



**AGENDA
REGULAR MEETING OF THE BARRHEAD TOWN COUNCIL
TUESDAY, SEPTEMBER 14, 2021 AT 5:30 P.M.
IN THE TOWN OF BARRHEAD COUNCIL CHAMBERS**

Barrhead....a quality community....giving a quality lifestyle

Present

Others Present

Regret

1. Call to Order
2. Consideration of Agenda (Additions - Deletions)
3. Confirmation of Minutes
 - (a) Regular Meeting Minutes – August 10, 2021
4. Public Hearings
5. Delegations
 - (a) Delegation at 7:00 pm - Mr. David Campbell - Consultant for Utility Rate Review and Cost of Service Study (via telephone conference call)
6. Old Business
7. New Business
 - (a) Agricultural Lease Renewal Agreement - Barrhead Regional Airport
 - (b) Lease Agreement Renewal - Barrhead Golf & Recreation Area Society
 - (c) Emergency Equipment Repairs – Barrhead Regional Landfill
 - (d) Sanitary pre-treatment facility at the Lagoon
 - (e) Bank Statement – for month ending July 31, 2021
8. Reports
 - (a) Council Reports
 - (b) CAO Report
 - (c) Council Action List to August 10, 2021

9. Minutes
10. Bylaw
11. Correspondence Items
 - (a) Letter from Barrhead Pumpkin Walk Committee, dated August 19, 2021
 - (b) Letter from the Village of Elnora, dated June 21, 2021
 - (c) Letter from the Town of Crossfield, dated September 8, 2021
12. For the Good of Council
13. Tabled Items
14. Closed Session
 - (a) Pursuant to Section 16 Land and Section 24(1) Legal of the FOIP Act
15. Adjourn

MINUTES OF THE REGULAR MEETING OF THE BARRHEAD
TOWN COUNCIL HELD TUESDAY, AUGUST 10, 2021,
IN THE TOWN OF BARRHEAD COUNCIL CHAMBERS

PRESENT

Mayor McKenzie, Crs: T. Assaf, D. Kluin, R. Klumph, S. Oswald, L. Penny and D. Smith

Officials: Ed LeBlanc, CAO, Kathy Vickery, Cheryl Callihoo, Director of Development & Legislative Services

Others: Barry Kerton, Barrhead Leader

ABSENT

CALL TO ORDER

Mayor McKenzie called the meeting to order at 5:30 p.m.

AGENDA

The agenda was reviewed.

269-21

Moved by Cr. Smith that the agenda be accepted as presented with the following additions:

- Add - 7(e) - Road closure request

CARRIED UNANIMOUSLY

CONFIRMATION OF MINUTES

The Minutes of the Town Council Regular Meeting of July 13, 2021, were reviewed.

270-21

Moved by Cr. Klumph that the Minutes of the Town Council Regular Meeting of July 13, 2021 be accepted as presented.

CARRIED UNANIMOUSLY

**DELEGATION-
SERGEANT BOB DODDS**

Sergeant Bob Dodds met with Council at 5:30 pm to do a presentation on the quarterly Community Policing Report.

Sergeant Bob Dodds updated Council on crime stats and current members and discussed the Virtual Town Hall via BARCC and the organization of a future in person Town Hall.

Council thanked Sergeant Bob Dodds for his report and the services provided by the RCMP.

EXITED

Sergeant Bob Dodds exited the Chambers at 6:12 pm.

**CLOSED SESSION –
FOIP ACT SECTIONS 16 & 24**

271-21

Moved by Cr. Smith that Council go in closed session at 6:13 p.m.

CARRIED UNANIMOUSLY

OUT OF CLOSED SESSION

272-21

Moved by Cr. Smith that Council come out of closed session at 7:10 p.m.

CARRIED UNANIMOUSLY

RECESSED

273-21 Moved by Mayor McKenzie to recess the meeting at 7:11 p.m.

CARRIED UNANIMOUSLY

RECONVENED

274-21 Moved by Cr. Smith to reconvene the meeting at 7:30 p.m.

CARRIED UNANIMOUSLY

**MEETING WITH THE
MINSTER OF MUNICIPAL
AFFAIRS**

For Council to provide further direction to Administration in respect to identifying topics of discussion for a potential meeting with the Minister of Municipal Affairs during the November 17-19 AUMA Fall Convention.

275-21 Moved by Cr. Klumph that Council instructs Administration to place the July 8th e-mail from Alberta Municipal Affairs relating to a potential meeting with the Minister of Municipal Affairs during the 2021 AUMA Fall Convention on the October 26th Council meeting agenda.

CARRIED UNANIMOUSLY

**REQUEST FOR
INFORMATION FROM
ADMINISTRATION**

To provide Council with information as requested during the July 13, 2021 Council Meeting.

276-21 Moved by Cr. Assaf that Council accepts the reporting relating to the inquiries made during the July 13, 2021 Council meeting, as information.

CARRIED UNANIMOUSLY

**DRAFT 2021-
2024 STRATEGIC
PLAN**

For Council to approve the Town of Barrhead draft 2021 – 2024 Strategic Plan, as presented.

277-21 Moved by Cr. Penny that Council approve the Town's draft 2021 – 2024 Strategic Plan, as presented.

CARRIED UNANIMOUSLY

**FINANCIAL STATEMENT
REPORT TO
JUNE 30, 2021**

For Council to approve the Financial Statement Report to June 30, 2021, as presented.

278-21 Moved by Cr. Klumph that Council approves the Financial Statement Report to June 30, 2021, as presented.

CARRIED UNANIMOUSLY

**COMMUNITY
ORGANIZATION PROPERTY
TAX EXEMPTION
APPLICATION**

For Council to discuss the Community Organization Property Tax Exemption application for a registered Non- profit organization.

EXITED Cr. Kluin declared pecuniary interest and left the Chambers at 7:44 pm.

279-21 Moved by Cr. Assaf that Council accepts that pursuant to Section 17 of AR281/1988 Council waive the annual application process for the Non- Profit Community Organization on the listing provided for a period of three years.

CARRIED UNANIMOUSLY

RETURNED Cr. Kluin returned to Chambers at 7:45 pm.

**2021 BUDGET
ALLOCATION
AMENDMENTS**

For Council to reallocate budget lines within the 2021 Final Operating and Capital Budget.

280-21 Moved by Cr. Penny that Council amend the reallocations of the General Ledger accounts for the 2021 Final Operating and Capital Budgets as per the attached Schedule A, with no changes required to the total Operating Revenues of \$14,424,250 and total Operating Expenses of \$14,411,550 (excluding Amortization expenses), or the total Capital Revenues and Expenses of \$7,098,360.

CARRIED UNANIMOUSLY

**TEMPORARY ROAD
CLOSURE- 51ST AVENUE
(VETERANS WAY)**

For Council to authorize the temporary closure of a portion of 51st Avenue (Veterans Way) in order to host a fundraiser.

281-21 Moved by Cr. Assaf that Council authorize the temporary close of a portion of 51st Avenue (Veterans Way) between Main Street and 51st Street on Saturday, September 11, 2021 between the hours 11:00 am – 4:00 pm to host a fundraiser BBQ in support of Barrhead Victim Services, as requested by the Red Knights Motorcycle Club.

CARRIED UNANIMOUSLY

**COUNCIL
REPORT**

The following Reports to Council as of August 10, 2021, were reviewed:

- Agricultural Society
- Barrhead Accessibility Coalition – no report
- Barrhead Cares Coalition
- Barrhead & District Social Housing Association
- Barrhead Attraction & Retention Committee

CAO REPORT

For Council to approve the C.A.O Report, as information.

282-21 Moved by Cr. Oswald that Council approves the Reports to Council and the C.A.O report, as presented.

CARRIED UNANIMOUSLY

COUNCIL ACTION LIST

For Council to approve the Council Action List on Resolution as of June 22, 2021, as presented.

283-21 Moved by Cr. Klumph the Council approves the Council Action list on Resolution as of July 13, 2021, as information.

CARRIED UNANIMOUSLY

CORRESPONDENCE

Letter from the Minister of Alberta Municipal Affairs, dated July 5, 2021, regarding the Town's total 2021 allocation of \$536,150.00 which includes a one-time funding top-up of an additional \$261,976.00 under the Federal Gas Tax Fund.

Letter from Barrhead Victim Services, dated July 9, 2021, requesting to postpone their annual report and their request for financial support to Town Council until the fall of 2021.

Letter from the Claresholm Town Council, dated July 26, 2021, regarding their opposition on the Royal Canadian Mounted Police (RCMP) Retroactive Pay and requesting assisted funding from the Alberta Government.

Letter from the Municipality of Crowsnest Pass, dated July 13, 2021, regarding their opposition on Bill C-21 to make changes to the Criminal Code and the Firearms Act, with respect to the provision to allow municipalities to create handgun bylaws

Letter from Big lakes County, dated July 28, 2021, regarding their opposition on the Province's initiative to replace the RCMP with an Alberta Provincial Police Service.

284-21 Moved by Cr. Smith that Council accepts the following letters, as information:

- Letter from the Minister of Alberta Municipal Affairs, dated July 5, 2021, regarding the Town's total 2021 allocation of \$536,150.00 which includes a one-time funding top-up of an additional \$261,976.00 under the Federal Gas Tax Fund.
- Letter from Barrhead Victim Services, dated July 9, 2021, requesting to postpone their annual report and their request for financial support to Town Council until the fall of 2021.
- Letter from the Claresholm Town Council, dated July 26, 2021, regarding their opposition on the Royal Canadian Mounted Police (RCMP) Retroactive Pay and requesting assisted funding from the Alberta Government.
- Letter from the Municipality of Crowsnest Pass, dated July 13, 2021, regarding their opposition on Bill C-21 to make changes to the Criminal Code and the Firearms Act, with respect to the provision to allow municipalities to create handgun bylaws
- Letter from Big lakes County, dated July 28, 2021, regarding their opposition on the Province's initiative to replace the RCMP with an Alberta Provincial Police Service.

CARRIED UNANIMOUSLY

Letter from the Claresholm Town Council, dated July 26, 2021, regarding their opposition on the Council Code of Conduct Bylaw 1641.

285-21 Moved by Cr. Assaf that Council send a letter to Alberta Government in support of Claresholm to retain a Council Code of Conduct.

CARRIED UNANIMOUSLY

**FOR THE GOOD
OF COUNCIL**

Cr. Assaf commended the Mainstreet Merchants on a job well done on the Block Party.

POLICY 72-002

286-21 Moved by Cr. Assaf to bring Policy 72-002 to Council for review and discussion.

CARRIED

IN FAVOR: Crs: T. Assaf, and D. Kluin

OPPOSED: Mayor McKenzie, Crs: S. Oswald, D. Smith, R. Klumph and L. Penny

DEFEATED

**CLOSED SESSION –
FOIP ACT SECTIONS 16 & 24**

287-21 Moved by Cr. Smith that Council go in closed session at 8:20 p.m.

CARRIED UNANIMOUSLY

OUT OF CLOSED SESSION

288-21 Moved by Cr. Klumph that Council come out of closed session at 9:11 p.m.

CARRIED UNANIMOUSLY

289-21 Moved by Cr. Klumph that Council approves the following revised operational hours for the Barrhead Regional Aquatics Centre, effective September 1, 2021:

Monday-Friday 6:30 am-11:00am, 4:00pm-8:30pm
Saturday-Sunday 12:00 pm-6:00pm

and until such time as Administration can secure a full complement of lifeguard staff to accommodate the original operation hours of the Aquatics Centre.

CARRIED UNANIMOUSLY

290-21 Moved by Cr. Assaf that Council approve the draft Sales Agreement of Lot 2 Block 1 Plan 2121798, as presented.

CARRIED UNANIMOUSLY

ADJOURN

291-21 Moved by Cr. Smith that the Council Meeting be adjourned at 9:12 p.m.

CARRIED UNANIMOUSLY

TOWN OF BARRHEAD

Mayor, David McKenzie

CAO, Edward LeBlanc

REQUEST FOR DECISION

To: Town Council

From: Edward LeBlanc, CAO

cc: File

Date: September 14, 2021

Re: 7:00 P.M. Delegation - Utility Rate Review and Cost of Service Study

1.0 Purpose:

For Council to accept a Utility rate review and cost of service Study, as presented.

2.0 Background and Discussion:

Mr. David Campbell, the author of the Study has made himself available via a telephone conference call to answer any questions or to provide clarification relating to his final draft of the Study.

During the January 22, 2019 Council Meeting, Council passed the following resolution:

Moved by Cr. Assaf that Council approve Mr. K. David Campbell to conduct a utilities rates analysis and assessment, based on a project cost of \$31,500.00, to be funded from the water and sewer operating reserves.

(Resolution No. 032-19)

Administration received a draft report in June of 2019. However, with the change in the CAO position as well as focusing and addressing the long-standing financial implication of the waste water from the Water Commission, the report was not fully reviewed and digested until the Fall of 2020.

Based on the draft report, Administration presented their initial comments to the noted recommendation during a CAO Planning Meeting held on January 26, 2021.

After several conversation with the Consultant and some revisions to the report, a final version was received in mid-August of this year.

The Consultant's final recommendations has been reviewed and the noted recommendations along with Administration's rebuttal will be presented in detail during an upcoming CAO Planning Session.

3.0 Alternatives:

- 3.1 Council receives the Utility Rate Review and Cost of Service Study prepared by K. David Campbell dated August, 2021 as information and as presented.
- 3.2 Council tables the Utility Rate Review and Cost of Service Study prepared by K. David Campbell dated August, 2021 and instructs Administration to provide further information at the next Council Meeting.

4.0 Financial Implications:

The cost of the report totaling \$31,630.00 was funded by the Town's Utility Reserve.

5.0 Interdepartmental Implications:

None

6.0 Senior Government Implications:

Not applicable.

7.0 Political/Public Implications:

Limited

8.0 Attachments:

- 8.1 – Utility Rate Review and Cost of Service Study
- 8.2 – Appendix A (Water Utility Rate Model)
- 8.3 – Appendix B (Description of Schedules in the Water Utility Rate Model)
- 8.4 – Appendix C (Wastewater Utility Rate Model)
- 8.5 – Appendix D (Description of Schedules in the Wastewater Utility Rate Model)
- 8.6 – Appendix E (Storm Water Utility Rate Model)
- 8.7 – Appendix F (Description of Schedules in the Wastewater Utility Rate Model)
- 8.8 – Appendix G (Definitions for Utilities)

9.0 Recommendations:

Council receives the Utility Rate Review and Cost of Service Study prepared by K. David Campbell dated August, 2021 as information and as presented.

(original signed by the CAO)

Edward LeBlanc
CAO

Town of Barrhead
Water, Wastewater & Storm Water Utilities
Rate Review and Cost of Service Study
2019 - 2022

Prepared for
The Town of Barrhead

by
K. David Campbell
Final Report - August 2021

TABLE OF CONTENTS

Section	Page
1.0 Executive Summary	1
1.1 Summary of Recommendations	3
2.0 Introduction	4
3.0 Utility Regulation & Methodology	6
4.0 Utility Revenue Requirements	10
4.1 Schedule 1: Fixed Assets and Amortization/Depreciation	11
4.2 Schedule 2: Utility Rate Base	12
4.3 Schedule 3: No-Cost Capital	14
4.4 Schedule 4: Debt	14
4.5 Schedule 5: Capital Structure and Return on Rate Base	15
4.6 Schedule 6: Cash Operating Expenses	18
4.7 Schedule 7: Utility Revenue Requirements	19
4.8 Schedule 8: Revenues by Source/Revenues to be Generated from Sales	20
5.0 Utility Markets: Customer and Sales Base	20
5.1 Water Customers and Volumes	21
5.2 Wastewater Effluent Treatment Volumes (m ³) by Source	23
6.0 Revenues by Source: Rates for Utility Services	25
6.1 Water – Fixed Monthly and Variable Commodity Charges	25
6.2 Wastewater Charges	29
6.3 Storm Water Utility: Revenue Requirements and Charges	30
7.0 Policy 41-006 & 42-003: Water and Sanitary Sewage Infrastructure Replacement	32
8.0 Town Contracts for Utility Services	34
8.1 Town Transfer of Water Treatment Plant to BRWC	34
8.2 BRWC-Town Operating Agreement for the WTP	35
8.3 Town Water Supply to the County	36
9.0 Findings	39
10.0 Recommendations	44
Schedule of Tables and Figures	Page
4.1 Investment in Utility Assets @ Year-end 2018	11
4.2 Utility Rate Base @ Mid-Year 2019 (Schedule 2)	13
4.5 Return on Rate Base – 2019 (Schedule 5)	17
4.7 Utility Revenue Requirements in 2019 (Schedule 7)	19
5.10 Customers and Volume Sales (m ³) by Type (Schedules 9 & 10)	21
5.11 Water Volumes (m ³) Produced and Delivered - 2018	22
5.2 Volumes (m ³) Delivered for Treatment in Aerated Lagoons - 2018	24
6.10 Water Rates (\$/m ³) by Volume Block (m ³) in 2019 (Bylaw 2018-12)	26
6.11 Water Revenue Requirements in 2018	27
6.12 Water Revenues by Source in 2018	27

Appendices

- A Water Utility Rate Model
- B Description of Schedules in the Water Utility Rate Model
- C Wastewater Utility Rate Model
- D Description of Schedules in the Wastewater Utility Rate Model
- E Storm Water Utility Rate Model
- F Description of Schedules in the Storm Water Utility Rate Model
- G Definitions for Utilities

1.0 Executive Summary

The Town of Barrhead (the Town) owns and operates municipal Water, Wastewater (sanitary sewage) and Storm Water utility systems. The Water Utility acquires potable water from the Barrhead Regional Water Commission (BRWC) and distributes water to residents and other consumers within and immediately adjacent to the Town. The Town, also provides water to the County of Barrhead (the County) for supply to the Hamlet of Manola and other developments located beyond the Town's corporate boundaries. The Wastewater Utility gathers, transports and treats wastewater and effluent delivered to the utility system by municipal residents, businesses and other ratepayers within the Town. It also accepts influent from developments within the County for processing in the Town's lagoon treatment system. The Storm Water Utility gathers storm water and drainage within the Town's corporate boundaries, transports and then delivers those untreated volumes to a local unnamed creek and the Paddle River.

The Town has authorized a review of its utility systems, and preparation of utility cost models that would identify annual revenue requirements and determine appropriate rates, tolls and charges for the respective utilities. This study and the rate models it addresses apply the 'utility' or 'rate base' method, as required by the Alberta Utilities Commission (the AUC) pursuant to the *Public Utilities Act*. The AUC is the arbiter designated under Sections 43, 44 and 602.14 of the *Municipal Government Act (MGA)* for all matters concerning complaints on utility matters. The utility method generally provides a more objective, consistent and stable method of determining annual revenue requirements for utility systems than does the cash-need approach.

The water rates as approved in Bylaw 2018-12 do not allow for recovery of the costs of water being purchased from the BRWC. The existing rates are expressed in dollars per 4.55 m³, which is equivalent to the unit cost of 1,000 Imperial gallons. That calculation has masked the actual unit cost of water being paid in \$/m³, and has resulted in the declining block rates for volumes in excess of 13.5 m³ per month being lower than the actual unit rate actually paid to BRWC. The Town should immediately review and revise Bylaw 2018-12 to ensure that all rates approved capture the input costs of water, and a margin over that cost as necessary to fully recover the water utility revenue requirements.

In addition to that concern, all water utilities require more water than they sell to provide for system operations, leakage, measurement slippage and unmetered uses. The water industry generally accepts 10% of water volumes sold as normal. The Town purchased roughly 20% more volume than it sold in both 2017 and 2018, and the cost of that water purchased but not resold has not been included in the calculation of the variable rates charged to customers. The water loss issue was not a great concern when the Town was directly operating and managing the water treatment plant, since it did not have to pay for the water being produced. The transition of the water treatment plant to the BRWC changed that concern significantly, and has resulted in the costs of water losses not being reflected in the rates charged for water. As a result of those issues, the Town is losing money on each unit volume (m³) of water being sold to retail customers.

The Town has several Agreements with the County and others for delivery of water and wastewater services which provide for the Town to be paid for all such services rendered. The Town has not been invoicing the County for any costs associated with water supply in recent years, even though the Town continues to provide transportation, distribution and related utility services necessary for water to be received from the BRWC water treatment plant and delivered to three points of custody transfer to the County. The Town is entitled to be paid for those services, as provided in the respective Agreements, including the costs of water purchased and not resold which are a normal part of water utility operations.

The BRWC delivers substantial volumes of wastewater and sludge to the Town's Wastewater utility, but BRWC has not been charged for that service. BRWC wastewater volumes are roughly one-third of the total annual volumes being treated by the Town. Although there may be a view that charging BRWC for wastewater treatment would simply be reflected in the Town's water rates, that assumption is not correct. More than 10% of the BRWC production volumes are delivered and charged to the County. In not charging BRWC for wastewater services, the Town is subsidizing both the BRWC and its customers within the County. In addition, charging the BRWC for wastewater would result in lower costs for services being allocated to and paid for by the Town's wastewater customers.

The rate models prepared for the respective utility systems identify annual revenue requirements for the test years, 2019 through 2022. The rate models also identify the customer and sales base for the Water and Wastewater Utilities for that same period. The customer and sales bases have been forecast as stable throughout the test period, which means that increases in annual revenue requirements will have to be supported by increases in utility rates. Schedule 8 of the respective utility rate models shows the determination of rates necessary to generate the annual revenue requirements for the test period.

The Water Utility should apply new rates that do not include any volumes, consisting of a Fixed and Minimum Charge of \$20.00 per month, and a Variable Commodity rate of \$3.04 per m³ of water, including the cost of water at \$2.64/m³ that would fully recover the revenue requirements in all years. The water rate applicable to water volumes delivered to the County would consist of the same Fixed and Minimum Charge of \$20.00 per month, and a Variable Commodity Rate of \$0.62/m³ which includes recovery of water volumes purchased but not sold at a ratio of 10% of volume sales. The Town has approved a sales rate of \$9.20/m³ for sales of bulk water, and that same rate has been carried forward in all test years.

The Wastewater Utility should apply new rates consisting of a Fixed and Minimum Charge and a Variable Commodity Rate applied to the volume (m³) of water delivered. Retail rates for the Wastewater Utility are forecast to increase year-over-year, due to proposed major capital works. The minimum rates necessary in 2019 are \$12.00 per month and \$0.71/m³. The rates required in 2021 and 2022 would have to increase to \$15.00 per month and \$0.95/m³ on water volumes delivered. Rates for Wastewater treatment to be charged to the BRWC are \$0.38/m³ in 2019, decreasing to \$0.35/m³ in 2020 and following years. Those same rates should also apply to Storm Water volumes when imposed.

1.1 Summary of Recommendations

- IMMEDIATELY revise the water rates approved by Bylaw 12-2018 to ensure the Town is recovering the total costs of water purchased for resale to customers, and ensure that the costs being allocated to County consumers include provisions for water losses, in addition to the allocated costs of utility assets and system operations
- IMMEDIATELY meet with BRWC and County to address the concern with billings for County water customers, and supply agreements that require the County to reimburse the Town for distribution and related services, and ensure the Town is able to fully recovery its allocated annual revenue requirements from County consumers
- IMMEDIATELY advise the BRWC that the Town must invoice BRWC for wastewater services being provided by the Town in order to stop the subsidization of the BRWC and its water consumers, especially those located within the County
- Implement and maintain a flow-through method of determining the actual unit cost of water being sold to ensure full recovery of the input cost of purchasing water for resale on an ongoing basis.
- Simplify utility rates by establishing a two-part uniform rate structure, consisting of a Fixed and Minimum Monthly Charge, and a Variable Commodity Rate, with all of the Town's retail water and wastewater customers paying the same rates.
- Review all subsisting agreements the Town has with the County and other parties for provision of utility services, and commence discussions and/or negotiations to renew or renegotiate those agreements, as the Town deems appropriate
- Advise the BRWC of the concern with high ratios of wastewater effluent being generated by the water treatment plant as a ratio of total water volumes being produced, and consult with BRWC and technical experts and advisors to reduce those levels to both improve efficiency of the plant and reduce ongoing costs of production
- Adopt the "utility method" to determine annual revenue requirements for the Water, Wastewater and Storm Water utility systems to determine the revenue requirements the respective utilities ought to be allowed to earn in any given year
- Classify utility plant using the uniform classification of utility accounts as recommended by NARUC, and review and assess expected lives of utility plant in service to determine rates of amortization (depreciation) for each asset account necessary to recover original costs over the life assigned to each class of assets
- Review and update the respective utility rate models annually to ensure actual data is reported and applied to assess ongoing utility performance and revenue requirements for future years
- Prepare an inventory of lands assessable for Storm Water utility charges

2.0 Introduction

The Town of Barrhead (the Town) engaged K. David Campbell to undertake a review of the municipally owned Water, Wastewater and Storm Water Utility systems, and to prepare utility cost models that would identify annual revenue requirements and determine appropriate rates, tolls and charges for the respective utilities. The Town was concerned that the rates being charged for various utility services might not be reflecting the actual costs of providing those services. The engagement was authorized based on the scope, terms and conditions as set out in Mr. Campbell's proposal to the Town, dated January 15, 2019.

The Town prepared and provided significant information reporting on tangible capital assets in service at original costs and dates of development, utility expenses, and customer and sales data for prior years. The Town responded to requests for additional information in a very timely manner, and was able to provide supporting documents for Bylaws, Policies and agreements in place for lease of the water treatment plant, operating the water treatment plant, and for the Town supply of water and wastewater services to third parties located beyond the Town's corporate boundaries.

There are several tenets that have been applied in developing the utility rate models addressed in this report. The first is that of "Full Cost Accounting"¹, or "Full Cost Recovery", defined by the Federation of Canadian Municipalities Guide as:

Full Cost Recovery — Full cost recovery requires the generation of sufficient revenues through appropriate pricing of the services to cover the full cost of water and sewage services. These include operating, maintenance, administration (OM&A), research and development (R&D) expenditures, financial costs and capital investments in facilities (including depreciation, interest and equity return at a level sufficient to sustain the systems in perpetuity and achieve the mandated level of service as a minimum).²

The second tenet deals with ensuring the utilities assessed do in fact identify and accept cost responsibility for all costs that would be required of a comparable business or enterprise on a "stand-alone basis". The stand-alone principle assesses all costs of operations, maintenance and administration of the utility, noting the allocation of common or shared costs, including charges for office and shop space, and general and administrative costs (G&A).

The third tenet addresses the rate making process itself, meaning how one goes about determining what is included in the process that leads to development of appropriate rates, tolls and charges for the respective utilities. The AWWA defines the rate making process as:

¹ "A Guide to Alberta Environment's Full Cost Accounting Program", March 2008, p.6

² "Multi-Discipline Guide of Best Practices: Water and Sewer Rates: Full Cost Recovery", Federation of Canadian Municipalities, December 2006, p.13

rate making process – The process of developing and establishing rates and charges. The process is comprised of four phases: (1) determination of revenue requirements; (2) allocation of revenue requirements to appropriate cost components; (3) distribution of the costs of service for each cost component to customer classes, and; (4) development and design of a schedule of rates and charges applicable to each class that recovers the allocated cost of service.³

As noted in that definition, the objective of the process is to identify the cost of service and design rates that are able to recover the costs as allocated to customer classes. The objectives of rate design in general are also addressed by AWWA, as follows:

In general, a utility should determine how its rate structure can support its goals and objectives, which might include the following:

- Yielding total revenue in a stable and predictable manner
- Minimizing unexpected changes to customers
- Discouraging wasteful use and promoting efficiency
- Promoting equity and fairness
- Avoiding unjust discrimination
- Maintaining simplicity, certainty, convenience, feasibility and freedom from controversy
- Complying with applicable laws⁴

The objectives as stated by AWWA are widely recognized and accepted by both utilities and regulatory authorities across North America, including the AUC.

The Town is seeking rate models that will allow ready identification of annualized revenue requirements for the respective utility systems over a number of forecast years, commonly referred to as the test period. The test period in this study and report is the calendar years, 2019 through 2022. There is broad concern with utility rate making, and any given model being effective for a relative short duration, usually not more than three years. In order to allow the rate models to retain appropriate function over an extended period, provisions have been made to accommodate varying assumptions and inputs over the entire test period. The rate models developed for the Town allow the input of data specific to each year, and use of both term and item specific inflation factors that would allow the model to retain currency over a period extending beyond the test years.

The individual rate models identify annualized revenue requirements, and the customer and sales bases served by the respective utilities. That information is then used to allocate the costs of service to the customers being served, and to develop rates that allow for recovery of the utility's annual revenue requirements from those customers.

³ AWWA Manual M1, Principles of Water Rates, Fees and Charges, Seventh Edition, p. 406

⁴ *IBID*, p. 108

3.0 Utility Regulation & Methodology

The Town wishes to examine the methods used to create rates, tolls and charges for its Water, Wastewater and Storm Water Utility systems, to ensure the policies and practices in allocating costs to those utility systems meet tests of reasonability, and ensure the rates being charged for supply of water and wastewater services provide fair and equitable treatment for all classes of customers being served. This study and the rate models developed for the Town's utility systems apply the 'utility' or 'rate base' method in examination and assessing utilities, as required by the Alberta Utilities Commission (the AUC) pursuant to provisions of the *Public Utilities Act*.

As a municipal authority, the Town has both the right and obligation to determine rates, tolls and charges for municipal services, including utility services, which it deems appropriate. In certain circumstances, that right is subject to review and direction of a supervisory authority. The *Municipal Government Act (MGA)* addresses the right of person to submit a complaint on rates, tolls and charges applied to utility services consumed,⁵ as follows:

- 43(1) A person who uses, receives or pays for a municipal utility service may appeal a service charge, rate or toll made in respect of the it to the Alberta Utilities Commission, but may not challenge the public utility rate structure itself.
- (2) If the Alberta Utilities Commission is satisfied that the person's service charge, rate or toll
 - (a) does not conform to the public utility rate structure established by the municipality
 - (b) has been improperly imposed, or
 - (c) is discriminatory,the Commission may order the charge, rate or toll to be wholly or partly varied, adjusted or disallowed.⁶

As stated in Section 43 of the *MGA*, any person using or paying for a municipal utility service may appeal or file a complaint with the AUC as to the rates, tolls and charges for that utility service. Upon receipt of an appeal from an aggrieved person, the AUC is required to examine the utility, determine whether or not the appeal has any substance, and if the rates, tolls and charges are appropriate and/or meet the criteria as specified under Section 43.

Municipalities may also be subject to complaint and can be brought before the AUC with respect to utility services provided to a person served by the utility, but located beyond the

⁵ *Municipal Government Act*, RSA 2000 Chapter M-26, s 1(1)(y):
"public utility" means a system or works used to provide one or more of the following for public consumption, benefit, convenience or use: (i) water or steam, (ii) sewage disposal, ... (v) drainage, ... and includes the thing that is provided for public consumption, benefit, convenience or use.

⁶ *Municipal Government Act*, RSA 2000 Chapter M-26, s43

municipality's corporate boundaries, pursuant to provisions of Section 44 of the *MGA*, which states:

44(1) If

- (a) a municipality is supplying a utility service to a person outside the municipality, and
- (b) there is a dispute between the municipality supplying the utility service and any other municipality in connection with the rates, tolls or charges,

the dispute may be submitted to the Alberta Utilities Commission.

(2) The Commission may make an order on any terms and conditions that it considers proper.

(3) This section applies whether or not a public utility is subject to the control and orders of the Alberta Utilities Commission pursuant to section 111 of the *Public Utilities Act* or section 4 of the *Gas Utilities Act*.⁷

In the Town's case, it is supplying both water supply and transmission services, and wastewater gathering and treatment services to customers located beyond the Town's corporate boundaries. Should a person or customer located outside the Town's corporate boundaries submit a complaint to the AUC with respect to those utility services, the Town would be required to respond to the complaint, and defend both the costs and terms and conditions of those services before the AUC.

The Town also has an agreement with the BRWC for provision of water and support services required for operations of the water treatment plant. Although the water treatment plant is currently owned by the Town and leased to BRWC, and operated by the Town under contract with BRWC, the Town has the same rights as afforded any other customer of the Commission with respect to the provision of utility services provided by BRWC, pursuant to Section 602.14 of the *MGA*, which states:

602.14 If there is a dispute between a commission and another commission or a commission and any municipal authority with respect to

- (a) rates, tolls or charges for a service that is a public utility, ^{[[1]]}_{SEP}
- (b) compensation for the acquisition by the commission of facilities used to provide a service that is a public utility, or ^{[[1]]}_{SEP}
- (c) the commission's use of any road, square, bridge, subway or watercourse to provide a service that is a public utility, ^{[[1]]}_{SEP}

any party involved in the dispute may submit it to the Alberta Utilities Commission and the Alberta Utilities Commission may issue an order on any terms and conditions that the Alberta Utilities Commission considers appropriate.⁸

⁷ *IBID*, s44

⁸ *IBID*, s602.14

The basis upon which the AUC must assess a complaint on utility rates is specified in the *Public Utilities Act (PUA)*, which states:

- 90(1)** In fixing just and reasonable rates, tolls or charges or schedules of them, to be imposed, observed and followed subsequently by the owner of a public utility, the Commission shall determine a rate base for the property of the owner of a public utility used or required to be used to provide service to the public within Alberta and on determining a rate base it shall fix a fair rate of return on the rate base.
- (2)** In determining a rate base under this section, the Commission shall give due consideration
- (a) to the cost of the property when first devoted to public use and to prudent acquisition cost to the owner of the public utility, less depreciation, amortization or depletion in respect of each, and
 - (b) to necessary working capital
- (3)** In fixing the fair return the owner of a public utility is allowed to earn on the rate base, the Commission shall give due consideration to all those facts that in the Commission's opinion are relevant.⁹

This section of the *PUA* requires the AUC to determine a rate base for the utility plant in order to determine a return which the owner may earn on its investment in that plant. Rate Base refers to the net investment in the utility's plant, plus a provision for necessary working capital required to maintain utility operations. The net plant consists of all utility plant and related assets at their original cost, less depreciation or amortization, as calculated from forecast useful service lives for the different categories or classes of utility plant then in service.

All utilities are allowed to earn a return on their investment in rate base. Return on Rate Base reflects capitalization of the utility system, and considers the sources of funding used to develop or acquire the plant in service, including grants, contributions and other sources or forms of no-cost capital (NCC). The AUC has addressed capitalization of and return on rate base for municipal utilities in several decisions, including the most recent Generic Cost of Capital proceedings, for the years 2018, 2019 and 2020. In that decision, the AUC specifically noted concerns with municipally owned utilities:

208. In its July 5, 2017 correspondence, the Commission indicated that it intended to explore a number of issues in relation to municipally owned utilities in this proceeding:

36. ... the Commission considers that the 2018 GCOC proceeding is also a forum to consider matters with respect to the municipally owned utilities, specifically. The Commission wishes to explore how their ownership structure and the relationship between the utilities' ratepayers and the municipality's taxpayers may affect ROE and deemed equity ratios for these utilities. In this regard, the Commission invites submissions from parties regarding what municipal ownership entails with regard to debt availability through the Alberta Capital Financing Authority (ACFA), credit metrics in light of available debt through ACFA, income tax status, the opportunity for

⁹ *Public Utilities Act*, RSA 2000 cP-45 s90; 2007 cA-37.2 s82(25)

municipal riders and the effect of these factors on the risk profile of the municipally owned utilities.²⁹⁰

209. In this section, the Commission will address generally the interplay between ownership structure and the stand-alone principle as it relates to municipally owned utilities, more specifically the role of ACFA funding in assessing the credit metrics of ENMAX and EPCOR given the stand-alone principle, and finally the use of equity funding riders. The Commission has addressed the issue of a utility's taxable status in relation to capital structure in Section 8.¹⁰

...

217. The stand-alone principle has been applied by the Commission to treat a regulated utility as a distinct entity for the purposes of determining the costs to be borne by ratepayers for the service of the regulated utility. As noted by the Alberta Court of Appeal in *ATCO Electric Ltd. v Alberta (Energy and Utilities Board)*, "The purpose of the stand-alone principle is to notionally isolate and categorize – for accounting and rate-making purposes – the costs incurred in the operation of a discrete business function of a utility." The principle has been applied to allocate costs between regulated and non-regulated activities of an integrated utility, with the theory being that regulated utility customers should only pay for the costs of the regulated service. It has also been applied to allocate costs incurred by an integrated utility amongst its various business functions, so that just and reasonable rates can be set for each business function. In the context of a GCOC proceeding, the stand-alone principle has been applied to determine an ROE and deemed equity structure for each regulated utility as if it were a stand-alone entity.¹¹

290 Exhibit 22570-X0014

Alberta Environment (AE) published, "A Guide to Alberta Environment's Full Cost Accounting Program", recommending the use of Full Cost Accounting for water utilities. In that guide, AE notes a category of "Administration" costs, as cited following:

Administration - includes all overhead and indirect services that are not related to previously outlined categories. Administration relates to costs associated with general management, insurance, accounting, legal, human resource management, public relations, computing systems, payments in lieu of taxes as well as system planning and engineering that is not otherwise allocated to capital expenditures.¹²

On a stand-alone basis, each of the Town's utilities should be allocated a portion of the total G&A costs, since without those common or shared facilities, the utilities would not be able to function. The Federation of Canadian Municipalities "Best Practices Guide" describes the broad costs of a utility as including:

Costs include all water and sewage system costs that must be incurred to provide services at sustainable service delivery levels and reflect customer, industry and government mandated service standards. Costs include operating, maintenance and administration (OM&A) expenditures, land, financial and capital investments to repair, rehabilitate,

¹⁰ AUC Decision 22570-D01-2018, August 2, 2018, Generic Cost of Capital for 2018, 2019 & 2020, p. 46

¹¹ *IBID*, pp. 46-47

¹² "A Guide to Alberta Environment's Full Cost Accounting Program", March 2008, p.6

replace, expand and upgrade facilities; and, in some cases, decommissioning and disposing of infrastructure. These costs must be recognized and reported.¹³

The AUC refers to the stand-alone principle as one of the attributes it assesses to determine the scope and reasonability of costs to be allowed for a utility. The Town has very good methods and records for reporting expenses directly incurred by the respective utility systems, but it does not currently allocate indirect costs that would be required if those same utilities were not being operated as a division, department or function of the Town's general services. Those indirect costs are generally referred to as "Common or Shared Costs", and also as "General and Administrative (G&A) Expenses". Specific items that have not been assessed or allocated to any of the utilities include office, shop and yard space, office and shop equipment and furnishings, executive salaries, and overheads for both ownership and operations of the Town's common facilities that provide required support to the utilities.

Given the *MGA* allows a customer to appeal their rates, tolls and charges to the AUC, the Town should ensure that the methodology it uses in determining annual revenue requirements for each of its utility systems meets that criteria for examination as would be applied by the AUC. Further, the Town should ensure that the rates, tolls and charges necessary to recover those revenue requirements from customers are just and reasonable (also referred to as fair and equitable). The AUC is required to determine a rate base and return on investment for utility plant as part of the utility's revenue requirements. Since the Town currently uses a "cash-needs" method to determine the annual revenue requirements for the Water and Wastewater Utility systems, the analyses and rate models prepared apply the "rate base" method to determine annual revenue requirements, to allow ready comparisons between the two methodologies. The revenue requirements are then assessed to identify the functions provided by various cost, and the functionalized costs are then allocated to the appropriate customer groups and their sales volumes.

4.0 Utility Revenue Requirements

As noted in the definition of the rate making process, the first phase consists of identifying and determining annualized revenue requirements for the respective utilities. Fortunately, the methodology applied in determining the revenue requirements, or that which would be allowed by the AUC in doing so, is common to all utilities. The rate models identify capital assets in service, the capitalization of those assets, determine the cash operating expenses required to operate, maintain and administer the utility, and determine a return on rate base. The sum of those elements comprise the revenue requirement. The individual schedules provided within the respective rate models that comprise the first phase of rate making are identified and described by number.

¹³ Federation of Canadian Municipalities, "Multi-Discipline Guide of Best Practices: Water and Sewer Rates: Full Cost Recovery", December 2006, p.13

4.1 Schedule 1: Fixed Assets & Amortization/Depreciation

Schedule 1 of the utility rate models reports development of capital assets at original cost, by year, according to Prime Asset Accounts as identified by the National Association of Regulatory Utility Commissioners (NARUC).¹⁴

Table 4.1: Investment in Utility Assets at Year-End 2018 (Schedule 1)

	<u>Original Cost</u>	<u>Depreciation</u>	<u>Net Book Value</u>	<u>NBV/Original</u>
Water	15,559,980	9,990,653	5,569,327	35.79%
Wastewater	15,888,781	10,751,300	5,137,481	32.33%
Storm Water	<u>6,673,765</u>	<u>4,830,907</u>	<u>1,932,858</u>	28.58%
Totals	38,122,526	25,572,860	12,639,666	33.16%

The Town records all capital development under general classifications as originally created and maintained by Alberta Municipal Affairs, conforming to then current accounting requirements for Alberta municipalities. That detail is generally not considered sufficiently detailed to allow reporting the types or classes of assets according to more specific functions, and to allow segregating assets based on operating function or useful service lives. Schedule 1 of the rate models reports utility assets at original cost in the year of development, from 1962 through 2022, with columns reporting data for years Year-end 1962 through Retirements 2017 hidden for presentation purposes. This Schedule and allocates all capital assets to prime asset accounts as identified by the NARUC “Uniform System of Accounts for Class A/B Water Companies” for the Water utility, and by the NARUC “Uniform System of Accounts Class A/B Wastewater Companies” for the Wastewater utility. Storm assets have also been identified using the same classification as identified for Wastewater assets. The NARUC codes of accounts have been adopted by most water and wastewater utilities within Canada and the United States, and by their respective regulators.

Gross asset values reported includes development funded by No Cost Capital (NCC) comprised of grants, developer/customer contributions, etc. This Schedule calculates both annual and accumulated amortization (depreciation) expenses for each prime account, based on expected useful service lives for the respective classes of assets. Accumulated amortization on tangible capital assets is calculated using the expected useful service lives as provided by the Town for major classes of assets, and as suggested by industry practice for those accounts not previously recognized by the Town. Amortization/depreciation is applied on a straight-line basis for all classes of assets. Formulae have been entered to ensure that any asset value is not amortized past its estimated useful service life.

The Schedule also reports the net book values (NBV) for the respective utilities as at calendar year end, being the difference between gross investments and accumulated

¹⁴ National Association of Regulatory Utility Commissioners (NARUC), Uniform System of Accounts for Class A/B Water Utilities, and Uniform System of Accounts for Class A/B Wastewater Utilities

depreciation, and the net book value of utility assets at Mid-Year, being the average of the NBV at the prior year-end plus the NBV at current year-end. The AUC applies the mid-year convention in assessing revenue requirements for all utilities subject to its jurisdiction.

4.2 Schedule 2: Utility Rate Base

Schedule 2 of the rate models determines investment in Rate Base, being the amount on which the utility may earn a return. The Town's gross capital investment in its Water, Wastewater and Storm utility system assets is shown in the continuity schedules of fixed assets and accumulated amortization, Schedule 1 in the respective utility rate models. The various assets have been assigned to prime asset accounts, as recommended by NARUC.¹⁵

The "utility" method requires the calculation of a "rate base," which is the net value of investment and capitalization of physical assets on which the utility is allowed to earn a return, and the fixing of a reasonable rate of return. A utility's rate base consists of the value of the utility's gross capital investment in property and plant used to serve the public, less accumulated amortization. A utility's rate base also includes a provision for necessary working capital¹⁶, which allows the utility to earn a return on the investment required to finance ongoing operating costs in advance of receipt of payments from customers. Rate base is determined on a "mid-year" basis to smooth the effect of major capital works being commissioned in any given year.

Necessary working capital is the cash required to finance utility operations prior to the utility's receipt of revenue from its customers. That allowance can be calculated using a balance sheet method, or through undertaking a lead-lag study to identify the actual differences between the time when the utility pays its bills for a given period, and the time at which customers pay for services provided during that same period. The Town operates the utility systems as departments or divisions of the municipality at large, and does not need or require individual financial statements to be maintained and submitted for each of the utility operations. As such, the Town does not have stand-alone financial statements for its utilities that would allow determining working capital requirements using a balance sheet method. The Town also has no records or studies as to the timing differences between the date it pays its bills for supply, operations, maintenance and administration of the utility systems, and the dates on which utility customers remit their payments for service received by those customers in that same billing period.

In instances where a lead-lag study has not or cannot be reasonably undertaken, the AUC commonly applies the "rule of one-eighth" to cash operating expenses to determine necessary working capital requirements. That proxy for a lead-lag study assumes that all expenses incurred for the month of service are paid at mid-month in that same month.

¹⁵ *IBID*

¹⁶ **working capital:** Cash, materials, supplies, and other similar current assets necessary in the operations of the enterprise. It is usually measured by the excess of current assets over current liabilities, or sometimes as a percentage of annual operations and maintenance expense levels.

AWWA Manual M-1, Principles of Water Rates, Fees and Charges, Seventh Edition, p.328

Customers are required to pay their bills for that same month of service by the end of the month following the month of service. Under monthly billing systems, payments from customers will lag the utility's payments of its bills by 45 days, which is roughly one-eighth of a year.

The Town bills its customers on a bi-monthly basis, which increases the lag of payments over expenses by a full 30 days for the first month of each billing cycle. Adjusting the rule of thumb to reflect the actual lag of the bi-monthly billing cycle suggests a factor of one-sixth¹⁷ is appropriate for the Town's utilities. That factor has been applied to the annual Cash Operating Expenses, as reported on Schedule 2 of the respective utility rate models to determine the necessary working capital requirements allowed within the respective utility rate base. An additional calculation has been considered in the Water model to reflect the Town purchasing water after the month of service, and then recovering those costs from customers through the bi-monthly billing cycle. A factor of one-twelfth¹⁸ has been applied to all water purchases.

Table 4.2 presents the rate base investment in each of the Town's utility systems as at mid-year 2019.

Table 4.2: Utility Rate Base at Mid-Year 2019 (Schedule 2)

	<u>Water</u>	<u>Wastewater</u>	<u>Storm</u>
Gross Asset Value	\$ 15,874,980	\$ 18,278,781	\$ 6,790,675
Accumulated Amortization	<u>(10,178,356)</u>	<u>(11,039,223)</u>	<u>(4,966,182)</u>
Unamortized Balance @ YE	\$ 5,696,623	\$ 7,239,558	\$ 1,824,583
Prior Year Unamort Balance	<u>5,569,327</u>	<u>5,137,481</u>	<u>1,932,858</u>
Unamortized Balance @ MY	\$ 5,632,975	\$ 6,188,519	\$ 1,856,675
Necessary Working Capital	<u>247,967</u>	<u>42,017</u>	<u>3,735</u>
Rate Base @ Mid-Year	\$ 5,880,942	\$ 6,230,536	\$ 1,860,500

The Town has approved capital programs that will increase investment in the Water utility by \$2.55 million by year-end 2021, with a corresponding increase in rate base to \$8.026 million. Capital programs have been approved for the Wastewater utility to year-end 2021, that will increase gross investment by \$4.025 million. That future capital investment will increase the Wastewater utility rate base to \$8.163 million. The Storm utility has no current capital expenditures approved, which means its rate base is expected to decline year-over-year, due to continued amortization of assets now in service.

¹⁷ (75 days + 45 days) ÷ 2 ÷ 365 = 60 days ÷ 365 days = 1/6

¹⁸ (15 days + 45 days) ÷ 2 ÷ 365 = 30 days ÷ 365 days = 1/12

4.3 Schedule 3: No-Cost Capital & Amortization

The Town has received support funding consisting of grants and contributions towards development of utility assets for each of the Water, Wastewater and Storm utility systems. That funding, provided by third parties at no cost to the Town or its utility is referred to as “No-Cost Capital” (NCC). Where assets have been developed for utility purposes and have been funded by no-cost capital, those funds must be included in the capital structure reported for the utility. Schedule 3 of the respective utility rate models provides a continuity schedule of no-cost capital and amortization of NCC, according to prime asset account. Amortization of NCC has been calculated using the same rates for each prime asset account as applied in Schedule 1, the Continuity Schedule of Fixed Assets and Accumulated Depreciation. Schedule 3 also shows the calculation of No-Cost Capital at Mid-Year. The unamortized balance of ‘No-Cost Capital at Mid-Year’ is reported on Schedule 5 of the respective rate models.

4.4 Schedule 4: Debt

The Town currently has no outstanding debentures or other debt applied to any of its utility systems. That may change with proposed development or redevelopment of the utilities over time. Schedule 4 of the utility rate model allows reporting all debt issues, and the calculation of the composite cost of debt for each year of the test period. The Schedule allows reporting individual debt issue, by debenture number, year of issue, cost rate at issue, and principal outstanding at year-end. The cost rates of all debt are the original rates of debentures and internal debt at the time of issue. The bottom section of Schedule 4 calculates the amount of principal outstanding on each debt issue at mid-year.

It is not uncommon for municipally-owned utilities to maintain low levels of debt, or to avoid incurring debt for ongoing utility developments. Use of a notional capital structure, including a provision for deemed debt, requires establishing an appropriate cost rate for that notional debt. The AUC has addressed cost rates on notional or deemed debt for municipally-owned electrical utilities, in Decision 2005-148 for the City of Red Deer, and in Decision 2005-148 for the City of Lethbridge, respectively. In those decisions, the AUC determined that the then current 15-year rolling average of cost rates for 15-year term debentures secured through ACFA would be appropriate as the rate of return on deemed debt. That AUC finding has been applied in each of the utility rate models prepared for the Town. The cost rate applied in each test year of the rate model is the 15-year rolling average of ACFA 15-year debentures. That rate for 2019 is 3.50%, with a rate of 4.0% being applied as the default rate¹⁹ for the balance of the forecast period.

¹⁹ Where the actual rolling average rate for ACFA 15-year debentures for any given year is unknown, the model will automatically apply a rate of 4.00% as a default value for the costs rate of deemed debt over the remaining forecast test period.

4.5 Schedule 5: Capital Structure and Return on Rate Base

Investment in rate base is funded by a combination of debt, equity and no-cost capital. Municipalities commonly finance major capital programs through debenture borrowings, but general municipal focus on debt management and debt avoidance in general has resulted in significant use of equity to support capital development for utilities. No-cost capital is provided through contributions received from customers and property developers towards capital development, through federal and provincial grants, and through debt forgiveness. Equity investment is provided through re-investing retained earnings or reserves accrued by the utility in new capital assets.

For investor-owned or private utilities, the level of equity investment is dependent on the perceived risk that a lender might attach to the business and its investments. Increased risk may require greater equity investment to balance the lender's insecurity, and vice versa. The AUC issued Decision 22570-D01-2018 determining generic cost of equity and capital structures for utilities under its jurisdiction pursuant to the *PUA*. The AUC examined and assessed the relative risks of each utility under its jurisdiction, providing a higher proportion of equity in the capital structure to utilities deemed to be of higher risk, to provide adequate interest coverage ratios. Evidence adduced in the proceeding was cited by the AUC speaking to the greater business risk for smaller utilities:

596. Given the relatively small size of AltaGas relative to the other distribution utilities, Dr. Villadsen, as well as Dr. Cleary and Mr. Stauf, recommend that the deemed equity ratio of AltaGas be set at 400 bps higher than that of the deemed equity ratio of the average distribution utility. Mr. Stauf submitted that there was no basis to alter this 400 bps difference, and noted that Dr. Cleary's EBIT variability calculations actually confirmed this difference.

597. The Commission accepts the evidence of Dr. Villadsen, Dr. Cleary and Mr. Stauf, that the recommended deemed equity ratio of AltaGas should be 400 bps higher than the deemed equity ratio of the average distribution utility, reflecting the business risk of AltaGas relative to the other distribution utilities has remained constant since the 2013 GCOC proceeding.²⁰

Assessing the capital ratios approved for the utilities in Decision 22570-D01-2018 finds that the greatest common equity ratio approved for any utility is 39%, approved for AltaGas Utilities Inc. (AUI).²¹ There appears to be a *prima facie* finding that the Town of Barrhead, with a water utility rate base of approximately \$6 million and annual revenue requirements of less than \$3 million, faces substantially greater comparative business risk than does AUI. That increased risk should be reflected in a greater equity thickness for all of the Town's utilities than that as allowed by the AUC for AUI.

AUC Decision 2011-474 made no recommendation for an appropriate capital structure for water utilities, however, the AUC noted:

²⁰ AUC Decision 20622-D01-2016, Generic Cost of Capital, October 7, 2016, paragraphs 596 & 597 294

²¹ AUC Decision 22570-D01-2018, Generic Cost of Capital, October 7, 2018, paragraph 877

4. ... Specific ROEs and capital structures for the various investor-owned water utilities under the Commission's jurisdiction were not determined in this proceeding, because the Commission considers these utilities in response to a complaint. However, the determinations made in this proceeding may be considered in any cost of capital determinations for these utilities under the Commission's jurisdiction should issues respecting these matters arise.²²

The AUC has issued decisions affecting major municipally owned water utilities in which the utilities capital structure and ROE have been determined, based on the then current decision on the Generic Costs of Capital. The AUC has determined and approved capital structures for small non-municipally owned water systems that address relative size and business risks as compared to the average distribution utility. The AUC recently addressed capital structure for Blazer Water Systems Ltd. (Blazer), a small investor-owned water utility that submitted a General Rate Application for the years 2019 and 2020. The AUC noted its determinations in the Generic Cost of Capital proceedings for 2018, in speaking to an appropriate capital structure for the small water utility, as cited following:

187. The Commission approved a deemed capital structure of 63 per cent debt and 37 per cent equity for the majority of the utilities in the 2018 GCOC decision, with the exception of AltaGas Utilities Inc., whose deemed capital structure was approved at 61 per cent debt and 39 per cent equity. The Commission considers that Blazer, as a small water utility, has more business risk and investor risk than larger regulated utilities and likely more than a utility, for example, that is the size of AltaGas Utilities Inc. In its submissions, Blazer referred to Horse Creek Water Services Inc., which in 2017 had an approved capital structure of 60 per cent debt and 40 per cent equity.¹⁶¹ Horse Creek Water Services Inc. is another small water utility that operates in Rocky View County. Accordingly, the Commission finds that a deemed capital structure of 60 per cent debt and 40 per cent equity for Blazer for 2019 and 2020 is warranted given the size of Blazer's operations and its business risk.²³

¹⁶¹ AUC Decision 21340-D01-2017: Horse Creek Water Services Inc., 2016 General Rate Application, Proceeding 21340, October 20, 2017.

As determined by the AUC in Decision 21340-D01-2018, a debt-to-equity ratio of 60:40, 60 per cent debt and 40 per cent equity, was approved for 2019 and 2020. Considering that Decision, and the AUC findings with respect to AUI in the most recent Generic Cost of Capital proceeding, the Town ought to be allowed an equity thickness of not less than 40%, the same equity ratio as the AUC has allowed for Blazer. The respective utility rate models prepared for the Town have therefore applied a deemed common equity ratio of 40% in all test years.

As previously noted in this report, there are three primary sources of funding used to develop a utility's rate base: debt, equity and no-cost capital. The AUC has issued decisions on what it has determined to appropriate rates of 'Return on Equity' (ROE) for utilities subject to its jurisdiction. With those references and the standard of comparisons

²² AUC Decision 2011-474, Generic Cost of Capital, December 22, 2011, paragraph 4

²³ AUC Decision 22319-D01-2018, Blazer Water General Rate Application for 2019-2020, November 22, 2018, paragraph 187

established by the AUC for various utilities, there should be no need for the Town to re-determine the rate of return applicable to its utility systems.

The Town may simply choose to adopt the ROE as determined by the AUC for each calendar year to be assured that it is meeting an appropriate and approved regulatory standard. The AUC has allowed a capital structure of 60% debt and 40% equity (60:40 debt-to-equity ratio) for small utilities, and that same capital structure has been applied in each of the rate models developed for the Town's utility systems. As noted in the foregoing, for 2019, the cost of deemed debt is 3.5%, and the rate of return on equity is 8.5%. Table 4.5 presents the allowed return on rate base for the respective utilities in 2019.

Table 4.5: Return on Rate Base – 2019 (Schedule 5)

	<u>Debt</u>	<u>Equity</u>	<u>NCC</u>	<u>Total</u>
Water	\$ 86,254	139,649	0	\$ 225,903
Wastewater	84,200	136,325	0	220,525
Storm Water	<u>35,300</u>	<u>57,153</u>	<u>0</u>	<u>92,453</u>
Totals	\$ 205,754	\$ 331,127	0	\$ 538,881

As may be noted from Table 4.5, the rate models apply the AUC convention of not allowing a return on No-Cost Capital (using a cost rate of 0.00%). Investor-owned utilities have asked the AUC to allow a return on No-Cost Capital, to reflect what they submit are increased business risks of managing NCC. The AUC has not accepted those submissions to date, but it is reasonable to expect that the IOU requests for allowing a return on NCC will continue. As previously noted, municipalities are taxing authorities in their own right, and may impose such taxes, levies and other recoveries, as Council deems appropriate. The Town could choose to earn a return on NCC, and apply the return on those funds towards creating or maintaining reserve accounts, funding new capital development, or paying dividends to the general revenue fund. The sole concern with applying those additional recoveries to utility rates is ensuring that they are not applied to customers served beyond the Town's corporate boundaries. The Town does have the right of taxation, but only insofar as it pertains to ratepayers within the Town's corporate boundaries.

In addition to providing funding to pay the interest costs on debt, return on rate base provides a source of funds that the utility may allocate to various functions as it sees fit. Investor-owned utilities (IOUs) commonly use portions of the return to pay dividends to their shareholders, re-invest earnings in new capital plant, and to maintain approved reserve accounts. The Town has approved policies for creating reserves for replacement of both the Water and Wastewater utilities, which may be funded in whole or in part from the return on rate base.

4.6 Schedule 6: Cash Operating Expenses

Schedule 6 of the rate models show the detail of annual expenses for the respective utilities, based on actual values for 2016, 2017 and 2018, and approved budget numbers for 2019. Forecasts of cash expenses have been prepared using designated inflation factors for the years 2020 through 2022. That detail is then assessed and annual Cash Operating Expenses identified for each year. The Town has excellent records reporting the direct expenses for the respective utility systems, however, the current level of reporting does not include recovery of any common or shared costs for general and administrative (G&A) services the Town provides to each of the utility systems. Schedule 6 of the respective rate models have a section that allows the Town to report the additional G&A expenses that ought to be included as part of each utilities operations.

Under the ‘cash-needs’ method, the Town identifies all expenses and expenditures for the utility systems. Expenses in addition to operations, maintenance and administration that may be included in utility budgets include debt servicing, allocations to reserve accounts, capital expenditures funded from current revenues, and transfers to general. The Town has identified “Contributions to Capital Reserves”, account 762-00, in all years for both the Water and Wastewater utilities. Those contributions and other contributions are not allowed as part of Cash Operating Expenses. The rate base or utility method allows only those expenses required for operations, maintenance and administration of the utility as Cash Operating Expenses.

Payments of interest on debt are funded by the Return on Debt portion of the Return on Rate Base. Repayment of debenture principal is funded by the depreciation expense. Contributions to capital programs and reserves may be funded from the return on rate base, for both debt and equity, where the return on debt including deemed debt exceeds the actual interest amount payable on actual debt. Contributions, transfers and reserves may also be supported by the depreciation expense where the depreciation expense exceeds the required amount of principal to be repaid in any given year.

The Town has not identified any changes to existing operations and maintenance of the utility systems that would require a marked increase over costs as reported for prior years. There is a concern with the reported volumes of water being purchased and not resold being higher than considered acceptable by industry. The Town may wish to undertake a program or programs that would effectively reduce the volume of water losses (unaccounted for water volumes). The additional cost of those programs can be self-liquidating; with savings in the costs of water offsetting some or all of those program costs. The AWWA has a manual on water audits and loss control²⁴ that might be useful in assisting the Town and its engineers in addressing water losses.

²⁴ AWWA Manual M36 - Water Audits and Loss Control

4.7 Schedule 7: Utility Revenue Requirements

Schedule 7 of the respective rate models summarizes the cost components as determined on; Schedule 1 for amortization expenses on assets, Schedule 3 for amortization of NCC, Schedule 5, Return on Rate Base, and Schedule 6, Cash Operating Expenses. The 2019 Revenue Requirements for the utility systems are shown in Table 4.7.

Table 4.7: Utility Revenue Requirements in 2019 (Schedule 7):

	<u>Water</u>	<u>Wastewater</u>	<u>Storm</u>	<u>Total</u>
Commodity Costs	1,287,881	N/A	N/A	1,287,881
Cash Operating	859,568	252,102	22,413	1,113,883
Non-Cash Expenses	122,758	251,056	130,529	504,343
Return on Rate Base	226,988	219,865	92,453	539,306
Reserves	<u>300,000</u>	<u>331,727</u>	<u>0</u>	<u>631,727</u>
Total	2,797,194	1,054,751	245,395	4,106,340
Less Other Rev (Sch. 8)	<u>(714,119)</u>	<u>(2,419)</u>	<u>0</u>	<u>(716,538)</u>
Net Revenue Required	2,083,075	1,052,332	245,395	3,389,802
Deduct Commodity/Res	<u>(1,587,881)</u>	<u>(331,727)</u>	<u>0</u>	<u>(1,919,608)</u>
Direct Net RevReq	495,194	720,605	245,395	1,461,194

As shown in Table 4.7, the annual revenue requirements for the utility systems total approximately \$3.4 million in 2019. More than one-half of that total is due to the costs of purchasing water for resale, and the addition of contributions to reserves for both the Water and Wastewater utilities. The Water utility is currently alone in having to address the costs of commodity (water) being purchased for resale. Should the Town approve operating the Storm utility as such, and develop rates, tolls and charges for that utility, the costs of treating storm water effluent should be added to the Storm utility costs, with payments flowing back to the Wastewater utility for treating run-off volumes. Cost of commodity purchases can and should be addressed on a “flow-through” basis in the rates being charged to customers, including recoveries from the out-of-Town consumers, who should also bear a portion of the water utility operating volumes and system losses. Reserves have been included as a cost component in Table 4.7, but the Town may not wish to add those expenses to the respective utility requirements until such time as concerns with under-billing or non-billing for existing water and wastewater customers have been addressed and resolved.

4.8 Schedule 8: Revenues by Source & Revenues to be Generated from Sales

Schedule 8 of the Water and Wastewater rate models report actual “Revenues by Source” as reported by the Town for 2017 and 2018, and as forecast for the test years 2019 through 2022. The Water utility has extraordinary recoveries in all years, for costs recovered from the BRWC under terms of the Operating Agreement between the BRWC and the Town.²⁵ The Town also receives an annual lease payment from the BRWC pursuant to the terms and conditions of the Lease Agreement it has with the BRWC.²⁶

Apart from those funds, the Water utility can expect revenues to be generated from Sales of Materials (410-03), Turn on/Off Fees (410-05), Sales of Service/Repairs (410-06), and Penalties (590-00). The revenues from the first three accounts have been nominal in past, and are expected to continue to be so in future. Penalties have ranged from 0.22% to 0.3 % of the Sale of Service (Bills), and have been forecast as \$5,000 per year, roughly 0.23% of Sales as forecast for the test years.

The Wastewater utility has little recovery other than the Sale of Service, with Penalties being roughly 0.3% of Sales. That same percentage has been applied to forecast Penalty revenue in each of the test years.

The Town has not billed for costs of the Storm Water utility in prior years, and neither has generated nor expects to generate any revenue other than billings to customers in any year.

5.0 Utility Markets: Customers and Sales Base

The Town provided billing records for the Water and Wastewater utilities, reporting the numbers of customers billed bi-monthly and the volumes sold for each billing period, according to occupancy or zoning (e.g. – residential, commercial, institutional, etc.). It should be noted the Town directly serves several customers that although physically located within the County are treated as in-Town customers. Those customers include two (2) churches provided with water and wastewater services, one (1) residence served with water, and one (1) industrial customer served with wastewater. Each of those “out-of-town” services were undertaken in consultation with the respective customers and the County, and are not part of any other service agreement(s). The bi-monthly billings for 2016, 2017 and 2018 were examined, and forecasts of customers and consumption extended for the test years based on that information. Trending the actual sales data and referring to Federal Census data²⁷ indicates that although the Town has reported population growth of roughly 1% per year, the number of utility customers served has been relatively stable if not static in recent years.

²⁵ Barrhead Regional Water Commission-Town of Barrhead Operating Agreement, February 7, 2011

²⁶ Town of Barrhead-BRWC Water Treatment Plant Lease, December 11, 2012

²⁷ Population per Statistics Canada Federal Census reports: 4,209 in 2006, 4,432 (4,158) in 2011, and 4,579 (4,387) in 2016 (*values for 2011 & 2016 are as revised by Statistics Canada*)

5.1 Water Customers and Volumes

It is not possible to normalize water consumption, since water consumption can vary with temperature, levels of precipitation, business cycles and other factors. Actual billing data has been used to assess changes in customers by type, and volume sales to the respective customer classes. There appears to be little change year-over-year for the Water utility, with a system wide peaking factor of 1.2 in each of 2017 and 2018. The peaking factor is calculated as the peak usage in a year divided by the average consumption for that same year. A lower peaking factor, say less than 1.4, is indicative of effective water use and general conservation on the part of customers.

The Town's water customers appear to be practicing effective water management, with no apparent need to introduce conservation initiatives. Table 5.10 reports the average number of customer accounts billed in 2017 and 2018, and the actual volumes billed in the same years.

Table 5.10: Water Customers and Volume Sales (m³) by Type (Schedules 9 & 10):

<u>Type</u>	<u>Customer Billings</u>		<u>Sales (m³)</u>	
	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>
Residential (Owned)	1,352	1,352	185,999	187,871
Residential (Rented)	284	272	36,228	34,743
Duplex	17	18	2,695	2,593
½ 4-Plex	6	7	1,430	1,650
4-Plex	17	18	4,818	4,887
Apartment	50	45	28,799	27,235
Church	13	13	2,065	2,572
Commercial	218	216	120,104	151,788
Institutional	12	12	52,201	45,495
Industrial	1	1	262	208
Recreational	9	10	7,357	5,166
Bulk Sales			<u>18,014</u>	<u>20,578</u>
Totals*	1,977	1,963	459,972	484,786

* Totals may not add due to rounding

As shown in Table 5.10, the water utility records indicate an average of 1,977 customers were invoiced in 2017, and 1,963 customers were invoiced in 2018. As noted in the average customer count by type, there has been some movement in numbers year-to-year, but the total number of billings decreased in 2018. That decline in customer billings is attributed to fewer customers moving in and out reducing the number of billings, as opposed to a loss in the number of customer premises being served. As may be noted from Table 5.10, all growth in volume sales from 2017 to 2018 occurred in the 'Commercial' accounts. The rate models forecast both customers and sales volumes to be stable for in-Town customers, with no growth in either customers served, or volume sales being forecast over the test years. The rate model assumes a stable average customer count of 1,970 in all test years.

There is a concern with the Water utility in the balancing the volumes of water purchased with the volumes being sold. The existing method applied by the BRWC has the volumes delivered to the three (3) out-of-Town member accounts being individually metered, and then deducted from the total production volume for the water treatment plant. That methodology may seem appropriate, since there is no central meter able to record actual volumes being delivered to the Town proper. However, the Town's distribution system transports the water delivered to each of the out-of-Town customers, and those customers should be required to bear costs of water required for operations and maintenance of the Town's water utility.

The water industry generally recognizes and accepts a water loss factor of 10% of sales as being reasonable, since water is used in system operations for purging and flushing, used in non-metered municipal activities (Public Works, Parks & Recreation, Firefighting, etc.), and lost through leakage and measurement slippage. The Town has been reporting substantially larger volume losses in prior years, being roughly 20% of its gross volume sales. A reconciliation of water volumes produced and delivered has been provided in Schedules 13 and 14 of the Water rate model, and the data provided in those schedules are summarized in Table 5.11 for ease of reference.

Table 5.11: Water Volumes (m³) Produced & Delivered – 2018 (Schedules 13 & 14)

	Total BRWC	Neerlandia Sales	Manola Sales	McGill Sales	Town Sales	Water Losses
Jan	50,128	1,775	1,300	176	43,608	3,269
Feb	45,667	1,518	1,325	145	39,690	2,989
Mar	49,630	1,949	1,390	169	36,130	9,992
Apr	52,558	2,908	1,322	178	37,335	10,795
May	62,686	4,091	2,091	260	47,526	8,718
Jun	65,104	6,107	2,321	274	49,008	7,394
Jul	61,325	4,207	1,577	222	44,880	10,440
Aug	56,485	3,009	1,775	159	40,911	10,631
Sept	50,963	1,895	1,385	194	39,040	8,449
Oct	50,518	1,745	1,329	191	39,497	7,756
Nov	47,062	1,828	1,335	177	33,932	9,789
Dec	<u>45,678</u>	<u>1,581</u>	<u>1,323</u>	<u>260</u>	<u>32,882</u>	<u>9,732</u>
Totals	637,804	32,613	18,381	2,405	484,460	99,945
Average	53,150	2,718	1,532	200	40,372	8,329
Peak	65,104	6,107	2,321	274	49,008	10,795
Factor	1.2249	2.2471	1.5155	1.3672	1.2139	1.2961
% Of Total	100.00	5.11	2.88	0.38	75.99	15.67

As shown in Table 5.11, the actual volume losses in 2018 were of 99,945 m³ or 20.6% of the Town's total sales volumes (sales to retail customers and bulk sales). The loss volumes and ratio of losses are not consistent throughout the year, and there is no obvious cause that can be readily identified for most of those losses. The Town is aware of municipal activities that do consume water but that are neither metered nor billed. The Town's Spray

Park is one such feature. That facility operates for 117 days per year, 10 hours per day with a water flow of 60 gallons per minute. That equates to an estimated volume of 12,636 m³ of treated water per year. Public Works uses (street cleaning, irrigation, etc.) and Firefighting are two additional contributors to those un-accounted for volumes. Irrespective of cause, the Town is incurring costs for the water that is being purchased but not resold. The Town may choose to initiate a recovery of water system costs from various municipal departments through metering or direct budget allocations, or simply have all water customers bear the additional costs of the un-accounted for volumes

The water losses are part of water utility's cost of operations and should be borne by all water customers. Since the Town is purchasing all of the water it requires, it must ensure that the costs of buying water, including the costs of water losses, are included in its rate calculations. It is apparent that the Town must assign a portion of the water losses to the other BRWC water customers to reflect water losses on the Town's transmission and distribution systems. Using 2018 data as an example, and the current unit rate of \$2.20 per m³ of water delivered by BRWC, the Town must ensure that it is recovering not only the direct unit cost of water, but also the costs of water losses associated with operating the water distribution system. At the loss ratio of 20% as identified for 2018, the unit cost of water being purchased but not resold is \$0.44 per m³ ($\$2.20 \times 20\% = \0.44). Adding the cost of water losses means the Town has an input cost of \$2.64 per m³ ($\$2.20 + \$0.44 = \2.64) that must be recovered in the rates charged to customers.

Whenever a utility has to deal with recovering costs of a commodity being purchased for resale, it is strongly recommended that those costs be addressed on a "flow-through" basis. One of the best methods used in calculating the true cost of a commodity to a utility is to divide the total cost of the commodity to the utility by the volumes that the utility sells. That calculation can be done monthly, or whenever the unit purchase price changes. The "flow-through" costs can be an adder to existing rates, as is the case for all natural gas and electrical utilities in Alberta, or it can be incorporated into a schedule of revised rates. The most important consideration is ensuring that the utility is kept whole with respect to those commodity costs.

5.2 Wastewater Effluent Treatment Volumes (m³) by Source

The Town's wastewater facilities gather effluent and deliver it to the aerated lagoon systems for treatment. The Town has a meter located at mid-stream in the lagoon system that records total volumes flowing and being treated. Readings from that meter and volumes of wastewater and sludge delivered from the BRWC water treatment plant are reported monthly.²⁸ The Town does not have any other wastewater meters in place, and cannot differentiate volumes of effluent received from in-Town water customers, out-of-Town customers, and volumes of storm water being received for treatment. Table 5.2 presents the monthly volumes treated by the Wastewater lagoons in 2018, and the allocation of the effluent stream to source.

²⁸ Schedule 10 of the Wastewater Rate Model

Table 5.2: Wastewater Volumes (m³) Treated – 2018 (Schedule 11)

	<u>Total Treated</u>	<u>BRWC WTP</u>	<u>Town @ 100% of Sales</u>	<u>Storm & 3rd Party</u>
January	68,475	24,905	38,442	856
February	65,645	22,290	35,021	4,443
March	70,715	24,040	31,200	12,009
April	84,050	19,990	33,040	27,349
May	81,820	31,105	35,597	6,718
June	89,890	32,135	41,125	12,151
July	94,180	28,758	38,188	22,990
August	84,760	27,500	35,174	18,177
September	75,560	23,317	33,925	14,548
October	75,743	24,127	33,629	14,250
November	45,220	23,818	29,658	(11,551)
December	<u>49,600</u>	<u>19,675</u>	<u>28,786</u>	<u>(2,059)</u>
Totals	885,748	301,660	464,207	119,881
Average	73,812	25,138	38,684	9,990
Peak	94,180	32,135	45,694	27,349
Peaking Factor	1.2759	1.2783	1.1812	2.7376
Percentage of Total	100.00	34.06	52.41	13.53

The “Average” reported on Table 5.2 is simply the total annual volume divided by twelve months. The “Peak” is the greatest monthly volume recorded in the calendar year. The peaking factor is the “Peak” volume divided by the “Average” volume. That calculation understates the actual peak day and peaking factor that would have been recorded, since the daily volumes used in any given month are not equal. The Peaking Factor is used to assess the demand being placed on the system, based on departure from average usage. July is the peak month for treatment in 2018, which might be due to major rainfall events. April is the peak month for Storm effluent volumes being processed in 2018 (May in 2017), which is attributable to spring thaw and run-off from snow melt.

The wastewater system receives effluent from retail water customers within the Town, and also from the County, and it also receives volumes from the Storm utility through Water catch basins incorporated within local roadways, that collect precipitation and run-off within the Town. All effluent is treated through the Town’s wastewater aerated lagoon treatment system. The Town does not have treatment process streams that would provide treatment of specific effluent streams, such as BOD, suspended solids, grease, phosphorous and metals. The information reported in Table 5.2 presents the best information now available to the Town for use in allocating costs to specific consumers, and classes of consumers.

6.0 REVENUES BY SOURCE; RATES FOR UTILITY SERVICES

The Town approved Bylaw 2018-12, establishing rates for all utilities and services to be effective on and after January 1, 2019. The Bylaw establishes rates for Solid Waste (Garbage), Water, and Wastewater (Sewer) services provided to residents and ratepayers of the Town, but do not identify rates for utility services provided to non-residents or out-of-Town customers. The Town does provide water and wastewater services to the County, under various agreements,²⁹ and also provides wastewater treatment services to the BRWC that might be considered as part of the Operating Agreement.³⁰ The Bylaw does not address the rates, tolls and charges that the Town is charging, or which it should be charging for utility services provided under the respective water and wastewater agreements with the County, and for other developments located beyond the Town's corporate boundaries.

6.1 Water - Fixed Monthly and Variable Commodity Charges

The Bylaw approves a mix of fixed and minimum monthly charges, and a series of declining block variable rates for the Water Utility. There is a Minimum Bill of \$49.00 per month that includes the first 13.5 m³ of water consumption in each month. Regardless of actual consumption, every water customer is required to pay the designated Minimum amount of \$49.00 per month. The next 32 m³ of consumption per month, in excess of 13.5 m³, is charged at a rate of \$10.80 per 4.55 m³, or \$2.37/m³ ($\$10.80 \div 4.55 \text{ m}^3$). The next 636.5 m³ of consumption per month, in excess of 45.5 m³, is charged at a rate of \$9.80 per 4.55 m³, or \$2.15/m³ ($\$9.80 \div 4.55 \text{ m}^3$). All monthly consumption in excess of 682 m³ (13.5 + 32 + 636.5) is charged at a rate of \$8.25 per 4.55 m³, or \$1.813/m³ ($\$8.25 \div 4.55 \text{ m}^3$). Those rates include the costs of water the Town purchases for resale from BRWC, at a unit cost of \$2.20 per m³ purchased in 2019.

As noted previously in this report, the actual unit cost of water required to break-even on the cost of water must include costs of water purchased and not resold, recognizing the Town's actual losses in 2017 and 2018 were roughly 20% of sales. Applying that loss factor to the current BRWC costs means the Town would have to charge all retail customers a minimum of \$2.64 per m³ ($\$2.20 + 20\%$) for recovery of water costs alone. The existing declining block rates do not recover the costs of water being delivered. That finding has been illustrated in Figure 6.10. The actual unit cost payable to the BRWC, plus the industry accepted average loss of 10% over actual volume sales, is shown in red on that same Figure. That factor has been shown as the expected minimum cost of water at current rates under industry accepted standards. The actual costs to the Town are 10% higher than the industry norm, being 20% in both 2017 and 2018.

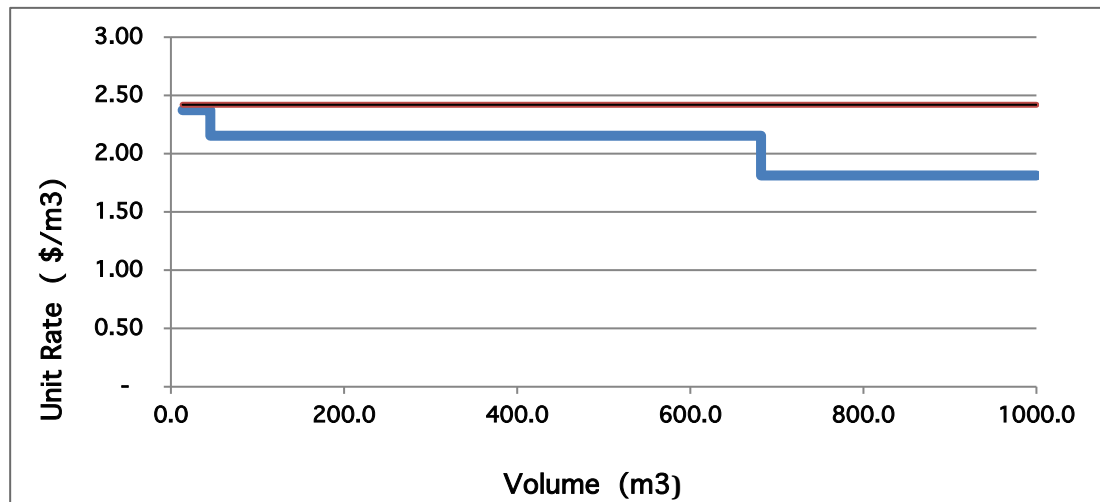
²⁹ Water Supply Agreement between the Town of Barrhead and County of Barrhead No. 11, approved by Bylaw 17-90, dated August 14, 1990;

Town of Barrhead Agreement with County of Barrhead No. 11 in 2003, for supply of water and wastewater services to McGillivray Subdivision;

Town of Barrhead Agreement with JTB Canadian Pork Ltd., dated January 9, 2002, for supply of water and wastewater services (access by BarrCana Homes Ltd. approved by Council on May 14, 2007)

³⁰ Barrhead Regional Water Commission-Town of Barrhead Operating Agreement, February 7, 2011

Figure 6.10: Water Rates (\$/m³) by Volume Block (m³) in 2019 (Bylaw 2018-12)



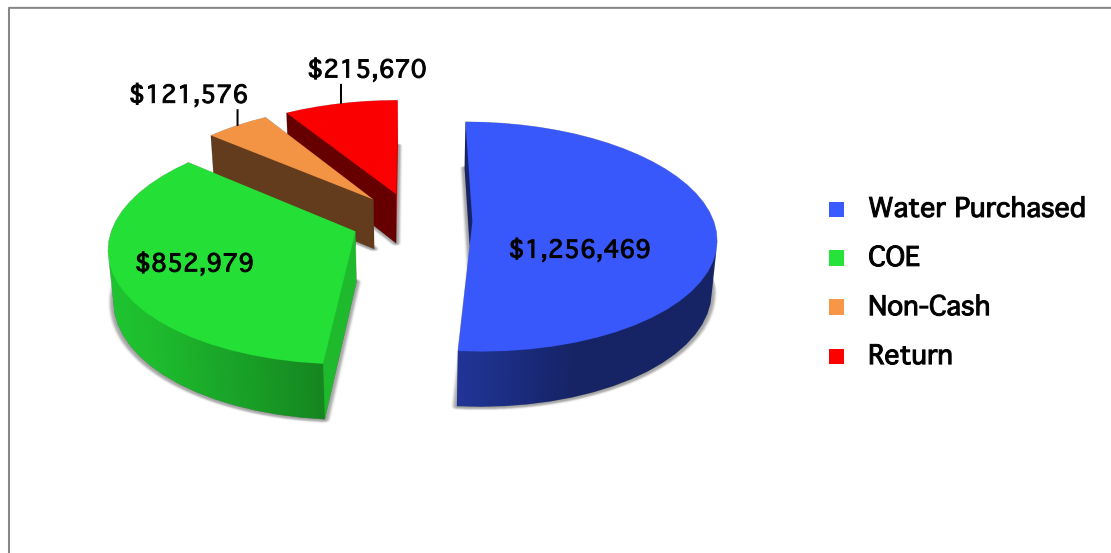
As shown on Figure 6.10, all of the Town's existing variable rates for water consumption are lower than the actual unit cost the Town has to pay for that water. Under the existing Water rates and rate structures, the Town is only generating revenue from the Minimum Monthly Bill, and that too can include up to \$36.64 (13.5 x \$2.64) in water costs for those using the full allotment of 13.5 m³ included in the Monthly Minimum.

This report has identified a concern with water losses, and the need for the Town to capture the costs of those losses in rates being charged to customers. If the Town were experiencing the expected industry normal loss of 10% of total sales, the unit cost needed to fully recover the costs of purchasing would be \$2.42 per m³ for all volumes sold (2.20 x 1.1). The Town has reported losses of roughly 20% of total sales in both 2017 and 2018, which would require a rate of \$2.64 per m³ to allow the Town to fully recover the costs of its water purchases from the BRWC. All rates for water service established should either include that cost, adding the costs of water purchased but not resold to the then current rate as established by the BRWC, or address water purchases as a flow-through expense to be added to the approved rates, tolls and charges for all water customers.

For water customers being invoiced directly by the BRWC, the Town must include a provision for the cost of water losses in the unit rates that will be charged to those customers. The additional charge to those customers should be 10% of the then current unit rate established by the BRWC for sales to its members. Based on the current BRWC unit rate of \$2.20 per m³, the Town should add \$0.22/m³ (\$2.20 x 10%) to its rates charged for water supply to the County and other out-of-Town developments.

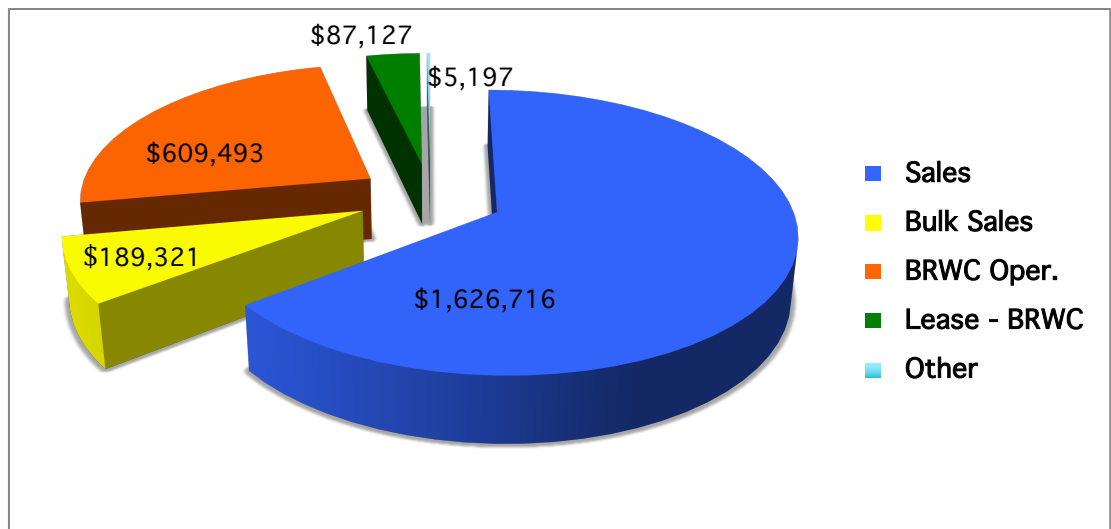
The Water utility had a 2018 Utility Revenue Requirement in the amount of \$2,446,694, which includes the costs of water purchased from the BRWC, and the Town's costs for operating the water treatment plant for the BRWC. The latter comprise most of the Town's Cash Operating Expenses, and are recovered directly from the BRWC. The annual Revenue Requirement has been identified by component in Figure 6.11.

Figure 6.11: Water Revenue Requirements in 2018



The actual revenue generated by the Water utility in 2018 was \$2,517,854, including recoveries from the BRWC for both the lease and operations of the water treatment plant. The actual revenues identified by source are shown in Figure 6.12.

Figure 6.12: Water Revenues by Source in 2018



Subtracting the costs of water, lease and operating recoveries leaves the Town with net revenue of \$564,765 from retail sales, bulk sales and other recoveries.

To put that in perspective, the existing Minimum Charge of \$49.00 per month applied to the 2018 average of 1,963 customers should have generated \$1,154,244, which is a bit less than the total cost of water purchased for resale in that same year. The Town is currently generating a less than \$15.00 per month from the existing Minimum Monthly Charge from

those customers consuming more than 13.5 m³ per month, and an average of \$28.00 per month from the average Minimum Block (Tier 1) customers who consume roughly 8.0 m³ per month. With all of the additional tiered consumption rates charging less than the actual input cost of water, the Town has lost money on all additional sales volumes, and did not meet its Cash-Needs requirements in 2018.

The Town should simplify its rate schedules, maintaining a fixed minimum monthly charge that does not include any water volumes. The Town could establish a fixed and minimum charge of \$20.00 per month for all customers, which would recover a very significant portion of the annual revenue requirement excluding the cost of water, recovering roughly \$590,000 per year. With most of the utility's costs being fixed in nature, it does make sense to have revenues being generated that same way. A commodity charge of \$0.40/m³ applicable to all volume sales would fully recover the additional revenue required for the Town to fully recover the annual revenue requirements for the duration of the test period. Addressing the variable rate as a unit charge, including the cost of water, requires establishing a rate of \$3.04 per m³ in 2019 (\$0.40 + \$2.64). The Town must ensure that it regularly examines the costs of water included in the variable rate to ensure the total costs of water purchased are recovered in its sales rates. That recommendation also applies to the costs of water purchased and not able to be resold that applies to the out-of-Town customers.

The Town has approved a rate of \$9.20 per m³ for all sales of bulk water. Bulk water is normally addressed beyond a cost of service and cost-causation model, since it is considered to be an open and competitive market transaction. That belief and practice is currently under assessment by the AUC, under Proceeding 24435, due to a complaint by Imperial Enterprises Inc. on bulk water rates charged by the Town of Devon. Final arguments were submitted on June 7, 2019 for that Proceeding, and the AUC is expected to issue its decision on the matter before the end of September 2019. Should the AUC issue directions as to how pricing for bulk water should be established, the Town will be advised of those directions, and of any changes that may be required to establish rates for water supply to bulk water customers that conform to that AUC ruling.

Revising the rates and rate structures as recommended and necessary will result in most of the customers using less than the first block of 13.5 m³ see their costs decrease. For example, the average customer in that rate block consumes 8.0 m³ per month, and currently pays \$49.00 per month. Under the proposed rates, that same average customer would pay \$44.32 ($\$20 + 8.0 \times \$0.40/\text{m}^3 + 8.0 \times \$2.64/\text{m}^3$), a savings of \$4.68 or almost 10% over the existing rate. A customer using 13.5 m³ of water per month will see their bill increase to \$61.04 ($\$20 + 13.5 \times \$0.40/\text{m}^3 + 13.5 \times \$2.64/\text{m}^3$), an increase of \$12.04 or roughly 25%. The Town's average monthly water consumption in 2018 was 20.6 m³ ($484,460 \text{ m}^3 \div 1963 \text{ accounts}$). The average monthly bill under the proposed rates for that system average customer will be \$82.62 ($\$20 + 20.6 \text{ m}^3 \times \$0.40/\text{m}^3 + 20.6 \text{ m}^3 \times \$2.64/\text{m}^3$), as compared to \$65.86 ($\$49.00 + 7.1 \text{ m}^3 \times 2.374/\text{m}^3$) under the existing rates. The actual cost of water payable to BRWC is \$54.38, or roughly 66% of the total bill. A calculation of rate increases over existing rates is not meaningful for the average water system customer, or any larger volume customers, since the existing declining block commodity rates do not recover

actual costs of the water being delivered. The Town is losing a minimum of \$0.266 per m³ of water sold in excess of 13.5 m³ per month.

6.2 Wastewater Charges

The Town's Wastewater Utility revenue requirement for 2018 was \$695,277, as shown on Schedule 7 of the rate model. The 2018 "Cash-Needs" requirement was \$548,524, including a provision of \$302,000 for contributions to reserves. Actual revenue in 2018 was \$587,781, as shown on Schedule 8 of the rate model. Although the actual revenue generated in 2018 exceeded the Cash-Needs, it is roughly 20% less than the amount needed to fully recover the utility revenue requirements, without considering the addition of contributions to reserves.

Revenues generated by the Basic Minimum charge are estimated to be in the order of \$404,000 per year (1,963 x \$17.15 x 12). That amount is roughly 56% of the 2019 annual revenue requirement of \$723,024, as shown on Schedule 8 of the rate model. Fixed costs in utility jargon refer to costs that do not vary with the volume of commodity. Ideally, fixed costs are recovered through fixed charges, and variable costs are recovered through variable charges on commodity volumes. The minimum and monthly fixed charge is collecting a substantial portion of the utility revenue requirement, and reflects the general nature of those cost components as being fixed as opposed to variable from year-to-year.

The Town has established rates for Wastewater services that are based on a fixed ratio of 35% of water costs, and application of a Basic Minimum Charge for each customer. The Basic Minimum is \$17.15 per month for a single premise served, \$28.90 for a duplex with combined services, and \$10.50 per dwelling unit for apartments serving 3 or more units. The concern with the water rates, and not recovering the input costs of water will have a direct and significant impact on wastewater revenues. There is an additional concern with the volumes being delivered by the BRWC not being assessed any charges for wastewater treatment. Those volumes are roughly 34% of the total being treated in the Town's aerated lagoons. Schedule 13 in the Wastewater rate model identifies and addresses costs and rates required to recover treatment costs from the BRWC and other "Treatment Only" customers.

Postage-stamp rates are common if not the norm for wastewater utility systems. Differences in treatment needs and extra-ordinary requirements for treating effluent are determined by analyses of the waste influent streams received for processing at the wastewater treatment plant, and that collected from specific customers or classes of customers. Where a specific customer or class of customer is found to be delivering influent with substantially higher levels of specific waste products, additional charges can be developed to recover costs for treatment and processing of those products. Given the Town has a single process of treatment, with no differentiation of effluent by component or concentration of component, a uniform or postage stamp rate seems appropriate and is recommended.

Lacking any data that identifies specific waste stream products, their concentrations and sources, the Town should continue to apply common postage stamp fixed and variable rates applicable to all metered water volumes delivered to utility. That rate would be determined as the unit volume rate necessary to recover the allowed utility revenue requirements in each test year, minus the recoveries through application of fixed charges and other sources of revenue. Schedule 8 of the Wastewater rate model identifies the customer and sales base and revenues that would be generated at rates proposed for each of the test years. In 2019, a fixed and minimum monthly charge of \$12.00, and a variable rate of \$0.71/m³ based on actual water volumes delivered is required to recover the allowed revenue requirement. Those retail rates will have to increase in 2020, and again in 2021, to a fixed and minimum charge of \$15.00 per month, and a variable rate of \$0.95/m³ applied to water volumes delivered in order to generate the allowed revenue requirements in those test years.

The Town would also have to charge BRWC a variable charge of \$0.38/m³ for all wastewater and sludge received for treatment from the water treatment plant in 2019. That rate decreases to \$0.35/m³ in 2020 and following years, as shown on Schedule 13 of the Wastewater rate model. The Town does not currently treat or process any Storm Water volumes. Should the Town be required to treat and process Storm Water volumes through its wastewater facilities in future, the same treatment cost as applied to the BRWC volumes should be applied to Storm Water volumes.

6.3 Storm Water Utility: Revenue Requirements and Charges

The Town has maintained records of tangible capital assets for the Storm Water utility system, but has not considered it as functional utility with separate budget and revenue accounts. The revenue requirement for the Storm Water utility in 2019 is \$245,395, as shown in Table 5.2, and Schedule 7 of the Storm Water rate model. Since the Town does not currently process or treat its stormwater volumes, that amount does not include any costs associated with treatment of those volumes. Should the Town be required to treat those volumes at some point in future, presumably through the Wastewater utility systems, the annual revenue requirements would increase by roughly \$50,000 per year.

The Town has not yet developed an inventory of properties that can be assessed as to impermeable area, frontage and other billing determinants that may be applied to develop appropriate rates for recovery of the Storm Water costs. Storm rates are usually based on assessments of land parcels, either by specific parcel or by class of occupancy (e.g. – residential, commercial, institutional, industrial, etc.), that cannot allow precipitation to be absorbed into the ground, and which must then be managed by the Town.

Most billing determinants used for Storm utilities assess impermeable area by customer class, in addition to other lesser factors such as frontage and slope. The impermeable area is then used to develop rates and charges for the properties deemed to be contributing and/or benefitting from the utility system. In the Town's case, assuming there are 2,000 properties to be assessed, the average cost for fully funding the Storm utility would be

\$8.00 per month per parcel. Adding costs of wastewater treatment for run-off would require an average rate of \$10.00 per month per parcel, an increase of \$2.00 per month over the cost required ignoring treatment costs. An inventory of Town lands, their gross areas, and their impermeable areas (consisting of the area covered by structures, hard surfacing, and other developments, factors) and types of use, by either zoning or occupancy, is necessary to assign costs to specific customer classes. Once those costs have been allocated, rates can be developed for the Storm utility, which reflect cost causation by the respective customer classes.

7.0 Policy 41-006 & 42-003: Water and Sanitary Sewage Infrastructure Replacement

The Town has established policies for funding replacements of water and wastewater infrastructure. Under the existing policies, "... a portion of the utility rates are set aside for water and sanitary sewage capital infrastructure replacement."³¹ The Policies as originally approved in 2004, appear to identify an anticipated value for the Water Treatment and Distribution System and Services, and for the Sewage Collection and Treatment System and Services, respectively, at original cost. The Town has acted prudently to both recognize the need for planning and managing future upgrading and replacements of the utility systems, however the policies do not appear to have been reviewed or revised since 2004.

The asset values presented for the Water utility include costs of the water treatment plant, reservoirs and other facilities that are considered in the lease-to-purchase agreement between the Town and the BRWC. The gross value of those assets as at year-end 2018 was roughly \$6.74 million, including grants received towards development of those assets. Deducting the NCC from the gross value of the Water system at that same year-end leaves an original cost of less than \$9 million to be considered for upgrading and replacement. The Reserve Policy should be reviewed and revised to ensure that only those costs associated with the remaining classes of water assets are being assessed. Provision has also been included for the costs of service lines, which are commonly the sole responsibility of the customer accepting utility service. The Town does not report any values for service lines in its records of Tangible Capital Assets, suggesting that the reserve policies may also not need to address those same assets.

The estimation of annual provisions as provided in the Reserve Policies appears to be based on an assumed 20 year average useful service lives for both water and wastewater utilities, and generating amounts based on current asset values. The Town may wish to assess the replacement value for the respective utility systems, in order to identify the maximum amount that would be required to reconstruct or replace existing assets in service. As reflected on Schedule 1 of the respective models, the estimated average useful service life of both the Water and Wastewater systems is roughly 40 years, and the NBV is roughly 37% of original cost. Assuming those assets have one-third of that average life remaining, they have been in service for an average of 25 years.

An order of magnitude cost of replacement for existing plant can be estimated using an index of utility construction costs. The Handy-Whitman Index is a well respected and commonly cited reference used in determining both original costs of construction and estimated costs of reconstruction and/or replacement. Assuming the water and wastewater utilities have been in service for an average of roughly 25 years, the year of original development would have been 1994 (2019 – 25). For example, using the Handy-Whitman construction index for "Distribution Mains-Average All Types", NARUC Account 331, for 1994, the value of the index is 290. The index for that same account in 2019 is 743.

³¹ Town of Barrhead Policy Statement, Policy 41-006 & Policy 42-003, effective March 8, 2004

Using those factors, the reconstruction/replacement cost for that asset account would be 2.56 times the original cost ($743 \div 290$). That same calculation can be undertaken for each of the prime asset accounts reported on Schedule 1 of the respective utility rate models to develop an estimate of the full replacement costs of the utility system.

Under the utility method, funds generated from both Non-Cash Expenses and Return are available to repay interest and principle on debt, to invest in capital development, to fund reserve accounts, and to pay dividends to shareholders. All Town utility systems are debt free, which means the Town has cash available through the amortization and return components that may be used to support funding of reserves. For the Water utility in 2018, the annual amortization expense was \$121,576, and Return was \$215,670. For the Wastewater utility in 2018, the annual amortization expense was \$246,245, and Return was \$202,509. Those cost components provided a total of \$337,246 for Water, and \$470,921 for Wastewater, respectively, available to support contributions to Reserves.

The Town should review and revise the Reserve Policies to consider both the actual service lives of plant in service, and the expected capital needs for the respective utility systems. The assessments should consider both the original costs and funding applied, and estimates of replacement cost and potential funding that might also be available to support those costs. The Town should undertake periodic review and assessment of its utility policies and practices, not to exceed a period of five (5) years, to better ensure the policies and practices as approved reflect then current needs.

8.0 TOWN CONTRACTS FOR UTILITY SERVICES

The Town has several contracts and/or agreements pertaining to utility services provided by the Town to the County, and to developments located within the County. The Town has also entered a lease to purchase agreement with the BRWC whereby the BRWC has been assigned control of existing Water utility assets providing raw water supply, treatment and storage of potable water. The BRWC will acquire ownership of the Town's facilities through lease payments to be made to the Town over a term of 20 years. The Town has a parallel agreement with the BRWC that has the Town provide operations and management of those same facilities, with all costs of those services being recoverable to the Town.

All of the agreements the Town has with others, excepting the lease-purchase agreement with the BRWC, have expired. Commonly, an agreement that has expired will continue indefinitely under the same terms and conditions, until such time as either party to the agreement serves notice of termination or renewal, unless the agreement specifically states otherwise. Some concerns with the respective agreements for utility services have been noted for the Town's attention.

8.1 Town Transfer of Water Treatment Plant to the BRWC

As noted previously, the Town has an Agreement with the BRWC for transferring ownership of the Town's water treatment plant from the Town to the BRWC.³² The Agreement requires the BRWC to pay the Town an annual lease payment in the amount of \$87,129.00, over a term of 20 years. The starting date is not identified in the Agreement, and the term is defined by the annual lease amount required, until such time as the BRWC has paid the Town a total purchase price of \$1,742,500. The Lease Agreement has a reference date of December 11, 2012, and under Clause 1.01, Definitions, it states:

(e) "Commencement Date" means 11 day of December 2012 or other date as agreed to;

The Town and the BRWC should confirm the starting and ending dates for the transfer of the Treatment Plant and related assets to ensure that both parties share the same understanding of the term, and have complete records of all payments made and received pursuant to the Agreement.

³² Town of Barrhead Plant Lease with Barrhead Regional Water Commission, dated December 11, 2012,

8.2 BRWC-Town Operating Agreement for the WTP³³

BRWC has contracted with the Town to provide operations and support services for the water treatment plant and related facilities under BRWC control. Under this Agreement, the Town provides all labour, material, and supplies and services as necessary for operations and maintenance of the water treatment plant. Clause 3 of the Agreement addresses the term of agreement, which "... will have a term of five (5) years from the commencement of operations."³⁴ There is no statement on further term, rights of renewal or continuation of the Agreement, except as implied in Clause 3.02, which states:

3.02 Review of Terms of Agreement

Every six (6) months from the anniversary of this Agreement, both parties shall meet to review the terms of this Agreement, and will negotiate amendments to the Agreement, as both parties may agree. Both parties agree and acknowledge there is no obligation for the parties to agree to any amendment.³⁵

The Agreement has long passed the 5-year term as specified in Clause 3.01. Although the Operating Agreement appears to have been continued based on mutual agreement of the parties, the Town and BRWC should meet to negotiate and/or agree upon a formal renewal of this agreement, including provisions for continuation and/or renewal, and provision of notice for termination.

There is a major concern with the Town not charging the BRWC for any costs relating to treatment of wastewater and sludge produced by the water treatment plant. Records indicate the water treatment plant is responsible for roughly one-third of the total volumes received and treated within the Wastewater system's aerated lagoons. The view that charging for wastewater service will only result in higher costs of water (i.e. – charging BRWC will only see the costs of water increase) is not correct, since the Town's recovery of that cost will decrease the costs of Wastewater services to Town customers, and the additional expenses to the BRWC will also be paid by the other BRWC member customers. The additional cost for water will be more than fully offset by the reduction in costs that are now and would otherwise have to be charged to the Town's Wastewater customers. The Town is entitled to recover the costs of wastewater treatment service from the BRWC, but in not doing so is inadvertently subsidizing both the BRWC and County water customers.

There is an additional concern with the annual wastewater volumes generated by the BRWC being more than 45% of the total volume of treated water delivered. A more commonly expected ratio of waste to production is closer to 25%. The higher ratio of waste to finished water volumes may be an indication of a lower than desired efficiency at the water treatment plant, resulting in higher operating costs for power, materials and supplies.

³³ Barrhead Regional Water Commission - Town of Barrhead Operating Agreement, February 7, 2011

³⁴ *IBID*, clause 3.01

³⁵ *IBID*, clause 2.02

If the BRWC can reduce the ratio of waste to production to a lower percentage, all water customers should benefit financially.

The Town should advise the BRWC of the need to recover costs for the receipt and treatment of wastewater received from the water treatment plant, and coordinate invoicing for those services with the BRWC as soon as possible. The Town may also wish to have those discussions address the volume and ratio of wastewater being produced, and work with the BRWC, its engineers and consultants to identify programs that will result in lower volumes of wastewater being generated and improved efficiencies at the water treatment plant.

8.3 Town Water Supply to the County

The Town has entered supply agreements with developers and developments that are located adjacent to the Town and within the County. The agreements generally identify cost sharing for funding development of the capital assets required to extend the requested utility supply from the Town to the respective end-users within the County, and also addresses terms for recovery of utility related costs for the commodity and related services. The Water Supply Agreement between the Town and the County, approved under Town Bylaw 17-90, for extending water supply from the Town to the Hamlet of Manola, states:

12. The Town shall charge the County and the County shall pay for all water supplied as at the metering point at a rate of three dollars and thirty cents (\$3.30) per one thousand imperial gallons for the 1990 calendar year. The Town and County agree that this rate shall increase in subsequent years by an amount equal to the increases imposed by the Town of customers within the Town boundaries.

13. The Town shall read the meter and bill the County on a bi-monthly basis.³⁶

That Agreement was for an initial term of ten (10) years, with the County having rights of renewal for a further term of ten (10) years, pursuant to Clauses 22 and 24 of the Agreement.³⁷ The Agreement has not been formally renewed as set out in Clause 24, and the Town has been providing the County with water as required under the Agreement. That speaks to a tacit agreement of continuation of service under the same terms and conditions as set out in the Agreement. The primary concern with this, and indeed all contracts the Town has for delivery of utility services to end-users with the County, is with the Town's recovery of annual costs of service for each of the utility services being provided to those customers located within the County. The Agreement for water supply to Manola states that the County shall pay the Town for all water supplied to the metering point, however, the Town has not been billing the County for the water and related services required to provide and maintain that supply.

³⁶ Water Supply Agreement between the Town of Barrhead and County of Barrhead No. 11, approved by Bylaw 17-90, dated August 14, 1990, clauses 12 & 13

³⁷ *IBID*, clauses 22 & 24

The problem with the Town and County Agreement and payment for services, or lack thereof, may have begun when the BRWC acquired the rights to the Town water treatment plant, and began invoicing the Town and County directly for all water volumes. The BRWC is recovering all costs associated with the treatment of potable water at the Barrhead Water Treatment Plant, but neither owns nor operates any of the distribution system required to deliver that water to the respective BRWC members and their consumers. The Town owns and operates all of the water transmission and distribution systems and related facilities required to accept water from the outlet of the Water Treatment Plant, and to transport that water to designated metering points for delivery to customers located within the County.

The Memorandum to Council, dated July 27, 2009, addressed “Valuation of the Town of Barrhead Water Supply, Storage, Treatment and Transmission Facilities”, included special notes, which stated:

1. The above valuations do not include any costs whatsoever for transportation of water from the outlet of the water treatment plant to the existing points of delivery to the Town’s existing regional customers.
2. If the existing utility system is to be transferred from the Town to the Regional group as is, a system of assignment of volumes and costs could be structured based on recorded measurements of volumes received into the Town system and then delivered from that system to custody transfer points for supply to regional customers beyond the Town. Also as noted previously, in that instance, the Town is entitled to recover its costs for providing transportation services on behalf of the region.³⁸

Although referenced in the Memorandum, the Town was not able to provide any further documents or agreements with either the Commission or the County that addressed the need to recover the transportation and operating costs incurred by the Town for those services. Existing practice has the Town providing transportation of water on behalf of those customers located beyond the Town corporate boundaries at no charge.

The Town water system operates as an integrated grid, with water being conveyed throughout the system by common transmission/distribution mains. The sole class of assets that may not required for deliveries to the County is “Meters and Installations”, NARUC Account 334. Analysis of that account as at year-end 2018 indicates a gross asset value of \$4,796,720, Accumulated Depreciation of \$4,245,625, and a Net Book Value of \$551,095. The No Cost Capital received towards development of those assets was \$679,628, with Accumulated Amortization of \$159,116, leaving an unamortized balance of \$520,512. Subtracting the Unamortized balance from the net book value leaves only \$30,583 in that account included in Rate Base. The annual cost of the return and depreciation expense on that account is \$3,520, which when divided by total sales of 538,185 m³ is equivalent to a rate of \$0.0065/m³ on all sales. That suggests the same rate as applicable to retail sales, excluding the costs of water purchased, would also be appropriate for all water sales to the County.

³⁸ Memorandum to Council, dated July 27, 2009, Item No. “In Camera”, page 2

There is an additional concern with the existing arrangement applied by the BRWC in allocating water volumes to its respective members. The BRWC identifies the metered sales volumes for each of the in-County members; identified as Neerlandia, Manola and McGill. The volumes for each member utility are subtracted from the total volume of production for the month, and the balance then being charged to the Town. The BRWC does not appear to make any adjustments to the non-Town volumes to reflect water volumes flowing to the Town but not being delivered for resale. Those volumes include volumes used to maintain the water distribution system, system losses due to leakage or slippage and measurement errors. The Town is bearing all costs of that water delivered from the BRWC water treatment plant, but is not recovering any of the costs for either ownership and operations of the water utility, or for the water losses and system usage from the County or out-of-Town customers.

BRWC reports volumes of roughly 55,000 m³ being delivered to the County annually. Assuming a factor of 10% of sales volumes would be appropriate for recovery of those water loss volumes, the Town is paying roughly \$12,100 (55,000 m³ x 10% x \$2.20/m³) for water paid to BRWC on behalf of those customers that ought to be recoverable from the County. The Town should advise the County and other out-of-town customers receiving utility services of the concerns with not recovering the costs for water utility operations and costs of water purchased but not resold, and should meet with the County and the BRWC to resolve those concerns as soon as possible.

9.0 Findings

The examinations and assessments undertaken to complete the rate model and report finds the Town does have the necessary records reporting the capital development of the Water, Wastewater and Storm utility systems. The Tangible Capital Asset record does report all assets based on original cost and year when first commissioned or dedicated to public service, and amortizes those costs over a specific estimated useful service life, on a straight-line basis. The Tangible Capital Assets records do not provide sufficient detail of the various classes of assets to allow ready assessment of useful service lives and appropriate amortization rates to reflect losses in asset values over time in service. The rate models developed for the Town's utility systems apply prime asset accounts as recognized by NARUC for water and wastewater utilities. The Town should adopt the classifications of capital assets as recommended by NARUC to increase confidence in and comfort with the rate models developed for the respective utility systems.

The Town also identifies annual costs for operations, maintenance and management of the respective utility systems. Those costs do not include provision for General and Administrative (G&A) services and municipal infrastructure costs that are necessary for the utilities to function. Those services and costs should be quantified and added to Schedule 6 of the respective rate models to ensure the Town is not inadvertently subsidizing utility operations from its general account.

The Town should adopt and apply the rate base or utility method, as required and generally applied by the AUC in assessing performance of utility systems. The utility method provides a consistent and objective methodology in identifying capital costs, investment in utility assets, depreciation/amortization on those assets and a return on the investment that ought to be payable by customers. As noted in Section 3 of this report, municipal utilities are subject to AUC jurisdiction on a complaint basis, and would be required to respond to the AUC on such complaints showing how rates have been determined based on the utility method.

The Town owns and operates the micro membrane filtration water treatment plant supplying potable water to customers within the Town and County. However, control of that facility has been contracted to the Barrhead Regional Water Commission (BRWC), through a lease-to-purchase agreement.³⁹ Under the terms of that Agreement, although the Town retains ownership of the water treatment plant and provides operations and support services to BRWC, BRWC manages the facility and invoices the Town and County for all water produced and delivered from the water treatment plant. As noted in that Agreement, the Town retains ownership of the water treatment plant until such time as the BRWC has fully paid out the lease.⁴⁰ The BRWC pays the Town rent, in the amount of \$87,129 per year, for the term of the lease, which is defined as when the BRWC has fully reimbursed the Town a total of \$1,742,500. Under those conditions, the term of lease is calculated as

³⁹ Town of Barrhead-BRWC Water Treatment Plant Lease, December 11, 2012

⁴⁰ *IBID*, Clauses A, C & 1.01(b), page 1

20 years ($\$1,742,500 \div \$87,129 = 20$), with ownership of the treatment plant and related assets not being legally transferred to the BRWC until 2032.

BRWC also reimburses the Town for all direct operating and development costs of the water treatment plant.⁴¹ Until such time as the lease agreement reaches its conclusion with ownership of the water treatment plant being transferred to BRWC, the facility is and will be included in the Town's water utility capital assets. The Town reports all costs for the water treatment plant in its Water Utility accounts, and applies all recoveries from BRWC against those costs. On that basis, all water customers are allocated the total costs of the capital assets in service, and the total costs of operating services provided to BRWC, and all water customers are also credited with the recoveries from the lease and operational agreement, with the net costs recovered through the rates, tolls and charges.

Under the existing agreements the Town has entered with BRWC, the Town purchases water from BRWC,⁴² and has to recover those costs from customers supplied by the Town. That requirement to purchase all water volumes raises concern with reconciling volumes purchased with volumes being sold, and ensuring that the full costs of purchases are reflected in the water rates being charged to customers. Data on actual water utility performance in 2017 and 2018 indicates the Town sells roughly 80% of the total volumes that are purchased from the BRWC. It is expected that a water utility will require more water than it can sell, for use in system operations, to provide for unmetered usage, measurement slippage, and being lost or unaccounted for due to leakage. Loss ratios in the order of 10% are generally expected and accepted by the water industry, and losses in excess of that ratio should be closely examined to determine cause and potential remedy. The Town's existing water rates do not reflect the actual input cost of purchasing water from the BRWC, nor do they allow recapture of any costs of water that is purchased but not resold.

The Town has approved Bylaw 12-2018, effective January 1, 2019, creating terms and conditions of service, and rates, tolls and charges for all utility services provided. Section 1 of Part II of that Bylaw states the Town's Minimum Monthly Charge of \$49.00 for water service includes a volume of up to 13.5 m³ in that charge.⁴³ The Town's apparent direct cost for that volume of water is \$29.70, based on a unit cost of \$2.20/m³ from BRWC. The actual unit cost of water must also include the costs of buying water that is not able to be resold, which appears to be in the order of 20% of the Town's total sales volumes. Making that adjustment to the cost of water makes the actual cost to the Town \$2.64/m³ (\$2.20 + 20% for losses). Applying that cost to the Monthly Minimum Charge means the direct cost of water included in that first 13.5 m³ of consumption is \$35.64 (\$2.64 x 13.5), leaving only \$13.36 (\$49.00 - \$35.64) of the \$49.00 Minimum Charge available to pay for other water utility costs.

⁴¹ BRWC-Town of Barrhead Operational Agreement, February 7, 2011

⁴² BRWC Water Supply Agreement with the Town of Barrhead, January 20, 2012

⁴³ Town of Barrhead Bylaw 12-2018, Municipal Public Utilities Bylaw, Part II, - 1. Service Charge and Metered

There is also concern with the tier or block rates for water as provided in that same section of the Bylaw, where none of the descending block rates applied to consumption in excess of 13.5 m³ per month allow recovery of the input costs of water being purchased. That results in the Town subsidizing the cost of every unit of volume in excess of 13.5 m³ per month from the balance of water system revenues. The Town should immediately review and revise all water rates and charges to ensure that it can fully recover the costs of water being purchased in the variable rates it charges to its customers.

The Town has several water supply agreements with the County for provision of water or water and wastewater services to specific developments within the County. Each of those agreements provides for the Town to read the meter and bill the County for metered volumes provided in each billing period.

- 5.1 The Town shall read the meter in the master meter vault and bill the County on a bi-monthly basis. The County shall pay promptly for all water metered at a cost rate of \$4.27 per one thousand (1000) Imperial gallons for the 2003 calendar year. This rate shall increase for each subsequent calendar year by an amount equal to the amount of any increase imposed by the Town on water users within the Town's boundaries for that particular year, or such amount as the Town and County agree upon.⁴⁴

As stated in Clause 5.1 of the Agreement, the Town is supposed to be invoicing the County for all water delivered under this and other Agreements.⁴⁵ The Town is not currently invoicing the County for water, although it clearly ought to be doing so in order to recover the costs of transportation, operations and an allocation of water volumes purchased but not resold. That same concern with the Town not having invoiced for water and wastewater services exists for all agreements the Town has entered with the County and/or developers for servicing developments within the County.

It appears the County is serving as the agent for all water and wastewater customers accessing the Town's utility systems. The Town should immediately advise the County and the BRWC of the concerns with respect to charging for water and wastewater services, and make arrangements with the County and/or BRWC to ensure the Town is in fact charging for and able to fully recover all appropriate costs of providing water and wastewater services to BRWC and the County.

The term of the agreement with the County was for an initial period of ten (10) years, as cited from the Agreement between the Town and County for water supply to the Hamlet of Manola:

- 8.1 This Agreement shall come into force and effect on the date of execution by both parties and shall be effective for a period of ten (10) years and the County shall have the option to

⁴⁴ Town of Barrhead Water Supply Agreement with County of Barrhead, dated June 17, 2003

⁴⁵ *IBID*;

Town of Barrhead Agreement with County of Barrhead No. 11 in 2003, for supply of water and wastewater services to McGillivray Subdivision;

Town of Barrhead Agreement with JTB Canadian Pork Ltd., dated January 9, 2002, for supply of water and wastewater services (access by BarrCana Homes Ltd. approved by Council on May 14, 2007)

renew this Agreement for a further ten (10) year period, subject to the same terms and conditions as contained herein, with the exception of this option to renew.

- 8.2 Subject to the Agreement [*sic*] in writing of both parties this Agreement may be extended for such additional period or periods as agreed to.⁴⁶

The term of Agreement extended to June 17, 2013, but the Town and County have neither renewed nor terminated the agreement. Lacking renewal or notice of termination, the Agreement will continue indefinitely under the same terms and conditions as contained in the original Agreement, until such time as either party serves notice of termination, or the Agreement is renewed or renegotiated. That same finding and criteria applies to all of the other agreements the Town has with the County, or with end-use consumers of water and wastewater services that are located outside of the Town's corporate boundaries.

The Town's Operational Agreement with BRWC, dated February 7, 2011, has a 5-year term as set out in Article 3.⁴⁷ The initial term of agreement has expired, and the Town and BRWC should renew or renegotiate the terms and conditions of the services to be provided for a further period, as the parties may agree upon, as provided in Article 3.1 of the Agreement.

The Town reports bi-monthly volumes and sales for the Water utility, but does not appear to be reconciling or balancing its sales volumes and costs with volumes being purchased or the cost of those purchases. That, and the transition to the BRWC invoicing for water costs, has resulted in the Town not fully recovering the costs of water it has purchased for resale, and not invoicing the County for services provided by the Water utility for transportation and delivery from the BRWC plant to the custody transfer meters for those customers.

Based on preliminary numbers drawn from the Town's 2018 billing records, the average monthly consumption for those customers within the Minimum billing block is roughly 8.1 m³ per month. Based on a unit cost of \$2.15/m³ and a water loss of 20%, the cost of water consumed by that average Minimum block customer is \$20.90 (8.1 m³ x 2.15/m³ x 1.2). Applying the same calculation using the 2019 unit cost of water of \$2.20/m³ shows the cost of water alone for that same customer to be \$21.38 ((8.1 m³ x 2.20/m³ x 1.2). From those calculations, the Town is currently recovering an average of \$28.62 per month from its small volume consumers, net of the cost of water. Assessing recoveries from the minimum monthly bill of \$49.00 from those customers using more than 13.5 m³ per month shows that Town is actually recovering only \$14.36 per month (\$49.00 – [13.5 m³ x 2.20/m³ x 1.2] = \$35.64) net of the cost of water from each of those customers.

The Town maintains a multi-part water rate structure consisting of a minimum monthly charge that includes the cost of up to 13.5 m³ of water, with three declining price blocks or tiers applied to subsequent volumes consumed. The Minimum Monthly Charge of \$49.00

⁴⁶ Town of Barrhead Water Supply Agreement with County of Barrhead, dated June 17, 2003

⁴⁷ Operational Agreement between Barrhead Regional Water Commission and Town of Barrhead, dated February 7, 2011

includes the costs of up to 13.5 m³ of water, which has a direct cost of \$35.64 (13.5 x \$2.64). The first tier of consumption over the minimum applies to the next 32 m³ of consumption, at a rate of \$10.80 per 4.55 m³, or \$2.374/m³. The second tier of consumption applies to monthly consumption from 45.5 m³ to 682 m³. The variable or commodity rate for consumption within that tier is \$9.80 per 4.55 m³, or \$2.15/m³. The third and final price tier, of \$8.25 per 4.55 m³, or \$1.81/m³, applies to all volumes consumed in excess of 682 m³ per month.

From the calculations provided in the previous paragraph, it is evident that none of the existing commodity rates in place are recovering the input costs of water purchased from the BRWC. The concern with existing rates not reflecting the actual input costs of water may be due in part to the Town reporting those rates as equivalents to a thousand Imperial gallons (1000 Imp gallons = 4.55 m³), rather than the direct unit cost, expressed in dollars per cubic metre (\$/m³).

The customer and sales forecast shows little growth is expected in terms of changes in both the numbers of customers served and commodity volumes being supplied and treated over the test years. The stable market means that rate increases will be required to recover the increases in revenue requirements forecast for future test years. Using the 2018 records for customers and sales volumes, each dollar (\$1.00) of fixed monthly charge will generate roughly \$23,640 per year (1,970 water customers x 12), while each \$0.10/m³ on the commodity rate will generate \$48,446 (484,460 m³ x \$0.10/m³) in revenue. Therefore, each \$1.00 per month of Fixed and Minimum Monthly Charge is roughly equivalent to \$0.05/m³ being charged on the Variable/Commodity Rate.

The Town is aware that the BRWC delivers a substantial volume of wastewater and sludge to the Wastewater utility for treatment, but had considered that the costs of that service simply reflected a flow-through expense that would have to be recovered through increased water rates. That might be true in part, if the Town were the only customer served by the BRWC. In fact, the Town is subsidizing the BRWC and its other member customers by not charging for wastewater receipt and treatment services.

It should be noted that the amount of wastewater and sludge produced by the BRWC plant is quite high, commonly more than 45% of the total production volumes. Industry expects that the ratio of waste to finished water for a membrane plant should be in the order of 25%, or almost half of that being reported by the BRWC. The high ratio of waste to finished water may be an indication of inefficiencies in plant operations, which might be mitigated or remedied by engineering or operational programs.

10.0 Recommendations

- The Town should immediately amend or revise its water rates to ensure that all rates are expressed in $\$/\text{m}^3$, or in parallel with rates expressed in $\$/1000 \text{ Imp. Gallons}$ (if so desired), and that the rates as approved will fully recover the cost of water, and a margin over that cost. All rates must include the costs of water purchased and not able to be resold, including those volumes being transported and delivered to the County. The water loss ratios to be added to the BRWC rates are 20% for all retail customers and 10% for all volumes transported for delivery to County customers.
- The Town should establish a new schedule of rates and rate structures for utility services that wholly eliminates inclusion of commodity volumes and simplifies the rates schedules. A two-part rate structure is recommended for both the water and wastewater utilities, on a postage stamp or uniform rate basis, consisting of a fixed monthly charge, and a volumetric commodity or variable rate. The Town may wish to assess whether or not the input cost of water should be included in the variable rate, as opposed to flowing through then current water commodity costs as an adder to the variable rate.
- Water Rates as proposed for all test years and applicable to all customers, including those customers located within the County of Barrhead that are served directly by the Town, are:
 - Monthly Rate: \$20.00
 - Variable Rate: $\$3.04/\text{m}^3$ ($\$0.40 + \2.64) or $\$13.83/1,000 \text{ Imp gallons}$
 - Variable Rate – Barrhead County Agreements: $\$0.64/\text{m}^3$ ($\$0.40 + \0.22)
 - Bulk Water Variable Rate: $\$9.20/\text{m}^3$
- The Wastewater utility has revenue requirements that increase throughout the test years. The Town may wish to establish its new rates for wastewater services as those that would be required in 2020 or 2021, to mitigate or eliminate the need for future rate increases within the test period. Wastewater Rates as proposed for 2019 are:
 - Fixed and Minimum Monthly Rate: \$12.00 (increasing to \$15.00 in 2020)
 - Variable Charge: $\$0.71/\text{m}^3$ or $\$3.23/1,000 \text{ Imp. gallons}$ (increasing to $\$0.95/\text{m}^3$ or $\$4.33/1,000 \text{ Imp g.}$ in 2022)
 - Variable Charge – Treatment Only*: $\$0.39/\text{m}^3$ (decreasing to $\$0.35/\text{m}^3$ in 2020 and remaining test years)

*BRWC and the Storm utility are the only customers eligible for the “Treatment Only” variable rate

- The Town should regularly assess the volumes of water being purchased and sold, and the costs associated with the purchases and revenues being recovered, either on a flow-through basis (directly adding the unit cost of water purchases to the commodity rate to reflect then current costs), or as a major component of the approved commodity rate. Those assessments should be undertaken as part of the regular utility billing process to ensure that costs and rates are being appropriately balanced throughout the year.
- The Town should immediately advise the County of Barrhead of the concerns with recovery of the costs of water operations as provided in the various Agreements for supply of water and wastewater services, and discuss billings and recoveries of all unbilled amounts, as the Town deems appropriate.
- The Town should immediately advise the Barrhead Regional Water Commission of the concerns with recovery of the costs of receiving and treating wastewater and sludge delivered from the water treatment plant, and establish an appropriate rate or repayment system for recovery of those costs from BRWC.
- The Town should resolve to adopt and apply the “utility” method, and use the utility rate models provided in determining annual revenue requirements for the respective utility systems. The Town should maintain the respective models by recording utility performance by adding actual data on assets, operational costs, customers and sales on an annual basis.
- The Town should attempt to classify specific components or process elements of the respective utility systems to those prime asset accounts recognized and/or recommended by NARUC⁴⁸ to ensure specific elements are grouped by their estimated useful service lives.
- The Town should adopt the guidelines and findings on capital structure, debt-to-equity ratios, and rates of return on equity as determined by the AUC in its decisions on Generic Cost of Capital, the most recent being AUC Decision 22750-D01-2018, dated August 2, 2018, and apply those findings in its utility rate models.⁴⁹
- The Town should review and assess the use of revenue surcharges or special assessments on the utility system (Transfers to General, Transfers to Reserves, etc.) to have allowed annual revenue requirements determined for the utility better correspond with forecast recoveries through the rates maintained by the respective utility systems.

⁴⁸ National Association of Regulatory Utility Commissioners, Uniform System of Accounts for Class A/B Water Utilities, and
National Association of Regulatory Utility Commissioners Uniform System of Accounts for Class A/B Wastewater Utilities

⁴⁹ AUC Decisions on the Generic Cost of Capital, 24110-D01-2020 and 26212-D01-2021 for 2020 and 2021 respectively, approved the same capital structure and Return on Equity as were approved under Decision 22750-D01-2018

- The Town should review and adapt its record keeping for the Water utility to reconcile volumes of potable water being delivered to the Town with the volumes being delivered and sold to customers, including the County of Barrhead.
- The Town should review and initiate a program of recording customer accounts and invoicing that includes meter size, to allow assessing demands placed on the water utility by customers served by different types and sizes of meters.
- The Town should have its Assessor prepare an inventory of land parcels within the corporate boundaries, reporting various determinants, including:
 - area of each land parcel
 - area developed or covered by above ground structures within each parcel
 - area of developed and/or impermeable surface in addition to above-ground structures in each parcel
 - frontage of each parcel
 - classification of each parcel according to zoning, tax roll class, occupancy, etc.

The Assessor should also provide a summary of the above determinants according to classification for the Town to assess in allocating costs to the respective customer classes that may be used to develop rates for Storm services.

Appendix A

Water Utility Rate Model

TOWN OF BARRHEAD Water Rates and Cost of Service 2019 - 2022

000000TOWN OF BARRHEAD WATER UTILITY
Utility Rates and Cost of Service Model: 2019 - 2022

TABLE OF CONTENTS

Schedule No.	TAB	TITLE	No. of PAGES
A	Input	Inputs & Default Values for the Utility Rate Model	1
B	Output	Outputs from the Utility Rate Model	1
1	Assets & Amort	Continuity Schedule of Fixed Assets & Amortization	4
2	Rate Base	Utility Rate Base at Mid-Year	1
3	NCC & Amort	Continuity Schedule of No Cost Capital & Amortization	4
4	Debt	Composite Cost of Debt	1
5	Return	Capitalization, Capital Structure & Return on Rate Base	2
6	COE	Cash Operating Expenses	4
7	RevReq	Utility Revenue Requirements	1
8	Revenues	Revenues by Source - Revenues to be Generated from Sales	2
9	Customers	Customers Billings by Type	2
10	Volumes	Annual Water Sales (m³), Forecast Usage by Month	3
11	Peaking	Average Customer Use (m3) and Peaking Factors by Customer Type	2
12	Bulk Sales	Bulk Sales (includes some Fire Protection Volumes)	1
13	BRWC WTP Volumes	Annual Demand: BRWC WTP Production and Deliveries (m³)	3
14	Balance Volumes	Reconciliation of BRWC Volumes to Deliveries and Town Receipts/D	2
15	COS	Allocation of Revenue Requirements to Function - 2018, 2019 & 2020	9
16	Meter Charges	Customer Meters and Meter Demand Charges	1
17	Cost-Class	Allocation of Revenue Requirements to Customer Classes	3

000000TOWN OF BARRHEAD WATER UTILITY
Inputs and Default Values for the Utility Rate Model

2019-2022 Forecast

Reference Defaults	CAPITAL INVESTMENT						Capital Structure		Rates of Return			Reference	Inflation on COE	
	Treatment	Reservoirs	Pumps	Mains	Meters	Other	DEBT	EQUITY	Deemed		No-Cost	AUC	Personne	Supplies
	320	330	311	331	334	339	Schedule 5		Debt	Equity	Capital	Decision	Schedule 6	
							60.0%	40.0%	4.00%	9.00%	0.00%		2.50%	2.00%
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1 2017									3.779%	8.50%		20622-D01-2016		
2 2018				232,191					3.622%	8.50%		22570-D01-2018		
3 2019		50,000				85,000			3.500%	8.50%		22570-D01-2018		
4 2020		1,850,000		500,000						8.50%		22570-D01-2018		
5 2021				200,000										
6 2022														

INPUTS

000000TOWN OF BARRHEAD WATER UTILITY
Outputs from the Utility Rate Model

2019-2022 Forecast

Reference	UTILITY REVENUE REQUIREMENTS						SALES BASE			
	Water	Cash Exp.	Non-Cash	Return	Other	TOTAL	Customers	Sales (m ³)	Bulk (m ³)	County (m ³)
	Sch 6	Sch 6	Sch 7	Sch 5	Sch 7	A+B+C+D+E	Sch 9	Sch 10	Sch 12	Sch 14
	A	B	C	D	E	F	G	H	I	J
1 2018	1,256,469	852,979	121,576	215,670	-	2,446,694	1,963	464,207	20,578	56,114
2 2019	1,287,881	859,568	122,758	221,229	-	2,491,435	1,970	453,097	18,200	53,399
3 2020	1,320,078	878,581	139,212	261,995	-	2,599,865	1,970	453,097	18,200	54,757
4 2021	1,353,080	898,020	157,779	296,225	-	2,705,103	1,970	453,097	18,200	54,525
5 2022	1,386,907	917,894	157,682	293,124	-	2,755,607	1,970	453,097	18,200	54,525

REVENUES (\$) - Sch 8							GROSS REVENUES (J+K+L+M+N)	Revenue to Cost Ratio (O ÷ E)	
Fixed Charges	Commodity Sales	Bulk Sales	Sales to County	Lease & Other (BRWC)	Other Revenues				
K	L	M	N	O	P				
6	2018	-	1,626,716	189,321	-	696,620	5,197	2,512,658	1.0270
7	2019	473,520	1,377,413	189,321	33,949	706,719	7,400	2,746,974	1.1026
8	2020	473,520	1,377,413	167,440	33,806	720,084	7,400	2,738,458	1.0533
9	2021	473,520	1,377,413	167,440	33,806	733,742	7,400	2,752,115	1.0174
10	2022	473,520	1,377,413	167,440	33,806	747,697	7,400	2,766,071	1.0038

NOTES: Unit Cost of Water must be added to Rates to ensure full cost recovery, including volumes not able to be resold (losses)

Each \$1.00 of Fixed Monthly Charge will generate roughly \$23,640 per year (1970 x \$12)

Each \$1.00 of the Fixed Monthly Charge is roughly equal to charging \$0.052/m³ on the Commodity Charge (\$23,640 ÷ 453,100 m³)

Each \$0.10 per m³ placed on the Commodity Charge will generate roughly \$45,310 per year (\$0.10/m³ x 453,100 m³)

000000TOWN OF BARRHEAD WATER UTILITY
Continuity Schedule of Fixed Assets and Amortization

FIXED ASSETS BY PRIME ACCOUNT (per NARUC)		Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019
303	Land & Land Rights	56,834			56,834		
304	Buildings (Structures & Improvements)	155,383			155,383		
305	Collecting Reservoirs (Raw Water)	1,243,358			1,243,358		
306	Source Intake	129,841			129,841		
309	Supply Mains	-			-		
310	Power Generating Equipment	3,387			3,387		
311	Pumping Equipment	54,783	-		54,783	-	
312	Pressure Reducing Stations	74,830			74,830		
320	Water Treatment Equipment	3,239,756	-		3,239,756	-	
330	Reservoirs & Standpipes	1,970,058	-		1,970,058	50,000	
331	Transmission & Distribution Mains	3,018,249	232,191		3,250,441	-	
334	Meters & Installations	4,796,720	-		4,796,720	-	
335	Hydrants	398,337			398,337		
339	Other Plant & Misc. Equip.	55,434	-		55,434	85,000	
340	Machinery & Equipment	59,088			59,088	30,000	
341	Transportation Equipment	-			-		
343	Tools & Shop Equipment	3,087			3,087		
344	Laboratory Equipment	14,637			14,637		
345	Power Operated Equipment	7,150			7,150		
347	Miscellaneous	1,859			1,859		
348	Other	44,997			44,997	150,000	
Total Capital Assets		15,327,788	232,191	-	15,559,980	315,000	-
AMORTIZATION		Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019
	Rate						
303	Land & Land Rights	0.00%	-	-	-	-	-
304	Buildings (Structures & Improve	2.50%	104,915	1,631	106,546	1,631	-
305	Collecting Reservoirs (Raw Wat	2.00%	371,694	24,867	396,561	24,867	-
306	Source Intake	2.00%	43,042	2,597	45,639	2,597	-
309	Supply Mains	2.00%	-	-	-	-	-
310	Power Generating Equipment	4.00%	2,303	135	2,439	135	-
311	Pumping Equipment	5.00%	5,242	2,739	7,981	2,739	-
312	Pressure Reducing Stations	4.00%	71,837	-	71,837	-	-
320	Water Treatment Equipment	5.00%	3,005,750	9,195	3,014,945	3,395	-
330	Reservoirs & Standpipes	2.00%	988,190	39,401	1,027,591	39,401	-
331	Transmission & Distribution Mai	2.00%	560,475	60,365	620,840	65,009	-
334	Meters & Installations	4.00%	4,216,602	29,023	4,245,625	29,023	-
335	Hydrants	2.00%	316,797	7,967	324,764	7,967	-
339	Other Plant & Misc. Equip.	5.00%	18,961	2,772	21,732	2,772	-
340	Machinery & Equipment	6.67%	43,608	3,104	46,712	3,104	-
341	Transportation Equipment	6.67%	-	-	-	-	-
343	Tools & Shop Equipment	10.00%	2,470	309	2,778	309	-
344	Laboratory Equipment	10.00%	13,201	1,464	14,665	1,464	-
345	Power Operated Equipment	6.67%	5,552	168	5,720	168	-
347	Miscellaneous	6.67%	1,363	124	1,487	124	-
348	Other	6.67%	29,792	3,000	32,792	3,000	-
Accumulated Amortization		9,801,793	188,859	-	9,990,653	187,704	-
NET BOOK VALUE (NBV)		5,525,995	43,332	-	5,569,327	127,296	-
NET BOOK VALUE @ MID-YEAR (MY)		5,665,820			5,547,661		

000000TOWN OF BARRHEAD WATER UTILITY
Continuity Schedule of Fixed Assets and Amortization

FIXED ASSETS BY PRIME ACCOUNT (per NARUC)		Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020	Additions in 2021	Retired in 2021
303	Land & Land Rights	56,834			56,834		
304	Buildings (Structures & Improvements)	155,383			155,383		
305	Collecting Reservoirs (Raw Water)	1,243,358			1,243,358		
306	Source Intake	129,841			129,841		
309	Supply Mains	-			-		
310	Power Generating Equipment	3,387			3,387		
311	Pumping Equipment	54,783	-		54,783	-	
312	Pressure Reducing Stations	74,830			74,830		
320	Water Treatment Equipment	3,239,756	-		3,239,756	-	
330	Reservoirs & Standpipes	2,020,058	1,850,000		3,870,058	-	
331	Transmission & Distribution Mains	3,250,441	500,000		3,750,441	200,000	
334	Meters & Installations	4,796,720	-		4,796,720	-	
335	Hydrants	398,337			398,337		
339	Other Plant & Misc. Equip.	140,434	-		140,434	-	
340	Machinery & Equipment	89,088			89,088		
341	Transportation Equipment	-			-		
343	Tools & Shop Equipment	3,087			3,087		
344	Laboratory Equipment	14,637			14,637		
345	Power Operated Equipment	7,150			7,150		
347	Miscellaneous	1,859			1,859		
348	Other	194,997			194,997		
Total Capital Assets		15,874,980	2,350,000	-	18,224,980	200,000	-
AMORTIZATION							
	Rate	Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020	Additions in 2021	Retired in 2021
303	Land & Land Rights	0.00%	-	-	-	-	-
304	Buildings (Structures & Improve	2.50%	108,176	1,631	109,807	1,631	-
305	Collecting Reservoirs (Raw Wat	2.00%	421,428	24,867	446,295	24,867	-
306	Source Intake	2.00%	48,235	2,597	50,832	2,597	-
309	Supply Mains	2.00%	-	-	-	-	-
310	Power Generating Equipment	4.00%	2,574	135	2,710	135	-
311	Pumping Equipment	5.00%	10,720	2,739	13,459	2,739	-
312	Pressure Reducing Stations	4.00%	71,837	-	71,837	-	-
320	Water Treatment Equipment	5.00%	3,018,340	3,395	3,021,735	3,395	-
330	Reservoirs & Standpipes	2.00%	1,066,992	40,401	1,107,393	77,401	-
331	Transmission & Distribution Mai	2.00%	685,848	65,009	750,857	75,009	-
334	Meters & Installations	4.00%	4,274,648	29,023	4,303,672	29,023	-
335	Hydrants	2.00%	332,731	7,967	340,697	7,967	-
339	Other Plant & Misc. Equip.	5.00%	24,504	7,022	31,526	7,022	-
340	Machinery & Equipment	6.67%	49,815	4,667	54,482	4,667	-
341	Transportation Equipment	6.67%	-	-	-	-	-
343	Tools & Shop Equipment	10.00%	3,087	309	3,396	309	-
344	Laboratory Equipment	10.00%	16,128	1,105	17,233	1,464	-
345	Power Operated Equipment	6.67%	5,888	168	6,055	-	-
347	Miscellaneous	6.67%	1,611	124	1,735	-	-
348	Other	6.67%	35,792	13,000	48,792	13,000	-
Accumulated Amortization		10,178,356	204,158	-	10,382,514	251,225	-
NET BOOK VALUE (NBV)		5,696,623	2,145,842	-	7,842,466	(51,225)	-
NET BOOK VALUE @ MID-YEAR (MY)		5,632,975			6,769,545		

000000TOWN OF BARRHEAD WATER UTILITY
Continuity Schedule of Fixed Assets and Amortization

FIXED ASSETS BY PRIME ACCOUNT (per NARUC)		Year-End 2021	Additions in 2022	Retired in 2022	Year-End 2022
303	Land & Land Rights	56,834			56,834
304	Buildings (Structures & Improvements)	155,383			155,383
305	Collecting Reservoirs (Raw Water)	1,243,358			1,243,358
306	Source Intake	129,841			129,841
309	Supply Mains	-			-
310	Power Generating Equipment	3,387			3,387
311	Pumping Equipment	54,783	-		54,783
312	Pressure Reducing Stations	74,830			74,830
320	Water Treatment Equipment	3,239,756	-		3,239,756
330	Reservoirs & Standpipes	3,870,058	-		3,870,058
331	Transmission & Distribution Mains	3,950,441	-		3,950,441
334	Meters & Installations	4,796,720	-		4,796,720
335	Hydrants	398,337			398,337
339	Other Plant & Misc. Equip.	140,434	-		140,434
340	Machinery & Equipment	89,088			89,088
341	Transportation Equipment	-			-
343	Tools & Shop Equipment	3,087			3,087
344	Laboratory Equipment	14,637			14,637
345	Power Operated Equipment	7,150			7,150
347	Miscellaneous	1,859			1,859
348	Other	194,997			194,997
Total Capital Assets		18,424,980	-	-	18,424,980
AMORTIZATION					
	Rate	Year-End 2021	Additions in 2022	Retired in 2022	Year-End 2022
303	Land & Land Rights	0.00%	-	-	-
304	Buildings (Structures & Improve	2.50%	111,438	1,631	113,068
305	Collecting Reservoirs (Raw Wate	2.00%	471,162	24,867	496,030
306	Source Intake	2.00%	53,429	2,597	56,026
309	Supply Mains	2.00%	-	-	-
310	Power Generating Equipment	4.00%	2,845	135	2,981
311	Pumping Equipment	5.00%	16,198	2,739	18,938
312	Pressure Reducing Stations	4.00%	71,837	-	71,837
320	Water Treatment Equipment	5.00%	3,025,130	3,395	3,028,526
330	Reservoirs & Standpipes	2.00%	1,184,795	77,401	1,262,196
331	Transmission & Distribution Mai	2.00%	825,866	79,009	904,875
334	Meters & Installations	4.00%	4,332,695	29,023	4,361,718
335	Hydrants	2.00%	348,664	7,967	356,631
339	Other Plant & Misc. Equip.	5.00%	38,548	7,022	45,569
340	Machinery & Equipment	6.67%	59,149	2,000	61,149
341	Transportation Equipment	6.67%	-	-	-
343	Tools & Shop Equipment	10.00%	3,704	309	4,013
344	Laboratory Equipment	10.00%	18,697	1,464	20,161
345	Power Operated Equipment	6.67%	6,055	-	6,055
347	Miscellaneous	6.67%	1,735	-	1,735
348	Other	6.67%	61,791	10,206	71,997
Accumulated Amortization		10,633,739	249,764	-	10,883,503
NET BOOK VALUE (NBV)		7,791,241	(249,764)	-	7,541,476
NET BOOK VALUE @ MID-YEAR (MY)		7,816,853			7,666,359

TOWN OF BARRHEAD WATER UTILITY
Utility Rate Base at Mid-Year

		2018	2019	2020	2021	2022
Reference/Source		Actual	Forecast	Forecast	Forecast	Forecast
1. Gross Plant In Service	"Schedule 1 - Assets & Amortization"					
a) Opening Balance		15,327,788	15,559,980	15,874,980	18,224,980	18,424,980
b) Additions		232,191	315,000	2,350,000	200,000	-
c) Retirements		-	-	-	-	-
d) Closing Balance	= 1 a) + 1 b) + 1 c)	15,559,980	15,874,980	18,224,980	18,424,980	18,424,980
2. Accumulated Amortization	"Schedule 1 - Assets & Amortization"					
a) Opening Balance		9,801,793	9,990,653	10,178,356	10,382,514	10,633,739
b) Additions		188,859	187,704	204,158	251,225	249,764
c) Retirements		-	-	-	-	-
d) Closing Balance	= 2 a) + 2 b) + 2 c)	9,990,653	10,178,356	10,382,514	10,633,739	10,883,503
3. Net Plant in Service						
a) Opening Balance	= 1 a) - 2 a)	5,525,995	5,569,327	5,696,623	7,842,466	7,791,241
b) Closing Balance	= 1 d) - 2 d)	5,569,327	5,696,623	7,842,466	7,791,241	7,541,476
c) Total	= 3 a) + 3 b)	11,095,322	11,265,950	13,539,089	15,633,707	15,332,717
d) Mid Year Balance	= 3 c) ÷ 2	5,547,661	5,632,975	6,769,545	7,816,853	7,666,359
4. Necessary Working Capital						
a) Water Purchased for Resale	"Schedule 6 - COE"	1,255,905	1,256,469	1,287,881	1,320,078	1,353,080
b) One-Twelfth of Water Purchases [¥]	= 4 a) ÷ 12	104,659	104,706	107,323	110,006	112,757
c) Cash Operating Expenses	"Schedule 6 - COE"	852,979	859,568	878,581	898,020	917,894
d) One-Sixth of Cash Operating Expenses [*]	= 4 c) ÷ 6	142,163	143,261	146,430	149,670	152,982
e) Prepaid Expenses	Balance Sheet	-	-	-	-	-
f) O&M Inventory	Balance Sheet	-	-	-	-	-
g) Necessary Working Capital	= 4 b) + 4 c) + 4 d)	246,822	247,967	253,754	259,676	265,739
5. Utility Rate Base @ Mid Year	= 3 d) + 4 e)	5,794,483	5,880,942	7,023,298	8,076,530	7,932,098

¥ the lag of receipts over payments for water being purchased considers the bi-monthly billing cycle: $(15 + 45)/2 = 30$ days. 30 days/365 days = 1/12

* the lag of receipts over payments considers the bi-monthly billing cycle: $(75 + 45)/2 = 60$ days. 60 days/365 days = 1/6

000000TOWN OF BARRHEAD WATER UTILITY
Continuity Schedule of No-Cost Capital and Amortization

NO-COST CAPITAL (Grants & CIAC) (By Prime Account - per NARUC)		Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019
303	Land & Land Rights	-			-		
304	Buildings (Structures & Improvements)	-			-		
305	Collecting Reservoirs (Raw Water)	864,976			864,976		
306	Source Intake	-			-		
309	Supply Mains	-			-		
310	Power Generating Equipment	24,295			24,295		
311	Pumping Equipment	-			-		
312	Pressure Reducing Stations	-			-		
320	Water Treatment Equipment	1,433,748			1,433,748		
330	Reservoirs & Standpipes	-			-		
331	Transmission & Distribution Mains	803,160			803,160		
334	Meters & Installations	679,628			679,628		
335	Hydrants	-			-		
339	Other Plant & Misc. Equip.	-			-		
340	Machinery & Equipment	-			-		
341	Transportation Equipment	-			-		
343	Tools & Shop Equipment	-			-		
344	Laboratory Equipment	-			-		
345	Power Operated Equipment	-			-		
347	Miscellaneous	-			-		
348	Other	-			-		
Total Capital Assets		3,805,807	-	-	3,805,807	-	-
AMORTIZATION		Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019
	Rate						
303	Land & Land Rights	0.00%	-	-	-	-	-
304	Buildings (Structures & Improve	2.50%	-	-	-	-	-
305	Collecting Reservoirs (Raw Water)	2.00%	262,827	17,300	280,126	17,300	-
306	Source Intake	2.00%	-	-	-	-	-
309	Supply Mains	2.00%	-	-	-	-	-
310	Power Generating Equipment	4.00%	7,774	972	8,746	972	-
311	Pumping Equipment	5.00%	-	-	-	-	-
312	Pressure Reducing Stations	4.00%	-	-	-	-	-
320	Water Treatment Equipment	5.00%	1,333,942	5,764	1,339,706	3,426	-
330	Reservoirs & Standpipes	2.00%	-	-	-	-	-
331	Transmission & Distribution Mai	2.00%	110,981	16,063	127,044	16,063	-
334	Meters & Installations	4.00%	131,931	27,185	159,116	27,185	-
335	Hydrants	2.00%	-	-	-	-	-
339	Other Plant & Misc. Equip.	5.00%	-	-	-	-	-
340	Machinery & Equipment	6.67%	-	-	-	-	-
341	Transportation Equipment	6.67%	-	-	-	-	-
343	Tools & Shop Equipment	10.00%	-	-	-	-	-
344	Laboratory Equipment	10.00%	-	-	-	-	-
345	Power Operated Equipment	6.67%	-	-	-	-	-
347	Miscellaneous	6.67%	-	-	-	-	-
348	Other	6.67%	-	-	-	-	-
Accumulated Amortization		1,847,455	67,283	-	1,914,739	64,946	-
NET NO-COST CAPITAL (NCC) @ YEAR-END		1,958,352	(67,283)	-	1,891,069	(64,946)	-
NET NCC @ MID-YEAR (MY)		2,024,774			1,924,710		

000000TOWN OF BARRHEAD WATER UTILITY
Continuity Schedule of No-Cost Capital and Amortization

NO-COST CAPITAL (Grants & CIAC) (By Prime Account - per NARUC)		Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020	Additions in 2021	Retired in 2021
303	Land & Land Rights	-			-		
304	Buildings (Structures & Improvements)	-			-		
305	Collecting Reservoirs (Raw Water)	864,976			864,976		
306	Source Intake	-			-		
309	Supply Mains	-			-		
310	Power Generating Equipment	24,295			24,295		
311	Pumping Equipment	-			-		
312	Pressure Reducing Stations	-			-		
320	Water Treatment Equipment	1,433,748			1,433,748		
330	Reservoirs & Standpipes	-	925,000		925,000		
331	Transmission & Distribution Mains	803,160	500,000		1,303,160		
334	Meters & Installations	679,628			679,628		
335	Hydrants	-			-		
339	Other Plant & Misc. Equip.	-			-		
340	Machinery & Equipment	-			-		
341	Transportation Equipment	-			-		
343	Tools & Shop Equipment	-			-		
344	Laboratory Equipment	-			-		
345	Power Operated Equipment	-			-		
347	Miscellaneous	-			-		
348	Other	-			-		
Total Capital Assets		3,805,807	1,425,000	-	5,230,807	-	-
AMORTIZATION		Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020	Additions in 2021	Retired in 2021
	Rate						
303	Land & Land Rights	0.00%	-	-	-	-	-
304	Buildings (Structures & Improve	2.50%	-	-	-	-	-
305	Collecting Reservoirs (Raw Water)	2.00%	297,426	17,300	314,725	17,300	-
306	Source Intake	2.00%	-	-	-	-	-
309	Supply Mains	2.00%	-	-	-	-	-
310	Power Generating Equipment	4.00%	9,718	972	10,690	972	-
311	Pumping Equipment	5.00%	-	-	-	-	-
312	Pressure Reducing Stations	4.00%	-	-	-	-	-
320	Water Treatment Equipment	5.00%	1,343,132	3,426	1,346,558	3,426	-
330	Reservoirs & Standpipes	2.00%	-	-	-	18,500	-
331	Transmission & Distribution Mai	2.00%	143,108	16,063	159,171	26,063	-
334	Meters & Installations	4.00%	186,301	27,185	213,486	27,185	-
335	Hydrants	2.00%	-	-	-	-	-
339	Other Plant & Misc. Equip.	5.00%	-	-	-	-	-
340	Machinery & Equipment	6.67%	-	-	-	-	-
341	Transportation Equipment	6.67%	-	-	-	-	-
343	Tools & Shop Equipment	10.00%	-	-	-	-	-
344	Laboratory Equipment	10.00%	-	-	-	-	-
345	Power Operated Equipment	6.67%	-	-	-	-	-
347	Miscellaneous	6.67%	-	-	-	-	-
348	Other	6.67%	-	-	-	-	-
Accumulated Amortization		1,979,684	64,946	-	2,044,630	93,446	-
NET NO-COST CAPITAL (NCC) @ YEAR-END		1,826,123	1,360,054	-	3,186,177	(93,446)	-
NET NCC @ MID-YEAR (MY)		1,858,596			2,506,150		

000000TOWN OF BARRHEAD WATER UTILITY
Continuity Schedule of No-Cost Capital and Amortization

NO-COST CAPITAL (Grants & CIAC) (By Prime Account - per NARUC)		Year-End 2021	Additions in 2022	Retired in 2022	Year-End 2022
303	Land & Land Rights	-			-
304	Buildings (Structures & Improvements)	-			-
305	Collecting Reservoirs (Raw Water)	864,976			864,976
306	Source Intake	-			-
309	Supply Mains	-			-
310	Power Generating Equipment	24,295			24,295
311	Pumping Equipment	-			-
312	Pressure Reducing Stations	-			-
320	Water Treatment Equipment	1,433,748			1,433,748
330	Reservoirs & Standpipes	925,000			925,000
331	Transmission & Distribution Mains	1,303,160			1,303,160
334	Meters & Installations	679,628			679,628
335	Hydrants	-			-
339	Other Plant & Misc. Equip.	-			-
340	Machinery & Equipment	-			-
341	Transportation Equipment	-			-
343	Tools & Shop Equipment	-			-
344	Laboratory Equipment	-			-
345	Power Operated Equipment	-			-
347	Miscellaneous	-			-
348	Other	-			-
Total Capital Assets		5,230,807	-	-	5,230,807
AMORTIZATION		Year-End 2021	Additions in 2022	Retired in 2022	Year-End 2022
	Rate				
303	Land & Land Rights	0.00%	-	-	-
304	Buildings (Structures & Improve	2.50%	-	-	-
305	Collecting Reservoirs (Raw Wate	2.00%	332,025	17,300	349,324
306	Source Intake	2.00%	-	-	-
309	Supply Mains	2.00%	-	-	-
310	Power Generating Equipment	4.00%	11,662	972	12,633
311	Pumping Equipment	5.00%	-	-	-
312	Pressure Reducing Stations	4.00%	-	-	-
320	Water Treatment Equipment	5.00%	1,349,985	2,063	1,352,047
330	Reservoirs & Standpipes	2.00%	18,500	18,500	37,000
331	Transmission & Distribution Mai	2.00%	185,234	26,063	211,297
334	Meters & Installations	4.00%	240,672	27,185	267,857
335	Hydrants	2.00%	-	-	-
339	Other Plant & Misc. Equip.	5.00%	-	-	-
340	Machinery & Equipment	6.67%	-	-	-
341	Transportation Equipment	6.67%	-	-	-
343	Tools & Shop Equipment	10.00%	-	-	-
344	Laboratory Equipment	10.00%	-	-	-
345	Power Operated Equipment	6.67%	-	-	-
347	Miscellaneous	6.67%	-	-	-
348	Other	6.67%	-	-	-
Accumulated Amortization		2,138,076	92,082	-	2,230,159
NET NO-COST CAPITAL (NCC) @ YEAR-END		3,092,731	(92,082)	-	3,000,649
NET NCC @ MID-YEAR (MY)		3,139,454			3,046,690

TOWN OF BARRHEAD WATER UTILITY
Composite Cost of Debt

Debenture Number	Allocation to Water	Effective Cost Rate	2018	2019	2020	2021	2022
	100.00%	0.000%		-			
		0.000%					
		0.000%					
		0.000%					
		0.000%					
		0.000%					
Total Debenture Debt @ Year-End:			-	-	-	-	-
Average Cost of Debt:			0.000%	0.000%	0.000%	0.000%	0.000%

Debenture Number	Effective Cost Rate	2018	2019	2020	2021	2022
	0.000%	-	-	-	-	-
	0.000%	-	-	-	-	-
	0.000%	-	-	-	-	-
	0.000%	-	-	-	-	-
	0.000%	-	-	-	-	-
	0.000%	-	-	-	-	-
Total Debenture Debt @ Mid-Year:		-	-	-	-	-
Cost of Debt @ Mid-Year:		0.000%	0.000%	0.000%	0.000%	0.000%
Deemed Cost of Debt:		3.650%	3.500%	4.000%	4.000%	4.000%

Cost of Deemed Debt per AUC Decision 2005-149: 15-year rolling average for ACFA 15-Year debentures

TOWN OF BARRHEAD WATER UTILITY
Capitalization, Capital Structure and Return

2017	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
2. Deemed Debt				60.00%	2,261,825	3.78%	85,474
3. Equity	3,501,221	63.36%	100.00%	40.00%	1,507,884	8.50%	128,170
4. Sub Total	3,501,221	63.36%	100.00%	100.00%	3,769,709	5.67%	213,644
5. No-Cost Capital	2,024,774	36.64%			2,024,774	0.00%	-
6. Total	5,525,995	100.00%			5,794,483	3.69%	213,644
2018	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
2. Deemed Debt				60.00%	2,321,864	3.62%	84,098
3. Equity	3,622,951	65.31%	100.00%	40.00%	1,547,909	8.50%	131,572
4. Sub Total	3,622,951	65.31%	100.00%	100.00%	3,869,773	5.57%	215,670
5. No-Cost Capital	1,924,710	34.69%			1,924,710	0.00%	-
6. Total	5,547,661	100.00%			5,794,483	3.72%	215,670
2019	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
2. Deemed Debt				60.00%	2,413,408	3.50%	84,469
3. Equity	3,774,379	67.01%	100.00%	40.00%	1,608,939	8.50%	136,760
4. Sub Total	3,774,379	67.01%	100.00%	100.00%	4,022,346	5.50%	221,229
5. No-Cost Capital	1,858,596	32.99%			1,858,596	0.00%	-
6. Total	5,632,975	100.00%			5,880,942	3.76%	221,229

TOWN OF BARRHEAD WATER UTILITY
Capitalization, Capital Structure and Return

2020	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
2. Deemed Debt				60.00%	2,710,289	4.00%	108,412
3. Equity	4,263,395	62.98%	100.00%	40.00%	1,806,859	8.50%	153,583
4. Sub Total	4,263,395	62.98%	100.00%	100.00%	4,517,148	5.80%	261,995
5. No-Cost Capital	2,506,150	37.02%			2,506,150	0.00%	-
6. Total	6,769,545	100.00%			7,023,298	3.73%	261,995
2021	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
2. Deemed Debt				60.00%	2,962,245	4.00%	118,490
3. Equity	4,677,399	59.84%	100.00%	40.00%	1,974,830	9.00%	177,735
4. Sub Total	4,677,399	59.84%	100.00%	100.00%	4,937,076	6.00%	296,225
5. No-Cost Capital	3,139,454	40.16%			3,139,454	0.00%	-
6. Total	7,816,853	100.00%			8,076,530	3.67%	296,225
2022	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
2. Deemed Debt				60.00%	2,931,245	4.00%	117,250
3. Equity	4,619,669	60.26%	100.00%	40.00%	1,954,163	9.00%	175,875
4. Sub Total	4,619,669	60.26%	100.00%	100.00%	4,885,408	6.00%	293,124
5. No-Cost Capital	3,046,690	39.74%			3,046,690	0.00%	-
6. Total	7,666,359	100.00%			7,932,098	3.70%	293,124

000000TOWN OF BARRHEAD WATER UTILITY
Cash Operating Expenses

Account	Description	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
WATER PURCHASED FOR RESALE					
230-00	Water - BRWC Contracted Serv. (purchase	1,255,905	1,256,469	1,287,881	1,320,078
TOWN WATER EXPENSES					
110-00	Water - Salaries	103,495	109,291	112,024	114,824
131-00	Water - Local Authorities Pension	11,460	11,816	12,111	12,414
132-00	Water - Canada Pension Plan	3,879	3,709	3,802	3,897
133-00	Water - Employment Insurance	1,664	1,562	1,602	1,642
135-00	Water - AUMA Benefits	12,927	10,223	10,479	10,741
136-00	Water - Workers Compensation	1,218	1,343	1,370	1,397
148-00	Water - Training & Development	467	(258)	(264)	(271)
211-00	Water - Travel & Subsistence	919	-	-	-
215-00	Water - Freight	699	195	200	205
216-00	Water - Postage	4,397	4,513	4,603	4,695
217-00	Water - Telephone	4,599	4,635	4,751	4,870
217-01	Water - Alberta First Call	1,013	515	525	535
232-00	Water - Legal	-	-	-	-
233-00	Water - Engineering	-	-	-	-
234-00	Water - Consulting	-	-	-	-
239-00	Water - Utility Bill Printing	1,698	995	1,020	1,045
251-00	Water - Repair/Maintenance Distribution	42,354	36,460	37,189	37,933
251-01	Water - Meter Changeover/Software	-	5,994	6,144	6,298
252-00	Water - Repair/Maintenance Facilities	483	365	373	380
255-25	Water - 2010 Dodge 1/2 Ton	-	15	15	16
255-59	Water - 2007 Chevrolet 1/2 Ton Truck	4,257	802	818	834
255-62	Water - 2012 Ford 1/2 Ton	5,658	-	-	-
255-67	Water - 2007 Dodge Ext. Cab Truck	14,236	1,684	1,717	1,752
274-00	Water - Insurance	-	13,262	13,594	13,934
510-00	Water - Materials & Supplies General	1,850	1,766	1,801	1,837
510-01	Water - Materials/Supply Facilities	7	50	51	52
510-02	Water - Gasoline & Oil	2,643	3,427	3,496	3,566
512-00	Water - Personal Prot. Equip	610	542	556	570
531-00	Water - Chemicals & Salts	-	-	-	-
543-00	Water - Gas Utilities	3,038	3,388	3,472	3,559
544-00	Water - Power Utilities	16,025	18,165	18,528	18,899
762-00	Water - Contribution to Capital	298,157	370,426	300,000	300,000
764-00	Water - Add to Operating Reserve	-	35,000		
920-00	Water - Utility Billing Write Off	2,669	12,007		
950-00	Water - TCA Amort. Exp.	304,127	293		
	Sub-Total	844,549	652,186	539,976	545,623
Expenses - Barrhead Regional Water Commission					
110-00	Water (BRWC) - Salaries	151,042	154,250	158,106	162,059
131-00	Water (BRWC) - Local Authorities Pension	17,223	15,757	16,150	16,554
132-00	Water (BRWC) - Canada Pension Plan	4,716	4,719	4,837	4,958
133-00	Water (BRWC) - Employment Insurance	1,970	2,082	2,134	2,187
135-00	Water (BRWC) - AUMA Benefits	11,967	11,404	11,689	11,982
136-00	Water (BRWC) - Workers Compensation	1,748	1,810	1,855	1,902

000000TOWN OF BARRHEAD WATER UTILITY
Cash Operating Expenses

Account	Description	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast
148-00	Water (BRWC) - Training & Development	2,460	3,089	3,151	3,214
211-00	Water (BRWC) - Travel & Subsistence	1,488	2,595	2,647	2,700
215-00	Water (BRWC) - Memberships	171	271	277	282
216-00	Water (BRWC) - Freight	7,851	9,284	9,470	9,659
217-00	Water (BRWC) - Postage	231	243	248	253
217-01	Water (BRWC) - Telephone	3,347	3,667	3,741	3,815
233-00	Water (BRWC) - Engineering/Legal	-	-	-	-
240-00	Water (BRWC) - IT Maintenance, Materials	-	-	-	-
251-00	Water (BRWC) - Repair/Maint. Distribution	15,730	165	168	172
252-00	Water (BRWC) - Repair/Maint. Facilities	-	40,189	40,993	41,813
259-00	Water (BRWC) - Contracted Service (Weir)	323	-	-	-
263-00	Water (BRWC) - Alarm Lease	47,822	323	330	336
274-00	Water (BRWC) - Insurance	10,304	39,926	40,725	41,540
510-00	Water (BRWC) - Materials & Sup. General	314	5,575	5,686	5,800
510-01	Water (BRWC) - Materials/Supply Facilities	865	448	457	466
510-02	Water (BRWC) - Mileage Expenses	-	1,122	1,144	1,167
512-00	Water (BRWC) - Personal Prot. Equip/Heal	1,022	1,006	1,026	1,046
531-00	Water (BRWC) - Chemicals & Salts	108,275	120,133	122,536	124,986
543-00	Water (BRWC) - Gas Utilities	33,726	41,564	42,396	43,243
544-00	Water (BRWC) - Power Utilities	129,236	146,889	149,826	152,823
750-00	Water (BRWC) - Cont. To County	-	-	-	-
762-00	Water (BRWC) - Contribution to Capital	3,000	-	-	-
Sub-Total		554,831.41	606,511.46	619,591.80	632,957.49

ALLOCATED EXPENSES - General & Administration

Water - Executive Salaries & Benefits
Water - Management Salaries & Benefits
Water - Office Operations
Water - Office, Furnishings & Equipment
Water - Office, Other
Water - PW Salaries & Benefits
Water - PW Shop & Yard Operations
Water - PW Equipment
Water - Vehicles & Equipment

Sub-Total

Gross Cash Expenses as Reported/Forecast	2,655,286	2,515,166	2,447,448	2,498,659
---	------------------	------------------	------------------	------------------

Non "Cash Operating Expenses"	1,858,189	1,662,188	1,587,881	1,620,078
--------------------------------------	-----------	-----------	-----------	-----------

Net Cash Operating Expenses (Excl. BRWC Expenses)	797,097	852,979	859,568	878,581
--	----------------	----------------	----------------	----------------

<i>Personnel Expenses in COE</i>	<i>323,310</i>	<i>327,966</i>	<i>336,158</i>	<i>344,556</i>
<i>Non-personnel Expenses in COE</i>	<i>473,787</i>	<i>525,013</i>	<i>523,409</i>	<i>534,025</i>

INFLATION RATES (ACTUAL/FORECAST)

Level 1: Salaries & Wages	1.98%	1.44%	2.50%	2.50%
Level 2: Materials & Supplies	-9.19%	10.81%	2.00%	2.00%

000000TOWN OF BARRHEAD WATER UTILITY
Cash Operating Expenses

Account	Description	2021 Forecast	2022 Forecast
WATER PURCHASED FOR RESALE			
230-00	Water - BRWC Contracted Serv. (purchase	1,353,080	1,386,907
TOWN WATER EXPENSES			
110-00	Water - Salaries	117,695	120,637
131-00	Water - Local Authorities Pension	12,724	13,042
132-00	Water - Canada Pension Plan	3,994	4,094
133-00	Water - Employment Insurance	1,683	1,725
135-00	Water - AUMA Benefits	11,009	11,284
136-00	Water - Workers Compensation	1,425	1,454
148-00	Water - Training & Development	(277)	(284)
211-00	Water - Travel & Subsistence	-	-
215-00	Water - Freight	210	216
216-00	Water - Postage	4,789	4,885
217-00	Water - Telephone	4,991	5,116
217-01	Water - Alberta First Call	546	557
232-00	Water - Legal	-	-
233-00	Water - Engineering	-	-
234-00	Water - Consulting	-	-
239-00	Water - Utility Bill Printing	1,071	1,098
251-00	Water - Repair/Maintenance Distribution	38,691	39,465
251-01	Water - Meter Changeover/Software	6,455	6,616
252-00	Water - Repair/Maintenance Facilities	388	395
255-25	Water - 2010 Dodge 1/2 Ton	16	17
255-59	Water - 2007 Chevrolet 1/2 Ton Truck	851	868
255-62	Water - 2012 Ford 1/2 Ton	-	-
255-67	Water - 2007 Dodge Ext. Cab Truck	1,787	1,823
274-00	Water - Insurance	14,282	14,639
510-00	Water - Materials & Supplies General	1,874	1,912
510-01	Water - Materials/Supply Facilities	54	55
510-02	Water - Gasoline & Oil	3,637	3,710
512-00	Water - Personal Prot. Equip	584	599
531-00	Water - Chemicals & Salts	-	-
543-00	Water - Gas Utilities	3,648	3,739
544-00	Water - Power Utilities	19,277	19,662
762-00	Water - Contribution to Capital	300,000	300,000
764-00	Water - Add to Operating Reserve		
920-00	Water - Utility Billing Write Off		
950-00	Water - TCA Amort. Exp.		
	Sub-Total	551,405	557,324
Expenses - Barrhead Regional Water Commission			
110-00	Water (BRWC) - Salaries	166,110	170,263
131-00	Water (BRWC) - Local Authorities Pension	16,968	17,392
132-00	Water (BRWC) - Canada Pension Plan	5,082	5,209
133-00	Water (BRWC) - Employment Insurance	2,242	2,298
135-00	Water (BRWC) - AUMA Benefits	12,281	12,588
136-00	Water (BRWC) - Workers Compensation	1,949	1,998

000000TOWN OF BARRHEAD WATER UTILITY
Cash Operating Expenses

Account	Description	2021 Forecast	2022 Forecast
148-00	Water (BRWC) - Training & Development	3,279	3,344
211-00	Water (BRWC) - Travel & Subsistence	2,754	2,809
215-00	Water (BRWC) - Memberships	288	294
216-00	Water (BRWC) - Freight	9,852	10,049
217-00	Water (BRWC) - Postage	258	263
217-01	Water (BRWC) - Telephone	3,892	3,970
233-00	Water (BRWC) - Engineering/Legal	-	-
240-00	Water (BRWC) - IT Maintenance, Materials	-	-
251-00	Water (BRWC) - Repair/Maint. Distribution	175	178
252-00	Water (BRWC) - Repair/Maint. Facilities	42,649	43,502
259-00	Water (BRWC) - Contracted Service (Weir)	-	-
263-00	Water (BRWC) - Alarm Lease	343	350
274-00	Water (BRWC) - Insurance	42,370	43,218
510-00	Water (BRWC) - Materials & Sup. General	5,916	6,034
510-01	Water (BRWC) - Materials/Supply Facilities	475	485
510-02	Water (BRWC) - Mileage Expenses	1,190	1,214
512-00	Water (BRWC) - Personal Prot. Equip/Heal	1,067	1,089
531-00	Water (BRWC) - Chemicals & Salts	127,486	130,036
543-00	Water (BRWC) - Gas Utilities	44,108	44,990
544-00	Water (BRWC) - Power Utilities	155,879	158,997
750-00	Water (BRWC) - Cont. To County	-	-
762-00	Water (BRWC) - Contribution to Capital	-	-
Sub-Total		646,614.85	660,570.31

ALLOCATED EXPENSES - General & Administration

Water - Executive Salaries & Benefits
Water - Management Salaries & Benefits
Water - Office Operations
Water - Office, Furnishings & Equipment
Water - Office, Other
Water - PW Salaries & Benefits
Water - PW Shop & Yard Operations
Water - PW Equipment
Water - Vehicles & Equipment
Sub-Total

Gross Cash Expenses as Reported/Forecast	2,551,099	2,604,800
---	------------------	------------------

Non "Cash Operating Expenses"	1,653,080	1,686,907
--------------------------------------	-----------	-----------

Net Cash Operating Expenses (Excl. BRWC Expenses)	898,020	917,894
--	----------------	----------------

<i>Personnel Expenses in COE</i>	<i>353,162</i>	<i>361,984</i>
<i>Non-personnel Expenses in COE</i>	<i>544,857</i>	<i>555,909</i>

INFLATION RATES (ACTUAL/FORECAST)

Level 1: Salaries & Wages	2.50%	2.50%
Level 2: Materials & Supplies	2.00%	2.00%

000000TOWN OF BARRHEAD WATER UTILITY
Utility Revenue Requirements and Revenues by Source

Annual Utility Revenue Requirements	Reference/Source	2017 Actual	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast
1. Water Purchased for Resale	Schedule 6	1,255,905	1,256,469	1,287,881	1,320,078	1,353,080	1,386,907
2. Cash Operating Expenses	Schedule 6	797,097	852,979	859,568	878,581	898,020	917,894
3. Non-Cash Expenses							
a) Amortization/Depreciation	Schedule 1	324,418	188,859	187,704	204,158	251,225	249,764
b) Amortization of NCC	Schedule 3	(132,844)	(67,283)	(64,946)	(64,946)	(93,446)	(92,082)
c) Total Non-Cash Expenses	= 2. a) + 2. b)	191,574	121,576	122,758	139,212	157,779	157,682
4. Return	Schedule 5	213,644	215,670	221,229	261,995	296,225	293,124
5. Reserves & Other Recoveries	Schedule 6						
6. Gross Revenue Requirement	= 1. + 2. c) + 3. + 4.	<u>2,458,221</u>	<u>2,446,694</u>	<u>2,491,435</u>	<u>2,599,865</u>	<u>2,705,103</u>	<u>2,755,607</u>

Cash Needs Requirements	Reference/Source	2014 Actual	2018 Actual	2019 Actual	2020 Forecast	2021 Forecast	2022 Forecast
7. Water Purchased for Resale	Schedule 6	1,255,905	1,256,469	1,287,881	1,320,078	1,353,080	1,386,907
8. Cash Operating Expense	Schedule 6	797,097	852,979	859,568	878,581	898,020	917,894
9. 762-00 Contribution to Capital	Schedule 6	298,157	370,426				
10. 764-00 Add to Operating Reserve	Capital Plan 2019-2023	-	35,000	413,488	420,694	437,154	458,936
11. 950-00 Water - TCA Amort. Exp.	Schedule 6	213,644	215,670	221,229	261,995	296,225	293,124
12. Gross "Cash Needs" Requirement	= 6. + 7. + 8. + 9.	<u>2,564,803</u>	<u>2,730,543</u>	<u>2,782,166</u>	<u>2,881,347</u>	<u>2,984,478</u>	<u>3,056,861</u>

13. Utility Requirements - Cash-Needs	= 6. - 12.	(106,582)	(283,850)	(290,730)	(281,482)	(279,375)	(301,254)
14. Utility vs Cash-Needs excl. Reserves	= 6. - 5. - 12.	(106,582)	(283,850)	(290,730)	(281,482)	(279,375)	(301,254)
15. Net Revenue Requirements (Excludes Cost of Water and BRWC Lease & Revenue)			493,604	496,836	559,703	618,281	621,003

000000TOWN OF BARRHEAD WATER UTILITY
Revenues by Source (Actual) - Revenues to be Generated from Sales (Forecast)

	Reference	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
1. Water Revenues by Source	F/S						
a) 410-01 Sale of Service (Bills)		1,538,131	1,626,716				
b) 410-02 Sale of Service (Bulk)		162,128	189,321				
c) 410-03 Sale of Materials		-	-	-	-	-	-
d) 410-05 Turn On/Off Fee		1,080	930	800	800	800	800
e) 410-06 Sale of Service/Repairs		2,059	105	1,000	1,000	1,000	1,000
f) 410-07 Bulk Water Set Up Charge		650	602	600	600	600	600
g) 410-08 BRWC - Misc. Expense Recovery		-	-				
h) 410-09 BRWC - Collaboration Grant		-	-				
i) 411-00 BRWC - Oper. Sale of Serv		554,832	609,493	619,592	632,957	646,615	660,570
j) 560-00 BRWC Asset Lease		87,127	87,127	87,127	87,127	87,127	87,127
k) 590-00 Water - Penalties		5,102	3,560	5,000	5,000	5,000	5,000
l) 590-01 Water - Reimbursements		-	-	-	-	-	-
m) 920-00 From Operating Reserve		-	-	-	-	-	-
n) 960-00 Net Gain/Loss Disposal TCA		(2,178)	-	-	-	-	-
o) Gross Revenues		2,348,931	2,517,855	714,119	727,484	741,142	755,097
2. UTILITY REVENUE REQUIREMENTS (incl. Water P	Sch. 7	2,458,221	2,446,694	2,491,435	2,599,865	2,705,103	2,755,607
3. UTILITY REVENUE REQUIREMENTS (Excl. Water F	Sch. 7	1,202,316	1,190,225	1,203,554	1,279,787	1,352,023	1,368,700
4. Revenue Requirements Less BRWC Lease & Recov	= 3. - 1. i) - 1. j)	560,357	493,604	496,836	559,703	618,281	621,003

000000TOWN OF BARRHEAD WATER UTILITY
Revenues by Source (Actual) - Revenues to be Generated from Sales (Forecast)

	Reference	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
1. Water Revenues by Source	F/S						
a) 410-01 Sale of Service (Bills)		1,538,131	1,626,716				
b) 410-02 Sale of Service (Bulk)		162,128	189,321				
c) 410-03 Sale of Materials		-	-	-	-	-	-
d) 410-05 Turn On/Off Fee		1,080	930	800	800	800	800
e) 410-06 Sale of Service/Repairs		2,059	105	1,000	1,000	1,000	1,000
f) 410-07 Bulk Water Set Up Charge		650	602	600	600	600	600
g) 410-08 BRWC - Misc. Expense Recovery		-	-				
h) 410-09 BRWC - Collaboration Grant		-	-				
i) 411-00 BRWC - Oper. Sale of Serv		554,832	609,493	619,592	632,957	646,615	660,570
j) 560-00 BRWC Asset Lease		87,127	87,127	87,127	87,127	87,127	87,127
k) 590-00 Water - Penalties		5,102	3,560	5,000	5,000	5,000	5,000
l) 590-01 Water - Reimbursements		-	-	-	-	-	-
m) 920-00 From Operating Reserve		-	-	-	-	-	-
n) 960-00 Net Gain/Loss Disposal TCA		(2,178)	-	-	-	-	-
o) Gross Revenues		2,348,931	2,517,855	714,119	727,484	741,142	755,097
2. UTILITY REVENUE REQUIREMENTS (incl. Water P	Sch. 7	2,458,221	2,446,694	2,491,435	2,599,865	2,705,103	2,755,607
3. UTILITY REVENUE REQUIREMENTS (Excl. Water F	Sch. 7	1,202,316	1,190,225	1,203,554	1,279,787	1,352,023	1,368,700
4. Revenue Requirements Less BRWC Lease & Recov	= 3. - 1. i) - 1. j)	560,357	493,604	496,836	559,703	618,281	621,003

000000TOWN OF BARRHEAD WATER UTILITY
Revenues by Source (Actual) - Revenues to be Generated from Sales (Forecast)

	Reference	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
1. Water Revenues by Source	F/S						
5. Customers							
a) Retail Customers	Sch. 9	1,977	1,963	1,970	1,970	1,970	1,970
b) Barrhead County	Sch. 14	3	3	3	3	3	3
c) Bulk Water Customers	N/A						
d) Total Customers		1,980	1,966	1,973	1,973	1,973	1,973
6. Annual Sales Volumes - m³							
a) In Town - Retail Customers	Sch. 10	441,958	464,207	453,097	453,097	453,097	453,097
b) Bulk Water Customers	Sch. 12	18,014	20,578	18,200	18,200	18,200	18,200
c) Deliveries to Barrhead County Customers	Sch. 14	56,114	53,399	54,757	54,525	54,525	54,525
d) Total Volume Sales		516,086	538,185	526,053	525,822	525,822	525,822
7. Utility Rates (Proposed, including Cost of Water)							
a) Fixed Monthly (& Minimum) Charge	\$/month			20.00	20.00	20.00	20.00
b) Commodity Rate - Retail	\$/m ³			3.04	3.04	3.04	3.04
c) Commodity Rate - Bulk	\$/m ³			9.20	9.20	9.20	9.20
d) Commodity Rate - Barrhead County	\$/m ³			0.62	0.62	0.62	0.62
8. Revenue Generated Through Rates (\$)							
a) Fixed Monthly Charges	= 4. x 6 .a)			473,520	473,520	473,520	473,520
b) Commodity Sales - Retail	= 5. a) x 6. b)	1,538,131	1,626,716	1,377,413	1,377,413	1,377,413	1,377,413
c) Commodity Sales - Bulk	= 5. b) x 6. c)	162,128	189,321	167,440	167,440	167,440	167,440
d) Commodity Sales - Barrhead County	= 5. c) x 6. d)	-	-	33,949	33,806	33,806	33,806
e) Gross Sales Revenue		1,700,259	1,816,038	2,052,323	2,052,179	2,052,179	2,052,179
9. Sales Revenues Generated Excluding Cost of Water	= 8.e) - Sch. 7, 1.	444,354	559,569	764,442	732,101	699,099	665,272
10. Excess (Deficiency): Revenue Req - Gross Recoveries							
a) Excess (Deficiency) - \$	= 9. e) - 4.	(116,003)	65,964	267,606	172,399	80,818	44,269
b) Excess (Deficiency) - %	= 10. a) ÷ 2.	(4.72%)	2.70%	10.74%	6.63%	2.99%	1.61%

000000TOWN OF BARRHEAD WATER UTILITY
Customer Billings by Type

2017		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Average	Change
		Bills	Bills	Bills	Bills	Bills	Bills	Billings	Bills	Year/Year
1/2 of 4-Plex	M	6	6	6	6	6	6	36	6	
Apartment	M	45	45	45	45	71	46	297	50	
Church	M	13	13	13	13	13	13	78	13	
Commercial		2	2	2	2	2	2	12	2	
Commercial	Imp	4	4	4	5	5	5	27	5	
Commercial	M	209	212	213	212	212	208	1,266	211	
Duplex	M	17	17	18	17	17	17	103	17	
4-Plex	Imp	1	1	1	1	1	1	6	1	
4-Plex	M	16	16	16	16	16	16	96	16	
Industrial		1	1	1	1	1	1	6	1	
Institutional	Imp	1	1	1	1	1	1	6	1	
Institutional	M	11	11	11	11	11	11	66	11	
Recreational	M	7	7	10	10	10	9	53	9	
Residential Owned		31	31	32	32	34	36	196	33	
Residential Owned	M	1,301	1,324	1,319	1,327	1,331	1,309	7,911	1,319	
Residential Rented		1	1	1	1	1	1	6	1	
Residential Rented	Imp	1	1	1	1	1	1	6	1	
Residential Rented	M	280	286	280	281	291	271	1,689	282	
Total		1,947	1,979	1,974	1,982	2,024	1,954	11,860	1,977	-
2018		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Average	Change
		Bills	Bills	Bills	Bills	Bills	Bills	Billings	Bills	Year/Year
1/2 of 4-Plex	M	7	7	7	7	7	7	42	7	1
Apartment	M	45	45	45	45	45	45	270	45	(5)
Church	M	13	13	13	13	13	13	78	13	-
Commercial		2	2	2	2	2	2	12	2	-
Commercial	Imp	5	5	5	5	5	5	30	5	1
Commercial	M	208	206	209	211	210	210	1,254	209	(2)
Duplex	M	19	18	18	18	18	19	110	18	1
4-Plex	Imp	1	1	1	1	1	1	6	1	-
4-Plex	M	17	16	16	17	17	17	100	17	1
Industrial		1	1	1	1	1	1	6	1	-
Institutional	Imp	1	1	1	1	1	1	6	1	-
Institutional	M	11	11	11	11	11	11	66	11	-
Recreational	M	9	9	10	10	10	10	58	10	1
Residential Owned		35	35	38	39	39	37	223	37	5
Residential Owned	M	1,308	1,313	1,315	1,326	1,317	1,312	7,891	1,315	(3)
Residential Rented		1	1	1	1	1	1	6	1	-
Residential Rented	Imp	1	1	1	1	1	1	6	1	-
Residential Rented	M	269	268	280	272	272	255	1,616	269	(12)
Total		1,953	1,953	1,974	1,981	1,971	1,948	11,780	1,963	(13)
2019		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Average	Change
		Bills	Bills	Bills	Bills	Bills	Bills	Billings	Bills	Year/Year
1/2 of 4-Plex	M	7	7	7	7	7	7	42	7	-
Apartment	M	45	45	45	45	45	45	270	45	-
Church	M	13	13	13	13	13	13	78	13	-
Commercial		2	2	2	2	2	2	12	2	-
Commercial	Imp	5	5	5	5	5	5	30	5	-
Commercial	M	210	210	210	210	210	210	1,260	210	1
Duplex	M	19	19	19	19	19	19	114	19	1
4-Plex	Imp	1	1	1	1	1	1	6	1	-
4-Plex	M	17	17	17	17	17	17	102	17	0
Industrial		1	1	1	1	1	1	6	1	-
Institutional	Imp	1	1	1	1	1	1	6	1	-
Institutional	M	11	11	11	11	11	11	66	11	-
Recreational	M	10	10	10	10	10	10	60	10	0
Residential Owned		37	37	37	37	37	37	222	37	(0)
Residential Owned	M	1,312	1,313	1,315	1,326	1,326	1,326	7,918	1,320	5
Residential Rented		1	1	1	1	1	1	6	1	-
Residential Rented	Imp	1	1	1	1	1	1	6	1	-
Residential Rented	M	269	268	280	272	272	255	1,616	269	-
Total		1,962	1,962	1,976	1,979	1,979	1,962	11,820	1,970	7

000000TOWN OF BARRHEAD WATER UTILITY
Customer Billings by Type

2020		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Average	Change
		Bills	Bills	Bills	Bills	Bills	Bills	Billings	Bills	Year/Year
1/2 of 4-Plex	M	7	7	7	7	7	7	42	7	-
Apartment	M	45	45	45	45	45	45	270	45	-
Church	M	13	13	13	13	13	13	78	13	-
Commercial		2	2	2	2	2	2	12	2	-
Commercial	Imp	5	5	5	5	5	5	30	5	-
Commercial	M	210	210	210	210	210	210	1,260	210	-
Duplex	M	19	19	19	19	19	19	114	19	-
4-Plex	Imp	1	1	1	1	1	1	6	1	-
4-Plex	M	17	17	17	17	17	17	102	17	-
Industrial		1	1	1	1	1	1	6	1	-
Institutional	Imp	1	1	1	1	1	1	6	1	-
Institutional	M	11	11	11	11	11	11	66	11	-
Recreational	M	10	10	10	10	10	10	60	10	-
Residential Owned		37	37	37	37	37	37	222	37	-
Residential Owned	M	1,312	1,313	1,315	1,326	1,326	1,326	7,918	1,320	-
Residential Rented		1	1	1	1	1	1	6	1	-
Residential Rented	Imp	1	1	1	1	1	1	6	1	-
Residential Rented	M	269	268	280	272	272	255	1,616	269	-
Total		1,962	1,962	1,976	1,979	1,979	1,962	11,820	1,970	-
2021		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Average	Change
		Bills	Bills	Bills	Bills	Bills	Bills	Billings	Bills	Year/Year
1/2 of 4-Plex	M	7	7	7	7	7	7	42	7	-
Apartment	M	45	45	45	45	45	45	270	45	-
Church	M	13	13	13	13	13	13	78	13	-
Commercial		2	2	2	2	2	2	12	2	-
Commercial	Imp	5	5	5	5	5	5	30	5	-
Commercial	M	210	210	210	210	210	210	1,260	210	-
Duplex	M	19	19	19	19	19	19	114	19	-
4-Plex	Imp	1	1	1	1	1	1	6	1	-
4-Plex	M	17	17	17	17	17	17	102	17	-
Industrial		1	1	1	1	1	1	6	1	-
Institutional	Imp	1	1	1	1	1	1	6	1	-
Institutional	M	11	11	11	11	11	11	66	11	-
Recreational	M	10	10	10	10	10	10	60	10	-
Residential Owned		37	37	37	37	37	37	222	37	-
Residential Owned	M	1,312	1,313	1,315	1,326	1,326	1,326	7,918	1,320	-
Residential Rented		1	1	1	1	1	1	6	1	-
Residential Rented	Imp	1	1	1	1	1	1	6	1	-
Residential Rented	M	269	268	280	272	272	255	1,616	269	-
Total		1,962	1,962	1,976	1,979	1,979	1,962	11,820	1,970	-
2022		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Average	Change
		Bills	Bills	Bills	Bills	Bills	Bills	Billings	Bills	Year/Year
1/2 of 4-Plex	M	7	7	7	7	7	7	42	7	-
Apartment	M	45	45	45	45	45	45	270	45	-
Church	M	13	13	13	13	13	13	78	13	-
Commercial		2	2	2	2	2	2	12	2	-
Commercial	Imp	5	5	5	5	5	5	30	5	-
Commercial	M	210	210	210	210	210	210	1,260	210	-
Duplex	M	19	19	19	19	19	19	114	19	-
4-Plex	Imp	1	1	1	1	1	1	6	1	-
4-Plex	M	17	17	17	17	17	17	102	17	-
Industrial		1	1	1	1	1	1	6	1	-
Institutional	Imp	1	1	1	1	1	1	6	1	-
Institutional	M	11	11	11	11	11	11	66	11	-
Recreational	M	10	10	10	10	10	10	60	10	-
Residential Owned		37	37	37	37	37	37	222	37	-
Residential Owned	M	1,312	1,313	1,315	1,326	1,326	1,326	7,918	1,320	-
Residential Rented		1	1	1	1	1	1	6	1	-
Residential Rented	Imp	1	1	1	1	1	1	6	1	-
Residential Rented	M	269	268	280	272	272	255	1,616	269	-
Total		1,962	1,962	1,976	1,979	1,979	1,962	11,820	1,970	-

000000TOWN OF BARRHEAD WATER UTILITY
Annual Water Sales (m3), Forecast Usage by Month

2017		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M	243	241	255	245	227	219	1,430	119	255	2.1399
Apartment	M	4,925	4,783	4,913	4,933	4,699	4,546	28,799	2,400	4,933	2.0555
Church	M	352	414	308	382	362	247	2,065	172	414	2.4058
Commercial		32	32	28	29	30	29	180	15	32	2.1333
Commercial	Imp	73	35	36	28	61	41	273	23	73	3.2072
Commercial	M	20,187	20,863	21,148	17,437	18,349	21,667	119,651	9,971	21,667	2.1730
Duplex	M	460	452	540	465	373	405	2,695	225	540	2.4045
4-Plex	Imp	10	12	13	11	11	10	66	6	13	2.2727
4-Plex	M	918	904	737	785	721	687	4,752	396	918	2.3182
Industrial		47	42	41	32	68	32	262	22	68	3.1145
Institutional	Imp	416	375	418	329	348	333	2,218	185	418	2.2591
Institutional	M	10,507	9,201	8,915	6,593	7,541	7,226	49,983	4,165	10,507	2.5225
Recreational	M	706	784	1,867	1,659	1,193	1,148	7,357	613	1,867	3.0453
Residential Owned		536	569	735	499	579	481	3,399	283	735	2.5949
Residential Owned	M	32,185	30,227	32,997	31,499	29,026	26,666	182,600	15,217	32,997	2.1685
Residential Rented		-	-	-	-	-	-	-	-	-	-
Residential Rented	Imp	-	-	0	-	0	-	0	0	0	-
Residential Rented	M	6,838	6,273	6,507	6,236	5,332	5,042	36,228	3,019	6,838	2.2650
Total		78,435	75,206	79,457	71,161	68,920	68,778	441,958	36,830	82,274	2.2339
2018		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M	306	257	311	285	253	238	1,650	275	311	1.1309
Apartment	M	5,025	4,421	4,539	4,491	4,529	4,230	27,235	4,539	5,025	1.1070
Church	M	395	381	536	755	291	214	2,572	429	755	1.7613
Commercial		38	31	59	90	46	35	299	50	90	1.8060
Commercial	Imp	27	33	36	24	22	14	156	26	36	1.3721
Commercial	M	23,650	22,009	30,236	29,254	26,803	19,381	151,333	25,222	30,236	1.1988
Duplex	M	478	451	425	451	419	369	2,593	432	478	1.1061
4-Plex	Imp	14	16	18	21	25	24	118	20	25	1.2959
4-Plex	M	848	794	851	768	793	715	4,769	795	851	1.0707
Industrial		43	37	41	34	27	26	208	35	43	1.2404
Institutional	Imp	439	378	364	313	316	351	2,160	360	439	1.2182
Institutional	M	9,321	8,122	7,531	5,844	6,114	6,403	43,335	7,223	9,321	1.2906
Recreational	M	1,292	888	779	826	742	639	5,166	861	1,292	1.5006
Residential Owned		569	704	874	790	631	590	4,158	693	874	1.2612
Residential Owned	M	32,740	27,652	36,547	31,788	28,418	26,568	183,713	30,619	36,547	1.1936
Residential Rented		-	-	-	-	-	-	-	-	-	-
Residential Rented	Imp	-	0	0	-	-	-	1	0	0	-
Residential Rented	M	6,442	5,204	6,544	5,780	5,631	5,141	34,742	5,790	6,544	1.1302
Total		81,626	71,378	89,691	81,514	75,061	64,938	464,207	77,368	89,691	1.1593

000000TOWN OF BARRHEAD WATER UTILITY
Annual Water Sales (m3), Forecast Usage by Month

2019		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M	295	269	304	285	259	247	1,659	277	304	1.1003
Apartment	M	4,975	4,602	4,726	4,712	3,754	4,339	27,107	4,518	4,975	1.1012
Church	M	374	398	422	569	327	231	2,319	386	569	1.4712
Commercial		35	32	44	60	38	32	240	40	60	1.4906
Commercial	Imp	59	38	40	26	41	28	232	39	59	1.5188
Commercial	M	22,080	21,551	25,615	23,194	22,489	20,628	135,559	22,593	25,615	1.1338
Duplex	M	496	491	509	498	430	411	2,834	472	509	1.0782
4-Plex	Imp	12	14	15	16	18	17	92	15	18	1.1928
4-Plex	M	912	902	844	801	780	722	4,960	827	912	1.1028
Industrial		45	40	41	33	48	29	235	39	48	1.2128
Institutional	Imp	427	376	391	321	332	342	2,189	365	427	1.1715
Institutional	M	9,914	8,662	8,223	6,219	6,828	6,815	46,659	7,777	9,914	1.2749
Recreational	M	1,222	1,053	1,323	1,243	968	957	6,766	1,128	1,323	1.1733
Residential Owned		621	712	850	663	614	542	4,003	667	850	1.2748
Residential Owned	M	32,649	28,814	34,722	31,632	28,765	26,932	183,513	30,585	34,722	1.1352
Residential Rented		-	-	-	-	-	-	-	-	-	
Residential Rented	Imp	-	0	0	-	0	-	0	0	0	
Residential Rented	M	6,506	5,541	6,526	5,908	5,307	4,943	34,731	5,788	6,526	1.1273
Total		80,621	73,493	84,595	76,178	70,996	67,213	453,097	75,516	84,595	1.1202
2020		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M	295	269	304	285	259	247	1,659	277	304	1.1003
Apartment	M	4,975	4,602	4,726	4,712	3,754	4,339	27,107	4,518	4,975	1.1012
Church	M	374	398	422	569	327	231	2,319	386	569	1.4712
Commercial		35	32	44	60	38	32	240	40	60	1.4906
Commercial	Imp	59	38	40	26	41	28	232	39	59	1.5188
Commercial	M	22,080	21,551	25,615	23,194	22,489	20,628	135,559	22,593	25,615	1.1338
Duplex	M	496	491	509	498	430	411	2,834	472	509	1.0782
4-Plex	Imp	12	14	15	16	18	17	92	15	18	1.1928
4-Plex	M	912	902	844	801	780	722	4,960	827	912	1.1028
Industrial		45	40	41	33	48	29	235	39	48	1.2128
Institutional	Imp	427	376	391	321	332	342	2,189	365	427	1.1715
Institutional	M	9,914	8,662	8,223	6,219	6,828	6,815	46,659	7,777	9,914	1.2749
Recreational	M	1,222	1,053	1,323	1,243	968	957	6,766	1,128	1,323	1.1733
Residential Owned		621	712	850	663	614	542	4,003	667	850	1.2748
Residential Owned	M	32,649	28,814	34,722	31,632	28,765	26,932	183,513	30,585	34,722	1.1352
Residential Rented		-	-	-	-	-	-	-	-	-	
Residential Rented	Imp	-	0	0	-	0	-	0	0	0	
Residential Rented	M	6,506	5,541	6,526	5,908	5,307	4,943	34,731	5,788	6,526	1.1273
Total		80,621	73,493	84,595	76,178	70,996	67,213	453,097	75,516	84,595	1.1202

000000TOWN OF BARRHEAD WATER UTILITY
Annual Water Sales (m3), Forecast Usage by Month

2021		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M	295	269	304	285	259	247	1,659	277	304	1.1003
Apartment	M	4,975	4,602	4,726	4,712	3,754	4,339	27,107	4,518	4,975	1.1012
Church	M	374	398	422	569	327	231	2,319	386	569	1.4712
Commercial		35	32	44	60	38	32	240	40	60	1.4906
Commercial	Imp	59	38	40	26	41	28	232	39	59	1.5188
Commercial	M	22,080	21,551	25,615	23,194	22,489	20,628	135,559	22,593	25,615	1.1338
Duplex	M	496	491	509	498	430	411	2,834	472	509	1.0782
4-Plex	Imp	12	14	15	16	18	17	92	15	18	1.1928
4-Plex	M	912	902	844	801	780	722	4,960	827	912	1.1028
Industrial		45	40	41	33	48	29	235	39	48	1.2128
Institutional	Imp	427	376	391	321	332	342	2,189	365	427	1.1715
Institutional	M	9,914	8,662	8,223	6,219	6,828	6,815	46,659	7,777	9,914	1.2749
Recreational	M	1,222	1,053	1,323	1,243	968	957	6,766	1,128	1,323	1.1733
Residential Owned		621	712	850	663	614	542	4,003	667	850	1.2748
Residential Owned	M	32,649	28,814	34,722	31,632	28,765	26,932	183,513	30,585	34,722	1.1352
Residential Rented		-	-	-	-	-	-	-	-	-	
Residential Rented	Imp	-	0	0	-	0	-	0	0	0	
Residential Rented	M	6,506	5,541	6,526	5,908	5,307	4,943	34,731	5,788	6,526	1.1273
Total		80,621	73,493	84,595	76,178	70,996	67,213	453,097	75,516	84,595	1.1202
2022		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M	295	269	304	285	259	247	1,659	277	304	1.1003
Apartment	M	4,975	4,602	4,726	4,712	3,754	4,339	27,107	4,518	4,975	1.1012
Church	M	374	398	422	569	327	231	2,319	386	569	1.4712
Commercial		35	32	44	60	38	32	240	40	60	1.4906
Commercial	Imp	59	38	40	26	41	28	232	39	59	1.5188
Commercial	M	22,080	21,551	25,615	23,194	22,489	20,628	135,559	22,593	25,615	1.1338
Duplex	M	496	491	509	498	430	411	2,834	472	509	1.0782
4-Plex	Imp	12	14	15	16	18	17	92	15	18	1.1928
4-Plex	M	912	902	844	801	780	722	4,960	827	912	1.1028
Industrial		45	40	41	33	48	29	235	39	48	1.2128
Institutional	Imp	427	376	391	321	332	342	2,189	365	427	1.1715
Institutional	M	9,914	8,662	8,223	6,219	6,828	6,815	46,659	7,777	9,914	1.2749
Recreational	M	1,222	1,053	1,323	1,243	968	957	6,766	1,128	1,323	1.1733
Residential Owned		621	712	850	663	614	542	4,003	667	850	1.2748
Residential Owned	M	32,649	28,814	34,722	31,632	28,765	26,932	183,513	30,585	34,722	1.1352
Residential Rented		-	-	-	-	-	-	-	-	-	
Residential Rented	Imp	-	0	0	-	0	-	0	0	0	
Residential Rented	M	6,506	5,541	6,526	5,908	5,307	4,943	34,731	5,788	6,526	1.1273
Total		80,621	73,493	84,595	76,178	70,996	67,213	453,097	75,516	84,595	1.1202

000000TOWN OF BARRHEAD WATER UTILITY
Average Customer Use (m3) and Peaking Factors by Customer Type

2017		ACTUAL	Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
			Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M		41	40	43	41	38	37	238	40	43	1.0699
Apartment	M		109	106	109	110	66	99	600	100	110	1.0971
Church	M		27	32	24	29	28	19	159	26	32	1.2029
Commercial			16	16	14	15	15	15	90	15	16	1.0667
Commercial	Imp		18	9	9	6	12	8	62	10	18	1.7719
Commercial	M		97	98	99	82	87	104	567	95	104	1.1018
Duplex	M		27	27	30	27	22	24	157	26	30	1.1482
4-Plex	Imp		10	12	13	11	11	10	66	11	13	1.1364
4-Plex	M		57	57	46	49	45	43	297	50	57	1.1591
Industrial			47	42	41	32	68	32	262	44	68	1.5573
Institutional	Imp		416	375	418	329	348	333	2,218	370	418	1.1295
Institutional	M		955	836	810	599	686	657	4,544	757	955	1.2613
Recreational	M		101	112	187	166	119	128	812	135	187	1.3790
Residential Owned			17	18	23	16	17	13	105	17	23	1.3175
Residential Owned	M		25	23	25	24	22	20	139	23	25	1.0837
Residential Rented			-	-	-	-	-	-	-	-	-	
Residential Rented	Imp		-	-	0	-	0	-	0	0	0	
Residential Rented	M		24	22	23	22	18	19	129	21	24	1.1384
Total			1,988	1,825	1,913	1,557	1,602	1,559	10,443	1,741	1,988	1.1423
2018		ACTUAL	Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
			Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M		44	37	44	41	36	34	236	39	44	1.1309
Apartment	M		112	98	101	100	101	94	605	101	112	1.1070
Church	M		30	29	41	58	22	16	198	33	58	1.7613
Commercial			19	16	30	45	23	18	150	25	45	1.8060
Commercial	Imp		5	7	7	5	4	3	31	5	7	1.3721
Commercial	M		114	107	145	139	128	92	724	121	145	1.1993
Duplex	M		25	25	24	25	23	19	142	24	25	1.0662
4-Plex	Imp		14	16	18	21	25	24	118	20	25	1.2959
4-Plex	M		50	50	53	45	47	42	287	48	53	1.1136
Industrial			43	37	41	34	27	26	208	35	43	1.2404
Institutional	Imp		439	378	364	313	316	351	2,160	360	439	1.2182
Institutional	M		847	738	685	531	556	582	3,940	657	847	1.2906
Recreational	M		144	99	78	83	74	64	541	90	144	1.5926
Residential Owned			16	20	23	20	16	16	112	19	23	1.2349
Residential Owned	M		25	21	28	24	22	20	140	23	28	1.1938
Residential Rented			-	-	-	-	-	-	-	-	-	
Residential Rented	Imp		-	0	0	-	-	-	1	0	0	
Residential Rented	M		24	19	23	21	21	20	129	21	24	1.1152
Total			1,951	1,696	1,705	1,505	1,441	1,421	9,718	1,620	1,951	1.2042
2019		FORECAST	Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
			Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M		42	38	43	41	37	35	237	40	43	1.1003
Apartment	M		111	102	105	105	83	96	602	100	111	1.1012
Church	M		29	31	32	44	25	18	178	30	44	1.4712
Commercial			18	16	22	30	19	16	120	20	30	1.4906
Commercial	Imp		12	8	8	5	8	6	46	8	12	1.5188
Commercial	M		105	103	122	110	107	98	646	108	122	1.1338
Duplex	M		26	26	27	26	23	22	149	25	27	1.0782
4-Plex	Imp		12	14	15	16	18	17	92	15	18	1.1928
4-Plex	M		54	53	50	47	46	42	292	49	54	1.1028
Industrial			45	40	41	33	48	29	235	39	48	1.2128
Institutional	Imp		427	376	391	321	332	342	2,189	365	427	1.1715
Institutional	M		901	787	748	565	621	620	4,242	707	901	1.2749
Recreational	M		122	105	132	124	97	96	677	113	132	1.1733
Residential Owned			17	19	23	18	17	15	108	18	23	1.2748
Residential Owned	M		25	22	26	24	22	20	139	23	26	1.1390
Residential Rented			-	-	-	-	-	-	-	-	-	
Residential Rented	Imp		-	0	0	-	0	-	0	0	0	
Residential Rented	M		24	21	23	22	20	19	129	21	24	1.1268
Total			1,969	1,760	1,809	1,531	1,522	1,490	10,081	1,680	1,969	1.1722

000000TOWN OF BARRHEAD WATER UTILITY
Average Customer Use (m3) and Peaking Factors by Customer Type

2020		FORECAST	Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
			Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M		42	38	43	41	37	35	237	40	43	1.1003
Apartment	M		111	102	105	105	83	96	602	100	111	1.1012
Church	M		29	31	32	44	25	18	178	30	44	1.4712
Commercial			18	16	22	30	19	16	120	20	30	1.4906
Commercial	Imp		12	8	8	5	8	6	46	8	12	1.5188
Commercial	M		105	103	122	110	107	98	646	108	122	1.1338
Duplex	M		26	26	27	26	23	22	149	25	27	1.0782
4-Plex	Imp		12	14	15	16	18	17	92	15	18	1.1928
4-Plex	M		54	53	50	47	46	42	292	49	54	1.1028
Industrial			45	40	41	33	48	29	235	39	48	1.2128
Institutional	Imp		427	376	391	321	332	342	2,189	365	427	1.1715
Institutional	M		901	787	748	565	621	620	4,242	707	901	1.2749
Recreational	M		122	105	132	124	97	96	677	113	132	1.1733
Residential Owned			17	19	23	18	17	15	108	18	23	1.2748
Residential Owned	M		25	22	26	24	22	20	139	23	26	1.1390
Residential Rented			-	-	-	-	-	-	-	-	-	
Residential Rented	Imp		-	0	0	-	0	-	0	0	0	
Residential Rented	M		24	21	23	22	20	19	129	21	24	1.1268
Total			1,969	1,760	1,809	1,531	1,522	1,490	10,081	1,680	1,969	1.1722
2021		FORECAST	Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
			Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M		42	38	43	41	37	35	237	40	43	1.1003
Apartment	M		111	102	105	105	83	96	602	100	111	1.1012
Church	M		29	31	32	44	25	18	178	30	44	1.4712
Commercial			18	16	22	30	19	16	120	20	30	1.4906
Commercial	Imp		12	8	8	5	8	6	46	8	12	1.5188
Commercial	M		105	103	122	110	107	98	646	108	122	1.1338
Duplex	M		26	26	27	26	23	22	149	25	27	1.0782
4-Plex	Imp		12	14	15	16	18	17	92	15	18	1.1928
4-Plex	M		54	53	50	47	46	42	292	49	54	1.1028
Industrial			45	40	41	33	48	29	235	39	48	1.2128
Institutional	Imp		427	376	391	321	332	342	2,189	365	427	1.1715
Institutional	M		901	787	748	565	621	620	4,242	707	901	1.2749
Recreational	M		122	105	132	124	97	96	677	113	132	1.1733
Residential Owned			17	19	23	18	17	15	108	18	23	1.2748
Residential Owned	M		25	22	26	24	22	20	139	23	26	1.1390
Residential Rented			-	-	-	-	-	-	-	-	-	
Residential Rented	Imp		-	0	0	-	0	-	0	0	0	
Residential Rented	M		24	21	23	22	20	19	129	21	24	1.1268
Total			1,969	1,760	1,809	1,531	1,522	1,490	10,081	1,680	1,969	1.1722
2022			Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking
			Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)
1/2 of 4-Plex	M		42	38	43	41	37	35	237	40	43	1.1003
Apartment	M		111	102	105	105	83	96	602	100	111	1.1012
Church	M		29	31	32	44	25	18	178	30	44	1.4712
Commercial			18	16	22	30	19	16	120	20	30	1.4906
Commercial	Imp		12	8	8	5	8	6	46	8	12	1.5188
Commercial	M		105	103	122	110	107	98	646	108	122	1.1338
Duplex	M		26	26	27	26	23	22	149	25	27	1.0782
4-Plex	Imp		12	14	15	16	18	17	92	15	18	1.1928
4-Plex	M		54	53	50	47	46	42	292	49	54	1.1028
Industrial			45	40	41	33	48	29	235	39	48	1.2128
Institutional	Imp		427	376	391	321	332	342	2,189	365	427	1.1715
Institutional	M		901	787	748	565	621	620	4,242	707	901	1.2749
Recreational	M		122	105	132	124	97	96	677	113	132	1.1733
Residential Owned			17	19	23	18	17	15	108	18	23	1.2748
Residential Owned	M		25	22	26	24	22	20	139	23	26	1.1390
Residential Rented			-	-	-	-	-	-	-	-	-	
Residential Rented	Imp		-	0	0	-	0	-	0	0	0	
Residential Rented	M		24	21	23	22	20	19	129	21	24	1.1268
Total			1,969	1,760	1,809	1,531	1,522	1,490	10,081	1,680	1,969	1.1722

TOWN OF BARRHEAD WATER UTILITY
Bulk Sales (includes some Fire Protection Volumes)

2016	Revenue	Rate/m3	Volume m ³	2017	Revenue	Rate/m3	Volume m ³	2018	Revenue	Rate/m3	Volume m ³
January	\$ 4,663.65	8.70	536.1	January	\$ 15,720.76	9.00	1,746.8	January	\$ 8,115.42	9.20	882.1
February	\$ 4,489.75	8.70	516.1	February	\$ 8,439.93	9.00	937.8	February	\$ 7,272.79	9.20	790.5
March	\$ 5,298.89	8.70	609.1	March	\$ 7,760.95	9.00	862.3	March	\$ 11,118.60	9.20	1,208.5
April	\$ 9,988.03	8.70	1,148.0	April	\$ 5,375.02	9.00	597.2	April	\$ 8,268.63	9.20	898.8
May	\$ 18,067.34	8.70	2,076.7	May	\$ 18,183.20	9.00	2,020.4	May	\$ 25,235.00	9.20	2,742.9
June	\$ 33,988.06	8.70	3,906.7	June	\$ 29,799.57	9.00	3,311.1	June	\$ 37,718.12	9.20	4,099.8
July	\$ 17,640.91	8.70	2,027.7	July	\$ 23,312.29	9.00	2,590.3	July	\$ 24,674.99	9.20	2,682.1
August	\$ 11,653.86	8.70	1,339.5	August	\$ 16,632.87	9.00	1,848.1	August	\$ 14,669.80	9.20	1,594.5
September	\$ 8,829.32	8.70	1,014.9	September	\$ 12,893.97	9.00	1,432.7	September	\$ 13,027.34	9.20	1,416.0
October	\$ 6,102.11	8.70	701.4	October	\$ 8,051.18	9.00	894.6	October	\$ 18,955.11	9.20	2,060.3
November	\$ 7,099.20	8.70	816.0	November	\$ 7,784.01	9.00	864.9	November	\$ 9,600.15	9.20	1,043.5
December	\$ 9,035.82	8.70	1,038.6	December	\$ 6,673.95	9.00	741.6	December	\$ 7,665.34	9.20	833.2
Fire - Bulk	\$ 1,900.00	8.70	218.4	Fire - Bulk	\$ 1,500.00	9.00	166.7	Fire - Bulk	\$ 3,000.00	9.20	326.1
Total	\$ 138,756.94		15,949.1	Total	\$ 162,127.70		18,014.2	Total	\$ 189,321.29		20,578.4
Average			1,226.9	Average			1,385.7	Average			1,583.0
Peaking			3.184	Peaking			2.389	Peaking			2.590

SUMMARY: ACTUAL & FORECAST SALES Volume (m³)

	2017	2018	2019	2020	2021	2022
January	1,746.8	882.1	850.0	850.0	850.0	850.0
February	937.8	790.5	800.0	800.0	800.0	800.0
March	862.3	1,208.5	950.0	950.0	950.0	950.0
April	597.2	898.8	950.0	950.0	950.0	950.0
May	2,020.4	2,742.9	2,300.0	2,300.0	2,300.0	2,300.0
June	3,311.1	4,099.8	3,500.0	3,500.0	3,500.0	3,500.0
July	2,590.3	2,682.1	2,500.0	2,500.0	2,500.0	2,500.0
August	1,848.1	1,594.5	1,600.0	1,600.0	1,600.0	1,600.0
September	1,432.7	1,416.0	1,400.0	1,400.0	1,400.0	1,400.0
October	894.6	2,060.3	1,250.0	1,250.0	1,250.0	1,250.0
November	864.9	1,043.5	900.0	900.0	900.0	900.0
December	741.6	833.2	950.0	950.0	950.0	950.0
Fire - Bulk	166.7	326.1	250.0	250.0	250.0	250.0
Total	18,014.2	20,578.4	18,200.0	18,200.0	18,200.0	18,200.0
Revenue	162,128	189,321	167,440	167,440	167,440	167,440

000000TOWN OF BARRHEAD WATER UTILITY
Annual Demand: BRWC WTP Production and Deliveries (m3)

2015	WTP to System	Neerlandia	Manola	McGill	Town of Barrhead	Wastewater from WTP
Jan	51,551	1,608	3,600	155	46,188	34,880
Feb	45,157	1,485	1,800	145	41,727	30,210
Mar	51,521	1,562	1,500	145	48,314	37,375
Apr	51,043	2,145	1,500	150	47,248	34,698
May	58,005	3,284	2,000	270	52,451	30,727
Jun	63,693	5,184	2,300	300	55,909	32,550
Jul	62,869	2,525	1,900	380	58,064	29,741
Aug	57,994	2,726	1,300	260	53,708	27,245
Sep	52,626	2,342	1,300	-	48,984	25,005
Oct	54,874	2,068	1,400	-	51,406	21,274
Nov	53,488	2,241	1,400	-	49,847	7,988
Dec	53,702	2,248	1,500	-	49,954	4,592
Total	656,523	29,418	21,500	1,805	603,800	316,285
Average	54,710	2,452	1,792	150	50,317	26,357
Maximum	63,693	5,184	3,600	380	58,064	37,375
Peaking	1.1642	2.1146	2.0093	2.5263	1.1540	1.4180
Ratio of Total		4.48%	3.27%	0.27%	91.97%	48.18%
2016	WTP to System	Neerlandia	Manola	McGill	Town of Barrhead	Wastewater from WTP
Jan	51,821	1,860	1,300	-	48,661	19,000
Feb	51,362	1,774	1,400	-	48,188	18,260
Mar	54,371	2,058	1,300	-	51,013	18,721
Apr	55,999	2,638	1,600	-	51,761	23,651
May	66,011	3,850	2,100	-	60,061	26,383
Jun	65,722	6,235	1,900	-	57,587	22,359
Jul	60,246	3,776	1,608	118	54,744	20,121
Aug	59,315	2,855	1,555	245	54,660	25,840
Sep	55,526	2,047	1,436	217	51,826	26,510
Oct	54,732	1,747	1,466	205	51,314	22,770
Nov	53,741	2,537	1,452	188	49,564	23,335
Dec	52,903	2,590	1,407	233	48,673	23,005
Total	681,749	33,967	18,524	1,206	628,052	269,955
Average	56,812	2,831	1,544	101	52,338	22,496
Maximum	66,011	6,235	2,100	245	60,061	26,510
Peaking	1.1619	2.2027	1.3604	2.4378	1.1476	1.1784
Ratio of Total		4.98%	2.72%	0.18%	92.12%	39.60%

000000TOWN OF BARRHEAD WATER UTILITY
Annual Demand: BRWC WTP Production and Deliveries (m3)

2017	WTP to System	Neerlandia	Manola	McGill	Town of Barrhead	Wastewater from WTP
Jan	52,630	2,386	1,325	181	48,738	19,815
Feb	47,762	2,101	1,183	164	44,314	21,055
Mar	50,600	2,252	1,350	198	46,800	21,795
Apr	44,697	1,987	1,325	199	41,186	20,020
May	51,289	3,183	1,776	251	46,079	21,020
Jun	58,094	5,866	2,024	246	49,958	28,605
Jul	53,265	4,220	1,761	212	47,072	25,804
Aug	51,997	2,440	1,806	190	47,561	25,456
Sep	48,294	2,800	2,573	251	42,670	24,986
Oct	50,722	2,069	1,861	201	46,591	23,094
Nov	45,442	2,241	1,900	199	41,102	24,850
Dec	50,290	1,985	1,200	208	46,897	23,795
Total	605,082	33,530	20,084	2,500	548,968	280,295
Average	50,424	2,794	1,674	208	45,747	23,358
Maximum	58,094	5,866	2,573	251	49,958	28,605
Peaking	1.1521	2.0994	1.5373	1.2048	1.0920	1.2246
Ratio of Total		5.54%	3.32%	0.41%	90.73%	46.32%
2018	WTP to System	Neerlandia	Manola	McGill	Town of Barrhead	Wastewater from WTP
Jan	50,128	1,775	1,300	176	46,877	24,905
Feb	45,667	1,518	1,325	145	42,679	22,290
Mar	49,630	1,949	1,390	169	46,122	24,040
Apr	52,558	2,908	1,322	178	48,150	19,990
May	62,686	4,091	2,091	260	56,244	31,105
Jun	65,104	6,107	2,321	274	56,402	32,135
Jul	61,325	4,207	1,577	222	55,319	28,758
Aug	56,485	3,009	1,775	159	51,542	27,500
Sep	50,963	1,895	1,385	194	47,489	23,317
Oct	50,518	1,745	1,329	191	47,253	24,127
Nov	47,062	1,828	1,335	177	43,722	23,818
Dec	45,678	1,581	1,232	260	42,605	19,675
Total	637,804	32,613	18,381	2,405	584,405	301,660
Average	53,150	2,718	1,532	200	48,700	25,138
Maximum	65,104	6,107	2,321	274	56,402	32,135
Peaking	1.2249	2.2471	1.5155	1.3672	1.1581	1.2783
Ratio of Total		5.11%	2.88%	0.38%	91.63%	47.30%

000000TOWN OF BARRHEAD WATER UTILITY
Annual Demand: BRWC WTP Production and Deliveries (m3)

2019	WTP to System	Neerlandia	Manola	McGill	Town of Barrhead	Wastewater from WTP
Jan						
Feb						
Mar						
Apr						
May						
Jun						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						
Total	-	-	-	-	-	-
Average						
Maximum	-	-	-	-	-	-
Peaking						
Ratio of Total						
2020	WTP to System	Neerlandia	Manola	McGill	Town of Barrhead	Wastewater from WTP
Jan						
Feb						
Mar						
Apr						
May						
Jun						
Jul						
Aug						
Sep						
Oct						
Nov						
Dec						
Total	-	-	-	-	-	-
Average						
Maximum	-	-	-	-	-	-
Peaking						
Ratio of Total						

TOWN OF BARRHEAD WATER UTILITY
Reconciliation of BRWC Volumes to Deliveries and Town Receipts/Deliveries (m3)

2017	WTP to System	Neerlandia	Manola	McGill	Town of Barrhead	Town Gross Sales	Town Gain/(Loss) m ³	%	System Loss (%)
Jan	52,630	2,386	1,325	181	48,738	42,829	(5,909)	(13.80%)	(12.65%)
Feb	47,762	2,101	1,183	164	44,314	38,291	(6,023)	(15.73%)	(14.43%)
Mar	50,600	2,252	1,350	198	46,800	40,865	(5,935)	(14.52%)	(13.29%)
Apr	44,697	1,987	1,325	199	41,186	35,801	(5,385)	(15.04%)	(13.70%)
May	51,289	3,183	1,776	251	46,079	40,144	(5,935)	(14.78%)	(13.09%)
Jun	58,094	5,866	2,024	246	49,958	44,644	(5,314)	(11.90%)	(10.07%)
Jul	53,265	4,220	1,761	212	47,072	37,987	(9,085)	(23.92%)	(20.56%)
Aug	51,997	2,440	1,806	190	47,561	37,779	(9,782)	(25.89%)	(23.17%)
Sep	48,294	2,800	2,573	251	42,670	34,379	(8,291)	(24.12%)	(20.73%)
Oct	50,722	2,069	1,861	201	46,591	36,868	(9,723)	(26.37%)	(23.71%)
Nov	45,442	2,241	1,900	199	41,102	32,989	(8,113)	(24.59%)	(21.73%)
Dec	50,290	1,985	1,200	208	46,897	37,395	(9,502)	(25.41%)	(23.30%)
Total	605,082	33,530	20,084	2,500	548,968	459,972	(88,996)	(19.35%)	(17.24%)
Average	50,424	2,794	1,674	208	45,747	38,331			
Maximum	58,094	5,866	2,573	251	49,958	44,644			
Peaking	1.1521	2.0994	1.5373	1.2048	1.0920	1.1647			
Ratio of Total	100.00%	5.54%	3.32%	0.41%	90.73%				
2018	WTP to System	Neerlandia	Manola	McGill	Allocation to Town (m3)	Town Sales (m3)	Town Gain/(Loss) m³	%	System Loss (%)
Jan	50,128	1,775	1,300	176	46,877	43,608	(3,269)	(7.50%)	(6.98%)
Feb	45,667	1,518	1,325	145	42,679	39,690	(2,989)	(7.53%)	(7.00%)
Mar	49,630	1,949	1,390	169	46,122	36,130	(9,992)	(27.66%)	(25.21%)
Apr	52,558	2,908	1,322	178	48,150	37,355	(10,795)	(28.90%)	(25.85%)
May	62,686	4,091	2,091	260	56,244	47,526	(8,718)	(18.34%)	(16.15%)
Jun	65,104	6,107	2,321	274	56,402	49,008	(7,394)	(15.09%)	(12.81%)
Jul	61,325	4,207	1,577	222	55,319	44,880	(10,440)	(23.26%)	(20.52%)
Aug	56,485	3,009	1,775	159	51,542	41,237	(10,305)	(24.99%)	(22.32%)
Sep	50,963	1,895	1,385	194	47,489	39,040	(8,449)	(21.64%)	(19.87%)
Oct	50,518	1,745	1,329	191	47,253	39,497	(7,756)	(19.64%)	(18.14%)
Nov	47,062	1,828	1,335	177	43,722	33,932	(9,789)	(28.85%)	(26.26%)
Dec	45,678	1,581	1,232	260	42,605	32,882	(9,723)	(29.57%)	(27.04%)
Total	637,804	32,613	18,381	2,405	584,405	484,786	(99,619)	(20.55%)	(18.51%)
Average	53,150	2,718	1,532	200	48,700	40,399			
Maximum	65,104	6,107	2,321	274	56,402	49,008			
Peaking	1.2249	2.2471	1.5155	1.3672	1.1581	1.2131			
Ratio of Total	100.00%	5.11%	2.88%	0.38%	91.63%				

TOWN OF BARRHEAD WATER UTILITY
Reconciliation of BRWC Volumes to Deliveries and Town Receipts/Deliveries (m3)

2019	WTP to System	Neerlandia	Manola	McGill	Allocation to Town (m3)	Town Sales (m3)	Town m ³	Gain/(Loss) %	System Loss (%)
Jan		2,081	1,313	179			-		
Feb		1,810	1,254	155			-		
Mar		2,101	1,370	184			-		
Apr		2,448	1,324	189			-		
May		3,637	1,934	256			-		
Jun		5,987	2,173	260			-		
Jul		4,214	1,669	217			-		
Aug		2,725	1,790	175			-		
Sep		2,348	1,979	223			-		
Oct		1,907	1,595	196			-		
Nov		2,035	1,618	188			-		
Dec		1,783	1,216	234			-		
Total	-	33,072	19,233	2,453	-	-	-		
Average		2,756	1,603	204					
Maximum	-	5,987	2,173	260	-	-			
Peaking		2.1722	1.3556	1.2722					
Ratio of Total									
2020	WTP to System	Neerlandia	Manola	McGill	Allocation to Town (m3)	Town Sales (m3)	Town m ³	Gain/(Loss) %	System Loss (%)
Jan		2,000	1,350	180			-		
Feb		1,850	1,250	160			-		
Mar		2,100	1,350	180			-		
Apr		2,500	1,350	200			-		
May		3,750	2,000	250			-		
Jun		5,500	2,100	250			-		
Jul		4,000	1,800	250			-		
Aug		2,800	1,800	225			-		
Sep		2,350	1,800	220			-		
Oct		2,000	1,500	200			-		
Nov		2,000	1,500	180			-		
Dec		2,000	1,400	180			-		
Total	-	32,850	19,200	2,475	-	-	-		0.00%
Average		2,738	1,600	206					
Maximum	-	5,500	2,100	250	-	-			
Peaking		2.0091	1.3125	1.2121					
Ratio of Total									

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Function

1. CASH OPERATING EXPENSES (Schedule 6)	2018		Allocation Ratios (%)				Costs Allocated to Function				Check Totals
	Revenue	Requirement	Base	Demand	Customer	Fire Protection	Base	Demand	Customer	Fire Protection	
Account TOWN WATER EXPENSES											
110-00	Water - Salaries	109,291	40%	15%	40%	5%	43,717	16,394	43,717	5,465	109,291
131-00	Water - Local Authorities Pension	11,816	40%	15%	40%	5%	4,726	1,772	4,726	591	11,816
132-00	Water - Canada Pension Plan	3,709	40%	15%	40%	5%	1,484	556	1,484	185	3,709
133-00	Water - Employment Insurance	1,562	40%	15%	40%	5%	625	234	625	78	1,562
135-00	Water - AUMA Benefits	10,223	40%	15%	40%	5%	4,089	1,533	4,089	511	10,223
136-00	Water - Workers Compensation	1,343	40%	15%	40%	5%	537	201	537	67	1,343
148-00	Water - Training & Development	(258)	35%	20%	35%	10%	(90)	(52)	(90)	(26)	(258)
211-00	Water - Travel & Subsistance	-	30%	30%	30%	10%	-	-	-	-	-
215-00	Water - Freight	195	40%	30%	30%	0%	78	59	59	-	195
216-00	Water - Postage	4,513	30%	10%	60%	0%	1,354	451	2,708	-	4,513
217-00	Water - Telephone	4,635	40%	30%	30%	0%	1,854	1,391	1,391	-	4,635
217-01	Water - Alberta First Call	515	20%	55%	20%	5%	103	283	103	26	515
232-00	Water - Legal	-	40%	35%	20%	5%	-	-	-	-	-
233-00	Water - Engineering	-	40%	30%	30%	0%	-	-	-	-	-
234-00	Water - Consulting	-	40%	30%	30%	0%	-	-	-	-	-
239-00	Water - Utility Bill Printing	995	15%	15%	70%	0%	149	149	696	-	995
251-00	Water - Repair/Maintenance Distribution	36,460	25%	40%	25%	10%	9,115	14,584	9,115	3,646	36,460
251-01	Water - Meter Changeover/Software	5,994	25%	25%	50%	0%	1,499	1,499	2,997	-	5,994
252-00	Water - Repair/Maintenance Facilities	365	35%	30%	30%	5%	128	110	110	18	365
255-25	Water - 2010 Dodge 1/2 Ton	15	60%	20%	20%	0%	9	3	3	-	15
255-59	Water - 2007 Chevrolet 1/2 Ton Truck	802	55%	20%	20%	5%	441	160	160	40	802
255-62	Water - 2012 Ford 1/2 Ton	-	60%	20%	20%	5%	-	-	-	-	-
255-67	Water - 2007 Dodge Ext. Cab Truck	1,684	50%	20%	20%	10%	842	337	337	168	1,684
274-00	Water - Insurance	13,262	50%	20%	20%	10%	6,631	2,652	2,652	1,326	13,262
510-00	Water - Materials & Supplies General	1,766	30%	30%	30%	10%	530	530	530	177	1,766
510-01	Water - Materials/Supply Facilities	50	30%	30%	30%	10%	15	15	15	5	50
510-02	Water - Gasoline & Oil	3,427	60%	20%	20%	0%	2,056	685	685	-	3,427
512-00	Water - Personal Prot. Equip	542	50%	25%	20%	5%	271	136	108	27	542
531-00	Water - Chemicals & Salts	-	50%	35%	10%	5%	-	-	-	-	-
543-00	Water - Gas Utilities	3,388	50%	30%	20%	0%	1,694	1,016	678	-	3,388
544-00	Water - Power Utilities	18,165	50%	30%	20%	0%	9,083	5,450	3,633	-	18,165
920-00	Water - Utility Billing Write Off	12,007	20%	30%	50%	0%	2,401	3,602	6,004	-	12,007
Sub-Total: Town Water Expenses		246,467	38%	22%	35%	5%	93,340	53,751	87,071	12,305	246,467
Excluding Fire Protection			39.9%	23.0%	37.2%		98,245	56,576	91,646		246,467
Expenses - Barrhead Regional Water Commission											
110-00	Water (BRWC) - Salaries	154,250	50%	40%	10%	0%	77,125	61,700	15,425	-	154,250
131-00	Water (BRWC) - Local Authorities Pension	15,757	50%	40%	10%	0%	7,878	6,303	1,576	-	15,757
132-00	Water (BRWC) - Canada Pension Plan	4,719	50%	40%	10%	0%	2,359	1,888	472	-	4,719
133-00	Water (BRWC) - Employment Insurance	2,082	50%	40%	10%	0%	1,041	833	208	-	2,082
135-00	Water (BRWC) - AUMA Benefits	11,404	50%	40%	10%	0%	5,702	4,562	1,140	-	11,404

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Function

		2018	Allocation Ratios (%)				Costs Allocated to Function				Check
		Revenue	Fire				Fire				Totals
1. CASH OPERATING EXPENSES (Schedule 6)	Requirement		Base	Demand	Customer	Protection	Base	Demand	Customer	Protection	
136-00 Water (BRWC) - Workers Compensation	1,810	50%	40%	10%	0%	905	724	181	-	-	1,810
148-00 Water (BRWC) - Training & Development	3,089	50%	40%	10%	0%	1,545	1,236	309	-	-	3,089
211-00 Water (BRWC) - Travel & Subsistence	2,595	50%	40%	10%	0%	1,298	1,038	260	-	-	2,595
215-00 Water (BRWC) - Memberships	271	50%	40%	10%	0%	136	109	27	-	-	271
216-00 Water (BRWC) - Freight	9,284	50%	40%	10%	0%	4,642	3,714	928	-	-	9,284
217-00 Water (BRWC) - Postage	243	50%	40%	10%	0%	122	97	24	-	-	243
217-01 Water (BRWC) - Telephone	3,667	50%	40%	10%	0%	1,834	1,467	367	-	-	3,667
233-00 Water (BRWC) - Engineering/Legal	-	50%	40%	10%	0%	-	-	-	-	-	-
240-00 Water (BRWC) - IT Maintenance, Materials	-	50%	40%	10%	0%	-	-	-	-	-	-
251-00 Water (BRWC) - Repair/Maint. Distribution	165	50%	40%	10%	0%	82	66	16	-	-	165
252-00 Water (BRWC) - Repair/Maint. Facilities	40,189	50%	40%	10%	0%	20,095	16,076	4,019	-	-	40,189
259-00 Water (BRWC) - Contracted Service (Weir)	-	50%	40%	10%	0%	-	-	-	-	-	-
263-00 Water (BRWC) - Alarm Lease	323	50%	40%	10%	0%	162	129	32	-	-	323
274-00 Water (BRWC) - Insurance	39,926	50%	40%	10%	0%	19,963	15,971	3,993	-	-	39,926
510-00 Water (BRWC) - Materials & Sup. General	5,575	50%	40%	10%	0%	2,787	2,230	557	-	-	5,575
510-01 Water (BRWC) - Materials/Supply Facilities	448	50%	40%	10%	0%	224	179	45	-	-	448
510-02 Water (BRWC) - Mileage Expenses	1,122	50%	40%	10%	0%	561	449	112	-	-	1,122
512-00 Water (BRWC) - Personal Prot. Equip/Health	1,006	50%	40%	10%	0%	503	402	101	-	-	1,006
531-00 Water (BRWC) - Chemicals & Salts	120,133	50%	40%	10%	0%	60,067	48,053	12,013	-	-	120,133
543-00 Water (BRWC) - Gas Utilities	41,564	50%	40%	10%	0%	20,782	16,626	4,156	-	-	41,564
544-00 Water (BRWC) - Power Utilities	146,889	50%	40%	10%	0%	73,444	58,755	14,689	-	-	146,889
750-00 Water (BRWC) - Cont. To County	-	50%	40%	10%	0%	-	-	-	-	-	-
762-00 Water (BRWC) - Contribution to Capital	-	50%	40%	10%	0%	-	-	-	-	-	-
Sub-Total	606,511	50%	40%	10%	0%	303,256	242,605	60,651	-	-	606,511
ALLOCATED EXPENSES - General & Administration											
- Water - Executive Salaries & Benefits	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - Management Salaries & Benefits	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - Office Operations	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - Office, Furnishings & Equipment	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - Office, Other	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - PW Salaries & Benefits	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - PW Shop & Yard Operations	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - PW Equipment	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - Vehicles & Equipment	-	60%	15%	20%	5%	-	-	-	-	-	-
Sub-Total: Allocated G&A Expenses	-					-	-	-	-	-	-
Excluding Fire Protection		#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	
Total Cash Operating Expenses	852,979	46%	35%	17%	1%	396,596	296,356	147,722	12,305	-	852,979
		47.2%	35.3%	17.6%		402,401	300,693	149,884			

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Function

	2018 Revenue Requirement	Allocation Ratios (%)				Costs Allocated to Function				Check Totals
		Base	Demand	Customer	Fire Protection	Base	Demand	Customer	Fire Protection	
1. CASH OPERATING EXPENSES (Schedule 6)										
2. NON-CASH EXPENSES										
a) Amortization/Depreciation	188,859	35%	45%	15%	5%	66,101	84,987	28,329	9,443	188,859
b) Amortization of NCC	(67,283)	35%	45%	15%	5%	(23,549)	(30,278)	(10,093)	(3,364)	(67,283)
c) Total Non-Cash Expenses	121,576	35%	45%	15%	5%	42,552	54,709	18,236	6,079	121,576
Excluding Fire Protection		36.8%	47.4%	15.8%		44,791	57,589	19,196		121,576
3. RETURN ON RATE BASE (Schedule 5)	215,670	35%	45%	15%	5%	75,485	97,052	32,351	10,784	215,670
Excluding Fire Protection		36.8%	47.4%	15.8%		79,457	102,160	34,053		215,670
4. RESERVES & OTHER TRANSFERS	-	50%	25%	25%	0%	-	-	-	-	-
5. UTILITY REVENUE REQUIREMENT	1,190,225	43%	38%	17%	2%	514,632	448,117	198,309	29,167	1,190,225
Excluding Fire Protection		44.3%	38.6%	17.1%		527,560	459,374	203,291		1,190,225
6. OTHER REVENUES (Schedule 8)										
410-03 Sale of Materials	-	20%	30%	50%	0%	-	-	-	-	-
410-05 Turn On/Off Fee	930	20%	30%	50%	0%	186	279	465	-	930
410-06 Sale of Service/Repairs	105	20%	30%	50%	0%	21	32	53	-	105
410-07 Bulk Water Set Up Charge	602	20%	30%	50%	0%	120	181	301	-	602
410-09 BRWC - Oper. Sale of Serv	609,493	50%	40%	10%	0%	304,747	243,797	60,949	-	609,493
411-00 BRWC Asset Lease	87,127	45%	25%	25%	5%	39,207	21,782	21,782	4,356	87,127
590-00 Water - Penalties	3,560	25%	25%	50%	0%	890	890	1,780	-	3,560
590-01 Water - Reimbursements	-	30%	40%	30%	0%	-	-	-	-	-
Total Other Revenues	701,818	49%	38%	12%	1%	345,171	266,960	85,330	4,356	701,818
7. NET UTILITY REVENUE REQUIREMENTS	488,407	35%	37%	23%	5%	169,461	181,156	112,979	24,811	488,407
Excluding Fire Protection		36.6%	39.1%	24.4%		178,530	190,851	119,026		488,407

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Function

		2019	Allocation Ratios (%)				Costs Allocated to Function				Check
		Revenue	Fire								Totals
1. CASH OPERATING EXPENSES	Requirement		Base	Demand	Customer	Protection	Base	Demand	Customer	Protection	
Account	TOWN WATER EXPENSES										
110-00	Water - Salaries	112,024	40%	15%	40%	5%	44,809	16,804	44,809	5,601	112,024
131-00	Water - Local Authorities Pension	12,111	40%	15%	40%	5%	4,844	1,817	4,844	606	12,111
132-00	Water - Canada Pension Plan	3,802	40%	15%	40%	5%	1,521	570	1,521	190	3,802
133-00	Water - Employment Insurance	1,602	40%	15%	40%	5%	641	240	641	80	1,602
135-00	Water - AUMA Benefits	10,479	40%	15%	40%	5%	4,191	1,572	4,191	524	10,479
136-00	Water - Workers Compensation	1,370	40%	15%	40%	5%	548	205	548	68	1,370
148-00	Water - Training & Development	(264)	35%	20%	35%	10%	(92)	(53)	(92)	(26)	(264)
211-00	Water - Travel & Subsistence	-	30%	30%	30%	10%	-	-	-	-	-
215-00	Water - Freight	200	40%	30%	30%	0%	80	60	60	-	200
216-00	Water - Postage	4,603	30%	10%	60%	0%	1,381	460	2,762	-	4,603
217-00	Water - Telephone	4,751	40%	30%	30%	0%	1,900	1,425	1,425	-	4,751
217-01	Water - Alberta First Call	525	20%	55%	20%	5%	105	289	105	26	525
232-00	Water - Legal	-	40%	35%	20%	5%	-	-	-	-	-
233-00	Water - Engineering	-	40%	30%	30%	0%	-	-	-	-	-
234-00	Water - Consulting	-	40%	30%	30%	0%	-	-	-	-	-
239-00	Water - Utility Bill Printing	1,020	15%	15%	70%	0%	153	153	714	-	1,020
251-00	Water - Repair/Maintenance Distribution	37,189	25%	40%	25%	10%	9,297	14,876	9,297	3,719	37,189
251-01	Water - Meter Changeover/Software	6,144	25%	25%	50%	0%	1,536	1,536	3,072	-	6,144
252-00	Water - Repair/Maintenance Facilities	373	35%	30%	30%	5%	130	112	112	19	373
255-25	Water - 2010 Dodge 1/2 Ton	15	60%	20%	20%	0%	9	3	3	-	15
255-59	Water - 2007 Chevrolet 1/2 Ton Truck	818	60%	20%	20%	0%	491	164	164	-	818
255-62	Water - 2012 Ford 1/2 Ton	-	60%	20%	20%	0%	-	-	-	-	-
255-67	Water - 2007 Dodge Ext. Cab Truck	1,717	60%	20%	20%	0%	1,030	343	343	-	1,717
274-00	Water - Insurance	13,594	50%	20%	20%	10%	6,797	2,719	2,719	1,359	13,594
510-00	Water - Materials & Supplies General	1,801	30%	30%	30%	10%	540	540	540	180	1,801
510-01	Water - Materials/Supply Facilities	51	30%	30%	30%	10%	15	15	15	5	51
510-02	Water - Gasoline & Oil	3,496	60%	20%	20%	0%	2,097	699	699	-	3,496
512-00	Water - Personal Prot. Equip	556	50%	25%	20%	5%	278	139	111	28	556
531-00	Water - Chemicals & Salts	-	50%	35%	10%	5%	-	-	-	-	-
543-00	Water - Gas Utilities	3,472	50%	30%	20%	0%	1,736	1,042	694	-	3,472
544-00	Water - Power Utilities	18,528	50%	30%	20%	0%	9,264	5,558	3,706	-	18,528
920-00	Water - Utility Billing Write Off	300,000	20%	30%	50%	0%	60,000	90,000	150,000	-	300,000
Sub-Total: Town Water Expenses		539,976	62%	57%	95%	5%	153,304	141,289	233,004	12,379	539,976
Excluding Fire Protection			29.1%	26.8%	44.2%		156,901	144,604	238,471		539,976
Expenses - Barrhead Regional Water Commission											
110-00	Water (BRWC) - Salaries	158,106	50.0%	40.0%	10.0%	0%	79,053	63,242	15,811	-	158,106
131-00	Water (BRWC) - Local Authorities Pension	16,150	50.0%	40.0%	10.0%	0%	8,075	6,460	1,615	-	16,150
132-00	Water (BRWC) - Canada Pension Plan	4,837	50.0%	40.0%	10.0%	0%	2,418	1,935	484	-	4,837
133-00	Water (BRWC) - Employment Insurance	2,134	50.0%	40.0%	10.0%	0%	1,067	854	213	-	2,134
135-00	Water (BRWC) - AUMA Benefits	11,689	50.0%	40.0%	10.0%	0%	5,845	4,676	1,169	-	11,689

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Function

		2019	Allocation Ratios (%)				Costs Allocated to Function				Check
		Revenue	Fire								Totals
1. CASH OPERATING EXPENSES		Requirement	Base	Demand	Customer	Protection	Base	Demand	Customer	Protection	
136-00	Water (BRWC) - Workers Compensation	1,855	50.0%	40.0%	10.0%	0%	928	742	186	-	1,855
148-00	Water (BRWC) - Training & Development	3,151	50.0%	40.0%	10.0%	0%	1,576	1,260	315	-	3,151
211-00	Water (BRWC) - Travel & Subsistence	2,647	50.0%	40.0%	10.0%	0%	1,323	1,059	265	-	2,647
215-00	Water (BRWC) - Memberships	277	50.0%	40.0%	10.0%	0%	138	111	28	-	277
216-00	Water (BRWC) - Freight	9,470	50.0%	40.0%	10.0%	0%	4,735	3,788	947	-	9,470
217-00	Water (BRWC) - Postage	248	50.0%	40.0%	10.0%	0%	124	99	25	-	248
217-01	Water (BRWC) - Telephone	3,741	50.0%	40.0%	10.0%	0%	1,870	1,496	374	-	3,741
233-00	Water (BRWC) - Engineering/Legal	-	50.0%	40.0%	10.0%	0%	-	-	-	-	-
240-00	Water (BRWC) - IT Maintenance, Materials	-	50.0%	40.0%	10.0%	0%	-	-	-	-	-
251-00	Water (BRWC) - Repair/Maint. Distribution	168	50.0%	40.0%	10.0%	0%	84	67	17	-	168
252-00	Water (BRWC) - Repair/Maint. Facilities	40,993	50.0%	40.0%	10.0%	0%	20,497	16,397	4,099	-	40,993
259-00	Water (BRWC) - Contracted Service (Weir)	-	50.0%	40.0%	10.0%	0%	-	-	-	-	-
263-00	Water (BRWC) - Alarm Lease	330	50.0%	40.0%	10.0%	0%	165	132	33	-	330
274-00	Water (BRWC) - Insurance	40,725	50.0%	40.0%	10.0%	0%	20,363	16,290	4,073	-	40,725
510-00	Water (BRWC) - Materials & Sup. General	5,686	50.0%	40.0%	10.0%	0%	2,843	2,274	569	-	5,686
510-01	Water (BRWC) - Materials/Supply Facilities	457	50.0%	40.0%	10.0%	0%	228	183	46	-	457
510-02	Water (BRWC) - Mileage Expenses	1,144	50.0%	40.0%	10.0%	0%	572	458	114	-	1,144
512-00	Water (BRWC) - Personal Prot. Equip/Health	1,026	50.0%	40.0%	10.0%	0%	513	410	103	-	1,026
531-00	Water (BRWC) - Chemicals & Salts	122,536	50.0%	40.0%	10.0%	0%	61,268	49,014	12,254	-	122,536
543-00	Water (BRWC) - Gas Utilities	42,396	50.0%	40.0%	10.0%	0%	21,198	16,958	4,240	-	42,396
544-00	Water (BRWC) - Power Utilities	149,826	50.0%	40.0%	10.0%	0%	74,913	59,931	14,983	-	149,826
750-00	Water (BRWC) - Cont. To County	-	50.0%	40.0%	10.0%	0%	-	-	-	-	-
762-00	Water (BRWC) - Contribution to Capital	-	50.0%	40.0%	10.0%	0%	-	-	-	-	-
Sub-Total		619,592	51%	41%	10%	0%	309,796	247,837	61,959	-	619,592
ALLOCATED EXPENSES - General & Administration											
-	Water - Executive Salaries & Benefits	-	60%	15%	20%	5%	-	-	-	-	-
-	Water - Management Salaries & Benefits	-	60%	15%	20%	5%	-	-	-	-	-
-	Water - Office Operations	-	60%	15%	20%	5%	-	-	-	-	-
-	Water - Office, Furnishings & Equipment	-	60%	15%	20%	5%	-	-	-	-	-
-	Water - Office, Other	-	60%	15%	20%	5%	-	-	-	-	-
-	Water - PW Salaries & Benefits	-	60%	15%	20%	5%	-	-	-	-	-
-	Water - PW Shop & Yard Operations	-	60%	15%	20%	5%	-	-	-	-	-
-	Water - PW Equipment	-	60%	15%	20%	5%	-	-	-	-	-
-	Water - Vehicles & Equipment	-	60%	15%	20%	5%	-	-	-	-	-
Sub-Total: Allocated G&A Expenses		-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	-	-	-	-
Excluding Fire Protection			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
Total Cash Operating Expenses		1,159,568	54%	46%	35%	1%	463,100	389,125	294,963	12,379	1,159,568
			55.1%	46.3%	35.1%		469,878	394,821	299,281		

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Function

	2019 Revenue Requirement	Allocation Ratios (%)				Costs Allocated to Function				Check Totals
		Base	Demand	Customer	Fire Protection	Base	Demand	Customer	Fire Protection	
1. CASH OPERATING EXPENSES										
2. NON-CASH EXPENSES										
a) Amortization/Depreciation	187,704	35%	45%	15%	5%	65,696	84,467	28,156	9,385	187,704
b) Amortization of NCC	(64,946)	35%	45%	15%	5%	(22,731)	(29,226)	(9,742)	(3,247)	(64,946)
c) Total Non-Cash Expenses	122,758	35%	45%	15%	5%	42,965	55,241	18,414	6,138	122,758
Excluding Fire Protection		36.8%	47.4%	15.8%		45,227	58,148	19,383		122,758
3. RETURN ON RATE BASE	221,229	35%	45%	15%	5%	77,430	99,553	33,184	11,061	221,229
Excluding Fire Protection		36.8%	47.4%	15.8%		81,505	104,793	34,931		221,229
4. RESERVES & OTHER TRANSFERS	-	50%	25%	25%	0%	-	-	-	-	-
5. UTILITY REVENUE REQUIREMENT	1,503,554	39%	36%	23%	2%	583,495	543,919	346,561	29,578	1,503,554
Excluding Fire Protection		39.6%	36.9%	23.5%		595,204	554,834	353,516		1,503,554
6. OTHER REVENUES (Schedule 8)										
410-03 Sale of Materials	-	20%	30%	50%	0%	-	-	-	-	-
410-05 Turn On/Off Fee	800	20%	30%	50%	0%	160	240	400	-	800
410-06 Sale of Service/Repairs	1,000	20%	30%	50%	0%	200	300	500	-	1,000
410-07 Bulk Water Set Up Charge	600	20%	30%	50%	0%	120	180	300	-	600
410-09 BRWC - Oper. Sale of Serv	619,592	50%	40%	10%	0%	309,796	247,837	61,959	-	619,592
411-00 BRWC Asset Lease	87,127	45%	25%	25%	5%	39,207	21,782	21,782	4,356	87,127
590-00 Water - Penalties	5,000	25%	25%	50%	0%	1,250	1,250	2,500	-	5,000
590-01 Water - Reimbursements	-	30%	40%	30%	0%	-	-	-	-	-
Total Other Revenues	714,119	50%	39%	12%	1%	350,733	271,588	87,441	4,356	714,119
7. NET UTILITY REVENUE REQUIREMENTS	789,436	48%	56%	53%	5%	232,762	272,331	259,120	25,222	789,436
Excluding Fire Protection		50.2%	58.7%	55.9%		245,219	286,906	272,988		805,113

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Function

		2020	Allocation Ratios (%)				Costs Allocated to Function				Check
		Revenue	Fire								Totals
1. CASH OPERATING EXPENSES	Requirement		Base	Demand	Customer	Protection	Base	Demand	Customer	Protection	
Account	TOWN WATER EXPENSES										
110-00	Water - Salaries	114,824	40%	15%	40%	5%	45,930	17,224	45,930	5,741	114,824
131-00	Water - Local Authorities Pension	12,414	40%	15%	40%	5%	4,966	1,862	4,966	621	12,414
132-00	Water - Canada Pension Plan	3,897	40%	15%	40%	5%	1,559	585	1,559	195	3,897
133-00	Water - Employment Insurance	1,642	40%	15%	40%	5%	657	246	657	82	1,642
135-00	Water - AUMA Benefits	10,741	40%	15%	40%	5%	4,296	1,611	4,296	537	10,741
136-00	Water - Workers Compensation	1,397	40%	15%	40%	5%	559	210	559	70	1,397
148-00	Water - Training & Development	(271)	35%	20%	35%	10%	(95)	(54)	(95)	(27)	(271)
211-00	Water - Travel & Subsistence	-	30%	30%	30%	10%	-	-	-	-	-
215-00	Water - Freight	205	40%	30%	30%	0%	82	62	62	-	205
216-00	Water - Postage	4,695	30%	10%	60%	0%	1,409	470	2,817	-	4,695
217-00	Water - Telephone	4,870	40%	30%	30%	0%	1,948	1,461	1,461	-	4,870
217-01	Water - Alberta First Call	535	20%	55%	20%	5%	107	294	107	27	535
232-00	Water - Legal	-	40%	35%	20%	5%	-	-	-	-	-
233-00	Water - Engineering	-	40%	30%	30%	0%	-	-	-	-	-
234-00	Water - Consulting	-	40%	30%	30%	0%	-	-	-	-	-
239-00	Water - Utility Bill Printing	1,045	15%	15%	70%	0%	157	157	732	-	1,045
251-00	Water - Repair/Maintenance Distribution	37,933	25%	40%	25%	10%	9,483	15,173	9,483	3,793	37,933
251-01	Water - Meter Changeover/Software	6,298	25%	25%	50%	0%	1,574	1,574	3,149	-	6,298
252-00	Water - Repair/Maintenance Facilities	380	35%	30%	30%	5%	133	114	114	19	380
255-25	Water - 2010 Dodge 1/2 Ton	16	60%	20%	20%	0%	9	3	3	-	16
255-59	Water - 2007 Chevrolet 1/2 Ton Truck	834	60%	20%	20%	0%	501	167	167	-	834
255-62	Water - 2012 Ford 1/2 Ton	-	60%	20%	20%	0%	-	-	-	-	-
255-67	Water - 2007 Dodge Ext. Cab Truck	1,752	60%	20%	20%	0%	1,051	350	350	-	1,752
274-00	Water - Insurance	13,934	50%	20%	20%	10%	6,967	2,787	2,787	1,393	13,934
510-00	Water - Materials & Supplies General	1,837	30%	30%	30%	10%	551	551	551	184	1,837
510-01	Water - Materials/Supply Facilities	52	30%	30%	30%	10%	16	16	16	5	52
510-02	Water - Gasoline & Oil	3,566	60%	20%	20%	0%	2,139	713	713	-	3,566
512-00	Water - Personal Prot. Equip	570	50%	25%	20%	5%	285	142	114	28	570
531-00	Water - Chemicals & Salts	-	50%	35%	10%	5%	-	-	-	-	-
543-00	Water - Gas Utilities	3,559	50%	30%	20%	0%	1,780	1,068	712	-	3,559
544-00	Water - Power Utilities	18,899	50%	30%	20%	0%	9,449	5,670	3,780	-	18,899
920-00	Water - Utility Billing Write Off	300,000	20%	30%	50%	0%	60,000	90,000	150,000	-	300,000
Sub-Total:	Overhead Expenses	545,623	63%	58%	95%	5%	155,512	142,455	234,988	12,669	545,623
	Excluding Fire Protection		29.2%	26.7%	44.1%		159,209	145,841	240,574		545,623
Expenses - Barrhead Regional Water Commission											
110-00	Water (BRWC) - Salaries	162,059	50.0%	40.0%	10.0%	0%	81,029	64,824	16,206	-	162,059
131-00	Water (BRWC) - Local Authorities Pension	16,554	50.0%	40.0%	10.0%	0%	8,277	6,622	1,655	-	16,554
132-00	Water (BRWC) - Canada Pension Plan	4,958	50.0%	40.0%	10.0%	0%	2,479	1,983	496	-	4,958
133-00	Water (BRWC) - Employment Insurance	2,187	50.0%	40.0%	10.0%	0%	1,094	875	219	-	2,187
135-00	Water (BRWC) - AUMA Benefits	11,982	50.0%	40.0%	10.0%	0%	5,991	4,793	1,198	-	11,982

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Function

		2020	Allocation Ratios (%)				Costs Allocated to Function				Check
		Revenue	Fire								Totals
1. CASH OPERATING EXPENSES	Requirement		Base	Demand	Customer	Protection	Base	Demand	Customer	Protection	
136-00 Water (BRWC) - Workers Compensation	1,902	50.0%	40.0%	10.0%	0%	951	761	190	-	-	1,902
148-00 Water (BRWC) - Training & Development	3,214	50.0%	40.0%	10.0%	0%	1,607	1,286	321	-	-	3,214
211-00 Water (BRWC) - Travel & Subsistance	2,700	50.0%	40.0%	10.0%	0%	1,350	1,080	270	-	-	2,700
215-00 Water (BRWC) - Memberships	282	50.0%	40.0%	10.0%	0%	141	113	28	-	-	282
216-00 Water (BRWC) - Freight	9,659	50.0%	40.0%	10.0%	0%	4,830	3,864	966	-	-	9,659
217-00 Water (BRWC) - Postage	253	50.0%	40.0%	10.0%	0%	126	101	25	-	-	253
217-01 Water (BRWC) - Telephone	3,815	50.0%	40.0%	10.0%	0%	1,908	1,526	382	-	-	3,815
233-00 Water (BRWC) - Engineering/Legal	-	50.0%	40.0%	10.0%	0%	-	-	-	-	-	-
240-00 Water (BRWC) - IT Maintenance, Materials	-	50.0%	40.0%	10.0%	0%	-	-	-	-	-	-
251-00 Water (BRWC) - Repair/Maint. Distribution	172	50.0%	40.0%	10.0%	0%	86	69	17	-	-	172
252-00 Water (BRWC) - Repair/Maint. Facilities	41,813	50.0%	40.0%	10.0%	0%	20,907	16,725	4,181	-	-	41,813
259-00 Water (BRWC) - Contracted Service (Weir)	-	50.0%	40.0%	10.0%	0%	-	-	-	-	-	-
263-00 Water (BRWC) - Alarm Lease	336	50.0%	40.0%	10.0%	0%	168	135	34	-	-	336
274-00 Water (BRWC) - Insurance	41,540	50.0%	40.0%	10.0%	0%	20,770	16,616	4,154	-	-	41,540
510-00 Water (BRWC) - Materials & Sup. General	5,800	50.0%	40.0%	10.0%	0%	2,900	2,320	580	-	-	5,800
510-01 Water (BRWC) - Materials/Supply Facilities	466	50.0%	40.0%	10.0%	0%	233	186	47	-	-	466
510-02 Water (BRWC) - Mileage Expenses	1,167	50.0%	40.0%	10.0%	0%	583	467	117	-	-	1,167
512-00 Water (BRWC) - Personal Prot. Equip/Health	1,046	50.0%	40.0%	10.0%	0%	523	419	105	-	-	1,046
531-00 Water (BRWC) - Chemicals & Salts	124,986	50.0%	40.0%	10.0%	0%	62,493	49,995	12,499	-	-	124,986
543-00 Water (BRWC) - Gas Utilities	43,243	50.0%	40.0%	10.0%	0%	21,622	17,297	4,324	-	-	43,243
544-00 Water (BRWC) - Power Utilities	152,823	50.0%	40.0%	10.0%	0%	76,411	61,129	15,282	-	-	152,823
750-00 Water (BRWC) - Cont. To County	-	50.0%	40.0%	10.0%	0%	-	-	-	-	-	-
762-00 Water (BRWC) - Contribution to Capital	-	50.0%	40.0%	10.0%	0%	-	-	-	-	-	-
Sub-Total	632,957	52%	42%	10%	0%	316,479	253,183	63,296	-	-	632,957
ALLOCATED EXPENSES - General & Administration											
- Water - Executive Salaries & Benefits	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - Management Salaries & Benefits	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - Office Operations	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - Office, Furnishings & Equipment	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - Office, Other	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - PW Salaries & Benefits	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - PW Shop & Yard Operations	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - PW Equipment	-	60%	15%	20%	5%	-	-	-	-	-	-
- Water - Vehicles & Equipment	-	60%	15%	20%	5%	-	-	-	-	-	-
Sub-Total: Allocated G&A Expenses	-					-	-	-	-	-	-
Excluding Fire Protection											
Total Cash Operating Expenses	1,178,581	55%	46%	35%	1%	471,991	395,638	298,284	12,669	-	1,178,581
		40.5%	33.9%	25.6%		477,119	399,937	301,525			1,178,581

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Function

	2020 Revenue Requirement	Allocation Ratios (%)				Costs Allocated to Function				Check Totals
		Base	Demand	Customer	Fire Protection	Base	Demand	Customer	Fire Protection	
1. CASH OPERATING EXPENSES										
2. NON-CASH EXPENSES										-
a) Amortization/Depreciation	204,158	35%	45%	15%	5%	71,455	91,871	30,624	10,208	204,158
b) Amortization of NCC	(64,946)	35%	45%	15%	5%	(22,731)	(29,226)	(9,742)	(3,247)	(64,946)
c) Total Non-Cash Expenses	139,212	35%	45%	15%	5%	48,724	62,645	20,882	6,961	139,212
Excluding Fire Protection		36.8%	47.4%	15.8%		51,289	65,942	21,981		139,212
3. RETURN ON RATE BASE	261,995	35%	45%	15%	5%	91,698	117,898	39,299	13,100	261,995
Excluding Fire Protection		36.8%	47.4%	15.8%		96,524	124,103	41,368		261,995
4. RESERVES & OTHER TRANSFERS	-	50%	25%	25%	0%	-	-	-	-	-
5. UTILITY REVENUE REQUIREMENT	1,579,787	39%	36%	23%	2%	612,413	576,180	358,465	32,729	1,579,787
Excluding Fire Protection		39.6%	37.2%	23.2%		625,369	588,370	366,048		1,579,787
6. OTHER REVENUES (Schedule 8)										
410-03 Sale of Materials	-	20%	30%	50%	0%	-	-	-	-	-
410-05 Turn On/Off Fee	800	20%	30%	50%	0%	160	240	400	-	800
410-06 Sale of Service/Repairs	1,000	20%	30%	50%	0%	200	300	500	-	1,000
410-07 Bulk Water Set Up Charge	600	20%	30%	50%	0%	120	180	300	-	600
410-09 BRWC - Oper. Sale of Serv	632,957	50%	40%	10%	0%	316,479	253,183	63,296	-	632,957
411-00 BRWC Asset Lease	87,127	45%	25%	25%	5%	39,207	21,782	21,782	4,356	87,127
590-00 Water - Penalties	5,000	25%	25%	50%	0%	1,250	1,250	2,500	-	5,000
590-01 Water - Reimbursements	-	30%	40%	30%	0%	-	-	-	-	-
Total Other Revenues	727,484	51%	39%	13%	1%	357,416	276,935	88,777	4,356	727,484
7. NET UTILITY REVENUE REQUIREMENTS	852,303	52%	61%	55%	6%	254,997	299,246	269,687	28,373	852,303
Excluding Fire Protection		30.9%	36.3%	32.7%		263,778	309,550	278,974		852,303

000000TOWN OF BARRHEAD WATER UTILITY
Customer Meters and Meter Demand Charges

METER SIZE: Diameter	0.625	1.000	1.250	1.500	2.000	3.000	4.000	6.000
Area	0.307	0.785	1.227	1.767	3.142	7.068	12.566	28.274
Capacity	10	15	25	50	80	160	250	500

Ratios: @ Existing \$	1.00	2.12	2.45	2.93	3.38	3.63	4.64	6.74
by Cost (AWWA M-1)	1.00	1.10	1.40	1.80	2.90	11.00	14.00	21.00
by Diameter	1.00	1.60	2.00	2.40	3.20	4.80	6.40	9.60
by Area	1.00	2.56	4.00	5.76	10.24	23.04	40.96	92.16
by Capacity	1.00	1.50	2.50	5.00	8.00	16.00	25.00	50.00

Meter Demand Charges (\$/month):									Revenues	Change in \$
Existing	10.00	21.20	24.53	29.25	33.80	36.30	46.35	67.35	-	
By Cost (AWWA M-1)	10.00	11.00	14.00	18.00	29.00	110.00	140.00	210.00	-	-
By Diameter	10.00	16.00	20.00	24.00	32.00	48.00	64.00	96.00	-	-
By Area	10.00	25.60	40.00	57.60	102.40	230.40	409.60	921.60	-	-
By Capacity	10.00	15.00	25.00	50.00	80.00	160.00	250.00	500.00	-	-

CUSTOMERS BY METER SIZE	0.625	1.000	1.250	1.500	2.000	3.000	4.000	6.000	TOTAL
2018									-
2019									-
2020									-
2021									-
2022									-

EQUIVALENT CUSTOMERS	0.625	1.000	1.250	1.500	2.000	3.000	4.000	6.000	TOTAL
2018	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-
2020	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Customer Classes

		YEAR:	2018								Non	Fire	Check
		Source:	TOTAL								Metered	Protection	Totals
1. Billing Determinants (Allocators)													
a)	Meter Size (inches)												
b)	Meters	Sch. 8	-										-
c)	Equivalent Meters	Sch. 12	-										-
d)	Annual Sales (m3)	Sch. 9	-								-		-
e)	Sales as % of Total		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
f)	Maximum Demand (m3/mon)	Sch. 9	1	1	-	-	-	-	-	-	-		1
g)	Max Demand as % of Total		100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
2. Cash Operating Expenses		Sch. 13											
a)	Account		246,467	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	12,305		#DIV/0!
b)	#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!
c)	#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!
b)	#REF!		-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-		#DIV/0!
c)	#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!
d)	#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!
d)	#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!
d)	#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!
d)	#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!
d)	#REF!		#REF!	-	-	-	-	-	-	#REF!	#REF!		#REF!
e)	Sub Total		#REF!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#REF!		#DIV/0!
3. Non-Cash Expenses		Sch. 7	122,758	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	6,079		#DIV/0!
4. Return on Rate Base		Sch. 7	221,229	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	10,784		#DIV/0!
5. Reserves & Other		Sch. 7	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-		
6. Total Revenue Requirements Allocated			#REF!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#REF!		#DIV/0!
Ratio of Revenues Allocated				#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#REF!
7. Less: a) Tax Levies		Sch. 7	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	-		#REF!
b) Hydrants		Sch. 7	#REF!	-	-	-	-	-	-	-	#REF!		#REF!
c) Other Revenues		Sch. 7	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			#REF!
8. NET REVENUE REQUIREMENTS			#REF!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#REF!		#DIV/0!
9. RATES NECESSARY TO FULLY RECOVER ANNUAL REVENUE REQUIREMENTS													
a)	Fixed/Meter Charges:	(\$/month)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	60.35	-		
b)	Commodity Charges:	(\$/m3)	0.587	0.587	0.587	0.587	0.587	0.587	0.587	-			
c)	Revenue from Fixed Meter Charges		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	-			#REF!
d)	Revenue from Commodity Sales		-	-	-	-	-	-	-	-			-
e)	Total Revenue from Sales		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	-	-		#REF!
f)	Surplus (Deficiency):	= 9.e) - 8.	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#DIV/0!	#REF!		#REF!
g)	Revenue to Cost Ratio:	= 9.f) ÷ 6.	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#DIV/0!	#REF!		

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Customer Classes

		YEAR:	2019								Non	Fire
1. Billing Determinants (Allocators)	Source:	TOTAL	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	Metered	Protection	
Meter Size (inches)			#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
Meters	Sch. 8	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!
Equivalent Meters	Sch. 12	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!
Annual Sales (m3)	Sch. 9	1	1	-	-	-	-	-	-	-		1
Sales as % of Total		100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Maximum Demand (m3/mon)	Sch. 9	1	1	-	-	-	-	-	-	-		1
Max Demand as % of Total		100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
2. Cash Operating Expenses	Sch. 13											
#REF!		539,976	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	12,379	#REF!
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!		-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	#DIV/0!
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Total Cash Operating		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
3. Non-Cash Expenses	Sch. 7	122,758	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	6,138	#REF!
4. Return on Rate Base	Sch. 7	221,229	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	11,061	#REF!
5. Reserves & Other	Sch. 7	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-	
6. Total Requirement Allocated		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Ratio of Revenues Allocated			#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
7. Less: a) Tax Levies	Sch. 7	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	-	#REF!
b) Hydrants	Sch. 7	#REF!	-	-	-	-	-	-	-	-	#REF!	#REF!
c) Other Revenues	Sch. 7	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	-	#REF!
8. NET REVENUE REQUIREMENTS		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
9. REVENUES RECOVERED @ ACTUAL RATES												
a) Fixed/Meter Charges:		(\$/month)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	60.35	-	
b) Commodity Charges:		(\$/m3)	0.587	0.587	0.587	0.587	0.587	0.587	0.587	-		
c) Revenue from Fixed Meter Charges		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!
d) Revenue from Commodity Sales		1	1	-	-	-	-	-	-	-	-	1
e) Total Revenue from Sales		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	-	#REF!
f) Surplus (Deficiency): = 9.e) - 8.		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
g) Revenue to Cost Ratio: = 9.f) ÷ 6.		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	

000000TOWN OF BARRHEAD WATER UTILITY
Allocation of Revenue Requirements to Customer Classes

		YEAR:	2020								Non	Fire	
1. Billing Determinants (Allocators)	Source:	TOTAL	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	Metered	Protection		
Meter Size (inches)			#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!			
Meters	Sch. 8	#REF!	1,308	1,313	1,315	1,326	1,317	1,312	#REF!	#REF!		#REF!	
Equivalent Meters	Sch. 11	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!	
Annual Sales (m3)	Sch. 9	1	1	-	-	-	-	-	-	-		1	
Sales as % of Total		100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
Maximum Demand (m3/mon)	Sch. 9	1	1	-	-	-	-	-	-	-		1	
Max Demand as % of Total		100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
2. Cash Operating Expenses	Sch. 12												
#REF!		545,623	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	12,669	#REF!	
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
#REF!		-	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	-	#REF!	
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
#REF!		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
Total Cash Operating		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
3. Non-Cash Expenses	Sch. 7	139,212	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	6,961	#REF!	
4. Return on Rate Base	Sch. 7	261,995	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	13,100	#REF!	
5. Reserves & Other	Sch. 7	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	-		
6. Total Requirement Allocated		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
Ratio of Revenues Allocated			#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
7. Less: a) Tax Levies	Sch. 7	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	-	#REF!	
b) Hydrants	Sch. 7	#REF!	-	-	-	-	-	-	-	-	#REF!	#REF!	
c) Other Revenues	Sch. 7	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	-	#REF!	
8. NET REVENUE REQUIREMENTS		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
9. REVENUES RECOVERED @ ACTUAL RATES													
a) Fixed/Meter Charges:		(\$/month)	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	75.00	-		
b) Commodity Charges:		(\$/m3)	1.350	1.350	1.350	1.350	1.350	1.350	1.350	-			
c) Revenue from Fixed Meter Charges		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		#REF!	
d) Revenue from Commodity Sales		1	1	-	-	-	-	-	-	-	-	1	
e) Total Revenue from Sales		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	-	#REF!	
f) Surplus (Deficiency): = 9.e) - 8.		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	
g) Revenue to Cost Ratio: = 9.f) ÷ 6.		#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		

Appendix B
Description of Schedules in the
Water Utility Rate Model

TOWN OF BARRHEAD
Water Rates and Cost of Service
2019 - 2022

Table of Contents

Identifies the schedules provided within the utility rate model, by:

- Schedule No.
- Tab (title as shown on the tab for each worksheet)
- Title of each Schedule/worksheet in the workbook
- Number of pages for each Schedule (as formatted for presentation)

A - Input: Table of Input Data and Values

- Shows and allows inputting major capital additions as forecast for the test period by general account, and allows using default values for testing changes in revenue requirements due to ongoing capital replacement and upgrading programs. The capital additions section is linked to report the annual additions on ‘Schedule 1 – Assets & Amort’. Direct input of capital additions can also be made directly on ‘Schedule 1’ by over-writing the formula within the selected cells.
- Shows the capital structure (ratio of debt to equity) as applied in each year, and the default structure applied within the model if no input is provided for a given year
- Shows the theoretical “allowed” and default rates of Return on Debt and Equity for all test years. The default capital structure and allowed rates shown are based on the AUC Generic Cost of Capital decisions, as noted. The values shown are carried forward and applied on ‘Schedule 5 – Return’.
- Shows default rates of inflation or cost escalation to be applied on ‘Schedule 6, Cash Operating Expenses’ if no values are selected for a given year. Two classes of expense have been identified, one for “Personnel” and their salaries, wages and benefits, and the other for “Supplies”, which encompasses all other cash operating expenses. The default values from this Table are carried forward to and applied in ‘Schedule 6 – COE’.

B - Output: Table of Output Values and Rates

- Reports the “allowed” annual Revenue Requirements by function or major cost component, as determined through the rate model. There are five major cost components comprising the annual revenue requirements:
 - “Water” for the costs of water purchased from BRWC,
 - “Cash Operating Expenses”,
 - “Non-Cash Expenses” (depreciation and amortization),
 - “Return on Rate Base”, and

- “Other”, which includes provisions for surtaxes, reserves and all other levies as may be directed by the Town.
- Reports the ‘Market’ or ‘Sales Base’ as forecast for the test years for;
 - Retail Customers
 - Retail Sales Volumes
 - Bulk Water Sales Volumes, and
 - Volumes delivered to Barrhead County customers.
- Shows the Revenues as generated by source, and net revenues to be generated by Fixed Charges, Commodity Sales to each of the Retail, Bulk and County customers, and Other Revenues including the Lease to and Recoveries from BRWC. The revenues are summed to report Gross Revenues, and calculates the Revenue-to-Cost ratio (Gross Revenues divided by Utility Revenue Requirement) for each year examined.
- Notes to the ‘Output’ schedule provides information on the rates, and the amount each unit increase to the respective rates will generate in a year.

Schedule 1: Continuity Schedule of Fixed Assets and Amortization

- Reports assets at original cost in the year of development from 1962 through 2022, and allocates all capital assets to prime asset accounts as identified by the National Association of Regulatory Utility Commissioners (NARUC) Uniform System of Accounts for Class A/B Water Companies. The NARUC standard has been adopted by most water associations across North America, including AWWA and CAWA. Gross asset values reported includes development funded by No Cost Capital (grants, developer/customer contributions, etc.). Columns reporting data for the years ‘1962’ through ‘2017 Retirements’ are hidden for presentation purposes.
- Calculates both annual and accumulated amortization (depreciation) expenses for each prime asset account, based on expected useful service lives for the respective classes of assets. Depreciation is calculated on a straight-line basis for all classes of assets. Formulae have been entered to ensure that any asset value is not amortized past its estimated useful service life.
- Reports the net book values (NBV) for the utility at calendar year end, as the difference between gross investments and accumulated depreciation, and the net book value of utility assets at Mid-Year (the average of NBV at the prior year-end and NBV at current year-end). The AUC applies the mid-year convention in assessing revenue requirements for all utilities subject to its jurisdiction.

Schedule 2: Utility Rate Base

- Reports Gross Plant in Service as at prior year-end (opening balance), Capital Additions and Retirements in each year, and the balance of Gross Investment at year-end (closing balance) from ‘Schedule 1’.
- Reports Accumulated Amortization as at prior year-end (opening balance), annual Amortization expense, and Retirements in each year, and the total Accumulated Amortization at year-end (closing balance), from ‘Schedule 1’
- Calculates the Net Plant in Service (Net Book Value, or NBV) as at year-end and as at Mid-Year. Mid-year values are used to average changes in capital investment and/or development year-over-year to reduce potential shock due to major capital developments being added in any given year.
- Shows the calculation of ‘Necessary Working Capital’ calculated based on bi-monthly billing as maintained by the Town. The calculation assumes one-sixth of costs will be allowed for both the costs of water purchased for resale, and for “Cash Operating Expenses” (from ‘Schedule 6’), plus provisions for “Prepaid Expenses” and the value of “Materials and Supplies Inventories” (typically reported on the balance sheet in financial statements). The Town does not maintain segregated and/or independent financial statements for its utility systems, so there is no allocation for either “Prepays” or “O&M Inventory” applied in this model.
- Reports “Utility Rate Base” at Mid-Year on which the utility is allowed to earn a Return

NOTE: The “rule of one-eighth” assumes that a utility incurs costs for its services prior to being able to recover those costs from its customers. If a utility bills its customers monthly, the rule assumes the utility incurs all Cash Operating Expenses at mid-month (15 days) into the month of service, but is not able to invoice customers and then recover those costs until the end of the month (30 days) following the month of service. The lag between the receipts from customers and the utility’s expenses is 45 days, or roughly one-eighth of the year ($45 \div 365 = 1/8$). The “rule of one-eighth” is commonly applied by regulatory tribunals where a utility is not able to determine its working capital requirements using a balance sheet or lead-lag method.

The Town bills its retail customers bi-monthly. Using the same criteria as noted for “the rule of one-eighth”, the lag of receipts over expenses is 75 days for the first month of service (45 days plus 30 days), and 45 days for the second month of the billing cycle. The average lag is calculated as 60 days ($[75+45] \div 2$), which is roughly one-sixth ($60 \div 365 = 1/6$) of a year. The Town purchases water for resale to customers at the end of each month of service, but recovers those costs from retail customers on a bi-monthly basis. The lag on payments received from customers over the Town’s payments to BRWC is calculated as 30 days ($[15+45] \div 2$), which is roughly one-twelfth ($30 \div 365 = 1/12$) of a year.

Schedule 3: Continuity Schedule of No-Cost Capital and Amortization

- Reports “No-Cost Capital” (NCC) received by the Town and applied towards development of the water utility system, by year, from 1962 through 2022, and allocates that funding to the appropriate prime asset accounts. Columns reporting data for the years ‘1962’ through ‘2017 Retirements’ are hidden for presentation purposes.
- Calculates annual and accumulated amortization of No-Cost Capital based on the same estimated averages of useful service lives for prime asset accounts on ‘Schedule 1’. Formulae for calculating annual additions for Amortization expense include limiting the annual expense to the designated estimate of useful service life for each prime account.
- Reports the Unamortized Balance of No-Cost Capital at calendar year-end, and as at Mid-Year (the average of the prior year-end plus the current year end).

Schedule 4: Composite Cost of Debt

- Reports the actual debenture debt outstanding for the test years 2017 through 2022, and calculates debt outstanding at mid-year for that same period. The Town has no existing debenture debt outstanding for the water utility
- Calculates the composite cost of debt for each year of the period examined, and reports the annual cost rates on ‘Deemed Debt’, as reported on the ‘Input’ schedule
- Reports the cost rates of deemed debt for each year, as noted on the ‘Input’ schedule.

NOTE: The Alberta Utilities Commission (AUC) determined in Decision 2005-149, that a municipal utility should use the 15-year rolling average of the cost of 15-year term debentures issued by the Alberta Capital Finance Association (ACFA) as the cost rate for notional of deemed debt.

Schedule 5: Capitalization, Cost of Capital and Return on Rate Base

- Reports the capital investment in utility assets in each test year, based on the net book value of plant in service and the utility rate base as calculated on ‘Schedule 2’, with investment segregated by sources of capital or funding applied to the rate base. The schedule calculates the utility’s investment according to the “allowed” capital structure, and calculates a return on each component funding rate base; debt, deemed debt and equity for each of the years, 2017 through 2022.
- Net Capital Investment, other than that funded by No-Cost Capital is deemed to be financed using a capital structure of 60% debt and 40% equity in all years. That capital structure has been approved by the AUC for small water (shown on ‘Input’).

- Reports actual capital structure for net mid-year capitalization, and calculates the appropriate amounts for Debt, Deemed Debt and Equity for the utility to maintain the optimum capital structure as determined by the AUC.
- The Return on Equity (ROE) is based on AUC Decision 22570-D01-2018, which approved a rate of 8.5% as the benchmark rate (the default rate) for all utilities subject to its jurisdiction. Municipalities are taxing authorities in their own right, and may choose to approve a higher rate of return on equity that would apply to utility services being provided to customers located within the municipal corporate boundaries. All utility services provided to customers outside those boundaries may not be charged more than the AUC's then current approved rate.
- 'No-Cost Capital at Mid-Year' is as calculated on 'Schedule 3'. No return has been allowed on Rate Base funded by No-Cost Capital (cost rate for NCC is 0.00%). As noted in the previous paragraph, municipalities are taxing authorities in their own right, and can approve a rate of return on NCC as they deem fit, however, that rate can only be applied to services provided to customers located within the municipal corporate boundaries.
- Calculates an overall Rate of Return on Rate Base (total Return on Rate Base divided by Rate Base).

Schedule 6: Cash Operating Expenses

- Reports actual expenditures in the format maintained by the Town for the calendar years 2015 through 2018, and as forecast for the test years 2019 through 2022. Data for the years 2015 and 2016 has been hidden in this model for presentation purposes.
- Identifies expenses that are not required for Cash Operations, including amortization, debt repayment costs, and transfers to capital and reserve accounts, and determines the allowed utility "Cash Operating Expenses" for each year
- Calculates expenses related to "Personnel" for salaries, wages and benefits, , and for "Supplies". Actual changes in expenses year-over-year are calculated for each of "Personnel" and "Supplies" for information and reference purposes. The forecasts apply inflation factors shown on 'Input' to "Personnel" and "Supplies" expenses for each of the test years.

Schedule 7: Annual Revenue Requirements and Revenues by Source

- Reports annual revenue requirements determined using the utility method, comprised of:
 - "Water Purchased for Resale" as reported on 'Schedule 6',
 - "Cash Operating Expenses" as calculated on 'Schedule 6',

- “Non-Cash Expenses” consisting of annual amortization expense as calculated on ‘Schedule 1’, less the annual amortization of No-Cost Capital as calculated on ‘Schedule 3’,
- “Return on Rate Base” as calculated on ‘Schedule 5’,
- “Reserves and Other Recoveries” as reported on ‘Schedule 6’ and/or determined to be appropriate by the Town.

NOTE: This rate model includes the reserves and/or transfers as approved by the Town for prior years, and as forecast pursuant to approved policies. The Town should review the policies and the allocations for specific reserves after assessing differences between its Cash-Needs and the Utility Revenue Requirements for the forecast years.

- Reports annual revenue requirements determined using the “Cash-Needs” method, comprised of:
 - “Water Purchased for Resale” as reported on ‘Schedule 6’,
 - “Cash Operating Expenses” as calculated on ‘Schedule 6’, and
 - “Non-Cash Operating Expenses”, including transfers to reserves and amortization.
- Reports the difference between the “Utility” and “Cash-Needs” requirements for each year.

Schedule 8: Revenues by Source (Actual) – Revenues to be Generated from Sales

- Reports “Water Recoveries by Source” as reported by the Town by specific account number for 2017 and 2018, and as forecast for the years 2019 through 2022.
- Calculates the amount of revenue required to be generated from sales for each year
- Reports the number of retail customers by year (from ‘Schedule 9’)
- Reports the actual and forecast sales volumes for each of; Town Retail customers (Schedule 9), Bulk Water customers (Schedule 12) and deliveries to the Barrhead County customers (Schedule 14), and total sales for each year
- Reports proposed fixed and variable (commodity) rates to be charged in order to fully recover the Utility Revenue Requirements in each year.
- Calculates the gross annual recoveries from all customers and sales at proposed rates.
- Reconciles the allowed Utility Revenue Requirements (annual costs) and Revenue Recovered from all sources for each year, showing the Surplus (postive) or Deficiency (negative), and the Revenue-to-Cost ratios for each year.

Schedule 9: Customers by Type

- Reports actual numbers of customers by class or type as billed by the Town in 2017 and 2018, calculates the average numbers of customers by type, and changes in numbers of customers by type year-over-year.
- Estimates customers in service by type for each month based on changes in the bi-monthly billings, and forecasts customer billings by type for the test years 2019 through 2022.

Schedule 10: Annual Water Sales (m³), Forecast Usage by Month

- Reports annual water sales to customers by type for the years 2017 and 2018, based on bi-monthly billings. Actual volumes billed are used to estimate monthly volumes for each customer type, based on the actual monthly water production volumes reported for the BRWC Water Treatment Plant (Schedule 13).
- Usage statistics for 2017 and 2018 are generated from the estimated monthly volumes to calculate average and peak month demands, load factors, and ratios of use by customer class.
- Forecasts of monthly sales for the years 2019 through 2022 are generated from the data found in Schedule 9, forecast number of customers, and Schedule 11, the average volume per month for the respective customer classes.

Schedule 11: Average Customer Use (m³) and Peaking Factors by Meter Size

- Reports the numbers of customers by type, reported in ‘Schedule 9’, and estimated monthly sales, reported in ‘Schedule 10’, to calculate an average monthly volume use per customer for each of the customer classes
- Uses the calculated average volume per customer for each of the customer classes to estimate monthly sales by customer class for the test years 2019 through 2022
- Estimated sales per customer are used to populate the forecast monthly sales for test years 2019 through 2022.

Schedule 12: Bulk Sales

- Reports the monthly sales revenue and calculated sales volumes for sales of bulk water for 2017 and 2018, and reports annual sales volumes.
- Forecasts sales volumes for Bulk Water for each of the test years, 2019 through 2022.

Schedule 13: Annual Demand: BRWC WTP Production and Deliveries

- Reports the monthly production volumes for the BRWC water treatment plant, and deliveries to Commission members
- Reports the monthly volumes of wastewater produced by the BRWC WTP and delivered to the Town Wasterwater utility for treatment
- Calculates average monthly volumes, maximum monthly volumes and peaking factors fro the BRWC WTP, and each of the members receiving in each year

Schedule 14: Reconciliation of BRWC Volumes to Deliveries & Town Receipts/Deivieries

- Reports the monthly volumes for BRWC WTP production, and deliveries to the three County customers and the Town for 2017 and 2018.
- Reports the total volume sales as reported by the Town ('Schedule 10' and 'Schedule 12'), calculates a Gain or Loss for each month as the difference between the volumes allocated to the Town by BRWC, and the actual recorded sales volumes for those same months in both m³ and as percentage of total Town sales.
- Forecasts delivery volumes from BRWC to Barrhead County customers for 2019 and 2020. Forecasts for both 2021 and 2022 are assumed to be the same as 2020.

Schedule 15: Allocation of Revenue Requirements to Function

All cost components of the Utility Revenue Requirement should be classified according to their function or cost driver in order to properly allocate those costs to the appropriate customer or class of customers for recovery. This functionalization assesses each of the cost components based on its dependence on four criteria: Base, Demand, Customer, and Fire Protection

- Reports the itemized expense components of the annnual revenue requirements for 2018, 2019 and 2020, and assigns an allocation ratio to each expense based on function.
- Identifies total costs as allocated to function for each major cost component, and the percentages of total costs for the respective functions, with and without 'Fire Protection'.
- Reports the itemized components of 'Other Revenues' for 2018, 2019 and 2020, and allocates each revenue component to the functions; Base, Demand, Customer and Fire Protection, which are then applied against allocated expenses for each function.
- Determines the total cost or revenue requirement according to the functions assessed that may then be used in designing rates based on the respective cost drivers.

Schedule 16: Customer Meters and Meter Demand Charges

NOTE: This Schedule has not been completed since the Town does not have records that report customers by meter type or size. The Schedule has been retained in the water rate model to allow the Town the option of gathering and using that information to refine the rate model at some point in the future.

Water utilities commonly assess customer demands using ratios of meter capacity to identify relative demands that can be placed on the system by customers according to the type or size of their water meter, or by the size of their service lines. The demands associated with the respective types and/or sizes can be compared using:

- the costs of the meters and their installations,
- the nominal diameters of the respective meters,
- the cross-sectional areas of the respective meters
- the rated capacities of the respective meters

The smallest or most common type or size of meter is typically used as the base in assigning equivalent capacities to the range of meters in service.

- Allows reporting actual average number of customers by meter type/size by year.
- Identifies 'Demand' or 'Capacity' ratios for all meters by type/size based on cost, diameter, area and capacity, with the 5/8 (0.625) inch or 16mm water meter used as the base.
- Identifies 'Meter Demand Charges' or Fixed Monthly Charges that could be applied to recover the incremental demands being placed on the utility by customers with increasing sizes of meters in service.
- Allows reporting actual and forecast numbers of meters by type/size for all test years.
- Calculates the number of equivalent meters for all years based on cross-sectional 'Area'.

Schedule 17: Allocation of Revenue Requirements to Customers by Class

NOTE: This Schedule has not been completed since the Town does not have records that report customers by meter type or size. The Schedule has been retained in the water rate model to allow the Town the option of gathering and using that information to refine the rate model at some point in the future.

- Reports the “Billing Determinants” applied in designing rates for the defined customer classes by meter size/type for each of three test years, 2018, 2019 and 2020. Determinants include; customers or meters by size, equivalent customers or meters, annual sales, and maximum demand.
- Reports the major cost components comprising the Revenue Requirements, and allocates each cost component to the customers by class based on assigned Billing Determinants.
- Calculates the “Net Revenue Requirements” (Total Requirements less Other Revenues) as allocated to each customer class.
- Allows assessing Revenue Requirements and Recoveries for each test year, based on proposed fixed and variable (commodity) charges to the respective customer classes, surpluses or deficiencies and the Revenue-to-Cost ratio for each.

Appendix C

Wastewater Utility Rate Model

TOWN OF BARRHEAD Wastewater Rates and Cost of Service 2019 - 2022

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Utility Rates and Cost of Service Model: 2019 - 2022

TABLE OF CONTENTS

Schedule			No. of
No.	TAB	TITLE	PAGES
A	Input	Input & Default Values for the Utility Rate Model	1
B	Output	Output from the Utility Rate Model	1
1	Asset-Amort	Continuity Schedule of Fixed Assets & Amortization	2
2	Rate Base	Utility Rate Base @ Mid-Year	1
3	NCC-Amort	Continuity Schedule of No Cost Capital & Amortization	2
4	Debt	Composite Cost of Debt	1
5	Return	Capitalization, Capital Structure & Return on Rate Base	2
6	COE	Cash Operating Expenses	2
7	RevReq	Utility Revenue Requirement & Comparison with "Cash-Needs"	1
8	Revenues	Revenues by Source(Actual),: Revenues to be Generated from Sales (2
9	Water Volumes	Annual Water Sales (m3), Forecast Useage by Month	3
10	WW Treated	Annual Demand: Metered Volumes (m³) Treated in Town Lagoons	2
11	WW Vol	Wastewater Volumes (m3) Treated by Source	3
12	COS	Allocation of Revenue Requirements to Function	6
13	Treatment	Calculation of Costs for Wastewater Treatment	1

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Input and Default Values for the Utility Rate Model

2019 - 2022 Forecast

Reference	CAPITAL INVESTMENT (Schedule 1)					Capital Structure		Rates of Return			Reference	Inflation on COE	
	Buildings	Lagoons	Mains	Manholes	Equipment	Debt	Equity	Deemed		No-Cost	AUC Decision	Personnel	Supplies
	354.1	354.2	361.1	361.2	395	Schedule 5		Debt	Equity	Capital		Schedule 6	
						60.0%	40.0%	4.00%	8.75%	0.00%		2.50%	2.00%
Defaults	A	B	C	D	E	F	G	H	I	J	K	L	M
1 2017								3.779%	8.50%		20622-D01-2016		
2 2018								3.622%	8.50%		22570-D01-2018		
3 2019		2,080,000	295,000					3.500%	8.50%		22570-D01-2018		
4 2020			500,000		575,000				8.50%		22570-D01-2018		
5 2021			400,000										
6 2022													

INPUT

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Output from the Utility Rate Model

2019 - 2022 Forecast

Reference	REVENUE REQUIREMENTS				
	Cash Exp.	Non-Cash	Return	Other	TOTAL
	Sch 6	Sch 7	Sch 5	Sch 7	A+B+C+D
	A	B	C	D	E
1 2017	202,394	246,161	304,066		752,621
2 2018	246,524	246,245	203,178	-	695,946
3 2019	252,102	251,056	220,525	-	723,684
4 2020	257,809	271,011	266,413	-	795,232
5 2021	263,646	333,365	297,336	-	894,347
6 2022	269,617	342,327	285,721	-	897,665

MARKET	Customers	Wastewater Volumes - m3 (Sch. 8)				
	Sch 8	BRWC Sludge	Town Sales	Storm Drainage	Barrhead Count	Total Treated
7 2017	1,977	280,295	441,705	198,587	2,000	922,587
8 2018	1,963	301,640	464,207	117,881	2,000	885,728
9 2019	1,970	301,640	453,097	129,011	2,000	885,748
10 2020	1,970	301,640	453,097	126,011	5,000	885,748
11 2021	1,970	301,640	453,097	126,011	7,500	888,248
12 2022	1,970	301,640	453,097	126,011	10,000	890,748

RATES	Fixed Monthly	VARIABLE RATE (Commodity Charge) - \$/m ³			
	Charge (\$/mon.	BRWC Sludge	Town Sales	Storm Drainage	Barrhead County
13 2017					
14 2018	12.00	0.36	0.56	0.36	0.56
15 2019	12.00	0.38	0.61	0.38	0.61
16 2020	15.00	0.35	0.63	0.35	0.63
17 2021	15.00	0.35	0.84	0.35	0.84
18 2022	15.00	0.35	0.85	0.35	0.85

REVENUES	Fixed Monthly	VARIABLE RATES				TOTAL SALES
	Charges	BRWC Sludge	Town Sales	Storm Drainage	Barrhead County	REVENUE
19 2017						
20 2018	282,672	109,650	259,654	42,851	1,119	695,946
21 2019	283,680	114,759	274,950	49,082	1,214	723,684
22 2020	354,600	107,005	285,772	44,702	3,154	795,232
23 2021	354,600	106,930	381,827	44,670	6,320	894,347
24 2022	354,600	105,009	385,677	43,868	8,512	897,665

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Continuity Schedule of Fixed Assets and Amortization

2019 - 2022 Forecast

FIXED ASSETS		Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019	Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020
351	Organization	-			-			-			-
352	Franchises	-			-			-			-
353	Land & Land Rights	32,150			32,150			32,150			32,150
354	Structures & Improvements	-			-			-			-
	.1 Buildings	1,946,803			1,946,803	-		1,946,803	-		1,946,803
	.2 Lagoons & Cells	-	98,478		98,478	2,080,000		2,178,478	-		2,178,478
	.3 Berms & Rehab	-			-	15,000		15,000			15,000
	.4 Fencing & Site Improvements	85,950			85,950			85,950	30,000		115,950
355	Power Generation Equipment	-			-			-			-
360	Collecting Sewers - Force (Lift Stations)	1,254,734			1,254,734			1,254,734			1,254,734
361	Collecting Sewers - Gravity	4,883,672			4,883,672			4,883,672			4,883,672
	.1 Mains	2,794,832	142,103		2,936,935	295,000		3,231,935	500,000		3,731,935
	.2 Manholes	3,486,090			3,486,090	-		3,486,090	-		3,486,090
	.3 Catch Basins	-			-			-			-
362	Special Collecting Structures	-			-			-			-
363	Services to Customers	-			-			-			-
364	Flow Measuring Devices	4,975			4,975			4,975			4,975
365	Flow Measuring Installations	-			-			-			-
371	Pumping Equipment	934,576			934,576			934,576			934,576
380	Treatment & Disposal Equipment	79,981			79,981			79,981			79,981
381	Plant Sewers	-			-			-			-
382	Outfall Sewer Lines	-			-			-			-
389	Other Plant & Misc. Equip.	13,752			13,752			13,752			13,752
390	Office & Furniture & Equipment	-			-			-			-
391	Transportation Equipment	-			-			-			-
392	Stores Equipment	-			-			-			-
393	Tools & Shop Equipment	29,503			29,503			29,503			29,503
394	Laboratory Equipment	3,356			3,356			3,356			3,356
395	Power Operated Equipment	67,826			67,826	-		67,826	575,000		642,826
396	Communication Equipment	-			-			-			-
397	Miscellaneous Equipment	30,000			30,000			30,000			30,000
398	Other Tangible Plant (RV Dumping)	-			-			-	100,000		100,000
Total Capital Assets		15,648,200	240,581	-	15,888,781	2,390,000	-	18,278,781	1,205,000	-	19,483,781
AMORTIZATION											
	Rate	Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019	Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020
351	Organization	0.00%	-	-	-	-	-	-	-	-	-
352	Franchises	0.00%	-	-	-	-	-	-	-	-	-
353	Land & Land Rights	0.00%	-	-	-	-	-	-	-	-	-
354	Structures & Improvements	2.00%	-	-	-	-	-	-	-	-	-
	.1 Buildings	2.00%	337,736	38,936	376,672	38,936	-	415,608	38,936	-	454,544
	.2 Lagoons & Cells	2.00%	-	-	-	1,970	-	1,970	43,570	-	45,539
	.3 Berms & Rehab	4.00%	-	-	-	-	-	-	600	-	600
	.4 Fencing & Site Improvements	5.00%	8,383	4,298	12,680	4,298	-	16,978	4,298	-	21,275
355	Power Generation Equipment	5.00%	-	-	-	-	-	-	-	-	-
360	Collecting Sewers - Force (Lift Stat	2.00%	882,608	9,914	892,521	9,914	-	902,435	9,914	-	912,349
361	Collecting Sewers - Gravity	2.00%	4,199,958	97,673	4,297,631	97,673	-	4,395,305	97,673	-	4,492,978
	.1 Mains	2.00%	412,676	55,897	468,572	58,739	-	527,311	64,639	-	591,950
	.2 Manholes	3.33%	4,062,237	4,270	4,066,507	4,270	-	4,070,777	4,270	-	4,075,047
	.3 Catch Basins	3.33%	-	-	-	-	-	-	-	-	-
362	Special Collecting Structures	4.00%	-	-	-	-	-	-	-	-	-
363	Services to Customers	3.33%	-	-	-	-	-	-	-	-	-
364	Flow Measuring Devices	5.00%	249	249	498	249	-	746	249	-	995
365	Flow Measuring Installations	5.00%	-	-	-	-	-	-	-	-	-
371	Pumping Equipment	6.67%	443,304	62,305	505,609	62,305	-	567,914	62,305	-	630,219
380	Treatment & Disposal Equipment	6.67%	5,332	5,332	10,664	5,332	-	15,996	5,332	-	21,328
381	Plant Sewers	2.50%	-	-	-	-	-	-	-	-	-
382	Outfall Sewer Lines	2.50%	-	-	-	-	-	-	-	-	-
389	Other Plant & Misc. Equip.	5.00%	7,564	688	8,251	688	-	8,939	688	-	9,626
390	Office & Furniture & Equipment	6.67%	-	-	-	-	-	-	-	-	-
391	Transportation Equipment	15.00%	-	-	-	-	-	-	-	-	-
392	Stores Equipment	6.67%	-	-	-	-	-	-	-	-	-
393	Tools & Shop Equipment	6.67%	23,647	1,625	25,273	1,625	-	26,898	1,625	-	28,523
394	Laboratory Equipment	6.67%	2,462	224	2,686	224	-	2,910	224	-	3,134
395	Power Operated Equipment	10.00%	58,034	502	58,535	502	-	59,037	502	-	59,539
396	Communication Equipment	15.00%	-	-	-	-	-	-	-	-	-
397	Miscellaneous Equipment	4.00%	12,000	1,200	13,200	1,200	-	14,400	1,200	-	15,600
398	Other Tangible Plant (RV Dumping)	4.00%	-	-	-	-	-	-	-	-	-
Accumulated Amortization		10,456,189	283,111	-	10,739,300	287,923	-	11,027,223	336,023	-	11,363,246
Opening balance assigned 15 year aging											
NET BOOK VALUE (NBV)		5,192,011	(42,530)	-	5,149,481	2,102,077	-	7,251,558	868,977	-	8,120,535
NET BOOK VALUE @ MID-YEAR		5,331,438			5,170,746			6,200,519			7,686,046

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Continuity Schedule of Fixed Assets and Amortization

2019 - 2022 Forecast

FIXED ASSETS	Additions in 2021	Retired in 2021	Year-End 2021	Additions in 2022	Retired in 2022	Year-End 2022
351 Organization			-			-
352 Franchises			-			-
353 Land & Land Rights			32,150			32,150
354 Structures & Improvements			-			-
.1 Buildings	-		1,946,803	-		1,946,803
.2 Lagoons & Cells	-		2,178,478	-		2,178,478
.3 Berms & Rehab			15,000			15,000
.4 Fencing & Site Improvements	30,000		145,950			145,950
355 Power Generation Equipment			-			-
360 Collecting Sewers - Force (Lift Stations)			1,254,734			1,254,734
361 Collecting Sewers - Gravity			4,883,672			4,883,672
.1 Mains	400,000		4,131,935	-		4,131,935
.2 Manholes	-		3,486,090	-		3,486,090
.3 Catch Basins			-			-
362 Special Collecting Structures			-			-
363 Services to Customers			-			-
364 Flow Measuring Devices			4,975			4,975
365 Flow Measuring Installations			-			-
371 Pumping Equipment			934,576			934,576
380 Treatment & Disposal Equipment			79,981			79,981
381 Plant Sewers			-			-
382 Outfall Sewer Lines			-			-
389 Other Plant & Misc. Equip.			13,752			13,752
390 Office & Furniture & Equipment			-			-
391 Transportation Equipment			-			-
392 Stores Equipment			-			-
393 Tools & Shop Equipment			29,503			29,503
394 Laboratory Equipment			3,356			3,356
395 Power Operated Equipment	-		642,826	-		642,826
396 Communication Equipment			-			-
397 Miscellaneous Equipment			30,000			30,000
398 Other Tangible Plant (RV Dumping)			100,000			100,000
Total Capital Assets	430,000	-	19,913,781	-	-	19,913,781

AMORTIZATION	Rate	Additions in 2021	Retired in 2021	Year-End 2021	Additions in 2022	Retired in 2022	Year-End 2022
351 Organization	0.00%	-	-	-	-	-	-
352 Franchises	0.00%	-	-	-	-	-	-
353 Land & Land Rights	0.00%	-	-	-	-	-	-
354 Structures & Improvements	2.00%	-	-	-	-	-	-
.1 Buildings	2.00%	38,936	-	493,480	38,936	-	532,416
.2 Lagoons & Cells	2.00%	43,570	-	89,109	43,570	-	132,678
.3 Berms & Rehab	4.00%	600	-	1,200	600	-	1,800
.4 Fencing & Site Improvements	5.00%	5,798	-	27,073	7,298	-	34,370
355 Power Generation Equipment	5.00%	-	-	-	-	-	-
360 Collecting Sewers - Force (Lift Stat	2.00%	9,914	-	922,262	9,914	-	932,176
361 Collecting Sewers - Gravity	2.00%	97,673	-	4,590,652	97,673	-	4,688,325
.1 Mains	2.00%	74,639	-	666,589	82,639	-	749,227
.2 Manholes	3.33%	4,270	-	4,079,317	4,270	-	4,083,587
.3 Catch Basins	3.33%	-	-	-	-	-	-
362 Special Collecting Structures	4.00%	-	-	-	-	-	-
363 Services to Customers	3.33%	-	-	-	-	-	-
364 Flow Measuring Devices	5.00%	249	-	1,244	249	-	1,493
365 Flow Measuring Installations	5.00%	-	-	-	-	-	-
371 Pumping Equipment	6.67%	62,305	-	692,524	62,305	-	754,829
380 Treatment & Disposal Equipment	6.67%	5,332	-	26,660	5,332	-	31,992
381 Plant Sewers	2.50%	-	-	-	-	-	-
382 Outfall Sewer Lines	2.50%	-	-	-	-	-	-
389 Other Plant & Misc. Equip.	5.00%	688	-	10,314	688	-	11,002
390 Office & Furniture & Equipment	6.67%	-	-	-	-	-	-
391 Transportation Equipment	15.00%	-	-	-	-	-	-
392 Stores Equipment	6.67%	-	-	-	-	-	-
393 Tools & Shop Equipment	6.67%	980	-	29,503	665	-	30,168
394 Laboratory Equipment	6.67%	224	-	3,358	-	-	3,358
395 Power Operated Equipment	10.00%	58,002	-	117,540	58,002	-	175,542
396 Communication Equipment	15.00%	-	-	-	-	-	-
397 Miscellaneous Equipment	4.00%	1,200	-	16,800	1,200	-	18,000
398 Other Tangible Plant (RV Dumping)	4.00%	4,000	-	4,000	4,000	-	8,000
Accumulated Amortization		408,377	-	11,771,623	417,339	-	12,188,962
Opening balance assigned 15 year aging							
NET BOOK VALUE (NBV)		21,623	-	8,142,157	(417,339)	-	7,724,818
NET BOOK VALUE @ MID-YEAR				8,131,346			7,933,488

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Utility Rate Base at Mid-Year

2019 - 2022 Forecast

	Source/Reference	Actual 2017	Actual 2018	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022
1. Gross Plant In Service							
a)	Opening Balance	Sch. 1 - Assets & Amortization	15,644,025	15,648,200	15,888,781	18,278,781	19,483,781
b)	Additions	Sch. 1 - Assets & Amortization	4,174	240,581	2,390,000	1,205,000	430,000
c)	Retirements	Sch. 1 - Assets & Amortization	-	-	-	-	-
d)	Closing Balance	= 1.a) + 1.b) - 1.c)	15,648,200	15,888,781	18,278,781	19,483,781	19,913,781
2. Accumulated Depreciation							
a)	Opening Balance	Sch. 1 - Assets & Amortization	10,173,161	10,456,189	10,739,300	11,027,223	11,363,246
b)	Additions	Sch. 1 - Assets & Amortization	283,028	283,111	287,923	336,023	408,377
c)	Retirements	Sch. 1 - Assets & Amortization	-	-	-	-	-
d)	Closing Balance	= 2.a) + 2.b) - 2.c)	10,456,189	10,739,300	11,027,223	11,363,246	11,771,623
3. Net Plant in Service							
a)	Opening Balance	= 1 a) - 2a)	5,470,864	5,192,011	5,149,481	7,251,558	8,120,535
b)	Closing Balance	= 1 d) - 2 d)	5,192,011	5,149,481	7,251,558	8,120,535	8,142,157
c)	Total	= 3a) + 3 b)	10,662,875	10,341,491	12,401,038	15,372,092	16,262,692
d)	Mid Year Balance	= 3 c) ÷ 2	5,331,438	5,170,746	6,200,519	7,686,046	8,131,346
4. Necessary Working Capital							
a)	Cash Operating Expenses (COE)	Sch. 6 - Cash Operating Expenses	202,394	246,524	252,102	257,809	263,646
b)	One-Sixth of COE*	= 4a) ÷ 6	33,732	41,087	42,017	42,968	43,941
c)	Prepaid Expenses	Balance Sheet	-	-	-	-	-
d)	O&M Inventory	Balance Sheet	-	-	-	-	-
e)	Necessary Working Capital	= 4 b) + 4 c) - 4 d)	33,732	41,087	42,017	42,968	43,941
5. Utility Rate Base @ Mid Year							
		= 3 d) + 4 e)	<u>5,365,170</u>	<u>5,211,833</u>	<u>6,242,536</u>	<u>7,729,014</u>	<u>8,175,287</u>
			<u>5,365,170</u>	<u>5,211,833</u>	<u>6,242,536</u>	<u>7,729,014</u>	<u>8,175,287</u>

* the lag of receipts over payments considers the bi-monthly billing cycle: $(75 + 45)/2 = 60$ days. 60 days/365 days = 1/6

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Continuity Schedule of No-Cost Capital and Amortization

2019 - 2022 Forecast

NO-COST CAPITAL (CIAC & Grants)		Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019	Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020
351	Organization	-	-	-	-	-	-	-	-	-	-
352	Franchises	-	-	-	-	-	-	-	-	-	-
353	Land & Land Rights	-	-	-	-	-	-	-	-	-	-
354	Buildings (Struct & Improv)	-	-	-	-	-	-	-	-	-	-
	.1 Buildings	-	-	-	-	-	-	-	-	-	-
	.2 Lagoons & Cells	-	-	-	-	1,357,287	-	1,357,287	-	-	1,357,287
	.3 Berms & Rehab	-	-	-	-	-	-	-	-	-	-
	.4 Fencing & Site Works	-	-	-	-	-	-	-	-	-	-
355	Power Generation Equipment	-	-	-	-	-	-	-	-	-	-
360	Collecting Sewers - Force (Lift Stations)	1,097,701	-	-	1,097,701	-	-	1,097,701	-	-	1,097,701
361	Collecting Sewers - Gravity	-	-	-	-	50,000	-	50,000	-	-	50,000
	.1 Gravity Mains	745,626	-	-	745,626	-	-	745,626	500,000	-	1,245,626
	.2 Manholes	-	-	-	-	-	-	-	-	-	-
	.3 Catch Basins	-	-	-	-	-	-	-	-	-	-
362	Special Collecting Structures	-	-	-	-	-	-	-	-	-	-
363	Services to Customers	-	-	-	-	-	-	-	-	-	-
364	Flow Measuring Devices	-	-	-	-	-	-	-	-	-	-
364	Flow Measuring Installations	-	-	-	-	-	-	-	-	-	-
371	Pumping Equipment	-	-	-	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	-	-	-	-	-	-	-	-	-	-
381	Plant Sewers	-	-	-	-	-	-	-	-	-	-
382	Outfall Sewer Lines	-	-	-	-	-	-	-	-	-	-
389	Other Plant & Misc. Equipment	-	-	-	-	-	-	-	-	-	-
390	Office Furniture & Equipment	-	-	-	-	-	-	-	-	-	-
391	Transportation Equipment	-	-	-	-	-	-	-	-	-	-
392	Stores Equipment	-	-	-	-	-	-	-	-	-	-
393	Tools & Shop Equipment	-	-	-	-	-	-	-	-	-	-
394	Laboratory Equipment	-	-	-	-	-	-	-	-	-	-
395	Power Operated Equipment	-	-	-	-	-	-	-	-	-	-
396	Communication Equipment	-	-	-	-	-	-	-	-	-	-
397	Miscellaneous Equipment	-	-	-	-	-	-	-	-	-	-
398	Other Tangible Plant	-	-	-	-	-	-	-	-	-	-
Total Capital Assets		1,843,326	-	-	1,843,326	1,407,287	-	3,250,613	500,000	-	3,750,613
AMORTIZATION of NCC											
	Rate	Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019	Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020
351	Organization	0.00%	-	-	-	-	-	-	-	-	-
352	Franchises	0.00%	-	-	-	-	-	-	-	-	-
353	Land & Land Rights	0.00%	-	-	-	-	-	-	-	-	-
354	Buildings (Struct & Improv)	2.00%	-	-	-	-	-	-	-	-	-
	.1 Buildings	2.00%	-	-	-	-	-	-	-	-	-
	.2 Lagoons & Cells	2.00%	-	-	-	-	-	-	27,146	-	27,146
	.3 Berms & Rehab	4.00%	-	-	-	-	-	-	-	-	-
	.4 Fencing & Site Works	5.00%	-	-	-	-	-	-	-	-	-
355	Power Generation Equipment	5.00%	-	-	-	-	-	-	-	-	-
360	Collecting Sewers - Force (Lift Stati	2.00%	154,143	21,954	176,097	21,954	-	198,051	21,954	-	220,005
361	Collecting Sewers - Gravity	2.00%	-	-	-	-	-	-	1,000	-	1,000
	.1 Gravity Mains	2.00%	104,538	14,913	119,451	14,913	-	134,364	14,913	-	149,276
	.2 Manholes	3.33%	-	-	-	-	-	-	-	-	-
	.3 Catch Basins	3.33%	-	-	-	-	-	-	-	-	-
362	Special Collecting Structures	4.00%	-	-	-	-	-	-	-	-	-
363	Services to Customers	3.33%	-	-	-	-	-	-	-	-	-
364	Flow Measuring Devices	5.00%	-	-	-	-	-	-	-	-	-
364	Flow Measuring Installations	5.00%	-	-	-	-	-	-	-	-	-
371	Pumping Equipment	6.67%	-	-	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	6.67%	-	-	-	-	-	-	-	-	-
381	Plant Sewers	2.50%	-	-	-	-	-	-	-	-	-
382	Outfall Sewer Lines	2.50%	-	-	-	-	-	-	-	-	-
389	Other Plant & Misc. Equipment	5.00%	-	-	-	-	-	-	-	-	-
390	Office Furniture & Equipment	5.00%	-	-	-	-	-	-	-	-	-
391	Other Plant & Misc. Equipment	6.67%	-	-	-	-	-	-	-	-	-
392	Stores Equipment	15.00%	-	-	-	-	-	-	-	-	-
393	Tools & Shop Equipment	6.67%	-	-	-	-	-	-	-	-	-
394	Laboratory Equipment	6.67%	-	-	-	-	-	-	-	-	-
395	Stores Equipment	6.67%	-	-	-	-	-	-	-	-	-
396	Communication Equipment	10.00%	-	-	-	-	-	-	-	-	-
397	Miscellaneous Equipment	15.00%	-	-	-	-	-	-	-	-	-
398	Other Tangible Plant	4.00%	-	-	-	-	-	-	-	-	-
Accumulated Amortization		258,681	36,867	-	295,548	36,867	-	332,414	65,012	-	397,426
NET BOOK VALUE (NBV)		1,584,645	(36,867)	-	1,547,779	1,370,420	-	2,918,199	434,988	-	3,353,187
NET BOOK VALUE @ MID-YEAR		1,603,079			1,566,212			2,232,989			3,135,693

00000TOWN OF BARRHEAD WASTEWATER UTILITY
Continuity Schedule of No-Cost Capital and Amortization

2019 - 2022 Forecast

NO-COST CAPITAL (CIAC & Grants)		Additions in	Retired in	Year-End	Additions in	Retired in	Year-End
		2021	2021	2021	2022	2022	2022
351	Organization			-			-
352	Franchises			-			-
353	Land & Land Rights			-			-
354	Buildings (Struct & Improv)			-			-
	.1 Buildings			-			-
	.2 Lagoons & Cells			1,357,287			1,357,287
	.3 Berms & Rehab			-			-
	.4 Fencing & Site Works			-			-
355	Power Generation Equipment			-			-
360	Collecting Sewers - Force (Lift Stations)			1,097,701			1,097,701
361	Collecting Sewers - Gravity			50,000			50,000
	.1 Gravity Mains			1,245,626			1,245,626
	.2 Manholes			-			-
	.3 Catch Basins			-			-
362	Special Collecting Structures			-			-
363	Services to Customers			-			-
364	Flow Measuring Devices			-			-
364	Flow Measuring Installations			-			-
371	Pumping Equipment			-			-
380	Treatment & Disposal Equipment			-			-
381	Plant Sewers			-			-
382	Outfall Sewer Lines			-			-
389	Other Plant & Misc. Equipment			-			-
390	Office Furniture & Equipment			-			-
391	Transportation Equipment			-			-
392	Stores Equipment			-			-
393	Tools & Shop Equipment			-			-
394	Laboratory Equipment			-			-
395	Power Operated Equipment			-			-
396	Communication Equipment			-			-
397	Miscellaneous Equipment			-			-
398	Other Tangible Plant			-			-
Total Capital Assets		-	-	3,750,613	-	-	3,750,613
AMORTIZATION OF NCC		Additions in	Retired in	Year-End	Additions in	Retired in	Year-End
	Rate	2021	2021	2021	2022	2022	2022
351	Organization	0.00%	-	-	-	-	-
352	Franchises	0.00%	-	-	-	-	-
353	Land & Land Rights	0.00%	-	-	-	-	-
354	Buildings (Struct & Improv)	2.00%	-	-	-	-	-
	.1 Buildings	2.00%	-	-	-	-	-
	.2 Lagoons & Cells	2.00%	27,146	-	54,291	27,146	81,437
	.3 Berms & Rehab	4.00%	-	-	-	-	-
	.4 Fencing & Site Works	5.00%	-	-	-	-	-
355	Power Generation Equipment	5.00%	-	-	-	-	-
360	Collecting Sewers - Force (Lift Stati	2.00%	21,954	-	241,959	21,954	263,913
361	Collecting Sewers - Gravity	2.00%	1,000	-	2,000	1,000	3,000
	.1 Gravity Mains	2.00%	24,913	-	174,189	24,913	199,101
	.2 Manholes	3.33%	-	-	-	-	-
	.3 Catch Basins	3.33%	-	-	-	-	-
362	Special Collecting Structures	4.00%	-	-	-	-	-
363	Services to Customers	3.33%	-	-	-	-	-
364	Flow Measuring Devices	5.00%	-	-	-	-	-
364	Flow Measuring Installations	5.00%	-	-	-	-	-
371	Pumping Equipment	6.67%	-	-	-	-	-
380	Treatment & Disposal Equipment	6.67%	-	-	-	-	-
381	Plant Sewers	2.50%	-	-	-	-	-
382	Outfall Sewer Lines	2.50%	-	-	-	-	-
389	Other Plant & Misc. Equipment	5.00%	-	-	-	-	-
390	Office Furniture & Equipment	5.00%	-	-	-	-	-
391	Other Plant & Misc. Equipment	6.67%	-	-	-	-	-
392	Stores Equipment	15.00%	-	-	-	-	-
393	Tools & Shop Equipment	6.67%	-	-	-	-	-
394	Laboratory Equipment	6.67%	-	-	-	-	-
395	Stores Equipment	6.67%	-	-	-	-	-
396	Communication Equipment	10.00%	-	-	-	-	-
397	Miscellaneous Equipment	15.00%	-	-	-	-	-
398	Other Tangible Plant	4.00%	-	-	-	-	-
Accumulated Amortization		75,012	-	472,439	75,012	-	547,451
NET BOOK VALUE (NBV)		(75,012)	-	3,278,175	(75,012)	-	3,203,162
NET BOOK VALUE @ MID-YEAR				3,315,681			3,240,669

000000TOWEN OF BARRHEAD WASTEWATER UTILITY
Composite Cost of Debt

2019 - 2022 Forecast

Debenture Number	Allocation to Wastewater	Effective Cost Rate	2017	2018	2019	2020	2021	2022
		0.000%						
		0.000%						
		0.000%						
		0.000%						
		0.000%						
		0.000%						
Total Debenture Debt @ Year-End:			-	-	-	-	-	-
Average Cost of Debt:			0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

DEBENTURE DEBT OUTSTANDING @ MID-YEAR

Debenture Number	Effective Cost Rate	2017	2018	2019	2020	2021	2022
	0.000%	-	-	-	-	-	-
	0.000%	-	-	-	-	-	-
	0.000%	-	-	-	-	-	-
	0.000%	-	-	-	-	-	-
	0.000%	-	-	-	-	-	-
	0.000%	-	-	-	-	-	-
Total Debenture Debt @ Mid-Year:		-	-	-	-	-	-
Cost of Debt @ Mid-Year:		0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Deemed Cost of Debt:		3.779%	3.622%	3.500%	4.000%	4.000%	4.000%

Deemed Cost of Debt per AUC Decision 2005-149: 15-year rolling average for ACFA 15 Year debentures

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Capitalization, Capital Structure and Return

2019 - 2022 Forecast

2017	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	3,219,102	3.78%	121,650
2. Equity	5,331,438	100.00%	100.00%	40.00%	2,146,068	8.50%	182,416
3. Sub Total	5,331,438	100.00%	100.00%	100.00%	5,365,170	5.67%	304,066
4. No-Cost Capital	-	0.00%			-	0.00%	-
5. Total	<u>5,331,438</u>	<u>100.00%</u>			<u>5,365,170</u>	<u>5.67%</u>	<u>304,066</u>
2018	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	2,187,373	3.62%	79,227
2. Equity	3,604,534	69.71%	100.00%	40.00%	1,458,248	8.50%	123,951
3. Sub Total	3,604,534	69.71%	100.00%	100.00%	3,645,621	5.57%	203,178
4. No-Cost Capital	1,566,212	30.29%			1,566,212	0.00%	-
5. Total	<u>5,170,746</u>	<u>100.00%</u>			<u>5,211,833</u>	<u>3.90%</u>	<u>203,178</u>
2019	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	2,405,728	3.50%	84,200
2. Equity	3,967,530	63.99%	100.00%	40.00%	1,603,819	8.50%	136,325
3. Sub Total	3,967,530	63.99%	100.00%	100.00%	4,009,547	5.50%	220,525
4. No-Cost Capital	2,232,989	36.01%			2,232,989	0.00%	-
5. Total	<u>6,200,519</u>	<u>100.00%</u>			<u>6,242,536</u>	<u>3.53%</u>	<u>220,525</u>

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Capitalization, Capital Structure and Return

2019 - 2022 Forecast

2020	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	2,755,993	4.00%	110,240
2. Equity	4,550,353	59.20%	100.00%	40.00%	1,837,328	8.50%	156,173
3. Sub Total	4,550,353	59.20%	100.00%	100.00%	4,593,321	5.80%	266,413
4. No-Cost Capital	3,135,693	40.80%			3,135,693	0.00%	-
5. Total	7,686,046	100.00%			7,729,014	3.45%	266,413
2021	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	3,023,756	4.00%	120,950
2. Equity	4,995,653	61.44%	100.00%	40.00%	2,015,838	8.75%	176,386
3. Sub Total	4,995,653	61.44%	100.00%	100.00%	5,039,594	5.90%	297,336
4. No-Cost Capital	3,135,693	38.56%			3,135,693	0.00%	-
5. Total	8,131,346	100.00%			8,175,287	3.64%	297,336
2022	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	2,905,639	4.00%	116,226
2. Equity	4,797,795	60.48%	100.00%	40.00%	1,937,092	8.75%	169,496
3. Sub Total	4,797,795	60.48%	100.00%	100.00%	4,842,731	5.90%	285,721
4. No-Cost Capital	3,135,693	39.52%			3,135,693	0.00%	-
5. Total	7,933,488	100.00%			7,978,424	3.58%	285,721

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Cash Operating Expenses

Account	Description	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
WASTEWATER (SEWER) EXPENSES							
110-00	Sewer - Salaries	64,333	73,663	75,504	77,392	79,327	81,310
131-00	Sewer - Local Authorities Pension	7,194	7,727	7,920	8,118	8,321	8,529
132-00	Sewer - Canada Pension Plan	2,298	2,534	2,597	2,662	2,729	2,797
133-00	Sewer - Employment Insurance	913	999	1,024	1,050	1,076	1,103
135-00	Sewer - AUMA Benefits	7,507	6,320	6,478	6,640	6,806	6,976
136-00	Sewer - Workers Compensation	781	933	952	971	990	1,010
148-00	Sewer - Training & Development	-	375	384	394	404	414
211-00	Sewer - Travel & Subsistence	437	699	713	727	741	756
215-00	Sewer - Freight	-	-	-	-	-	-
216-00	Sewer - Postage	2,229	2,080	2,122	2,164	2,207	2,251
217-00	Sewer - Telephone	3,242	3,178	3,258	3,339	3,423	3,508
217-01	Sewer - Alberta First Call	1,013	510	520	531	541	552
232-00	Sewer - Legal	-	-	-	-	-	-
233-00	Sewer - Engineering	-	-	-	-	-	-
234-00	Sewer - Consulting	-	-	-	-	-	-
239-00	Sewer - Utility Bill Printing	1,036	850	871	893	915	938
251-00	Sewer - Repair/Maintenance Collection	34,565	41,298	42,124	42,966	43,825	44,702
252-00	Sewer - Repair/Maintenance Facilities	7,081	20,528	21,041	21,567	22,107	22,659
263-00	Sewer - Alarm Lease	359	359	368	378	387	397
274-00	Sewer - Insurance	4,292	3,874	3,971	4,070	4,172	4,276
510-00	Sewer - Materials & Supplies General	-	-	-	-	-	-
510-02	Sewer - Gasoline & Oil	1,297	2,397	2,445	2,494	2,544	2,595
510-03	Sewer - Materials/Supply Facilities	3,966	4,375	4,484	4,596	4,711	4,829
510-04	Sewer - Public Education Programs	-	-	-	-	-	-
512-00	Sewer - Personal Prot. Equip	-	-	-	-	-	-
531-00	Sewer - Chemicals & Salts	-	-	-	-	-	-
543-00	Sewer - Gas Utilities	4,231	3,826	3,922	4,020	4,120	4,223
544-00	Sewer - Power Utilities	54,477	68,950	70,329	71,736	73,170	74,634
762-00	Sewer - Contribution to Capital	351,730	-	331,727	345,000	355,000	370,000
764-00	Sewer - Add to Operating Reserve	-	-	-	-	-	-
920-00	Sewer - Utility Billing Write Off	1,144	1,049	1,075	1,102	1,129	1,158
950-00	Sewer - TCA Amort. Exp.	299,270	302,000	330,000	330,000	330,000	330,000
	Sub-Total	853,394	548,524	913,829	932,809	948,646	969,617

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Cash Operating Expenses

Account	Description	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
ALLOCATED EXPENSES - General & Administration							
	Sewer - Executive Salaries & Benefits						
	Sewer - Management Salaries & Benefits						
	Sewer - Office Operations						
	Sewer - Office Furnishing & Equipment						
	Sewer - Office, Other						
	Sewer - PW Salaries & Benefits						
	Sewer - PW Operations						
	Sewer - PW Equipment						
	Sewer - Vehicles & Equipment						
	Sub-Total						
Gross Cash Expenses as Reported/Forecast		853,394	548,524	913,829	932,809	948,646	969,617
Non "Cash Operating Expenses"		651,000	302,000	661,727	675,000	685,000	700,000
Net Cash Operating Expenses		202,394	246,524	252,102	257,809	263,646	269,617
	<i>Personnel Expenses in COE</i>	<i>83,026</i>	<i>92,176</i>	<i>94,475</i>	<i>96,832</i>	<i>99,248</i>	<i>101,725</i>
	<i>Non-personnel Expenses in COE</i>	<i>119,368</i>	<i>154,348</i>	<i>157,627</i>	<i>160,977</i>	<i>164,398</i>	<i>167,893</i>
INFLATION RATES (ACTUAL/FORECAST)							
	Level 1: Salaries & Wages	-0.60%	11.02%	2.50%	2.50%	2.50%	2.50%
	Level 2: Materials & Supplies	-5.14%	29.30%	2.00%	2.00%	2.00%	2.00%

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Utility Revenue Requirements and Comparison with "Cash-Needs"

2019 - 2022 Forecast

Annual Revenue Requirement	Reference / Source	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
1. Cash Operating Expenses	Schedule 6	246,524	252,102	257,809	263,646	269,617
2. Non-Cash Expenses						
a) Amortization	Schedule 1	283,111	287,923	336,023	408,377	417,339
b) Amortization of NCC	Schedule 3	(36,867)	(36,867)	(65,012)	(75,012)	(75,012)
c) Total	= 2. a) + 2. b)	246,245	251,056	271,011	333,365	342,327
3. Return	Schedule 5	203,178	220,525	266,413	297,336	285,721
4. Reserves, Transfers & Other*	Schedule 6	-				
5. Gross Revenue Requirement	= 1. + 2. c) + 3. + 4.	695,946	723,684	795,232	894,347	897,665

Cash Needs Requirements	Reference/Source	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
6. Cash Operating Expenses	Schedule 6	246,524	252,102	257,809	263,646	269,617
7. 762-00 Contribution to Capital	Schedule 6	-	331,727	345,000	355,000	370,000
8. 764-00 Add to Operating Reserve	Schedule 7	-	-	-	-	-
9. 950-00 Water - TCA Amort. Exp.	Schedule 6	302,000	330,000	330,000	330,000	330,000
10. Gross "Cash Needs" Requirement	= 6. + 7. + 8. + 9.	548,524	913,829	932,809	948,646	969,617
11. Utility Requirements - Cash-Neec	= 5. - 10.	147,423	(190,145)	(137,577)	(54,299)	(71,952)

NOTE: If "Utility Requirements" including provisions for Reserves exceeds "Cash-Needs", amounts proposed to be added to reserves can be reduced

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Revenues by Source (Actual): Revenues to be Generated from Sales (Forecast)

	Wastewater Revenues by Source	Reference/Source	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
1	410-01 Sale of Service (Bills)		586,228				
2	410-02 Sale of Service/Repairs		-	250	250	250	250
3	590-00 Sewer - Penalties		1,552	2,171	2,386	2,683	2,693
4	920-00 From Operating Reserve						
5	960-00 Net Gain/Loss Disposal TCA						
6	Gross Revenues	= 1 + 2 + 3 + 4 + 5	587,781	2,421	2,636	2,933	2,943
7	UTILITY REVENUE REQUIREMENTS (Sc (Excluding Reserves & Transfers)	Schedule 7	695,946	723,684	795,232	894,347	897,665
8	Revenue to be Generated from Sales		694,394	721,263	792,597	891,414	894,722
9	Penalties as % of Sales		0.265%	0.300%	0.300%	0.300%	0.300%

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Revenues by Source (Actual): Revenues to be Generated from Sales (Forecast)

			2018	2019	2020	2021	2022
	Wastewater Revenues by Source	Reference/Source	Actual	Forecast	Forecast	Forecast	Forecast
10	Annual Volumes Treated (m³) (Sch. 10)						
11	BRWC	as reported by BRWC	301,640	301,640	301,640	301,640	301,640
12	Town	based on Water Retail Sales	464,207	453,097	453,097	453,097	453,097
14	Storm Drainage Utility	Estimate to balance	117,881	129,011	126,011	126,011	126,011
13	Barrhead County	estimated in part from BRWC sales	2,000	2,000	5,000	7,500	10,000
15	Total		885,748	885,748	885,748	885,748	885,748
16	Retail Water Customers (Sch. 9)		1,963	1,970	1,970	1,970	1,970
17	Requirements as Allocated to Billing Fur	Schedule 12					
18	Base Capacity Costs		269,270	277,226	306,156		
19	Demand Costs		215,297	225,766	247,131		
20	Customer Costs		210,331	220,692	241,946		
21	Total Costs Allocated	= 18 + 19 + 20	694,897	723,684	795,232		
22	RATES AS PROPOSED						
23	Fixed Monthly Charges	\$/month, minimum bill	12.00	12.00	15.00	15.00	15.00
24	Variable(Commodity) Charges	\$/m ³ x Water Volumes	0.56	0.61	0.63	0.84	0.85
24	Storm Drainage Utility	Schedule 13	0.36	0.38	0.35	0.35	0.35
25	BRWC	Schedule 13	0.36	0.38	0.35	0.35	0.35
26	Barrhead County	\$/m ³ x estimated volumes	0.56	0.61	0.63	0.84	0.85
27	REVENUES						
28	Fixed Monthly Charges	= 16 x 23 x 12 months	282,672	283,680	354,600	354,600	354,600
29	Variable (Commodity) Charges	= 12 x 24	259,654	274,950	285,772	381,827	385,677
29	Stom Drainage Utility	= 11 x 25	42,851	49,082	44,702	44,670	43,868
30	BRWC	= 11 x 25	109,650	114,759	107,005	106,930	105,009
31	Barrhead County	= 13 x 26	1,119	1,214	3,154	6,320	8,512
32	Total Sales Revenues	= 28 + 29 + 30 + 31	695,946	723,684	795,232	894,347	897,665
33	EXCESS (DEFICIENCY) in \$	= 32 - 8	1,552	2,421	2,636	2,933	2,943
34	EXCESS (DEFICIENCY) in %	= 33 ÷ 8	0.22%	0.33%	0.33%	0.33%	0.33%

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Annual Water Sales (m3), Forecast Usage by Month

2017		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking	Wastewater
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)	90% of Sales
1/2 of 4-Plex	M	243	241	255	245	227	219	1,430	238	255	1.0699	1,287
Apartment	M	4,925	4,783	4,913	4,933	4,699	4,546	28,799	4,800	4,933	1.0277	25,919
Church	M	352	414	308	382	362	247	2,065	344	414	1.2029	1,859
Commercial		32	32	28	29	30	29	180	30	32	1.0667	162
Commercial	Imp	73	35	36	28	61	41	273	45	73	1.6036	245
Commercial	M	20,187	20,863	21,148	17,437	18,349	21,667	119,651	19,942	21,667	1.0865	107,686
Duplex	M	460	452	540	465	373	405	2,695	449	540	1.2022	2,426
4-Plex	Imp	10	12	13	11	11	10	66	11	13	1.1364	59
4-Plex	M	918	904	737	785	721	687	4,752	792	918	1.1591	4,277
Industrial		47	42	41	32	68	32	262	44	68	1.5573	236
Institutional	Imp	416	375	418	329	348	333	2,218	370	418	1.1295	1,996
Institutional	M	10,507	9,201	8,915	6,593	7,541	7,226	49,983	8,331	10,507	1.2613	44,985
Recreational	M	706	784	1,867	1,659	1,193	1,148	7,357	1,226	1,867	1.5226	6,621
Residential Owned		536	569	735	499	579	481	3,399	567	735	1.2974	3,059
Residential Owned	M	32,185	30,227	32,997	31,499	29,026	26,666	182,600	30,433	32,997	1.0842	164,340
Residential Rented		-	-	-	-	-	-	-	-	-	-	-
Residential Rentec	Imp	-	-	0	-	0	-	0	0	0	-	0
Residential Rentec	M	6,838	6,273	6,507	6,236	5,332	5,042	36,228	6,038	6,838	1.1325	32,605
Total		78,435	75,206	79,457	71,161	68,920	68,778	441,958	73,660	79,457	1.0787	397,762
2018		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking	Wastewater
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)	90% of Sales
1/2 of 4-Plex	M	306	257	311	285	253	238	1,650	275	311	1.1309	1,485
Apartment	M	5,025	4,421	4,539	4,491	4,529	4,230	27,235	4,539	5,025	1.1070	24,512
Church	M	395	381	536	755	291	214	2,572	429	755	1.7613	2,315
Commercial		38	31	59	90	46	35	299	50	90	1.8060	269
Commercial	Imp	27	33	36	24	22	14	156	26	36	1.3721	141
Commercial	M	23,650	22,009	30,236	29,254	26,803	19,381	151,333	25,222	30,236	1.1988	136,200
Duplex	M	478	451	425	451	419	369	2,593	432	478	1.1061	2,334
4-Plex	Imp	14	16	18	21	25	24	118	20	25	1.2959	106
4-Plex	M	848	794	851	768	793	715	4,769	795	851	1.0707	4,292
Industrial		43	37	41	34	27	26	208	35	43	1.2404	187
Institutional	Imp	439	378	364	313	316	351	2,160	360	439	1.2182	1,944
Institutional	M	9,321	8,122	7,531	5,844	6,114	6,403	43,335	7,223	9,321	1.2906	39,002
Recreational	M	1,292	888	779	826	742	639	5,166	861	1,292	1.5006	4,649
Residential Owned		569	704	874	790	631	590	4,158	693	874	1.2612	3,742
Residential Owned	M	32,740	27,652	36,547	31,788	28,418	26,568	183,713	30,619	36,547	1.1936	165,342
Residential Rented		-	-	-	-	-	-	-	-	-	-	-
Residential Rentec	Imp	-	0	0	-	-	-	1	0	0	-	0
Residential Rentec	M	6,442	5,204	6,544	5,780	5,631	5,141	34,742	5,790	6,544	1.1302	31,268
Total		81,626	71,378	89,691	81,514	75,061	64,938	464,207	77,368	89,691	1.1593	417,787

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Annual Water Sales (m3), Forecast Usage by Month

2019		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking	Wastewater
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)	90% of Sales
1/2 of 4-Plex	M	295	269	304	285	259	247	1,659	277	304	1.1003	1,493
Apartment	M	4,975	4,602	4,726	4,712	3,754	4,339	27,107	4,518	4,975	1.1012	24,396
Church	M	374	398	422	569	327	231	2,319	386	569	1.4712	2,087
Commercial		35	32	44	60	38	32	240	40	60	1.4906	216
Commercial	Imp	59	38	40	26	41	28	232	39	59	1.5188	209
Commercial	M	22,080	21,551	25,615	23,194	22,489	20,628	135,559	22,593	25,615	1.1338	122,003
Duplex	M	496	491	509	498	430	411	2,834	472	509	1.0782	2,551
4-Plex	Imp	12	14	15	16	18	17	92	15	18	1.1928	83
4-Plex	M	912	902	844	801	780	722	4,960	827	912	1.1028	4,464
Industrial		45	40	41	33	48	29	235	39	48	1.2128	212
Institutional	Imp	427	376	391	321	332	342	2,189	365	427	1.1715	1,970
Institutional	M	9,914	8,662	8,223	6,219	6,828	6,815	46,659	7,777	9,914	1.2749	41,993
Recreational	M	1,222	1,053	1,323	1,243	968	957	6,766	1,128	1,323	1.1733	6,089
Residential Owned		621	712	850	663	614	542	4,003	667	850	1.2748	3,602
Residential Ownec	M	32,649	28,814	34,722	31,632	28,765	26,932	183,513	30,585	34,722	1.1352	165,161
Residential Rented		-	-	-	-	-	-	-	-	-		-
Residential Rentec	Imp	-	0	0	-	0	-	0	0	0		0
Residential Rentec	M	6,506	5,541	6,526	5,908	5,307	4,943	34,731	5,788	6,526	1.1273	31,257
Total		80,621	73,493	84,595	76,178	70,996	67,213	453,097	75,516	84,595	1.1202	407,787

2020		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking	Wastewater
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)	90% of Sales
1/2 of 4-Plex	M	295	269	304	285	259	247	1,659	277	304	1.1003	1,493
Apartment	M	4,975	4,602	4,726	4,712	3,754	4,339	27,107	4,518	4,975	1.1012	24,396
Church	M	374	398	422	569	327	231	2,319	386	569	1.4712	2,087
Commercial		35	32	44	60	38	32	240	40	60	1.4906	216
Commercial	Imp	59	38	40	26	41	28	232	39	59	1.5188	209
Commercial	M	22,080	21,551	25,615	23,194	22,489	20,628	135,559	22,593	25,615	1.1338	122,003
Duplex	M	496	491	509	498	430	411	2,834	472	509	1.0782	2,551
4-Plex	Imp	12	14	15	16	18	17	92	15	18	1.1928	83
4-Plex	M	912	902	844	801	780	722	4,960	827	912	1.1028	4,464
Industrial		45	40	41	33	48	29	235	39	48	1.2128	212
Institutional	Imp	427	376	391	321	332	342	2,189	365	427	1.1715	1,970
Institutional	M	9,914	8,662	8,223	6,219	6,828	6,815	46,659	7,777	9,914	1.2749	41,993
Recreational	M	1,222	1,053	1,323	1,243	968	957	6,766	1,128	1,323	1.1733	6,089
Residential Owned		621	712	850	663	614	542	4,003	667	850	1.2748	3,602
Residential Ownec	M	32,649	28,814	34,722	31,632	28,765	26,932	183,513	30,585	34,722	1.1352	165,161
Residential Rented		-	-	-	-	-	-	-	-	-		-
Residential Rentec	Imp	-	0	0	-	0	-	0	0	0		0
Residential Rentec	M	6,506	5,541	6,526	5,908	5,307	4,943	34,731	5,788	6,526	1.1273	31,257
Total		80,621	73,493	84,595	76,178	70,996	67,213	453,097	75,516	84,595	1.1202	407,787

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Annual Water Sales (m3), Forecast Usage by Month

2021		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking	Wastewater
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)	90% of Sales
1/2 of 4-Plex	M	295	269	304	285	259	247	1,659	277	304	1.1003	1,493
Apartment	M	4,975	4,602	4,726	4,712	3,754	4,339	27,107	4,518	4,975	1.1012	24,396
Church	M	374	398	422	569	327	231	2,319	386	569	1.4712	2,087
Commercial		35	32	44	60	38	32	240	40	60	1.4906	216
Commercial	Imp	59	38	40	26	41	28	232	39	59	1.5188	209
Commercial	M	22,080	21,551	25,615	23,194	22,489	20,628	135,559	22,593	25,615	1.1338	122,003
Duplex	M	496	491	509	498	430	411	2,834	472	509	1.0782	2,551
4-Plex	Imp	12	14	15	16	18	17	92	15	18	1.1928	83
4-Plex	M	912	902	844	801	780	722	4,960	827	912	1.1028	4,464
Industrial		45	40	41	33	48	29	235	39	48	1.2128	212
Institutional	Imp	427	376	391	321	332	342	2,189	365	427	1.1715	1,970
Institutional	M	9,914	8,662	8,223	6,219	6,828	6,815	46,659	7,777	9,914	1.2749	41,993
Recreational	M	1,222	1,053	1,323	1,243	968	957	6,766	1,128	1,323	1.1733	6,089
Residential Owned		621	712	850	663	614	542	4,003	667	850	1.2748	3,602
Residential Ownec	M	32,649	28,814	34,722	31,632	28,765	26,932	183,513	30,585	34,722	1.1352	165,161
Residential Rented		-	-	-	-	-	-	-	-	-		-
Residential Rentec	Imp	-	0	0	-	0	-	0	0	0		0
Residential Rentec	M	6,506	5,541	6,526	5,908	5,307	4,943	34,731	5,788	6,526	1.1273	31,257
Total		80,621	73,493	84,595	76,178	70,996	67,213	453,097	75,516	84,595	1.1202	407,787

2022		Jan - Feb	Mar - Apr	May - Jun	Jul - Aug	Sep - Oct	Nov - Dec	TOTAL	Avg Mon	Maximum	Peaking	Wastewater
		Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	Vol (m3)	(Max÷Avg)	90% of Sales
1/2 of 4-Plex	M	295	269	304	285	259	247	1,659	277	304	1.1003	1,493
Apartment	M	4,975	4,602	4,726	4,712	3,754	4,339	27,107	4,518	4,975	1.1012	24,396
Church	M	374	398	422	569	327	231	2,319	386	569	1.4712	2,087
Commercial		35	32	44	60	38	32	240	40	60	1.4906	216
Commercial	Imp	59	38	40	26	41	28	232	39	59	1.5188	209
Commercial	M	22,080	21,551	25,615	23,194	22,489	20,628	135,559	22,593	25,615	1.1338	122,003
Duplex	M	496	491	509	498	430	411	2,834	472	509	1.0782	2,551
4-Plex	Imp	12	14	15	16	18	17	92	15	18	1.1928	83
4-Plex	M	912	902	844	801	780	722	4,960	827	912	1.1028	4,464
Industrial		45	40	41	33	48	29	235	39	48	1.2128	212
Institutional	Imp	427	376	391	321	332	342	2,189	365	427	1.1715	1,970
Institutional	M	9,914	8,662	8,223	6,219	6,828	6,815	46,659	7,777	9,914	1.2749	41,993
Recreational	M	1,222	1,053	1,323	1,243	968	957	6,766	1,128	1,323	1.1733	6,089
Residential Owned		621	712	850	663	614	542	4,003	667	850	1.2748	3,602
Residential Ownec	M	32,649	28,814	34,722	31,632	28,765	26,932	183,513	30,585	34,722	1.1352	165,161
Residential Rented		-	-	-	-	-	-	-	-	-		-
Residential Rentec	Imp	-	0	0	-	0	-	0	0	0		0
Residential Rentec	M	6,506	5,541	6,526	5,908	5,307	4,943	34,731	5,788	6,526	1.1273	31,257
Total		80,621	73,493	84,595	76,178	70,996	67,213	453,097	75,516	84,595	1.1202	407,787

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Annual Demand: Metered Volumes (m3) Treated in Town Lagoons

2019 - 2022 Forecast

	2017			2018			2019			2020		
	Lagoon	BRWC	Town et al	Lagoon	BRWC	Town et al	Lagoon	BRWC	Town et al	Lagoon	BRWC	Town et al
A Effluent Treated												
January	60,010	19,815	40,195	68,475	24,905	43,570	68,475	24,905	43,570	68,475	24,905	43,570
February	59,718	21,055	38,663	65,645	22,290	43,355	65,645	22,290	43,355	65,645	22,290	43,355
March	68,430	21,795	46,635	70,715	24,020	46,695	70,715	24,020	46,695	70,715	24,020	46,695
April	90,580	20,020	70,560	84,050	19,990	64,060	84,050	19,990	64,060	84,050	19,990	64,060
May	96,819	21,020	75,799	81,820	31,105	50,715	81,820	31,105	50,715	81,820	31,105	50,715
June	95,581	28,605	66,976	89,980	32,135	57,845	89,980	32,135	57,845	89,980	32,135	57,845
July	90,331	25,804	64,527	94,180	28,758	65,422	94,180	28,758	65,422	94,180	28,758	65,422
August	87,499	25,456	62,043	84,760	27,500	57,260	84,760	27,500	57,260	84,760	27,500	57,260
September	73,487	24,986	48,501	75,560	23,317	52,243	75,560	23,317	52,243	75,560	23,317	52,243
October	72,227	23,094	49,133	75,743	24,127	51,616	75,743	24,127	51,616	75,743	24,127	51,616
November	69,762	24,850	44,912	45,220	23,818	21,402	45,220	23,818	21,402	45,220	23,818	21,402
December	58,143	23,795	34,348	49,600	19,675	29,925	49,600	19,675	29,925	49,600	19,675	29,925
Total	922,587	280,295	642,292	885,748	301,640	584,108	885,748	301,640	584,108	885,748	301,640	584,108
B Wastewater - Retail Sales (Sch 9)			397,762			417,787			407,787			407,787
Ratio of Total			0.619			0.715			0.698			0.698
C Wastewater from Storm & Other			244,530			166,321			176,321			176,321
Ratio of Total			0.381			0.285			0.302			0.302
D Average Day Demand (= A ÷ 36)	2,527.6	767.9	1,759.7	2,426.7	826.4	1,600.3	2,426.7	826.4	1,600.3	2,426.7	826.4	1,600.3
E Maximum Day Demand(= Max ÷ 20)	4,841.0	1,430.3	3,790.0	4,709.0	1,606.8	3,271.1	4,709.0	1,606.8	3,271.1	4,709.0	1,606.8	3,271.1
F Peaking Demand (= C ÷ B)	1.915	1.862	2.154	1.940	1.944	2.044	1.940	1.944	2.044	1.940	1.944	2.044
G Ratio of Total	1.000	0.304	0.696	1.000	0.341	0.659	1.000	0.341	0.659	1.000	0.341	0.659
H Population			4,431			4,475			4,520			4,565
I Change year-over-year (%)	-3.63%	12.59%	-9.32%	-3.99%	7.62%	-9.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

NOTES:

Population per 2016 Federal Census Report

Population growth forecast at 1.0% per year based on data from 2006, 2011 & 2016 Federal Census Reports

Town Volume of effluent treated is calculated as total metered flow in lagoon, minus wastewater delivered from BRWC WTP

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Annual Demand: Metered Volumes (m3) Treated in Town Lagoons

2019 - 2022 Forecast		2021			2022		
A	Effluent Treated	Lagoon	BRWC	Town et al	Lagoon	BRWC	Town et al
	January	68,475	24,905	43,570	68,475	24,905	43,570
	February	65,645	22,290	43,355	65,645	22,290	43,355
	March	70,715	24,020	46,695	70,715	24,020	46,695
	April	84,050	19,990	64,060	84,050	19,990	64,060
	May	81,820	31,105	50,715	81,820	31,105	50,715
	June	89,980	32,135	57,845	89,980	32,135	57,845
	July	94,180	28,758	65,422	94,180	28,758	65,422
	August	84,760	27,500	57,260	84,760	27,500	57,260
	September	75,560	23,317	52,243	75,560	23,317	52,243
	October	75,743	24,127	51,616	75,743	24,127	51,616
	November	45,220	23,818	21,402	45,220	23,818	21,402
	December	49,600	19,675	29,925	49,600	19,675	29,925
	Total	885,748	301,640	584,108	885,748	301,640	584,108
B	Wastewater - Retail Sales (Sch 9)			407,787			407,787
	Ratio of Total			0.698			0.698
C	Wastewater from Storm & Other			176,321			176,321
	Ratio of Total			0.302			0.302
D	Average Day Demand (= A ÷ 36)	2,426.7	826.4	1,600.3	2,426.7	826.4	1,600.3
E	Maximum Day Demand(= Max ÷ 20)	4,709.0	1,606.8	3,271.1	4,709.0	1,606.8	3,271.1
F	Peaking Demand (= C ÷ B)	1.940	1.944	2.044	1.940	1.944	2.044
G	Ratio of Total	1.000	0.341	0.659	1.000	0.341	0.659
H	Population			4,611			4,657
I	Change year-over-year (%)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

NOTES: Population pe
 Population gr
 Town Volume

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Wastewater Volumes (m3) Treated by Source

2015	Wastewater Treated	Wastewater from WTP	Volume Net of WTP	WTP to System	IRWC WW - % of Production	Town Retail Sales	WW @ 100% of Sales	WW from Storm & Other
Jan		34,880	(34,880)	51,551	67.66%		-	
Feb		30,210	(30,210)	45,157	66.90%		-	
Mar		37,375	(37,375)	51,521	72.54%		-	
Apr		34,698	(34,698)	51,043	67.98%		-	
May		30,727	(30,727)	58,005	52.97%		-	
Jun		32,550	(32,550)	63,693	51.10%		-	
Jul		29,741	(29,741)	62,869	47.31%		-	
Aug		27,245	(27,245)	57,994	46.98%		-	
Sep		25,005	(25,005)	52,626	47.51%		-	
Oct		21,274	(21,274)	54,874	38.77%		-	
Nov		7,988	(7,988)	53,488	14.93%		-	
Dec		4,592	(4,592)	53,702	8.55%		-	
Total	-	316,285	(316,285)	656,523	48.18%	-	-	-
Average		26,357	(26,357)	54,710				
Maximum	-	37,375	(4,592)	63,693		-		
Peaking		1.4180	0.1742	1.1642				
% of Total								

2016	Wastewater Treated	Wastewater from WTP	Volume Net of WTP	BRWC WTP to System	IRWC WW - % of Production	Town Retail Sales (Sch 9)	WW @ 100% of Sales	WW from Storm & Other
Jan	62,396	19,000	43,396	51,821	36.66%		-	43,396
Feb	62,080	18,260	43,820	51,362	35.55%		-	43,820
Mar	70,820	18,721	52,099	54,371	34.43%		-	52,099
Apr	73,522	23,651	49,871	55,999	42.23%		-	49,871
May	95,398	26,383	69,015	66,011	39.97%		-	69,015
Jun	104,885	22,359	82,526	65,722	34.02%		-	82,526
Jul	85,102	20,121	64,981	60,246	33.40%		-	64,981
Aug	99,370	25,840	73,530	59,315	43.56%		-	73,530
Sep	91,470	26,510	64,960	55,526	47.74%		-	64,960
Oct	82,440	22,770	59,670	54,732	41.60%		-	59,670
Nov	86,210	23,335	62,875	53,741	43.42%		-	62,875
Dec	43,602	23,005	20,597	52,903	43.49%		-	20,597
Total	957,295	269,955	687,340	681,749	39.60%	-	-	687,340
Average	79,775	22,496	57,278	56,812				
Maximum	104,885	26,510	82,526	66,011		-		
Peaking	1.3148	1.1784	1.4408	1.1619				
% of Total	100.00%	28.20%	71.80%			-	-	0.7180

000000SCHEDULE 11

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Wastewater Volumes (m3) Treated by Source

2017	Wastewater Treated	Wastewater from WTP	Volume Net of WTP	WTP to System	IRWC WW - % of Production	Town Retail Sales	WW @ 100% of Sales	WW from Other
Jan	60,010	19,815	40,195	52,630	37.65%	39,313	39,313	882
Feb	59,718	21,055	38,663	47,762	44.08%	39,122	39,122	(459)
Mar	68,430	21,795	46,635	50,600	43.07%	32,365	32,365	14,270
Apr	90,580	20,020	70,560	44,697	44.79%	42,841	42,841	27,719
May	96,819	21,020	75,799	51,289	40.98%	39,984	39,984	35,815
Jun	95,581	28,605	66,976	58,094	49.24%	39,220	39,220	27,756
Jul	90,331	25,804	64,527	53,265	48.44%	36,147	36,147	28,380
Aug	87,499	25,456	62,043	51,997	48.96%	35,014	35,014	27,029
Sep	73,487	24,986	48,501	48,294	51.74%	34,758	34,758	13,743
Oct	72,227	23,094	49,133	50,722	45.53%	34,162	34,162	14,971
Nov	69,762	24,850	44,912	45,442	54.69%	37,513	37,513	7,399
Dec	58,143	23,795	34,348	50,290	47.32%	31,265	31,265	3,083
Total	922,587	280,295	642,292	605,082	46.32%	441,705	441,705	200,587
Average	76,882	23,358	53,524	50,424		36,809		
Maximum	96,819	28,605	75,799	58,094		42,841		
Peaking	1.2593	1.2246	1.4162	1.1521		1.1639		
% of Total	100.00%	30.38%	69.62%			0.4788	0.4788	0.2174
2018	Wastewater Treated	Wastewater from WTP	Volume Net of WTP	WTP to System	IRWC WW - % of Production	Town Retail Sales	WW @ 100% of Sales	WW from Storm & Other
Jan	68,475	24,905	43,570	50,128	49.68%	42,714	42,714	856
Feb	65,645	22,290	43,355	45,667	48.81%	38,912	38,912	4,443
Mar	70,715	24,040	46,675	49,630	48.44%	34,666	34,666	12,009
Apr	84,050	19,990	64,060	52,558	38.03%	36,711	36,711	27,349
May	81,820	31,105	50,715	62,686	49.62%	43,997	43,997	6,718
Jun	89,980	32,135	57,845	65,104	49.36%	45,694	45,694	12,151
Jul	94,180	28,758	65,422	61,325	46.89%	42,432	42,432	22,990
Aug	84,760	27,500	57,260	56,485	48.69%	39,083	39,083	18,177
Sep	75,560	23,317	52,243	50,963	45.75%	37,695	37,695	14,548
Oct	75,743	24,127	51,616	50,518	47.76%	37,366	37,366	14,250
Nov	45,220	23,818	21,402	47,062	50.61%	32,953	32,953	(11,551)
Dec	49,600	19,675	29,925	45,678	43.07%	31,984	31,984	(2,059)
Total	885,748	301,660	584,088	637,804	47.30%	464,207	464,207	119,881
Average	73,812	25,138	48,674	53,150		38,684		
Maximum	94,180	32,135	65,422	65,104		45,694		
Peaking	1.2759	1.2783	1.3441	1.2249		1.1812		
% of Total	100.00%	34.06%	65.94%			0.5241	0.5241	0.1353

000000SCHEDULE 11

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Wastewater Volumes (m3) Treated by Source

2019	Wastewater Treated	Wastewater from WTP	Volume Net of WTP	WTP to System	IRWC WW - % of Production	Town Retail Sales	WW @ 100% of Sales	WW from Storm & Other
Jan	68,475	24,905	43,570	73,035	34.10%	42,544	42,544	1,026
Feb	65,645	22,290	43,355	65,367	34.10%	38,077	38,077	5,278
Mar	70,715	24,020	46,695	70,440	34.10%	40,112	40,112	6,583
Apr	84,050	19,990	64,060	58,622	34.10%	33,382	33,382	30,678
May	81,820	31,105	50,715	91,217	34.10%	41,609	41,609	9,106
Jun	89,980	32,135	57,845	94,238	34.10%	42,987	42,987	14,858
Jul	94,180	28,758	65,422	84,334	34.10%	38,941	38,941	26,481
Aug	84,760	27,500	57,260	80,645	34.10%	37,237	37,237	20,023
Sep	75,560	23,317	52,243	68,378	34.10%	34,892	34,892	17,351
Oct	75,743	24,127	51,616	70,754	34.10%	36,104	36,104	15,512
Nov	45,220	23,818	21,402	69,848	34.10%	36,808	36,808	(15,406)
Dec	49,600	19,675	29,925	57,698	34.10%	30,405	30,405	(480)
Total	885,748	301,640	584,108	884,575	34.10%	453,097	453,097	131,011
Average	73,812		48,676	73,715		37,758		
Maximum	94,180	-	65,422	94,238		42,987		
Peaking	1.2759		1.3440	1.2784		1.1385		
% of Total	100.00%	34.05%	65.95%			0.5115	0.5115	0.1479

2020	Wastewater Treated	Wastewater from WTP	Volume Net of WTP	WTP to System	IRWC WW - % of Production	Town Retail Sales	WW @ 100% of Sales	WW from Storm & Other
Jan	68,475	24,905	43,570	73,035	34.10%	42,544	42,544	1,026
Feb	65,645	22,290	43,355	65,367	34.10%	38,077	38,077	5,278
Mar	70,715	24,020	46,695	70,440	34.10%	40,112	40,112	6,583
Apr	84,050	19,990	64,060	58,622	34.10%	33,382	33,382	30,678
May	81,820	31,105	50,715	91,217	34.10%	41,609	41,609	9,106
Jun	89,980	32,135	57,845	94,238	34.10%	42,987	42,987	14,858
Jul	94,180	28,758	65,422	84,334	34.10%	38,941	38,941	26,481
Aug	84,760	27,500	57,260	80,645	34.10%	37,237	37,237	20,023
Sep	75,560	23,317	52,243	68,378	34.10%	34,892	34,892	17,351
Oct	75,743	24,127	51,616	70,754	34.10%	36,104	36,104	15,512
Nov	45,220	23,818	21,402	69,848	34.10%	36,808	36,808	(15,406)
Dec	49,600	19,675	29,925	57,698	34.10%	30,405	30,405	(480)
Total	885,748	301,640	584,108	884,575	34.10%	453,097	453,097	131,011
Average	73,812	25,137	48,676	73,715		37,758		
Maximum	94,180	32,135	65,422	94,238		42,987		
Peaking	1.2759	1.2784	1.3440	1.2784		1.1385		
% of Total	100.00%	34.05%	65.95%			0.5115	0.5115	0.1479

000000SCHEDULE 11

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Allocation of Revenue Requirements to Function

2019 - 2022 Forecast		2018	BILLING PARAMETERS			Expense as Allocated to:			Specific Effluent Stream & Over-Strength				Check
		Actual	Base	Demand	Customer	Base	Demand	Customer	BOD	SS	Grease	Phosphates	Totals
CASH OPERATING EXPENSES													
WASTEWATER (SEWER) EXPENSES													
110-00	Sewer - Salaries	73,663	40%	30%	30%	29,465	22,099	22,099					73,663
131-00	Sewer - Local Authorities Pension	7,727	40%	30%	30%	3,091	2,318	2,318					7,727
132-00	Sewer - Canada Pension Plan	2,534	40%	30%	30%	1,014	760	760					2,534
133-00	Sewer - Employment Insurance	999	40%	30%	30%	400	300	300					999
135-00	Sewer - AUMA Benefits	6,320	40%	30%	30%	2,528	1,896	1,896					6,320
136-00	Sewer - Workers Compensation	933	40%	30%	30%	373	280	280					933
148-00	Sewer - Training & Development	375	35%	30%	35%	131	113	131					375
211-00	Sewer - Travel & Subsistence	699	35%	30%	35%	245	210	245					699
215-00	Sewer - Freight	-	40%	30%	30%	-	-	-					-
216-00	Sewer - Postage	2,080	30%	10%	60%	624	208	1,248					2,080
217-00	Sewer - Telephone	3,178	40%	30%	30%	1,271	954	954					3,178
217-01	Sewer - Alberta First Call	510	25%	50%	25%	128	255	128					510
232-00	Sewer - Legal	-	40%	35%	25%	-	-	-					-
233-00	Sewer - Engineering	-	40%	30%	30%	-	-	-					-
234-00	Sewer - Consulting	-	40%	30%	30%	-	-	-					-
239-00	Sewer - Utility Bill Printing	850	20%	20%	60%	170	170	510					850
251-00	Sewer - Repair/Maintenance Collection	41,298	30%	40%	30%	12,389	16,519	12,389					41,298
252-00	Sewer - Repair/Maintenance Facilities	20,528	30%	40%	30%	6,158	8,211	6,158					20,528
263-00	Sewer - Alarm Lease	359	25%	50%	25%	90	180	90					359
274-00	Sewer - Insurance	3,874	50%	25%	25%	1,937	968	968					3,874
510-00	Sewer - Materials & Supplies General	-	40%	30%	30%	-	-	-					-
510-02	Sewer - Gasoline & Oil	2,397	60%	20%	20%	1,438	479	479					2,397
510-03	Sewer - Materials/Supply Facilities	4,375	60%	20%	20%	2,625	875	875					4,375
510-04	Sewer - Public Education Programs	-	40%	30%	30%	-	-	-					-
512-00	Sewer - Personal Prot. Equip	-	40%	30%	30%	-	-	-					-
531-00	Sewer - Chemicals & Salts	-	40%	30%	30%	-	-	-					-
543-00	Sewrer - Gas Utilities	3,826	40%	30%	30%	1,530	1,148	1,148					3,826
544-00	Sewer - Power Utilities	68,950	40%	30%	30%	27,580	20,685	20,685					68,950
950-00	Sewer - Utility Billing Write Off	-	20%	40%	40%	-	-	-					-
Sub-Total		245,475	38.0%	32.0%	30.0%	93,187	78,627	73,661	-	-	-	-	245,475
ALLOCATED EXPENSES - General & Administration													
0	Sewer - Executive Salaries & Benefits	-	60%	20%	20%	-	-	-					-
0	Sewer - Management Salaries & Benefits	-	60%	20%	20%	-	-	-					-
0	Sewer - Office Operations	-	60%	20%	20%	-	-	-					-
0	Sewer - Office Furnishing & Equipment	-	60%	20%	20%	-	-	-					-
0	Sewer - Office, Other	-	60%	20%	20%	-	-	-					-
0	Sewer - PW Salaries & Benefits	-	60%	20%	20%	-	-	-					-
0	Sewer - PW Operations	-	60%	20%	20%	-	-	-					-
0	Sewer - PW Equipment	-	60%	20%	20%	-	-	-					-

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Allocation of Revenue Requirements to Function

2019 - 2022 Forecast	2018	BILLING PARAMETERS			Expense as Allocated to:			Specific Effluent Stream & Over-Strength				Check
	Actual	Base	Demand	Customer	Base	Demand	Customer	BOD	SS	Grease	Phosphates	Totals
0 Sewer - Vehicles & Equipment	-	60%	20%	20%	-	-	-	-	-	-	-	-
Sub-Total	-				-	-	-	-	-	-	-	-
Total Cash Operating Expenses	245,475	38.0%	32.0%	30.0%	93,187	78,627	73,661	-	-	-	-	245,475
NON-CASH EXPENSES												
Amortization/Depreciation on Capital Assets	283,111	40%	30%	30%	113,245	84,933	84,933					283,111
Amortization on No Cost Capital	(36,867)	50%	25%	25%	(18,433)	(9,217)	(9,217)					(36,867)
Net Non Cash Expenses	246,245	38.5%	30.7%	30.7%	94,811	75,717	75,717	-	-	-	-	246,245
RETURN ON RATE BASE	203,178	40%	30%	30%	81,271	60,953	60,953	-	-	-	-	203,178
RESERVES & OTHER RECOVERIES	-	40%	30%	30%	-	-	-	-	-	-	-	-
UTILITY REVENUE REQUIREMENT	694,897	40%	30%	30%	269,270	215,297	210,331	-	-	-	-	694,897

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Allocation of Revenue Requirements to Function

2019 - 2022 Forecast	2019 Forecast	BILLING PARAMETERS			BILLING PARAMETERS			Specific Effluent Stream & Over-Streng				Check Totals	2019 - 2022
		Base	Demand	Customer	Base	Demand	Customer	BOD	SS	Grease	Phosphates		
CASH OPERATING EXPENSES													CASH OPERA
WASTEWATER (SEWER) EXPENSES													WASTEWA
110-00 Sewer - Salaries	75,504	40%	30%	30%	30,202	22,651	22,651					75,504	110-00
131-00 Sewer - Local Authorities Pension	7,920	40%	30%	30%	3,168	2,376	2,376					7,920	131-00
132-00 Sewer - Canada Pension Plan	2,597	40%	30%	30%	1,039	779	779					2,597	132-00
133-00 Sewer - Employment Insurance	1,024	40%	30%	30%	410	307	307					1,024	133-00
135-00 Sewer - AUMA Benefits	6,478	40%	30%	30%	2,591	1,943	1,943					6,478	135-00
136-00 Sewer - Workers Compensation	952	40%	30%	30%	381	286	286					952	136-00
148-00 Sewer - Training & Development	384	35%	30%	35%	135	115	135					384	148-00
211-00 Sewer - Travel & Subsistance	713	35%	30%	35%	249	214	249					713	211-00
215-00 Sewer - Freight	-	40%	30%	30%	-	-	-					-	215-00
216-00 Sewer - Postage	2,122	30%	10%	60%	636	212	1,273					2,122	216-00
217-00 Sewer - Telephone	3,258	40%	30%	30%	1,303	977	977					3,258	217-00
217-01 Sewer - Alberta First Call	520	25%	50%	25%	130	260	130					520	217-01
232-00 Sewer - Legal	-	40%	35%	25%	-	-	-					-	232-00
233-00 Sewer - Engineering	-	40%	30%	30%	-	-	-					-	233-00
234-00 Sewer - Consulting	-	40%	30%	30%	-	-	-					-	234-00
239-00 Sewer - Utility Bill Printing	871	20%	20%	60%	174	174	523					871	239-00
251-00 Sewer - Repair/Maintenance Collection	42,124	30%	40%	30%	12,637	16,849	12,637					42,124	251-00
252-00 Sewer - Repair/Maintenance Facilities	21,041	30%	40%	30%	6,312	8,417	6,312					21,041	252-00
263-00 Sewer - Alarm Lease	368	25%	50%	25%	92	184	92					368	263-00
274-00 Sewer - Insurance	3,971	50%	25%	25%	1,985	993	993					3,971	274-00
510-00 Sewer - Materials & Supplies General	-	40%	30%	30%	-	-	-					-	510-00
510-02 Sewer - Gasoline & Oil	2,445	60%	20%	20%	1,467	489	489					2,445	510-02
510-03 Sewer - Materials/Supply Facilities	4,484	60%	20%	20%	2,691	897	897					4,484	510-03
510-04 Sewer - Public Education Programs	-	40%	30%	30%	-	-	-					-	510-04
512-00 Sewer - Personal Prot. Equip	-	40%	30%	30%	-	-	-					-	512-00
531-00 Sewer - Chemicals & Salts	-	40%	30%	30%	-	-	-					-	531-00
543-00 Sewrer - Gas Utilities	3,922	40%	30%	30%	1,569	1,177	1,177					3,922	543-00
544-00 Sewer - Power Utilities	70,329	40%	30%	30%	28,132	21,099	21,099					70,329	544-00
950-00 Sewer - Utility Billing Write Off	1,075	20%	40%	40%	215	430	430					1,075	950-00
Sub-Total	252,102	38.9%	32.9%	30.9%	95,518	80,830	75,755	-	-	-	-	252,102	Sub-Total
ALLOCATED EXPENSES - General & Administration													ALLOCATE
- Sewer - Executive Salaries & Benefits	-	60%	20%	20%	-	-	-					-	-
- Sewer - Management Salaries & Benefits	-	60%	20%	20%	-	-	-					-	-
- Sewer - Office Operations	-	60%	20%	20%	-	-	-					-	-
- Sewer - Office Furnishing & Equipment	-	60%	20%	20%	-	-	-					-	-
- Sewer - Office, Other	-	60%	20%	20%	-	-	-					-	-
- Sewer - PW Salaries & Benefits	-	60%	20%	20%	-	-	-					-	-
- Sewer - PW Operations	-	60%	20%	20%	-	-	-					-	-
- Sewer - PW Equipment	-	60%	20%	20%	-	-	-					-	-

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Allocation of Revenue Requirements to Function

2019 - 2022 Forecast	2019 Forecast	BILLING PARAMETERS			BILLING PARAMETERS			Specific Effluent Stream & Over-Strength				<i>Check Totals</i>	2019 - 2022
		Base	Demand	Customer	Base	Demand	Customer	BOD	SS	Grease	Phosphates		
- Sewer - Vehicles & Equipment	-	60%	20%	20%	-	-	-	-	-	-	-	-	-
Sub-Total	-				-	-	-	-	-	-	-	-	Sub-Total
Total Cash Operating Expenses	252,102	38.9%	32.9%	30.9%	95,518	80,830	75,755	-	-	-	-	252,102	Total Cash
NON-CASH EXPENSES													NON-CASH EXPENSES
Amortization/Depreciation on Capital Assets	287,923	40%	30%	30%	115,169	86,377	86,377					287,923	Amortization
Amortization on Fixed Assets	(36,867)	50%	25%	25%	(18,433)	(9,217)	(9,217)					(36,867)	Amortization
Net Non Cash Expenses	251,056	39.3%	31.3%	31.3%	96,736	77,160	77,160	-	-	-	-	251,056	Net Non Cash
RETURN ON RATE BASE	220,525	40%	30%	30%	84,972	67,777	67,777	-	-	-	-	220,525	RETURN ON RATE BASE
RESERVES & OTHER RECOVERIES		40%	30%	30%	-	-	-					-	RESERVES & OTHER RECOVERIES
UTILITY REVENUE REQUIREMENT	723,684	38.3%	31.2%	30.5%	277,226	225,766	220,692	-	-	-	-	723,684	UTILITY REVENUE REQUIREMENT

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Allocation of Revenue Requirements to Function

Forecast	2020	BILLING PARAMETERS			BILLING PARAMETERS			Specific Effluent Stream & Over-Streng				Check
	Forecast	Base	Demand	Customer	Base	Demand	Customer	BOD	SS	Grease	Phosphates	Totals
ATING EXPENSES												
ATER (SEWER) EXPENSES												
Sewer - Salaries	77,392	40%	30%	30%	30,957	23,218	23,218					77,392
Sewer - Local Authorities Pension	8,118	40%	30%	30%	3,247	2,435	2,435					8,118
Sewer - Canada Pension Plan	2,662	40%	30%	30%	1,065	799	799					2,662
Sewer - Employment Insurance	1,050	40%	30%	30%	420	315	315					1,050
Sewer - AUMA Benefits	6,640	40%	30%	30%	2,656	1,992	1,992					6,640
Sewer - Workers Compensation	971	40%	30%	30%	388	291	291					971
Sewer - Training & Development	394	35%	30%	35%	138	118	138					394
Sewer - Travel & Subsistance	727	35%	30%	35%	254	218	254					727
Sewer - Freight	-	40%	30%	30%	-	-	-					-
Sewer - Postage	2,164	30%	10%	60%	649	216	1,298					2,164
Sewer - Telephone	3,339	40%	30%	30%	1,336	1,002	1,002					3,339
Sewer - Alberta First Call	531	25%	50%	25%	133	265	133					531
Sewer - Legal	-	40%	35%	25%	-	-	-					-
Sewer - Engineering	-	40%	30%	30%	-	-	-					-
Sewer - Consulting	-	40%	30%	30%	-	-	-					-
Sewer - Utility Bill Printing	893	20%	20%	60%	179	179	536					893
Sewer - Repair/Maintenance Collection	42,966	30%	40%	30%	12,890	17,186	12,890					42,966
Sewer - Repair/Maintenance Facilities	21,567	30%	40%	30%	6,470	8,627	6,470					21,567
Sewer - Alarm Lease	378	25%	50%	25%	94	189	94					378
Sewer - Insurance	4,070	50%	25%	25%	2,035	1,018	1,018					4,070
Sewer - Materials & Supplies General	-	40%	30%	30%	-	-	-					-
Sewer - Gasoline & Oil	2,494	60%	20%	20%	1,497	499	499					2,494
Sewer - Materials/Supply Facilities	4,596	60%	20%	20%	2,758	919	919					4,596
Sewer - Public Education Programs	-	40%	30%	30%	-	-	-					-
Sewer - Personal Prot. Equip	-	40%	30%	30%	-	-	-					-
Sewer - Chemicals & Salts	-	40%	30%	30%	-	-	-					-
Sewrer - Gas Utilities	4,020	40%	30%	30%	1,608	1,206	1,206					4,020
Sewer - Power Utilities	71,736	40%	30%	30%	28,694	21,521	21,521					71,736
Sewer - Utility Billing Write Off	1,102	20%	40%	40%	220	441	441					1,102
	257,809	39.8%	33.7%	31.6%	97,688	82,653	77,468	-	-	-	-	257,809
ID EXPENSES - General & Administration												
Sewer - Executive Salaries & Benefits	-	60%	20%	20%	-	-	-					-
Sewer - Management Salaries & Benefits	-	60%	20%	20%	-	-	-					-
Sewer - Office Operations	-	60%	20%	20%	-	-	-					-
Sewer - Office Furnishing & Equipment	-	60%	20%	20%	-	-	-					-
Sewer - Office, Other	-	60%	20%	20%	-	-	-					-
Sewer - PW Salaries & Benefits	-	60%	20%	20%	-	-	-					-
Sewer - PW Operations	-	60%	20%	20%	-	-	-					-
Sewer - PW Equipment	-	60%	20%	20%	-	-	-					-

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Allocation of Revenue Requirements to Function

Forecast	2020	BILLING PARAMETERS			BILLING PARAMETERS			Specific Effluent Stream & Over-Strength				Check
	Forecast	Base	Demand	Customer	Base	Demand	Customer	BOD	SS	Grease	Phosphates	Totals
Sewer - Vehicles & Equipment	-	60%	20%	20%	-	-	-					-
al	-				-	-	-	-	-	-	-	-
Operating Expenses	257,809	39.8%	33.7%	31.6%	97,688	82,653	77,468	-	-	-	-	257,809
EXPENSES												
n/Depreciation on Capital Assets	336,023	40%	30%	30%	134,409	100,807	100,807					336,023
n on No Cost Capital	(65,012)	50%	25%	25%	(32,506)	(16,253)	(16,253)					(65,012)
ash Expenses	271,011	41.4%	34.3%	34.3%	101,903	84,554	84,554	-	-	-	-	271,011
RATE BASE	266,413	40%	30%	30%	106,565	79,924	79,924	-	-	-	-	266,413
OTHER RECOVERIES		40%	30%	30%	-	-	-	-	-	-	-	-
ENUE REQUIREMENT	795,232	38.5%	31.1%	30.4%	306,156	247,131	241,946	-	-	-	-	795,232

000000TOWN OF BARRHEAD WASTEWATER UTILITY
Calculation for Costs of Wastewater Treatment

2019 - 2022 Forecast	2018	2019	2020	2021	2022
Capital Assets - Treatment (Schedule 1)					
353 Land & Land Rights	32,150	32,150	32,150	32,150	32,150
354 Structures & Improvements					
.1 Buildings	1,946,803	1,946,803	1,946,803	1,946,803	1,946,803
.2 Lagoons & Cells	98,478	2,178,478	2,178,478	2,178,478	2,178,478
.3 Berms & Rehab	-	15,000	15,000	15,000	15,000
.4 Fencing & Site Improvements	85,950	85,950	115,950	145,950	145,950
364 Flow Measuring Devices	4,975	4,975	4,975	4,975	4,975
371 Pumping Equipment	934,576	934,576	934,576	934,576	934,576
380 Treatment & Disposal Equipment	79,981	79,981	79,981	79,981	79,981
389 Other Plant & Misc. Equipment	13,752	13,752	13,752	13,752	13,752
394 Laboratory Equipment	3,356	3,356	3,356	3,356	3,356
397 Miscellaneous Equipment	30,000	30,000	30,000	30,000	30,000
Gross Value of Treatment Assets	3,230,021	5,325,021	5,355,021	5,385,021	5,385,021
Amortization - Treatment Assets (Schedule 1)					
353 Land & Land Rights	-	-	-	-	-
354 Structures & Improvements					
.1 Buildings	36,672	415,608	454,544	493,480	543,416
.2 Lagoons & Cells	-	1,970	45,539	89,109	132,678
.3 Berms & Rehab	-	-	600	1,200	1,800
.4 Fencing & Site Improvements	12,680	16,978	21,275	27,073	32,870
364 Flow Measuring Devices	498	746	995	1,244	1,493
371 Pumping Equipment	505,609	567,914	630,219	692,524	754,829
380 Treatment & Disposal Equipment	10,664	15,996	21,328	26,660	31,992
389 Other Plant & Misc. Equipment	8,251	8,939	9,626	10,314	11,002
394 Laboratory Equipment	2,686	2,910	3,134	3,356	3,356
397 Miscellaneous Equipment	13,200	14,400	15,600	16,800	18,000
Accumulated Dpreciation - Treatment Assets	590,260	1,045,461	1,202,860	1,361,760	1,531,436
NET BOOK VALUE - TREATMENT ASSETS	2,639,761	4,279,560	4,152,161	4,023,261	3,853,585
NO-COST CAPITAL (Schedule 3)	-	1,357,287	1,357,287	1,357,287	1,357,287
Amortization of NCC	-	-	27,146	54,291	81,437
UNAMORTIZED NCC @ YEAR-END	-	1,357,287	1,330,141	1,302,996	1,275,850
RATE BASE ASSETS NET OF NCC	2,639,761	2,922,273	2,822,020	2,720,265	2,577,735
RETURN ON RATE BASE (Schedule 5)	5.57%	5.50%	5.80%	5.90%	5.90%
COST COMPONENTS: TREATMENT ONLY					
a) Return	147,119	160,725	163,677	160,496	152,086
b) Depreciation/Amortization	113,231	113,231	86,085	87,585	88,861
c) Cash Operating Expenses (25%)	61,631	63,026	64,452	65,912	67,404
d) Total Requirements for Treatment	321,981	336,982	314,214	313,992	308,352
Annual Volume Treated in m³ (Schedule 1)	885,748	885,748	885,748	885,748	885,748
Unit Rate for Treatment Only (\$/m³)	0.36	0.38	0.35	0.35	0.35

Appendix D
Description of Schedules in the
Wastewater Utility Rate Model

TOWN OF BARRHEAD
Wastewater Rates and Cost of Service
2019 - 2022

Table of Contents

Identifies the schedules provided within the utility rate model, by:

- Schedule No.
- Tab (title on each tab of the workbook)
- Title of each Schedule/worksheet in the workbook
- Number of pages for each Schedule (as formatted for presentation)

A - Input: Table of Input Data and Values

- Shows major capital additions by general account as forecast for the test period, and allows use of default values for testing changes in revenue requirements due to ongoing capital replacement and upgrading, based on average annualized values for each such prime account. The capital additions schedule is linked to “Schedule 1 – Assets & Amort”, but additions can be added directly into the appropriate cell in Schedule 1.
- Shows the capital structure (ratio of debt to equity) as proposed for each test year, and the default structure applied within the model if no input is provided for any given year
- Shows the theoretical allowed and default rates of Return on both Debt and Equity for all test years. The default capital structure and allowed rates shown are based on the AUC Generic Cost of Capital decisions, as noted. The values shown are carried forward and applied on ‘Schedule 5 – Return’.
- Shows default rates of inflation to be applied to the forecast of ‘Cash Operating Expenses’ if no values are selected given years. Two classes of expense have been identified, the first being for “Personnel” and their salaries and wages, and the second for “Supplies”, which encompasses all other cash operating expenses. The default values are shown on “Schedule 6 – COE” to drive the annual forecasts.

B - Output: Table of Output Values and Rates

- Reports the “allowed” annual Revenue Requirements by function or major cost component as determined through the rate model. There are four major cost components comprising the annual revenue requirements: ‘Cash Operatings Expenses’, ‘Non-Cash Expenses’ (depreciation and amortization), ‘Return on Rate Base’, and ‘Other’ which would include provisions for surtaxes, reserves and all other levies as the Town may be determine to be appropriate.

- Reports the 'Market' or 'Sales Base' as forecast for the test years, by meter/customer type, identifying the forecasts for the average number of customers and volume sales for each year of the period being examined
- Shows the annual revenues as generated by source, and net revenues to be generated by Fixed Charges and Commodity Sales to customers
- Shows the rates for the Fixed Monthly Charge and Variable Commodity Rates necessary to fully recover the Utility Revenue Requirements in each of the years 2017 through 2022, based on forecasts within the rate model

Schedule 1: Continuity Schedule of Fixed Assets and Amortization

- Reports assets at original cost in the year of development from 1961 through 2022, and allocates all capital to prime asset accounts as identified by the National Association of Regulatory Utility Commissioners (NARUC) Uniform System of Accounts for Class A/B Wastewater Companies. The NARUC standard has been adopted by most water associations across North America, including the AWWA, and CAWA, and by their regulators. Gross asset values reported includes developments funded by No Cost Capital (e.g. - grants, developer/customer contributions, etc.). Columns reporting data for the years '1961' through '2014 Retirements' are hidden for presentation purposes.
- Calculates both the annual and accumulated depreciation expenses for each prime asset account based on expected useful service lives for the respective classes of assets (depreciation is applied on a straight-line basis for all classes of assets). Formulae have been entered to ensure that any asset value is not amortized past its estimated useful service life.
- Reports the net book values (NBV) for the utility at calendar year end, as the difference between gross investments and accumulated depreciation, and the net book value of utility assets at Mid-Year (the average of the NBV at the prior year-end plus the NBV at current year-end). The AUC applies the mid-year convention in assessing revenue requirements for all utilities subject to its jurisdiction.

Schedule 2: Utility Rate Base

- Reports Gross Plant in Service as at prior year-end (opening balance), Capital Additions and Retirements in each year, and the balance of Gross Investment at year-end (closing balance) from 'Schedule 1'.
- Reports Accumulated Amortization as at prior year-end (opening balance), annual Amortization expense, and Retirements in each year, and the total Accumulated Amortization at year-end (closing balance), from 'Schedule 1'
- Calculates the Net Plant in Service (Net Book Value, or NBV) as at year-end and as at Mid-Year. Mid-year values are used to average changes in capital investment

and/or development year-over-year to reduce potential shock due to major capital developments being added in any given year.

- Shows the calculation of ‘Necessary Working Capital’ calculated based on bi-monthly billings as maintained by the Town. The calculation assumes one-sixth of costs will be allowed for “Cash Operating Expenses” (from ‘Schedule 6’), plus provisions for “Prepaid Expenses” and the value of “Materials and Supplies Inventories” (typically reported on the balance sheet in financial statements). The Town does not maintain segregated and/or independent financial statements for its utility systems, so no allocations for either “Prepays” or “O&M Inventory” have been applied in this model.
- Reports “Utility Rate Base” at Mid-Year on which the utility is allowed to earn a Return

NOTE: The “rule of one-eighth” assumes that a utility incurs costs for its services prior to being able to recover those costs from its customers. If a utility bills customers monthly, the rule assumes the utility incurs all of the Cash Operating Expenses at mid-month (15 days) into the month of service. The utility is not able to invoice customers and then recover those costs until the end of the month (30 days) following the month of service. The lag between the receipts from customers and the utility’s incurring the expenses is 45 days, or roughly one-eighth of the year ($45 \div 365 = 1/8$). The “rule of one-eighth” is commonly applied by regulatory tribunals where a utility is not able to determine its working capital requirements using a balance sheet or lead-lag method.

The Town bills its customers bi-monthly. Using the same criteria as noted for “the rule of one-eighth”, the lag of receipts over expenses is 75 days for the first month of service (45 days plus 30 days), and 45 days for the second month of the billing cycle. The average lag is then calculated as 60 days ($(75+45) \div 2$), which is roughly one-sixth ($60 \div 365 = 1/6$) of a year.

Schedule 3: Continuity Schedule of No-Cost Capital and Amortization

- Reports “No-Cost Capital” (NCC) received by the Town and applied towards development of the Wastewater utility system, by year, from 1961 through 2022, and allocates funding to the appropriate prime asset accounts. Columns reporting data for the years ‘1961’ through ‘2017 Retirements’ are hidden for presentation purposes.
- Calculates annual and accumulated amortization of No-Cost Capital based on estimated averages of useful service lives for primary functions, as shown on Schedule 1
- Reports the Unamortized Balance of No-Cost Capital at calendar year-end, and as at Mid-year (the average of the prior year-end and the current year end)

Schedule 4: Composite Cost of Debt

- Reports the actual debenture debt outstanding for the test years 2017 through 2022, and calculates debt outstanding at mid-year for that same period. The Town has no existing debenture debt outstanding for the Wastewater utility
- Calculates the composite cost of debt for each year of the period examined, and
- Reports the cost rates of deemed debt for each year, as noted on the ‘Input’ schedule.

NOTE: The Alberta Utilities Commission (AUC) determined in Decision 2005-149, that a municipal utility should use the 15-year rolling average of the cost of 15-year term debentures issued by the Alberta Capital Finance Association (ACFA) as the cost rate for notional of deemed debt.

Schedule 5: Capitalization, Cost of Capital and Return on Rate Base

- Reports the capital investment in utility assets in each test year, based on the net book value of plant in service and the utility rate base as calculated on ‘Schedule 2’, with investment segregated by sources of capital or funding applied to the rate base. The schedule calculates the utility’s investment according to the “allowed” capital structure, and calculates a return on each component funding rate base; debt, deemed debt and equity, for the years 2017 through 2022.
- Net Capital Investment, other than that funded by No-Cost Capital is deemed to be financed using a capital structure of 60% debt and 40% equity in all years. That capital structure has been approved by the AUC for small water utilities (shown on ‘Input’).
- Reports actual capital structure for the mid-year capitalization of Rate Base, and calculates the appropriate amounts for Debt, Deemed Debt and Equity for the utility to maintain the optimum capital structure as determined by the AUC.
- The Return on Equity (ROE) is based on AUC Decision 22570-D01-2018, which approved a rate of 8.5% as the benchmark rate for all utilities subject to its jurisdiction for the years 2018, 2019 and 2020. The default rate as shown in ‘Input’ is 8.75%, reflecting expected increases in market returns beyond 2022.

Note: Municipalities are taxing authorities in their own right, and may choose to approve a higher rate of return on equity that would apply to utility services being provided to customers located within the municipal corporate boundaries. The utility may not apply a ROE other than that as then currently approved by the AUC to utility customers located beyond the municipality’s corporate boundaries.

- ‘No-Cost Capital at Mid-Year’ is as calculated on ‘Schedule 3’. No return has been allowed on Rate Base funded by No-Cost Capital (cost rate for NCC is 0.00%). As noted in the previous paragraph, municipalities are taxing authorities in their own

right, and can approve a rate of return on NCC as they deem fit, however, that rate can only be applied to customers located within the corporate boundaries.

- Calculates an overall Rate of Return on Rate Base (total Return on Rate Base divided by Rate Base)

Schedule 6: Cash Operating Expenses

- Reports actual operating expenditures in the same format as maintained by the Town for the calendar years 2015 through 2018, and as forecast for the test years 2019 through 2022.
- Identifies non “Cash Operating Expenses”, including amortization, debt costs, and transfers to capital and reserve accounts, and determines allowed Cash Operating Expenses for each year
- Calculates expenses related to “Personnel”, for wages and benefits, and overtime, and for “Supplies”. Actual changes in expenses year-over-year are calculated for each of “Personnel” and “Supplies”, for information and reference purposes. The forecasts apply inflation factors as shown on ‘Input’ to “Personnel” and “Supplies” expenses respectively, in each of the test years.

Note: The Schedule includes a section for allocating common or shared infrastructure costs, also commonly referred to as “General and Administrative Expenses” (G&A) that are deemed to be necessary to support that utility as if it were a stand alone utility.

Schedule 7: Utility Revenue Requirements and Comparison with “Cash-Needs”

- Reports annual revenue requirements determined using the utility method, comprised of:
 - Cash Operating Expenses as calculated from Schedule 6
 - Non-Cash Expenses consisting of annual amortization expense as calculated on Schedule 1, less the annual amortization of No-Cost Capital as calculated on Schedule 3
 - Return on Rate Base as calculated on Schedule 5
 - Reserves and Other Recoveries as reported on Schedule 6 and/or as determined to be appropriate by the Town
- Reports annual revenue requirements determined using the “Cash-Needs” method, comprised of:
 - “Cash Operating Expenses” as calculated on ‘Schedule 6’, and

- “Non-Cash Operating Expenses”, including transfers to reserves and amortization.
- Reports the difference between the “Utility” and “Cash-Needs” requirements for each year.

Schedule 8: Revenues by Source (Actual): Revenues to be Generated from Sales

- Reports “Wastewater Revenues by Source” by account
- Reports the annual Revenue Requirements as determined on Schedule 7
- Compares the Gross Revenues as reported by the Town, and as forecast for Other Revenues with the Utility Revenue Requirement to identify the amount of revenue to be generated from sales to customers
- Calculates the amount of Penalties as a percentage of the “Sales of Service”
- Reports annual volumes of wastewater treated, according to source or customer for the years 2016 through 2022
- Reports actual numbers of Town retail customers for 2017 and 2018, and as forecast for 2019 through 2022
- Presents the costs as allocated to function: Base, Demand and Customer, as determined in Schedule 12
- Presents proposed rates to be charged in each of the years for; Fixed and Minimum Monthly Charge, and Variable Commodity Rates for each of the Town Retail customers, BRWC for wastewater treatment, and Barrhead County for estimated volumes of wastewater delivered to the Town for transportation and treatment.
- Reports the revenues generated at proposed rates applied to the forecast of customers and wastewater volumes.
- Calculates the excess or deficiency of revenues over revenue requirements in all years.

Schedule 9: Annual Wastewater Sales (m³), Forecast Usage by Month

- Reports annual water volumes by customers class as invoiced by the Town in 2017 and 2018, and as forecast for 2019 through 2022. Wastewater volumes as estimated to be 100% of the metered water volumes for all Town retail customers.

Schedule 10: Annual Demand: Metered Volumes (m³) Treated in Town Lagoons

- Reports the monthly volumes treated by the Town Wastewater Utility in 2016, 2017 and 2018, and as forecast for the test years, 2019 through 2022, and the monthly volumes of wastewater being delivered for treatment by the BRWC from the WTP. The total volume treated, less the BRWC volumes, represents the total of Town retail customers volumes, Storm Water volumes, and wastewater volumes delivered to the Town for treatment by Barrhead County connections to the Wastewater utility.
- Calculates the ratios of the respective flows and deliveries, and the demand factors associated with each

Schedule 11: Wastewater Volumes (m³) Treated by Source

- Reports the monthly metered volumes of wastewater treated by the Town for 2016, 2017 and 2018, and as forecast for 2019 through 2022, and the monthly volumes of wastewater being delivered for treatment by the BRWC from the WTP. The total volume treated less the BRWC volume represents the total of Town retail customers volumes, Storm Water volumes, and wastewater volumes delivered to the Town for treatment by Barrhead County connections to the utility.
- Reports the estimated monthly water sales for Town Retail customers. Bi-monthly billings are allocated to months based on prorating the billings based on monthly water volumes delivered by BRWC to the Town distribution system.
- Calculates wastewater volumes being returned for treatment by Town retail water customers as being 100% of metered water sales volumes
- Calculates the volumes of wastewater received and treated from the Storm Water system and other users as the difference between the total volume treated at the lagoons, less the BRWC volumes, less the Town's retail water sales volumes
- Calculates demand factors and ratios of total volumes treated for the respective customers/users

Schedule 12: Wastewater Allocation of Revenue Requirements to Function

All components of the Utility Revenue Requirement should be classified according to their function or cost driver, in order to properly allocate the respective costs to the appropriate customers or classes of customers. The functionalization assesses each of the cost components for its dependence on four criteria: Base, Demand, Customer, and Over-Strength effluent streams. Over-Strength effluents are commonly classified by type; Biological Oxygen Deficiency (BOD), Suspended Solids (SS), Grease and Oils, and Phosphates. The Town's Wastewater Utility does not segregate or apply different processes to the effluent stream. The Schedule provides allocation blocks for the distinct process streams to accommodate allocating costs to those Over-Strength functions, should it be desired in future.

- Reports each cost component of Cash Operating Expenses, and other components for the Utility Revenue Requirements for 2018, 2019 and 2020, respectively
- Assigns an allocation ratio to each of the criteria applied, and determines costs associated with those criteria for each expense or cost component identified
- Calculates a ratio of expenses as functionalized for each major cost component
- Identifies total costs as allocated to function, and the percentages of total costs for the respective functions. The functionalized costs can provide direction in designing rate structures and rates, tolls, and charges to be proposed, particularly based on the quantum identified for Customer and Demand functions.

Schedule 13: Calculation of Costs for Wastewater Treatment

The Town provides treatment of wastewater and sludge volumes received from the BRWC water treatment plant, and also for volumes received from the Storm Water Utility. Since both the BRWC and the Storm Water Utility do not use the Wastewater Utility gathering and delivery systems, they are not allocated any costs for those functions.

- Reports the assets in service in each test year, by prime asset account, that are necessary to provide treatment of wastewater influent/effluent volumes received
- Reports the accumulated amortization of assets in service in each test year, by prime asset account, that are necessary to provide treatment of effluent volumes received
- Calculates the Net Book Value of the assets providing Treatment services in each year
- Reports the funding received from No-Cost Capital for Treatment Assets in service, accumulated amortization, and the Unamortized Balance of NCC in each year
- Calculates the Rate Base for Treatment Assets in each test year

- Reports the composite Rate of Return on Rate for each test year
- Calculates the Cost Components comprising the Revenue Requirement for Treatment Service, including Return, Depreciation/Amortization and Cash Operating Expenses (estimated to be 25% of total COE) for each test year
- Reports the annual volumes as forecast to be treated in each test year
- Calculates the unit rate necessary to generate the annual Revenue Requirement for Wastewater Treatment in each test year

Appendix E

Storm Drainage Utility Rate Model

TOWN OF BARRHEAD **Storm Water Rates and Cost of Service** **2019 - 2022**

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Utility Rates and Cost of Service Model: 2019 - 2022

TABLE OF CONTENTS

Schedule			No. of
No.	TAB	TITLE	PAGES
A	Input	Input & Default Values for the Utility Rate Model	1
B	Output	Outputs from the Utility Rate Model	1
1	Asset-Amort	Continuity Schedule of Fixed Assets & Amortization	2
2	Rate Base	Utility Rate Base @ Mid-Year	1
3	NCC-Amort	Continuity Schedule of No Cost Capital & Amortization	2
4	Debt	Composite Cost of Debt	1
5	Return	Capitalization, Capital Structure & Return on Rate Base	2
6	COE	Cash Operating Expenses	1
7	RevReq	Utility Revenue Requirement & Comparison with "Cash-Needs"	1
8	Properties	Properties Assessed (DATA REQUIRED)	1
9	Rate Summary	Summary of Assessments and Rates by Customer Class (DATA REQUIRED)	1

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Inputs and Default Values for the Utility Rate Model

2018 - 2022 Forecast

Reference Defaults	CAPITAL INVESTMENT (Schedule 1)					Capital Structure		Rates of Return			Reference	Inflation on COE	
	Treatment	Pumping	Lagoons	Mains	General	DEBT	EQUITY	Deemed		No-Cost	AUC	Personnel	Supplies
						Schedule 5		Debt	Equity	Capital	Decision	Schedule 6	
						60.0%	40.0%	4.00%	8.75%	0.00%		2.50%	2.00%
	A	B	C	D	E	F	G	H	I	J	K	L	M
1 2017								3.779%	8.50%		20622-D01-2016		
2 2018								3.622%	8.50%		22570-D01-2018		
3 2019								3.500%	8.50%		22570-D01-2018		
4 2020									8.50%		22570-D01-2018		
5 2021													
6 2022													
7 2023													
8 2024													
9 2025													

INPUTS

TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Outputs from the Utility Rate Model

2018 - 2022 Forecast

Reference		REVENUE REQUIREMENTS					
		Treatment	Cash Op. Exp.	Non-Cash	Return	Other	TOTAL
		Sch. 6	Sch. 6	Sch. 7	Sch. 5	Sch. 7	(=A+B+C+D+E)
		A	B	C	D	E	F
1	2017	-	19,123	123,673	101,213		244,010
2	2018	-	21,888	133,165	90,510	-	245,563
3	2019	49,024	22,413	130,529	92,504	-	294,471
4	2020	44,104	22,950	131,069	96,552	-	294,676
5	2021	43,229	23,501	135,069	95,991	-	297,790
6	2022	42,354	24,065	135,069	87,747	-	289,235

BILLING DETERMINANTS (Sch. 8)						
	Properties	Total Area	Impervious Area	Frontage	Other	Other
	Assessed	Assessed (m2)	Assessed (m2)	(m)		
7	2017					
8	2018					
9	2019					
10	2020					
11	2021					
12	2022					

00000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Continuity Schedule of Fixed Assets and Amortization

2018 - 2022 Forecast

FIXED ASSETS	Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019	Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020	
351 Organization	-			-			-			-	
352 Franchises	-			-			-			-	
353 Land & Land Rights	-			-			-			-	
354 Structures & Improvements	-			-			-			-	
.1 Buildings	-			-			-			-	
.2 Lagoons & Cells	-			-			-			-	
.3 Berms & Rehab	-			-			-			-	
.4 Fencing & Site Improvements	-			-			-			-	
355 Power Generation Equipment	-			-			-			-	
360 Collecting Sewers - Force (Lift Stations)	-			-			-			-	
361 Collecting Sewers - Gravity	679,513			679,513	27,000		706,513	200,000		906,513	
.1 Mains	3,224,424	342,796		3,567,220			3,567,220			3,567,220	
.2 Manholes	1,460,495			1,460,495			1,460,495			1,460,495	
.3 Catch Basins	1,056,537			1,056,537			1,056,537			1,056,537	
362 Special Collecting Structures	-			-			-			-	
363 Services to Customers	-			-			-			-	
364 Flow Measuring Devices	-			-			-			-	
365 Flow Measuring Installations	-			-			-			-	
371 Pumping Equipment	-			-			-			-	
380 Treatment & Disposal Equipment	-			-			-			-	
381 Plant Sewers	-			-			-			-	
382 Outfall Sewer Liness	-			-			-			-	
389 Other Plant & Misc. Equip.	-			-			-			-	
390 Office & Furniture & Equipment	-			-			-			-	
391 Transportation Equipment	-			-			-			-	
392 Stores Equipment	-			-			-			-	
393 Tools & Shop Equipment	-			-			-			-	
394 Laboratory Equipment	-			-			-			-	
395 Power Operated Equipment	-			-			-			-	
396 Communication Equipment	-			-			-			-	
397 Miscellaneous Equipment	-			-			-			-	
398 Other Tangible Plant	-			-			-			-	
Total Capital Assets	6,420,969	342,796	-	6,763,765	27,000	-	6,790,765	200,000	-	6,990,765	
AMORTIZATION											
	Rate	Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019	Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020
351 Organization	0.00%	-	-	-	-	-	-	-	-	-	-
352 Franchises	0.00%	-	-	-	-	-	-	-	-	-	-
353 Land & Land Rights	0.00%	-	-	-	-	-	-	-	-	-	-
354 Structures & Improvements	2.00%	-	-	-	-	-	-	-	-	-	-
.1 Buildings	2.00%	-	-	-	-	-	-	-	-	-	-
.2 Lagoons & Cells	2.00%	-	-	-	-	-	-	-	-	-	-
.3 Berms & Rehab	4.00%	-	-	-	-	-	-	-	-	-	-
.4 Fencing & Site Improvements	5.00%	-	-	-	-	-	-	-	-	-	-
355 Power Generation Equipment	5.00%	-	-	-	-	-	-	-	-	-	-
360 Collecting Sewers - Force (Lift Stat	2.00%	-	-	-	-	-	-	-	-	-	-
361 Collecting Sewers - Gravity	2.00%	43,025	13,590	-	56,615	13,590	-	70,206	14,130	-	84,336
.1 Mains	2.00%	2,550,400	64,488	-	2,614,888	71,344	-	2,686,233	71,344	-	2,757,577
.2 Manholes	2.00%	1,213,773	29,210	-	1,242,983	29,210	-	1,272,193	29,210	-	1,301,403
.3 Catch Basins	2.00%	895,289	21,131	-	916,420	21,131	-	937,550	21,131	-	958,681
362 Special Collecting Structures	4.00%	-	-	-	-	-	-	-	-	-	-
363 Services to Customers	3.33%	-	-	-	-	-	-	-	-	-	-
364 Flow Measuring Devices	5.00%	-	-	-	-	-	-	-	-	-	-
365 Flow Measuring Installations	5.00%	-	-	-	-	-	-	-	-	-	-
371 Pumping Equipment	6.67%	-	-	-	-	-	-	-	-	-	-
380 Treatment & Disposal Equipment	6.67%	-	-	-	-	-	-	-	-	-	-
381 Plant Sewers	2.50%	-	-	-	-	-	-	-	-	-	-
382 Outfall Sewer Liness	2.50%	-	-	-	-	-	-	-	-	-	-
389 Other Plant & Misc. Equip.	5.00%	-	-	-	-	-	-	-	-	-	-
390 Office & Furniture & Equipment	6.67%	-	-	-	-	-	-	-	-	-	-
391 Transportation Equipment	15.00%	-	-	-	-	-	-	-	-	-	-
392 Stores Equipment	6.67%	-	-	-	-	-	-	-	-	-	-
393 Tools & Shop Equipment	6.67%	-	-	-	-	-	-	-	-	-	-
394 Laboratory Equipment	6.67%	-	-	-	-	-	-	-	-	-	-
395 Power Operated Equipment	10.00%	-	-	-	-	-	-	-	-	-	-
396 Communication Equipment	15.00%	-	-	-	-	-	-	-	-	-	-
397 Miscellaneous Equipment	4.00%	-	-	-	-	-	-	-	-	-	-
398 Other Tangible Plant	4.00%	-	-	-	-	-	-	-	-	-	-
Accumulated Amortization		4,702,487	128,419	-	4,830,907	135,275	-	4,966,182	135,815	-	5,101,997
Opening balance assigned 15 year aging											
NET BOOK VALUE (NBV)		1,718,482	214,376	-	1,932,858	(108,275)	-	1,824,583	64,185	-	1,888,768
NET BOOK VALUE @ MID-YEAR		1,782,691			1,825,670			1,878,721			1,856,675

00000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Continuity Schedule of Fixed Assets and Amortization

2018 - 2022 Forecast

FIXED ASSETS	Additions in 2021	Retired in 2021	Year-End 2021	Additions in 2022	Retired in 2022	Year-End 2022
351 Organization			-			-
352 Franchises			-			-
353 Land & Land Rights			-			-
354 Structures & Improvements			-			-
.1 Buildings			-			-
.2 Lagoons & Cells			-			-
.3 Berms & Rehab			-			-
.4 Fencing & Site Improvements			-			-
355 Power Generation Equipment			-			-
360 Collecting Sewers - Force (Lift Stations)			-			-
361 Collecting Sewers - Gravity			906,513			906,513
.1 Mains			3,567,220			3,567,220
.2 Manholes			1,460,495			1,460,495
.3 Catch Basins			1,056,537			1,056,537
362 Special Collecting Structures			-			-
363 Services to Customers			-			-
364 Flow Measuring Devices			-			-
365 Flow Measuring Installations			-			-
371 Pumping Equipment			-			-
380 Treatment & Disposal Equipment			-			-
381 Plant Sewers			-			-
382 Outfall Sewer Liness			-			-
389 Other Plant & Misc. Equip.			-			-
390 Office & Furniture & Equipment			-			-
391 Transportation Equipment			-			-
392 Stores Equipment			-			-
393 Tools & Shop Equipment			-			-
394 Laboratory Equipment			-			-
395 Power Operated Equipment			-			-
396 Communication Equipment			-			-
397 Miscellaneous Equipment			-			-
398 Other Tangible Plant			-			-
Total Capital Assets	-	-	6,990,765	-	-	6,990,765

AMORTIZATION	Rate	Additions in 2021	Retired in 2021	Year-End 2021	Additions in 2022	Retired in 2022	Year-End 2022
351 Organization	0.00%	-	-	-	-	-	-
352 Franchises	0.00%	-	-	-	-	-	-
353 Land & Land Rights	0.00%	-	-	-	-	-	-
354 Structures & Improvements	2.00%	-	-	-	-	-	-
.1 Buildings	2.00%	-	-	-	-	-	-
.2 Lagoons & Cells	2.00%	-	-	-	-	-	-
.3 Berms & Rehab	4.00%	-	-	-	-	-	-
.4 Fencing & Site Improvements	5.00%	-	-	-	-	-	-
355 Power Generation Equipment	5.00%	-	-	-	-	-	-
360 Collecting Sewers - Force (Lift Stat	2.00%	-	-	-	-	-	-
361 Collecting Sewers - Gravity	2.00%	18,130	-	102,466	18,130	-	120,597
.1 Mains	2.00%	71,344	-	2,828,922	71,344	-	2,900,266
.2 Manholes	2.00%	29,210	-	1,330,613	29,210	-	1,359,823
.3 Catch Basins	2.00%	21,131	-	979,812	21,131	-	1,000,943
362 Special Collecting Structures	4.00%	-	-	-	-	-	-
363 Services to Customers	3.33%	-	-	-	-	-	-
364 Flow Measuring Devices	5.00%	-	-	-	-	-	-
365 Flow Measuring Installations	5.00%	-	-	-	-	-	-
371 Pumping Equipment	6.67%	-	-	-	-	-	-
380 Treatment & Disposal Equipment	6.67%	-	-	-	-	-	-
381 Plant Sewers	2.50%	-	-	-	-	-	-
382 Outfall Sewer Liness	2.50%	-	-	-	-	-	-
389 Other Plant & Misc. Equip.	5.00%	-	-	-	-	-	-
390 Office & Furniture & Equipment	6.67%	-	-	-	-	-	-
391 Transportation Equipment	15.00%	-	-	-	-	-	-
392 Stores Equipment	6.67%	-	-	-	-	-	-
393 Tools & Shop Equipment	6.67%	-	-	-	-	-	-
394 Laboratory Equipment	6.67%	-	-	-	-	-	-
395 Power Operated Equipment	10.00%	-	-	-	-	-	-
396 Communication Equipment	15.00%	-	-	-	-	-	-
397 Miscellaneous Equipment	4.00%	-	-	-	-	-	-
398 Other Tangible Plant	4.00%	-	-	-	-	-	-
Accumulated Amortization		139,815	-	5,241,812	139,815	-	5,381,628
Opening balance assigned 15 year aging							
NET BOOK VALUE (NBV)		(139,815)	-	1,748,952	(139,815)	-	1,609,137
NET BOOK VALUE @ MID-YEAR				1,818,860			1,679,045

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Utility Rate Base at Mid-Year

2018 - 2022 Forecast

	Source/Reference	Actual 2017	Actual 2018	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022
1. Gross Plant In Service							
a)	Opening Balance	Sch. 1 - Assets & Amortization	6,420,969	6,420,969	6,763,765	6,790,765	6,990,765
b)	Additions	Sch. 1 - Assets & Amortization	-	342,796	27,000	200,000	-
c)	Retirements	Sch. 1 - Assets & Amortization	-	-	-	-	-
d)	Closing Balance	= 1.a) + 1.b) - 1.c)	6,420,969	6,763,765	6,790,765	6,990,765	6,990,765
2. Accumulated Depreciation							
a)	Opening Balance	Sch. 1 - Assets & Amortization	4,574,068	4,702,487	4,830,907	4,966,182	5,101,997
b)	Additions	Sch. 1 - Assets & Amortization	128,419	128,419	135,275	139,815	139,815
c)	Retirements	Sch. 1 - Assets & Amortization	-	-	-	-	-
d)	Closing Balance	= 2.a) + 2.b) - 2.c)	4,702,487	4,830,907	4,966,182	5,101,997	5,241,812
3. Net Plant in Service							
a)	Opening Balance	= 1.a) - 2.a)	1,846,901	1,718,482	1,932,858	1,888,768	1,748,952
b)	Closing Balance	= 1. d) - 2. d)	1,718,482	1,932,858	1,824,583	1,888,768	1,609,137
c)	Total	= 3.a) + 3.b)	3,565,383	3,651,340	3,757,441	3,713,351	3,358,089
d)	Mid Year Balance	= 3.c) ÷ 2	1,782,691	1,825,670	1,878,721	1,856,675	1,679,045
4. Necessary Working Capital							
a)	Cash Operating Expenses (COE)	Sch. 6 - Cash Operating Expenses	19,123	21,888	22,413	22,950	23,501
b)	One-Sixth of COE*	= 4.a) ÷ 6	3,187	3,648	3,735	3,825	4,011
c)	Prepaid Expenses	Balance Sheet	-	-	-	-	-
d)	O&M Inventory	Balance Sheet	-	-	-	-	-
e)	Necessary Working Capital	= 4.b) + 4.c) - 4.d)	3,187	3,648	3,735	3,825	4,011
5. Utility Rate Base @ Mid Year							
		= 3.d) + 4.e)	<u>1,785,879</u>	<u>1,829,318</u>	<u>1,882,456</u>	<u>1,860,500</u>	<u>1,822,777</u>
			<u>1,683,055</u>				

* the lag of receipts over payments considers the bi-monthly billing cycle: $(75 + 45)/2 = 60$ days. $60 \text{ days}/365 \text{ days} = 1/6$

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Continuity Schedule of No-Cost Capital and Amortization

2018 - 2022 Forecast

NO-COST CAPITAL (CIAC & Grants)		Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019	Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020
351	Organization	-	-	-	-	-	-	-	-	-	-
352	Franchises	-	-	-	-	-	-	-	-	-	-
353	Land & Land Rights	-	-	-	-	-	-	-	-	-	-
354	Buildings (Struct & Improv)	-	-	-	-	-	-	-	-	-	-
	.1 Buildings	-	-	-	-	-	-	-	-	-	-
	.2 Lagoons & Cells	-	-	-	-	-	-	-	-	-	-
	.3 Berms & Rehab	-	-	-	-	-	-	-	-	-	-
	.4 Fencing & Site Works	-	-	-	-	-	-	-	-	-	-
355	Power Generation Equipment	-	-	-	-	-	-	-	-	-	-
360	Collecting Sewers - Force (Lift Stations)	-	-	-	-	-	-	-	-	-	-
361	Collecting Sewers - Gravity	-	-	-	-	-	-	-	-	-	-
	.1 Gravity Mains	237,295	-	-	237,295	-	-	237,295	-	-	237,295
	.2 Manholes	-	-	-	-	-	-	-	-	-	-
	.3 Catch Basins	-	-	-	-	-	-	-	-	-	-
362	Special Collecting Structures	-	-	-	-	-	-	-	-	-	-
363	Services to Customers	-	-	-	-	-	-	-	-	-	-
364	Flow Measuring Devices	-	-	-	-	-	-	-	-	-	-
364	Flow Measuring Installations	-	-	-	-	-	-	-	-	-	-
371	Pumping Equipment	-	-	-	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	-	-	-	-	-	-	-	-	-	-
381	Plant Sewers	-	-	-	-	-	-	-	-	-	-
382	Outfall Sewer Liness	-	-	-	-	-	-	-	-	-	-
389	Other Plant & Misc. Equip.	-	-	-	-	-	-	-	-	-	-
391	Transportation Equipment	-	-	-	-	-	-	-	-	-	-
392	Stores Equipment	-	-	-	-	-	-	-	-	-	-
393	Tools & Shop Equipment	-	-	-	-	-	-	-	-	-	-
394	Laboratory Equipment	-	-	-	-	-	-	-	-	-	-
395	Power Operated Equipment	-	-	-	-	-	-	-	-	-	-
396	Communication Equipment	-	-	-	-	-	-	-	-	-	-
397	Miscellaneous Equipment	-	-	-	-	-	-	-	-	-	-
398	Other Tangible Plant	-	-	-	-	-	-	-	-	-	-
Total Capital Assets		237,295	-	-	237,295	-	-	237,295	-	-	237,295
AMORTIZATION of NCC		Year-End 2017	Additions in 2018	Retired in 2018	Year-End 2018	Additions in 2019	Retired in 2019	Year-End 2019	Additions in 2020	Retired in 2020	Year-End 2020
	Rate										
351	Organization	0.00%	-	-	-	-	-	-	-	-	-
352	Franchises	0.00%	-	-	-	-	-	-	-	-	-
353	Land & Land Rights	0.00%	-	-	-	-	-	-	-	-	-
354	Buildings (Struct & Improv)	2.00%	-	-	-	-	-	-	-	-	-
	.1 Buildings	2.00%	-	-	-	-	-	-	-	-	-
	.2 Lagoons & Cells	2.00%	-	-	-	-	-	-	-	-	-
	.3 Berms & Rehab	4.00%	-	-	-	-	-	-	-	-	-
	.4 Fencing & Site Works	5.00%	-	-	-	-	-	-	-	-	-
355	Power Generation Equipment	5.00%	-	-	-	-	-	-	-	-	-
360	Collecting Sewers - Force (Lift Stati	2.00%	-	-	-	-	-	-	-	-	-
361	Collecting Sewers - Gravity	2.00%	-	-	-	-	-	-	-	-	-
	.1 Gravity Mains	2.00%	29,619	4,746	34,365	4,746	-	39,111	4,746	-	43,857
	.2 Manholes	2.00%	-	-	-	-	-	-	-	-	-
	.3 Catch Basins	2.00%	-	-	-	-	-	-	-	-	-
362	Special Collecting Structures	4.00%	-	-	-	-	-	-	-	-	-
363	Services to Customers	3.33%	-	-	-	-	-	-	-	-	-
364	Flow Measuring Devices	5.00%	-	-	-	-	-	-	-	-	-
364	Flow Measuring Installations	5.00%	-	-	-	-	-	-	-	-	-
371	Pumping Equipment	6.67%	-	-	-	-	-	-	-	-	-
380	Treatment & Disposal Equipment	6.67%	-	-	-	-	-	-	-	-	-
381	Plant Sewers	2.50%	-	-	-	-	-	-	-	-	-
382	Outfall Sewer Liness	2.50%	-	-	-	-	-	-	-	-	-
389	Other Plant & Misc. Equip.	5.00%	-	-	-	-	-	-	-	-	-
391	Other Plant & Misc. Equip.	6.67%	-	-	-	-	-	-	-	-	-
392	Stores Equipment	15.00%	-	-	-	-	-	-	-	-	-
393	Tools & Shop Equipment	6.67%	-	-	-	-	-	-	-	-	-
394	Laboratory Equipment	6.67%	-	-	-	-	-	-	-	-	-
395	Stores Equipment	6.67%	-	-	-	-	-	-	-	-	-
396	Communication Equipment	10.00%	-	-	-	-	-	-	-	-	-
397	Miscellaneous Equipment	15.00%	-	-	-	-	-	-	-	-	-
398	Other Tangible Plant	4.00%	-	-	-	-	-	-	-	-	-
Accumulated Amortization		29,619	4,746	-	34,365	4,746	-	39,111	4,746	-	43,857
NET BOOK VALUE (NBV)		207,676	(4,746)	-	202,930	(4,746)	-	198,184	(4,746)	-	193,438
NET BOOK VALUE @ MID-YEAR		210,048			205,303			200,557			195,811

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Continuity Schedule of No-Cost Capital and Amortization

2018 - 2022 Forecast

NO-COST CAPITAL (CIAC & Grants)		Additions in	Retired in	Year-End	Additions in	Retired in	Year-End
		2021	2021	2021	2022	2022	2022
351	Organization			-			-
352	Franchises			-			-
353	Land & Land Rights			-			-
354	Buildings (Struct & Improv)			-			-
	.1 Buildings			-			-
	.2 Lagoons & Cells			-			-
	.3 Berms & Rehab			-			-
	.4 Fencing & Site Works			-			-
355	Power Generation Equipment			-			-
360	Collecting Sewers - Force (Lift Stations)			-			-
361	Collecting Sewers - Gravity			-			-
	.1 Gravity Mains			237,295			237,295
	.2 Manholes			-			-
	.3 Catch Basins			-			-
362	Special Collecting Structures			-			-
363	Services to Customers			-			-
364	Flow Measuring Devices			-			-
364	Flow Measuring Installations			-			-
371	Pumping Equipment			-			-
380	Treatment & Disposal Equipment			-			-
381	Plant Sewers			-			-
382	Outfall Sewer Liness			-			-
389	Other Plant & Misc. Equip.			-			-
391	Transportation Equipment			-			-
392	Stores Equipment			-			-
393	Tools & Shop Equipment			-			-
394	Laboratory Equipment			-			-
395	Power Operated Equipment			-			-
396	Communication Equipment			-			-
397	Miscellaneous Equipment			-			-
398	Other Tangible Plant			-			-
Total Capital Assets		-	-	237,295	-	-	237,295
AMORTIZATION OF NCC		Additions in	Retired in	Year-End	Additions in	Retired in	Year-End
	Rate	2021	2021	2021	2022	2022	2022
351	Organization	0.00%	-	-	-	-	-
352	Franchises	0.00%	-	-	-	-	-
353	Land & Land Rights	0.00%	-	-	-	-	-
354	Buildings (Struct & Improv)	2.00%	-	-	-	-	-
	.1 Buildings	2.00%	-	-	-	-	-
	.2 Lagoons & Cells	2.00%	-	-	-	-	-
	.3 Berms & Rehab	4.00%	-	-	-	-	-
	.4 Fencing & Site Works	5.00%	-	-	-	-	-
355	Power Generation Equipment	5.00%	-	-	-	-	-
360	Collecting Sewers - Force (Lift Stati	2.00%	-	-	-	-	-
361	Collecting Sewers - Gravity	2.00%	-	-	-	-	-
	.1 Gravity Mains	2.00%	4,746	-	48,603	4,746	53,349
	.2 Manholes	2.00%	-	-	-	-	-
	.3 Catch Basins	2.00%	-	-	-	-	-
362	Special Collecting Structures	4.00%	-	-	-	-	-
363	Services to Customers	3.33%	-	-	-	-	-
364	Flow Measuring Devices	5.00%	-	-	-	-	-
364	Flow Measuring Installations	5.00%	-	-	-	-	-
371	Pumping Equipment	6.67%	-	-	-	-	-
380	Treatment & Disposal Equipment	6.67%	-	-	-	-	-
381	Plant Sewers	2.50%	-	-	-	-	-
382	Outfall Sewer Liness	2.50%	-	-	-	-	-
389	Other Plant & Misc. Equip.	5.00%	-	-	-	-	-
391	Other Plant & Misc. Equip.	6.67%	-	-	-	-	-
392	Stores Equipment	15.00%	-	-	-	-	-
393	Tools & Shop Equipment	6.67%	-	-	-	-	-
394	Laboratory Equipment	6.67%	-	-	-	-	-
395	Stores Equipment	6.67%	-	-	-	-	-
396	Communication Equipment	10.00%	-	-	-	-	-
397	Miscellaneous Equipment	15.00%	-	-	-	-	-
398	Other Tangible Plant	4.00%	-	-	-	-	-
Accumulated Amortization		4,746	-	48,603	4,746	-	53,349
NET BOOK VALUE (NBV)		(4,746)	-	188,692	(4,746)	-	183,946
NET BOOK VALUE @ MID-YEAR				191,065			186,319

000000TOWEN OF BARRHEAD STORM DRAINAGE UTILITY
Composite Cost of Debt

2018 - 2022 Forecast

Debenture Number	Allocation to Wastewater	Effective Cost Rate	2017	2018	2019	2020	2021	2022
		0.000%						
		0.000%						
		0.000%						
		0.000%						
		0.000%						
		0.000%						
Total Debenture Debt @ Year-End:			-	-	-	-	-	-
Average Cost of Debt:			0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

DEBENTURE DEBT OUTSTANDING @ MID-YEAR

Debenture Number	Effective Cost Rate	2017	2018	2019	2020	2021	2022
	0.000%	-	-	-	-	-	-
	0.000%	-	-	-	-	-	-
	0.000%	-	-	-	-	-	-
	0.000%	-	-	-	-	-	-
	0.000%	-	-	-	-	-	-
	0.000%	-	-	-	-	-	-
Total Debenture Debt @ Mid-Year:		-	-	-	-	-	-
Cost of Debt @ Mid-Year:		0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Deemed Cost of Debt:		3.779%	3.622%	3.500%	4.000%	4.000%	4.000%

Deemed Cost of Debt per AUC Decision 2005-149: 15-year rolling average for ACFA 15 Year debentures

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Capitalization, Capital Structure and Return

2018 - 2022 Forecast

2017	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	1,071,527	3.78%	40,493
2. Equity	1,782,691	100.00%	100.00%	40.00%	714,351	8.50%	60,720
3. Sub Total	1,782,691	100.00%	100.00%	100.00%	1,785,879	5.67%	101,213
4. No-Cost Capital	-	0.00%			-	0.00%	-
5. Total	1,782,691	100.00%			1,785,879	5.67%	101,213
2018	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	974,409	3.62%	35,293
2. Equity	1,620,367	88.75%	100.00%	40.00%	649,606	8.50%	55,217
3. Sub Total	1,620,367	88.75%	100.00%	100.00%	1,624,015	5.57%	90,510
4. No-Cost Capital	205,303	11.25%			205,303	0.00%	-
5. Total	1,825,670	100.00%			1,829,318	4.95%	90,510
2019	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	1,009,140	3.50%	35,320
2. Equity	1,678,164	89.32%	100.00%	40.00%	672,760	8.50%	57,185
3. Sub Total	1,678,164	89.32%	100.00%	100.00%	1,681,899	5.50%	92,504
4. No-Cost Capital	200,557	10.68%			200,557	0.00%	-
5. Total	1,878,721	100.00%			1,882,456	4.91%	92,504

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Capitalization, Capital Structure and Return

2018 - 2022 Forecast

2020	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	998,814	4.00%	39,953
2. Equity	1,660,865	89.45%	100.00%	40.00%	665,876	8.50%	56,599
3. Sub Total	1,660,865	89.45%	100.00%	100.00%	1,664,690	5.80%	96,552
4. No-Cost Capital	195,811	10.55%			195,811	0.00%	-
5. Total	1,856,675	100.00%			1,860,500	5.19%	96,552
2021	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	976,180	4.00%	39,047
2. Equity	1,623,049	89.23%	100.00%	40.00%	650,786	8.75%	56,944
3. Sub Total	1,623,049	89.23%	100.00%	100.00%	1,626,966	5.90%	95,991
4. No-Cost Capital	195,811	10.77%			195,811	0.00%	-
5. Total	1,818,860	100.00%			1,822,777	5.27%	95,991
2022	Mid-Year Capitalization	Capital Ratio Including NCC	Capital Ratio Excluding NCC	Deemed Ratio Excluding NCC	Rate Base	Cost Rate	Return
1. Long Term Debt	-	0.00%	0.00%	0.00%	-	0.00%	-
Deemed Debt				60.00%	892,347	4.00%	35,694
2. Equity	1,483,234	88.34%	100.00%	40.00%	594,898	8.75%	52,054
3. Sub Total	1,483,234	88.34%	100.00%	100.00%	1,487,245	5.90%	87,747
4. No-Cost Capital	195,811	11.66%			195,811	0.00%	-
5. Total	1,679,045	100.00%			1,683,055	5.21%	87,747

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Cash Operating Expenses

Account	Description	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
WASTEWATER TREATMENT COSTS				49,024	44,104	43,229	42,354
STORM DRAINAGE EXPENSES							
110-00	Storm - Salaries	10,201	14,134	14,487	14,849	15,221	15,601
131-00	Storm - Local Authorities Pension	1,095	1,333	1,366	1,400	1,435	1,471
132-00	Storm - Canada Pension Plan	407	607	622	637	653	670
133-00	Storm - Employment Insurance	165	259	265	272	279	286
135-00	Storm - AUMA Benefits	784	1,097	1,125	1,153	1,182	1,211
136-00	Storm - Workers Compensation	130	156	159	162	166	169
250-00	Storm - Repair/Maintenance	6,037	4,303	4,389	4,476	4,566	4,657
274-00	Storm - Insurance	-	-	-	-	-	-
510-00	Storm - Materials & Supplies General	304	-	-	-	-	-
762-00	Storm - Contribution to Capital	13,000	-				
764-00	Storm - Add to Operating Reserve	-	-				
950-00	Storm - TCA Amort. Exp.	129,981	131,500	135,000	135,000	135,000	135,000
	Sub-Total	162,104	153,388	157,413	157,950	158,501	159,065
COMMON/SHARED EXPENSES (G&A)							
	Water - Executive Salaries & Benefits			-	-	-	-
	Water - Management Salaries & Benefits			-	-	-	-
	Water - Office Operations			-	-	-	-
	Water - Office, Furnishings & Equipment			-	-	-	-
	Water - Office, Other			-	-	-	-
	Water - PW Salaries & Benefits			-	-	-	-
	Water - PW Shop & Yard Operations			-	-	-	-
	Water - PW Equipment			-	-	-	-
	Water - Vehicles & Equipment			-	-	-	-
	Sub-Total	-	-	-	-	-	-
TOTAL STORM DRAINAGE EXPENSES		162,104	153,388	157,413	157,950	158,501	159,065
Non "Cash Operating Expenses"		142,981	131,500	135,000	135,000	135,000	135,000
NET CASH OPERATING EXPENSES		19,123	21,888	22,413	22,950	23,501	24,065
	<i>Personnel Expenses in COE</i>	<i>12,782</i>	<i>17,585</i>	<i>18,024</i>	<i>18,474</i>	<i>18,935</i>	<i>19,408</i>
	<i>Non-personnel Expenses in COE</i>	<i>6,341</i>	<i>4,302</i>	<i>4,389</i>	<i>4,476</i>	<i>4,566</i>	<i>4,657</i>
INFLATION RATES (ACTUAL/FORECAST)							
	Level 1: Salaries & Wages	44.93%	37.58%	2.50%	2.50%	2.50%	2.50%

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Cash Operating Expenses

Account	Description	2017 Actual	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
	Level 2: Materials & Supplies	-59.64%	-32.15%	2.00%	2.00%	2.00%	2.00%

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Utility Revenue Requirements and Comparison with "Cash-Needs"

2018 - 2022 Forecast

Annual Revenue Requirement	Reference / Source	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
1. Water Treatment Costs	WW Schedules 11 & 13	-	49,024	44,104	43,229	42,354
2. Cash Operating Expenses	Schedule 6	21,888	22,413	22,950	23,501	24,065
3. Non-Cash Expenses						
a) Amortization	Schedule 1	128,419	135,275	135,815	139,815	139,815
b) Amortization of NCC	Schedule 3	4,746	(4,746)	(4,746)	(4,746)	(4,746)
c) Total	= 2. a) + 2. b)	133,165	130,529	131,069	135,069	135,069
3. Return	Schedule 5	90,510	92,504	96,552	95,991	87,747
4. Reserves, Transfers & Other	Schedule 6					
5. Gross Revenue Requirement	= 1. + 2. c) + 3. + 4.	<u>245,563</u>	<u>294,471</u>	<u>294,676</u>	<u>297,790</u>	<u>289,235</u>

Cash Needs Requirements	Reference/Source	2018 Actual	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast
6. Water Treatment Costs	WW Schedules 11 & 13	-	49,024	44,104	43,229	42,354
7. Cash Operating Expenses	Schedule 6	21,888	22,413	22,950	23,501	24,065
8. 762-00 Contribution to Capital	Schedule 6	-	-	-	-	-
9. 764-00 Add to Operating Reserve	Schedule 7	-	-	-	-	-
10. 950-00 Water - TCA Amort. Exp.	Schedule 6	<u>131,500</u>	<u>135,000</u>	<u>135,000</u>	<u>135,000</u>	<u>135,000</u>
11. Gross "Cash Needs" Requirement	= 6. + 7. + 8. + 9.	<u>153,388</u>	<u>157,413</u>	<u>157,950</u>	<u>158,501</u>	<u>159,065</u>
12. Utility Requirements - Cash-Need	= 5. - 10.	92,175	137,058	136,725	139,289	130,171

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Properties Assessable

Account No.	Property Address	Occupancy or Zoning	Tax Roll ID	Area (m²)	Frontage m	Impervious Area (m3)
<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

000000TOWN OF BARRHEAD STORM DRAINAGE UTILITY
Summary of Rates and Assessments by Customer Class

	Occupancy	No. of Properties	Area(m²)	Frontage (m)	Unit Rate	Revenue
	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
1	1/2 of 4-Plex					
2	Apartment					
3	Church					
4	Commercial					
5	Commercial					
6	Commercial					
7	Duplex					
8	4-Plex					
9	Industrial					
10	Institutional					
11	Recreational					
12	Residential					
13						
14						
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
15	Totals	-	-	-		-

Appendix F
Description of Schedules in the
Storm Water Utility Rate Model

TOWN OF BARRHEAD
Storm Water Rates and Cost of Service
2019 - 2022

Table of Contents

Identifies the schedules provided within the utility rate model, by:

- Schedule No.
- Tab (title as shown on the tab for each worksheet)
- Title of each Schedule/worksheet in the workbook
- Number of pages for each schedule (as formatted for presentation)

A - Input: Table of Input Data and Values

- Allows inputting major capital additions as forecast for the test period by general account, and allows use of default values for testing changes in revenue requirements due to ongoing capital replacement and upgrading programs, based on average annualized values for each such prime account. The capital additions schedule is linked to ‘Schedule 1 – Assets & Amort’, but additions can also be added directly into the appropriate cell in ‘Schedule 1’ by overwriting the formula within the selected cell.
- Shows the capital structure (ratio of debt to equity) as applied in each year, and the default structure applied within the rate model if no input is provided for a given year
- Shows the theoretical “allowed” and default rates of Return on Debt and Equity for all test years. The default capital structure and allowed rates shown are based on the AUC Generic Cost of Capital decisions, as noted. The values shown are carried forward and applied on ‘Schedule 5 – Return’.
- Shows default rates of inflation or cost escalation to be applied on ‘Schedule 6, Cash Operating Expenses’ if no values are selected for a given year. Two classes of expense have been identified, one for “Personnel” and their salaries, wages and benefits, and the other for “Supplies”, which encompasses all other cash operating expenses. The default values from this Table are carried forward to and applied in ‘Schedule 6 – COE’.

B - Output: Table of Output Values and Rates

- Reports the “allowed” annual Revenue Requirements by function or major cost component, as determined through the rate model. There are five major cost components comprising the annual revenue requirements:
 - “Commodity Treatment Costs”,
 - “Cash Operating Expenses”,
 - “Non-Cash Expenses” (depreciation and amortization),

- “Return on Rate Base”, and
 - “Other”, which includes provisions for surtaxes, reserves and all other levies as may be directed by the Town.
- Reports the “Billing Determinants” for the test years, showing:
 - The number of Properties Assessed
 - Total Area of Properties Assessed
 - Total Impervious Area assessed, and
 - Frontage of all properties

NOTE: The Rate Model does not have the necessary data to report the billing determinants on Schedule 8, and to determine rates and recoveries to be reported on Schedule 9.

Schedule 1: Continuity Schedule of Fixed Assets and Amortization

- Reports assets at original cost in the year of development from 1962 through 2022, and allocates all capital assets to prime asset accounts as identified by the National Association of Regulatory Utility Commissioners (NARUC) Uniform System of Accounts for Class A/B Wastewater Companies. The NARUC standard has been adopted by most water associations across North America, including AWWA and CAWA, and by their regulators. Gross asset values reported includes development funded by No Cost Capital (grants, developer/customer contributions, etc.). Columns reporting data for the years ‘1962’ through ‘2017 Retirements’ are hidden within the worksheet for presentation purposes.
- Calculates both annual and accumulated amortization (depreciation) expenses for each prime account, based on expected useful service lives for the respective classes of assets (depreciation is applied on a straight-line basis for all classes of assets). Formulae have been entered to ensure that any asset value is not amortized past its estimated useful service life.
- Reports the net book values (NBV) for the utility at calendar year end, as the difference between gross investments and accumulated depreciation, and the net book value of utility assets at Mid-Year (the average of the NBV at the prior year-end plus the NBV at current year-end). The AUC applies the mid-year convention in assessing revenue requirements for all utilities subject to its jurisdiction.

Schedule 2: Utility Rate Base

- Reports Gross Plant in Service as at prior year-end (opening balance), Capital Additions and Retirements in each year, and the balance of Gross Investment at year-end (closing balance) from ‘Schedule 1’.

- Reports Accumulated Amortization as at prior year-end (opening balance), annual Amortization expense, and Retirements in each year, and the total Accumulated Amortization at year-end (closing balance), from ‘Schedule 1’
- Calculates the Net Plant in Service (Net Book Value, or NBV) as at year-end and as at Mid-Year. Mid-year values are used to average changes in capital investment and/or development year-over-year to reduce potential shock due to major capital developments being added in any given year.
- Shows the calculation of necessary working capital using the rule of one-eighth applied to total “Cash Operating Expenses” (schedule 6) , plus “Prepaid Expenses” and the value of “Materials and Supplies Inventories” required for operations, as reported in the financial statements. The rule of one eighth assumes that a utility incurs costs for its services prior to recovering those costs from its customers. If a utility bills monthly, the rule assumes the utility incurs all costs at mid-month (15 days into the month of service), but is not able to invoice customers and recover those costs until the end of the month (30 days) following the month of service. The lag between receipts from customers and the utility’s expenses is therefore 45 days, or roughly one-eighth of the year ($45 \div 365 = \frac{1}{8}$). The rule of one-eighth is commonly applied by regulatory tribunals where a utility is not able to determine its working capital requirements using a balance sheet or lead-lag method. The Town does not maintain segregated and independant financial statements for its utility systems, so there is no allocation for either “Prepays” or “O&M Inventory” in this model.
- Reports “Utility Rate Base” at Mid-Year, on which the utility is allowed to earn a Return.

Schedule 3: Continuity Schedule of No-Cost Capital and Amortization

- Reports “No-Cost Capital” (NCC) received by the Town and applied towards development of the water utility system, by year, from 1962 through 2022, and allocates that funding to the appropriate prime asset accounts. Columns reporting data for the years ‘1962’ through ‘2017 Retirements’ are hidden within the worksheet for presentation purposes.
- Calculates annual and accumulated amortization of No-Cost Capital, based on the same estimated averages of useful service lives for prime asset accounts on ‘Schedule 1’. Formulae for calculating annual additions for Amortization expense include limiting the annual expense to the designated estimate of useful service life for each prime asset account.
- Reports the Unamortized Balance of No-Cost Capital at calendar year-end, and as at Mid-Year (the average of the prior year-end plus the current year end).

Schedule 4: Composite Cost of Debt

- Reports the actual debenture debt outstanding for the test years 2017 through 2022, and calculates debt outstanding at mid-year for that same period. The Town has no existing debenture debt outstanding for the Storm Water utility.
- Calculates the composite cost of debt for each year of the period examined, and
- Reports the cost rates of deemed debt for each year, as noted on the 'Input' schedule.

NOTE: The Alberta Utilities Commission (AUC) determined in Decision 2005-149, that a municipal utility should use the 15-year rolling average of the cost of 15-year term debentures issued by the Alberta Capital Finance Association (ACFA) as the cost rate for "notional" or "deemed debt".

Schedule 5: Capitalization, Cost of Capital and Return on Rate Base

- Reports the capital investment in utility assets in each test year, based on the net book value of plant in service and the utility rate base as calculated on 'Schedule 2', with investment segregated by sources of capital or funding applied to the rate base. The schedule calculates the utility's investment according to the "allowed" capital structure, and calculates a return on each component funding rate base; debt, deemed debt and equity for each of the years, 2017 through 2022.
- Net Capital Investment, other than that funded by No-Cost Capital is deemed to be financed using a capital structure of 60% debt and 40% equity in all years. That capital structure has been approved by the AUC for small utilities (shown on 'Input').
- Reports actual capital structure for the mid-year capitalization, and calculates the appropriate amounts for Debt, Deemed Debt and Equity for the utility to maintain the optimum capital structure as determined by the AUC.
- The Return on Equity (ROE) is based on AUC Decision 22570-D01-2018, which approved a rate of 8.5% as the benchmark rate (the default rate) for all utilities subject to its jurisdiction. Municipalities are taxing authorities in their own right, and may choose to approve a higher rate of return on equity that would apply to utility services being provided to customers located within the municipal corporate boundaries. All utility services provided to customers outside those boundaries may not be charged more than the AUC's then currently approved ROE.
- 'No-Cost Capital at Mid-Year' is as calculated on 'Schedule 3'. No return has been allowed on Rate Base funded by No-Cost Capital (cost rate for NCC is 0.00%). As noted in the previous paragraph, municipalities are taxing authorities in their own right, and can approve a rate of return on NCC as they deem fit, however, that rate can only be applied to customers located within the municipality's corporate boundaries.

- Calculates an overall Rate of Return on Rate Base (total Return on Rate Base divided by the Rate Base).

Schedule 6: Cash Operating Expenses

- Reports actual expenditures in the format maintained by the Town for the calendar years 2015 through 2018, and as forecast for the test years 2019 through 2022. Data for the years 2015 and 2016 has been hidden for presentation purposes.
- Identifies expenses that are not required for Cash Operations, including amortization, debt repayment costs, and transfers to capital and reserve accounts, and determines the allowed utility “Cash Operating Expenses” for each year
- Calculates expenses related to “Personnel” for salaries, wages and benefits, , and for “Supplies”. Actual changes in expenses year-over-year are calculated for each of “Personnel” and “Supplies” for information and reference purposes. The forecasts apply inflation factors shown on ‘Input’ to “Personnel” and “Supplies” expenses for each of the test years.

Schedule 7: Annual Revenue Requirements and Revenues by Source

- Reports annual revenue requirements using the utility method, comprised of:
 - Commodity Treatment Costs as reported on ‘Schedule 6’.
 - Cash Operating Expenses as reported on ‘Schedule 6’.
 - Non-Cash Expenses consisting of annual amortization expense as calculated on ‘Schedule 1’, less the annual amortization of No-Cost Capital as calculated on ‘Schedule 3’.
 - Return on Rate Base as calculated on ‘Schedule 5’.
 - Reserves and Other Recoveries as reported on ‘Schedule 6’, and/or as the Town may determine to be appropriate.
- Reports annual revenue requirements determined using the “Cash-Needs” method, comprised of:
 - “Treatment Costs” as reported on ‘Schedule 6’,
 - “Cash Operating Expenses” as calculated on ‘Schedule 6’, and
 - “Non-Cash Operating Expenses”, including transfers to reserves and amortization.
- Reports the difference between the “Utility” and “Cash-Needs” requirements for each year.

Schedule 8: Properties Assessed

- Reports properties within the Town, identified and assessed by;
 - Account number,
 - Street Address (legal description),
 - Occupancy or Zoning,
 - Tax Roll ID,
 - Area, in m³,
 - Frontage in m, and
 - Developed Impervious Area, in m³

NOTE: This Schedule has not been completed since the necessary data on properties, development and frontage was not available. The Schedule has been retained in the utility rate model to allow the Town the option of gathering and using that information to refine the rate model, and develop appropriate rates for the respective customer classes in the future.

Schedule 9: Summary of Assessments & Rates by Customer Class

NOTE: This Schedule has not been completed since the necessary data on properties, development and frontage was not available. The Schedule has been retained in the utility rate model to allow the Town the option of gathering and using that information to refine the rate model, and develop appropriate rates for the respective customer classes in the future.

Appendix G
Definitions for Utilities

Town of Barrhead
Water, Wastewater & Storm Water Utilities
Rate Review and Cost of Service Study
2019 - 2022

DEFINITIONS FOR UTILITIES: (paraphrased from AWWA, GUA, MGA, PUA, UCA, etc.)

allowance for funds used during construction (AFUDC) - the carrying cost associated with financing the construction of new facilities, or plant not yet placed in service. Where actual carrying costs cannot be determined, AFUDC is calculated using the composite or weighted average cost of debt and equity.

amortization - the process of allocating the cost of an intangible asset over a period of time. It also refers to the term of repayment of a loan over time.

bulk water - potable water intended for human consumption that is conveyed and dispensed from an approved transport vehicle (water hauling truck)
Manitoba Health, "Bulk Water Hauling Guidelines"

commodity - product or service being supplied by a utility

construction work in progress (CWIP) - (*pronounced "kwip"*) investment in facilities under construction or completed, but not commissioned or required for service at year-end

contribution in aid of construction (CIAC) - any amount of money, services or property received by a utility from any person that is provided at no-cost to the utility. It represents an addition or transfer to the utility from a third party and is used to offset acquisition, improvement or construction costs for the utility's plant, services or equipment required to provide utility services. CIAC includes advances for construction received from customers or developers, government grants and contributions, and any un refunded or forfeited portions of contributions or discounts.

cost allocation - classifying or assigning costs of service to the functional cost component for distribution to customers or classes of customers

cost of service - capital and operating costs incurred to provide various aspects of utility service, describes how a utility distributes costs to different types of customers (who should pay what) and enables the design of an appropriate rate structure

demand - refers to the maximum use of commodity over a given period (i.e. one hour, one average or maximum day, month, year, season, etc.)

demand costs - costs associated with providing facilities and/or services to meet demands placed on the system by customers

depreciation - loss in value not restored by maintenance practices as applied to utility plant and equipment. The purpose of depreciation is to amortize the investment in

utility plant over the plant's expected useful life in service. Causes and factors to be considered include wear and tear, decay, action of the elements, inadequacy, obsolescence, technological change, changes in demand, and requirements of public authorities.

equity - the net worth of a business, consisting of capital stock, capital surpluses, retained earnings and net worth reserves

equivalent customer - means of relating large-use customers to other small-use customers, typically a single family unit or 5/8" (16 mm) meter service, considering all elements of cost differences between the various types of customers being served, and generally expressed as a ratio of the smallest or most common customer unit.

fire protection charges - charges made to recover the costs of providing both public and private fire-protection services to the communities being served

franchise - the right granted to a person to provide utility service to all or part of a municipality

franchise tax - a tax requiring payment by a utility to a granting municipality based on the gross revenues received by the utility from its revenues (may also be referred to as a "revenue" tax)

full cost recovery - requires the generation of sufficient revenues through appropriate pricing of the services to cover the full cost of utility services. These include operating, maintenance, administration (OM&A), research and development (R&D) expenditures, financial costs and capital investments in facilities (including depreciation, interest and equity return at a level sufficient to sustain the systems in perpetuity and achieve the mandated level of service as a minimum).
FCM

functional classification (functionalization) - assigning costs to each customer class in accordance with the services or demands being placed on the system, or required by the respective customer classes

future capacity - current system capacity in excess of immediate requirements that is built into a utility in anticipation of increased demands for service resulting from higher uses by existing customers, or from growth within the service area

intergenerational inequity - the inequity or unfairness which results when requiring one generation of customers to pay costs which properly belong to another generation of customers

marginal cost – the cost added by producing one additional item, commonly meaning the additional costs required to provide service to a single designated user or customer without considering embedded or other system-wide costs for a utility

necessary working capital (working capital) - cash, materials and supplies, and other current assets necessary for the operations of the utility, usually measured by the excess of current assets over current liabilities, or as a percentage of annual operating and maintenance expenses

no-cost capital (NCC) - funding provided from third parties towards construction of capital assets, and which do not require repayment or have any carrying costs (see CIAC)

plant held for future use (PHFFU) - (*pronounced "fu"*) capital assets which are completed, but are not yet required or deemed to be required for utility service in the immediate term

public utility - a system or works used to provide one or more of the following for public consumption, benefit, convenience or use:

- (i) water or steam;
- (ii) sewage disposal;
- (iii) public transportation operated by or on behalf of the municipality;
- (iv) irrigation;
- (v) drainage;
- (vi) fuel;
- (vii) electric power;
- (viii) heat;
- (ix) waste management;

and includes the thing that is provided for public consumption, benefit, convenience or use.

MGA Ch. M26 RSA , 1(1)

rate includes

- (a) a general, individual or joint rate, fare, toll, charge, rental or other compensation of a public utility,
- (b) a rule, practice, measurement, classification or contract of a public utility or corporation relating to a rate, and
- (c) a schedule or tariff respecting a rate;

UCA [RSBC 1996] Ch. 473, 1

rate design - determining appropriate rates to achieve full cost recovery. This involves a utility setting goals, analyzing revenue requirements and cost-of-service distribution, and then choosing a rate structure that provides desired revenue

sufficiency and stability through fixed-end or volumetric-rate components.

BCWWA

revenue requirements - the summation of the operation, maintenance, and capital costs that a utility must recover during the time period for which the rates will be in place

AWWA Manual M1

revenue to cost ratio – the measure of revenues divided by costs. For utilities, gross revenues are divided by the revenue requirements, with the optimum result being unity (1). Regulators use the revenue to cost ratio to test fairness of rates and rate designs for differing customer classes, commonly accepting a tolerance band (e.g. – plus or minus 5%, so rates may be deemed fair with revenue to cost ratios of between 95% and 105% for that rate class) recognizing the risk of forecast error inherent in prospective rate-making, and the somewhat subjective nature of rate design in general

service - includes

- (a) the use and accommodation provided by a public utility,
- (b) a product or commodity provided by a public utility, and
- (c) the plant, equipment, apparatus, appliances, property and facilities employed by or in connection with a public utility in providing service or a product or commodity for the purposes in which the public utility is engaged and for the use and accommodation of the public;

UCA [RSBC 1996] Ch. 473, 1

rate base - value of utility plant used in computing an authorized return in accordance with applicable regulatory policies of the authority having jurisdiction. In its simplest form, the rate base for a utility would consist of gross value assets in service, reported at original cost, less accumulated depreciation on those same assets, plus a provision for working capital.

retail - The sale of goods to the public in relatively small quantities for use or consumption rather than for resale.

Oxford English Dictionary

unit cost - cost of producing a single unit of product or service for resale

wholesale service - service in which water is sold to a customer at one or more major points of delivery for resale within the wholesale customer's service area

AWWA Manual M1

REQUEST FOR DECISION

To: Town Council

From: Edward LeBlanc, CAO

cc: File

Date: September 14, 2021

Re: Agricultural Lease Agreement Renewal – Barrhead Regional Airport

1.0 Purpose:

For Council to renew a new five-year agricultural lease at the Barrhead Regional Airport property.

2.0 Background and Discussion:

The Town and the County jointly own and operate the Barrhead Regional Airport in which the County serves as the unit authority. Part of the assets at the airport is 45 acres (+/-) of agricultural land that has been previously leased. The current lease is for five years and the annual rent is \$1,537.50 plus GST. The lease agreement has a clause stating “lease will remain in effect until December 31, 2021 and may be renewed thereafter by agreement/negotiations between the parties; however, the Landlord reserves the right to re-negotiate the terms and price”.

In early August, the tenants advised the County they wish to renew the lease agreement under the same term as the current one.

During the County’s August 17th Council Meeting, their Council passed a motion renewing the lease for another five years at an annual rate of \$3,075.00 plus GST.

3.0 Alternatives:

- 3.1 Council approves the renewal of the agricultural lease agreement for part of south half of 18-59-03-W5 (containing 45 acres +/-) with the current tenant for the term of January 1, 2022 to December 31, 2026 at an annual rental rate of \$3,075.00 plus GST.
- 3.2 Council tables renewal of the agricultural lease agreement for part of south half of 18-59-03-W5 (containing 45 acres +/-) with the current tenant and instructs Administration to provide further information at the next Council Meeting.

4.0 Financial Implications:

The rent forms part of the Airport's annual operating revenue.

5.0 Interdepartmental Implications:

None

6.0 Senior Government Implications:

Not applicable.

7.0 Political/Public Implications:

Limited

8.0 Attachments:

- 8.1 – Proposed new agricultural lease agreement

9.0 Recommendations:

Council approves the renewal of the agricultural lease agreement for part of south half of 18-59-03-W5 (containing 45 acres +/-) with the current tenant for the term of January 1, 2022 to December 31, 2026 at an annual rental rate of \$3,075.00 plus GST.

(original signed by the CAO)
Edward LeBlanc
CAO

This Agreement made in duplicate this ____ day of _____, 20____.

BETWEEN:

COUNTY OF BARRHEAD
And
TOWN OF BARRHEAD
c/o 5306 49th Street, Barrhead
In the Province of Alberta T7N 1N5
(hereinafter referred to as the "Landlord"), **First Party**

BRIAN KOBERSTEIN AND DON KOBERSTEIN
c/o Site 11 Comp 38 RR 1, Barrhead, Alberta T7N 1N2
(hereinafter referred to as the "Tenant"), **Second Party**

WHEREAS the Landlord is the registered owner of certain lands in the Province of Alberta, the most southerly 1,050 feet in perpendicular width throughout of the South half of Section Eighteen (18), Township Fifty-Nine (59), Range Three (3), West of the Fifth Meridian, in the County of Barrhead containing 45 acres, more or less, as shown on the diagram contained in Schedule "A" attached hereto (hereinafter referred to as the "Land");

Excepting Thereout: The runway, taxiways, and apron and all developed building lots from time to time located on the said lands

AND WHEREAS the Tenant wishes to obtain access to and use of the Land as crop land and for no other use;

AND WHEREAS the Landlord is willing to lease the Land to the Tenant for the purpose as stated above.

NOW THEREFORE the Parties agree as follows:

1. LEASE TERMS

- a) This lease shall be for a five-year period commencing on the 1st day of January, 2022 and ending on December 31, 2026.
- b) The parties agree that the lease price shall be \$3,075.00 for each calendar year and be paid in 2 equal installments of \$1,537.50 due on or before April 1 and November 1 of each year. The tenant shall also pay GST in the amount of \$76.88 for a total installment of \$1,614.38.
- c) In addition to the lease price, the Tenant shall make property tax payments assessed against the property and on any improvements placed by the Tenant on the property in each and every year.

- d) When the Tenant does not make payments of the lease or property taxes in accordance with the terms and conditions of this Agreement, the current year's lease amount and any further lease payment owing for that year shall become due and payable immediately, and the Landlord may again repossess and enjoy the lands as if this Agreement had not been executed.

2. GENERAL

- a) The Landlord or a representative of the Landlord has the right at all reasonable times to attend upon and inspect the lands. The Landlord reserves the right of entry and exit over and upon the lands in this Agreement.
- b) The Tenant will not change the natural course of any waterways on the lands, or cut down trees growing upon the lands, nor will they permit any other person to do so, without the written consent of the Landlord. The Tenant shall not make any major improvements, other than what is considered normal repair and maintenance, to the lands or any other assets identified in this Agreement without written permission of the Landlord. Major improvements, without restricting the generality of the term, shall include: water development, erosion control, fencing and building construction, clearing, breaking, and seeding to pasture and hay land. Such consent shall be attached to and form part of this lease agreement. The amount of compensation shall be an amount agreed upon by the Landlord and Tenant. Title to all improvements shall vest in the Landlord and no improvements shall be sold, removed, disposed of or encumbered without the written consent of the Landlord.

In addition to but not to limit the generality of the above, the tenant agrees that there shall be no fertilizing or anything done to increase the carrying capacity of the land. There shall be no breaking ground with any equipment.

- c) The Landlord and Tenant acknowledge that this lease agreement is for the rent of land for the purpose of a hay crop and the Landlord acknowledges that the tenant may seed a cereal cover crop to assist in the establishment of a new forage stand and the Tenant acknowledges that prior to any such seeding of cereal cover crop, permission from the County of Barrhead, on behalf of the Landlord, must be granted. As such, the Landlord, as landowner, is entitled to any and all other sources of revenue generated by the land including but not limited to seismic activity, oil well lease, rights of way, government land use subsidies and insurance payments.
- d) The Tenant agrees to be responsible for all capital improvements or assets placed on the property.
- e) The Tenant agrees to repair and maintain the property and all buildings, fences, and other improvements in a manner and to a standard comparable to that at the commencement of the lease.

3. LANDLORD INDEMNIFICATION

- a) The Tenant agrees that he has inspected the property and to his satisfaction, the property is suitable for their intended purpose.
- b) The Tenant agrees to compensate the Landlord for any damages to the Landlord's property caused by the Tenant, or any persons entering the premises with or on behalf of the Tenant.
- c) The Tenant shall indemnify and hold harmless the County of Barrhead, its employees and agents from any and all third party claims, demands, actions and costs whatsoever that may arise, directly or indirectly, out of any act or omission of the Tenant, its contractors, sub-contractors, invitees, employees or agents in the performance by the Tenant of this Agreement.
- d) Such indemnification shall survive termination or expiry of this Agreement and shall be binding upon the Tenant's principals, heirs, successors, executors, agents, and assignees.
- e) The Tenant shall obtain and maintain Personal Liability Insurance against bodily injury, personal injury, and any other type of loss, damage, or injury in an amount not less than Two Million (\$2,000,000.00) Dollars and if necessary, a greater amount adequate to cover the Tenant's potential legal liability. Such insurance shall include coverage for the Tenant's employees, agents, guests and invitees.
- f) Certificates evidencing insurance in a form acceptable to the Landlord must be provided to the Landlord on or before the Commencement Date and thereafter shall be made available to the Landlord upon request.
- g) If any provision of this Agreement is invalid or unenforceable to any extent, all other provisions of this Agreement shall, nevertheless, remain in full force and effect. No provision of this Agreement shall be deemed dependent on any other provision unless expressly so stated herein.

IN WITNESS WHEREOF, the parties have executed this Agreement with full force and binding effect as of the day and year first above written.

LANDLORD:

COUNTY OF BARRHEAD

TOWN OF BARRHEAD

REEVE
Seal

MAYOR
Seal

CHIEF ADMINISTRATIVE OFFICER

CHIEF ADMINISTRATIVE OFFICER

TENANT:

Signed in the presence of:

WITNESS

WITNESS

AFFIDAVIT OF EXECUTION

=====

CANADA) I, _____,
)
PROVINCE OF ALBERTA) of the _____ of _____, in the
)
TO WIT:) Province of Alberta, **MAKE OATH AND SAY:**

1. THAT I was personally present and did see Brian Koberstein and Don Koberstein, named in the within instrument, who is personally known to me to be the person(s) named therein, duly sign and execute the same for the purpose(s) named therein.

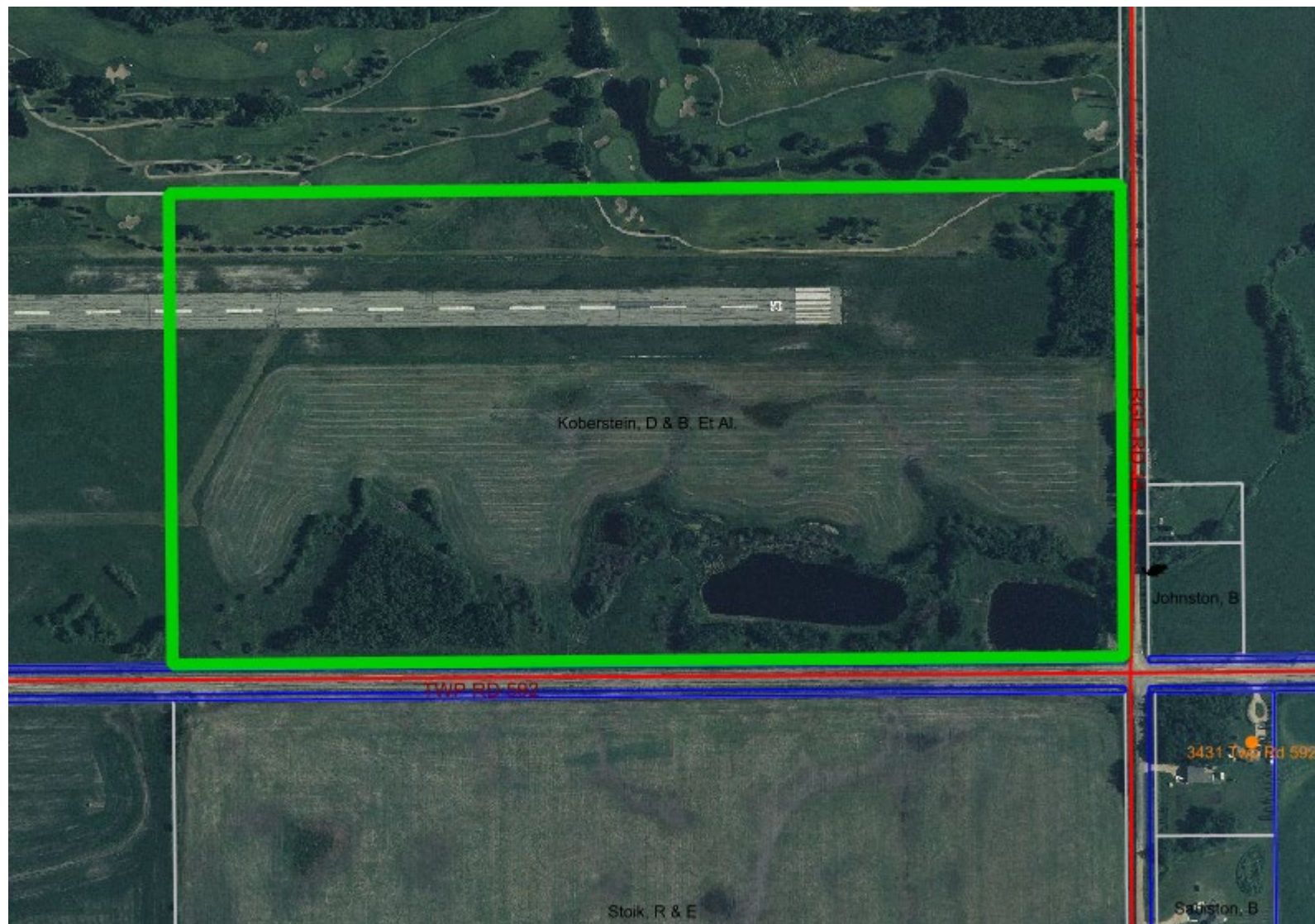
OR

1. THAT I was personally present and did see Brian Koberstein and Don Koberstein, named in the within instrument, who, on the basis of the identification provided to me, I believe to be the person(s) named therein, duly sign and execute the same for the purpose(s) named therein.
2. THAT the same was executed at Barrhead, in the Province of Alberta, and that I am the subscribing witness thereto.
3. THAT I believe that the person whose signature(s) I witnessed is at least eighteen (18) years of age.

SWORN before me at the Town of _____)
Barrhead, in the Province of Alberta, this _____)
day of _____, 2021.)
)
)
)
)
)

A Commissioner for Oaths in and for the Province of Alberta

Schedule A



REQUEST FOR DECISION

To: Town Council

From: Edward LeBlanc, CAO

cc: File

Date: September 14, 2021

Re: Leased Agreement Renewal – Barrhead Golf & Recreational Area Society

1.0 Purpose:

For Council to renew a new twenty-year lease agreement with the Barrhead Golf & Recreation Area Society.

2.0 Background and Discussion:

The Town and the County jointly own the south half of 18-59-03-W5 (containing 320 acres +/-). The County is the unit authority for the property. The land in question is currently leased to the Barrhead Golf & Recreation Area Society.

The current twenty-year lease is from October 1, 2001 to September 30, 2021. The current and the proposed lease includes an annual rent of \$1.00. The County advised that the Society's intent is to continue with the operation of the golf course.

3.0 Alternatives:

- 3.1 Council approves the renewal of the lease agreement with the Barrhead Golf & Recreation Area Society for the south half of 18-59-03-W5 for the term of October 1, 2021 to September 30, 2041 with an annual lease rate of \$1.00.
- 3.2 Council tables the renewal of the lease agreement with the Barrhead Golf & Recreation Area Society within the south half of 18-59-03-W5 and instructs Administration to provide further information at the next Council Meeting.

4.0 Financial Implications:

Not applicable.

5.0 Interdepartmental Implications:

None

6.0 Senior Government Implications:

Not applicable.

7.0 Political/Public Implications:

Limited

8.0 Attachments:

8.1 – Proposed lease agreement

9.0 Recommendations:

Council approves the renewal of the lease agreement with the Barrhead Golf & Recreation Area Society for the south half of 18-59-03-W5 for the term of October 1, 2021 to September 30, 2041 with an annual lease rate of \$1.00.

(original signed by the CAO)

Edward LeBlanc
CAO



RECREATION LEASE AGREEMENT

Barrhead Golf & Recreation Society within South Half of 18-59-3-W5

This Agreement made in duplicate this ____ day of _____, 2021.

BETWEEN:

**THE COUNTY OF BARRHEAD NO. 11 and
THE TOWN OF BARRHEAD**
(hereinafter referred to as the "Landlord"), **First Party**

AND

THE BARRHEAD GOLF & RECREATION AREA SOCIETY
of 59213 Range Road 40, Barrhead, Alberta T7N 1A1
(hereinafter referred to as the "Tenant"), **Second Party**

WHEREAS the Landlord is the registered owner of lands described as SE 18-59-03-W5 and SW 18-59-03-W5 containing 320 acres, more or less and hereinafter referred to as the "Land".

WHEREAS the Tenant wishes to retain access to and use of a portion of the Land as the Barrhead Golf Club and Campground.

WHEREAS the Landlord is willing to lease the Land to the Tenant for the purpose stated above

NOW THEREFORE the Parties agree as follows:

1. PROPERTY

- a) The Landlords are the registered owners, as to each an undivided one-half (1/2) interest, of:
 - i. SE 18-59-3-W5M containing 160 acres, more or less, reserving unto Her Majesty all mines and minerals; and
 - ii. SW 18-59-3-W5M containing 160 Acres, more or less, reserving unto Her Majesty all mines and minerals.

2. LANDLORD AND TENANT DEFINITIONS

The terms 'landlord' and 'tenant' shall include their heirs, executors, administrators, successors and assigns in the singular or plural number and feminine or masculine gender when the context or the parties so require and all the covenants shall be construed as being joint and several.

3. TERM OF LEASE

The Landlord has agreed to lease to the Tenant for a period of Twenty (20) years from October 1, 2021 until September 30, 2041, all that portion of the South Half (1/2) of 18-59-03-W5 lying to the north of the Barrhead Johnson Airport runway as shown at Schedule A.

RECREATION LEASE AGREEMENT

Barrhead Golf & Recreation Society within South Half of 18-59-3-W5

4. LEASE CONDITIONS

- a) Rental shall be ONE (\$1.00) DOLLAR per year and no charge for taxes shall be made by the Tenants for the land subject to the provisions of *MGA* in force from time to time.
- b) Taxes will be assessed on any improvements (including the campground) placed by the Tenant on the Property in each and every year.
- c) Tenant covenants and agrees to obtain the consent in writing of the Landlord to any improvements to be added to the lands in addition to those improvements described in the master plan provided by the Tenant to the Landlord.
- d) When the Tenant does not make payments of the lease or taxes in accordance with the terms and conditions of this Agreement, any outstanding payment owing for that year shall become due and payable immediately, and the Landlord may repossess and enjoy the lands as if this Agreement had not been executed.
- e) Landlord may give written notice to the Tenant, no less than 1 year prior to the termination date, of a change in the terms that will apply to the Lease Agreement for the subsequent lease term.

5. GENERAL

- a) Landlord or a representative of the Landlord has the right at all reasonable times to attend upon and inspect the lands. The Landlord reserves the right of entry and exit over and upon the lands in this Agreement and the Landlord agrees that public access to the lands will not be granted by the Landlord without the written permission of the Tenant.
- b) Tenant covenants and agrees to comply with the requirements of the Landlord in relation to the Airport situated to the south of the leased land and in particular the Tenant will not permit any motorized vehicle to have access to the leased land except for the access road and parking lot and also excepting such vehicles as may be required for the normal operation on the Golf Course.
- c) Tenant will not, at any time during the said term use, exercise, or carry on or permit, or suffer to be used, exercised, or carried on, in or upon the said premises or any part thereof, any noxious, noisome, or offensive art, trade, business, occupation or calling, and no act, matter or thing whatsoever shall at any time during the said term be done in or upon the said premises or any part thereof, which shall, or may, be or grow to the annoyance, nuisance, grievance, damage, or any disturbance of the occupiers or owners of the adjoining lands and properties.
- d) Tenant agrees to be responsible for all capital improvements or assets placed on the Property.

RECREATION LEASE AGREEMENT

Barrhead Golf & Recreation Society within South Half of 18-59-3-W5

6. INDEMNIFICATION

- a) Tenant agrees that he has inspected the property and to his satisfaction, the property is suitable for their intended purpose.
- b) Tenant agrees to compensate the Landlord for any damages to the property caused by the Tenant, or any persons entering the premises with or on behalf of the Tenant.
- c) Tenant shall indemnify and hold harmless the Landlord, its employees and agents from any and all third-party claims, demands, actions and costs whatsoever that may arise, directly or indirectly, out of any act or omission of the Tenant, its contractors, sub-contractors, invitees, employees or agents in the performance by the Tenant of this Agreement.
- d) Such indemnification shall survive termination or expiry of this Agreement and shall be binding upon the Tenant's principals, heirs, successors, executors, agents, and assignees.
- e) During the Term, the Tenant will be covered under County of Barrhead insurance as an Additional Named Insured for:
 - i. General Liability;
 - ii. Automobile;
 - iii. Heavy Equipment; and
 - iv. Crime & Bond.
- f) The Tenant is responsible for the payment of all deductible amounts and / or additional premiums under such insurance policy as described in section 6(e) of this lease agreement.

7. ASSIGNMENT

Tenant shall not make any assignment of this Lease, nor any transfer or sublease of the whole or any portion of the said land demised or leased hereunder, without obtaining the prior consent in writing of the Landlord to such assignment, transfer or sub-lease.

8. SEVERABILITY

If any provision of this Agreement is invalid or unenforceable to any extent, all other provisions of this Agreement shall, nevertheless, remain in full force and effect. No provision of this Agreement shall be deemed dependent on any other provision unless expressly so stated herein.

RECREATION LEASE AGREEMENT

Barrhead Golf & Recreation Society within South Half of 18-59-3-W5

IN WITNESS WHEREOF, the parties have executed this Agreement with full force and binding effect as of the day and year first above written.

LANDLORD - County of Barrhead No. 11

Reeve

Seal

County Manager (CAO)

LANDLORD – Town of Barrhead

Mayor

Seal

CAO

SIGNED in the presence of:

TENANT – Barrhead Golf & Recreation Area Society

Signature _____

Printed Name _____

Position _____

WITNESS if required

Signature _____

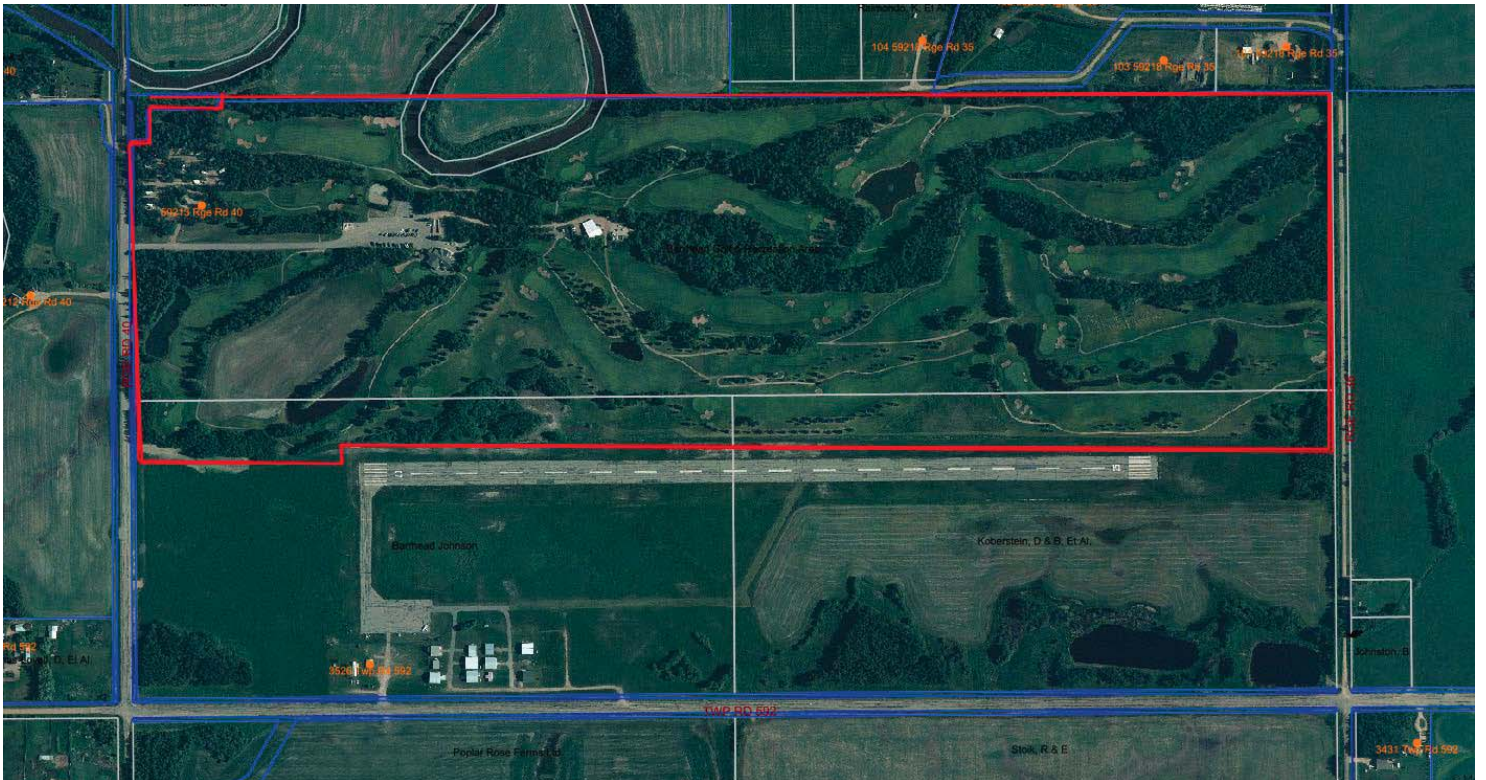
Printed Name _____

Position _____

WITNESS if required

Seal

Schedule A



REQUEST FOR DECISION

To: Town Council

From: Edward LeBlanc, CAO

cc: File

Date: September 14, 2021

Re: Emergency equipment repairs and expense – Barrhead Regional Landfill

1.0 Purpose:

For Council to accept a report relating to an unbudgeted equipment repairs and expense for the Regional Landfill.

2.0 Background and Discussion:

In mid-August, I advised Council by way of an e-mail that I was informed by our Director of Public Works that our Regional Landfill Cat equipment required some substantial repairs consisting of rails, rollers, idlers and drive seals.

The original estimate for the repairs was set at \$50,000.00 – \$55,000.00

The County shop will undertake most of the repairs which will be shared equally with the Town and the County. I made the County aware of the situation on August 13th.

The Town has an existing reserve in our Solid Waste Services Department currently totaling \$71,000.00 which could fund the noted repairs.

As noted in our Purchasing Policy No. 12-005, "...administration will make all reasonable efforts to inform Council of an unplanned or emergency budget expenditure within 24 hours of the occurrence and will formally notify Council at the next Council Meeting. Such notification will include a recommendation as to how the expense will be funded".

3.0 Alternatives:

- 3.1 Council receives the report on the emergency equipment repairs and expense to the Barrhead Regional Landfill as information and if required, fund the expenses from the existing Solid Waste Services Capital Reserve.
- 3.2 Council tables the report on the emergency equipment repairs and expense to the Barrhead Regional Landfill and instructs Administration to provide further information at the next Council Meeting.

4.0 Financial Implications:

Depending on the overall financial position of the Regional Landfill at the end of the fiscal year, all or only a portion of the noted expenses will be funded by the existing Solid Waste Services Capital Reserve.

5.0 Interdepartmental Implications:

None

6.0 Senior Government Implications:

Not applicable.

7.0 Political/Public Implications:

Limited

8.0 Attachments:

None

9.0 Recommendations:

Council receives the report on the emergency equipment repairs and expense to the Barrhead Regional Landfill as information and if required, fund the expenses from the existing Solid Waste Services Capital Reserve.

(original signed by the CAO)
Edward LeBlanc
CAO

REQUEST FOR DECISION

To: Town Council

From: Edward LeBlanc, CAO

cc: File

Date: September 14, 2021

Re: Installation of a County pre-treatment component at the Town's lagoon site

1.0 PURPOSE:

To consider a request from the County of Barrhead to install a pre-treatment component at the Town's lagoon site.

2.0 BACKGROUND AND DISCUSSION:

During the County of Barrhead's Council Meeting of September 7, 2021, their Council passed a resolution seeking the Town's support for the installation of a sanitary pre-treatment component at the Town lagoon site as it relates to the Kiel Industrial Park.

Both Administration have had preliminary discussions on this potential installation.

As for the technical portion of the project, it should be somewhat seamless as both the County and the Town engage the same engineering firm.

3.0 ALTERNATIVES:

- 3.1 That Council provide their support, in principle, for the County of Barrhead to install a pre-treatment component at the Town's lagoon site provided the Town of Barrhead and the County of Barrhead enter into service agreement.
- 3.2 That Council table the request from for the County of Barrhead to install a pre-treatment component at the Town's lagoon site and instructs Administration to provide further information at the next Council Meeting.

4.0 FINANCIAL IMPLICATIONS:

The financial details will be outlined in the pending service agreement with the provision of a total cost recovery model.

5.0 INTERDEPARTMENTAL IMPLICATIONS:

The details and focus to the pending service agreement will be coordinated with the Town and County's Utility Department along with input and direction from Associated Engineering Ltd.

6.0 SENIOR GOVERNMENT IMPLICATIONS:

Not Applicable

7.0 POLITICAL/PUBLIC IMPLICATIONS:

Not Applicable

8.0 ATTACHMENTS:

8.1 Letter from the County of Barrhead dated September 9, 2021

9.0 RECOMMENDATION:

That Council provide their support, in principle, for the County of Barrhead to install a pre-treatment component at the Town's lagoon site provided the Town of Barrhead and the County of Barrhead enter into service agreement.

(original signed by the CAO)

Edward LeBlanc
CAO



5306 – 49 Street, BARRHEAD, ALBERTA T7N 1N5

Phone: 780-674-3331; Fax: 780-674-2777

Email: info@countybarrhead.ab.ca

www.countybarrhead.ab.ca

September 9, 2021

Town of Barrhead
c/o Edward LeBlanc, CAO
PO Box 4189
Barrhead AB T7N 1A2

RE: 2022 PROJECT SUPPORT FOR SANITARY PRE-TREATMENT LOCATED AT TOWN LAGOON SITE

On September 7, 2021, Council for the County of Barrhead directed Administration to submit a formal request to the Town of Barrhead for their support in allowing the installation of a sanitary pre-treatment component on the Town Lagoon site.

County of Barrhead has received an Offer to Purchase for property in the Kiel Industrial Park. The offer comes from a well-established agriculture manufacturing company that requires high water volumes, approximately 740 m³/d and subsequently higher sanitary effluent volumes.

County of Barrhead engaged Associated Engineering Ltd. to analyze the current data for the Barrhead Water Treatment Plant, Town of Barrhead Lagoon system, design standards for Kiel Industrial Park, and the requirements for water and sewer services. Based on this review, it was recommended that the sanitary waste from Kiel pass through a pre-treatment prior to entering the Town Lagoons and that the sanitary pre-treatment component be located at the Town Lagoon site. This location was recommended to improve efficiencies in the operation and maintenance of the system and allow for easy monitoring of effluent.

With the Town of Barrhead's approval to allow the placement and connection of the sanitary pre-treatment component on Town property, the County will initiate the project with full funding for the project to be covered by the County. In addition, the County will enter into a service agreement with the Town to clarify roles, responsibilities and costs for the ongoing maintenance and operation of this new component.

The County of Barrhead appreciates the ongoing support and collaboration that the Town of Barrhead has provided over the past several years that started with the initial visioning exercise that established the following principals for the Kiel Industrial Park:

- Aid in long-term diversification of the tax base
- Focus on clusters that can attract other industries to both the County and the Town
- Complementary industry to the region
- Drive economic development and create economic diversity
- Support community growth
- Create quality jobs

The value and importance of this development is significant for the growth and economic development for both our municipalities. Time is of the essence as the construction of this project is scheduled to begin upon removal of conditions in the Offer to Purchase with opening of the new facility tentatively planned in Fall/Winter of 2022.

Therefore, the County of Barrhead is formally requesting that the Town of Barrhead support this project by allowing the County to install and connect a sanitary pre-treatment component on the Town Lagoon site that would serve the Kiel Industrial Park with the understanding that the project would be funded by the County of Barrhead and that the County and Town would enter into a service agreement for the ongoing maintenance and operation of this new component. This request is also conditional upon the successful closing of the Offer to Purchase by the County of Barrhead.

If you have any further questions, please contact me directly at 780-284-0888 or doyarzun@countybarrhead.ab.ca.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Debbie Oyarzun', with a stylized flourish at the end.

Debbie Oyarzun, M.Sc.
County Manager (CAO)

REQUEST FOR DECISION

To: Town Council

From: Edward LeBlanc, CAO

cc: File

Date: September 14, 2021

Re: Bank Statement – for month ended July 31, 2021

1.0 PURPOSE:

To approve the Monthly Bank Statement for month ended July 31, 2021.

2.0 BACKGROUND AND DISCUSSION:

Not applicable

3.0 ALTERNATIVES:

3.1 That Council approves the Monthly Bank Statement for the month ended July 31, 2021, as presented.

3.2 That Council tables the Monthly Bank Statement for the month ended July 31, 2021 and to instruct Administration to provide further information for the next regular Council Meeting.

4.0 FINANCIAL IMPLICATIONS:

None

5.0 INTERDEPARTMENTAL IMPLICATIONS:

None

6.0 SENIOR GOVERNMENT IMPLICATIONS:

None

7.0 POLITICAL/PUBLIC IMPLICATIONS:

Not Applicable

8.0 ATTACHMENTS:

8.1 Monthly Bank Statement ended July 31, 2021

9.0 RECOMMENDATION:

That Council approves the Monthly Bank Statement for the month ended July 31, 2021, as presented.

(original signed by the CAO)

Edward LeBlanc
CAO

**TOWN OF BARRHEAD
MONTHLY BANK STATEMENT
FOR MONTH ENDED JULY 31, 2021**

PER TOWN OF BARRHEAD:	ATB FINANCIAL GENERAL ACCT	SERVUS GENERAL ACCT	TERM DEPOSITS
Net Balance - Previous Month	711,196.26	7,030,595.28	0.00
Receipts	49,204.92	1,272,454.02	
Interest	125.03	4,327.44	
Transfers from/to Term Deposits	0.00	0.00	0.00
Cancelled Cheques	0.00	0.00	
SUBTOTAL	760,526.21	8,307,376.74	0.00
Disbursements	0.00	1,088,417.79	
Debentures/Interest	0.00	0.00	
School Requisition	0.00	0.00	
Transfers from/to General	0.00	0.00	0.00
NSF/Returned Cheques or Transfers	0.00	81.05	
Postdated Cheques	0.00	0.00	
NET BALANCE AT END OF MONTH	760,526.21	7,218,877.90	0.00

PER BANK:			
Balance at end of month	760,526.21	7,345,757.85	0.00
Outstanding Deposits	0.00	214,284.60	
SUBTOTAL	760,526.21	7,560,042.45	0.00
Outstanding Cheques	0.00	341,164.55	
NET BALANCE AT END OF MONTH	760,526.21	7,218,877.90	0.00

**TERM DEPOSIT SUMMARY FOR
MONTH ENDED JULY 31, 2021**

<u>Financial Institution</u>	<u>Term Amount</u>	<u>Interest Rate</u>	<u>Term Started</u>	<u>Investment Details</u>
	-			
Total	\$ -			

**COUNCIL REPORTS
AS OF SEPTEMBER 14, 2021**

		Meeting (since last council)
Agricultural Society	Cr. Klumph (Alt. Cr. Oswald)	<u> X </u>
Barrhead Accessibility Coalition	Cr. Kluin	<u> X </u>
Barrhead Cares Coalition	Cr. Kluin	<u> X </u>
Barrhead & Area Regional Crime Coalition (BARCC)	Mayor McKenzie	<u> </u>
Barrhead & District Social Housing Association	Cr. Penny	<u> </u>
Barrhead Fire Services Committee	Cr. Assaf and Cr. Smith (Alt. Cr. Kluin)	<u> </u>
Barrhead Attraction & Retention Committee	Cr. Penny	<u> </u>
Barrhead Regional Airport Committee	Mayor McKenzie	<u> </u>
Barrhead Regional Water Commission	Mayor McKenzie and Cr. Smith	<u> </u>
Capital Region Assessment Services Commission	Cr. Penny	<u> </u>
Chamber of Commerce	Cr. Kluin	<u> </u>
Community Futures Yellowhead East	Cr. Penny (Alt. Cr. Assaf)	<u> </u>
Economic Development Committee	Committee of the Whole	<u> </u>
Enhanced Policing School Resource Officer Committee	Cr. Oswald (Alt. Mayor McKenzie)	<u> </u>
Family & Community Support Services Society	Cr. Kluin and Cr. Penny	<u> </u>
Inter-municipal Development Committee		<u> </u>
Library Board	Cr. Klumph (Alt. Cr. Oswald)	<u> </u>
Municipal Planning Commission	Cr. Assaf, Cr. Klumph and Cr. Smith (Alt. Mayor McKenzie)	<u> </u>
Regional Landfill Committee	Cr. Klumph and Cr. Penny	<u> </u>
Subdivision & Development Appeal Board	Cr. Penny	<u> </u>
Twinning Committee	Cr. Oswald	<u> X </u>
Yellowhead Regional Library Board	Cr. Klumph (Alt. Cr. Penny)	<u> </u>



C.A.O Report

To: Town Council

Date: September 14, 2021

Re: September 14, 2021 Report

General Administration:

During the October 18th general municipal election, the Province intends to conduct an election for Canada's Senate and two referendum questions. The Province will provide financial assistance to each municipality. We recently learned that the Town of Barrhead will be allocated a grant of \$ 9,158.00.

As a result of a successful grant application, the Barrhead Bowling Association repaid their operating loan to the Town on August 13th.

On September 7th, I re-connected with the new FCSS Director to discuss budgetary items, Disaster Services and general related items.

On September 10th, the Economic Recovery Grant Committee review all grant applications and the details will be presented during the September 14th Closed Session portion of the Council Meeting.

Legislative and Development Services:

Enforcement Services:

The Department currently has 17 open file under review/investigation:

- Bylaw issues: 6 files
- Animal Control matters/miscellaneous: 2 files
- Traffic Enforcement (ie: speeding, school zone speeding, distracted driving, fail to obey stop sign): 9 files

Communications Services:

➤ Accomplished

- Website and social updates surrounding Town and Community programs/events/openings
- Completed Better in Barrhead Website – updating will be continuous
- Continued public notification of Town activities via social pages, website, and BARCC – especially Parks & Recreation updates
- Sept/Oct Newsletter created, sent with Utility Bills, and uploaded to website
- Commenced videography project with Twinning Committee – ongoing

➤ Works in Progress/Ongoing

- Expanding integration of parks & rec video content with Instagram & Facebook Live/Stories
 - Research what city urban population is “searching for” on the internet in relation to rural urban living and use that data to guide future video content
- Continue to update website with relevant COVID information – ec dev, recreation, GOA & GOC updates and new tools
- Plan snow removal and garbage spacing videos with Mayor McKenzie
- Product/Service Catalogue for BARCC
- Marketing Plan BARCC initiatives
 - Trade show
 - Informational website
- Develop plan for regular Google My Business postings to show up on Google when people search for the “Town of Barrhead”
 - These are free and appear with business information on the right side of a google search
 - Opportunity to get more information out to people who are just looking for our contact information on google
 - Topics – pool updates, COVID restrictions/information, programs & events, etc.
- Work with Development on Beaverbrook Lots Brochure

Fire Protection Services:

➤ Incidents from August – August 31, 2021

- Fires – 0
- Vehicle accidents - 3
- Rubbish or grass fires – 4
- Medical Assist - 9
- Alarms – 5

For the month of August there were a total of 21 calls which represented a total of 124.5 firefighter hours.

As requested by Council, the following are the details to date relating to the medical assists call for this year:

Month	Fire Dept. first on scene	AHS first on scene	Fire Dept. stood down	Total calls for the month	Total Fire Dept. staff hours
January, 2021	9	5	3	17	42.5
February, 2021	3	5	0	8	32.5
March, 2021	7	5	1	13	52.5
April, 2021	6	8	2	16	34
May, 2021	10	3	3	16	34
June, 2021	11	8	5	24	59
July, 2021	14	9	0	23	91.75
August, 2021	3	4	2	9	16.5
Total	63	47	16	126	362.75

The cost of the Fire Department to respond to the noted medical assist calls is approximately \$7,255.00 - excluding the cost of any vehicle or equipment.

The Fire Department responses to 4th level calls (ie: Cardiac arrest, stroke, severe breathing difficulties, internal bleeding and lacerations or trauma injuries) without the formal request from Alberta Health Services.

➤ Training:

- NFPA 1001 level 1 firefighter, skills training
- Hose testing
- Pumping operations
- Forcible entry

- Other
 - Live fire house burning training event on August 7th in the County of Barrhead. 8 members attended, interior attack and fire control.
 - Medical stand by for Barrhead rodeo
- Total membership of 40; 37 responding members with 2 recruits and 1 member on leave.

Recreation Services:

- Operational:
 - Installed arena ice
 - Hosted an in-person ice users meeting
 - Hosted National Lifeguard Course, Standard 1st Aid
 - Worked on Bowling Alley retrofit
 - Continued to work on capital projects
 - Planning to install 5-6 solar lights on the new pathway along the river.
 - Will be starting to winterize the Spray Pad
 - Continue to mow and grass trim as required
 - Will continue to raise cemetery headstones weather permitting
 - Hosting a Bronze Medallion, Bronze Cross and Standard 1st Aid on September 13
- Special Events:
 - Make a Connection Event - September 9
 - Teen Swim Night - September 17
 - Pro D Day Camp - September 30
 - Recreation Kids Halloween Event - October 24
 - Pumpkin Walk - October 30

(original report signed by the C.A.O.)

Edward LeBlanc - CAO

Town of Barrhead

COUNCIL ACTION LIST ON RESOLUTIONS DIRECTING ADMINISTRATION - AS OF AUGUST 10, 2021

Reference Number	Resolution	Comments	Status
	<u>August 10, 2021 Council Meeting</u>		
285-21	Moved by Cr. Assaf that Council send a letter to Alberta Government in support of Claresholm to retain a Council Code of Conduct.		Completed
290-21	Moved by Cr. Assaf that Council approve the draft Sales Agreement of Lot 2 Block 1 Plan 2121798, as presented.	On September 9th, the Purchaser endorsed the agreement and provide the Town with a 10% deposit	Completed
	<u>April 13, 2021 Council Meeting</u>		
141-21	Moved by Cr. Smith that Administration move forward on preparing the Traffic Impact Assessment for a cost not to exceed \$7,000.00.	Administration hopes to receive the final report sometime in September, however the report must first be formally endorsed by Alberta Transportation.	In Progress
	<u>March 9, 2021 Council Meeting</u>		
083-21	Moved by Cr. Assaf that Council authorize the disposal of the 2012 International garbage truck at a public auction, vendor to be at the discretion of Administration.	Unit will be dispose of this Fall	
107-21	Moved by Cr. Assaf that Council bring the proposed Summer Ice Rental Rates for 2022 back to Council by November 30, 2021.		In Progress
	<u>June 9, 2020 Council Meeting</u>		
183-20	Moved by Mayor McKenzie to direct Administration to respond to the letter from the Town of Edson, dated May 25, 2020, inviting the Town of Barrhead to participate into the Northwest Alberta Electric Vehicle Charging Network by advising them that the Town of Barrhead has alternative thoughts and that Administration will bring back further information to Council.	AUMA's Municipal Climate Change Action Centre will be launching a new grant program sometime in September, 2021. Administration will explore the new funding and report back to Council. Also, Administration is waiting to hear from the Community Energy Association for further information.	In Progress
	<u>July 9, 2019 Council Meeting</u>		
232-19	Moved by Cr. Assaf that Council donate the old traffic lights to the Chamber of Commerce and Mainstreet Merchants for a fundraising event.	Once the Town is approached by the two organizations, the lights will be delivered to them. Currently the lights are in storage.	Pending

Town of Barrhead

COUNCIL ACTION LIST ON RESOLUTIONS DIRECTING ADMINISTRATION - AS OF AUGUST 10, 2021

	<u>January 22, 2019 Council Meeting</u>		
032-19	Moved by Cr. Assaf that Council approve Mr. K. David Campbell to conduct a utilities rates analysis and assessment, based on a project cost of \$31,500.00, to be funded from the water and sewer operating reserves.	The draft report along with Administration's response to the Consultant's recommendation was part of the January 26, 2021 C.A.O. Planning Session. The final draft of the report was received and will be presented to Council during the September 14th Council Meeting.	Completed

REQUEST FOR DECISION

To: Town Council
From: Edward LeBlanc, CAO
cc: File
Date: September 14, 2021
Re: Correspondence Item

- Item (a)** Letter from the Barrhead Community Pumpkin Committee, dated August 19, 2021, requesting a donation of \$1,500.00 from the Town of Barrhead which will cover the insurance of the event.

Recommendation:

That Council authorize the donation of \$1,500.00 towards the 2021 Barrhead Pumpkin Walk event and receives the correspondences from the Barrhead Pumpkin Committee, dated August 19, 2021, as information.

This requested amount is included in the 2021 operational budget.

- Item (b)** Letter from the Village of Elnora, dated June 21, 2021, regarding their opposition on the Province's initiative to replace the RCMP with an Alberta Provincial Police Service, as information.

Recommendation:

That Council accept the letter from the Village of Elnora, dated June 21, 2021, regarding their opposition on the Province's initiative to replace the RCMP with an Alberta Provincial Police Service, as information.

Item (c) Letter from the Crossfield Town Council, dated September 8, 2021, regarding their opposition on the Royal Canadian Mounted Police (RCMP) Retroactive Pay and requesting assisted funding from the Alberta Government.

Recommendation:

That Council accepts the letter from the Crossfield Town Council, dated September 8, 2021, regarding their opposition on the Royal Canadian Mounted Police (RCMP) Retroactive Pay and requesting assisted funding from the Alberta Government, as information.

(Original signed by the CAO)

Edward LeBlanc
CAO

Mayor & Council,

Re: Barrhead Community Pumpkin Walk

August 19th, 2021

Our appreciation of the Town Of Barrhead is overwhelming. After last year's cancellation of the pumpkin walk, and the previous successful years before, we feel tremendous excitement for this year's event. I'd like to repeat my previous sentiment, "The town of Barrhead is so fantastic to work with, so incredibly helpful and they treated us so well." Having this opinion about the town you live, work and play in; instills pride in our committee and to everyone in the community that we speak with. For this, we would like to extend a massive thank you, for all you do!

In our request to use the sports grounds, I would like to start by saying, we feel our previous events were a huge success, with almost a dozen booths, and close to 3000 people attending. Our plan for this year's Pumpkin Walk, as well as future Pumpkin walks, will follow the same guidelines, with a few changes every year.

I have spoken to Shallon Touet about this year's event and he on behalf of the Recreation Department fully endorse the use of the sports grounds for the pumpkin walk. And as a community event, they would provide garbage cans, porta-potties and fire pits for the event.

At the same time, the Barrhead Pumpkin Walk Committee is hopeful that we can again receive the same \$1500 donation as previous years, which again will cover the insurance of the event. This donation was appreciated beyond belief and truly made it so much easier for us to proceed.

I look forward to hearing from you.

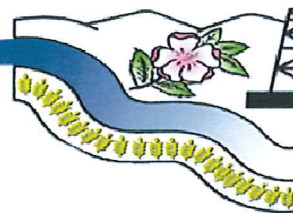
Thank you,

Amanda Lambert

The Barrhead Pumpkin Walk Committee



The Friendly Community



P.O. Box 629, Elnora, Alberta T0M 0Y0

Phone: 403-773-3922

Fax: 403-773-3173

Email: elnoraab@gmail.com

June 21, 2021

Honourable Kaycee Madu
Minister of Justice and Solicitor General
424 Legislature Building
10800 – 97 Avenue
EDMONTON, Alberta T5K 2B6

Dear Minister Madu;

RE: Provincial Policing vs. RCMP

The Village of Elnora has been the recipient of numerous letters from both urban and rural municipalities forwarded to you supporting the RCMP versus the proposed provincial policing alternative. It is noted there has been no correspondence in support of provincial policing.

Each letter has reiterated numerous reasons against proceeding with provincial policing, all of which our Council is in agreement with. It is understood the cost will continue to escalate which is alarming in terms of future budgets. The Village will have no control over these costs but will be held accountable by our ratepayers for property tax increases as the municipalities will be required to collect the revenue on behalf of the province.

As stated, municipalities have developed long term partnerships with their local RCMP and have mutually worked together to resolve challenges and issues. The RCMP, through long term service and local commitment, have a keen knowledge and understanding of the communities and regions they serve.

As municipalities struggle with the realities of grant reductions, increasing servicing costs and pandemic recovery, it is not financially feasible to proceed with the proposed provincial policing. The benefit of an APPS over current RCMP policing has not been conveyed.

Yours truly,

A handwritten signature in dark ink, appearing to be 'Leah Nelson', written in a cursive style.

Leah Nelson, Mayor
VILLAGE OF ELNORA

:SW

Cc: The Honourable Jason Kenny, Premier
Barry Morshita, President Alberta Urban Municipalities
AUMA Members



September 8, 2021

Premier Jason Kenney
307 Legislature Building
10800 – 97 Avenue
Edmonton, AB
T5K 2B6

RE: ROYAL CANADIAN MOUNTED POLICE (RCMP) RETROACTIVE PAY

At the last regular meeting of Crossfield Town Council held Tuesday September 7, 2021, Council discussed the recent developments that the Royal Canadian Mounted Police (RCMP) have been drawing closer to an agreement that will require retroactive pay to be issued. This has been brought to our attention by the Alberta Urban Municipalities Association (AUMA).

Municipalities in Alberta such as ours under total population of 5,000 have recently been subjected to increasing our property tax rates on citizens and businesses in order to cover the cost of policing in our province. It is also something that we are not able to requisition for, which has further made raising the funds a contentious issue. Our tax payers are being directly affected by the increase already, and will feel the burden even more if our municipality must pay a share of the RCMP's pay increases.

Crossfield Town Council respectfully requests that the Alberta Government ensures that Alberta municipalities are not charged with assisting in funding the RCMP's retroactive pay when the agreement is complete. It should be up to the provincial and federal governments to deal with any shortfalls, and not to overload municipalities with further monetary strain.

If you have any questions or concerns regarding this issue, please contact the undersigned at your convenience.

Yours truly,

Jo Tennant
Mayor

cc: Mr. Nathan Cooper, MLA for Olds-Didsbury-Three Hills
Alberta Urban Municipalities Association (AUMA)
AUMA Member Municipalities