9)	(1,964.6)	(2,023.7)	(2,083.9)	(2,145.9)	(2,205.8)	
51	Net Mid-Year Stormwater Utility Rate Base excluding SIRP		541.6	583.4	647.4	713.8	772.1	813.1	860.3	S. 14-1
52										
53	SIRP									
54	Mid-Year Property Plant and Equipment	S. 15-2	\$ -	\$-	\$ 9.4	\$ 35.0	\$ 92.5	\$ 162.2	\$ 245.1	
55 56	mid-rear Accumulated Depreciation	S. 15-3		-	(0.1)	(0.6)	(2.2)	(5.6)	(11.1)	
57	Gross Mid-Year Stormwater Utility Rate Base		-	-	9.3	34.4	90.3	156.6	234.0	
58	·									
59	Mid-Year Net Contributions	S. 15-6		-	(0.9)	(3.0)	(9.1)	(15.5)	(26.3)	
60 61	Net Mid-Year SIRP Rate Base		\$ -	\$ -	\$ 8.5	\$ 31.3	\$ 81.2	\$ 141.1	\$ 207.7	S. 14-1

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Property, Plant & Equipment (\$ millions)

Line No.		Cross Reference	2 Ac	018 tual	A	2019 Ictual	2 Fo	2020 recast	2 Foi	2021 recast	2 Fo	2022 recast	2 For	023 ecast	2024 Forecast	Cross Reference
1	Previous year balance		\$1	628 5	\$ 1	677 Q	\$1	778 5	\$ 1	883.8	\$2	055.6	\$2	168 2	\$2 251 3	
3	Transfer of Biosolids Management Facility to Wastewater Treatr	nent	ψ1,	020.0	ψı	,011.5	ψī	,770.5	ψī	,000.0	ΨZ	(37.5)	ΨΖ,	100.2	ψ2,201.0	
4	Previous Year Balance, Adjusted		1,	628.5	1	,677.9	1	,778.5	1	,883.8	2	,018.1	2,	168.2	2,251.3	_
5	Additions to Property, Plant & Equipment	S. 15-4		49.4		103.9		105.3		171.7		150.1		83.1	114.7	
6	Retirements and Adjustments			-		(3.3)		-		-		-		-	-	_
7	Current year balance		\$1,	677.9	\$1	,778.5	\$1	,883.8	\$2	,055.6	\$2	,168.2	\$2,	251.3	\$2,366.0	_
8																-
9	Mid-Year Property, Plant & Equipment		\$1,	653.2	\$1	,728.2	\$1	,831.2	\$1	,969.7	\$2	,093.2	\$2,	209.8	\$2,308.7	S. 15-1
10																-
11	CORe															
12	Previous year balance		\$	-	\$	-	\$	-	\$	20.4	\$	90.2	\$	117.4	\$ 159.1	
13	Additions to Property, Plant & Equipment	S. 15-4		-		-		20.4		69.7		27.3		41.7	50.2	
14	Retirements and Adjustments			-		-		-		-		-		-	-	_
15	Current year balance		\$	-	\$	-	\$	20.4	\$	90.2	\$	117.4	\$	159.1	\$ 209.3	=
16																
17	Mid-Year Property, Plant & Equipment		\$	-	\$	-	\$	10.2	\$	55.3	\$	103.8	\$	138.3	\$ 184.2	S. 15-1
18																
19	Stormwater Utility excluding SIRP															
20	Previous year balance	0.45.4	\$2,	359.0	\$2	2,501.4	\$2	2,675.1	\$2	,823.6	\$2	,969.5	\$3,	117.8	\$3,252.0	
21	Additions to Property, Plant & Equipment	S. 15-4		142.4		1/5.4		148.4		145.9		148.3		134.2	155.1	
22	Reurements and Adjustments		¢ 0	-	¢ 0	(1.0)	¢ 0	-	¢ 0	-	¢ 0	-	¢ 0	-	-	-
23	Current year balance		<u></u> ه۲,	501.4	ą۷	.,075.1	<u>۶</u> ۷	,823.0	ąΖ	,969.5	33	,117.8	Ъ З,	252.0	\$3,407.2	=
24	Mid Veen Drenenty, Dent & Equipment		¢ 0	400.0	¢ 0	500 0	¢ 0	740.2	¢ 0	000 F	¢ 0	042.0	¢ 0	101 0	¢ 0, 000, 6	0 15 1
25	Mid-Year Property, Plant & Equipment		φZ,	430.Z	پ ۲	.,588.2	<u>۶</u> ۷	.,749.3	ą۷	,890.5	33	,043.0	Ъ З,	164.9	\$3,329.0	= 5.15-1
20																
27	SIRP Brovieus voer belenes		¢		¢		¢		¢	10.0	¢	E1 1	¢	124.0	¢ 100 4	
20	Additions to Property Plant & Equipment	S 15-4	φ	-	φ	-	φ	- 18.0	φ	32.3	φ	82.0	φ	56.5	φ 190.4 100.4	
30	Retirements and Adjustments	0.10-4		-		-		-		- 52.5		-		-	- 103.4	
31	Current year balance		\$	-	\$	-	\$	18.9	\$	51.1	\$	134.0	\$	190.4	\$ 299.8	_
32	• ··· · ···) - ··· - ····· -		-		Ŧ		-		- T		Ť		-		+	=
33	Mid-Year Property, Plant & Equipment		\$	-	\$	-	\$	9.4	\$	35.0	\$	92.5	\$	162.2	\$ 245.1	S. 15-1
34			<u> </u>		<u> </u>		<u> </u>	0.1	<u> </u>	00.0	<u> </u>	02.0	÷		÷ 2.0.1	=
35	Combined Sewer Operations															
36	Previous vear balance		\$	399.1	\$	493.9	\$	556.5	\$	586.3	\$	623.9	\$	631.3	\$ 642.8	
37	Additions to Property, Plant & Equipment	S. 15-4		95.0		65.8		40.4	·	52.8		23.4	•	22.4	27.0	
38	Retirements and Adjustments			(0.3)		(3.3)		(10.6)		(15.2)		(16.0)		(11.0)	(14.3)
39	Current year balance		\$	493.9	\$	556.5	\$	586.3	\$	623.9	\$	631.3	\$	642.8	\$ 655.4	<u></u>
40																=
41	Mid-Year Property, Plant & Equipment															
42	Sanitary Utility Portion		\$	167.2	\$	193.7	\$	211.2	\$	228.4	\$	241.1	\$	247.1	\$ 252.2	S. 15-1
43	Stormwater Utility Portion			279.3		331.5		360.1		376.7		386.5		390.0	396.9	S. 15-1
44	Total		\$	446.5	\$	525.2	\$	571.4	\$	605.1	\$	627.6	\$	637.1	\$ 649.1	_

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Accumulated Depreciation (\$ millions)

Line			2018		2019		2020		2021		2022		2023	2024		Cross
No.			Actual	1	Actual	Fo	orecast	F	orecast	F	orecast	Fo	orecast	Forecas	st I	Reference
1 2 3	Sanitary Sewer, excluding CORe Previous year balance Transfer of Biosolids Management Eacility to Wastewater	\$	(389.9)	\$	(422.9)	\$	(444.2)	\$	(472.1)	\$	(501.4)	\$	(516.7)	\$ (546.	5)	
4	Previous year balance adjusted		(389.9)		(422.9)		(444.2)		(472 1)	-	(487.9)		(516.7)	(546	5)	
5	Gross Provision		(33.1)		(24.5)		(27.0)		(20.3)		(28.8)		(20.8)	(30	a)	S 12-1
6	Retirements Net Salvage and Adjustments		-		3.3		-		(20.0)		(20.0)		(20.0)	(00.	0)	0.121
7	Current vear balance	\$	(422.9)	\$	(444.2)	\$	(472.1)	\$	(501.4)	\$	(516.7)	\$	(546.5)	\$ (577.	4)	
8	• ···· • • • • • • • • • • • • • • • •	Ť	(-==-+)	Ŧ	()	Ŧ	(=)	Ŧ	(*****)	<u> </u>	(0.0)	Ŧ	(*****)	+ (++++++++++++++++++++++++++++++++++++	./	
9	Mid-Year Accumulated Depreciation	\$	(406.4)	\$	(433.6)	\$	(458.1)	\$	(486.7)	\$	(502.3)	\$	(531.6)	\$ (561.	9)	S. 15-1
10		Ť	(10011)	<u> </u>	(100.0)	÷	(100.1)	<u> </u>	(10011)		(002.0)	<u> </u>	(00110)	• (001.	_	0.101
11	CORe															
12	Previous vear balance	\$	-	\$	-	\$	-	\$	(0 1)	\$	(0.9)	\$	(2.5)	\$ (4	5)	
13	Gross Provision	Ŷ	-	Ŷ	-	Ŷ	(0.1)	Ŷ	(0.8)	ľ	(1.5)	Ŷ	(2.1)	(2.	7)	S. 12-1
14	Retirements. Net Salvage and Adjustments		-		-		-		-		-		-	-	.,	
15	Current year balance	\$	-	\$	-	\$	(0.1)	\$	(0.9)	\$	(2.5)	\$	(4.5)	\$ (7.	2)	
16		_								İ					ź	
17	Mid-Year Accumulated Depreciation	\$	-	\$	-	\$	(0.1)	\$	(0.5)	\$	(1.7)	\$	(3.5)	\$ (5.	9)	S. 15-1
18	·	<u> </u>		-		-		-		<u> </u>		-				
19	Stormwater Sewer excluding SIRP															
20	Previous vear balance	\$	(337.8)	\$	(357.3)	\$	(387.6)	\$	(428.9)	\$	(471.3)	\$	(514.2)	\$ (558.	0)	
21	Gross Provision	·	(19.5)	•	(31.9)		(41.3)		(42.4)	Ľ	(42.9)	•	(43.7)	(45.	1)	S. 12-1
22	Retirements. Net Salvage and Adjustments		-		1.6		-		`- ´		-		-	-	'	
23	Current year balance	\$	(357.3)	\$	(387.6)	\$	(428.9)	\$	(471.3)	\$	(514.2)	\$	(558.0)	\$ (603.	1)	
24	-	_					· · · · ·							· · · ·	<u> </u>	
25	Mid-Year Accumulated Depreciation	\$	(347.5)	\$	(372.4)	\$	(408.2)	\$	(450.1)	\$	(492.8)	\$	(536.1)	\$ (580.	5)	S. 15-1
26		-												`	ź	
27	SIRP															
28	Previous year balance	\$	-	\$	-	\$	-	\$	(0.2)	\$	(1.0)	\$	(3.4)	\$ (7.	8)	
29	Gross Provision		-		-		(0.2)		(0.9)		(2.4)		(4.3)	(6.	7)	S. 12-1
30	Retirements, Net Salvage and Adjustments		-		-		-		-		-		-	-		
31	Current year balance	\$	-	\$	-	\$	(0.2)	\$	(1.0)	\$	(3.4)	\$	(7.8)	\$ (14.	5)	
32															_	
33	Mid-Year Accumulated Depreciation	\$	-	\$	-	\$	(0.1)	\$	(0.6)	\$	(2.2)	\$	(5.6)	\$ (11.	1)	S. 15-1
34															_	
35	Combined Sewer Operations															
36	Previous year balance	\$	(126.1)	\$	(142.7)	\$	(156.1)	\$	(154.4)	\$	(148.8)	\$	(146.0)	\$ (149.	7)	
37	Gross Provision															
38	Sanitary Utility Portion		(6.3)		(6.1)		(2.8)		(3.6)		(5.1)		(5.7)	(6.	3)	S. 12-1
39	Stormwater Utility Portion		(10.6)		(10.4)		(4.7)		(6.0)		(8.1)		(9.0)	(9.	9)	S. 12-1
40	Sub-total		(16.9)		(16.5)		(7.5)		(9.6)		(13.2)		(14.7)	(16.	2)	
41	Retirements, Net Salvage and Adjustments		0.3		3.1		9.2		15.2		16.0		11.0	14.	3	
42	Current year balance	\$	(142.7)	\$	(156.1)	\$	(154.4)	\$	(148.8)	\$	(146.0)	\$	(149.7)	\$ (151.	6)	
43															_	
44	Mid-Year Accumulated Depreciation															
45	Sanitary Utility Portion	\$	(50.3)	\$	(55.1)	\$	(57.4)	\$	(57.2)	\$	(56.6)	\$	(57.3)	\$ (58.	5)	S. 15-1
46	Stormwater Utility Portion		(84.1)		(94.3)		(97.9)		(94.4)		(90.8)		(90.5)	(92.	1)	S. 15-1
47	Total	\$	(134.4)	\$	(149.4)	\$	(155.3)	\$	(151.6)	1\$	(147 4)	\$	(147.8)	\$ (150	6)	

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Construction Work in Progress (\$ millions)

Line		Cross	2018	2019	2020	2021	2022	2023	2024	Cross
No.		Reference	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
1 2	Previous year balance		\$ 32.8	\$ 52.2	\$ 46.9	\$ 71.0	\$ 68.0	\$ 53.6	\$ 106.5	S. 14-2
3 4	Capital Expenditures	S. 15-5	132.2	167.3	386.2	432.5	388.9	405.2	437.3	-
5 6	Contributions	S. 15-5	(28.4)	(25.4)	(161.2)	(166.9)	(162.2)	(156.8)	(158.1)	-
7	Capital Additions									
8	Sanitary Utility		(49.4)	(103.9)	(105.3)	(171.7)	(150.1)	(83.1)	(114.7)	S. 15-2
9	Stormwater Utility		(142.4)	(175.4)	(148.4)	(145.9)	(148.3)	(134.2)	(155.1)	S. 15-2
10	Combined Sewer Operations		(95.0)	(65.8)	(40.4)	(52.8)	(23.4)	(22.4)	(27.0)	S. 15-2
11	SIRP		-	-	(18.9)	(32.3)	(82.9)	(56.5)	(109.4)	S. 15-2
12	CORe		-	-	(20.4)	(69.7)	(27.3)	(41.7)	(50.2)	S. 15-2
13	Sub-tota	d .	(286.8)	(345.1)	(333.5)	(472.4)	(432.0)	(337.9)	(456.3)	_
14	Contributions Recognized									
15	Sanitary		12.3	52.6	41.0	110.4	87.1	42.7	42.8	S. 15-6
16	Stormwater		138.4	112.0	82.2	83.0	86.7	88.4	84.4	S. 15-6
17	Combined		51.7	35.0	7.7	7.7	7.7	7.7	7.7	S. 15-6
18	SIRP		-	-	1.7	2.7	9.5	3.6	18.4	S. 15-6
19	Sub-tota	l	202.4	199.6	132.6	203.8	191.0	142.3	153.3	
20										-
21	Cancelled Projects and Adjustment	s	(0.1)	(1.8)	-	-	-	-	-	
22										-
23	Current year balance		\$ 52.2	\$ 46.9	\$ 71.0	\$ 68.0	\$ 53.6	\$ 106.5	\$ 82.7	

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Capital Expenditures by Project (\$ millions)

Line No.	Major Category and Project	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2018-2021 Total	2022 Forecast	2023 Forecast	2024 Forecast	2022-2024 Total	Cross Reference
	Desires Mildebauchend Dessen										
2	Drainage Neighbourhood Renewal Drainage Neighbourhood Renewal Program	25.9	24.6	35.7	35.9	122.2	28.0	21.3	27.3	76.5	
3	Sub-total	25.9	24.6	35.7	35.9	122.2	28.0	21.3	27.3	76.5	
5	Private Development Construction Coordination Progra	3.7	3.9	3.8	3.9	15.4	4.0	3.8	3.8	11.6	
6	Fleet & Vehicles Program	0.1	3.2	4.3	-	7.7	-	-	-	-	
8	Projects < \$10 million	9.1 5.6	7.6	9.0	15.4	30.5	0.0 7.7	5.9 10.1	9.7	27.5	
9	Sub-total	18.6	22.2	24.9	25.4	91.1	18.3	19.8	19.6	57.6	
10	Proactive Service Renewal	-	-	-	-	-	-	5.0	5.3	10.3	
12	Drill Drop Manholes Program	1.0	2.5	2.6	3.3	9.3	4.5	4.3	4.3	13.1	
13 14	New Buena Vista Pump Station Project Pump Station Rehabilitation Program	0.4	0.5	(0.2)	2.0	2.7	7.4 5.0	- 3.9	- 6.6	7.4 15.5	
15	Groat Road Trunk Project	5.5	15.8	12.7	-	33.9	-	-	-	-	
16 17	Fleet & Vehicles Program Small Trunk Rehabilitation Program	-	-	2.2	4.9	7.1	3.7	4.5	5.1 13.4	13.2 18.8	
18	High Priority Replacement Program	16.1	19.7	15.8	17.6	69.2	17.0	17.4	17.7	52.1	
19 20	Projects < \$10 million	18.9	27.9	23.9	17.9	88.6	12.8	11.1	11.7	35.6	
20	Environmental Quality Enhance	41.9	00.4	57.7	40.0	214.7	50.5	51.4	04.1	100.0	
22	Clover Bar Cell 1-4 Project	0.0	1.5	10.3	-	11.8	-	-	-	-	
23 24	Sub-total	6.6	4.7	12.3	0.9	24.5	-	-	-	-	
25	Flood Mitigation		5.0			10.5					
26 27	Dry Pond Program Tweddle Place	4.7 5.0	5.6 4.1	0.7 5.3	5.5 6.0	16.5 20.4	13.8	22.7	9.7	46.3 0.3	
28	Projects < \$10 million	7.6	2.8	3.7	2.5	16.7	1.1	-	-	1.1	
29 30	SIPP Sub-total	12.6	12.5	9.7	14.1	48.8	15.2	22.7	9.7	47.7	
31	Dry Pond Program	0.3	0.4	10.3	7.3	18.3	24.6	23.9	33.0	81.5	
32	LID Program	-	-	3.7	6.5	10.2	7.8	15.7	29.5	53.1	
33 34	Proactive Manhole Relining Program	-	0.2	2.3 1.4	7.0	8.4	4.1 6.1	6.2	6.4	4.1 18.7	
35	Proactive Pipe Relining Program	-	0.5	0.9	5.2	6.6	7.5	7.6	7.8	22.9	
36 37	Projects < \$10 million Sub-total	0.8	2.5	24.5	48.8	20.7	17.8	18.3	93.6	53.1 233.3	
38	SSSF										
39 40	NEST NC2 & NC3 SESS SA10A	8.8 4.4	9.0 8.8	8.8 11 1	9.0 9.9	35.6 34.2	5.2	-	-	5.2	
41	SESS SW4	8.7	3.5	4.8	3.0	19.9	-	-	-	-	
42 43	SW5 Projects < \$10 million	- 14	-	0.3	4.2	4.5	7.5	9.1	16.3	32.8	
44	Sub-total	23.4	22.1	26.5	27.8	99.7	12.9	9.3	16.5	38.6	
45		0.0	4.0	10.2	22.0	47.4	21.0	20.7	25.2	70.0	
40	CORe Duggan Tunnel Project	-	4.2	0.6	4.5	5.1	11.7	19.2	25.3	56.3	
48	CORe Drop Structure Modification Program	-	-	-	3.2	3.2	6.1	8.9	7.0	22.0	
49 50	CORE Access Manhole Program Proiects < \$10 million	- 0.7	1.1 2.8	6.4 13.4	6.3 25.4	13.8 42.3	6.2 8.0	5.0 7.6	6.7 7.5	17.9 23.1	
51	Sub-total	1.6	7.0	33.4	56.0	98.0	46.8	68.4	65.2	180.4	
52 53	LRT LRT Relocates Program	0.5	5.4	14.9	33.4	54.2	21.8	12.9	13.8	48.5	
54	Projects < \$10 million	-	-	-	-	-	-	-	-	-	
55 56	Sub-total _	0.5	5.4	14.9	33.4	54.2	21.8	12.9	13.8	48.5	
57	Real Estate	-	-	19.1	13.9	33.1	-	-	-	-	
58	Sub-total	-	-	19.1	13.9	33.1	-	-	-	-	
60	Developer and City contributed	-	-	127.6	127.6	255.1	127.6	127.6	127.6	382.7	
61	Sub-total	-	-	127.6	127.6	255.1	127.6	127.6	127.6	382.7	
63	Total Capital Expenditures	132.2	167.3	386.2	432.5	1,118.2	388.9	405.2	437.3	1,231.4	S. 15-4
64	Contributions										
66	Drainage System Expansion										
67	Service Connections Program	(6.4)	(4.6)	(5.2)	(5.0)	(21.2)	(6.6)	(5.9)	(6.0)	(18.5)	
68 69	Projects < \$10 million	(1.1)	(0.2)	(0.2)	(0.3)	(1.8)	(0.3)	-	-	(0.3)	
70	Sub-total	(7.5)	(4.8)	(5.4)	(5.3)	(23.1)	(6.9)	(5.9)	(6.0)	(18.8)	
71 72	Flood Mitigation Drv Pond Program	-	-	(0.5)	(1.2)	(1.7)	(4.5)	(6.5)	(2.6)	- (13.6)	
73	, , , _							<u> </u>		-	
74 75	SIRP Dry Pond Program	-	-	(1.8)	(4.3)	(6.1)	(8.8)	(5.8)	(6.4)	(21.0)	
76	Projects < \$10 million	-	-	(1.0)	(2.2)	(3.2)	(3.1)	(3.2)	(0.5)	(6.7)	
77 78	Sub-total	-	-	(2.9)	(6.5)	(9.3)	(11.9)	(9.0)	(6.9)	(27.8)	
79	NEST NC2 & NC3	(8.8)	(9.1)	(8.8)	(9.0)	(35.7)	(5.2)	-	-	(5.2)	
80	SESS SA10A	(4.4)	(8.8)	(11.0)	(9.9)	(34.2)	-	-	-	-	
82	SW5	(0.7)	(3.5)	(4.0) (0.3)	(3.0) (4.2)	(19.9) (4.5)	(7.5)	(9.1)	(16.3)	(32.8)	
83	Projects < \$10 million	1.1	0.7	0.1	(0.3)	1.6	1.3	1.3	1.3	3.9	
84 85	Sub-total _	(20.8)	(20.6)	(24.9)	(26.3)	(92.6)	(11.4)	(7.8)	(15.0)	(34.1)	
86	Developer and City Contributed	-	-	(127.6)	(127.6)	(255.1)	(127.6)	(127.6)	(127.6)	(382.7)	
87 88	Total Contributions	(28.4)	(25.4)	(161.2)	<u>(1</u> 66.9)	(381.9)	<u>(1</u> 62.2)	(156.8)	<u>(1</u> 58.1)	(477.0)	S. 15-4
89 90	- Capital Expenditures, net of Contributions	\$ 103.8	\$ 141.9	\$ 225.0	\$ 265.6	\$ 736.4	\$ 226.7	\$ 248.4	\$ 279.3	\$ 754.3	
	· · · · · · · · · · · · · · · · · · ·										

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Contributions in Aid of Construction (\$ millions)

Line No.	Description	Cross Reference	20 ⁴ Act	18 ual	20 Act	19 ual	Fc	2020 precast	Fo	2021 precast	Fc	2022 precast	Fo	2023 precast	2 Fo	2024 recast	Cross Reference
1	Sanitary Utility																
2	Prior Year Gross Contributions		\$(1.0	11 1)	\$(1.0	23 5)	\$(·	1 076 0)	\$(·	1 117 1)	\$(1 227 4)	\$(*	1 314 5)	\$(1	357 2)	
3	Customer Contributions	S 15-4	φ(1,0	12.3)	φ(1,0	52 6)	Ψ((41.0)	Ψ((110.4)	Ψ((87.1)	Ψ((42.7)	Ψ('	(42.8)	
4	Retirements and Adjustments	0.104	(-	,	0.0		-		-		-		-		(42.0)	
5	Current Year Gross Contributions		\$(1.0	23.5)	\$(1.0	76.0)	\$(1.117.1)	\$(1.227.4)	\$([.]	1.314.5)	\$([*]	1.357.2)	\$(1	.400.0)	
6			φ(1,0	20.07	φ(1,0	10.0)	Ψ(.,,	Ψ(.,	Ψ(1,011.07	Ψ(1,001.2)	ψ(.	, 100.07	
7	Prior Vear Accumulated Amortization		\$ 2	50.8	¢ 2	82.5	¢	207.0	¢	312 3	¢	327.8	¢	344 7	¢	362.5	
8	Amortization of Contributions		ψΖ	22.7	ψΖ	15 /	Ψ	1/ /	Ψ	15.5	Ψ	16.0	Ψ	17.8	Ψ	18.3	S 12-1
q	Retirements and Adjustments			-		(0.0)		-		-		-		-		-	0. 12-1
10	Current Year Accumulated Amortizati	on	\$ 2	82.5	\$ 2	97.9	\$	312.3	\$	327.8	\$	344.7	\$	362.5	\$	380.8	
11		011	Ψ 2	02.5	ψz	.51.5	Ψ	512.5	Ψ	521.0	Ψ	344.7	Ψ	502.5	Ψ	500.0	
10	Mid Voor Not Contributions		¢ (7	46 2)	¢ /7	E0 6)	¢	(701 E)	¢	(052.2)	¢	(0247)	¢	(002.2)	¢ (1	006.0)	C 1E 1
12	Mid Year Net Contributions		\$ (7	40.Z)	\$ (/	59.0)	à	(791.5)	þ	(852.2)	¢	(934.7)	þ	(982.3)	\$(I	,006.9)	5. 15-1
13																	
14	Stormwater Utility																
15	Prior Year Gross Contributions		\$(1,8	54.3)	\$(1,9	92.7)	\$(2	2,104.6)	\$(2	2,186.8)	\$(2	2,269.8)	\$(2	2,356.5)	\$(2	2,444.9)	
16	Customer Contributions	S. 15-4	(1;	38.4)	(1	12.0)		(82.2)		(83.0)		(86.7)		(88.4)		(84.4)	S. 12-1
17	Retirements and Adjustments			-		0.1		-		-		-		-		-	
18	Current Year Gross Contributions		\$(1,9	92.7)	\$(2,1	04.6)	\$(2	2,186.8)	\$(2	2,269.8)	\$(2	2,356.5)	\$(2	2,444.9)	\$(2	2,529.3)	
19																	
20	Prior Year Accumulated Amortization		\$ 1	99.3	\$ 2	13.4	\$	237.4	\$	264.2	\$	292.1	\$	321.1	\$	351.4	
21	Amortization of Contributions			14.1		24.1		26.8		27.9		29.0		30.2		31.4	
22	Retirements and Adjustments			-		(0.1)				-		-		-		-	
23	Current Year Accumulated Amortizati	on	\$ 2	13.4	\$ 2	37.4	\$	264.2	\$	292.1	\$	321.1	\$	351.4	\$	382.7	
24					+ -		Ŧ		Ŧ		Ť		Ŧ		Ŧ		
25	Mid Year Net Contributions		\$(1.7	17 2)	\$(1.8	23 3)	¢(·	1 80/ 0)	\$()	1 050 2)	¢(2 006 6)	\$(2	2 064 5)	¢	(2 120)	S 15-1
20	Mid Teal Net Contributions		ψ(1,7	17.2)	ψ(1,0	20.0)	Ψ(1,034.3)	Ψ(1,330.2)	ψ(2	2,000.07	ψ(2	2,004.3)	Ψ	(2,120)	0.10-1
26																	
27	Combined Sewer Operations																
28	Prior Year Gross Contributions		\$ ()	21.8)	\$ (73.5)	\$	(108.6)	\$	(116.2)	\$	(123.9)	\$	(131.6)	\$	(139.2)	
29	Customer Contributions	S. 15-4	(51.7)	(35.0)		(7.7)		(7.7)		(7.7)		(7.7)		(7.7)	
30	Retirements and Adjustments			-		-		-		-		-		-		-	
31	Current Year Gross Contributions		\$ (73.5)	\$ (1	08.6)	\$	(116.2)	\$	(123.9)	\$	(131.6)	\$	(139.2)	\$	(146.9)	
32																	
33	Prior Year Accumulated Amortization		\$	0.3	\$	1.0	\$	1.8	\$	1.8	\$	2.0	\$	2.2	\$	2.6	
34	Amortization of Contributions																
35	Sanitary Utility Portion			0.3		0.3		0.0		0.1		0.1		0.1		0.2	S. 12-1
36	Stormwater Utility Portion			0.4		0.5		0.0		0.1		0.2		0.2		0.3	S. 12-1
37	Sub-total			0.7		0.8		0.1		0.2		0.3		0.4		0.5	
38	Retirements and Adjustments			-		-		-		-		-		-		-	
39	Current Year Accumulated Amortizati	on	\$	1.0	\$	1.8	\$	1.8	\$	2.0	\$	2.2	\$	2.6	\$	3.1	
40					· · · ·		<u> </u>		<u> </u>		<u> </u>		<u> </u>		· ·		
41	Mid Year Net Contributions																
12	Sanitary Itility Portion		\$ (17 6)	\$ 1	33 1)	¢	(40.9)	¢	(44.6)	¢	(48.2)	¢	(51.6)	¢	(54.5)	S 15-1
42	Stormwater Utility Portion		φ (20.4	φ (56.6)	φ	(40.9)	φ	(73.5)	φ	(40.2)	φ	(91.0)	φ	(95.7)	S. 15-1
43	Total		e (.	<u>47 0)</u>	e /	20.0)	¢	(110.6)	¢	(110.1)	¢	(125.6)	¢	(01.4)	¢	(00.7)	5.15-1
44	Total		\$ (*	47.0)	φ	09.1)	φ	(110.0)	φ	(110.1)	φ	(125.0)	φ	(132.9)	φ	(140.2)	
45																	
46	SIRP																
47	Prior Year Gross Contributions		\$	-	\$	-	\$	-	\$	(1.7)	\$	(4.4)	\$	(14.0)	\$	(17.6)	
48	Customer Contributions	S. 15-4		-		-		(1.7)		(2.7)		(9.5)		(3.6)		(18.4)	
49	Current Year Gross Contributions		\$	-	\$	-	\$	(1.7)	\$	(4.4)	\$	(14.0)	\$	(17.6)	\$	(36.0)	
50																	
51	Prior Year Accumulated Amortization			-		-		-		0.0		0.0		0.2		0.4	
52	Amortization of Contributions			-		-		0.0		0.0		0.1		0.2		0.3	S. 12-1
53	Current Year Accumulated Amortizati	on		-		-		0.0		0.0		0.2		0.4		0.7	
54																	
55	Mid Year Net Contributions		\$	-	\$	-	\$	(0.9)	\$	(3.0)	\$	(9.1)	\$	(15.5)	\$	(26.3)	S. 15-1

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EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Necessary Working Capital (\$ millions)

Line	Description	Cross	2	2018 otual	2	2019 otual	2	020	E	2021	2	022	20 For)23	20 Fore	24	Cross
<u> </u>	Description	Reference	A	cluai	Α	cluar	FUI	ecasi	FU	recasi	FUI	ecasi	FOI	casi	FUIE	casi	Reference
1	Drainage Operating Costs	S. 5-1	\$	101.4	\$	107.9	\$	116.8	\$	127.7	\$	110.6	\$ 1	105.4	\$ 1	07.9	
2	Franchise Fees and Property Taxes	S. 11-1		9.8	·	10.0		10.6	·	11.2		11.8		12.1		13.1	
3	Less: Revenue Offsets	S. 13-1		(10.3)		(10.0)		(9.9)		(9.7)		(6.3)		(5.2)		(5.3)	
4				100.9		107.9		117.6		129.2		116.1	1	112.3	1	15.6	
5	O&M Lag Days			8.4		8.4		14.4		14.4		14.4		14.4		14.4	
6	Cash Operating Expenses Working Capital			2.3		2.5		4.6		5.1		4.6		4.4		4.6	
7		·															
8	Net Depreciation	S. 12-1		32.0		32.7		35.5		38.6		42.0		46.0		51.1	
9	Depreciation Lag Days			43.8		43.8		49.0		49.0		49.0		49.0		49.0	
10	Depreciation Working Capital			3.8		3.9		4.8		5.2		5.6		6.2		6.9	
11																	
12	Interest Expense	S. 14-1		26.9		21.3		22.5		24.9		34.5		36.3		40.6	
13	Combined Long Term Debt Lag Days			91.3		91.3		(20.4)		(20.4)		(20.4)		(20.4)	(20.4)	
14	Long Term Debt Working Capital			6.7		5.3		(1.3)		(1.4)		(1.9)		(2.0)		(2.3)	
15																	
16	Return on Common Equity	S. 14-1		24.7		28.5		30.5		27.0		41.0		54.7		69.3	
17	Retained Earnings Lag Days			43.8		43.8		49.0		49.0		49.0		49.0		49.0	
18	Common Equity (Retained Earnings) Working Capital			3.0		3.4		4.1		3.6		5.5		7.3		9.3	
19																. –	
20	Other Revenue not exempt from GST	S. 13-1						4.7		4.8		4.5		4.6		4.7	
21	GST Collected							0.2		0.2		0.2		0.2		0.2	
22	GST Collected Lag Days							3.3		3.3		3.3		3.3		3.3	
23	GST Collected Working Capital							0.0		0.0		0.0		0.0		0.0	
24								47.0		50.0		40.0		40 5		4 4 - 7	
25	Expenses Eligible for GST input Tax Credits							47.0		53.0		43.9		40.5		41.7	
26								2.4		2.7		2.2		2.0		2.1	
27	GST ITC Lag Days							21.0		21.0		21.0		21.0		21.0	
28	GST TIC Working Capital							0.1		0.2		0.1		0.1		0.1	
29	Total Warking Capital			44.0		44.0		40.4		40.7		42.0		40.0		40.0	
30	lotal working Capital	:		14.8		14.8		12.4		12.7		13.9		16.0		18.6	
31	Coniton (1411ity Doution of Monking Conitol		¢	. . .	¢	F 4	¢	4.0	¢	4.0	~	F 0	۴	6.0	¢	70	0 45 4
<u></u> చ∠	Samuary Unity Portion of Working Capital		\$	5.5	Ъ	5.4	φ	4.6	\$	4.8	\$	5.3	φ	0.Z	\$	1.2	5. 15-1
33	Stormwater Utility Portion of Working Capital		¢	9.3	•	9.3	¢	/.ŏ	¢	1.9	¢	8.6	¢	9.8	*	11.4	5. 15-1
34	i otal working Capital	:	\$	14.8	Þ	14.8	\$	12.4	Þ	12.7	4	13.9	\$	16.0	\$	10.6	

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Capital Structure (\$ millions)

Line		Cross	1	2018		2019		2020	2	2021	2022	2023	2024	Cross
No.	Description	Reference	A	ctual	4	Actual	Fo	recast	Fo	recast	Forecast	Forecast	Forecast	Reference
1	Mid-Year Balance													
2	Debt Capital	S. 17-2	\$	294.8	\$	642.3	\$	778.7	\$	965.5	\$ 1,092.6	\$ 1,188.5	\$ 1,333.3	
3	Common Stock Equity	S. 17-4		578.4		608.3		623.5		649.3	715.3	802.4	876.4	
4		-	\$	873.1	\$ ´	1,250.7	\$ 1	,402.2	\$1	,614.8	\$ 1,808.0	\$ 1,990.9	\$ 2,209.7	
5		-												
6	Actual Capital Structure													
7	Debt Capital			33.76%		51.36%		55.53%	Ę	59.79%	60.43%	59.70%	60.34%	S. 14-1
8	Common Stock Equity			66.24%		48.64%		44.47%	4	40.21%	39.57%	40.30%	39.66%	S. 14-1
9		-	1	00.00%	1	00.00%	1	00.00%	1(00.00%	100.00%	100.00%	100.00%	
10		-												
11	Deemed Capital Structure													
12	Debt Capital			60.00%		60.00%		60.00%	6	50.00%	60.00%	60.00%	60.00%	S. 14-1
13	Common Stock Equity			40.00%		40.00%		40.00%	2	40.00%	40.00%	40.00%	40.00%	S. 14-1
14			1	00.00%	1	00.00%	1	00.00%	1(00.00%	100.00%	100.00%	100.00%	

Note: Returns on Sanitary and Stormwater Utility Rate Bases for 2018 to 2021 are based on actual capital structure. Returns on SIRP and Core for 2018-2024 and Sanitary and Stormwater Utility Rate bases for 2022-2024 are based on deemed capital structure.

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Debt Capital and Embedded Cost of Debt (\$ millions)

Line		Cross		2018		2019		2020		2021	2	2022	2	2023	2	2024	Cross
No.	Description	Reference	A	Actual	ł	Actual	Fo	orecast	Fo	orecast	Fo	recast	Fo	recast	Fo	recast	Reference
1	Long-Term Debt																
2	Prior year balance	S. 17-3	\$	-	\$	589.3	\$	643.9	\$	818.0	\$ 1	,031.7	\$ 1	,079.8	\$ 1	,222.5	
3	Current year balance	S. 17-3		589.3		643.9		818.0		1,031.7	1	,079.8	1	,222.5	1	,374.6	
4	Mid-year balance			294.7		616.6		731.0		924.9	1	,055.7	1	,151.2	1	,298.6	
5																	
6	Short Term Debt																
7	Prior year balance			-		0.2		51.1		44.3		37.0		36.8		37.9	
8	Current year balance			0.2		51.1		44.3		37.0		36.8		37.9		31.6	
9	Mid-year balance			0.1		25.7		47.7		40.7		36.9		37.3		34.7	
10	-																
11	Mid-Year Debt Capital		\$	294.8	\$	642.3	\$	778.7	\$	965.5	\$1	,092.6	\$1	,188.5	\$1	,333.3	S. 17-1
12																	
13	Interest Expense																
14	Interest on Long Term Debt	S. 17-3	\$	19.8	\$	20.2	\$	22.1	\$	25.2	\$	35.4	\$	36.4	\$	41.4	S. 18-1
15	Interest on Short Term Debt			0.7		1.5		1.2		1.0		0.9		0.9		0.8	S. 18-1
16																	
17	Total Interest Expense		\$	20.5	\$	21.7	\$	23.2	\$	26.2	\$	36.3	\$	37.3	\$	42.3	
18																	
19	Embedded Cost of Debt			6.95%		3.38%		2.98%		2.71%		3.32%		3.14%		3.17%	S. 14-1

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Long-Term Debt (\$ millions)

									Prine	cipal Outsta	Inding					Int	erest Expe	nse			
Line		Issue	Maturity	Prir	ncipal	Interest	2018	2019	2020	2021	2022	2023	2024	2018	2019	2020	2021	2022	2023	2024	Cross
No.	Description	Date	Date	lss	sued	Rate	Actual	Actua	Forecast	Forecast	Forecast	Forecast	Forecast	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
In	tercompany Loans from EPCOR Uti	lities Inc.																			
1	Existing Debt - December 31, 2018	2018-12-15	2021-12-15	\$	589.3	3.41%	\$ 589.3	\$ 563	9 \$ 538.0	\$ 511.7	\$ 484.8	\$ 457.5	\$ 429.6	\$ 19.8	\$ 20.2	\$ 18.9	\$ 17.9	\$ 17.4	\$ 15.6	\$ 14.7	
2	New Debt Issue - 2019	2019-09-17	2021-09-17	\$	80.0	2.31%	-	80	0 80.0	-	-	-	-	-	-	1.8	1.3	-	-	-	
3	New Debt Issue - 2020 #1	2020-05-01	2021-04-30	\$	100.0	1.75%	-	-	100.0	-	-	-	-	-	-	1.2	0.6	-	-	-	
4	New Debt Issue - 2020 #2	2020-12-01	2021-11-30	\$	100.0	1.75%	-	-	100.0	-	-	-	-	-	-	0.1	1.6	-	-	-	
5	New Debt Issue - 2021 #1	2021-05-01	2022-04-30	\$	200.0	1.75%	-	-	-	200.0	-	-	-	-	-	-	2.3	1.2	-	-	
6	New Debt Issue - 2021 #2	2021-09-17	2049-12-17	\$	80.0	3.53%	-	-	-	80.0	80.0	80.0	80.0	-	-	-	0.8	2.8	2.8	2.8	
7	New Debt Issue - 2021 #3	2021-12-01	2050-11-30	\$	120.0	3.19%	-	-	-	120.0	120.0	120.0	120.0	-	-	-	0.3	3.8	3.8	3.8	
8	New Debt Issue - 2021 #4	2021-12-01	2051-11-30	\$	120.0	3.19%	-	-	-	120.0	120.0	120.0	120.0	-	-	-	0.3	3.8	3.8	3.8	
9	New Debt Issue - 2022 #1	2022-05-01	2051-04-30	\$	190.0	3.60%	-	-	-	-	190.0	190.0	190.0	-	-	-	-	4.6	6.8	6.8	
10	New Debt Issue - 2022 #2	2022-06-01	2052-05-31	\$	85.0	3.50%	-	-	-	-	85.0	85.0	85.0	-	-	-	-	1.7	3.0	3.0	
11	New Debt Issue - 2023	2023-12-01	2053-11-30	\$	170.0	3.50%	-	-	-	-	-	170.0	170.0	-	-	-	-	-	0.5	6.0	
12	New Debt Issue - 2024	2024-12-01	2054-11-30	\$	180.0	3.50%	-	-	-	-	-	-	180.0	-	-	-	-	-	-	0.5	
13				•																	-
14 T	otal Long Term Debt						\$ 589.3	\$ 643	9 \$ 818.0	\$1.031.7	\$1.079.8	\$1.222.5	\$1.374.6	\$ 19.8	\$ 20.2	\$ 22.1	\$ 25.2	\$ 35.4	\$ 36.4	\$ 41.4	S. 17-2
						:	. ,			. ,,,,	. ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	. ,									S. 18-1

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Common Equity (\$ millions)

Line	•	Cross	2018	2019	2020	2021	2022	2023	2024	Cross
No.	Description	Reference	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
1	Common Share Capital									
2	Prior year balance		475.0	525.0	525.0	525.0	525.0	595.0	595.0	
3	Issue of common shares	_	50.0	-	-	-	70.0	-	10.0	-
4	Current year balance	_	525.0	525.0	525.0	525.0	595.0	595.0	605.0	
5	Mid-Year balance	-	500.0	525.0	525.0	525.0	560.0	595.0	600.0	
6										
7	Retained Earnings									
8	Prior year balance		6.1	37.8	67.5	98.7	128.6	176.2	238.6	
9	Net Income ¹		31.7	29.7	31.2	30.0	47.5	62.5	75.4	S. 14-1
10	Dividends	_	-	-	-	-	-	-	-	S. 16-1
11	Current year balance	_	37.8	67.5	98.7	128.6	176.2	238.6	314.1	_
12	Mid-Year balance	_	22.0	52.7	83.1	113.7	152.4	207.4	276.4	_
13										
14	COE Transfer Fees									
15	Prior year balance		66.8	45.9	15.4	15.4	5.8	-	-	
16	Transfer fees paid	_	(20.9)	(30.5)	-	(9.6)	(5.8)	-	-	
17	Current year balance	_	45.9	15.4	15.4	5.8	-	-	-	
18	Mid-Year balance	_	56.4	30.7	15.4	10.6	2.9	-	-	-
19										
20	Mid-Year Common Equity	-	578.4	608.3	623.5	649.3	715.3	802.4	876.4	S. 17-1
21										
22	¹ Reconciliation of Regulated Return on Equity to Net Income									
23	Regulated Return on Equity	S. 14-1	24.7	28.5	30.5	27.0	41.0	54.7	69.3	
24	Reconciling items	-								-
25	Corporate Disallowances		(0.3)	(0.3)	(0.2)	(0.2)	(0.2)	(0.3)	(0.3)	
26	Gains and losses on disposal of property plant and equipment		(0.8)	(0.2)	(1.4)	-	-	-	-	
27	Non-recoverable portion of SIRP revenue requirements		-	-	(0.2)	(0.8)	(0.6)	-	-	
28	Debt financed portion of rate base greater (less) than actual deb	ot	6.4	(0.4)	(0.7)	(1.4)	(1.7)	(1.0)	(1.7)	
29	AFUDC not deducted from regulated cost of debt		1.7	2.1	3.2	5.4	6.3	7.1	11.1	
30	Billed revenue greater (less) than the revenue requirement		0.0	0.0	(0.0)	0.0	2.7	1.9	(3.1)	
31	Total Reconciling Items	-	7.0	1.2	0.7	3.0	6.5	7.7	6.1	
32	Net Income per Regulated Financial Statements	-	31.7	29.7	31.2	30.0	47.5	62.5	75.4	

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Transactions with Affiliates (\$ millions)

Line		Cross	2018	2019	2020	2021	2022	2023	2024
No.	Affiliate and Service	Reference	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
1	Revenues from the provision of services to the City of Edmont	on							
2	Utility Revenue		\$ 2.9	\$ 3.4	\$ 3.5	\$ 3.5	\$ 3.6	\$ 3.6	\$ 3.7
3	Other Services		1.5	0.1	0.1	0.1	0.1	0.1	0.1
4	lotal	-	4.4	3.5	3.6	3.6	3.7	3.7	3.8
5	-								
6	Services provided by (recovered from):								
(0 11 1	0.0	0.0	0.7	0.0	10.0	40 5	
8		S. 11-1	8.9	9.3	9.7	9.8	10.2	10.5	11.4
40	Property Taxes	S. 11-1	0.9	0.8	1.0	1.4	1.6	1.6	1.6
10			0.0	10.0	10.0	44.0	0.2	0.1	0.2
11	Total	:	9.8	10.0	10.6	11.2	11.9	12.2	13.3
12									
13	EPCOR Utilities Inc.								
14	Corporate Shared Service Costs	S. 10-1	14.0	14.5	15.0	16.3	16.3	16.6	17.0
15	Interest on Intercompany Loans	S. 17-2	1.7	20.2	22.1	25.2	35.4	36.4	41.4
16	Interest on Short-term debt	S. 17-2	0.7	1.5	1.2	1.0	0.9	0.9	0.8
17	Total		16.4	36.2	38.2	42.5	52.5	53.9	59.2
18		-							
19	Other Affiliate								
20	EPCOR Technologies Inc.		-	(0.2)) (0.2)	(0.2)	(0.2)	(0.2)	(0.2)
21	EPCOR Commercial Services Inc.		0.4	0.3	0.3	0.3	0.3	0.3	0.3
22	EPCOR Water Services		1.5	1.6	1.6	1.6	1.7	1.7	1.7
23	EPCOR Distribution and Transmission Inc.		0.8	0.1	0.1	0.1	0.1	0.1	0.1
24	EPCOR Energy Services	-	4.2	4.0	4.1	4.1	4.2	4.3	4.3
25			6.9	5.8	5.9	6.0	6.1	6.2	6.3
26									
27	Expenditures on capital projects arising from services prov	ided by:							
28	City of Edmonton		(20.4)	(22.3)) (19.8)	(25.8)	(18.6)	(2.0)	(1.2)
29	EPCOR Technologies Inc.		2.8	4.5	3.5	3.5	3.3	3.3	3.3
30	EPCOR Utilities Inc.		0.6	2.3	-		0.3	0.3	0.1
31	EPCOR Water Services		(3.3)	(2.2)) (2.6)	(2.1)	(2.1)	(2.1)	(2.1)
32	EPCOR Distribution and Transmission Inc.		0.2	0.3	-	-	-	-	-
33	EPCOR Energy Services	-	0.2	0.2	-	-	-	-	-
34			(19.8)	(17.2)) (18.8)	(24.4)	(17.1)	(0.6)	(0.0)

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Revenue at Existing Rates and Revenue Requirement (\$ millions)

Line		2018	2019	2020	2021	2022	2023	2024
No.	Description	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
1	Sanitary Utility							
2	Revenues at Existing Rates							
3	Residential	75.6	76.5	84.9	90.2	88.7	89.7	89.9
4	Multi-Residential	26.1	19.7	19.8	23.1	22.8	22.8	22.7
5	Commercial	19.1	26.2	25.0	23.7	25.5	26.9	27.6
6	Large Wholesale	1.2	1.2	1.1	1.2	1.4	1.4	1.3
7	Total Revenues at Existing Rates	122.0	123.5	130.8	138.2	138.3	140.7	141.5
8	Revenue Requirement by Customer Class							
9	Residential	64.2	64.5	74.7	79.4	73.0	74.5	81.6
10	Multi-Residential	24.7	25.7	28.7	30.1	22.1	21.9	24.2
11	Commercial	30.2	30.4	24.6	25.8	21.9	23.1	26.4
12	Large Wholesale	2.9	2.9	2.8	3.0	2.4	2.4	2.6
13	Total Revenue Requirement	122.0	123.5	130.8	138.2	119.4	121.9	134.8
14	Surplus (Shortfall) by Customer Class							
15	Residential	11.4	11.9	10.2	10.8	15.6	15.2	8.2
16	Multi-Residential	1.4	(6.0)	(8.8)	(6.9)	0.7	0.9	(1.4)
17	Commercial	(11.1)	(4.2)	0.4	(2.1)	3.6	3.8	1.2
18	Large Wholesale	(1.7)	(1.8)	(1.7)	(1.8)	(1.1)	(1.0)	(1.3)
19	Total Surplus (Shortfall)	0.0	0.0	0.0	0.0	18.9	18.9	6.7
20								
21	Stormwater Utility							
22	Revenues at Existing Rates							
23	Residential	34.0	36.0	39.9	43.2	46.2	47 2	47 8
24	Multi-Residential	3.6	3.8	4.3	4.6	4 9	4 9	4 9
25	Commercial	25.0	27.0	31.0	33.6	36.2	37.2	38.0
26	Total Revenues at Existing Rates	62.5	66.8	75.2	81.3	87.2	89.3	90.6
27	Revenue Requirement by Customer Class	02.0	00.0	10.2	01.0	07.2	00.0	00.0
28	Residential	34.0	36.0	40 1	43 3	60.6	67 5	75.0
29	Multi-Residential	3.6	3.8	43	4 6	6.4	7.0	77
30	Commercial	25.0	27.0	30.8	33 A	47.2	53.0	59.2
31	Total Revenue Requirement	62.5	66.8	75.2	81.3	11/ 2	127.5	1/1.8
32	Surplus (Shortfall) by Customor Class	02.0	00.0	10.2	01.0	114.2	127.5	141.0
33	Residential	_	_	(0.2)	(0 1)	(14.4)	(20.3)	(27.2)
24	Multi Residential	-	-	(0.2)	(0.1)	(14.4)	(20.3)	(27.2)
25	Commorcial	-	-	(0.0)	(0.0)	(1.3)	(2.1)	(2.0)
20		-	-	0.2	0.2	(11.1)	(13.8)	(21.2)
30		-	-	0.0	0.0	(27.0)	(30.2)	(51.2)
37								
38	Combined Surplus (Shortfall) by Customer Class						<i>(</i> – <i>(</i>)	<i>((</i>) -)
39	Residential	11.4	11.9	10.0	10.7	1.2	(5.1)	(19.0)
40	Multi-Residential	1.4	(6.0)	(8.9)	(6.9)	(0.8)	(1.2)	(4.2)
41	Commercial	(11.1)	(4.2)	0.6	(1.9)	(7.4)	(12.0)	(20.0)
42	Large Wholesale	(1.7)	(1.8)	(1.7)	(1.8)	(1.1)	(1.0)	(1.3)
43	Total Surplus (Shortfall)	0.0	0.0	0.0	0.0	(8.0)	(19.4)	(44.5)

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Cost of Service Summary (\$ millions)

Line		Cross	2018		2019		2020	2	021	2022		2023		2024
No.	Description R	eference	Actual	-	Actual	F	orecast	For	ecast	Forecast	Fo	precast	Fo	recast
1	Sanitary Utility													
2	Revenue at Proposed Rates													
3	Residential		\$ 756	\$	76 5	\$	84 9	\$	90.2	\$ 91.5	\$	93.6	\$	100.0
4	Multi-Res		26.1	Ŧ	19.7	Ŧ	19.8	Ŧ	23.1	24.0	Ť	24.6	Ŧ	26.4
5	Commercial, including large wholesale		20.3		27.3		26.1		24.9	28.1		30.0		33.1
6	Total		122.0		123.5		130.8		138.2	143.6		148.1		159.5
7	Revenue Requirement	:												
8	Residential		64.2		64.5		74.7		79.4	73.0		74.5		81.6
9	Multi-Res		24.7		25.7		28.7		30.1	22.1		21.9		24.2
10	Commercial, including large wholesale		33.1		33.3		27.4		28.8	24.3		25.5		29.0
11	Total		122.0		123.5		130.8		138.2	119.4		121.9		134.8
12	Revenue Surplus (Shortfall)													
13	Residential		11.4		11.9		10.2		10.8	18.4		19.1		18.4
14	Multi-Res		1.4		(6.0)		(8.8)		(6.9)	2.0		2.7		2.2
15	Commercial, including large wholesale		(12.8))	(6.0)		(1.3)		(3.9)	3.7		4.5		4.1
16	Total	:	0.0		0.0		0.0		0.0	24.2		26.2		24.7
17	Revenue to Cost Ratios													
18	Residential		117.7%)	118.5%		113.6%	1	13.7%	125.3%		125.6%		122.5%
19	Multi-Res		105.7%)	76.8%		69.2%		76.9%	108.9%		112.3%		109.2%
20	Commercial, including large wholesale		61.4%)	82.0%		95.1%		86.5%	115.4%		117.6%		114.0%
21	lotal	:	100.0%)	100.0%		100.0%	1	00.0%	120.2%		121.5%		118.3%
22														
23	Stormwater Utility													
24	Revenue at Proposed Rates								10.0					~~ -
25			34.0		36.0		39.9		43.2	49.2		54.6		60.5
26	Multi-Res		3.6		3.8		4.3		4.6	5.2		5.7		6.2
27			25.0		27.0		31.0		33.6	38.4		42.8		47.4
28	Total Devenue Derwirement		02.5		00.8		75.2		01.3	92.8		103.1		114.1
29	Revenue Requirement		24.0		26.0		40.1		12.2	60.6		67 5		75.0
30			34.0		30.0		40.1		43.5	6.4		7.0		75.0
32	Commercial		25.0		27.0		30.8		33.4	17.2		53.0		59.2
33	Total		62.5		66.8		75.2		81.3	114.2		127.5		141.8
34	Revenue Surplus (Shortfall)		02.0		00.0		10.2		01.0			121.0		
35	Residential		-		-		(0.2)		(0.1)	(11.4)		(12.9)		(14.5)
36	Multi-Res		-		-		(0.0)		(0.0)	(1.2)		(1.3)		(1.5)
37	Commercial		-		-		0.2		0.2	(8.8))	(10.2)		(11.8)
38	Total		-		-		(0.0)		0.0	(21.4))	(24.4)		(27.8)
39	Revenue to Cost Ratios	:												
40	Residential		100.0%	,	100.0%		99.6%		99.7%	81.2%		81.0%		80.7%
41	Multi-Res		100.0%)	100.0%		99.0%		99.7%	81.2%		81.0%		80.7%
42	Commercial		100.0%)	100.0%		100.7%	1	00.5%	81.4%		80.8%		80.1%
43	Total		100.0%)	100.0%		100.0%	1	00.0%	81.3%		80.9%		80.4%
44		:												
45	Combined Sanitary Utility and and Stormwater U	tility												
46	Revenue Surplus (Shortfall)													
47	Residential		11.4		11.9		10.0		10.7	7.0		6.2		3.9
48	Multi-Res		1.4		(6.0)		(8.9)		(6.9)	0.8		1.4		0.8
49	Commercial		(12.8))	(6.0)		(1.1)		(3.8)	(5.1)		(5.7)		(7.7)
50	Total		0.0		0.0		0.0		0.0	2.7		1.9		(3.1)
51	Revenue to Cost Ratios	·												
52	Residential		111.6%)	111.9%		108.7%	1	08.7%	105.3%		104.4%		102.5%
53	Multi-Res		104.9%)	79.8%		73.1%		80.0%	102.7%		104.7%		102.4%
54	Commercial		78.0%)	90.1%		98.0%		94.0%	92.9%		92.7%		91.3%
55	Total		100.0%)	100.0%		100.0%	1	00.0%	101.2%		100.7%		98.9%

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Current and Proposed Rates for Drainage Services

Line			2018		2019		2020		2021		20	22			2023		2024
No.	Description		Actual		Actual		Actual		Actual		Jan-Mar		Apr-Dec	ł	Forecast		Forecast
				•		•		•		•				•	<i>i</i>		
1	Stormwater Utility Rate	\$	0.040649	\$	0.042506	\$	0.044252	\$	0.046159	\$	0.0481/1	\$	0.056908	\$	0.062374	\$	0.067785
2																	
3	Sanitary Utility Flat Monthly Service Charges																
4	16mm	\$	9.63	\$	9.92	\$	10.22	\$	10.52	\$	10.84	\$	10.65	\$	10.84	\$	11.26
5	20mm	\$	17.32	\$	17.84	\$	18.38	\$	18.93	\$	19.50	\$	19.18	\$	19.51	\$	20.26
6	25mm	\$	26.96	\$	27.76	\$	28.60	\$	29.45	\$	30.34	\$	29.83	\$	30.34	\$	31.52
7	40mm	\$	51.97	\$	53.53	\$	55.14	\$	56.79	\$	58.50	\$	57.53	\$	58.52	\$	60.78
8	50mm	\$	71.22	\$	73.36	\$	75.56	\$	77.83	\$	80.16	\$	78.84	\$	80.20	\$	83.29
9	75mm	\$	147.27	\$	151.69	\$	156.24	\$	160.93	\$	165.75	\$	162.90	\$	165.70	\$	172.10
10	100mm	\$	274.33	\$	282.56	\$	291.04	\$	299.77	\$	308.76	\$	303.42	\$	308.65	\$	320.56
11	150mm	\$	518.81	\$	534.38	\$	550.41	\$	566.92	\$	583.93	\$	573.93	\$	583.81	\$	606.34
12	200mm	\$	827.79	\$	852.62	\$	878.20	\$	904.55	\$	931.69	\$	915.70	\$	931.47	\$	967.43
13	250mm	\$	2,054.08	\$	2,115.70	\$	2,179.17	\$	2,244.55	\$	2,311.88	\$	2,272.48	\$	2,311.61	\$	2,400.84
14	300mm	\$	2,054.08	\$	2,115.70	\$	2,179.17	\$	2,244.55	\$	2,311.88	\$	2,272.48	\$	2,311.61	\$	2,400.84
15	400mm	\$	2,247.19	\$	2,314.61	\$	2,384.05	\$	2,455.57	\$	2,529.23	\$	2,486.63	\$	2,529.44	\$	2,627.08
16	500mm	\$	2.420.34	\$	2.492.95	\$	2.567.73	\$	2.644.77	\$	2.724.11	\$	2.677.33	\$	2.723.43	\$	2.828.55
17			,	·				·	,	·			,	·	,		
18	Sanitary Utility Variable Monthly Charges																
19	All premises (except large wholesale)	\$	0.9729	\$	0.9901	\$	1.0110	\$	1.0304	\$	1.0495	\$	1,2493	\$	1,2591	\$	1.3927
20	$L_{\rm erro}$ (Mbalacele with Collection System ²	¢	0 5//82	¢	0 55446	¢	0 56616	¢	0 57702	¢	0 58772	¢	0 6006	¢	0 7051	¢	0 7700
20	Large wholesale with Collection System	φ	0.04402	φ	0.00440	φ	0.00010	φ	0.01102	φ	0.00112	φ	0.0990	Ф	0.7051	Ф	0.7799

EPCOR Water Services Inc. Minimum Filing Requirements for Drainage Services Proposed Special Rate Adjustments for Drainage Services

Line			F	Rebasing			9	0 D	ay Deferra	al			SIRP	
No.	Description	2022F		2023F	2024F	2	022F		2023F		2024F	2022 F	2023 F	2024 F
1 2	Stormwater Utility Rate	\$ (0.002805)	\$	0.000978	\$ 0.001009	\$ 0	.000358	\$(0	0.000358)	\$	-	\$ 0.008726	\$ 0.003965	\$ 0.003493
3	Sanitary Utility Flat Monthly Service Charges													
4	16mm	\$ (0.61)	\$	0.22	\$ 0.22	\$	0.23	\$	(0.23)	\$	-			
5	20mm	\$ (1.10)	\$	0.39	\$ 0.40	\$	0.41	\$	(0.41)	\$	-			
6	25mm	\$ (1.71)	\$	0.61	\$ 0.62	\$	0.64	\$	(0.64)	\$	-			
7	40mm	\$ (3.30)	\$	1.17	\$ 1.19	\$	1.23	\$	(1.23)	\$	-			
8	50mm	\$ (4.53)	\$	1.60	\$ 1.63	\$	1.68	\$	(1.69)	\$	-			
9	75mm	\$ (9.35)	\$	3.31	\$ 3.36	\$	3.47	\$	(3.48)	\$	-			
10	100mm	\$ (17.42)	\$	6.16	\$ 6.27	\$	6.47	\$	(6.49)	\$	-			
11	150mm	\$ (32.94)	\$	11.65	\$ 11.85	\$	12.23	\$	(12.27)	\$	-			
12	200mm	\$ (52.56)	\$	18.59	\$ 18.91	\$	19.52	\$	(19.58)	\$	-			
13	250mm	\$ (130.44)	\$	46.13	\$ 46.93	\$	48.44	\$	(48.59)	\$	-			
14	300mm	\$ (130.44)	\$	46.13	\$ 46.93	\$	48.44	\$	(48.59)	\$	-			
15	400mm	\$ (142.73)	\$	50.48	\$ 51.35	\$	53.01	\$	(53.17)	\$	-			
16	500mm	\$ (153.68)	\$	54.35	\$ 55.29	\$	57.07	\$	(57.25)	\$	-			
17														
18	Sanitary Utility Variable Monthly Charge													
19	All premises (except large wholesale)	\$ (0.06096)	\$	0.02110	\$ 0.02191									
20	Large Wholesale with Collection System ²	\$ (0.03414)	\$	0.01181	\$ 0.01227									
21	ç ,													
22				CORe										
23		 2022 F		2023 F	2024 F									
24	Sanitary Utility Variable Monthly Charge													
25	All premises (except large wholesale)	\$ 0.21003	\$	(0.03040)	\$ 0.09199									
26	Large Wholesale with Collection System ²	\$ 0.11762	\$	(0.01702)	\$ 0.05151									
EPCOR Water Services Inc.

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Index of MFR Schedules

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Part B	Cost of Service by Customer Segment
Financial Schedule 19-1	Revenue at Existing Rates and Revenue Requirement
Part C	PBR Rates
Financial Schedule 20-1	Current and Proposed Rates for Wastewater Treatment
Financial Schedule 20-2	Proposed Special Rate Adjustments for Wastewater Treatment

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Summary of Revenue Requirement (\$ millions)

Line		Cross	2	2017	2	2018	2	2019	2	2020	1	2021	2	2022	2	023	2	2024	Cross
No.	Description	Reference	Α	ctual	Α	ctual	Α	ctual	Fo	recast	Fo	recast	Fo	recast	Foi	recast	Fo	recast	Reference
1 2	Operating Costs	S. 5-1	\$	39.9	\$	41.5	\$	42.6	\$	46.2	\$	46.8	\$	60.8	\$	67.2	\$	66.5	
3 4	Franchise Fees and Property Taxes	S. 11-1		7.2		7.6		7.8		8.4		8.9		10.0		10.6		10.8	
5 6	Depreciation and Amortization	S. 12-1		14.4		16.0		18.0		19.3		20.7		23.2		23.8		26.4	
7 8	Return on Rate Base Financed by Debt	S. 14-1		10.2		10.9		11.5		11.5		12.0		12.3		12.3		13.6	
9 10	Return on Rate Base Financed by Equity	S. 14-1		19.2		20.0		19.2		19.2		23.2		21.1		21.2		23.2	
11 12	Revenue Requirement before Revenue Offset	ts		90.8		96.0		99.1		104.6		111.6		127.4		135.1		140.5	
13 14	Less: Revenue Offsets	S. 13-1		(2.4)		(2.6)		(3.2)		(2.2)		(2.7)		(5.9)		(7.2)		(7.3)	
15	Total Revenue Requirement	-	\$	88.4	\$	93.4	\$	95.9	\$	102.4	\$	108.9	\$	121.5	\$	127.9	\$	133.2	

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Customers and Consumption

Line		Cross	2017	2018	2019	2020	2021	2022	2023	2024	Cross
No.	Description	Reference	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
1	Total Customers - Average										
2	Residential		259,237	264,381	269,736	271,447	274,935	278,868	283,230	287,839	
3	Multi-Residential		3,752	3,765	3,779	3,774	3,781	3,789	3,800	3,811	
4	Commercial		16,627	16,844	17,060	16,983	16,983	17,068	17,239	17,411	
5	Large Wholesale (U of A)		1	1	1	1	1	1	1	1	
6	Total Customers - Average	_	279,616	284,991	290,576	292,205	295,701	299,725	304,270	309,063	_
7		=									
8	Total Annual Consumption (ML)										
9	Residential		45,369	45,901	44,580	48,419	49,141	44,853	44,766	44,694	
10	Multi-Residential		17,795	17,679	17,767	18,575	18,605	17,658	17,627	17,595	
11	Commercial		19,526	19,477	20,980	15,974	15,974	16,856	17,876	18,496	
12	Large Wholesale (U of A)		2,136	2,099	2,031	1,815	1,869	1,963	1,948	1,927	
13	Total Consumption (ML)	_	84,826	85,156	85,357	84,782	85,589	81,330	82,218	82,713	_
14		=									
15	Average Monthly Consumption per Customer (m ³ per month)									
16	Residential		14.6	14.5	13.8	14.9	14.9	13.4	13.2	12.9	
17	Multi-Residential		395.2	391.3	391.8	410.2	410.0	388.4	386.6	384.7	
18	Commercial		97.9	96.4	102.5	78.4	78.4	82.3	86.4	88.5	

EPCOR Water Services Inc.

Minimum Filing Requirements for Wastewater Treatment Summary of Operating Costs by Operational Function (\$ millions)

Line		Cross	2	2017	2	2018		2019		2020	1	2021		2022	2	2023	2	2024	Cross
No.	Description	Reference	Α	ctual	Α	ctual	ł	Actual	Fo	recast	Reference								
1 2	Power, Other Utilities and Chemicals	S.6-1	\$	5.8	\$	5.9	\$	6.6	\$	6.4	\$	6.9	\$	7.2	\$	8.2	\$	8.4	
3	Wastewater Treatment Plant Operations																		
4	Operations	S. 7-1		18.4		19.1		18.3		19.6		19.4		32.4		37.8		36.6	
5	Operational Support Services	S. 7-1		5.3		4.9		5.5		5.8		6.2		6.2		6.4		6.5	
6	Capitalized Overhead Costs	S. 7-1		(3.1)		(2.9)		(3.1)		(2.9)		(3.2)		(3.3)		(3.3)		(3.4)	
7 8				20.6		21.1		20.6		22.4		22.4		35.4		40.8		39.6	,
9 10	Billing, Meters and Customer Service	S. 8-1		6.4		6.9		7.1		8.2		7.5		7.9		7.9		7.7	
11 12	EWSI Shared Services	S. 9-1		3.2		3.9		4.3		4.8		4.8		5.0		5.0		5.3	S. 16-1
13 14	Corporate Shared Services	S. 10-1		4.0		3.8		4.0		4.4		5.2		5.2		5.3		5.4	S. 16-1
15	Total Operating Costs		\$	39.9	\$	41.5	\$	42.6	\$	46.2	\$	46.8	\$	60.8	\$	67.2	\$	66.5	S. 3-1
																			S. 16-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Summary of Operating Costs by Cost Category (\$ millions)

Line		Cross	2	2017	2	2018	2	019	2	020	2	2021	2	2022	2	2023	2	2024	Cross
No.	Description	Reference	Α	ctual	Α	ctual	Α	ctual	Fo	recast	Fo	recast	Fo	recast	Fo	recast	Fo	recast	Reference
1	Staff Costs and Employee Benefits																		
2	Operations and Maintenance	S. 7-2	\$	14.2	\$	15.0	\$	14.3	\$	16.0	\$	16.1	\$	16.9	\$	17.4	\$	18.1	
3	EWSI Shared Services	S. 9-2		0.3		1.1		1.3		1.5		1.4		1.4	-	1.5		1.5	
4	Sub-total	-		14.5		16.0		15.7		17.5		17.5		18.3		18.8		19.6	S. 16-1
5	Contractors and Consultants																		
6	Operations and Maintenance	S. 7-2		3.9		3.6		2.8		2.8		2.9		14.3		18.5		15.6	
7	Overstrength Constituent Measurement	S. 8-1		1.0		1.4		1.4		1.5		1.7		1.7		1.7		1.8	
8	Sub-total	-		5.0		5.0		4.2		4.4		4.5		16.0		20.2		17.4	-
9																			
10	Power, Other Utilities and Chemicals	S.6-1		5.8		5.9		6.6		6.4		6.9		7.2		8.2		8.4	
11																			
12	Customer Billing and Collections	S. 8-1		3.3		3.1		3.3		4.2		3.3		3.4		3.5		3.5	
13																			
14	Meter Reading Services	S. 8-1		2.1		2.4		2.4		2.5		2.5		2.8		2.7		2.4	
15																			
16	EWSI Shared Service Allocation	S. 9-2		2.8		2.7		2.9		3.1		3.1		3.3		3.3		3.4	
17																			
18	Corporate Shared Services	S. 10-1		4.0		3.8		4.0		4.4		5.2		5.2		5.3		5.4	
19																			
20	Materials and Supplies	S. 7-2		2.4		2.0		2.2		2.0		2.1		2.1		2.2		2.3	
21																			
22	Vehicles	S. 7-2		-		-		-		0.1		0.1		0.1		0.1		0.1	
23																			
24	Other																		
25	Operations and Maintenance	S. 7-2		0.1		0.5		1.3		1.5		1.3		2.0		2.6		3.6	
26	EWSI Shared Services	S. 9-2		0.1		0.1		0.1		0.2		0.3		0.3		0.2		0.4	
27	Sub-total			0.1		0.5		1.4		1.6		1.6		2.3		2.9		4.0	
28																			
29	Total Operating Costs	-	\$	39.9	\$	41.5	\$	42.5	\$	46.2	\$	46.8	\$	60.8	<u></u>	67.2	\$	66.5	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Power, Other Utilities and Chemical Costs (\$ millions)

Line	•	Cross	2	017	20	018	2	019	2	020	2	021	2	022	2	2023	2	024	Cross
No.	Description	Reference	Ac	tual	Ac	tual	Ac	ctual	For	recast	For	ecast	For	recast	Fo	recast	For	recast	Reference
1	Power		\$	4.0	\$	4.1	\$	4.5	\$	4.5	\$	4.7	\$	5.0	\$	5.8	\$	5.9	
2	Water	S. 18-1		0.4		0.4		0.5		0.4		0.4		0.4		0.4		0.5	
3	Natural Gas			0.3		0.2		0.4		0.2		0.3		0.4		0.4		0.5	
4	Subtot	al		4.7		4.7		5.3		5.1		5.5		5.8		6.7		6.9	
5																			
6	Chemicals			1.0		1.2		1.2		1.3		1.4		1.5		1.5		1.5	
7																			
8	Power, Other Utilities and Chemical	s	\$	5.8	\$	5.9	\$	6.6	\$	6.4	\$	6.9	\$	7.2	\$	8.2	\$	8.4	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Operating Costs by Function (\$ millions)

Line	C	ross	2017	20	18	2019)	20	20	2021		2022	2	2023	2024	Cross
No.	Function/Sub-function Refe	erence	Actual	Act	tual	Actua	al	Fore	ecast	Foreca	st	Forecas	t Fo	recast	Forecas	t Reference
1	Operations															
2	Gold Bar WWTP Operations		\$ 4.2	\$	4.3	\$ 4	.6	\$	5.4	\$ 4	.7	\$ 4.8	\$	4.9	\$ 5.0)
3	Biosolids Management		-		-	-			-	-		12.6		17.5	15.9)
4	Maintenance		9.6		10.0	9).2		9.9	9	.9	10.1		10.3	10.6	5
5	Plant Controls and Automation		-		1.5	1	.5		1.6	1.	.7	1.7		1.8	1.8	3
6	Plant Engineering		3.4		1.9	2	2.1		2.0	2	.3	2.3		2.4	2.4	Ļ
7	Project Engineering		1.2		1.4	0	9.9		0.7	0	.8	0.9		0.9	0.9)
8	Subtotal	_	18.4		19.1	18	3.3		19.6	19	.4	32.4		37.8	36.6	5
9	Operational Support Services															—
10	Quality Assurance & Environment		3.8		3.4	3	8.8		4.2	4	.3	4.3		4.4	4.5	5
11	Gold Bar Administration		1.0		1.0	1	.2		1.2	1.	.3	1.4		1.4	1.5	5
12	Supply Chain Management & Security		0.4		0.5	0).4		0.4	0.	.5	0.5		0.5	0.5	5
13	Subtotal		5.3		4.9	5	5.5		5.8	6	.2	6.2		6.4	6.5	5
14																_
15	Capitalized Overhead Costs		(3.1)		(2.9)	(3	8.1)		(2.9)	(3.	.2)	(3.3)	(3.3)	(3.4	-)
16																
17	Total Operations and Maintenance Costs S	. 7-2	\$ 20.6	\$	21.1	\$ 20	.6	\$	22.4	\$ 22	.4	\$ 35.4	\$	40.8	\$ 39.6	S. 5-1

2022-2024 Wastewater Treatment PBR

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Operating Costs by Cost Category (\$ millions)

Line	C	Cross	2017	2	018	20 ⁻	9	2020	20	021	20	022	20	023	2024	Cross
No.	Description Ref	ference	Actual	Ac	tual	Act	Jal	Forecast	t For	ecast	For	ecast	Fore	ecast	Forecast	Reference
1	Staff Costs and Employee Benefits		14.2		15.0		14.3	16.0	1	16.1		16.9		17.4	18.1	
2	Contractors and Consultants		3.9		3.6		2.8	2.8		2.9		14.3		18.5	15.6	
3	Materials and Supplies		2.4		2.0		2.2	2.0	1	2.1		2.1		2.2	2.3	
4	Vehicles		-		-		-	0.1		0.1		0.1		0.1	0.1	
5	Other		0.1		0.5		1.3	1.5		1.3		2.0		2.6	3.6	
6																-
7	Total Operations and Maintenance Costs		\$ 20.6	\$	21.1	\$ 2	20.5	\$ 22.4	\$	22.4	\$	35.4	\$	40.8	\$ 39.6	S. 7-1
		=									•					= S. 5-2

2022-2024 Wastewater Treatment PBR

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Billing, Meters and Regulatory Service (\$ millions)

Line		Cross	2	017		2018	2	019	2	020	2	2021	20)22	2	023	2	2024	Cross
No.	Description	Reference	Ac	ctual	4	Actual	Ac	ctual	For	ecast	Fo	recast	Fore	ecast	For	recast	Fo	recast	Reference
1	Customer Billing and Collections		\$	3.3	\$	3.1	\$	3.3	\$	4.2	\$	3.3	\$	3.4	\$	3.5	\$	3.5	
2	Meter Reading Services	S. 18-1		2.1		2.4		2.4		2.5		2.5		2.8		2.7		2.4	
3	Regulatory Services	S. 18-1		1.0		1.4		1.4		1.5		1.7		1.7		1.7		1.8	
4																			
5	Total Billing, Meters and Regulatory Service Costs		\$	6.4	\$	6.9	\$	7.1	\$	8.2	\$	7.5	\$	7.9	\$	7.9	\$	7.7	S. 5-1
																			S 5-2

2022-2024 Wastewater Treatment PBR

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment EWSI Shared Service Costs by Function (\$ millions)

Line		Cross	201	17	2	2018	2019	2	2020	2	2021	2	022		2023	202	24	Cross
No.		Reference	Actu	ual	Α	ctual	Actual	Fo	recast	Fo	recast	For	recast	Fo	recast	Fore	cast	Reference
1	Shared Services																	
2	Incentive Compensation		\$	0.1	\$	1.1	\$ 1.3	\$	1.4	\$	1.2	\$	1.2	\$	1.3	\$	1.3	
3	Information Services			0.6		0.6	0.6		0.7		0.6		0.7		0.8		0.8	
4	Controller			0.7		0.5	0.7		0.8		0.9		0.8		0.8		0.8	
5	Health, Safety & Environment			0.4		0.5	0.4		0.5		0.5		0.5		0.5		0.5	
6	Technical Training			0.4		0.4	0.4		0.3		0.3		0.4		0.4		0.4	
7	Regulatory and Operational Excellence			0.1		0.1	0.1		0.2		0.2		0.4		0.3		0.5	
8	Executive Administration			0.2		0.2	0.2		0.3		0.3		0.3		0.3		0.3	
9	Public & Government Affairs			0.2		0.2	0.3		0.2		0.3		0.3		0.3		0.3	
10	Other Shared Services	_		0.4		0.3	0.4		0.4		0.4		0.4		0.4		0.4	
11		-																
12	Total EWSI Shared Service Costs	=	\$	3.2	\$	3.9	\$ 4.3	\$	4.8	\$	4.8	\$	5.0	\$	5.0	\$	5.3	S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment EWSI Shared Service Costs by Cost Category (\$ millions)

Line		Cross	2	2017	2	018	2	019	2	020	2	021	2	2022	2	023	20	24	Cross
No.	Description	Reference	A	ctual	A	ctual	Ac	ctual	For	recast	For	recast	For	recast	Foi	recast	Fore	ecast	Reference
1	Embedded Costs																		
2	Staff Costs and Employee Benefits		\$	0.3	\$	1.1	\$	1.3	\$	1.5	\$	1.4	\$	1.4	\$	1.5	\$	1.5	
3	Other			0.1		0.1		0.1		0.2		0.3		0.3		0.2		0.4	
4	Subtotal			0.4		1.1		1.5		1.7		1.7		1.7		1.7		1.9	
5																			
6	Allocated Costs																		
7	Allocations from BU 8F			2.8		2.7		2.9		3.1		3.1		3.3		3.3		3.4	
8	Subtotal	S. 18-1		2.8		2.7		2.9		3.1		3.1		3.3		3.3		3.4	
9																			
10	Total Wastewater Administration Costs		\$	3.2	\$	3.9	\$	4.3	\$	4.8	\$	4.8	\$	5.0	\$	5.0	\$	5.3	S. 5-2

2022-2024 Wastewater Treatment PBR

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Corporate Shared Service Costs (\$ millions)

Line		Cross	201	7	20	018	201	9	2	2020	2	021	20)22	2	023	2024	Cross
Nos.	Cost Component	Reference	Actu	al	Ac	tual	Actu	ıal	Foi	recast	Foi	recast	Fore	ecast	For	recast	Foreca	st Reference
1	Corporate Shared Services																	_
2	Board and Executive		\$	0.3	\$	0.2	\$	0.3	\$	0.2	\$	0.3	\$	0.3	\$	0.3	\$ 0.	3
3	Corporate Finance			0.3		0.2		0.3		0.2		0.2		0.2		0.2	0.	2
4	Treasury			0.1		0.1		0.1		0.1		0.2		0.2		0.2	0.	2
5	Risk Assurance & Advisory Services			0.1		0.1		0.1		0.1		0.1		0.1		0.1	0.	2
6	Human Resources			0.4		0.4		0.6		0.6		0.6		0.7		0.7	0.	7
7	Information Services			0.5		0.6		0.6		0.5		0.5		0.6		0.6	0.	6
8	Supply Chain Management			0.5		0.4		0.5		0.5		0.5		0.5		0.5	0.	5
9	Public and Government Affairs			0.3		0.3		0.4		0.4		0.4		0.4		0.4	0.	4
10	Legal Services			0.1		0.1		0.1		0.1		0.1		0.1		0.1	0.	1
11	Health, Safety and Environment			0.1		0.1		0.1		0.1		0.1		0.1		0.1	0.	1
12	At-Risk Compensation			0.3		0.4		0.3		0.3		0.3		0.4		0.4	0.	4
13	Less: Business Development Disallowances		(0.1)		(0.1)	(0.1)		(0.1)		(0.1)		(0.1)		(0.1)	(0	1)
14	Subtot	al		3.0		2.9		3.1		3.2		3.3		3.4		3.5	3.	6
15																		
16	Asset Usage Fees																	
17	I/S Capital - Corporate			0.6		0.5		0.6		0.6		0.6		0.6		0.6	0.	6
18	Oracle			0.2		0.2		0.2		0.2		0.2		0.2		0.2	0.	2
19	Leasehold Improv EPCOR Tower			0.1		0.0		0.1		0.1		0.1		0.1		0.1	0.	1
20	HR System			0.1		0.0		0.0		0.0		0.0		0.0		0.0	0.	0
21	Customer Information System			-		-		-		0.3		1.0		0.9		1.0	1.	0
22	Other Corporate Assets			0.1		0.1		0.1		0.0		0.0		0.0		0.0	0.	0
23	Subtot	al		1.0		0.8		0.9		1.2		1.8		1.8		1.8	1.	9
24																		_
25	Total Corporate Administration Costs	S. 18-1	\$	4.0	\$	3.8	\$	4.0	\$	4.4	\$	5.2	\$	5.2	\$	5.3	\$ 5.	4 S. 5-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Allocation of Corporate Shared Service Costs As a Percentage of Total Corporate Services Costs

Line			2017	2018	2019	2020	2021	2022-2026
No.	Cost Components	Basis of Allocation	Actual	Actual	Actual	Forecast	Forecast	Forecast
1	Corporate Shared Services							
3	Board & Executive	Composite	6.0%	5.1%	5.3%	5.2%	5.3%	5.4%
4	Corporate Einance							
		Invoice Lines	7.8%	6.8%	6 7%	6.6%	67%	6.7%
	Other	Composite	6.0%	5.1%	5.3%	5.2%	4.8%	4.9%
8								
9	Treasury							
10	Treasurer	Composite	5.7%	4.9%	5.4%	4.6%	5.1%	5.4%
11	Insurance and Physical Risk Managemen	PP&E	6.2%	4.5%				
12	Treasury Operations	50%(NI+Dep), 50% Debt	8.4%	7.2%	7.5%	7.0%	7.0%	6.9%
		Composite				4.6%	5.1%	5.4%
14	laxation	Composite				5.2%	5.4%	5.5%
10	Risk Management							
17	Internal Audit	Composite	6.0%	5 1%	5.3%	5.2%	5.4%	5.5%
18	Insurance Risk Management	PP&E	6.2%	4.5%	4.5%	4.2%	4.2%	4.5%
19	Organizational Project Management	PP&E	0.270			4.2%	4.2%	4.5%
20	Centre of Excellence	Composite				5.2%	5.4%	5.5%
21								
22	Information Services							
23	Major Capital Projects	Assets	6.0%	5.3%	5.4%	5.0%	5.1%	5.4%
24	Application Services	Assets	6.0%	5.3%	5.1%	4.9%	4.9%	5.2%
25	Infrastructure Operations	PC Count	5.0%	4.7%	4.9%	4.9%	5.0%	5.1%
20	Human Resources	Headcount	6.8%	6.0%	6.1%	6.1%	6.3%	64%
28			0.070	0.070	0.170	0.170	0.070	0.170
29	Supply Chain							
30	Mailroom	Headcount	7.4%	6.4%	6.5%	6.5%	6.7%	6.8%
31	Security	Headcount	7.4%	6.4%				
32	Disaster Recovery Planning	PC Count	5.9%	5.3%	5.1%	5.1%	5.2%	5.3%
33	Contract Management	PO Lines	12.2%	9.5%	11.2%	9.3%	11.2%	11.2%
34	Real Estate	Composite	6.0%	5.1%	5.3%	5.2%	5.4%	5.5%
35	Public and Covernment Affeire	Composito	E 70/	E 20/	G 10/	6 40/	6 60/	6.20/
30		Composite	5.770	0.3%	0.170	0.470	0.0%	0.3%
38	Legal Services	Composite	6.0%	5.1%	5.3%	5.2%	5.4%	5.5%
39								
40	Health, Safety & Environment	Headcount	6.6%	5.8%	5.8%	5.8%	6.0%	6.1%
41								
42	Incentive Compensation	Avg Corp Costs Allocation	6.2%	5.4%	5.6%	5.6%	5.7%	5.7%
43 44	Sub-total		6.2%	5.3%	5.6%	5.6%	5.7%	5.7%
45								
46	Asset Usage Fees							
47	I/S Capital - Corporate	Average Corp IS Costs	5.7%	5.0%	4.8%	4.6%	4.7%	5.0%
48	Oracle	Average Corp Finance Costs & PO Lines	9.4%	7.5%	8.4%	8.3%	8.2%	8.2%
49	Leasehold Improv EPCOR Tower	Composite	4.4%	3.8%	4.4%	4.5%	4.7%	4.8%
50	HR System	Headcount	6.6%	5.5%	5.5%	5.8%	6.0%	6.1%
51	Customer Information System	Customer Count	4 60/	4.00/	1 E0/	8.4%	8.5%	8.4%
52		Composite	4.0%	4.0%	4.3%	4.1%	4.9%	5.0%
54	Total Asset Usage Fee		6.2%	5.2%	5.2%	5.7%	6.5%	6.6%
55 56	Total Corporate Shared Services Allocatior	1	6.2%	5.3%	5.5%	5.6%	5.9%	6.0%

2022-2024 Wastewater Treatment PBR

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Franchise Fees and Property Taxes (\$ millions)

Line	•	Cross	2	017	2	018	2	019	2	020	2	021	2	2022	2	023	2	2024	Cross
No.	Description	Reference	Ac	ctual	Α	ctual	Ac	tual	Fo	recast	For	recast	Fo	recast	Foi	recast	Fo	recast	Reference
1 2	Franchise fees Property and business taxes	S. 18-1 S. 18-1	\$	6.6 0.6	\$	7.0 0.6	\$	7.2 0.6	\$	7.8 0.6	\$	8.3 0.6	\$	9.3 0.7	\$	9.8 0.7	\$	10.0 0.7	
3 4	Total Franchise Fees and Property Taxes		\$	7.2	\$	7.6	\$	7.8	\$	8.4	\$	8.9	\$	10.0	\$	10.6	\$	10.8	S. 3-1 S. 16-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Depreciation and Amortization (\$ millions)

Line		Cross	2	2017	2	2018	2	2019	2	2020	2	2021	2	2022	2	023	2	024	Cross
No.	Description	Reference	Α	ctual	Α	ctual	Α	ctual	Fo	recast	Reference								
1 2	Gross Depreciation Provision Amortization of Contributions	S. 15-3 S. 15-5	\$	15.3 (0.9)	\$	17.0 (0.9)	\$	19.0 (0.9)	\$	20.2 (0.9)	\$	21.6 (0.9)	\$	24.2 (0.9)	\$	24.7 (0.9)	\$	27.4 (0.9)	
3 4	Depreciation and Amortization	-	\$	14.4	\$	16.0	\$	18.0	\$	19.3	\$	20.7	\$	23.2	\$	23.8	\$	26.4	S. 3-1 S. 16-1

2022-2024 Wastewater Treatment PBR

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Depreciation Rates

		2017-202	21	2022-20	24
Line		Annual	Economic	Annual	Economic
No.	Description	Depreciation Rate	Life (years)	Depreciation Rate	Life (years)
				-	
1	Computer equipment	25.00%	4.0	25.00%	4.0
2	Laboratory equipment	10.00%	10.0	10.00%	10.0
3	Machinery & equipment	10.00%	10.0	10.00%	10.0
4	Office furniture & equipment	12.50%	8.0	12.50%	8.0
5	Process control systems	10.00%	10.0	10.00%	10.0
6	Software intangibles	10.00%	10.0	10.00%	10.0
7	Vehicles	10.00%	10.0	10.00%	10.0
8	Wastewater treatment plant	2.77%	36.1	2.79%	35.8
9	Wastewater treatment plant includes	:			
10	Pre-treatment	2.94%	34.0	3.15%	31.8
11	Primary treatment	2.62%	38.2	2.70%	37.1
12	Secondary treatment	2.67%	37.5	2.76%	36.3
13	Disinfection	2.67%	37.5	2.67%	37.5
14	Solids handling:				
15	Fermentation	3.47%	28.8	3.57%	28.0
16	Waste activated sludge	3.57%	28.0	3.54%	28.3
17	Digester	2.72%	36.7	2.86%	35.0
18	Clover Bar	3.00%	33.3	3.00%	33.3
19	Sludge supernatant pumping	3.18%	31.4	3.24%	30.8
20	Buildings	2.22%	45.0	2.22%	45.0
21	Site work	3.33%	30.0	3.33%	30.0
22	Utilities	2.70%	37.1	2.89%	34.6
23	Chemical systems	3.75%	26.7	3.72%	26.9
24	Odour control	2.94%	34.0	2.80%	35.7
25	Inspections	-	-	10.00%	10.0
26	Cloverbar Biosolids Lagoon	-	-	4.76%	21.0
27	Sanitary Grit Facility	2.50%	40.0	2.50%	40.0
28	-				
29	EWSI Composite Rate	2.74%	36.6	3.04%	32.9

2022-2024 Wastewater Treatment PBR

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Revenue Offsets (\$ millions)

Line		Cross	2	017	2	018	2	019	2	2020	2	2021	2	022	2	023	2	024	Cross
No.	Description	Reference	Ac	tual	Ac	ctual	Ac	ctual	Α	ctual	Fo	recast	For	recast	For	recast	For	recast	Reference
1	Biosolids		\$	-	\$	-	\$	-	\$	-	\$	-	\$	3.5	\$	4.7	\$	4.8	
2	ACRWC - SWAP			0.7		0.7		1.3		0.7		1.0		0.7		0.7		0.7	
3	Late Payment Charges			0.2		0.3		0.2		0.1		0.2		0.2		0.3		0.3	
4	Phosphate Sales			0.3		0.4		0.4		0.4		0.5		0.5		0.5		0.5	S. 16-1
5	Miscellaneous revenue			1.2		1.3		1.3		1.1		1.0		1.0		1.0		1.0	
6																			-
7	Total Revenue Offsets		\$	2.4	\$	2.6	\$	3.2	\$	2.2	\$	2.7	\$	5.9	\$	7.2	\$	7.3	S. 3-1
		:																	S. 16-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Return on Rate Base (\$ millions)

Line		Cross	2017	2018	2019	2020	2021	2022	2023	2024	Cross
No.	Description	Reference	Actual	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Reference
1 2	Mid-Year Rate Base, net	S. 15-1	\$ 379.6	\$ 412.8	\$ 442.5	\$ 475.5	\$ 513.9	\$ 546.1	\$ 550.5	\$ 600.8	
3	Capital Structure										
4	Debt Capital	S. 17-1	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	
5	Common Stock Equity	S. 17-1	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	
6	Mid-Year Capital Structure		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
7		:									
8	Cost Rates										
9	Debt Capital	S. 17-2	4.46%	4.38%	4.32%	4.04%	3.90%	3.75%	3.72%	3.77%	
10	Common Stock Equity		12.63%	12.14%	10.86%	10.10%	11.30%	9.64%	9.64%	9.64%	
11	Weighted Average Cost of Capita	ĺ	7.73%	7.48%	6.94%	6.46%	6.86%	6.11%	6.09%	6.12%	
12											
13	Return on Rate Base										
14	Debt Capital		10.2	10.9	11.5	11.5	12.0	12.3	12.3	13.6	S. 3-1
15	Common Stock Equity	S. 17-4	19.2	20.0	19.2	19.2	23.2	21.1	21.2	23.2	S. 16-1
16	Total Return		\$ 29.3	\$ 30.9	\$ 30.7	\$ 30.7	\$ 35.3	\$ 33.3	\$ 33.5	\$ 36.8	

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EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Rate Base (\$ millions)

Line		Cross	2017	2018	2019	2020	2021	2022	2023	2024	Cross
No.	Description	Reference	Actual	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Reference
1	Prior Year Property, Plant and Equipment	S. 15-2	\$ 512.8	\$ 547.8	\$ 592.0	\$ 631.7	\$ 693.6	\$ 785.5	\$ 806.6	\$ 830.4	
2	Prior Year Accumulated Depreciation	S. 15-3	(130.2)	(136.2)	(145.1)	(163.0)	(183.2)	(218.3)	(242.4)	(267.2)	
3	Prior Year Net Property	-	382.6	411.7	446.8	468.7	510.5	567.2	564.2	563.2	
4		-									
5	Current Year Property, Plant and Equipment	S. 15-2	547.8	592.0	631.7	693.6	748.0	806.6	830.4	961.4	
6	Current Year Accumulated Depreciation	S. 15-3	(136.2)	(145.1)	(163.0)	(183.2)	(204.8)	(242.4)	(267.2)	(294.5)	
7	Current Year Net Property	-	411.7	446.8	468.7	510.5	543.3	564.2	563.2	666.9	
8		-									
9	Mid-Year Net Property		397.2	429.3	457.8	489.6	526.9	565.7	563.7	615.1	
10											
11	Materials and Supplies		1.8	1.7	1.7	1.7	1.6	1.4	1.4	1.5	
12											
13	Working Capital	S. 16-1	5.5	5.9	6.0	6.3	6.7	(0.8)	4.7	2.7	
14		-									
15	Gross Mid-Year Water Rate Base		404.5	436.8	465.5	497.6	535.1	566.4	569.8	619.2	
16											
17	Mid-Year Net Contributions	S. 15-6	(24.9)	(24.0)	(23.0)	(22.1)	(21.2)	(20.3)	(19.3)	(18.4)	
18		-	. , ,	、 /	. ,	. /	. ,	,	· · · · ·	. /	
19	Net Mid-Year Water Rate Base	-	\$ 379.6	\$ 412.8	\$ 442.5	\$ 475.5	\$ 513.9	\$ 546.1	\$ 550.5	\$ 600.8	S. 14-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Property, Plant & Equipment (\$ millions)

Line		Cross	2	2017		2018		2019		2020		2021		2022		2023	2	2024	Cross
No.		Reference	Α	ctual	A	ctual	A	Actual	A	Actual	Fc	orecast	Fc	orecast	Fo	recast	Fo	recast	Reference
1 2	Previous year balance Biosolids Asset Transfer		\$	512.8	\$	547.8	\$	592.0	\$	631.7	\$	693.6	\$	748.0 37.5	\$	806.6	\$	830.4	S. 15-1
3 4				512.8		547.8		592.0		631.7		693.6		785.5		806.6		830.4	
5	Additions to Property, Plant & Equipment																		
6	EPCOR Funded	S. 15-4		44.4		52.1		40.8		62.0		54.4		21.1		23.8		131.1	
7	Developer Additions	S. 15-6		-		-		-		-		-		-		-		-	
8				44.4		52.1		40.8		62.0		54.4		21.1		23.8		131.1	
9																			
10 11	Retirements and Adjustments			(9.4)		(8.0)		(1.1)				-		-		-		-	
12	Current year balance		\$	547.8	\$	592.0	\$	631.7	\$	693.6	\$	748.0	\$	806.6	\$	830.4	\$	961.4	S. 15-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Accumulated Depreciation (\$ millions)

Line	Cros	s	2017	2	2018		2019		2020		2021		2022		2023	f	2024	Cross
No.	Refere	nce	Actual	A	ctual	A	ctual	A	Actual	Fc	orecast	Fo	recast	Fc	orecast	Fc	recast	Reference
1	Previous year balance Biosolids Asset Transfer	\$	130.2	\$	136.2	\$	145.1	\$	163.0	\$	183.2	\$	204.8	\$	242.4	\$	267.2	S. 15-1
2			130.2		136.2		145.1		163.0		183.2		218.3		242.4		267.2	
3 ⊿	Gross Provision		15.3		17.0		19.0		20.2		21.6		24.2		24.7		27.4	S. 12-1
5	Retirements, Net Salvage and Adjustments		(9.4)		(8.0)		(1.1)		-		-		-		-		-	
6 7	Current year balance	\$	136.2	\$	145.1	\$	163.0	\$	183.2	\$	204.8	\$	242.4	\$	267.2	\$	294.5	S. 15-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Construction Work in Progress (\$ millions)

Line No.		Cross Reference	2 A	2017 ctual	A	2018 Actual	A	2019 Actual	2 A	2020 ctual	: Fo	2021 orecast	2 Fo	2022 recast	: Fo	2023 recast	2 Foi	2024 recast	Cross Reference
1 2	Previous year balance		\$	22.6	\$	25.0	\$	25.4	\$	33.8	\$	13.8	\$	13.9	\$	45.0	\$	97.2	
3 4	Capital Expenditures	S. 15-5		46.8		52.5		49.3		42.0		54.5		52.1		76.0		43.6	
5 6	Cancelled Projects and Adjustments			(0.0)		-		-		-		-		-		-		-	
7 8	Less: Capital Additions			(44.4)		(52.1)		(40.8)		(62.0)		(54.4)		(21.1)		(23.8)		(131.1)	S. 15-2
9	Current year balance		\$	25.0	\$	25.4	\$	33.8	\$	13.8	\$	13.9	\$	45.0	\$	97.2	\$	9.7	

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Capital Expenditures by Project (\$ millions)

Line No	Major Category and Project	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Forecast	2017-2021 Total	2022 Forecast	2023 Forecast	2024 Forecast	2022-2024 Total	Cross
110.		Actual	Actual	Actual	Actual	Torccust	Total	Torecast	Torecast	Torecast	Total	Reference
1	Regulatory											
2	Odour Control Improvements	\$-	\$-	\$-	\$ -	\$-	\$ -	\$ 0.8	\$ 2.4	\$ 2.3	\$ 5.6	
3	Projects < \$5 million	-	-	-	0.5	1.4	1.9	-	-	-	-	
4	Growth/Customer Requirements	-	-	-	0.5	1.4	1.9	0.0	2.4	2.3	5.0	
6	Hydrovac Sanitary Grit Treatment Facility	6.7	0.6	(0.0)	0.1	-	7.4	-	-	-	-	
7	Projects < \$5 million	0.0	0.0	1.4	0.8	0.2	2.4	2.8	1.9	0.8	5.5	
8	Sub-total	6.7	0.6	1.4	0.9	0.2	9.8	2.8	1.9	0.8	5.5	
9	Health, Safety and Environment											
10	No projects exceed \$5 million in this category	-	-	-	-	-	-	-	-	-	-	
11	Projects < \$5 million	0.7	0.5	0.5	0.4	1./	3.8	0.2	0.2	0.4	0.8	
13	Reliability and Life Cycle Improvements	0.7	0.5	0.0	0.4	1.7	5.0	0.2	0.2	0.4	0.0	
14	Mechanical											
15	Build Pipe Racks Project	-	0.0	2.1	7.6	-	9.7	-	-	-	-	
16	Replace 2.5km of Sludge Line Project	0.2	1.1	5.9	0.4	-	7.5	-	-	-	-	
17	Clarifier Chain Replacement Program	1.3	3.6	2.2	0.8	1.9	9.9	-	-	-	-	
18	Sludge Line Upgrades Project	3.9	3.8	0.2	0.6	0.0	8.5	-	-	-	-	
19	Mechanical Renabilitation Program	4.2 5.1	6.9 4.6	4.2	3.2	2.2	20.7	-	-	-	-	
20	Digester 4 Upgrades Project	1.0	4.0	0.1	-		14.0	40	- 32	- 62	13.4	
22	Headworks and Primary Aeration System Upgrades Proi	0.1	0.1	1.1	0.1	-	1.4	-	-	-	-	
23	Square 1 Gas Room Replacement Project	0.0	0.0	0.4	1.1	9.0	10.6	-	-	-	-	
24	Projects < \$5 million	2.7	1.8	0.1	0.6	0.5	5.7	4.9	4.7	5.1	14.7	
25	Sub-total: Mechanical	18.4	22.2	17.9	17.1	13.7	89.3	8.9	7.9	11.3	28.1	
26	<u>Structural</u>	0.7	1.0	0.0	4.0	5.0	10.0					
27	Structural Renabilitation Program	0.7	1.8	3.2 5 1	1.8	5.0	13.0	-	-	-	-	
20	Distribution Chamber Reconstruction Project	4.5	4.0	-	- 5.1	-	- 21.0	- 33	- 72	- 65	17.0	
30	Projects < \$5 million	2.9	2.7	2.8	0.2	0.2	8.7	1.5	2.0	1.0	4.5	
31	Sub-total: Structural	7.9	8.4	11.2	7.0	8.8	43.3	4.8	9.2	7.5	21.5	
32	Electrical											
33	Electrical Rehab Program	1.3	1.7	2.0	1.6	2.0	8.6	-	-	-	-	
34	Aux Control Room E-House (EB-1)	-	-	-	-	-	-	1.9	6.2	3.2	11.2	
35	600v Electrical Building (EB-2)	-	-	-	-	-	- 27	1.5	6.6	3.7	11.8	
30	Sub-total: Electrical	0.5	2.2	(0.0)	- 16	- 20	2.7	0.0	13.6	0.0	2.5	
38	Instruments / Other Equipment	1.5	0.0	2.0	1.0	2.0	11.5	4.5	10.0	1.1	20.0	
39	Projects < \$5 million	0.9	1.0	1.1	0.7	1.4	5.1	1.7	1.5	1.5	4.6	
40	Sub-total: Instruments / Other Equipment	0.9	1.0	1.1	0.7	1.4	5.1	1.7	1.5	1.5	4.6	
41	Buildings and Site											
42	Operations Center at Mid-Point Entrance	0.5	0.5	0.1	0.4	5.4	6.9	-	-	-	-	
43	Buildings and Site Renabilitation	1.0	1.1	1.9	2.0	3.2	9.3	- 14.6	-	-	- 20 /	
44	Projects < \$5 million	- 0.0	- 0.0	- 0.0	- 06	- 31	3.9	20	0.8	4.1	35	
46	Sub-total: Buildings and Site	1.5	1.7	2.0	3.0	11.8	20.0	16.6	20.4	4.8	41.8	
47	HVAC											
48	Utility Hot Water System Rehabilitation	0.3	4.2	2.3	1.9	0.3	8.9	-	-	-	-	
49	Site HVAC Rehabilitation	4.5	4.9	4.7	4.7	9.3	28.1	-	-	-	-	
50	Projects < \$5 million	-	-	0.0	0.1	-	0.1	4.3	3.7	1.1	9.1	
52	Sub-lotal: HVAC Process Controls / IT	4.8	9.1	7.0	0.7	9.6	37.2	4.3	3.7	1.1	9.1	
53	Expand Flare Capacity	-	-	-	-	-	-	1.1	4.0	2.9	8.0	
54	Projects < \$5 million	1.6	1.5	1.3	0.7	0.4	5.5	0.9	1.3	0.5	2.7	
55	Sub-total: Process Controls / IT	1.6	1.5	1.3	0.7	0.4	5.5	2.0	5.3	3.4	10.7	
56	Sub-total	36.9	47.8	42.6	36.8	47.6	211.8	42.5	61.6	37.2	141.4	
57	Performance Efficiency and Improvement											
58	GB - Plant Improvements	1.3	2.1	1.5	1.4	2.9	9.2	-	-	-	-	
59 60	Laboratory Facility Consolidation	-	-	-	-	-		20	5.7 3.0	1.6	0.U 5.0	
61	Projects < \$5 million	- 1.2	-	- 3.4	-	- 0.7	8.6	2.9	1.1	1.2	4.5	
62	Sub-total	2.5	3.5	4.9	3.3	3.6	17.8	5.8	9.8	2.8	18.4	
63	Total Capital Expenditures	46.8	52.4	49.3	42.0	54.5	245.0	52.1	76.0	43.6	171.7	
64												
65	Rounding Adjustment	(0.0)	(0.1)	-	0.0	(0.0)	(0.1)	(0.0)	-	0.0	(0.0)	
66	Capital Exponditures	¢ /C 0	\$ F7 F	\$ 10.2	\$ 420	\$ EAF	\$ 245 4	\$ 52.4	\$ 760	¢ 43 ¢	\$ 1717	S 15 A
07	Capital Experiorulaies	φ 40.0	φ 32.3	φ 49.3	φ 42.0	φ 34.5	φ ∠ 4 3.1	φ 52.1	φ /0.0	φ 4 3. 6	φ 1/1./	3. 15-4

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Contributions in Aid of Construction (\$ millions)

Line		Cross	2017	2018	2019	2020	2021	2022	2023	2024	Cross
No.	Description	Reference	Actual	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Reference
1	Prior Year Gross Contributions		\$ (41.0)	\$ (41.0)	\$ (41.0)	\$ (41.0)	\$ (41.0)	\$ (41.0)	\$ (41.0)	\$ (41.0)	
2											
3	Customer Contributions		-	-	-	-	-	-	-	-	S. 15-2
4											
5	Current Year Gross Contributions	-	(41.0)	(41.0)	(41.0)	(41.0)	(41.0)	(41.0)	(41.0)	(41.0)	-
6		=									
7	Prior Year Accumulated Amortization		15.6	16.5	17.5	18.4	19.3	20.2	21.2	22.1	
8	Gross Amortization		0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	S. 12-1
9	Current Year Accumulated Amortization	-	16.5	17.5	18.4	19.3	20.2	21.2	22.1	23.0	_
10		=									=
11	Mid Year Net Contributions	-	\$ (24.9)	\$ (24.0)	\$ (23.0)	\$ (22.1)	\$ (21.2)	\$ (20.3)	\$ (19.3)	\$ (18.4)	S. 15-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Necessary Working Capital (\$ millions)

Line No.	Description	Cross Reference	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	Cross Reference
	•										
1	Wastewater Operating Costs	S. 5-1	\$ 39.9	\$ 41.5	\$ 42.6	\$ 46.2	\$ 46.8	\$ 60.8	\$ 67.2	\$ 66.5	
2	Franchise Fees and Property Taxes	S. 11-1	7.2	7.6	7.8	8.4	8.9	10.0	10.6	10.8	
3	Less: Revenue Offsets	S. 13-1	(6.2)	(6.2)	(6.9)	(6.6)	(7.2)	(5.9)	(7.2)	(7.3)	
4			40.9	42.9	43.6	48.0	48.5	64.9	70.6	70.0	
5	O&M Lag Days		8.4	8.4	8.4	8.4	8.4	17.9	17.9	17.9	
6	Cash Operating Expenses Working Capital		0.9	1.0	1.0	1.1	1.1	3.2	3.5	3.4	
7											
8	Net Depreciation	S. 12-1	14.4	16.0	18.0	19.3	20.7	23.2	23.8	26.4	
9	Depreciation Lag Days		43.8	43.8	43.8	43.8	43.8	50.7	50.7	50.7	
10	Depreciation Working Capital		1.7	1.9	2.2	2.3	2.5	3.2	3.3	3.7	
11											
12	Interest Expense	S. 14-1	10.2	10.9	11.5	11.5	12.0	12.3	12.3	13.6	
13	Combined Long Term Debt Lag Days		18.3	18.3	18.3	18.3	18.3	(9.0)	(9.0)	(9.0)	
14	Long Term Debt Working Capital		0.5	0.5	0.6	0.6	0.6	(0.3)	(0.3)	(0.3)	
15											
16	Return on Common Equity	S. 14-1	19.2	20.0	19.2	19.4	20.9	21.1	21.2	23.2	
17	Retained Earnings Lag Days		43.8	43.8	43.8	43.8	43.8	50.7	50.7	50.7	
18	Common Equity (Retained Earnings) Working Capital		2.3	2.4	2.3	2.3	2.5	2.9	2.9	3.2	
19											
20	Dividends	S. 17-4						20.0	10.0	15.0	
21	Dividend Lag Days							(182.5)	(182.5)	(182.5)	
22	Dividend Working Capital		-	-	-	-	-	(10.0)	(5.0)	(7.5)	
23											
24	Other revenue not exempt from GST	S. 13-1						(0.5)	(0.5)	(0.5)	
25	GST Collected							(0.0)	(0.0)	(0.0)	
26	GST Collected Lag Days							5.1	5.1	5.1	
27	GST Collected Working Capital		-	-	-	-	-	(0.0)	(0.0)	(0.0)	
28											
29	Regulated O&M Expenses							60.8	67.2	66.5	
30	Less: Salaries and Employee Benefits	S. 5-2						(18.3)	(18.8)	(19.6)	
31	Less: EWSI and Corporate Shared Services	S. 5-1						(10.2)	(10.3)	(10.7)	
32	CAPEX Non-Labour (80%)							41.7	60.8	34.8	
33	Expenses eligible for GST Input Tax Credits							74.0	98.8	71.1	
34	GST Input Tax Credits							3.7	4.9	3.6	
35	GST ITC Lag Days							21.0	21.0	21.0	
36	GST ITC Working Capital		-	-	-	-	-	0.2	0.3	0.2	
37											
38	Total Working Capital		\$ 5.5	\$ 5.9	\$ 6.0	\$ 6.3	\$ 6.7	\$ (0.8)	\$ 4.7	\$ 2.7	S. 15-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Capital Structure (\$ millions)

Line		Cross	20)17		2018	2019		2020		2021		2022		2023		2024	Cross
No.	Description	Reference	Ac	tual	ŀ	Actual	Actual		Actual	F	orecast	Fo	orecast	Fo	orecast	Fc	orecast	Reference
1	Mid-Year Balance																	
2	Debt Capital	S. 17-2	\$ 2	231.0	\$	249.8	\$ 5 273.4	\$	293.7	\$	315.8	\$	338.7	\$	368.0	\$	389.1	
3	Common Stock Equity	S. 17-4	1	161.0		176.9	187.9		198.1		207.6		237.7		246.8		260.8	
4			\$ 3	392.0	\$	426.7	\$ 6 461.2	\$	491.9	\$	523.4	\$	576.4	\$	614.9	\$	649.9	
5		:																
6	Actual Capital Structure																	
7	Debt Capital		58	3.92%		58.53%	59.26%		59.71%		60.32%		60.00%		59.85%		59.87%	
8	Common Stock Equity		41	1.08%		41.47%	40.74%		40.29%		39.68%		40.00%		40.15%		40.13%	
9			100	0.00%	1	00.00%	100.00%	1	00.00%	1	00.00%	1	00.00%	1	00.00%	1	00.00%	
10																		
11	Deemed Capital Structure																	
12	Debt Capital		60	0.00%		60.00%	60.00%		60.00%		60.00%		60.00%		60.00%		60.00%	S. 14-1
13	Common Stock Equity		40	0.00%		40.00%	40.00%		40.00%		40.00%		40.00%		40.00%		40.00%	S. 14-1
14			100	0.00%	1	00.00%	100.00%	1	00.00%	1	00.00%	1	00.00%	1	00.00%	1	00.00%	

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Debt Capital and Embedded Cost of Debt (\$ millions)

Line		Cross		2017		2018		2019		2020		2021		2022		2023		2024	Cross
No.	Description	Reference	4	Actual	4	Actual		Actual		Actual	F	orecast	Fo	orecast	F	orecast	Fo	precast	Reference
1	Long-Term Debt																		
2	Prior year balance	S 17-3	\$	192 5	\$	216.2	\$	235.2	\$	269.9	\$	276 4	\$	287 9	\$	319.2	\$	350.3	
3	Current year balance	S. 17-3	Ŧ	216.2	Ŧ	235.2	Ŧ	269.9	Ŧ	276.4	Ŧ	287.9	Ť	319.2	Ŧ	350.3	Ŧ	361.2	
2	Mid-vear balance			204.3		225.7		252.6		273.2		282.2		303.6		334.7		355.8	
3	······ , · · · · · · · · · · · · · · ·	-																	
4	Short Term Debt																		
3	Prior year balance			31.7		20.5		27.3		13.9		26.6		40.0		30.2		36.3	
4	Current year balance			20.5		27.3		13.9		26.6		40.0		30.2		36.3		30.4	
5	Mid-year balance			26.1		23.9		20.6		20.3		33.3		35.1		33.3		33.4	
4	-																		
5	Other Long-term Liabilities																		
6	Prior year balance			0.7		0.3		0.1		0.3		0.3							
5	Current year balance			0.3		0.1		0.3		0.3		0.3							
6	Mid-year balance			0.5		0.2		0.2		0.3		0.3		-		-		-	
7	-																		
6	Mid-Year Debt Capital		\$	231.0	\$	249.8	\$	273.4	\$	293.7	\$	315.8	\$	338.7	\$	368.0	\$	389.1	S. 17-1
7																			
8	Interest Expense																		
7	Interest on Long Term Debt	S. 17-3	\$	9.1	\$	10.0	\$	10.7	\$	11.4	\$	11.5	\$	11.9	\$	12.9	\$	13.9	
8	Interest on Short Term Debt			1.1		1.0		1.1		0.5		0.8		0.9		0.8		0.8	S. 18-1
9																			
8	Total Interest Expense		\$	10.2	\$	10.9	\$	11.8	\$	11.9	\$	12.3	\$	12.7	\$	13.7	\$	14.7	
9																			
10	Embedded Cost of Debt			4.46%		4.38%		4.32%		4.04%		3.90%		3.75%		3.72%		3.77%	S. 14-1

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Long-Term Debt (\$ millions)

		Principal Outstanding											Interest	Expense								
Line		Issue	Maturity	Principal	Interest	2017	2018	2019	2020	2021	2022	2023	2024	2017	2018	2019	2020	2021	2022	2023	2024	Cross
No.	Description	Date	Date	Issued	Rate	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Reference
11	ntercompany Loans from El	PCOR Utilitie	es Inc.																			
2	IC-EUI-8B-0048	2011-12-01	2031-12-01	\$ 20.0	4.88%	\$ 15.9	\$ 15.1	\$ 14.2	\$ 13.3	\$ 12.4	\$ 11.4	\$ 10.3	\$ 9.3	\$ 0.8	\$ 0.8	\$ 0.7	\$ 0.7	\$ 0.6	\$ 0.6	\$ 0.5	\$ 0.5	
3	IC-EUI-8B-0071	2012-08-01	2042-08-01	\$ 20.0	4.62%	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
4	IC-EUI-8B-0076	2013-12-01	2043-12-01	\$ 35.0	4.73%	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
5	IC-EUI-8B-0078	2014-12-01	2044-12-01	\$ 20.0	4.04%	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	
6	IC-EUI-8B-2015	2015-12-01	2045-12-01	\$ 12.0	4.20%	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
7	IC-EUI-8B-2016	2016-12-01	2046-12-01	\$ 25.0	3.82%	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
8	IC-EUI-8B-2017	2017-12-01	2047-12-01	\$ 30.0	3.58%	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	0.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
9	IC-EUI-8B-2018	2018-12-01	2048-12-01	\$ 25.0	4.03%	-	25.0	25.0	25.0	25.0	25.0	25.0	25.0	-	0.5	1.0	1.0	1.0	1.0	1.0	1.0	
10	Converted to Interco note	2018-12-01	2034-12-01	\$ 53.2	5.00%	-	53.2	48.7	46.1	43.5	40.8	38.0	34.9	-	-	2.6	2.5	2.4	2.3	2.1	2.0	
11	IC-EUI-8B-2019	2019-12-01	2049-12-01	\$ 40.0	3.13%	-	-	40.0	40.0	40.0	40.0	40.0	40.0	-	-	0.4	1.3	1.3	1.3	1.3	1.3	
12	IC-EUI-8B-2020	2020-12-01	2050-12-01	\$ 10.0	2.69%	-	-	-	10.0	10.0	10.0	10.0	10.0	-	-	-	0.0	0.3	0.3	0.3	0.3	
13	IC-EUI-8B-2021	2021-12-01	2051-12-01	\$ 15.0	3.00%	-	-	-	-	15.0	15.0	15.0	15.0	-	-	-	-	0.0	0.5	0.5	0.5	
14	IC-EUI-8B-2022	2022-12-01	2052-12-01	\$ 35.0	3.50%	-	-	-	-	-	35.0	35.0	35.0	-	-	-	-	-	0.1	1.2	1.2	
15	IC-EUI-8B-2023	2023-12-01	2053-12-01	\$ 35.0	3.50%	-	-	-	-	-	-	35.0	35.0	-	-	-	-	-	-	0.1	1.2	
16	IC-EUI-8B-2024	2024-12-01	2054-12-01	\$ 15.0	3.50%	-	-	-	-	-	-	-	15.0	-	-	-	-	-	-	-	0.0	
17	Total Intercompany Loa	ns from EPC	OR Utilities I	nc.		157.9	235.2	269.9	276.4	287.9	319.2	350.3	361.2	5.7	7.2	10.7	11.4	11.5	11.9	12.9	13.9	S. 18-1
18																						
19	City of Edmonton Deben	tures (Conve	erted to Inter	co note)		58.3	-	-	-	-	-	-	-	3.4	2.8		-	-	-	-	-	S. 18-1
20	•			,																		
21 1	otal Long Term Debt					\$ 216.2	\$ 235.2	\$ 269.9	\$ 276.4	\$ 287.9	\$ 319.2	\$ 350.3	\$ 361.2	\$ 9.1	\$ 10.0	\$ 10.7	\$ 11.4	\$ 11.5	\$ 11.9	\$ 12.9	\$ 13.9	S. 17-2

2022-2024 Wastewater Treatment PBR

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Common Equity (\$ millions)

Line No.	Description	Cross Reference	2	2017 ctual	2	2018 Actual	Δ	2019 Actual	: ۵	2020 Actual	20 Fore	21 cast	2 Fo	2022 recast	20 For)23 ecast	2 Fo	2024 precast	Cross Reference
	Decemption			otuu		otuu			-	otuu		Jouor							
1	Common Share Capital																		
2	Prior year balance		\$	80.0	\$	80.0	\$	80.0	\$	80.0	\$	80.0	\$	80.0	\$	104.0	\$	104.0	
3	Adjustment for transfer of Biosolids			-		-		-		-		-		24.0		-		-	
4	Prior Year Balance, Adjusted			80.0		80.0		80.0		80.0		80.0		104.0		104.0		104.0	
5	Issue of Share Capital			-		-		-		-		-		-		-		-	
6	Current year balance			80.0		80.0		80.0		80.0		80.0		104.0		104.0		104.0	
7	Mid-Year balance			80.0		80.0		80.0		80.0		80.0		104.0		104.0		104.0	
8																			
9	Retained Earnings																		
10	Prior year balance			70.8		91.3		102.5		113.3	1	23.0		132.3		135.2		150.6	
11	Net Income ¹			20.5		21.2		20.7		19.8		24.2		22.9		25.4		27.5	
12	Dividends			-		(10.0)		(10.0)		(10.0)		(15.0)		(20.0)		(10.0)		(15.0)	S. 16-1
13	Current year balance			91.3		102.5		113.3		123.0	1	32.3		135.2		150.6		163.1	
14	Mid-Year balance			81.1		96.9		107.9		118.1	1	27.6		133.7		142.9		156.8	
15																			
16	Mid-Year Common Equity		\$	161.0	\$	176.9	\$	187.9	\$	198.1	\$ 2	07.6	\$	237.7	\$ 2	246.8	\$	260.8	S. 17-1
17																			
18	¹ Reconciliation of Regulated Return on Equity to Net Income																		
19	Regulated Return on Equity	S. 14-1	\$	19.2	\$	20.0	\$	19.2	\$	19.2	\$	23.2	\$	21.1	\$	21.2	\$	23.2	
20	Reconciling items																		
21	Corporate Disallowances			(0.2)		(0.1)		(0.1)		(0.1)		(0.1)		(0.1)		(0.1)		(0.1)	
22	Gains and losses on disposal of PP&E			(0.0)		(0.4)		-		-		-		-		-		-	
23	Regulated return on debt financed portion of rate base			(0.1)		(0.1)		(0.3)		(0.3)		(0.3)		(0.4)		(1.4)		(1.1)	
	greater than actual interest expense																		
24	AFUDC not deducted from regulated cost of debt			1.7		1.7		1.9		1.0		1.4		1.7		4.4		6.9	
25	Billed revenue greater (less) than the revenue requirement			-		-		-		-		-		0.6		1.3		(1.4)	
26	Total Reconciling Items			1.3		1.1		1.5		0.6		1.0		1.8		4.2		4.3	
27	Net Income		\$	20.5	\$	21.2	\$	20.7	\$	19.8	\$	24.2	\$	22.9	\$	25.4	\$	27.5	

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Transactions with Affiliates (\$ millions)

Line	Affiliate and Comice	2	2017 atual	2	2018 atual	2	2019 atual	2	2020 atual	2021		2022	202	23	2	024	Cross
NO.	Anniate and Service	A	ciuai	A	cluai	А	cluar	A	cluai	Forecas		recast	Fore	casi	FOR	ecast	Reference
1	Revenues from the provision of services to the City of Edmonton																
2	Wastewater Treatment Services	\$	11	\$	12	\$	13	\$	0.8	\$ 14	\$	14	\$	14	\$	15	
3	Other Services	Ψ	0.3	Ψ	0.0	Ψ	0.0	Ψ	0.0	φ 1.1 0.0	ľ	0.0	Ψ	0.0	Ψ	0.0	
4	Total		1.3		1.3		1.3		0.8	1 4	-	1.4		14		1.5	
5	1000								0.0		+						
6	Services provided by (recovered from):																
7	City of Edmonton																
8	Franchise Fees		6.6		70		72		78	8.3		93		98		10.0	S 11-1
g	Property Taxes		0.6		0.6		0.6		0.6	0.6		0.0		0.7		0.7	S 11-1
10	Interest on Long Term Debt		3.4		2.8		-		-	-		-		-		-	S 17-3
11	Regulatory Services		0.7		-		_		_	_		0.2		0.1		0.2	0. 11-0
12	Biosolids contractor costs		-		-		46		04	0.4		0.4		0.4		0.4	
13	Other Services		0.2		0.2		0.2		0.1	0.1		0.1		0.1		0.1	
14	Total		11.4		10.6		12.6		9.0	9.6		10.8		11.3		11.7	
15							.2.0		0.0		+						
16	Corporate Shared Service Costs		4.0		3.8		4.0		11	5.2		52		53		51	S 10-1
17	Interest on Intercompany Loans		4 .0		7.2		10.7		11 /	11 5		11 0		12.0		13.0	S 17-3
18	Interest on Short-term debt		1 1		1.0		1 1		0.5	0.8		0.0		0.8		0.8	S 17-2
10	Other Services		-		1.0		0.1		0.0	0.0		0.3		0.0		0.0	0. 17-2
20	Total		10.9		- 11.0		15.0		16.4	17.6	+	10.1		10.1		20.2	
20			10.8		11.9		15.9		10.4	17.0	_	10.0		19.1		20.2	
21	EPCOR Technologies Inc.		0.4		0.4					0.0				~ ~		0.0	
22	Hydrovac Charges		0.1		0.1		0.0		0.0	0.0	_	0.0		0.0		0.0	
23	IOTAI		0.1		0.1		0.0		0.0	0.0	_	0.0		0.0		0.0	
24	EPCOR Energy Alberta LP																
25	Billing and Collection Services		2.9		2.8		2.9		3.1	2.9	_	3.0		3.0		3.1	
26	lotal		2.9		2.8		2.9		3.1	2.9		3.0		3.0		3.1	
27	EPCOR Water Services Inc.																
28	Water Shared Services		2.8		2.7		2.9		3.1	3.1		3.3		3.3		3.4	S. 9-2
29	Meter Reading Services		2.1		2.4		2.4		2.5	2.5		2.8		2.7		2.4	S. 8-1
30	Water purchases		0.4		0.4		0.5		0.5	0.4		0.4		0.4		0.5	S. 6-1
31	Regulatory Services provided by Drainage Services		0.4		1.4		1.4		1.5	1.7		1.7		1.7		1.8	S. 8-1
32	Project engineering cost recoveries from Drainage Services		(0.8)		(0.3)		-		-	-		-		-		-	
33	Laboratory services cost recoveries from Drainage Services		(0.1)		(0.3)		(0.4)		(0.3)	(0.4)	(0.4)		(0.4)		(0.4)	
34	Total		4.7		6.3		6.8		7.2	7.4		7.9		7.8		7.6	
35	Expenditures on capital projects arising from services provided	by:															
36	City of Edmonton				0.0		0.0		0.1	0.0		0.0		0.0		0.0	
37	EPCOR Technologies Inc.				0.2		0.0		0.1	0.1	1	0.1		0.1		0.1	
38	EPCOR Utilities Inc.				0.2		0.1		0.0	0.1	1	0.1		0.1		0.1	
39	EPCOR Drainage Services				0.0		-		-	0.0	1	0.0		0.0		0.0	
40	Other EWSI Business Units				0.0		0.0		0.0	0.0		0.0		0.0		0.0	
41	Total		-		0.4		0.2		0.2	0.3	1	0.3		0.3		0.3	

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Revenue at Existing Rates and Revenue Requirement

(\$ millions)

Line		Cross	2	017	2	018	2	2019	2	2020	2	2021	2	2022	2	2023	2	2024	Cross
No.	Description	Reference	A	ctual	Α	ctual	Α	ctual	Α	ctual	Fo	recast	Fo	recast	Fo	recast	Fo	recast	Reference
1	Revenues at Existing Rates																		
2	Residential		\$	50.4	\$	537	\$	55.0	\$	62 5	\$	66.9	\$	63 5	\$	64 0	\$	64 0	
3	Multi-Residential		Ψ	14.8	Ψ	15.6	Ψ	16.4	Ψ	18.2	Ψ	19.2	Ψ	18.5	Ψ	18.5	Ψ	18.4	
4	Commercial			19.4		20.5		20.8		17.3		18.3		19.5		20.5		21.1	
5	Overstrength Surcharges			3.8		3.6		3.7		4.3		4.5		4.5		4.5		4.5	
6	Total Revenues at Existing Rates	-		88.4		93.4		95.9		102.4		108.9		106.0		107.5		108.0	•
7		-																	
8	Revenue Requirement by Customer Class	;																	
9	Residential			50.4		53.7		55.0		62.5		66.9							
10	Multi-Residential			14.8		15.6		16.4		18.2		19.2							
11	Commercial			19.4		20.5		20.8		17.3		18.3							
12	Overstrength Surcharges			3.8		3.6		3.7		4.3		4.5							
13	Total Revenue Requirement	_		88.4		93.4		95.9		102.4		108.9		121.5		127.9		133.2	
14		-																	
15	Surplus(Shortfall) by Customer Class																		
16	Residential			-		-		-		-		-							
17	Multi-Residential			-		-		-		-		-							
18	Commercial			-		-		-		-		-							
19	Overstrength Surcharges			-		-		-		-		-							
20	Total Shortfall	=	\$	-	\$	-	\$	-	\$	-	\$	-	\$	15.5	\$	20.4	\$	25.1	

EPCOR Water Services Inc.

Minimum Filing Requirements for Wastewater Treatment Current and Proposed Rates for Wastewater Treatment

Line		2017 2018		2018		2019		2020		2021	2022	2023	2024	
No.	Description		Actual		Actual		Actual		Actual	F	orecast	Forecast	Forecast	Forecast
1	Fixed Monthly Service Charge	\$	4.36	\$	4.29	\$	4.53	\$	4.83	\$	5.09	\$ 6.22	\$ 6.16	\$ 6.24
3	Consumption Charge (per m^3)													
4	Residential													
5	All consumption	\$	0.8344	\$	0.8798	\$	0.9277	\$	0.9838	\$	1.0349	\$ 1.2334	\$ 1.2505	\$ 1.2679
6		Ŧ		Ŧ		Ŧ		Ŧ		Ŧ		•	•	+
7	Multi-Residential													
8	All consumption	\$	0.8344	\$	0.8798	\$	0.9277	\$	0.9838	\$	1.0349	\$ 1.2334	\$ 1.2505	\$ 1.2679
9														
10	Commercial													
11	0 - 10,000 m ³	\$	0.8344	\$	0.8798	\$	0.9277	\$	0.9838	\$	1.0349	\$ 1.2334	\$ 1.2505	\$ 1.2679
12	10,000.1 - 100,000 m ³	\$	0.6455	\$	0.6806	\$	0.7177	\$	0.7610	\$	0.8006	\$ 0.9542	\$ 0.9674	\$ 0.9808
13	Over 100,000 m ³	\$	0.3368	\$	0.3552	\$	0.3745	\$	0.3971	\$	0.4178	\$ 0.4979	\$ 0.5048	\$ 0.5118
14		,		,				,		,		•	,	,
15	Wastewater Overstrength Surcharge													
16	Biochemical Oxygen Demand (BOD) >300 mg/L	\$	0.5227	\$	0.5507	\$	0.5807	\$	0.6158	\$	0.6478	\$ 0.7743	\$ 0.7849	\$ 0.7957
17	Chemical Oxygen Demand (COD) >600 mg/L *	\$	0.5227	\$	0.5507	\$	0.5807	\$	0.6158	\$	0.6478	\$ 0.7743	\$ 0.7849	\$ 0.7957
18	Oil and grease >100 mg/L	\$	0.4571	\$	0.4815	\$	0.5077	\$	0.5383	\$	0.5663	\$ 0.6769	\$ 0.6862	\$ 0.6956
19	Phosphorous >10mg/L	\$	4.3494	\$	4.5823	\$	4.8321	\$	5.1239	\$	5.3900	\$ 6.4427	\$ 6.5313	\$ 6.6211
20	Suspended solids >300 mg/L	\$	0.4744	\$	0.4998	\$	0.5270	\$	0.5589	\$	0.5880	\$ 0.7028	\$ 0.7125	\$ 0.7223
21	Total Kjeldahl nitrogen (TKN) >50 mg/L	\$	1.1101	\$	1.1696	\$	1.2334	\$	1.3079	\$	1.3758	\$ 1.6445	\$ 1.6672	\$ 1.6901
22														
23	Wastewater Additional Overstrength Surcharge													
24	Biochemical Oxygen Demand (BOD) >3000 mg/L	\$	0.5227	\$	0.5507	\$	0.5807	\$	0.6158	\$	0.6478	\$ 0.7743	\$ 0.7849	\$ 0.7957
25	Chemical Oxygen Demand (COD) >6000 mg/L *	\$	0.5227	\$	0.5507	\$	0.5807	\$	0.6158	\$	0.6478	\$ 0.7743	\$ 0.7849	\$ 0.7957
26	Oil and grease >400 mg/L	\$	0.4571	\$	0.4815	\$	0.5077	\$	0.5383	\$	0.5663	\$ 0.6769	\$ 0.6862	\$ 0.6956
27	Phosphorous >75mg/L	\$	4.3494	\$	4.5823	\$	4.8321	\$	5.1239	\$	5.3900	\$ 6.4427	\$ 6.5313	\$ 6.6211
28	Suspended solids >3000 mg/L	\$	0.4744	\$	0.4998	\$	0.5270	\$	0.5589	\$	0.5880	\$ 0.7028	\$ 0.7125	\$ 0.7223
29	Total Kjeldahl nitrogen (TKN) >200 mg/L	\$	1.1101	\$	1.1696	\$	1.2334	\$	1.3079	\$	1.3758	\$ 1.6445	\$ 1.6672	\$ 1.6901

EPCOR Water Services Inc. Minimum Filing Requirements for Wastewater Treatment Proposed Special Rate Adjustments for Wastewater Treatment

Line			Rebasing		90 Day	Deferral
No.	Description	2022	2023	2024	2022	2023
1	Fixed Monthly Service Charge	\$ 0.8746	\$ (0.0388)	\$ (0.0383)	\$ 0.1547	\$ (0.1555)
2		• • • • • • •	+ ()	+ ()	• • • • • • •	+ ()
3	Consumption Charge (per m^3)					
4	Residential					
5	All consumption	\$ 0.1777	\$ (0.0077)	\$ (0.0078)		
6	· ·	, -	,	, ()		
7	Multi-Residential					
8	All consumption	\$ 0.1777	\$ (0.0077)	\$ (0.0078)		
9			. ,	. ,		
10	Commercial					
11	0 - 10,000 m ³	\$ 0.1777	\$ (0.0077)	\$ (0.0078)		
12	10,000.1 - 100,000 m ³	\$ 0.1375	\$ (0.0059)	\$ (0.0060)		
13	Over 100,000 m ³	\$ 0.0717	\$ (0.0031)	\$ (0.0031)		
14		• • • • • • •	+ ()	+ ()		
15	Wastewater Overstrength Surcharge					
16	Biochemical Oxygen Demand (BOD) >300 mg/L	\$ 0.1113	\$ (0.0048)	\$ (0.0049)		
17	Chemical Oxygen Demand (COD) >600 mg/L *	\$ 0.1113	\$ (0.0048)	\$ (0.0049)		
18	Oil and grease >100 mg/L	\$ 0.0973	\$ (0.0042)	\$ (0.0043)		
19	Phosphorous >10mg/L	\$ 0.9257	\$ (0.0401)	\$ (0.0407)		
20	Suspended solids >300 mg/L	\$ 0.1010	\$ (0.0044)	\$ (0.0044)		
21	Total Kjeldahl nitrogen (TKN) >50 mg/L	\$ 0.2363	\$ (0.0102)	\$ (0.0104)		
22						
23	Wastewater Additional Overstrength Surcharge					
24	Biochemical Oxygen Demand (BOD) >3000 mg/L	\$ 0.1113	\$ (0.0048)	\$ (0.0049)		
25	Chemical Oxygen Demand (COD) >6000 mg/L *	\$ 0.1113	\$ (0.0048)	\$ (0.0049)		
26	Oil and grease >400 mg/L	\$ 0.0973	\$ (0.0042)	\$ (0.0043)		
27	Phosphorous >75mg/L	\$ 0.9257	\$ (0.0401)	\$ (0.0407)		
28	Suspended solids >3000 mg/L	\$ 0.1010	\$ (0.0044)	\$ (0.0044)		
29	Total Kjeldahl nitrogen (TKN) >200 mg/L	\$ 0.2363	\$ (0.0102)	\$ (0.0104)		

EPCOR WATER SERVICES INC.

2022-2026 PERFORMANCE BASED RATES APPLICATIONS

REGULATORY SCHEDULE AND GUIDING OBJECTIVES

February 5, 2021	Utility Committee Meeting - review of proposed regulatory schedule and guiding objectives.
February 22, 2021	City Council Meeting - approval of regulatory schedule and guiding objectives.
Mid-February 2021	EWSI Rates Applications - submitted to the City Manager.
March 2021	Public Advertisement - EWSI first and second public advertisement of a Utility Committee meeting on June 25, 2021 and process for public submissions.
March 31, 2021	Deadline for Written Questions - to EWSI from Councillors, Utility Advisor and Administration.
April 26, 2021	EWSI Written Responses - to questions from Councillors, Utility Advisor and Administration.
May 31, 2021	Deadline for Public Submissions - to receive a written response from EWSI. Public submissions received after this date will be received for information only.
May 31, 2021	Report from Administration - on results of reasonableness review of applications (external consultant engaged to assist).
May 31, 2021	Report from the Utility Advisor - on review of applications.
June 14, 2021	EWSI Written Responses - to public submissions, Administration and Utility Advisor review of rates applications.
June 25, 2021	Utility Committee Meeting - to review rates applications and submissions from EWSI, Administration, Utility Advisor, and public. Recommendation to City Council regarding approval of rates applications and applicable bylaws.
July 2021	Amended Rates Applications - EWSI amends applications and applicable bylaws (if required based on direction from Utility Committee).
July/August 2021	City Council Meeting - approval of rates applications and three readings of applicable bylaws.

Guiding Objectives (Note 1)

Assessment of EWSI's proposed rates shall reflect the following objectives:

- (i) EWSI is entitled to a reasonable margin of profit from operations in relation to the provision of utility services within the boundaries of the city of Edmonton;
- (ii) The citizens of the city of Edmonton must be provided with safe and reliable utility services;
- (iii) All customer charges will be based upon cost of service;
- (iv) Rates will be sufficient to ensure the continued development of utility infrastructure to reasonably ensure the satisfaction of these objectives;
- (v) Utility services are to be provided in a manner that reflects reasonable environmental management and aligns with City objectives;
- (vi) Service levels and EWSI performance will be assessed with reference to industry benchmarks and or EWSI's historical performance; and,
- (vii) The timing of a decision and the effective date for rates approved must reflect the financial needs of EWSI.

Note 1 - guiding objectives as prescribed in the now repealed EPCOR Edmonton Regulated Utilities Procedures Bylaw 12294.


MOTIONS PENDING REPORT

8.1 101 Street Vacant Site (D. Iveson)

Mayor D. Iveson stated that at the next regular meeting of City Council, he would move the following:

That Administration work with the owner of the vacant site located at 10199 101 Street, to improve the site conditions supporting downtown vibrancy, while ensuring that the demolition permit conditions are satisfied and provide a memo to Council with an update.

• Notice of Motion Given: August 16, 2021, City Council