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September 9, 2020

Mr. Chris McMillan
Secretary to the Comptroller of Water Rights
Utility Regulation Section
Water Management Branch
Ministry of Forests, Lands and Natural Resource Operations
PO Box 9340 Stn. Provincial Government
Victoria, BC V8W 9M1

Dear Mr. McMillan:

Re: **EPCOR Water (West) Inc.**
2021-2023 Revenue Requirement and Rates Application

1. EPCOR Water (West) Inc. (“EWW”) is pleased to submit its 2021-2023 Revenue Requirement and Rates Application (the “Application”) requesting approval of proposed adjustments to its water rates in order to recover EWW’s forecast revenue requirement for the 2021-2023 period.
2. EWW’s operating costs have remained relatively stable over the last rate period, with favorable variances related to salaries due to staffing conditions, combined with lower power and chemical costs. Overall, EWW forecasts only modest increases in operating costs, which continue to be partially offset by a decrease in intercorporate services charges.
3. EWW is not forecasting any major system expansion in the test period.
4. EWW will issue a notice of application to its customers, providing an opportunity for interveners to register in the regulatory proceeding and giving at least 30 days for customers to submit any comments on the Application to the Comptroller’s office. At that time, EWW will also have the entire Application posted to our website and a hard copy will be available for review at our office. EWW will send a draft of the notice to the Comptroller’s office for review.

5. Please find an electronic version of the Application attached. EWW will deliver two paper copies of the Application to the Comptroller's office next week. EWW will provide any additional copies upon your request.

6. EWW looks forward to working with the Comptroller's staff and is pleased to assist with processing the Application as efficiently as possible. Please contact me at (780) 919-4424 or Darrell Manning, Director Regulatory and Operational Excellence at (780) 412-3041 if you have any questions.

Sincerely,

Camille Jasper-Fabiyi
Senior Manager, Regulatory
EPCOR Water Services Inc.

Please contact me at (780) 919-4424 if you have any questions.

Attachments

cc: Elena Oliphant
Chief Financial Advisor, Utility Regulation Section
Water Management Branch
Ministry of Natural Resource Operations



EPCOR Water (West) Inc.

**2021-2023 Revenue Requirement
and Rates Application**

September 9, 2020

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1.0 OVERVIEW

1.1 Tariffs Applied For

1. Pursuant to sections 58-60, 89 and 90 of the *Utilities Commission Act*¹, EPCOR Water (West) Inc. (“EWW”) hereby submits this Revenue Requirement and Rates Application (the “Application” or “2021-2023 RRA”) for its French Creek water utility (the “Utility”) for the years 2021-2023 (the “2021-2023 test period”), and requests an Order or Orders for the following:

- 1) Approval on a final basis for water rates for the 2021-2023 test period set out in Schedule B-1 and summarized in Table 1.1-1 below (collectively “Water Rates”).

Table 1.1-1
Proposed Water Rates
2021-2023
(\$)

	A 2021	B 2022	C 2023
Base Rates			
1 Residential	43.45	43.45	43.45
2 Multi-Residential	39.53	39.53	39.53
3 Commercial	38.39	38.39	38.39
Consumption Rates			
Residential			
4 12-75 cubic meters	1.93	1.93	1.93
5 > 75 cubic meters	1.93	1.93	1.93
Multi-Residential			
6 12-75 cubic meters	1.93	1.93	1.93
7 > 75 cubic meters	1.93	1.93	1.93
Commercial			
8 12-75 cubic meters	0.96	0.96	0.96
9 > 75 cubic meters	0.96	0.96	0.96
10 Fire Hydrants (annual)			
	582.84	582.84	582.84
11 Standpipes (annual)			
	233.14	233.14	233.14
12 Availability of Service Charge (annual)			
	365.01	365.01	365.01

EWW has proposed no rate increases over the RRA period, with rates remaining flat for 2021, 2022 and 2023. EWW has proposed an adjustment to its lower rate

¹ *Utilities Commission Act*, RSBC 1996, c 473

tier from 15 m³ – 75 m³ to 12 m³ – 75 m³, as discussed in section 1.1.1 and 1.1.2.

- 2) Refund of the 2018-2020 deferral account balances by means of a monthly Rate Rider for the following deferral accounts:
 - the consumption deferral account;
 - the property taxes deferral account;
 - the interest deferral account; and
 - the hearing cost deferral account.
 - 3) The proposed monthly Rate Rider and calculations as set out in Financial Schedule 4.0 of the Application.
 - 4) Continuation of the consumption deferral account, property tax deferral account, interest deferral account and hearing cost deferral account for the 2021-2023 test period as described in section 6.0 of the Application.
 - 5) Approval of the capital structure (60% debt; 40% equity) and the rate of return on equity of 9.75% for the 2021-2023 test period, as described in section 8.0 of the Application.
2. Order No. 2528 (“Order 2528”), dated June 21, 2018, approved EWW’s water rates up to December 31, 2020. The rates approved by the Comptroller in Order 2528 are adequate to recover EWW’s forecast costs to continue to provide safe and reliable water services for the 2021-2023 test period, as shown in Table 1.2-2 below.

Table 1.1-2
Revenue Requirement vs. Revenue Forecast 2021-2023
(\$ thousands)

	A 2021F	B 2021F	C 2023F
1 Forecast Revenue Requirement	1,665	1,710	1,751
2 Forecast Revenues based on 2020 Rates (excludes Other Revenues)	1,695	1,709	1,722
3 Annual Revenue Shortfall/(Surplus)	(31)	1	30

3. As current (2020) rates allow EWW to recover its forecast revenue requirement, EWW is proposing the water rates in Table 1.1-1 above for the years 2021, 2022 and 2023. The proposed water rates reflect no general increase or decrease for all rates for each customer class, EWW is also proposing a change to its rate tiers, as discussed in section 1.1.1 and 1.1.2, which will result in a reduction to the monthly base rates as indicated in Table 1.1-3.

**Table 1.1-3
Rate Adjustments
2021-2023**

	A 2021F General Adjustment	B 2021F Tier Adjustment	C 2021F Total	D 2022F	E 2023F
Base Rates					
1 Residential	0.00%	-6.15%	-6.15%	0.00%	0.00%
2 Multi-Residential	0.00%	-6.38%	-6.38%	0.00%	0.00%
3 Commercial	0.00%	-4.84%	-4.84%	0.00%	0.00%
Consumption Rates					
Residential					
4 12-75 cubic meters	0.00%	0.00%	0.00%	0.00%	0.00%
5 > 75 cubic meters	0.00%	0.00%	0.00%	0.00%	0.00%
Multi-Residential					
6 12-75 cubic meters	0.00%	0.00%	0.00%	0.00%	0.00%
7 > 75 cubic meters	0.00%	0.00%	0.00%	0.00%	0.00%
Commercial					
8 12-75 cubic meters	0.00%	0.00%	0.00%	0.00%	0.00%
9 > 75 cubic meters	0.00%	0.00%	0.00%	0.00%	0.00%
10 Fire Protection	0.00%	0.00%	0.00%	0.00%	0.00%

1.1.1 Rate Structure

4. Under the current rate structure, a fixed charge is applied to consumption between 0 m³ and 15 m³ of monthly consumption. A variable charge is applied to each cubic meter thereafter.

5. In order to promote water conservation, follow industry best practices, and integrate input from the French Creek Community Advisory Panel (“CAP”), EWW explored three potential alternatives to update the current rate structure in preparation of the Application: variable rate for all monthly consumption, inclining rate structure and adjustment to its lower tier rates

6. The first alternative assessed was a variable rate for monthly consumption between 1 m³ and 15 m³, in addition to the fixed charge. Analysis of billing data determined 1) a significant number of customers use between 9 m³ and 13 m³ per month and 2) a significant amount of French Creek consumption is within the 0 m³ - 15 m³ rate tier. Based on those two factors EWW found that any scenario that was modeled resulted in significant bill increases for customers that consumed between 14 m³ and 20 m³ per month. As a result this alternative was not pursued.

7. The second alternative assessed was an inclining rate structure. Customers would pay a higher price per cubic meter for water consumption above 75 m³ per month. This option would

increase the bills of the highest consumption customers, particularly during summer months with high discretionary consumption. In order to maximize conservation gains from this option, a clear communication strategy would have to be rolled out in conjunction with the rate change explaining to customers that discretionary water consumption had become relatively more expensive. This alternative was discussed at the May 2020 French Creek CAP meeting and EWW received feedback that with uncertainty related to the COVID-19 pandemic it may not be the best time to implement this type of rate structure and the associated communication strategy. EWW agreed, and this alternative was not pursued.

8. The final alternative assessed was a reduction to the consumption included as part of the base rate, currently 15 m³. EWW evaluated three scenarios 1) reducing base consumption to 14 m³, 2) reducing the base consumption to 13 m³, and 3) reducing the base consumption to 12 m³. In this Application EWW is proposing to reduce the base consumption to 12 m³. This alternative provides a balance between incenting water conservation and minimizing bill increases. Further discussion of this alternative is included in section 1.1.2.

1.1.2 Reducing Base Consumption to 0-12 Cubic Meters

9. In order to determine the impacts of reducing the base consumption, analysis was conducted on billing data from 2017 to 2019. As shown in Table 1.1.2-1 average residential customers use approximately 11 m³ in colder months, which represents indoor consumption, with consumption increase to between 20 m³ and 32 m³ in warmer months, as outdoor usage increases. It is common practice in the water industry to align a utilities first consumption tier with basic indoor household water usage². To better align base consumption with indoor usage, while balancing customer bill increases, EWW is proposing a reduction to its base consumption from 15 m³ per month down to 12 m³ per month.

² EPA “Best Practices to Consider When Evaluating Water Conservation and Efficiency as an Alternative for Water Supply Expansion,” December 2016, page 33. (https://www.epa.gov/sites/production/files/2016-12/documents/wc_best_practices_to_avoid_supply_expansion_2016_508.pdf) as accessed on July 20, 2020.

**Table 1.1.2-1
2017-2019 Consumption by Quarter
(Cubic meters/month)**

Period	A Residential	B Multi-Residential	C Commercial	D Total
1 Q1	10.8	9.3	79.9	12.1
2 Q2	20.8	16.9	97.2	22.7
3 Q3	32.0	25.7	158.4	35.1
4 Q4	11.0	9.5	64.8	12.0
5 Annual	19.4	18.7	105.8	21.0

10. Table 1.1.2-2 summarizes the 2021-2023 bill impacts after applying the reduction to base consumption and proposed rate riders. All customers should receive a bill reduction ranging from -2.4% to -13.9% in 2021, based on their 2019 actual consumption. This will be followed by a 3% bill increase in 2022 and 2023 as rate riders decrease, as described in section 6.0 of the Application.

**Table 1.1.2-2
Bill Impacts including Rate Rider**

Period	A 2021	B 2022	C 2023	D Total
1 Residential	-13.7% to -2.4% (Average -8.8%)	2.8%	2.9%	-8.6% to 3.3% (Average -3.5%)
2 Multi-Residential	-13.9% to -4.2% (Average -10.5%)	2.8%	3.0%	-8.8% to 1.4% (Average -5.3%)
3 Commercial	-12.5% to -6.4% (Average -9.3%)	2.8%	3.1%	-7.3% to -0.7% (Average -3.7%)

1.2 Residential Bill Impact

11. The resulting impact on a residential customer's bill for the 2021-2023 period is shown in Tables 1.2-1, 1.2-2 and 1.2-3 for residential customers with low (10 m³/month), medium (20 m³/month) and high (30 m³/month) consumption. The customer bill includes both the impact of the proposed rate increases as well as the impact of the proposed rate rider for 2021-2023.

12. In each scenario, a decrease of 3.1% to 13.7% on residential bills will be experienced by EWW's customers in 2021, followed by 3% increases in 2022 and 2023. This is also true for the multi-residential and commercial customer classes. The increases in 2022 and 2023 are due to a reduction in the rate rider refund in 2022 and 2023. The deferral accounts are discussed in Section 6.0.

Table 1.2-1
Monthly Bill for Residential Customer (Minimum 10 m³/month)
2021-2023
(\$/customer/month)

	A 2020	B 2021F	C 2022F	D 2023F
Consumption Charge:				
1 Minimum	46.30	43.45	43.45	43.45
2 Additional (per m ³ over)	-	-	-	-
Rate Rider:				
3 Minimum	-	(3.48)	(2.35)	(1.13)
4 Additional (per m ³ over)	-	-	-	-
5 Total Monthly Bill	46.30	39.97	41.10	42.32
6 Change (\$)		(6.33)	1.13	1.22
7 Change (%)		-13.7%	2.8%	3.0%
8 Cumulative Change (%)		-13.7%	-11.2%	-8.6%

Table 1.2-2
Monthly Bill for Residential Customer (Average 20 m³/month) 2021-2023
(\$/customer/month)

	A 2020	B 2021F	C 2022F	D 2023F
Consumption Charge:				
1 Minimum	46.30	43.45	43.45	43.45
2 Additional (per m ³ over)	9.65	15.44	15.44	15.44
Rate Rider:				
3 Minimum	-	(3.48)	(2.35)	(1.13)
4 Additional (per m ³ over)	-	(1.20)	(0.80)	(0.40)
5 Total Monthly Bill	55.95	54.21	55.74	57.36
6 Change (\$)		(1.74)	1.53	1.62
7 Change (%)		-3.1%	2.8%	2.9%
8 Cumulative Change (%)		-3.1%	-0.4%	2.5%

Table 1.2-3
Monthly Bill for Residential Customer (High 30 m³/month)
2021-2023
(\$/customer/month)

	A 2020	B 2021F	C 2022F	D 2023F
Consumption Charge:				
1 Minimum (up to 15 m ³)	46.30	43.45	43.45	43.45
2 Additional (per m ³ over)	28.95	34.74	34.74	34.74
Rate Rider:				
3 Minimum (up to 15 m ³)	-	(3.48)	(2.35)	(1.13)
4 Additional (per m ³ over)	-	(2.70)	(1.80)	(0.90)
5 Total Monthly Bill	75.25	72.01	74.04	76.16
6 Change (\$)		(3.24)	2.03	2.12
7 Change (%)		-4.3%	2.8%	2.9%
8 Cumulative Change (%)		-4.3%	-1.6%	1.2%

13. Over the past three years, EWW has focused on resolving outstanding capital work, investing \$1,059 thousand (including \$471 thousand in developer contributions), to continue to provide a safe and reliable water supply at the lowest possible cost to customers. These upgrades provided improvements in the areas of water quality, asset management, reliability and safety and included the following types of projects:

- Annual capital programs including meter replacements and new hydrants;
- Construction of three new wells;
- Well Closures (Imperial, Lornedunn, Springhill completed. Oceanside scoped and planned for fall 2020);
- Portable Generator Purchase and Set Up; and
- Well rehabilitation – annual program to rehabilitate one well per year.

14. Operationally, EWW was able to optimize the water treatment plant operations to minimize the chemical requirements where possible. EWW was also active in its involvement with the Community Advisory Panel (“CAP”).

15. Since taking ownership of the French Creek water utility in 2006, EWW’s customers have benefitted from EWW’s extensive improvements in the security, reliability and quality of their water supply and in the level of customer service provided by the Utility. EWW has also undertaken several initiatives in the areas of water quality assurance, safety and security, environmental management, customer service and responsiveness. EWW has made some significant and necessary capital investments including adding a water treatment plant to improve water quality and to comply with the Guidelines for Canadian Drinking Water Quality, developing

additional wells to provide a safe and reliable source of water supply to EWW's customers and to replace water supply from French Creek. EWW has also made several upgrades to the rest of the system including water main upgrades, new reservoirs and generators and ongoing capital programs including meter replacement, hydrant installation and residential service upgrades.

1.3 Background

1.3.1 Description of French Creek Water Utility

16. EWW owns and operates the Utility, which provides service to approximately 2,100 metered accounts with an average consumption of 19.4 m³ of water per single-family residential customer per month (3-year average for residential customers 2017-2019) in a service area within the Regional District of Nanaimo (the "RDN"). Every water service in the area is metered. Fire protection service is provided to the residents by means of 179 fire hydrants.

17. EWW's distribution system is comprised of two water storage reservoir sites, with a total volume of approximately 4.0 ML, a booster station and 30 km of mainly cement pipe ranging in size from 50 mm to 300 mm in diameter. The Utility is currently supported by four full time and one part time employees - one manager, two full time operators, one part time operator and an administrative assistant.

18. EWW draws water from 18 active wells in two separate aquifers. Both aquifers provide good quality drinking water but one aquifer has slightly elevated levels of iron and manganese. This requires treatment in order to comply with the Guidelines for Canadian Drinking Water Quality.

1.3.2 EPCOR Water (West) Inc. and EPCOR Water Services Inc.

19. EWW is a corporation incorporated under the British Columbia *Business Corporations Act*.³ EWW is a wholly owned subsidiary of EPCOR Water Services Inc. ("EWSI"). EWSI is a corporation incorporated under the laws of the Province of Alberta and is a wholly owned subsidiary of EPCOR Utilities Inc. ("EUI" or "EPCOR"). EUI is, in turn, wholly owned by the City of Edmonton.

20. EWSI and its predecessors have been designing, building, operating, and financing water and wastewater treatment facilities for more than a century. EWSI provides quality water and wastewater services to more than 85 communities and industrial sites across Western Canada.

³ *Business Corporations Act*, SBC 2002, c57

EWSI also builds, owns and operates water, wastewater and drainage facilities, working in partnership with governments, municipalities and industrial clients.

21. On an ongoing basis, EWW continues to draw technical support from EWSI. EWW will continue to benefit from EWSI's expertise in water utility operations, maintenance, safety, training, accounting and customer support services.

1.4 2021-2023 Test Period Costs

22. EWW's Application is based on a three-year forecast test period from January 1, 2021 to December 31, 2023. A three-year test period is consistent with the previous test period approved by the Comptroller in Order 2528. A three-year test period continues to strike a reasonable balance between the risk associated with forecasting the proposed revenue requirement and the efficiencies associated with longer test periods and minimizing regulatory application costs.

23. Table 1.4-1 below summarizes the proposed revenue requirements for EWW for the test years 2021, 2022 and 2023. The actual financial results for 2018 and 2019, the forecast amounts for 2020 (based on year-to-date actuals for 2020 and a forecast for the remaining months) and the amounts approved in Order 2528 for 2018, 2019 and 2020 are provided for comparison purposes

**Table 1.4-1 Revenue Requirement
2018-2023
(\$ thousands)**

Cost Category	A 2018D	B 2018A	C 2019D	D 2019A	E 2020D	F 2020F	G 2021F	H 2022F	I 2023F
1 Operating Costs	1,077	1,011	1,104	1,053	1,127	1,097	1,129	1,153	1,179
2 Depreciation Expense	306	300	329	315	332	317	329	347	360
3 Amortization of CIAC	(150)	(130)	(175)	(156)	(177)	(158)	(164)	(171)	(173)
4 Interest Expense	169	165	184	174	185	174	174	178	180
5 Return on Equity	201	306	223	247	224	191	215	222	225
6 Revenue Requirement before Revenue Offsets	1,603	1,652	1,666	1,632	1,691	1,621	1,684	1,729	1,771
7 Less: Revenue Offsets	(22)	(20)	(23)	(20)	(23)	(20)	(19)	(19)	(20)
8 Net Revenue Requirement	1,581	1,632	1,643	1,612	1,667	1,601	1,665	1,710	1,751

24. As shown in Table 1.4-1, EWW's total revenue requirement for the 2018-2020 period was slightly lower than forecast primarily due to reductions in operating expenses. These cost reductions, combined with lower than forecast capital costs, led to higher than approved earnings for 2018-2020. EWW's forecast net income for 2018-2020 is expected to be \$94 thousand higher than the approved amount.

25. EWW's expected revenue requirement shown in Table 1.4-1 is \$1.67 million in 2021, \$1.71 million in 2022 and \$1.75 million in 2023. In 2021, EWW forecasts its revenue requirement to decrease by 0.2% over the 2020 decision amount, this decrease is primarily driven by the following factors:

Operating Costs

- Reduced intercorporate service charges, during the 2017 to 2020 period total EUI Corporate Services and EWSI Shared Services costs escalated in line with the 2017 to 2020 forecast. Over this same period EWSI's other operations have grown at a faster pace than EWW, this results in a reduction to the percentage of intercorporate service charges allocated to EWW (0.55% to 0.44%); and
- Lower than expected power and chemicals costs for new wells placed into service in 2019/2020.

Capital Related Costs

- EWW completed or is forecast to complete most of the capital projects identified in its 2018 to 2020 Application. EWW has been able to deliver this capital work at lower than forecast costs. As a result, EWW's 2020 forecast mid-year rate base is \$231 thousand lower than the 2020 decision amount.

26. Over the 2022 to 2023 period EWW forecasts its revenue requirement to increase by an average of 2.6% per year which is in line with inflation. Further discussion of these cost drivers are described in the sections that follow.

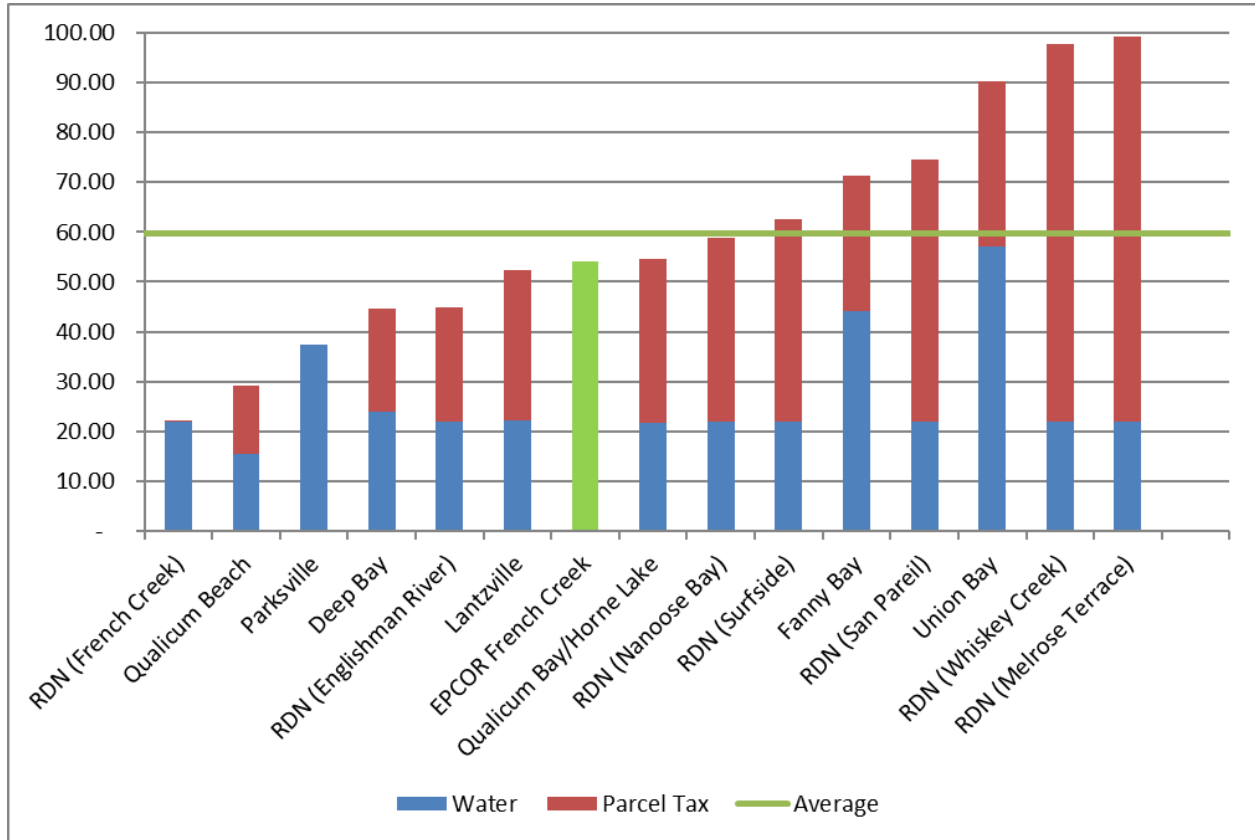
1.4.1 Comparison of Water Rates

27. The cost of providing water utility services continues to face upward pressures as utilities are required to replace aging infrastructure and invest in capital upgrades to meet regulatory requirements. EWW's proposed water rates for 2021 will decrease the monthly bill for a residential customer (based on consumption of 20 m³ per month) by about \$1.74 per month. The corresponding increases for this same customer in 2022 and 2023 are expected to be between approximately \$1.50 and \$1.65 per month, respectively.

28. Figure 1.4.1-1 shows the comparison between EWW's forecast residential customer monthly bill relative to those of other water service providers in the surrounding area for a customer consuming 20 m³/month. Water parcel taxes are included in the Figure 1.4.1-1 in order to show the comparable total cost of water services in surrounding areas. To determine the 2021

rates for the surrounding communities, EWW took the published 2020 rates and escalated them by 2.0%, the BC CPI escalator described in Section 4.3.

**Figure 1.4.1-1
Monthly Bills for Residential Customers*
(Comparison of proposed 2021 rates with neighboring communities' 2020 rates escalated
by 2.0%)**



Based on consumption of 20 m³/month

Sources:

- Parksville – City of Parksville Current Utility Rates - <http://www.parksville.ca/cms.asp?wpID=276>
- Qualicum Beach – Qualicum Beach Bylaw No. 713 & 493
- Deep Bay – Deep Bay Improvement District Bylaw No. 236 & 240
- RDN Utilities – Regional District of Nanaimo Bylaw No. 1655.10, parcel taxes per RDN 2020-2024 Approved Financial Plan - https://www.rdn.bc.ca/sites/default/files/inline-files/2020-2024%20Financial%20Plan%20-%20Volume%202_2.pdf
- Qualicum Bay Waterworks - <http://qbhlwater.ca.websitematic.ca/water-rates>
- Lantzville - District of Lantzville Bylaw No. 228 & 232
- Fanny Bay – Fanny Bay Waterworks District Bylaw No. 117 & <https://fannybaycommunity.com/wp-content/uploads/2018/12/FBWW-January-2019-rate-change-notice.pdf>
- Union Bay – Union Bay Improvement District No. 281 & 279

1.5 Water Tariff (Terms and Conditions and Price Schedules)

29. A copy of the proposed Water Tariff is included as Schedule B-1 of the Application and a copy of a black-lined version of the Water Tariff is included as Schedule B-2. EWW is requesting revisions to the price schedules to reflect the proposed rate increases. This is explained in section 9.0 of the Application.

1.6 Comptroller Directions

30. In Order 2528, the Comptroller issued a number of directions to EWW in relation to its next application. The directions which apply to the Application and the manner in which EWW has responded to these directions is provided in Appendix A.

1.7 Stakeholder Consultation

31. The French Creek CAP was established to bring together a group of people representing the viewpoints of different stakeholders to receive information, and provide input related to emerging issues in the water utility and the impact on the community, water service area, customers and the environment. Participants are asked for advice and suggestions. The group has no formal decision-making power and is not organized for any decision-making purpose. Its role is advisory.

32. Throughout the previous rate period, EWW met and consulted with the French Creek CAP on seven occasions including, most recently, in December, 2019 and May, 2020 to discuss this Application:

- April 10, 2018
- June 7, 2018
- December 5, 2018
- April 2, 2019
- October 16, 2019
- December 5, 2019
- May 12, 2020

33. The regulatory information presented to CAP on December 5, 2019 and May 12, 2020 is provided in Appendices B-1, B-2. A primer on the rates filing provided to CAP is provided in Appendix B-3.

1.8 Organization of Application

34. This Application includes two main components – Revenue Requirement and Water Tariff. For convenience, this Application is organized under the following main topic headings:

Section	Topic
1	Overview
Part A - Revenue Requirement	
2	Operating Plans
3	Capital Projects
4	Methods and Key Assumptions
5	Operating Costs
6	Deferral Accounts
7	Capital Additions and Rate Base
8	Return on Rate Base
Part B – Water Tariff	
9	Water Tariff

1.9 Notices

35. All notices and communications with respect to this Application should be addressed to the Applicant as follows:

EPCOR Utilities Inc.
 2000 – 10423 – 101 St NW
 Edmonton, Alberta T5H 0E8
 Attention: Camille Jasper-Fabiyi
 Senior Manager, Regulatory

Telephone: (780) 919-4424
 Facsimile: (780) 969-8498
 Email: regulatorywater@epcor.com

EPCOR Utilities Inc.
 2000 – 10423 – 101 St NW
 Edmonton, Alberta T5H 0E8
 Attention: Teresa Crotty-Wong
 Senior Legal Counsel & Ethics Officer

Telephone: (780) 412-3799
 Facsimile: (780) 441-7118
 Email: tcrotty-wong@epcor.com

PART A – REVENUE REQUIREMENT

2.0 SYSTEM OPERATIONS

36. Since 2015, EWW has continued with its assessment of the system's condition to identify upgrades necessary to operate and maintain the Utility to meet leading water utility standards. EWW has successfully completed a number of system upgrades and operational improvements to improve water quality, enhance system reliability and safety, meet regulatory requirements and improve customer service. Among other benefits, these improvements have relieved EWW from relying on water supply from the French Creek water source, which would have required an additional water treatment plant at high cost to customers. Financial Schedules 2.2 and 2.4 to the Application provide a detailed breakdown of the operating and capital expenditures required to finance these activities for the upcoming three year planning period.

37. Operational initiatives and improvements completed during the 2018-2020 test period to ensure efficiency of EWW's processes and procedures are described in section 2.1. Operational initiatives and improvements planned for the 2021-2023 test period are described in section 2.2. Historical and planned capital upgrades are described in section 3.0.

2.1 Operational Programs Completed during 2018-2020

38. EWW continues to ensure its operating processes and procedures meet EPCOR standards for providing water services to its customers. Operational initiatives accomplished during 2018-2020 include:

- continual updating of operating procedures for additional asset protection and safety, such as the procedures for loss of power and communications and confined space entry;
- well performance monitoring to ensure the sustainability of its water supply;
- Water Quality Assurance Program:
 - water quality testing of turbidity, pH, chlorine, iron, manganese and temperature and groundwater sampling and water quality testing (increased frequency and additional parameters beyond regulatory minimums). EWW conducts approximately 5,000 tests per year. The results of EWW's water quality testing are summarized in EWW's annual performance reports, available on its website. Water quality assurance audits are conducted annually by EWW's parent company EWSI.
 - annual reporting of water quality and system upgrades to Vancouver Island Health Authority ("VIHA") to comply with provincial regulations in an open

and transparent process with results reported to customers in an annual performance report posted on EWW's website.

- Optimization and streamlining of uni-directional flushing ("UDF") processes to achieve improvements in water quality with less annual flushing.
- Annual updating of EWW's site-specific Emergency Response Plan;
- Provision of quarterly newsletters, operational updates and water conservation information to customers (mailed with bills). EWW maintains regular communication with its French Creek CAP to provide these groups and their members with operational updates.
- Development of the 2020 French Creek Water System Master Plan Update (the "2020 Master Plan" attached as Appendix C to the Application)
- 2020 ISAT Inspection
- Creation of a Wellhead Protection Plan, covering all of the wells in the EPCOR French Creek System.

39. During 2018-2020, EWW continued to receive administrative, technical and engineering support from EWSI and EUI. EWW benefits from EWSI's expertise in water utility operations, maintenance, safety, training, accounting, operational audit services and regulatory matters.

2.2 2021-2023 Operational Plan

40. To reduce salary and benefits expenses, EWW implemented a number of efficiencies and processes in the management of its utility operations. During the 2021 - 2023 test period, the EWW Operations Manager will provide support to other EWSI sites operated in BC, resulting in salary reallocations and the addition of a part time operator to augment field operations. With this change, EWW is able to provide a more efficient utility operation and is able to pass these cost savings onto their customers.

41. During the 2021-2023 test period, EWW will continue with existing operational programs including its quality assurance program and annual quality assurance audits; annual reporting to VIHA on the Utility's operating performance and water quality; well performance monitoring to ensure the sustainability of its water supply; annual UDF program; annual updating of Emergency Response Plans; quarterly newsletters, operational updates and water conservation information provided to customers; and regular communication with its French Creek CAP.

42. In addition to these continuing operational programs, EWW is planning the following operational initiatives:

- Monitoring and optimization of new wells (ACs1 and TWs1), determining how EWW's water draw is affecting the aquifers; and
- Adjusting water draws based on licensing due to the implementation of the Water Sustainability Act.

3.0 CAPITAL PROGRAMS

43. Capital upgrades completed during the 2018-2020 test period are described in section 3.1 and capital upgrades planned for the 2021-2023 test period are described in section 3.2.

3.1 2018-2020 Capital Programs

3.1.1 Overview

44. During 2018-2020, the focus of EWW's capital program was to continue with annual capital replacement programs, address outstanding well closures and get the remaining new wells (ACs1 and TWs1) into service. ACs1 was put into service in late 2019 and EWW is continuing to work with VIHA to put Church Road (TWs1)) into service. EWW expects this work to be completed by the end of 2020.

45. EWW's forecast capital expenditures for the 2018-2020 test period are summarized in Table 3.1.1-1, below. Actual and forecast capital additions are presented in detail in Financial Schedule 2.4. Actual capital expenditures include amounts related to completed projects noted above and well projects are expected to be completed by the end of 2020. Table 3.1.1-1 categorizes the capital projects into those funded through ratepayers (rate base projects) and those which are fully contributed by developers (contributed projects).

Table 3.1.1-1
EWW Capital Expenditures 2018-2020
(\$ thousands)

Cost Category	A	B	C	D	E	F	G	H
	2018D	2018A	2019D	2019A	2020D	2020F	2018D -2020D	2018A -2020F
1 Total Expenditures – Rate Base	856	617	241	220	189	221	1,286	1,059
2 Total Capital Expenditures – Contributed	(2,004)	(1,949)	(47)	(52)	(48)	(74)	(2,099)	(2,075)
3 Net Capital Expenditures	(1,148)	(1,332)	194	168	141	147	(813)	(1,016)

46. Table 3.1.2-2 below shows the approved projects for the 2018-2020 period and the cost variances.

**Table 3.1.1-2
2018-2020 Projects
Decision to Forecast
(\$ thousands)**

Project		A Decision	B Forecast	C Variance
Capital Projects				
1	New Wells to Support Growth (Well IDs TWs1, TWn1)	290	303	13
2	New Well to Support Growth (Well ID ACs1)	224	226	2
3	Existing Wells - Well Rehabilitation Program (Overhauls)	92	25	(67)
4	Decommissioning Existing Well - Springhill and Oceanside	36	11	(25)
5	Well Licensing as per Water Sustainability Act (ACs1, TWn1, RWn2, RWs1)	40	22	(18)
6	Standby Generator - Oceanside #2 (RWn2)	75	30	(45)
7	Portable Diesel Power Generator (ACs1 & RWN2 Water Wells)	-	38	38
8	Drew Road Pump Station Upgrade	51	19	(32)
9	Printer Replacement	15	-	(15)
10	Total Capital Projects	823	674	(149)
Capital Maintenance Programs				
11	Single Meter Service Connections (contributed)	18	24	6
12	Subdivision – Multi-meter installations (contributed)	123	76	(47)
13	Meter Replacement Program	138	109	(29)
14	Hydrant Replacement Program	184	176	(8)
15	Total Capital Maintenance Programs	463	385	(78)
16	Total Capital Expenditures	1,286	1,059	(227)

3.1.2 Capital Projects from 2018-2020

3.1.2.1 Well Projects (Rows 1-2)

47. The two well projects, rows 1-2 of Table 3.1.1-2, cost \$15 thousand more than forecast.

48. One well is currently waiting source water approval from VIHA. Church Road (TWs1) has been tied into the system and no further work is required to have this well operational.

3.1.2.2 Well Rehabilitation and Well Closure (Rows 3-4)

49. The purpose of well rehabilitation is to maintain the integrity of existing wells and to try to bring the wells back to their original performance. Church Road #3 (ID 13793) and TWn1 (ID 22514) were rehabilitated in 2019. Bosa well is planned for rehabilitation in 2020.

50. Section 9 of the *Groundwater Protection Regulation*⁴ states that a well must be closed if it has not been used in 10 years. The Lorendun well, Imperial well and Springhill well were closed in 2019 pursuant to this Regulation. The closure of the Oceanside well has been scoped and estimated, and the closure is planned for Q3-2020.

3.1.2.3 Well Licensing (Row 5)

51. **Well Licensing as per Water Sustainability Act** – The *Water Sustainability Act*⁵ was brought into force on February 29, 2016 to ensure a sustainable supply of fresh, clean water that meets the needs of B.C. residents. In addition to supporting economic, social and environmental goals, the new legislation promotes better water management, secures the rights of users and protects B.C.’s water resources.

52. EWW has submitted applications for water licenses for all 18 wells in EWW’s system.

3.1.2.4 Standby Generator (Row 6-7)

53. A Portable Diesel Power Generator (DG) is required to run ACS1 and RWN2 Water Wells, when primary power-supply is interrupted. The project consists of providing and installing a 50KVA three-phase 600V portable power generator. This project is a requirement of the Comptroller issued in Order 2519 from the 2018-2020 rates filing.

3.1.2.5 Printer Replacement (Row 9)

54. Rather than purchasing a new printer, EWW decided to lease a new printer. This printer replaces both of the previous printers in the French Creek office and can meet all of the day to day printing requirements, as well as print the water bills.

3.1.2.6 Ongoing Capital Maintenance Programs (Rows 11-16)

55. The Single Meter Service Connections and Subdivision – Multi-meter Installations are both fully contributed programs in which developers pay for new connections. As EWW did not receive as many new connections as forecast, the amounts for these two programs were considerably less than forecast. This is not a program over which EWW has any control, and because all of these new connections are fully contributed, this does not affect rates.

⁴ Groundwater Protection Regulation B.C. Reg 152/2016, June 10, 2016. Retrieved from the Justice Laws website: http://www.bclaws.ca/civix/document/id/complete/statreg/39_2016.

⁵ *Water Sustainability Act*, SBC 2014, c15.

56. Water utilities undertake a number of capital maintenance projects on an annual basis to keep the system operating reliably and efficiently. EWW began its meter replacement program in 2015 and by the end of 2020 will have replaced 600 meters that have reached the end of their 20 year life cycle. The costs for this program were \$29 thousand less than forecast. This is because the actual cost of meters was approximately half of the amount estimated in the 2018-2020 Application. EWW has revised its 2021-2023 forecast based on this information.

57. In the last test period, EWW planned to add 3 hydrants per year to meet the guidelines in the Master Municipal Construction Document (MMDC) Design Guideline Manual. The 2020 Master Plan reviewed the installed hydrants and considered fire protection services available through adjacent neighborhoods. At the end of 2020, there will be 9 hydrants required to meet the MMDC guidelines. Therefore, EWW proposes to add two hydrants per year in the 2021-2023 period. Based on this modified schedule, EWW expects that it will meet the guidelines within 5 years, which is a reasonable timeframe within EWW's regular capital program. EWW determined this schedule would be acceptable as adequate fire protection will still be available while EWW increases the number of hydrants within its territory.

3.2 Capital Programs Planned for 2021-2023

58. EWW's capital plan for the 2021-2023 test period is comprised of the capital projects scheduled for the years 2021, 2022 and 2023, as summarized in Financial Schedule 2.4. EWW's capital plan identifies capital upgrades and improvements to the Utility's infrastructure necessary to meet customer needs. The projects included in EWW's 2021-2023 capital plan are summarized below. The total annual forecast capital additions for each year of the 2021-2023 test period is presented in Financial Schedule 2.4 and is discussed in further detail in section 6.0. The capital justifications for new capital projects are in Appendix D.

59. **Ongoing Capital Maintenance Programs** – As explained in section 3.1, EWW will continue its hydrant replacement program with two hydrants per year to improve the hydrant coverage and align with the Master Municipal Construction Document (MMCD) Design Guideline Manual. EWW forecasts that it will complete the fire hydrant program within five years, which will meet the guidelines within a reasonable timeframe and within EWW's capital program. EWW plans to replace 100 meters per year over the next two years through the Meter Replacement program.

60. **Supply Balance** – EWW's objective is to provide safe and reliable utility service at a reasonable cost. If capacity is overbuilt, or built out too far in advance of growth, costs to customers (including both rate payers and developers) increase. On the other hand, when excess capacity in the system is limited, the likelihood of impeding growth rises.

61. Growth from new development in French Creek has proven challenging to forecast with accuracy. Meanwhile, it is not cost effective to add small amounts of supply over time. For example, drilling larger wells provides better value than drilling smaller wells.

62. Finally, there are timing issues. EWW's experience is that it can take two years or longer to drill new wells. As a result, projects delayed until the 2024-2026 RRA period would likely not be completed until early 2025. This creates the potential for growth to be delayed due to supply limitations in the event that growth is significantly higher than anticipated over the 2021-2023 period.

63. Based on forecast customer growth and current well capacity EWW expects to have sufficient capacity to service new customers until early 2025.

64. Because EWW anticipates that the current level of supply will be sufficient for several more years, there is the opportunity to explore innovative and collaborative solutions with the objective of achieving value for customers. The 2020 Master Plan currently includes \$350 thousand for the bulk Water Connection to the RDN. Negotiations to develop this connection are still in early stages. In the event that growth is higher than projected and additional capital is required to secure additional supply, EWW will pursue the most cost effective solution that meets the needs of the system. If that solution is a project other than the Bulk Water Connection to the RDN, then EWW will advise the Comptroller in advance.

65. These costs are fully allocated to the Deferred Capacity Trust Fund ("DCTF"), so there is no impact on rates. The costs will only be recovered through the DCTF if the assets are placed into service.

66. For clarity, such costs will only be incurred in the event that EWW determines either:

- 1) Additional supply is required within the 2021-2023 period to accommodate higher than expected growth, or
- 2) EWW has been successful at negotiating an agreement to obtain cost effective supply to support future growth and must proceed in an expedient manner to secure the opportunity.

67. **Well Rehabilitation** – The well rehabilitation program will fully rehabilitate three wells over the rate period. Typical rehabilitation includes removal of the pump, video inspection, motor inspection, mechanical cleaning of the casing and screen to remove deposits, and re-development of the screen to remove fines and precipitates trapped behind the screen.

68. **Billing System Upgrade** – This project will look at upgrading the billing software to improve functionality for customers and ensure continued software and user support.

69. **Drew Road Complex Flow Meter Upgrade** – The existing flow meter at the Drew Road complex is reaching end of life and is no longer accurate. The replacement of this meter with a new style of flow meter will require piping modifications.

70. **Booster Pump Station** – The installation of a Booster Pump Station on Church Road (\$473 thousand) is included in the 2020 Master Plan. This project is primarily intended to address existing low pressure issues for existing customers in the Wembley area, but it will also be sized to accommodate some additional development in this area. Based on preliminary analysis, the project is proposed to be 75% rate base funded and 25% developer funded. This work is planned for 2022 and 2023.

71. **Pump House Decommission** – The French Creek pump house and associated infrastructure will be demolished. This structure has been abandoned for several years and will not be put back into service.

72. **Bulk Water Connection to RDN** – A project to install a **Bulk Water Line** (\$349 thousand) between EWW and the Regional District of Nanaimo (“RDN”) is currently being explored to determine feasibility. This project would be 100% developer funded and would see EWW purchasing and treating raw water from the RDN at the Drew Road Water Treatment Plant. A portion of the treated water would be sold back to the RDN for their use. The remaining treated water would be available for future EWW customer use. Preliminary estimates indicate that this project would supply water for an estimated 50-75 new connections. This project would likely be completed during the 2021-2023 period.

73. **Opportunistic End of Life Replacements** – Over the 2021-2023 period, there may be opportunities to replace rather than repair assets that are near end of life or require unusually more frequent repair and maintenance. The intent would be to offset operating costs with the capital expenditure. These instances would be evaluated on a case-by-case basis.

4.0 METHOD AND KEY ASSUMPTIONS

74. The following is an overview of the methods and key assumptions used in developing EWW’s forecast revenue requirement for the 2021-2023 test period.

4.1 Customer Count and Consumption Forecast Process

75. The total consumption volume forecasts are a product of customer count and consumption per customer forecasts. EWW developed a forecast of consumption per customer and customer counts for the purpose of determining its consumption forecast for the 2021-2023 test period. Any variances between the forecast consumption and customer counts and the actual consumption and customer counts are reconciled through the Consumption Deferral Account, as described in section 6.0.

76. EWW's customer count and consumption forecast for the 2021-2023 test period was developed using the historical consumption and customer information for the Utility for the period from 2015 to 2019.

4.1.1 Customer Count Forecast

77. The customer growth forecast was based on historical growth trends, from 2015 to 2019. Based on the average annual growth rate of 0.9%, EWW is forecasting 17 new residential customers for each year in the test period. EWW is forecasting an increase of 2 new commercial customers in 2021, based on current CPCN applications. For 2022 and 2023 EWW is not forecasting any customer growth for multi-residential or commercial customers, consistent with the customer growth over the last five-year period. EWW's forecast customer count for the 2021-2023 test period is provided in Table 4.1.1-1 below. The 2015 to 2019 actuals, and 2020 forecast customer counts are provided for comparison purposes.

**Table 4.1.1-1
EWW Customer Count Forecast
2015-2023**

	A 2015A	B 2016A	C 2017A	D 2018A	E 2019A	F 2020F	G 2021F	H 2022F	I 2023F
Residential									
1 Customer Count	1,707	1,721	1,740	1,772	1,794	1,812	1,828	1,845	1,861
2 Growth		0.8%	1.1%	1.8%	1.2%	1.0%	0.9%	0.9%	0.9%
Multi-Residential									
3 Customer Count	248	248	248	248	253	268	268	268	268
4 Growth		0.0%	0.0%	0.0%	2.0%	5.9%	0.0%	0.0%	0.0%
Commercial									
5 Customer Count	43	43	40	40	41	41	43	43	43
6 Growth		0.0%	-7.0%	0.0%	2.5%	0.0%	4.9%	0.0%	0.0%
Fire Hydrants									
7 Count	153	161	163	163	175	179	181	183	185
8 Growth		5.2%	1.2%	0.0%	7.4%	2.3%	1.1%	1.1%	1.1%
Standpipes									
9 Count	11	8	4	3	3	3	3	3	3
10 Growth		-27.3%	-50.0%	-25.0%	0.0%	0.0%	0.0%	0.0%	0.0%

4.1.2 Consumption per Customer Forecast

78. In its 2018-2020 RRA, EWW used a five-year average as a basis for forecasting consumption per customer. This methodology has resulted in -3.9% variance in forecast versus actual consumption during that time, resulting in a balance in the Consumption Deferral Account. EWW will continue to use a five year average (2015-2019), to calculate consumption per customer in this Application.

**Table 4.1.2-1
EWW Average Consumption per Customer
2017-2023
(Cubic meters per customer per month)**

	A 2015A	B 2016A	C 2017A	D 2018A	E 2019A	F 2020F	G 2021F	H 2022F	I 2023F	J 2015A to 2019A Average
1 Residential	18.6	19.9	19.6	19.3	19.2	19.3	19.3	19.3	19.3	19.3
2 Multi-Residential	16.0	19.8	18.3	18.8	18.9	18.4	18.4	18.4	18.4	18.4
3 Commercial	94.4	101.1	99.3	103.9	114.2	103.1	102.6	102.6	102.6	102.6

4.1.3 Consumption by Rate Class

79. Water consumption over the 2021-2023 test period was determined based on the customer count forecast and the average consumption per customer. The consumption forecast is shown in Table 4.1.3-1 below.

Table 4.1.3-1
EWW Consumption by Rate Class
2018-2023
(Cubic meters)

	A	B	C	D	E	F
	2018A	2019A	2020F	2021F	2022F	2023F
1 Residential	409,657	413,372	419,991	423,829	427,655	431,503
2 Multi-Residential	56,005	57,411	59,066	59,086	59,086	59,086
3 Commercial	49,887	56,172	50,735	52,933	52,933	52,933
4 Total Consumption	515,549	526,955	529,792	535,848	539,673	543,522

4.2 Accounting Policies

80. Since January 1, 2011, EUI has prepared its corporate financial information in accordance with International Financial Reporting Standards (“IFRS”) as required for Canadian publicly accountable enterprises. While EWSI and EWW have implemented IFRS to support the public external financial reporting requirements of its parent company EUI, there are certain IFRS requirements which are not consistent with the accounting treatment historically applied for rate-making and rate-regulated reporting requirements (referred to herein as “regulatory accounting”).

81. The most significant difference between IFRS and regulatory accounting relates to property, plant and equipment, deferral accounts and financial statement disclosure. For example, IFRS does not permit the recording of regulatory deferral accounts but this is accepted practice by rate regulated utilities and their regulators. Consequently, following the implementation of IFRS, EWW now maintains two complete sets of ledgers, one for external IFRS reporting and one for regulatory reporting.

82. EWW prepared its 2020-2023 forecast financial information in accordance with regulatory accounting, which is the previously approved regulatory treatment of assets, liabilities, revenues and expenses. These accounting standards are consistent with those applied by EUI’s other rate-regulated utilities for purposes of preparing regulatory applications.

4.3 Escalation Factors

83. EWW's forecasts of operating costs over the 2021-2023 test period were developed in 2021 dollars. EWW's forecasts for capital costs were developed using 2020 construction costs. These forecasts were then escalated by applying an appropriate escalation factor depending on the type of cost. To minimize the cost to rate payers, EWW did not retain a consultant to determine escalation factors but instead gathered the underlying data and calculated the escalation factors for the 2021-2023 test period internally. EWW prepared the escalation factors using the same data sources as its 2018-2020 Application.

84. Table 4.3-1 below summarizes the escalation factors applied to the forecast amounts.

**Table 4.3-1
Escalation Factors**

Factor	A Source	B 2022	C 2023
1 Wages and Salaries	BC Budget and Fiscal Plan 2020/21 - 2022/23, page 87 Conference Board of Canada	2.70%	2.70%
2 Power	BC Hydro F2020-F2021 Revenue Requirement Exhibit B-11-2	1.20%	1.20%
3 Consumer Price Index	BC Budget and Fiscal Plan 2020/21 - 2022/23, page 87	2.00%	2.00%
4 Capital/Construction*	Conference Board of Canada	1.10%	1.10%

* Construction costs in the 2020 Master Plan were provided in 2020 dollars. The construction escalator of 1.10% was applied for 2021, 2022, and 2023.

85. EWW's proposed escalation factor for wages, salaries and benefit costs is derived from three sources. The Conference Board of Canada (TCBC) forecast of two data series – wages and salaries per employee and average weekly wages and salaries per employee, and the BC Ministry of Finance Budget and Fiscal Plan 2020/21 – 2022/23 (Compensation of Employees/Labour Force).

86. Table 4.3-2 below summarizes the calculation of the proposed escalation factor for wages, salaries and benefit costs.

Table 4.3-2
Annual Forecast Changes in Wages, Salaries, and Benefit Costs

Source		A	B	C	D	E
		2020F	2021F	2022F	2023F	2022-2023 Average
1	TCBC Wage and Salaries	3.0%	2.4%	2.5%	2.5%	2.5%
2	TCBC Avg. Wage and Salaries	4.5%	2.5%	2.6%	2.6%	2.6%
3	BC Ministry of Finance ⁶	2.5%	2.6%	3.0%	2.9%	2.9%
4	Average	3.3%	2.5%	2.7%	2.7%	2.7%

87. The proposed power cost escalation factor is based on BC Hydro’s Fiscal 2020 to Fiscal 2021 Revenue Requirements Application⁷. On page 1, figure 1 BC Hydro forecasts a 2.7% bill increase for 2022, followed by at 0.3% reduction in 2023. EWW has used the average of the 2022 and 2023 bill increase/decrease of 1.2% as the proposed power cost escalation factor over the test period.

88. The escalation factor for all other operating costs, including inter-corporate service costs, is based on the forecast Consumer Price Index (“CPI”) as published in the BC Ministry of Finance Budget and Fiscal Plan 2020/21 – 2022/23.2

89. EWW used a capital/construction cost escalation factor for determining its capital costs. The capital/construction cost escalator was derived from the Conference Board of Canada forecasts of the Implicit Price Deflator, Business Gross Fixed Capital Formation, Non- Residential Structure, for B.C. The Conference Board of Canada provided a forecast of 1.2% for 2022 and 0.9% for 2023. EWW has used the average of the 2022 and 2023 increase of 1.1% to escalate construction costs over the test period.

4.4 Operating Cost Forecasting Process

90. Operating costs for the 2021-2023 test period were forecast with reference to EWW’s 2018 and 2019 actuals and 2020 forecast operating costs. A cost forecast for the 2021 test year was prepared by first using a combination of a “bottom up” approach and a cost trend analysis. The 2021 forecast operating costs were then adjusted, on a cost category by cost category basis, to take into account the impacts of forecast capital-related expenditures (i.e., both capital projects and changes in operating activities) that will occur in each of the subsequent test years to arrive at

⁶ British Columbia Ministry of Finance, “Budget and Fiscal Plan 2020/21 – 2022/23,” February 18, 2020”, page 87. (https://bcbudget.gov.bc.ca/2020/pdf/2020_budget_and_fiscal_plan.pdf) as accessed on July 16, 2020.

⁷ BC Hydro “Fiscal 2020 to Fiscal 2021 Revenue Requirements Application,” filed January 21, 2020, page 1. (https://www.bcuc.com/Documents/Proceedings/2020/DOC_56890_B-11-2-BCH-EvidentiaryUpdate-AppendixA-Correction.pdf) as accessed on July 16, 2020.

forecast costs for those years. Forecast costs for the 2021-2023 test period were prepared in 2021 dollars. Escalation factors were then applied to determine EWW's forecast operating expense for each of the future 2021-2023 test years. The escalation factors are described in section 4.3 above.

4.5 Capital Planning and Capital Cost Forecasting Process

91. EWW follows a comprehensive set of processes for identifying, evaluating, approving and executing capital projects.

92. In 2020, EWW worked with Stantec Consulting Ltd. ("Stantec") to prepare the 2020 Master Plan specifically to identify sustaining capital upgrades and improvements to the utility's infrastructure necessary to meet customer needs. The 2020 Master Plan provides an update of the water system model, current and future supply and demand review and capital plan update including capital project justification and opinion of probable costs. The customer count and consumption forecast discussed in Section 4 was provided to Stantec and used as the basis for the 2020 Master Plan.

93. EWW's capital planning processes reflect the principle that growth pays for growth. In EWW's capital program, summarized in Financial Schedule 2.4, projects are classified as "rate-base" if they address the requirements noted above, "contributed" if they are required for expansion of water system capacity, or "partially-contributed", if required for both. The allocation of capital between rate payers and developers has been determined by Stantec in the 2020 Master Plan.

94. EWW's tariff includes a Contribution in Aid of Future Construction, a one-time fee for applicants for service from outside the boundaries of the utility or from subdivision of existing lots. These fees together with accumulated interest are held in trust in the DCTF and are available to pay for future expansion of the water system's capacity.

95. When a contributed project is completed and placed into service, EWW makes an application for release of funds from the DCTF and, upon approval of the DCTF application, offsets the capital costs of the contributed project with funds accumulated in the DCTF. This process ensures that contributed assets, as well as the portion of partially-contributed assets financed through growth, are excluded from the rate base.

96. Through the process described above, EWW first determined the capital projects required for 2021 to 2023 to support ongoing operations, customer growth and regulatory requirements. Capital cost estimates for each project were provided by local contractors. The escalation factors, as described in section 4.3, were applied to the 2020 amounts to arrive at EWW's capital

expenditure forecast for 2021 to 2023. A more detailed discussion of the capital additions forecast for the 2021-2023 test period is provided in section 7.

4.6 Inter-Corporate Services

97. As a member of the EPCOR group of companies, EWW obtains certain services from EUI and EWSI (referred to as inter-corporate service) which are necessary to enable EWW to carry on business as the owner and operator of the Utility. This structure allows EWW to focus on its core business of water operations and meeting customer needs while reducing administrative and shared-services costs compared to that of a stand-alone utility. Furthermore, this structure allows EWW to benefit both from the extensive experience and expertise that resides within other members of the EPCOR group and from economies of scale and scope that arise from the EPCOR group's inter-corporate services approach to its business operations.

98. The inter-corporate services are provided pursuant to an inter-corporate services agreement between EWW and EWSI, a copy of which is attached as Appendix E-1 to this Application. In return for these services, EWW pays inter-corporate service charges to EWSI in accordance with the terms of the agreement.

99. The inter-corporate service charges are either directly assigned to EWW or determined based on a logical and appropriate allocation methodology. The allocated inter-corporate service charges are in the form of an annual fee, as shown in Financial Schedule 2.3. The allocated inter-corporate charges are described in section 5.4 below and are comprised of (i) the allocated charges to EWW for corporate services provided by EUI and (ii) the allocated charges to EWW for shared support services provided by EWSI. Direct assigned inter-corporate charges for support services provided by EWSI are included in EWW's operating costs if those costs are incurred solely for the benefit of EWW rather than being a shared service cost.

100. EWW's forecast inter-corporate service charges are based on the cost forecasts in EUI's and EWSI's respective 2021 forecasts. Further details on the incremental decreases for inter-corporate service charges for the test period are provided in section 5.4 below.

101. The specific services that are provided by EUI and EWSI and the methodologies used to determine the inter-corporate service charges to EWW are described in detail in Appendices E-2 and E-3.

4.7 Depreciation and Amortization

102. Utility assets are depreciated over the shorter of the assets' physical, technological, commercial or legal lives. The depreciation rates used by EWW in each year are provided in

Financial Schedule 2.5. There have been no changes to the depreciation and amortization policies since the previous rate application.

4.8 Capital Structure and Cost of Capital

103. For the 2021-2023 test period, EWW has prepared its Application maintaining a capital structure of 60% debt and 40% equity as approved by the Comptroller in Order 2528 for the 2018-2020 period. Furthermore, EWW has applied a 100 basis points equity risk premium above the return on equity (“ROE”) of 8.75% set by the BC Utilities Commission (“BCUC”) for the low risk benchmark utility (BCUC Order G-129-168)⁹. This is consistent with the basis for the ROE approved by the Comptroller for EWW for the years 2018 to 2020 in Order 2528.

5.0 OPERATING COSTS

104. Table 5.0-1 below summarizes the forecast operating costs of EWW over the 2021-2023 test period. The 2018 actual, 2019 actual, 2020 decision and 2020 forecast amounts are provided for comparison. A breakdown of forecast operating costs over the 2021-2023 test period is provided in Financial Schedule 2.2.

Table 5.0-1
Operating Costs 2018-2023
(\$ thousands)

Cost Category	A	B	C	D	E	F	G
	2018A	2019A	2020D	2020F	2021F	2022F	2023F
1 Salaries and Benefits	495	498	542	567	583	598	614
2 Power and Other Utilities	61	68	92	70	75	75	76
3 Chemicals	36	31	45	32	32	33	33
4 Operations and Maintenance	192	223	212	193	234	238	243
5 Property Taxes	40	40	44	43	45	46	47
6 Inter-Corporate Service Charges	186	192	192	192	161	163	167
7 Total Operating Costs	1,011	1,053	1,127	1,097	1,129	1,153	1,179
8 Year/year increase from 2020D					0.2%	2.1%	2.3%
9 Increase from 2020D – 2023F							4.6%

105. The increase in total operating costs from the 2020 decision to the 2023 forecast is \$52 thousand. These increase are primarily due to:

- Inflationary increases;
- Changes to staffing requirements; and

⁸ BCUC Order G-129-16. FortisBC Energy Inc. Application for its Common Equity Component and Return on Equity for 2016, August 10, 2016. (<http://www.ordersdecisions.bcuc.com/bcuc/decisions/en/item/169142/index.do>), as accessed on July 16, 2020.

- Higher operations and maintenance costs as EWW is forecasting to complete three studies over the 2021-2023 period.

106. For most of the operating categories, EWW applied the escalators described in section 4.3. Additional changes are explained in the sections that follow. Comparisons between 2018 and 2019 actual amounts and the 2018 and 2019 decision amounts are provided in EWW's Water Utility Annual Reports and Actual Results, attached as Appendices F-2 and F-3.

5.1 Salaries and Benefits

107. The salaries and benefits cost category is comprised of the salaries and benefits associated with EWW's employees as well as direct EWSI support services and EWSI management oversight costs, less cost recoveries related to operations staff time spent on and directly charged to capital projects. Table 5.1-1 provides a breakdown of the full time equivalents (FTE) utilized by EWW.

Table 5.1-1
EWW FTE 2018-2023

	A 2018A	B 2019A	C 2020D	D 2020F	E 2021F	F 2022F	G 2023F
1 BC Based Staff							
2 Operations Mgr.	0.31	0.42	1.00	0.71	0.60	0.60	0.60
3 Lead Hand	1.00	1.00	1.00	1.00	1.00	1.00	1.00
4 Operator	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5 Admin	1.25	1.25	1.25	1.25	1.25	1.25	1.25
6 Casual Operator	-	0.08	-	0.25	0.25	0.25	0.25
7 BC Based Staff	3.56	3.75	4.25	4.21	4.10	4.10	4.10
8 Alberta Based Staff							
9 Sr. Mgr. Support	0.05	0.06	-	0.06	0.22	0.22	0.22
10 EWSI Support Services ⁽¹⁾	0.48	0.29	0.23	0.37	0.23	0.23	0.23
11 Alberta Based Staff	0.53	0.35	0.23	0.43	0.45	0.45	0.45
12 FTE Before Recoveries	4.10	4.10	4.48	4.63	4.55	4.55	4.55
13 Less: Capital Recoveries	(0.22)	(0.10)	(0.19)	(0.07)	(0.11)	(0.11)	(0.11)
14 Total FTE	3.88	4.00	4.29	4.56	4.44	4.44	4.44

(1) EWSI Support Services includes salary costs from EWSI groups including but not limited to SCADA & Controls, Laboratory Services, Quality Assurance, Environmental Management, Maintenance, and Asset Management. These groups are not included in the Inter-Corporate Service Charge, but instead are directly charged to EWW when EWW utilizes the services provided by these groups.

108. This category is increasing by \$41 thousand (7.6%) from the 2020 decision to the 2021 forecast. There are three factors that contribute to this increase (i) an inflationary increase of approximately \$15 thousand, (ii) a reduction in capital recoveries of approximately \$11 thousand, which is a result of the smaller capital program over the 2021-2023 period, and (iii) changes to

EWV's staffing requirements which increase Salaries and Benefits by approximately \$15 thousand.

109. Over the 2018-2020 period EWW has evaluated the level and mix of staffing that is required to efficiently manage its utility operations. This evaluation has resulted in changes to EWW staffing which allow EWW to respond quicker to operational issues, and increase customer responsiveness. The staff changes for the 2021 to 2023 test period include:

- The EWW operations manager position had been reduced from 1 FTE to 0.6 FTE. Over the test period the EWW operations manager will provide support to other EWSI sites operated in BC;
- The reduction in the operations manager position has allowed EWW to add an additional part time operator (0.25 FTE). This position allows EWW to be more responsive operational issue, respond quicker to customer concerns, and provide vacation coverage for existing operators; and
- An increase in senior manager support (0.22 FTE), this support will primarily come from the Sr. Manager Regional Operations, and the Sr. Manager Project Development and Delivery positions located in Alberta. The senior manager support will include but is not limited: to Government liaison activities with the Ministry of Forests, Land, Natural Resource Operations & Rural Development, and the Vancouver Island Health Authority; CAP Committee meetings and presentations; capital project oversight (project management, vendor evaluation, etc.); review and input into operational studies to be completed over the 2021 to 2023 test period; and vacation coverage for the EWW operations manager position.

110. To assist the Comptroller in assessing the reasonableness of its forecast Salaries and Benefits expenses, EWW has prepared Table 5.1-2 – Gross Salaries and Benefits per FTE. This table is a modified version of the table provided to the Comptroller by EWW in the last RRA. This table shows that the Gross Salaries and Benefits per FTE in 2021 is slightly higher (3.7%) than the 2020 decision as approved by the Comptroller in Order 2528. The increase over the 2020 decision is attributable to inflationary increases combined with a slight increase in salary costs related increased senior manager support costs. For 2022 and 2023, EWW has applied the salary escalator described in section 4.3.

Table 5.1-2
Gross Salaries and Benefits per FTE 2018-2023
(\$ thousands)

	A 2018A	B 2019A	C 2020D	D 2020F	E 2021F	F 2022F	G 2023F
1 Salaries & Benefits	495	498	542	567	583	598	614
2 Add: Capital Recoveries	31	12	26	10	15	15	16
3 Gross Salaries & Benefits	526	510	568	578	598	614	630
4 FTE Before Recoveries	4.10	4.10	4.48	4.63	4.55	4.55	4.55
5 Salaries & Benefits / FTE	128	124	127	125	131	135	138
6 Year over Year Increase ⁽¹⁾					3.7%	2.6%	2.6%
7 Average Increase							3.0%

(1) 2021 increase is compared against the 2020 decision.

5.2 Power and Chemical Costs

111. EWW is forecasting a small increase in power costs between 2020 and 2021 as new wells put into service in 2019 & 2020 are utilized. Increases year-over-year for 2021 to 2023 reflect forecast increase in power rates in accordance with the power cost escalation factors as described in section 4.3.

112. EWW is forecasting chemical costs to increase at inflation over the 2021-2023 test period.

5.3 Operations and Maintenance

113. Operations and maintenance expenses are comprised of two general cost categories: (i) Contractor and consultant costs which include costs associated with services provided by engineering consultants to review and consult on water system requirements; and (ii) Other costs which include materials and supplies (i.e., parts for water main breaks, hydrant, valve and meter repairs and the unidirectional flushing program for water mains), travel, rent, insurance, vehicle costs, computer charges, training, office supplies, telephone expenses and capital overhead recoveries.

114. EWW is forecasting approximately \$50 thousand per year in base contractor and consultant costs, which is in-line with actual costs incurred between 2017 and 2019. The base contractor costs include but are not limited to Laboratory Services and Supplies, Treatment and Distribution System Servicing and Repairs and Well Rejuvenation. In addition to the annual base work for contractors and consultants, EWW is planning to complete several studies in the 2021-2023 test period. The costs of the studies identified below have also been included in the Contractor and consultants cost category:

- 1) **Ground Water/System Capacity Study** – This study will look at options to maintain and increase supply capacity for future development in French Creek. EWW has forecast a cost of \$52.5 thousand to complete this study, with 50% allocated to current customers (\$26.3 thousand included in the 2021-2023 test period) and 50% allocated to the future customers as part of the Deferred Capacity Trust Fund.
- 2) **Church Road Main Twinning under Island Highway Study** – This study will look at the options and costs for the installation of a second water main under the Island Highway along Church Road. For existing customers, the installation of this line will increase the reliability of the water system. On the developer side, the new line will be sized to accommodate future development in the area served by the Church Road Reservoir. EWW has forecast a cost of \$31.5 thousand to complete this study, with 50% allocated to current customers (\$15.8 thousand included in the 2021-2023 test) and 50% allocated to the future customers as part of the Deferred Capacity Trust Fund.
- 3) **A Drew Road Reservoir Seismic Stability Study** – This Study will allow for a full seismic inspection of the Drew Road Reservoirs, and develop a plan and cost estimate to mitigate any issues that are identified. EWW has forecast a cost of \$52.5 thousand to complete this study, with 100% allocated to current customers (\$52.5 thousand included in the 2021-2023 test period).

115. The forecast costs of the studies have been spread evenly over the 2021-2023 test period. EWW is forecasting all other operations and maintenance expenses to increase at inflation over the 2021-2023 test period.

5.4 Inter-corporate Service Charges

116. As noted above in section 4.6, inter-corporate service charges are comprised of allocated charges to EWW for corporate services provided by EUI, and allocated charges to EWW for shared services provided by EWSI.

117. The decreases in corporate service charges between the 2020 decision and the test period are primarily attributable to increased growth in EWSI's other operations. During the 2017 to 2020 period total EUI Corporate Services and EWSI Shared Services costs escalated in line with the 2017 to 2020 forecast. Over this same period EWSI's other operations have grown at a faster pace than EWW, this results in a reduction to the percentage of intercorporate service charges allocated to EWW (0.55% to 0.44%).

6.0 DEFERRAL ACCOUNTS AND 2021-2023 RATE RIDER

118. An overview of each of the deferral account balances for 2018-2020 is provided in section 6.1. Section 6.2 summarizes the forecast balances in the deferral accounts as at December 31, 2020 and provides an explanation of the amounts proposed to be refunded through a rate rider credit to customers during the 2021-2023 test period. Section 6.3 includes a discussion of the deferral accounts in place for the 2021-2023 test period.

6.1 Deferral Account Balances for 2018-2020

119. Order 2528 approved four deferral accounts for the 2018-2020 test period:

- Consumption deferral account;
- Property taxes deferral account;
- Interest expense deferral account; and
- Hearing cost deferral account

120. The calculation of each deferral account balance for the years 2018, 2019 and 2020 is shown in Financial Schedules 3.1 and 3.2 and a summary is shown in Table 6.1-1.

Table 6.1-1
Deferral Account Balances and Disposition through 2021-2023 Rate Rider
(\$ thousands)

Deferral Account Balances and Disposition	A	B	C	D	E	F	G
	2017A	2018A	2019A	2020F	2021F	2022F	2023F
1 Deferral Accounts Balance, Beginning of Year	84	(80)	(83)	(184)	(257)	(131)	(44)
Current Year Deferrals							
2 Consumption	(8)	(69)	(81)	(50)	-	-	-
3 Property Taxes	1	(2)	(3)	(1)	-	-	-
4 Interest	(38)	(4)	(10)	(11)	-	-	-
5 Hearing Costs	4	7	-	-	-	-	-
6 Current Year Deferrals	(42)	(67)	(94)	(61)	-	-	-
7 Current Year Carrying Charges	6	(4)	(7)	(12)	(10)	(5)	(1)
8 Amounts Refunded (Recovered) from Rate Rider	(127)	69	(0)	-	136	92	45
9 Deferral Accounts Balance, End of Year	(80)	(83)	(184)	(257)	(131)	(44)	-
10 Carrying Charges Balance, Beginning of Year	6	-	-	-	-	-	-
Current Year Carrying Charges							
11 Mid-Year Deferral Account Balance	2	(81)	(133)	(220)	(194)	(88)	(22)
12 Weighted Average Cost of Debt	5.58%	5.43%	5.27%	5.26%	5.26%	5.22%	5.19%
13 Current Year Carrying Charges	0	(4)	(7)	(12)	(10)	(5)	(1)
14 Amounts to be Refunded through (Recovered from) Rate Rider	(6)	4	7	12	10	5	1
15 Carrying Charges Balance, End of Year	-	-	-	-	-	-	-

121. For the 2018-2020 test period, the differences in the deferral account balances result in a forecast net refund to customers of \$257 thousand at December 31, 2020 (line 9 of Table 6.1-1). This balance is primarily driven by higher than forecast consumption, resulting in a net refund in the Consumption Deferral Account, combined with lower than forecast interest rates resulting in a net refund in the Interest Rate Deferral Account. The 2018-2020 deferral account balances are provided in EWW's 2018 and 2019 Results, which are attached as Appendices F-2 and F-3. Each of the deferral accounts as well as the requirement for an additional rate rider adjustment is explained below.

Consumption Deferral Account

122. A consumption deferral account was continued for the test period 2018-2020 to record the difference in revenues based on forecast consumption volumes approved by the Comptroller in Order 2528 and revenue based on actual consumption volumes. During 2018-2020, EWW's actual consumption volumes were higher, for all years, than the amounts approved in Order 2528.

Property Taxes Deferral Account

123. EWW continued its property taxes deferral account for the period 2018-2020 to record the difference between forecast property taxes approved by the Comptroller in Order 2528 and actual property taxes. During 2018-2020, EWW's actual property taxes were very similar to the amounts approved in Order 2528.

Interest Deferral Account

124. EWW continued its interest deferral account for the period 2018-2020 to record the difference between forecast interest expenses approved by the Comptroller in Order 2528 and actual interest expenses on external and deemed inter-company debt. During 2018-2020, EWW's actual interest charges were lower than the amounts approved in Order 2528.

Hearing Cost Deferral Account

125. EWW established a hearing cost deferral account to record expenses incurred in relation to the 2018-2020 Revenue Requirement and Rates Application. During 2018-2020, EWW incurred \$7 thousand in hearing costs from the last RRA, resulting in a balance owing to EWW of \$7 thousand balance in the hearing cost deferral account as at December 31, 2020.

6.2 Disposition of Charges through 2018 Rate Rider

126. For the 2021-2023 test period, EWW proposes that the total net balance of \$257 thousand in the four deferral accounts, at December 31, 2020, including applicable carrying costs, be refunded to customers through a rate rider for the years 2021 through 2023. EWW has adopted standard utility practices whereby it excludes deferral accounts from the revenue requirement, and utilizes a rate rider for recovery or refund of balances. Carrying costs are applied based on EWW's cost of debt. The disposition of the deferral account balances is presented on line 8 of Table 6.1-1. Associated carrying costs are shown on line 14 of Table 6.1-1.

127. In determining the appropriate time period in which to discharge the deferral account balances, EWW considered the following objectives: (i) recover operating costs as close as possible to the period in which they are incurred; (ii) provide for relatively stable rates; and (iii) minimize the risk and cost to the utility of carrying deferral accounts. In this Application, EWW proposes to refund 50% of the deferral balance in 2021, 34% of the deferral balance in 2022, and 16% of the deferral balance in 2023. This spreading of the refund provides a balance between refunding costs as close as possible to the period in which they are incurred, while maintaining relatively stable rates.

128. Financial Schedule 4.0 provides the calculation of the proposed rate rider effective January 1, 2021 to December 31, 2023 for each rate class.

6.3 Deferral Accounts for the 2021-2023 Test Period

129. In this Application, EWW proposes to continue the four previously approved deferral accounts for the 2021-2023 test period: (i) consumption deferral account; (ii) property taxes deferral account; (iii) interest expense deferral account; and (iv) hearing cost deferral account. EWW proposes to continue to calculate and include carrying costs in its deferral account balances for the 2021-2023 test period. More specifically:

- i) The consumption deferral account will record the difference in revenues associated with variances in customer counts as well variances in consumption volumes, to recognize variances in both the base and in excess of base revenue amounts.
- ii) The property taxes deferral account will record the difference in property taxes between the forecast property taxes and the actual property taxes for each year.
- iii) The interest expense deferral account will record the difference in interest expense between the forecast interest charges and the actual interest charges incurred. The actual interest charges are determined based on the interest rate for EWW at its BBB rating at the date of issuance. This actual interest rate is equal to the sum of

the 20-year Government of Canada rate plus the risk premium for EUI plus the risk premium for EWW (relative to EUI) plus a transaction premium (0.05%). The justification for this interest rate calculation is explained in section 8.3.

- iv) The hearing cost deferral account will record the expenses incurred in relation to a written or oral proceeding for this Application. These expenses include legal fees, stakeholder consultation and other expenses incurred by EWW or the Comptroller as well as any intervener costs that may be approved by the Comptroller for recovery in relation to the regulatory proceeding.

7.0 CAPITAL EXPENDITURES AND RATE BASE

7.1 Capital Expenditures

130. This section describes in further detail EWW's capital projects planned for the 2021-2023 test period and the corresponding annual forecast capital expenditures, summarized in Table 7.1-1 below. Capital expenditures for 2018 actual to 2020 forecast are provided for comparison. A detailed summary of EWW's annual capital expenditures is provided in Financial Schedule 2.4.

Table 7.1-1
EWW Capital Expenditures 2018-2023
(\$ thousands)

	A	B	C	D	E
Project	2018-2020F	2021F	2022F	2023F	2021-2023F
1 Existing Wells - Well Rehabilitation Program (Overhauls)	25	19	20	21	60
2 New Well to Support Growth (Well ID ACs1) – 71% Rate base	160	-	-	-	-
3 Decommissioning Existing Well - Springhill and Oceanside	11	-	-	-	-
4 Well Licensing as per Water Sustainability Act (ACs1, TWn1, RWn2, RWs1)	22	-	-	-	-
5 Standby Generator - Oceanside #2 (RWn2)	30	-	-	-	-
6 Portable Diesel Power Generator (ACs1 & RWN2 Water Wells)	38	-	-	-	-
7 Drew Road Pump Station Upgrade – 9% Rate base	17	-	-	-	-
8 Billing System Upgrade	-	87	-	-	87
9 Drew Road Complex Flow Meter Upgrade	-	-	32	-	32
10 Booster Pump Station – 75% Rate base	-	-	362	-	362
11 Pump House Decommissioning	-	-	15	-	15
12 Meter Replacement Program	109	30	30	-	60
13 Hydrant Replacement Program	176	36	34	40	110
14 Total Expenditures – Rate Base	588	172	494	61	726
15 New Wells to Support Growth (Well IDs TWs1, TWn1) – 100% Contributed	303	-	-	-	-
16 New Well to Support Growth (Well ID ACs1) – 29% Contributed	2	-	-	-	-
17 Drew Road Pump Station Upgrade – 9% Contributed	-	-	-	-	-
18 Booster Pump Station – 25% Contributed	24	-	121	-	121
19 Bulk Water Connection to RDN – 100% Contributed	76	349	-	-	349
20 Single Meter Service Connections – 100% Contributed	303	23	25	26	74
21 Subdivision – Multi-meter Installations – 100% Contributed	66	25	28	27	80
22 Total Capital Expenditures – Contributed	471	397	173	53	624
23 Total Capital Expenditures	1,059	569	667	114	1,350

131. The total forecast for capital expenditures is \$1,350 thousand for the 2021-2023 test period of which \$624 thousand is comprised of contributions and \$726 is for rate base expenditures. As described in section 3.0, EWW’s capital upgrades are required to address system reliability risks, regulatory requirements, system growth, asset protection and cost control, and ongoing capital maintenance requirements.

132. Capital additions planned for the 2021-2023 test period are summarized in Table 7.1-2 below. Capital additions for 2018 actual, 2019 actual and 2020 forecast are provided for comparison. EWW's capital plan for 2021-2023 averages \$242 thousand per year which is a combination of ongoing capital maintenance, and system reliability projects. This is a slight decrease from the average capital additions over the 2018-2020 period of \$452 thousand per year.

Table 7.1-2
EWW Capital Additions
2018-2023
(\$ thousands)

Cost Category	A 2018-2020F	B 2021F	C 2022F	D 2023F	E 2021-2023F
1 Source of Supply	2,828	368	20	21	409
2 Water Treatment Plant	-	-	-	-	-
3 Pumping Plant	150	-	483	-	483
4 General Plant	67	87	15	-	102
5 Transmission & Distribution Plant	385	114	148	93	355
6 Capital Additions	3,430	569	667	114	1,350
7 CIAC	(2,075)	(397)	(173)	(53)	(624)
8 Capital Additions, net CIAC	1,355	172	494	61	726

7.2 Depreciation

133. EWW's depreciation expense is summarized in Table 7.2-1 below. The detailed calculation of EWW's depreciation expense is provided in Financial Schedule 2.5. EWW's utility assets continue to be depreciated over the shortest of the assets' physical, technological, commercial or legal lives.

Table 7.2-1
Depreciation
2018-2023
(\$ thousands)

Cost Category	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F
1 Depreciation	300	315	317	329	347	360
2 CIAC Amortization	(130)	(156)	(158)	(164)	(171)	(173)
3 Net Depreciation	170	159	159	165	177	186

7.3 Working Capital

134. Forecast working capital requirements are based on the expected timing of EWW's cash flows and represent 45 days of operating expenses. A summary of EWW's working capital

allowance is provided in Table 7.3-1 below. The detailed calculation of EWW's working capital is shown in Financial Schedule 2.6.

Table 7.3-1
Working Capital Allowance
2018-2023
(\$ thousands)

Cost Category	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F
1 Total Operating Expenses	1,011	1,053	1,097	1,129	1,153	1,179
2 Less: Intercorporate Service Charges	(186)	(192)	(192)	(161)	(163)	(167)
3 Less: Municipal Taxes	(40)	(40)	(43)	(45)	(46)	(47)
4 Total Eligible Expenses	785	821	862	924	945	966
5 Total Working Capital Allowance (Line 4 x 45/365)	97	101	106	114	116	119

7.4 Rate Base

135. EWW's net rate base is summarized in the Table 7.4-1 below. The detailed calculation of EWW's net rate base is provided in Financial Schedule 2.6.

Table 7.4-1
Net Rate Base
2018 - 2023
(\$ thousands)

Cost Category	A 2018A	B 2019A	C 2020F	D 2021F	E 2022F	F 2023F
1 Mid-Year Gross Property, Plant & Equipment	11,405	13,009	13,229	13,624	14,242	14,633
2 Less: Mid-Year Accumulated Depreciation	(1,790)	(2,097)	(2,413)	(2,737)	(3,075)	(3,428)
3 Mid-Year Net Property, Plant & Equipment	9,615	10,912	10,816	10,888	11,167	11,204
4 Add: Working Capital Allowance	97	101	106	114	116	119
5 Mid-Year Rate Base	9,712	11,013	10,922	11,002	11,284	11,324
6 Less: Mid-Year CIAC, Net of Accumulated Amortization	(4,652)	(5,510)	(5,414)	(5,486)	(5,604)	(5,546)
7 Net Rate Base	5,059	5,503	5,508	5,515	5,680	5,778

136. EWW's net rate base is forecast to remain fairly stable over 2021-2023 test period, with forecast increase of \$270 thousand over the period.

8.0 RETURN ON RATE BASE

8.1 Capital Structure

137. For the 2021-2023 test period, EWW is proposing no change to the capital structure approved by the BC Comptroller in Decision 2528. EWW proposes the common equity ratio

remain at 40% and an equity risk premium of 1% (100 basis points) above the return on equity (“ROE”) of 8.75% adopted by the BC Utilities Commission (“BCUC”) for the low risk benchmark utility, FortisBC Energy Inc. in Order G-129-16.⁹

138. EWW reflects new debt issuances through deemed inter-company loans from its parent company, EUI. The cost of debt for this inter-company loan is described in section 8.3.

139. To maintain its capital structure at 60% debt and 40% equity and to meet its capital expenditure needs, EWW requires an increase of \$161 thousand in deemed intercompany debt over the 2021-2023 test period. EWW’s debt schedule is provided in Financial Schedule 2.7.

8.2 Rate of Return on Equity

140. EWW has applied a 100 basis points equity risk premium, as approved by the Comptroller in Order 2528, above the ROE for 2016 set by the BCUC for the low risk benchmark utility (BCUC Order G-129-16)¹⁰.

8.3 Cost of Debt

141. EWW reflects new debt issuances from EUI through deemed inter-company loans. The cost of inter-company debt for EWW is determined to be equal to the long-term cost of debt applicable to its parent company, EUI (rated A(low) by DBRS and A- by Standard & Poor’s) plus an EWW risk premium (based on a BBB rated company) and a transaction premium. The cost of inter-company debt and use of the BBB rating to determine EWW’s risk premium was approved as part of Order 2528. The weighted average cost of debt is summarized in Table 8.3-1 below.

Table 8.3-1
Average Cost of Debt
2018-2023

	A 2018A	B 2019A	C 2020D	D 2020F	E 2021F	F 2022F	G 2023F
1 Average Cost of Debt	5.43%	5.27%	5.36%	5.27%	5.26%	5.22%	5.20%

⁹ BCUC Order G-129-16. FortisBC Energy Inc. Application for its Common Equity Component and Return on Equity for 2016, August 10, 2016. (<http://www.ordersdecisions.bcuc.com/bcuc/decisions/en/item/169142/index.do>), as accessed on July 16, 2020.

142. The cost of debt in the table above reflects the average of the cost of debt for prior years' debt issuances and a forecast cost of debt for new issues of inter-company debt based on published long term bond yields and spreads as of April 20, 2020. On this basis, EWW forecasts cost of new debt issues of 3.58% for 2020, and 3.79% for 2021-2023. These forecasts are based on the following:

- 30 year Government of Canada (“GOC”) bond benchmark yield of 1.28% in 2020, 1.49%, in 2021-2023; plus
- EUI’s cost of a new 30-year debt issue spread of 1.80% above GOC bond yields;
- A risk premium for EWW of 0.45% over EUI cost of debt; plus
- A transaction cost of 0.05%.

143. The EWW risk premium of 0.45% represents the spread between the cost of a new 30-year debt issue of EUI and the cost of the same issue to a BBB rated company.

144. As indicated in section 6.3 above, EWW proposes to continue the interest expense deferral account for the 2021-2023 test period to reflect the differences between forecast and actual interest rates.

8.4 Weighted Average Cost of Capital

145. Based on the above, EWW’s forecast weighted average cost of capital reflected in this Application is 7.04% for 2021 to 2023. This translates into a forecast return on rate base of \$389 thousand, \$399 thousand and \$405 thousand for 2021, 2022 and 2023 respectively, as shown in Table 8.4-1 below.

Table 8.4-1
Return on Mid-Year Rate
Base 2018-2023
(\$ thousands)

	A 2018A	B 2019A	C 2020D	D 2020F	E 2021F	F 2022F	G 2023F
1 Debt	165	174	185	174	174	178	180
2 Equity	306	247	224	191	215	222	225
3 Total	470	421	408	364	389	399	405

146. Further details of EWW’s forecast weighted average cost of capital and return on rate base are provided in Financial Schedule 2.6.

PART B – WATER TARIFF**9.0 WATER TARIFF**

147. The proposed Water Tariff for EWW is attached as Schedule B-1. EWW requests approval of the following changes to the Water Tariff:

- (i) Changes to the Price Schedules as noted in section 9.1 below.

148. A black-lined version of the Water Tariff noting all of the proposed changes is attached as Schedule B-2.

9.1 Price Schedules

149. EWW has revised its Price Schedules to reflect the following:

- (i) changes to reflect the proposed increases in the Water Rates as noted in section 1.2 of the Application.

EPCOR WATER (WEST) INC.

#10-D 1343 Alberni Highway

Pine Tree Centre

Parksville, BC V9P 2B9

WATER RATES 2021**METERED RATES****Residential Units – Monthly Charge**

First 12 cubic meters plus.....	\$43.45
Rate rider.....	(\$3.48)
For each cubic meter between 12 and 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.15) per cubic meter
For each cubic meter over 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.15) per cubic meter

Multi-Residential Units – Monthly Charge per Unit

First 12 cubic meters plus.....	\$39.53
Rate rider.....	(\$3.17)
For each cubic meter between 12 and 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.15) per cubic meter
For each cubic meter over 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.15) per cubic meter

Commercial Units – Monthly Charge

First 12 cubic meters plus.....	\$38.39
Rate rider.....	(\$3.07)
For each cubic meter between 12 and 75 cubic meters	\$0.96 per cubic meter
Rate rider.....	(\$0.08) per cubic meter
For each cubic meter over 75 cubic meters	\$0.96 per cubic meter
Rate rider.....	(\$0.08) per cubic meter

NON-METERED RATES**Residential, Multi-Residential & Commercial Service – Monthly Charge**

Monthly Flat Rate Charge - Residential	\$43.45
Monthly Flat Rate Charge - Multi-Residential.....	\$39.53
Monthly Flat Rate Charge - Commercial	\$38.39

WATER SERVICE CONNECTION CHARGES

Connection Charge	At Cost
Connection of Customer's Service Pipe to Existing Curb Stop	At Cost

CONTRIBUTION IN AID OF FUTURE CONSTRUCTION *

For each unit qualifying as Authorized Premises	\$21,600
---	----------

FIRE HYDRANT AND STANDPIPE RATES

Hydrants, per hydrant, per annum.....	\$582.84
Rate rider, per hydrant, per annum.....	(\$46.67)
Standpipes, per standpipe, per annum.....	\$233.14
Rate rider, per standpipe, per annum.....	(\$18.67)

AVAILABILITY OF SERVICE CHARGE PER RENT CHARGE AGREEMENTS

Annual Charge	\$365.01 per annum
---------------------	--------------------

Effective Date:

In accordance with Water Tariff accepted for filing by the Comptroller of Water Rights

* EPCOR Water (West) Inc. will apply for changes to the Contribution In Aid of Future Construction charge by way of a separate application to the Comptroller of Water Rights.

EPCOR WATER (WEST) INC.

#10-D 1343 Alberni Highway
Pine Tree Centre
Parksville, BC V9P 2B9

WATER RATES 2022**METERED RATES****Residential Units – Monthly Charge**

First 12 cubic meters plus.....	\$43.45
Rate rider.....	(\$2.35)
For each cubic meter between 12 and 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.10) per cubic meter
For each cubic meter over 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.10) per cubic meter

Multi-Residential Units – Monthly Charge per Unit

First 12 cubic meters plus.....	\$39.53
Rate rider.....	(\$2.14)
For each cubic meter between 12 and 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.10) per cubic meter
For each cubic meter over 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.10) per cubic meter

Commercial Units – Monthly Charge

First 12 cubic meters plus.....	\$38.39
Rate rider.....	(\$2.07)
For each cubic meter between 12 and 75 cubic meters	\$0.96 per cubic meter
Rate rider.....	(\$0.05) per cubic meter
For each cubic meter over 75 cubic meters	\$0.96 per cubic meter
Rate rider.....	(\$0.05) per cubic meter

NON-METERED RATES**Residential, Multi-Residential & Commercial Service – Monthly Charge**

Monthly Flat Rate Charge - Residential	\$43.45
Monthly Flat Rate Charge - Multi-Residential.....	\$39.53
Monthly Flat Rate Charge - Commercial	\$38.39

WATER SERVICE CONNECTION CHARGES

Connection Charge	At Cost
Connection of Customer's Service Pipe to Existing Curb Stop	At Cost

CONTRIBUTION IN AID OF FUTURE CONSTRUCTION *

For each unit qualifying as Authorized Premises	\$22,000
---	----------

FIRE HYDRANT AND STANDPIPE RATES

Hydrants, per hydrant, per annum.....	\$582.84
Rate rider, per hydrant, per annum.....	(\$31.49)
Standpipes, per standpipe, per annum.....	\$233.14
Rate rider, per standpipe, per annum.....	(\$12.59)

AVAILABILITY OF SERVICE CHARGE PER RENT CHARGE AGREEMENTS

Annual Charge	\$365.01 per annum
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Effective Date:

In accordance with Water Tariff accepted for filing by the Comptroller of Water Rights

* EPCOR Water (West) Inc. will apply for changes to the Contribution In Aid of Future Construction charge by way of a separate application to the Comptroller of Water Rights.

EPCOR WATER (WEST) INC.

#10-D 1343 Alberni Highway
Pine Tree Centre
Parksville, BC V9P 2B9

WATER RATES 2023**METERED RATES****Residential Units – Monthly Charge**

First 12 cubic meters plus.....	\$43.45
Rate rider.....	(\$1.13)
For each cubic meter between 12 and 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.05) per cubic meter
For each cubic meter over 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.05) per cubic meter

Multi-Residential Units – Monthly Charge per Unit

First 12 cubic meters plus.....	\$39.53
Rate rider.....	(\$1.03)
For each cubic meter between 12 and 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.05) per cubic meter
For each cubic meter over 75 cubic meters	\$1.93 per cubic meter
Rate rider.....	(\$0.05) per cubic meter

Commercial Units – Monthly Charge

First 12 cubic meters plus.....	\$38.39
Rate rider.....	(\$1.00)
For each cubic meter between 12 and 75 cubic meters	\$0.96 per cubic meter
Rate rider.....	(\$0.02) per cubic meter
For each cubic meter over 75 cubic meters	\$0.96 per cubic meter
Rate rider.....	(\$0.02) per cubic meter

NON-METERED RATES**Residential, Multi-Residential & Commercial Service – Monthly Charge**

Monthly Flat Rate Charge - Residential	\$43.45
Monthly Flat Rate Charge - Multi-Residential.....	\$39.53
Monthly Flat Rate Charge - Commercial	\$38.39

WATER SERVICE CONNECTION CHARGES

Connection Charge	At Cost
Connection of Customer's Service Pipe to Existing Curb Stop	At Cost

CONTRIBUTION IN AID OF FUTURE CONSTRUCTION *

For each unit qualifying as Authorized Premises	\$22,500
---	----------

FIRE HYDRANT AND STANDPIPE RATES

Hydrants, per hydrant, per annum.....	\$582.84
Rate rider, per hydrant, per annum.....	(\$15.16)
Standpipes, per standpipe, per annum.....	\$233.14
Rate rider, per standpipe, per annum.....	(\$6.06)

AVAILABILITY OF SERVICE CHARGE PER RENT CHARGE AGREEMENTS

Annual Charge	\$365.01 per annum
---------------------	--------------------

Effective Date:

In accordance with Water Tariff accepted for filing by the Comptroller of Water Rights

* EPCOR Water (West) Inc. will apply for changes to the Contribution In Aid of Future Construction charge by way of a separate application to the Comptroller of Water Rights.

WATER UTILITY ACT
WATER TARIFF NO. 6
RATES AND TERMS AND CONDITIONS
For
WATER SERVICE
Near
PARKSVILLE, BRITISH COLUMBIA
By
EPCOR WATER (WEST) INC.
10-D 1343 Alberni Highway
Parksville, British Columbia
V9P 2B9

Contact Person(s)

Eric Taylor, Service Manager
EPCOR Water (West) Inc.

This Tariff is available for public inspection between the hours of
8:30 am and 4:30 pm on business days at:

#10-D 1343 Alberni Highway
Pine Tree Centre
Parksville, British Columbia

Accepted for Filing by the
Comptroller of Water Rights

Effective: [●]

Secretary to the Comptroller

Copies of this Tariff may be purchased at the above address at a cost of \$9.50 per copy or may be viewed online at no charge at www.epcor.com/frenchcreek

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DEFINITIONS

In this Tariff the following definitions shall apply:

- (a) “Authorized Premises” means Premises which are entitled to, and authorized for, service in accordance with the Certificates of Public Convenience and Necessity for the Utility.
- (b) “Complex” means a structure, including an apartment or condominium, that contains more than one Unit and includes mobile home parks, campgrounds, recreation centres, golf courses, cemeteries, hospitals, and farms.
- (c) "Comptroller" means the Comptroller of Water Rights under the *Water Act*, RSBC 1996, chapter 483 and includes any Person designated in writing by the minister as acting, deputy or assistant comptroller.
- (d) "Customer" means any Person who is the owner or lessee of an Authorized Premises and whose application for Water Service has been accepted by the Utility and includes any other Person who has been or is a user of Water Services supplied by the Utility and may include a developer, contractor or other Person depending on the context.
- (e) “Force Majeure” means events or circumstances not reasonably within the control of the Utility, including acts of God, strikes, lockouts or other industrial disturbances, acts of the Queen’s enemies, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, tsunamis, fires, storms, floods, high water, washouts, inclement weather, orders or acts of civil or military authorities, orders or acts of public health authorities, civil disturbances, explosions, breakdowns or accidents of equipment, mechanical breakdowns, intervention of federal, provincial or local governments or any of their respective agencies or boards, the order or direction of any court, and any other cause, whether of the kind enumerated herein or otherwise, provided that lack of funds shall not constitute a circumstance not reasonably within the control of the Utility.
- (f) “Person” includes a corporation and the heirs, executors, administrators or other legal representatives of a person.
- (g) “Plumbing Code” means the British Columbia Plumbing Code, as in effect from time to time.
- (h) “Premises” means land and any buildings and other structures thereon.
- (i) “Rates” means the prices to be paid by a Customer for Water Service provided to the Customer, as prescribed in the Schedules attached to this Tariff.
- (j) “Single Family Residential Equivalent” means and includes a single family dwelling unit intended for the use or occupancy by one or more individuals as a non-profit household, and includes a townhouse and side-by-side duplex up to 3 bedrooms per unit.
- (k) “Unit” means a unit of accommodation occupied, or to be occupied, separately by a Customer and, without restricting the generality of the foregoing, includes the separate units of accommodation in all dwellings.

- (l) “Utility” means EPCOR Water (West) Inc.
- (m) “Waterworks” means the waterworks of the Utility, including without limitation the plant, pipes, equipment, apparatus, appliances, fixtures, property and facilities employed to provide, or in connection with providing, the supply of water to the property line of Customers’ Premises.
- (n) "Water Service" or “Water Services” includes, but is not limited to, the supply of water provided by the Utility to the Customer and the plant, pipes, equipment, apparatus, appliances, fixtures, property and facilities employed to provide, or in connection with providing, such supply to the property line of the Customer’s Premises, and may also include meter-reading and billing.

TERMS AND CONDITIONS**A. Connection of Water Service****1. Application for New Water Service Connections**

Applications for new Water Service shall be made at the office of the Utility by the owner or lessee of the Premises for which Water Service is required, or by a duly authorized agent thereof.

All applicant(s) must use the form provided by the Utility and must truthfully disclose:

- (a) the full name of the applicant(s);
- (b) the full name and current address of the Premises owner;
- (c) a detailed description of the intended water use, as determined and evaluated by the Utility or its authorized agent in its sole discretion; and
- (d) the legal description and street address of the Premises to be supplied.

Where the applicant is not the owner of the Premises for which the Water Service is requested, written authorization from the owner of the property for the installation of a new Water Service connection must be provided.

The application must bear the legal signature of each applicant before it shall be considered by the Utility.

2. Service Connection Applications

The Utility shall determine the terms and conditions under which a new Water Service connection shall be provided. The Utility reserves the right to refuse the application if the terms and conditions are not met.

3. Security Deposit Requirement

As a condition precedent to the granting or renewal of Water Service, the Utility may require an applicant, either for Water Service or for a renewal of Water Service, to enter into a written agreement with and/or provide monetary or other security to the Utility, not to exceed the estimated charges for providing Water Service for two billing periods.

4. Water Service Connection to Mains

Water Service connections will be made only to Premises fronting on a gazetted road or highway along which a water distribution main is in place.

5. Water Service Connection Location

If a Premises abuts on two separate streets or roads, the Water Service connection shall be made from the street or road that any building faces or will face when constructed or from the street or road used for the building's municipal address.

If a building has not been constructed on, and a municipal address has not been established for, a Premises, the property line having the shortest length adjacent to a street or road will be the location in which a Water Service connection is provided.

Water Service connections will not be permitted into a panhandle access to a lot, if the lot also has a frontage on another gazetted road.

6. Customer's Pipes and Fixtures

The Customer is responsible for the installation and maintenance of the Customer's waterworks, including pipes and fixtures, within the boundaries of the Premises being serviced from the Customer side of the meter, including the service connection to the meter, unless the Utility and the Customer otherwise agree in writing. All service connection materials (including all service pipes and other fixtures) installed within the Customer's Premises must comply with the Plumbing Code. The Customer's waterworks remain the sole responsibility of the Customer.

No service pipes or fixtures on the Premises shall be covered until they have been inspected and approved by the municipal plumbing or building inspector or other appropriate authority and the Utility shall not turn on the water until it is satisfied that they have been inspected and approved.

7. Installation of Pressure Regulating Devices

At the expense of the Customer, pressure regulating devices shall be installed pursuant to the Plumbing Code in order to reduce the pressure of the Water Service within the Customer's Premises and to protect the waterworks of the Customer.

8. Size of Distribution Main for Service Connection

The minimum permissible size or diameter of all new water distribution mains shall be one hundred fifty (150) millimeters (six (6) inches) except within a cul-de-sac or other dead end termination where future extensions are precluded, where a one hundred (100) millimeters (four (4) inch) diameter pipe may be used. Where a fire hydrant is located on such a branch the portion of the pipe supplying the hydrant shall be a minimum 6" diameter.

9. Metering of New Water Service Connections

All new Water Service connections must be metered.

10. Size of Supply Pipe to Property

The minimum size of pipe that may be used to serve any one Premises shall be nineteen (19) millimeters (three quarters (0.75) of one inch) nominal diameter.

11. Depth of Service Pipes on Property

All waterworks within the boundaries of the Premises to be serviced must be situated below the maximum depth of frost penetration and, in any event, below ground surface at a minimum depth of sixty (60) centimeters (two (2) feet).

12. Connection Policy for Individual Units and Complexes

- (a) Each Unit on a Premises with a single structure that contains four (4) or fewer Units must have a separate metered Water Service connection.
- (b) Complexes may have either a single metered Water Service connection to serve the entire Complex, or at the request of the owner(s) and with the agreement of the Utility, more than one metered Water Service connection.

13. Water Service Connection Where No Main Exists

If an application is made for Water Service connection for a Premises and no water distribution main fronts the Premises, the Water Main Extension Rules set out in Section F of these Terms and Conditions will apply.

14. Applicable Charges and Payment for a New Water Service Connection

At the time an application is approved for Water Service to a Premises:

- (a) that fronts on a gazetted road or highway in which a water distribution main is in place;
- (b) from which the Water Service connection will be made; and
- (c) which has not previously been connected for Water Service;

the applicable charge prescribed in Schedule A of this Tariff shall apply and the charge must be paid in full by the Customer or an agent or representative thereof, prior to the commencement of any work by the Utility. In those cases where the Water Service connection will be provided at cost, the provisions of Subsections 17 and 18 of this Section A will apply.

15. Additional Costs and Expenditures for a Water Service Connection

The specific connection charges prescribed in Schedule A of this Tariff are for a maximum length of twenty (20) meters (sixty six (66) feet) of service pipe and, where necessary, for crossing a paved roadway not more than seven (7) meters (twenty three (23) feet) wide, but do not include the cost of boring under a paved area or replacing pavement if it is necessary to cut an open ditch through the paved area.

The Customer shall pay all additional costs for boring under pavement, or attempts to bore under pavement, for cutting and repairing pavement where it is deemed necessary by the Utility and for drilling and blasting rock where these procedures are required during the installation of the Water Service line.

16. Responsibility for Costs

In those cases where the Utility provides work or service to the Customer not covered by a specific charge or fee prescribed in Schedule A or another Schedule of this Tariff, the Customer shall pay any and all costs of the work or service as determined by the Utility as provided in Section 2 of Schedule H of this Tariff.

17. Payment Procedure for Costs and Expenditures

Where Schedule A of this Tariff provides that a Water Service connection will be provided at the Utility's cost, the Utility shall provide the Customer with a written estimate of the total cost of the connection, which shall include any and all connection and application charges. Upon receipt of such estimate, and prior to the commencement of any work, the Customer shall make an advance payment to the Utility of the full amount estimated.

18. Reconciliation of Advance Payment and Actual Costs for Connections

The Utility shall provide the Customer with a detailed calculation of the actual total cost of the Water Service connection.

Where the total cost of the Water Service connection, including the applicable connection and application charges, is less than the advance payment deposited with the Utility, the Utility will refund the difference, without interest, to the Customer.

Where the total cost of the Water Service connection, including the applicable connection and application charge, exceeds the advance payment deposited with the Utility, the Utility will bill the Customer for the difference and the Customer will pay the invoice immediately upon receipt. The Utility will not be required to turn on the Water Service until the invoice is paid in full.

19. Misrepresentation

Any misrepresentation on the part of the Customer shall be considered sufficient grounds for refusal to provide Water Service, or if the Water Service has already been connected, sufficient grounds to discontinue all Water Service without notice.

If Water Service is disconnected, no Water Service shall be reconnected without provision of a security deposit in an amount as determined by the Utility, not to exceed the estimated charges for providing Water Service for two billing periods. The security deposit will be held by the Utility until such time as the Customer no longer requires Water Service. A service charge as prescribed in Schedule H of this Tariff must also be paid before Water Service will be reconnected.

20. Rejection of Water Service Connection Application

The Utility shall have the right to decline an application for the installation of a Water Service connection where the Regional District of Nanaimo, British Columbia or another approving authority will not permit the cutting of pavement and solid or blast rock or other impediment, in the opinion of the Utility, makes boring impractical and/or impossible.

21. Renovation of Premises

If the renovation of Premises with an existing Water Service connection involves significant change to water use on the Premises, then the Utility may require a new Water Service connection to be provided and the applicable costs charged to the Customer as provided in Section 2 of Schedule H of this Tariff.

22. Ownership of Waterworks Assets

The Waterworks, and the plant, pipes, equipment, apparatus, appliances, fixtures, property and facilities and all of the other assets comprising the Waterworks of every nature and kind (whether constructed at the Customer's expense or the Utility's expense) shall be and remain the property of the Utility.

B. Water Meters**1. Supply, Installation and Maintenance of Water Meters**

Except as otherwise provided in this Subsection 1 of this Section B, the Utility shall, at the cost of the Customer, supply, install and maintain the water meter in accordance with industry standards, American Waterworks Association (AWWA) specifications and these Terms and Conditions.

The Utility reserves the right to require that a project developer supply and install the water meter(s) for the project. The water meter requirements are as follows:

- (a) the requirements of Subsection 12 of Section A will apply;
- (b) the brand of water meter must be approved by the Utility;
- (c) the water meters are to register in cubic meter and be supplied with a remote readout or touch read pad as prescribed by the Utility;
- (d) the remote readout or touch read pad must be accessible by the meter reader; and
- (e) the water meter shall become and remain the property of the Utility.

2. Location of Water Meter

The water meter shall be set and placed approximately thirty (30) centimeters (twelve (12) inches) outside the property line of the Premises to which Water Service is to be delivered, not within the driveway and at the finished grade elevation, provided that the Utility can make exceptions as is deemed necessary. The Utility reserves the right to specify where the water meter must be installed.

3. Water Meter Connections

Unless expressly agreed otherwise, the Utility shall install the water meter and appurtenances to the Utility's Waterworks. Installation of water meters by the Utility will be in accordance with the Plumbing Code and manufacturer's requirements.

4. Defective or Inaccurate Water Meters

In cases where a water meter either fails to register or does not properly indicate the flow of water, the provisions for estimating water consumption under Subsection 8 of Section D will apply.

5. Willful Interference with a Water Meter

No Person, who is not an authorized agent or employee of the Utility, shall make any connections with, tamper with, or willfully alter, or cause to be altered, any of the Utility's Waterworks within any street or land or within the Utility's rights-of-way or property or any water meter placed upon any service pipe or connection therewith, within or without any

house, building, or other place or structure, so as to lessen or alter the amount and/or flow of water registered, unless specifically authorized by the Utility for that particular purpose and occasion.

6. Damage to Water Meter

If a water meter is lost, damaged or destroyed, the Customer shall pay for the cost of meter replacement or meter removal, repair or reinstallation.

C. Integrity of Waterworks System**1. Cross-Connections Creating a Potential Hazard for Contamination**

The Customer shall not permit the waterworks on the Customer's Premises to be connected to any source of water other than that of the Utility or to any potential source of contamination. In any event, the Customer shall notify the Utility without delay of any contamination that is discovered.

In addition to any other requirements of the Utility, if a mechanism to prevent back-flow is necessary to comply with the Plumbing Code to inhibit the entry of contaminants into the Utility's Waterworks, it shall be installed at the Customer's expense and must be of a design approved by the Utility.

2. Maintenance of Back-flow Prevention Devices

Any device installed for the purpose of controlling back-flow shall become the responsibility of the Customer, who must ensure that the device remains in proper working order.

3. Annual Testing of Back-flow Prevention Devices

Any Customer for whom a back-flow prevention device is installed, shall ensure it is tested and in working order at the time of installation, and tested at least once per annum (every 12 months) by a certified tester of such mechanisms, pursuant to the Plumbing Code. If the back-flow prevention device does not pass inspection, it must be repaired or replaced within seven (7) days and be re-inspected at the Customer's expense.

All test results, including descriptions of any repairs, must be reported on a Back-flow Prevention Test Report Form obtained from the Utility. The form provides information for registration and maintenance in the Back-flow Prevention Cross Connection Control Data Base program used by the Utility to track and monitor annual testing of the devices. No other test report forms will be accepted by the Utility. The completed test report forms shall be returned to the Utility within 30 days after the inspection is completed.

4. Contamination of the Waterworks System

Where, in the opinion of the Utility, any condition is found to exist which is contaminating or may contaminate the Waterworks, the Utility, at its discretion, may take one or more of the following actions:

- (a) give notice to the Customer requiring correction of the fault within a specified time period;
- (b) require installation of a back-flow prevention device on any pipe, at the Customer's expense;
- (c) discontinue any Water Service until such time that the condition is corrected;
- (d) perform emergency repairs, maintenance or operations that the Utility deems necessary at the Customer's expense.

5. Responsibility for Correcting Contamination

Should the Customer responsible for the Premises fail to comply with any notice given pursuant to this Tariff concerning potential contamination, the Utility may suspend or discontinue all Water Service provided by the Utility to the Premises which are contaminating or may, in the sole opinion of the Utility, contaminate the Waterworks.

6. Provision for Back-flow Prevention for Lawn and/or Garden Sprinklers

Each and every lawn and/or garden sprinkler installation must be protected with an approved back-flow prevention device, with the minimum being the double check valve assembly, to prevent water from siphoning back into the Utility's Waterworks.

7. Misuse of Water Supply

No Person shall sell or dispose of any water supplied to a Premises for which a Water Service connection has been provided, or permit same to be carried away or used, or use water supplied to the Premises, or allow it to be used on a Premises, other than the property for which the Water Service connection has been provided.

8. Work to be Done by the Utility

No Person, who is not an agent or employee of the Utility, shall make any connections or alterations to, or tamper with, any of the Utility's Waterworks or any water meter belonging to the Utility or turn on or off any Utility stop valve or gate valve, without written authorization from the Utility.

9. Repairs to Leaking or Defective Pipes and Fixtures

All Customers, at their own risk and expense, shall maintain their service connection pipes and other fixtures in good working order and shall protect them from frost and other damage.

If it becomes evident to the Utility that there are leaky or defective service pipes and fixtures with a Water Service connection located on any Customer Premises, the Utility shall notify

the Customer of them within a reasonable time, provided that the Utility will have no responsibility to identify leaky or defective pipes and fixtures and no liability for any failure to notify, or delay in notifying the Customer of any such leaky or defective pipes and fixtures.

If the necessary repairs or alterations have not been made by the Customer within two (2) business days after notice has been given or when, in the opinion of the Utility, the condition of the pipes or fixtures is such as to cause serious waste of water or damage to property, then, without further notice, the water supply shall be cut off by shutting the stop valve or by detaching the service pipe from the main. The Water Service shall not be turned on again until such repairs or alterations have been made to the satisfaction of the Utility and all costs and service charges associated with the cut off of the water supply have been paid by the Customer. The Utility will charge the Customer for costs associated with cutting off the water supply and a service charge for reconnection after disconnection, as specified in Sections 1 and 2 of Schedule H of this Tariff.

No Person whose water supply is disconnected pursuant to this Subsection shall have any claim whatsoever against the Utility for discontinuance of the water supply.

10. Approval of Service Pipes and Fixtures

No service pipes and/or fixtures shall be covered until they have been inspected and approved by the municipal plumbing or building inspector or other appropriate authority and the Utility shall not turn on the water until it is satisfied that they have been inspected and approved in accordance with the Plumbing Code.

11. Interruptions in and Refusal of Water Service

The Utility shall have the right at all times to temporarily shut off the water supply to any Premises in order to make such repairs, renewals, alterations and extensions to the Utility's Waterworks as shall, in the opinion of the Utility, be deemed necessary. Whenever possible, the Utility will give reasonable advance notice to the Customer of the shut off.

The Utility reserves the right to refuse to install, or to permit the installation of, a Water Service connection should weather or other conditions, in the opinion of the Utility, make such an undertaking impractical.

12. Call Out Work Restrictions

The Utility shall not be required to perform any work on pipes or fixtures that are not the property of the Utility.

13. Call Out Charge Liability

The Customer is responsible for the satisfactory operation of the Waterworks, including pipes and fixtures, within the boundary of the Premises being serviced.

If the Utility is called out on the basis of a Customer complaint relating to interrupted or diminished service, leaks or low water pressure and it is subsequently found that the fault is

not in the Utility's Waterworks, then the Utility shall charge the Customer for the costs incurred by the Utility to respond to the initial Customer complaint as provided in Section 2 of Schedule H. The Customer shall pay the call out charge upon receipt of the bill for the charge. If the call out charge is not paid before the Customer's next regular water billing is processed, it shall be added to the Customer's next water billing.

If it is determined that the interrupted or diminished service, leak or low water pressure is caused by a fault which exists in the Utility's Waterworks, no charge for the call out and/or subsequent repair of the faulty pipes or fixtures shall be levied by the Utility to the Customer.

14. Frozen Pipes and Fixtures

The Customer is responsible for clearing any frozen pipelines or fixtures located on or within the boundary of the Premises receiving Water Service.

If the Utility is requested by a Customer to clear a frozen connection or meter service and it is found that the affected pipeline or fixture is not located within the Utility's Waterworks, then the Utility will charge the Customer the costs incurred by the Utility associated with examining and/or clearing any pipelines or fixtures as provide in Section 2 of Schedule H of this Tariff. The Customer shall pay the charge upon receipt of the bill for the charge. If the charge is not paid before the next regular water billing is processed, it will be added to the Customer's next water billing.

If a frozen connection or meter service is found to exist within the Utility's Waterworks, then no charge for thawing the Waterworks shall be levied by the Utility to the Customer.

The Utility may, as it deems necessary during very cold spells in the winter, require that the Customer leave a faucet running very slowly so as to prevent the Water Service line from freezing. In these cases, the Utility will adjust the water bill of the Customer to reflect the applicable charge for base consumption.

15. Maintenance of Hydrants/Standpipes

In accordance with a certain service agreement with the Regional District of Nanaimo, British Columbia, the Utility provides maintenance of the hydrants and standpipes within the Utility's licensed area. The Utility will inspect, test, maintain and operate each hydrant and standpipe on an annual basis.

The Utility will inspect and service fire hydrants in accordance with the service agreement.

D. Service Issues1. Change in Customers

- (a) If a Person, who is not a Customer of the Utility, becomes the owner or lessee of the Premises to which Water Service is provided, the owner or lessee, as applicable, must apply for a transfer of the Water Service and become a Customer of the Utility.
- (b) When there is a change in the Person who is the Customer, through a change in ownership of the Premises to which Water Service is provided or a change in the leasing of the Premises, Water Service to the Premises may be disconnected as provided in Subsection 7 of Section I of these Terms and Conditions if all outstanding water bills for Water Service provided to the Premises prior to such change have not been paid when due.

2. Alternate Water Billing

If the Customer is the owner of the Premises to which Water Service is provided, is leasing the Premises to a lessee, and requests that the water bill be sent to the lessee, the Customer shall be required to complete an authorization form using the form provided by the Utility. The authorization form will authorize the Utility to send the water bill in the name of the Customer to the lessee and will require the following information:

- (a) the legal description of the Premises; and
- (b) the current municipal address, including postal code, and telephone number of the Customer.

The authorization form must also bear the legal signature of the Customer before the Utility will consider it.

Notwithstanding that the water bill is sent to the lessee, the Customer will remain responsible for payment of the bill. If the lessee vacates the Premises leaving an outstanding water bill or for any other reason does not pay a water bill when it becomes due, the owner of the Premises shall be responsible to pay the balance owing on the water bill. If the water bill is not paid when due, Water Service to the Premises may be discontinued as provided in Subsection 7 of Section I of these Terms and Conditions.

3. Reasonable Access to Premises

(a) Easements and Rights-of-Way

At the request of the Utility, a Customer shall grant or cause to be granted to the Utility, without cost to the Utility, such easements or rights-of-way over, upon or under property owned or controlled by the Customer as the Utility reasonably requires for the construction, installation, maintenance, repair and operation of the Waterworks required for Water Service to the Customer and the performance of all other obligations required for Water Service to the Customer and the performance of all other obligations required to be performed by the Utility under this Agreement.

(b) Right of Entry

- i. The Utility's employees, duly authorized representatives and agents shall have the right to enter a Customer's Premises at all reasonable times, or at any time during an event of Force Majeure, for the purposes of making connections or disconnections, reading meters, inspecting Waterworks and appurtenances, inspecting for back-flow prevention devices and/or possible cross-connections, or documenting or checking on the use, waste, or misuse of water and for any other purpose incidental to the provision of Water Services. A Customer shall not prevent or hinder the Utility's entry to the Customer's Premises for any such purpose. Without limiting the generality of the foregoing, the Utility has the right to enter a Customer's Premises at any reasonable hour to:
 - (1) install, inspect, test, repair or remove Waterworks;
 - (2) perform necessary maintenance to the Waterworks;
 - (3) investigate or respond to a Customer complaint or inquiry; or
 - (4) conduct an unannounced inspection where the Utility has reasonable grounds to believe that theft of Water Services or interference with the Waterworks has occurred or is occurring.
- ii. The Utility shall make reasonable efforts to notify the Customer in advance of entering a Customer's Premises or to notify any other person who is at the Customer's Premises and appears to have authority to permit entry, except:
 - (1) in cases of emergency;
 - (2) where entry is permitted by order of a court or other authority having jurisdiction;
 - (3) where otherwise legally empowered to enter; or
 - (4) where the purpose of the entry is in accordance with Section D, subsection 3(b)(i)(4) of these Terms and Conditions.
- iii. When a Customer who has requested a service call or who has been given advance notice of a required service will not permit the Utility to provide the service during normal business hours of the Utility, the Customer shall be required to pay applicable charges (plus labour overtime charges for any service provided after regular working hours) as provided in Schedule H of this Tariff to provide the service.

4. Interruptions in Service

The Utility shall have the right at all times to suspend or terminate the supply of water to any Premises without any advance notice, in order to effect emergency repairs, replacements, alterations, or extensions to the Waterworks as the Utility deems necessary. However, for

interruptions in excess of 48 hours, a proportionate rebate will be allowed to Customers served on flat rates.

5. Pressure, Supply and Quality

The Utility does not guarantee pressure or continuous supply of water, nor does it accept responsibility at any time for the maintenance of pressure on its lines or for increases or decreases in pressure. The Utility shall not be liable for any damage caused by a discontinuance or interruption in the water supply including for the purpose of repairing, renewing, altering, extending, maintaining, or cleaning the Waterworks or for the connection of a water distribution main extension. The Utility reserves the right at any and all times, without notice, to change operating Water Service for the purpose of making repairs, extensions, alterations or improvements, or for any other reason, and to increase or reduce pressure at any time. Neither the Utility, its directors, officers, employees or agents shall incur any liability of any kind whatsoever by reason of the cessation in whole or in part of water pressure or water supply, or changes in operating pressures, or by reason of the water containing sediments, deposits or other foreign matter including contaminants. Customers depending on a continuous and uninterrupted supply of water or having processes or equipment that require particularly clear or pure water shall provide such emergency storage, over-size piping, pumps, tanks, filters, pressure regulators, check valves, additional service pipes or other means for a continuous and adequate supply of water suitable to their requirements.

6. Locking Mechanisms

If a Customer has violated a provision of this Tariff, or is indebted to the Utility for water supply or other services rendered, the Utility may, in addition to discontinuing the water supply to the Premises in question, physically place a locking mechanism on the Waterworks within the Premises or on the Waterworks immediately outside the property line of the Premises.

The locking mechanism shall not be removed until charges for the removal and all other charges and fees accrued by the Customer have been paid in full. No Person whose water supply is discontinued pursuant to this Tariff shall have any claim against the Utility for discontinuance of the water supply.

7. Access to Water Meters

If the water meter is located on private property, as a condition of service, the Customer shall provide access for installing and maintaining the meter and appurtenances and for meter reading.

Where in the opinion of the Utility, a meter is located on the Customer's Premises or its accessory is situated in an unsafe area, or where its location creates a dangerous situation to a meter reader, the meter or accessory shall be deemed to be an inaccessible meter. The Utility may clear the area or shut off Water Service as appropriate if the meter or accessory remains inaccessible for meter reading and maintenance for a period that exceeds two (2) months. The reconnection fee prescribed in Schedule H of this Tariff will apply.

8. Policy and Procedures for Estimating Water Consumption

If for any reason the Utility is required to estimate the water consumption for a Premises to which Water Service is provided for any given period, the Utility shall adhere to the following procedure:

- (a) the estimate shall be based on the water consumption history and the intended water use by the Customer; or
- (b) if no sufficient history exists on which to base an estimate, the estimate shall be calculated on the basis of an average of the water consumption for similar Premises in the same area.

9. Charges for Alterations to Waterworks System

- (a) Subject to the approval of the Utility, a Customer who desires that the Utility remove, relocate or change the Utility's Waterworks system, including service pipes, meters, valves, chambers, hydrants, fittings and/or appurtenances, shall be required to pay any and all costs related to the removal, relocation or change. A deposit, based on the Utility's written estimates for cost of the work, will be paid to the Utility in advance of commencing the work.
- (b) The Utility shall provide the Customer with a detailed calculation of actual total cost for the alterations to the Waterworks requested by the Customer.

Where the total cost of the alterations is less than the advance payment deposited with the Utility, the Utility will refund the difference, without interest, to the Customer.

Where the total cost of the alterations exceeds the advance payment deposited with the Utility, the Utility will bill the Customer for the difference and the Customer will pay the bill immediately upon receipt. Failure to pay the Utility immediately upon receipt of the bill shall be sufficient grounds for the Utility not to provide Water Service.

E. Compliance**1. Penalties for Failure to Comply with Tariff**

Where any Customer fails to comply with the Terms and Conditions contained in this Tariff, the Utility, after giving written notice of three (3) business days, may undertake any lawful action or actions it deems necessary to enforce compliance. Any costs incurred by such action or actions shall be recovered from the Customer as a service charge under this Tariff regardless of whether or not it is specifically included in this Tariff.

2. Willful Interference with Waterworks

No Customer or any other Person, who is not an authorized agent or employee of the Utility, shall make any connections with, tamper with, or willfully alter, or cause to be altered, any of the Utility's Waterworks within any street or land or within the Utility's rights-of-way or property or any water meter placed upon any service pipe or connection therewith, within or without any house, building, or other place or structure, so as to lessen or alter the amount and/or flow of water registered, unless specifically authorized by the Utility for that particular purpose and occasion.

At the discretion of the Utility, such interference may result in immediate termination of Water Service. No Water Service so terminated shall be reconnected without both payment of the charges prescribed in Schedule H of this Tariff and approval of the Utility.

F. Water Main Extension Rules**1. Application for Extensions**

All applications for extensions of existing Water Service distribution works shall be made in writing to the Utility by the owner of the Premises to which the application refers and to which Water Service is desired or a duly authorized agent of the owner. The Utility shall determine the terms and conditions of obtaining service.

Each application for extension of service requires an amendment to the Utility's Certificate of Public Convenience & Necessity (CPCN) to include the lot(s) within its authorized service area. In response to each application, the Utility will detail the terms and conditions of service, including all rates and charges applicable. Prior to issuance of an amended CPCN, confirmation is required that either a deposit into the Utility's Deferred Capacity Trust Fund under Schedule B of this Tariff has been made or that additional works have been constructed and contributed to the Utility by the applicant as required by the Comptroller of Water Rights.

Once the amended CPCN is issued, and while lot(s) are not receiving service, availability of service charges under Schedule G of this Tariff will be applicable.

2. Information on Proposed Developments

An applicant(s) who has applied for an extension of a main to serve a proposed development shall be required to provide the Utility with the following information in respect of the development:

- (a) the legal description and municipal address of the proposed development;
- (b) one set of drawings of the proposed development identifying the height of the proposed structure and the number of suites for both residential and commercial use;
- (c) the anticipated fire flow requirements and water requirements for the proposed development;
- (d) a contact name, telephone number, and/or fax number should the Utility require any additional information pertaining to the development;
- (e) the scheduling of the construction and the anticipated time line for completion of the development; and
- (f) advance notice if a temporary water supply will required under Section G of these Terms and Conditions for construction purposes.

3. Right to Refuse Extensions

The Utility reserves the right to refuse to make a water main extension should weather or other conditions, in the opinion of the Utility, make such undertaking impractical.

The Utility will not be required to make extensions where road grades have not been brought to those established by public authority.

4. Ownership of Extensions to Waterworks System

All extensions to the Waterworks system that may be installed (whether paid for by the Utility or by the applicant(s) or the Customer, as applicable) shall be the sole property of the Utility.

5. Extensions within Road Rights-of-Way or Utility's Easement or Property

All extensions of water mains shall be located along a gazetted road or highway within the right-of-way for the road or highway or in an easement held in the name of the Utility or on property solely owned by the Utility.

6. Construction and Design of Extensions

The size, type, quality of materials for a water main extension and their location will be specified by the Utility and the actual construction will be done by the Utility or by a construction agency acceptable to the Utility.

7. Connection of Extensions to Mains

The Utility or its authorized representative or agent shall make all connections of an extension of the water main to existing live water mains. The applicant(s) shall pay the cost of making all such connections prior to the Utility making the connection.

8. Advance Requirements

- (a) An applicant(s) who has applied for an extension of a water main to serve a subdivision or housing project shall be required to advance to the Utility, before construction is commenced, by way of a cash deposit, the estimated cost of the Waterworks to be installed including, without limitation,
- (i) the estimated cost of any upgrade in size or capacity of any part of the existing Waterworks; and
 - (ii) the estimated cost of installation of the main required to serve such project, including necessary valves, fittings and fire hydrants.
- (b) If pipelines to a subdivision do not exist, the estimate cost of the extension shall be based upon a pipeline of sufficient diameter to supply the entire subdivision in accordance with requirements for fire flows.
- (c) In determining the physical length of the water main extension necessary to render service to any point, the distance from such point to the nearest distribution main, with the required capacity and flow requirements to satisfy the requirements of the proposed service, the "Suitable Main" shall be considered along lines of proper construction and common practice in the location of public waterworks, with due consideration being given to the general

layout of the Utility's Waterworks system. The length of the extension shall be measured along such lines of proper construction and common practice from the Suitable Main to the middle of the furthest property to be serviced.

- (d) Where a water main extension must comply with a law, statute, bylaw, ordinance, regulation, specification or order of a public authority, the estimated cost of the extension shall be based upon the Waterworks required to comply therewith.

9. Advances by Original Applicants

- (a) When more than one applicant is involved and an advance is required for a water main extension, then the amount of the advance shall be divided equally or as otherwise agreed among the applicants and made known to the Utility.
- (b) Any adjustments to differences between the estimated cost and the actual cost of any main extension made shall be completed within ninety (90) days after the actual cost of the installation has been ascertained by the Utility and after the installed works have been disinfected and pressure tested to the satisfaction of the Utility.
- (c) The Utility shall maintain, at all times during installation of the water main extension and for a period of ninety (90) days following both the completion of construction and the initial approval by the Utility, a minimum of fifteen percent (15%) of the total deposit made by the applicant(s) so as to allow sufficient time for all contractors and suppliers to submit bills and for satisfactory performance of the installation to be proven.
- (d) Upon completion of the construction and installation of the water main extension, the Utility shall ascertain the actual cost of the construction and installation.
- (e) If the actual cost is less than the amount of the advance received from the applicant(s), the remaining portion of the advance will be refundable to the applicant(s) in accordance with Subsection 9(f) of this Section F, without interest.

If the actual cost exceeds the amount of the advance received from the applicant(s), the Utility shall bill the applicant(s) for the difference and the applicant(s) shall pay the bill immediately upon receipt. Failure to pay the Utility immediately upon receipt of the bill shall be sufficient grounds not to provide Water Service.

- (f) At the end of the ninety (90) day period, provided that all suppliers and contractors have then submitted their bills and the installation has then proven to be satisfactory, the Utility shall return any refundable portion of the advance to the applicant(s) and the Utility will accept no further responsibility for any costs in connection with the development.

10. Advances by Customers Connecting to Water Main Extension

An extension charge equal to a pro-rata share of the original cost of the water main extension shall be collected by the Utility from each Customer who makes an application for a Water Service connection to the original main extension within five (5) years. The extension charge collected above shall be refunded equally, or as agreed otherwise, to the Customers who already have advances deposited with the Utility as a result of connection to the extension, so

that in the result all Customers will have paid their pro-rated share or as otherwise agreed by them and made known to the Utility.

11. Application of Advances

Advances required from an applicant(s) in payment for water main extensions will be held by the Utility without interest. Refunds will be made in accordance with Subsection 10 and this Subsection 11 and no Person will have refunded an amount in excess of the amount of the advance received by the Utility. Refunds will be paid to the current registered owners of the properties on account of which the advances were received.

Any amount not used by the Utility for construction of the extension and not refunded at the end of five years from the date the advance was received by the Utility from the original applicant or applicants will be retained by the Utility and transferred to the Deferred Capacity Trust Fund account. Thereafter additional customers will be connected without being required to pay the extension charge.

G. Temporary Water Service

Any contractor, developer or other Person (“Temporary Customer”) who requires temporary Water Service for the purposes of construction or expansion of a development or for another reason must make an application to the Utility and, if the application is approved, may acquire water from a standpipe or hydrant as designated by the Utility subject to the following conditions:

1. Connections to Fire Hydrants or Standpipes

- (a) All connections to the fire hydrant or standpipe must be fitted with a back-flow prevention device, and an independent shut off valve to regulate the flow. The back-flow prevention device must be approved by the Utility and shall either be provided by the party requiring the service, or rented from the Utility at a daily rate prescribed by the Utility. If the device is rented from the Utility, the party requiring the device shall be responsible for the costs associated with the proper installation, maintenance and disconnection of the device and also for any damage to the device.
- (b) If the fire hydrant or standpipe is required by the Parksville or Qualicum Beach Fire Protection Districts for an emergency situation, including an event of Force Majeure, the Temporary Customer must remove any connections to a hydrant or standpipe without delay.
- (c) All tanker trucks, street sweepers, and water sprinkler trucks, etc. must be fitted with a back-flow prevention device approved by the Utility and permission to use the fire hydrant must be obtained from the Utility before hooking up to a fire hydrant for the purpose of taking on water.

2. Connections to Temporary Service Pipe

- (a) The Temporary Customer shall keep a record of the amount of water consumed when connected to a temporary service pipe and shall advise the Utility promptly when the Water Service is no longer required and report to the Utility the amount of water consumed. The Utility will provide a water meter for the purpose of recording the consumption, however, the Temporary Customer will be responsible to cover the cost of any damage to said device.
- (b) The Utility shall issue a bill for water consumed by the Temporary Customer based on Rates as prescribed in the applicable Schedules of this Tariff. The bill shall be payable immediately upon receipt.

H. Disconnection of Water Service

1. Disconnection for Non-Payment

The Utility may withhold or disconnect the supply of water from any Customer who is already indebted to or in dispute with the Utility for Water Service or any other service provided by the Utility.

2. At Customer Request

No water rate shall be charged with respect to Water Service to any property that has been disconnected for a period of one (1) month or more and where;

- (a) the Water Service connection to the property remains unused; and
- (b) the Water Service has been turned off at the request of the Customer.

Any Customer who wishes to discontinue Water Service for a period of one (1) month or more shall give to the Utility at least seven (7) days written notice of the discontinuance. If the Customer fails to give the required written notice, the Customer shall continue to be responsible for payment for Water Service.

3. Unauthorized Service

Where a Water Service connection has been made or Water Service has been turned on without proper authorization from the Utility, the Utility may remove the water meter unless and until the applicable charges, as prescribed in Schedule H of this Tariff, have been paid in advance to the Utility by, or on behalf of, the Customer to defray the costs of the removal and replacement of the said water meter. The charges shall be in addition to any other charges outstanding against the Premises or required to be paid in order to receive Water Service pursuant to these Terms and Conditions.

4. Non-Compliance

The Utility may discontinue Water Service to any Customer for non-compliance with these Terms and Conditions. Where Water Service is discontinued for non-compliance with these Terms and Conditions, the Utility shall not permit a reconnection for any Customer until proof of compliance with these Terms and Conditions is demonstrated and both the service charge prescribed in Schedule H of this Tariff for reconnection after disconnection and a security deposit in an amount equal to two times the highest bill in the previous three billing periods, or twelve months, whichever is greater, is paid by way of cash deposit, certified cheque or satisfactory letter of credit to the Utility.

5. Resumption of Water Service

If Water Service is turned off or disconnected, Water Service will not be turned on or reconnected until all outstanding charges and fees for services rendered have been paid in full to the Utility as per this Tariff.

6. Charges for Service Resumption

Where any applicable charges and fees have been paid according to the requirements of this Tariff, and a Customer first becomes connected to a service by the turn of a valve in an existing service pipe, or when a Customer becomes reconnected after service has been shut off either for non-payment, non-compliance with these Terms and Conditions or at the request of the Customer, the service charge for any such turn on or reconnection of Water Service shall be as prescribed in Schedule H of this Tariff.

I. Payment for Services Rendered1. Calculation of Water Charges

All water charges are calculated in accordance with the applicable rates prescribed in the Schedules attached to this Tariff.

2. Bill and Payment

All water bills will be issued by the Utility to Customers at time intervals determined by the Utility and shall be due and payable at the Utility office or at any duly authorized collecting agency within 10 days from the issue date of the water bill.

3. Meter Reading

Water bills will be based on meter reads with meter reading schedules as determined by the Utility.

4. Dishonored Cheques

When, for any reason whatsoever, a cheque issued to the Utility in payment of a bill is dishonored, the Customer shall be required to immediately pay a service charge as prescribed in Schedule H of this Tariff, related bank charges and any outstanding amounts owed to the Utility.

5. Payment Calculation if Meters Malfunction

In cases where a meter for the Water Service to a Premises is found not to register, or appears to have registered incorrectly, for billing purposes the Utility shall compute the water charges for the property based on the procedures for estimating water consumption set out in Section D, Subsection 8.

6. Appeal of Calculation of Water Charges

Any Customer obtaining water from the Utility's Waterworks may formally register a complaint with the Utility regarding the amount of any water bill, no later than thirty (30) days from the issue date of the bill.

7. Policy Regarding Bill Collection

In the case of non-payment by a Customer of charges after the same have become due and payable, the following procedures will be followed by the Utility:

- (a) When a bill issued for Water Service provided to a Premises becomes one (1) month overdue, the Water Service to the Premises in respect of which the bill is due and payable may be disconnected upon fifteen (15) days written notice. A disconnection notice mailed to the last known postal address of the Customer shall be deemed good and sufficient notice and the notice will be deemed to have been given on the date that it is mailed.

- (b) If payment is not received at the Utility office during normal working hours within fifteen (15) days after the disconnection notice is given, the Utility may disconnect the Water Service in respect of which the disconnection notice has been given without any further notice to the Customer or any other Person.
- (c) If the Water Service is discontinued as the result of non-payment, the Utility shall not reconnect the Water Service, except upon payment of the whole amount due and payable together with service charges as prescribed in Schedule H of this Tariff for the expense of disconnecting and reconnecting the Water Service.

8. Change of Billing Address Information

All Customers must, at all times, inform the Utility of any and all changes to any billing address, including changes to telephone numbers or fax numbers.

9. Additional Charges for Delinquent Bill Collection

All additional charges incurred in the collection of a delinquent water bill must be paid to the Utility in full prior to the reconnection of Water Service. Such additional charges shall include, but are not limited to, charges incurred through the use of any collection agencies or other methods employed in retrieving delinquent payments.

10. Lost Bills

If a Customer loses a bill or does not receive a bill, the Customer must contact the Utility to determine the amount owing. Loss of a bill or the failure to receive a bill does not release a Customer from the obligation to pay the amount owing to the Utility. The late payment charges under Subsection 11 of this Section I will apply if the bill is not paid by its due date.

11. Late Payment Charge

At the discretion of the Utility, if a Customer does not pay a bill in full by the due date as specified in the bill, the Customer will be liable to pay to the Utility, in addition to the amount of the bill, a late payment charge equal to interest at 2.0% of the outstanding amount of the bill, compounded monthly, will apply. Should the bill remain outstanding after the due date, the Utility may commence collection action.

J. General**1. Disagreement in the Application of Terms and Conditions of Water Service**

In case of disagreement regarding the application of these Terms and Conditions, or in circumstances where such application of these Terms and Conditions appears impracticable or unjust to either party, the Utility, or the applicant(s) or the Customer may refer the matter to the Comptroller of Water Rights for a ruling.

2. Limitation on Liability

Notwithstanding anything to the contrary contained in these Terms and Conditions, neither the Utility nor the Customer shall be liable to the other party for any damage, cost, expense, injury loss or other liability of an indirect, special or consequential nature suffered by the other party or claimed by any third party against the other party, howsoever arising. Without limiting the generality of the foregoing, damage, injury or loss of an indirect, special or consequential nature shall include loss of revenue, loss of profits, loss of production, loss of earnings, loss of contract, cost of capital and loss of the use of any facilities or property or any other similar damage or loss whatsoever.

3. Force Majeure**(a) Force Majeure Relief**

If an event or circumstance of Force Majeure occurs that adversely affects the Utility's ability to provide a service connection or Water Service, the Utility's obligations and responsibilities under these Terms and Conditions, and under any agreement relating to service connections or provision of Water Services, so far as they are affected by the event of Force Majeure or the consequences thereof, shall be suspended until such Force Majeure event or the consequences thereof are remedied for such period thereafter as may reasonably be required to restore the service connection or Water Services. All charges for consumption, including the applicable charge for base consumption, in all customer classes will continue to be payable during the period in which the Utility claims relief by reason of Force Majeure.

(b) Notice

The Utility shall where practicable give notice of an event of Force Majeure to Customers affected and shall, where practicable, give notice to Customers affected when the Force Majeure event ceases to prevent performance of the Utility's obligations.

(c) Obligation to Remedy

The Utility shall promptly remedy the cause and effect of the Force Majeure event insofar as it is reasonable to do so.

(d) **Strikes and Lockouts**

Notwithstanding any other provision of these Terms and Conditions, the settlement of any strike, lockout or other industrial disturbance shall be wholly at the discretion of the Utility, and the Utility may settle such strike, lockout or industrial disturbance at such time and on such terms and conditions as it may deem appropriate. No failure or delay in settling such strike, lockout or industrial disturbance shall constitute a cause or event within the control of the Utility or deprive the Utility of the benefits of this section.

4. **Restrictions on Use of Water**

The Utility may restrict or prohibit the use of water for gardening, sprinkling, air conditioning, the filling of swimming pools or other purposes when, in its opinion, such action is necessary to conserve the water supply or to maintain water pressure. The Customer shall comply with all such restrictions and prohibitions.

5. **Water Meter Testing**

When any Customer whose Water Service is metered makes a complaint that their account is, in the Customer's opinion, excessive, the Utility will make an inspection for leaks at the meter box. If the Utility finds no leaks and, should the Customer continue to feel that the Customer is being charged for excessive consumption, the Customer can make a request in writing to have the water meter tested for accuracy.

Upon receipt of the request and payment of the fee, the Utility will remove the meter and send it to the manufacturer or its agent for testing. The complainant will in due course receive a copy of the report from the manufacturer or agent. Where the test shows an error in registering the quantity of water passing through the meter of over five percent (5%) in favor of the Utility, a new water meter will be installed.

However, if the test shows an accurate measurement of water or an error in favour of the Customer, the Utility will bill the Customer for all applicable costs pertaining to the test request and, in the case of an error in favour of the Customer, the Customer's account for Water Service will be adjusted accordingly.

Schedule A – Water Service Connection

Applicability: To all applications for Water Service from an existing water distribution main.

Rates:

(a) Connection Charge.....At Cost

The Connection Charge recovers the cost incurred by the Utility, not otherwise recovered, of installing a service connection from the water main to a curb stop and, if required, a meter at the property line of the Customer’s Premises or in the building. Cost includes any administrative overhead incurred.

(b) Connection of Customer’s Service Pipe to an Existing Curb StopAt Cost

Where, at a time prior to a Customer’s application for service, a service connection has been installed at no cost to the Utility or at a cost otherwise recovered by the Utility, then upon connection of the service pipe, the rate shown in (b) shall be paid upon application for service.

Schedule B – Contribution in Aid of Future Construction

Applicability: Where as a result of Premises becoming qualified as Authorized Premises and a greater number of units require or may require service from the Utility, thus utilizing Waterworks capacity presently or in the future. Then upon application for an extension of service, in addition to the water service connection charge and any main extension costs, the charges shown below shall be paid.

Monies collected are to be deposited to the Utility's Deferred Capacity Trust Fund and may only be released with the written authorization of the Comptroller of Water Rights.

Rates:

	<u>Charge</u>
Effective January 1, 2021	
For each unit qualifying as Authorized Premises	\$21,600*
Effective January 1, 2022	
For each unit qualifying as Authorized Premises	\$22,000*
Effective January 1, 2023	
For each unit qualifying as Authorized Premises	\$22,500*

* Charge is based on the number of Residential Single Family equivalent units as describe below:

- Residential Single Family – 1 unit = 1 dwelling unit (0.01865 L/s)
- Residential Multi-Family – 1 unit = 1 dwelling unit
- Commercial – number of units = Development Max Day Demand/0.01865 L/s, rounded up to the next whole number

Schedule C – Residential, Multi-Residential & Commercial Service Flat Rates - 2021

Applicability: Within the authorized service area of the Utility

Rates:	Monthly Flat Rate Charge
Residential Units	\$43.45
Multi-Residential Units (per unit)	\$39.53
Commercial Units	\$38.39

Schedule C – Residential, Multi-Residential & Commercial Service Flat Rates - 2022

Applicability: Within the authorized service area of the Utility

Rates:	Monthly Flat Rate Charge
Residential Units	\$43.45
Multi-Residential Units (per unit)	\$39.53
Commercial Units	\$38.39

Schedule C – Residential, Multi-Residential & Commercial Service Flat Rates - 2023

Applicability: Within the authorized service area of the Utility

Rates:	Monthly Flat Rate Charge
Residential Units	\$43.45
Multi-Residential Units (per unit)	\$39.53
Commercial Units	\$38.39

Schedule D – Metered Rates - 2021**Applicability:** To all Customers with water meters

Rates:	Monthly Charge
Residential Units	
First 12 cubic meters plus	\$43.45
For each cubic meter between 12 and 75 cubic meters	\$ 1.93
For each cubic meter over 75 cubic meters	\$ 1.93
Multi-Residential Units (per unit)	
First 12 cubic meters plus	\$39.53
For each cubic meter between 12 and 75 cubic meters	\$ 1.93
For each cubic meter over 75 cubic meters	\$ 1.93
Commercial Units	
First 12 cubic meters plus	\$38.39
For each cubic meter between 12 and 75 cubic meters	\$ 0.96
For each cubic meter over 75 cubic meters	\$ 0.96

Schedule D – Metered Rates - 2022**Applicability:** To all Customers with water meters

Rates:	Monthly Charge
Residential Units	
First 12 cubic meters plus	\$43.45
For each cubic meter between 12 and 75 cubic meters	\$ 1.93
For each cubic meter over 75 cubic meters	\$ 1.93
Multi-Residential Units (per unit)	
First 12 cubic meters plus	\$39.53
For each cubic meter between 12 and 75 cubic meters	\$ 1.93
For each cubic meter over 75 cubic meters	\$ 1.93
Commercial Units	
First 12 cubic meters plus	\$38.39
For each cubic meter between 12 and 75 cubic meters	\$ 0.96
For each cubic meter over 75 cubic meters	\$ 0.96

Schedule D – Metered Rates - 2023**Applicability:** To all Customers with water meters

Rates:	Monthly Charge
Residential Units	
First 12 cubic meters plus	\$43.45
For each cubic meter between 12 and 75 cubic meters	\$ 1.93
For each cubic meter over 75 cubic meters	\$ 1.93
Multi-Residential Units (per unit)	
First 12 cubic meters plus	\$39.53
For each cubic meter between 12 and 75 cubic meters	\$ 1.93
For each cubic meter over 75 cubic meters	\$ 1.93
Commercial Units	
First 12 cubic meters plus	\$38.39
For each cubic meter between 12 and 75 cubic meters	\$ 0.96
For each cubic meter over 75 cubic meters	\$ 0.96

Schedule E – Fire Hydrant & Standpipe Rates - 2021

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

Rates:	<u>Charge</u>
Hydrants	\$582.84 / hydrant / year
Standpipes	\$233.14 / standpipe / year

Schedule E – Fire Hydrant & Standpipe Rates - 2022

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

Rates:	<u>Charge</u>
Hydrants	\$582.84 / hydrant / year
Standpipes	\$233.14 / standpipe / year

Schedule E – Fire Hydrant & Standpipe Rates - 2023

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

Rates:	<u>Charge</u>
Hydrants	\$582.84 / hydrant / year
Standpipes	\$233.14 / standpipe / year

Schedule F – Intentionally Omitted

Schedule G – Availability of Service Charge per Rent Charge Agreements - 2021

Applicability: To owners of the legal subdivision with Rent Charge Agreements eligible to be registered on title. The Rent Charge becomes effective and due and payable on the first day of the month following CPCN issuance and acceptance of certified as-built drawings (i.e., when lot or lots are eligible for subdivision registration).

Availability: All owners of the lots to which this Rent Charge is applicable shall pay the rate during the period they are not users of water service.

Rate: \$ 365.01 per annum, per residential services lot

Notes:

1. For other than residential services lots, the Rent Charge shall be calculated on a Single Family Residential Equivalent basis.
2. Once a customer has received approval to connect to the Utility's waterworks, has passed inspection and has been accepted by the Utility as a customer, this Rent Charge will no longer apply to the portion of the property connected to the Utility's waterworks. A pro-rated refund of the Rent Charge will be credited to the customer's account, if applicable. If service is temporarily shut-off (e.g., seasonal use), the customer shall pay a minimum of the Rent Charge payable on a pro-rated basis while disconnected or a greater amount if specified in another rate schedule(s) of the Tariff.
3. For the purposes of this Schedule, townhouses and side-by-side duplexes are equivalent to one (1) single family residential premises.
4. Any arrears of Rent Charges shall bear interest from the due date until payment at a rate of 18% per annum accruing daily, and shall be a charge upon the Lands or Future Lot or Lots in question in the same manner as the Rent Charge charged on the Lands.

Schedule G – Availability of Service Charge per Rent Charge Agreements - 2022

Applicability: To owners of the legal subdivision with Rent Charge Agreements eligible to be registered on title. The Rent Charge becomes effective and due and payable on the first day of the month following CPCN issuance and acceptance of certified as-built drawings (i.e., when lot or lots are eligible for subdivision registration).

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Schedule G – Availability of Service Charge per Rent Charge Agreements - 2023

Applicability: To owners of the legal subdivision with Rent Charge Agreements eligible to be registered on title. The Rent Charge becomes effective and due and payable on the first day of the month following CPCN issuance and acceptance of certified as-built drawings (i.e., when lot or lots are eligible for subdivision registration).

Availability: All owners of the lots to which this Rent Charge is applicable shall pay the rate during the period they are not users of water service.

Rate: \$ 365.01 per annum, per residential services lot

Notes:

1. For other than residential services lots, the Rent Charge shall be calculated on a Single Family Residential Equivalent basis.
2. Once a customer has received approval to connect to the Utility's waterworks, has passed inspection and has been accepted by the Utility as a customer, this Rent Charge will no longer apply to the portion of the property connected to the Utility's waterworks. A pro-rated refund of the Rent Charge will be credited to the customer's account, if applicable. If service is temporarily shut-off (e.g., seasonal use), the customer shall pay a minimum of the Rent Charge payable on a pro-rated basis while disconnected or a greater amount if specified in another rate schedule(s) of the Tariff.
3. For the purposes of this Schedule, townhouses and side-by-side duplexes are equivalent to one (1) single family residential premises.
4. Any arrears of Rent Charges shall bear interest from the due date until payment at a rate of 18% per annum accruing daily, and shall be a charge upon the Lands or Future Lot or Lots in question in the same manner as the Rent Charge charged on the Lands.

Schedule H – Miscellaneous Service Charges

This Schedule sets out the charges and fees prescribed for the following work or services rendered by the Utility.

1. Service Charges and Fees for Specified Services

<u>Description of Work or Service</u>	<u>Amount</u>
Reconnection after disconnection at customer's request	\$ 50.00
Reconnection after disconnection.....	\$ 50.00
Dishonored Cheques	\$ 25.00
Application for Water Service	\$ 25.00
Service Shut-Off Charge	\$ 30.00
Vacuum Breaker Installation Fee	\$ 75.00
Restriction of Water Use - Violation Charge.....	\$100.00
Willful Interference with a Water Meter	\$100.00
Illegal Connection Fee	\$500.00
Illegal Use of a Fire Hydrant.....	\$500.00*

*plus applicable repair costs

2. Charges for Other Work and Services

The Utility will charge the Customer for any work or service provided, for which a charge or fee is not specifically prescribed, the Utility's costs of providing such work or service. Such costs will include repayment of all monies expended by the Utility for gross wages and salaries, administrative costs, employee fringe benefits, and materials, as calculated by the Utility. The costs will also include any expenditure for equipment rentals at rates paid by the Utility or set by the Utility for its own equipment, as well as any other costs that may reasonably arise in providing the service. Labor charges for service call outs after regular working hours will be at the Utility's overtime rates.

Temporary water supply will be charged rates in accordance with Schedule D of this Tariff.

Schedule I – Rate Rider for Metered Rates - 2021**Applicability:** To all Customers with water meters

Rates:	Monthly Charge
Residential Units	
First 12 cubic meters plus	(\$3.48)
For each cubic meter between 12 and 75 cubic meters	(\$0.15)
For each cubic meter over 75 cubic meters	(\$0.15)
Multi-Residential Units (per unit)	
First 12 cubic meters plus	(\$3.17)
For each cubic meter between 12 and 75 cubic meters	(\$0.15)
For each cubic meter over 75 cubic meters	(\$0.15)
Commercial Units	
First 12 cubic meters plus	(\$3.07)
For each cubic meter between 12 and 75 cubic meters	(\$0.08)
For each cubic meter over 75 cubic meters	(\$0.08)

Schedule I – Rate Rider for Metered Rates - 2022**Applicability:** To all Customers with water meters

Rates:	Monthly Charge
Residential Units	
First 12 cubic meters plus	(\$2.35)
For each cubic meter between 12 and 75 cubic meters	(\$0.10)
For each cubic meter over 75 cubic meters	(\$0.10)
Multi-Residential Units (per unit)	
First 12 cubic meters plus	(\$2.14)
For each cubic meter between 12 and 75 cubic meters	(\$0.10)
For each cubic meter over 75 cubic meters	(\$0.10)
Commercial Units	
First 12 cubic meters plus	(\$2.07)
For each cubic meter between 12 and 75 cubic meters	(\$0.05)
For each cubic meter over 75 cubic meters	(\$0.05)

Schedule I – Rate Rider for Metered Rates - 2023**Applicability:** To all Customers with water meters

Rates:	Monthly Charge
Residential Units	
First 12 cubic meters plus	(\$1.13)
For each cubic meter between 12 and 75 cubic meters	(\$0.05)
For each cubic meter over 75 cubic meters	(\$0.05)
Multi-Residential Units (per unit)	
First 12 cubic meters plus	(\$1.03)
For each cubic meter between 12 and 75 cubic meters	(\$0.05)
For each cubic meter over 75 cubic meters	(\$0.05)
Commercial Units	
First 12 cubic meters plus	(\$1.00)
For each cubic meter between 12 and 75 cubic meters	(\$0.02)
For each cubic meter over 75 cubic meters	(\$0.02)

Schedule J – Rate Rider for Fire Hydrant & Standpipe Rates - 2021

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

Rates:	<u>Charge</u>
Hydrants	(\$46.67) / hydrant / year
Standpipes	(\$18.67) / standpipe / year

Schedule J – Rate Rider for Fire Hydrant & Standpipe Rates - 2022

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

Rates:	<u>Charge</u>
Hydrants	(\$31.49) / hydrant / year
Standpipes	(\$12.59) / standpipe / year

Schedule J – Rate Rider for Fire Hydrant & Standpipe Rates - 2023

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

Rates:	<u>Charge</u>
Hydrants	(\$15.16) / hydrant / year
Standpipes	(\$6.06) / standpipe / year

WATER UTILITY ACT
WATER TARIFF NO. [56](#)
RATES AND TERMS AND CONDITIONS
For
WATER SERVICE
Near
PARKSVILLE, BRITISH COLUMBIA
By
EPCOR WATER (WEST) INC.
10-D 1343 Alberni Highway
Parksville, British Columbia
V9P 2B9

Contact Person(s)

[Eric Taylor](#), Service Manager
EPCOR Water (West) Inc.

This Tariff is available for public inspection between the hours of
8:30 am and 4:30 pm on business days at:

#10-D 1343 Alberni Highway
Pine Tree Centre
Parksville, British Columbia

Accepted for Filing by the
Comptroller of Water Rights

Effective: [●]

Secretary to the Comptroller

Copies of this Tariff may be purchased at the above address at a cost of \$9.50 per copy or may
be viewed online at no charge at www.epcor.com/frenchcreek

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DEFINITIONS

In this Tariff the following definitions shall apply:

- (a) “Authorized Premises” means Premises which are entitled to, and authorized for, service in accordance with the Certificates of Public Convenience and Necessity for the Utility.
- (b) “Complex” means a structure, including an apartment or condominium, that contains more than one Unit and includes mobile home parks, campgrounds, recreation centres, golf courses, cemeteries, hospitals, and farms.
- (c) "Comptroller" means the Comptroller of Water Rights under the *Water Act*, RSBC 1996, chapter 483 and includes any Person designated in writing by the minister as acting, deputy or assistant comptroller.
- (d) "Customer" means any Person who is the owner or lessee of an Authorized Premises and whose application for Water Service has been accepted by the Utility and includes any other Person who has been or is a user of Water Services supplied by the Utility and may include a developer, contractor or other Person depending on the context.
- (e) “Force Majeure” means events or circumstances not reasonably within the control of the Utility, including acts of God, strikes, lockouts or other industrial disturbances, acts of the Queen’s enemies, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, tsunamis, fires, storms, floods, high water, washouts, inclement weather, orders or acts of civil or military authorities, orders or acts of public health authorities, civil disturbances, explosions, breakdowns or accidents of equipment, mechanical breakdowns, intervention of federal, provincial or local governments or any of their respective agencies or boards, the order or direction of any court, and any other cause, whether of the kind enumerated herein or otherwise, provided that lack of funds shall not constitute a circumstance not reasonably within the control of the Utility.
- (f) “Person” includes a corporation and the heirs, executors, administrators or other legal representatives of a person.
- (g) “Plumbing Code” means the British Columbia Plumbing Code, as in effect from time to time.
- (h) “Premises” means land and any buildings and other structures thereon.
- (i) “Rates” means the prices to be paid by a Customer for Water Service provided to the Customer, as prescribed in the Schedules attached to this Tariff.
- (j) “Single Family Residential Equivalent” means and includes a single family dwelling unit intended for the use or occupancy by one or more individuals as a non-profit household, and includes a townhouse and side- by- side duplex up to 3 bedrooms per unit.

- (k) “Unit” means a unit of accommodation occupied, or to be occupied, separately by a Customer and, without restricting the generality of the foregoing, includes the separate units of accommodation in all dwellings.
- (l) “Utility” means EPCOR Water (West) Inc.
- (m) “Waterworks” means the waterworks of the Utility, including without limitation the plant, pipes, equipment, apparatus, appliances, fixtures, property and facilities employed to provide, or in connection with providing, the supply of water to the property line of Customers’ Premises.
- (n) "Water Service" or “Water Services” includes, but is not limited to, the supply of water provided by the Utility to the Customer and the plant, pipes, equipment, apparatus, appliances, fixtures, property and facilities employed to provide, or in connection with providing, such supply to the property line of the Customer’s Premises, and may also include meter-reading and billing.

TERMS AND CONDITIONS

A. Connection of Water Service

1. Application for New Water Service Connections

Applications for new Water Service shall be made at the office of the Utility by the owner or lessee of the Premises for which Water Service is required, or by a duly authorized agent thereof.

All applicant(s) must use the form provided by the Utility and must truthfully disclose:

- (a) the full name of the applicant(s);
- (b) the full name and current address of the Premises owner;
- (c) a detailed description of the intended water use, as determined and evaluated by the Utility or its authorized agent in its sole discretion; and
- (d) the legal description and street address of the Premises to be supplied.

Where the applicant is not the owner of the Premises for which the Water Service is requested, written authorization from the owner of the property for the installation of a new Water Service connection must be provided.

The application must bear the legal signature of each applicant before it shall be considered by the Utility.

2. Service Connection Applications

The Utility shall determine the terms and conditions under which a new Water Service connection shall be provided. The Utility reserves the right to refuse the application if the terms and conditions are not met.

3. Security Deposit Requirement

As a condition precedent to the granting or renewal of Water Service, the Utility may require an applicant, either for Water Service or for a renewal of Water Service, to enter into a written agreement with and/or provide monetary or other security to the Utility, not to exceed the estimated charges for providing Water Service for two billing periods.

4. Water Service Connection to Mains

Water Service connections will be made only to Premises fronting on a gazetted road or highway along which a water distribution main is in place.

5. Water Service Connection Location

If a Premises abuts on two separate streets or roads, the Water Service connection shall be made from the street or road that any building faces or will face when constructed or from the street or road used for the building's municipal address.

If a building has not been constructed on, and a municipal address has not been established for, a Premises, the property line having the shortest length adjacent to a street or road will be the location in which a Water Service connection is provided.

Water Service connections will not be permitted into a panhandle access to a lot, if the lot also has a frontage on another gazetted road.

6. Customer's Pipes and Fixtures

The Customer is responsible for the installation and maintenance of the Customer's waterworks, including pipes and fixtures, within the boundaries of the Premises being serviced from the Customer side of the meter, including the service connection to the meter, unless the Utility and the Customer otherwise agree in writing. All service connection materials (including all service pipes and other fixtures) installed within the Customer's Premises must comply with the Plumbing Code. The Customer's waterworks remain the sole responsibility of the Customer.

No service pipes or fixtures on the Premises shall be covered until they have been inspected and approved by the municipal plumbing or building inspector or other appropriate authority and the Utility shall not turn on the water until it is satisfied that they have been inspected and approved.

7. Installation of Pressure Regulating Devices

At the expense of the Customer, pressure regulating devices shall be installed pursuant to the Plumbing Code in order to reduce the pressure of the Water Service within the Customer's Premises and to protect the waterworks of the Customer.

8. Size of Distribution Main for Service Connection

The minimum permissible size or diameter of all new water distribution mains shall be one hundred fifty (150) millimeters (six (6) inches) except within a cul-de-sac or other dead end termination where future extensions are precluded, where a one hundred (100) millimeters (four (4) inch) diameter pipe may be used. Where a fire hydrant is located on such a branch the portion of the pipe supplying the hydrant shall be a minimum 6" diameter.

9. Metering of New Water Service Connections

All new Water Service connections must be metered.

10. Size of Supply Pipe to Property

The minimum size of pipe that may be used to serve any one Premises shall be nineteen (19) millimeters (three quarters (0.75) of one inch) nominal diameter.

11. Depth of Service Pipes on Property

All waterworks within the boundaries of the Premises to be serviced must be situated below the maximum depth of frost penetration and, in any event, below ground surface at a minimum depth of sixty (60) centimeters (two (2) feet).

12. Connection Policy for Individual Units and Complexes

- (a) Each Unit on a Premises with a single structure that contains four (4) or fewer Units must have a separate metered Water Service connection.
- (b) Complexes may have either a single metered Water Service connection to serve the entire Complex, or at the request of the owner(s) and with the agreement of the Utility, more than one metered Water Service connection.

13. Water Service Connection Where No Main Exists

If an application is made for Water Service connection for a Premises and no water distribution main fronts the Premises, the Water Main Extension Rules set out in Section F of these Terms and Conditions will apply.

14. Applicable Charges and Payment for a New Water Service Connection

At the time an application is approved for Water Service to a Premises:

- (a) that fronts on a gazetted road or highway in which a water distribution main is in place;
- (b) from which the Water Service connection will be made; and
- (c) which has not previously been connected for Water Service;

the applicable charge prescribed in Schedule A of this Tariff shall apply and the charge must be paid in full by the Customer or an agent or representative thereof, prior to the commencement of any work by the Utility. In those cases where the Water Service connection will be provided at cost, the provisions of Subsections 17 and 18 of this Section A will apply.

15. Additional Costs and Expenditures for a Water Service Connection

The specific connection charges prescribed in Schedule A of this Tariff are for a maximum length of twenty (20) meters (sixty six (66) feet) of service pipe and, where necessary, for crossing a paved roadway not more than seven (7) meters (twenty three (23) feet) wide,

but do not include the cost of boring under a paved area or replacing pavement if it is necessary to cut an open ditch through the paved area.

The Customer shall pay all additional costs for boring under pavement, or attempts to bore under pavement, for cutting and repairing pavement where it is deemed necessary by the Utility and for drilling and blasting rock where these procedures are required during the installation of the Water Service line.

16. Responsibility for Costs

In those cases where the Utility provides work or service to the Customer not covered by a specific charge or fee prescribed in Schedule A or another Schedule of this Tariff, the Customer shall pay any and all costs of the work or service as determined by the Utility as provided in Section 2 of Schedule H of this Tariff.

17. Payment Procedure for Costs and Expenditures

Where Schedule A of this Tariff provides that a Water Service connection will be provided at the Utility's cost, the Utility shall provide the Customer with a written estimate of the total cost of the connection, which shall include any and all connection and application charges. Upon receipt of such estimate, and prior to the commencement of any work, the Customer shall make an advance payment to the Utility of the full amount estimated.

18. Reconciliation of Advance Payment and Actual Costs for Connections

The Utility shall provide the Customer with a detailed calculation of the actual total cost of the Water Service connection.

Where the total cost of the Water Service connection, including the applicable connection and application charges, is less than the advance payment deposited with the Utility, the Utility will refund the difference, without interest, to the Customer.

Where the total cost of the Water Service connection, including the applicable connection and application charge, exceeds the advance payment deposited with the Utility, the Utility will bill the Customer for the difference and the Customer will pay the invoice immediately upon receipt. The Utility will not be required to turn on the Water Service until the invoice is paid in full.

19. Misrepresentation

Any misrepresentation on the part of the Customer shall be considered sufficient grounds for refusal to provide Water Service, or if the Water Service has already been connected, sufficient grounds to discontinue all Water Service without notice.

If Water Service is disconnected, no Water Service shall be reconnected without provision of a security deposit in an amount as determined by the Utility, not to exceed the estimated charges for providing Water Service for two billing periods. The security deposit will be

held by the Utility until such time as the Customer no longer requires Water Service. A service charge as prescribed in Schedule H of this Tariff must also be paid before Water Service will be reconnected.

20. Rejection of Water Service Connection Application

The Utility shall have the right to decline an application for the installation of a Water Service connection where the Regional District of Nanaimo, British Columbia or another approving authority will not permit the cutting of pavement and solid or blast rock or other impediment, in the opinion of the Utility, makes boring impractical and/or impossible.

21. Renovation of Premises

If the renovation of Premises with an existing Water Service connection involves significant change to water use on the Premises, then the Utility may require a new Water Service connection to be provided and the applicable costs charged to the Customer as provided in Section 2 of Schedule H of this Tariff.

22. Ownership of Waterworks Assets

The Waterworks, and the plant, pipes, equipment, apparatus, appliances, fixtures, property and facilities and all of the other assets comprising the Waterworks of every nature and kind (whether constructed at the Customer's expense or the Utility's expense) shall be and remain the property of the Utility.

B. Water Meters

1. Supply, Installation and Maintenance of Water Meters

Except as otherwise provided in this Subsection 1 of this Section B, the Utility shall, at the cost of the Customer, supply, install and maintain the water meter in accordance with industry standards, American Waterworks Association (AWWA) specifications and these Terms and Conditions.

The Utility reserves the right to require that a project developer supply and install the water meter(s) for the project. The water meter requirements are as follows:

- (a) the requirements of Subsection 12 of Section A will apply;
- (b) the brand of water meter must be approved by the Utility;
- (c) the water meters are to register in cubic meter and be supplied with a remote readout or touch read pad as prescribed by the Utility;
- (d) the remote readout or touch read pad must be accessible by the meter reader; and
- (e) the water meter shall become and remain the property of the Utility.

2. Location of Water Meter

The water meter shall be set and placed approximately thirty (30) centimeters (twelve (12) inches) outside the property line of the Premises to which Water Service is to be delivered, not within the driveway and at the finished grade elevation, provided that the Utility can make exceptions as is deemed necessary. The Utility reserves the right to specify where the water meter must be installed.

3. Water Meter Connections

Unless expressly agreed otherwise, the Utility shall install the water meter and appurtenances to the Utility's Waterworks. Installation of water meters by the Utility will be in accordance with the Plumbing Code and manufacturer's requirements.

4. Defective or Inaccurate Water Meters

In cases where a water meter either fails to register or does not properly indicate the flow of water, the provisions for estimating water consumption under Subsection 8 of Section D will apply.

5. Willful Interference with a Water Meter

No Person, who is not an authorized agent or employee of the Utility, shall make any connections with, tamper with, or willfully alter, or cause to be altered, any of the Utility's Waterworks within any street or land or within the Utility's rights-of-way or property or

any water meter placed upon any service pipe or connection therewith, within or without any house, building, or other place or structure, so as to lessen or alter the amount and/or flow of water registered, unless specifically authorized by the Utility for that particular purpose and occasion.

6. Damage to Water Meter

If a water meter is lost, damaged or destroyed, the Customer shall pay for the cost of meter replacement or meter removal, repair or reinstallation.

C. Integrity of Waterworks System

1. Cross-Connections Creating a Potential Hazard for Contamination

The Customer shall not permit the waterworks on the Customer's Premises to be connected to any source of water other than that of the Utility or to any potential source of contamination. In any event, the Customer shall notify the Utility without delay of any contamination that is discovered.

In addition to any other requirements of the Utility, if a mechanism to prevent back-flow is necessary to comply with the Plumbing Code to inhibit the entry of contaminants into the Utility's Waterworks, it shall be installed at the Customer's expense and must be of a design approved by the Utility.

2. Maintenance of Back-flow Prevention Devices

Any device installed for the purpose of controlling back-flow shall become the responsibility of the Customer, who must ensure that the device remains in proper working order.

3. Annual Testing of Back-flow Prevention Devices

Any Customer for whom a back-flow prevention device is installed, shall ensure it is tested and in working order at the time of installation, and tested at least once per annum (every 12 months) by a certified tester of such mechanisms, pursuant to the Plumbing Code. If the back-flow prevention device does not pass inspection, it must be repaired or replaced within seven (7) days and be re-inspected at the Customer's expense.

All test results, including descriptions of any repairs, must be reported on a Back-flow Prevention Test Report Form obtained from the Utility. The form provides information for registration and maintenance in the Back-flow Prevention Cross Connection Control Data Base program used by the Utility to track and monitor annual testing of the devices. No other test report forms will be accepted by the Utility. The completed test report forms shall be returned to the Utility within 30 days after the inspection is completed.

4. Contamination of the Waterworks System

Where, in the opinion of the Utility, any condition is found to exist which is contaminating or may contaminate the Waterworks, the Utility, at its discretion, may take one or more of the following actions:

- (a) give notice to the Customer requiring correction of the fault within a specified time period;
- (b) require installation of a back-flow prevention device on any pipe, at the Customer's expense;
- (c) discontinue any Water Service until such time that the condition is corrected;
- (d) perform emergency repairs, maintenance or operations that the Utility deems necessary at the Customer's expense.

5. Responsibility for Correcting Contamination

Should the Customer responsible for the Premises fail to comply with any notice given pursuant to this Tariff concerning potential contamination, the Utility may suspend or discontinue all Water Service provided by the Utility to the Premises which are contaminating or may, in the sole opinion of the Utility, contaminate the Waterworks.

6. Provision for Back-flow Prevention for Lawn and/or Garden Sprinklers

Each and every lawn and/or garden sprinkler installation must be protected with an approved back-flow prevention device, with the minimum being the double check valve assembly, to prevent water from siphoning back into the Utility's Waterworks.

7. Misuse of Water Supply

No Person shall sell or dispose of any water supplied to a Premises for which a Water Service connection has been provided, or permit same to be carried away or used, or use water supplied to the Premises, or allow it to be used on a Premises, other than the property for which the Water Service connection has been provided.

8. Work to be Done by the Utility

No Person, who is not an agent or employee of the Utility, shall make any connections or alterations to, or tamper with, any of the Utility's Waterworks or any water meter belonging to the Utility or turn on or off any Utility stop valve or gate valve, without written authorization from the Utility.

9. Repairs to Leaking or Defective Pipes and Fixtures

All Customers, at their own risk and expense, shall maintain their service connection pipes and other fixtures in good working order and shall protect them from frost and other damage.

If it becomes evident to the Utility that there are leaky or defective service pipes and fixtures with a Water Service connection located on any Customer Premises, the Utility shall notify the Customer of them within a reasonable time, provided that the Utility will have no responsibility to identify leaky or defective pipes and fixtures and no liability for any failure to notify, or delay in notifying the Customer of any such leaky or defective pipes and fixtures.

If the necessary repairs or alterations have not been made by the Customer within two (2) business days after notice has been given or when, in the opinion of the Utility, the condition of the pipes or fixtures is such as to cause serious waste of water or damage to property, then, without further notice, the water supply shall be cut off by shutting the stop valve or by detaching the service pipe from the main. The Water Service shall not be turned on again until such repairs or alterations have been made to the satisfaction of the Utility and all costs and service charges associated with the cut off of the water supply have been paid by the Customer. The Utility will charge the Customer for costs associated with cutting off the water supply and a service charge for reconnection after disconnection, as specified in Sections 1 and 2 of Schedule H of this Tariff.

No Person whose water supply is disconnected pursuant to this Subsection shall have any claim whatsoever against the Utility for discontinuance of the water supply.

10. Approval of Service Pipes and Fixtures

No service pipes and/or fixtures shall be covered until they have been inspected and approved by the municipal plumbing or building inspector or other appropriate authority and the Utility shall not turn on the water until it is satisfied that they have been inspected and approved in accordance with the Plumbing Code.

11. Interruptions in and Refusal of Water Service

The Utility shall have the right at all times to temporarily shut off the water supply to any Premises in order to make such repairs, renewals, alterations and extensions to the Utility's Waterworks as shall, in the opinion of the Utility, be deemed necessary. Whenever possible, the Utility will give reasonable advance notice to the Customer of the shut off.

The Utility reserves the right to refuse to install, or to permit the installation of, a Water Service connection should weather or other conditions, in the opinion of the Utility, make such an undertaking impractical.

12. Call Out Work Restrictions

The Utility shall not be required to perform any work on pipes or fixtures that are not the property of the Utility.

13. Call Out Charge Liability

The Customer is responsible for the satisfactory operation of the Waterworks, including pipes and fixtures, within the boundary of the Premises being serviced.

If the Utility is called out on the basis of a Customer complaint relating to interrupted or diminished service, leaks or low water pressure and it is subsequently found that the fault is not in the Utility's Waterworks, then the Utility shall charge the Customer for the costs incurred by the Utility to respond to the initial Customer complaint as provided in Section 2 of Schedule H. The Customer shall pay the call out charge upon receipt of the bill for the charge. If the call out charge is not paid before the Customer's next regular water billing is processed, it shall be added to the Customer's next water billing.

If it is determined that the interrupted or diminished service, leak or low water pressure is caused by a fault which exists in the Utility's Waterworks, no charge for the call out and/or subsequent repair of the faulty pipes or fixtures shall be levied by the Utility to the Customer.

14. Frozen Pipes and Fixtures

The Customer is responsible for clearing any frozen pipelines or fixtures located on or within the boundary of the Premises receiving Water Service.

If the Utility is requested by a Customer to clear a frozen connection or meter service and it is found that the affected pipeline or fixture is not located within the Utility's Waterworks, then the Utility will charge the Customer the costs incurred by the Utility associated with examining and/or clearing any pipelines or fixtures as provide in Section 2 of Schedule H of this Tariff. The Customer shall pay the charge upon receipt of the bill for the charge. If the charge is not paid before the next regular water billing is processed, it will be added to the Customer's next water billing.

If a frozen connection or meter service is found to exist within the Utility's Waterworks, then no charge for thawing the Waterworks shall be levied by the Utility to the Customer.

The Utility may, as it deems necessary during very cold spells in the winter, require that the Customer leave a faucet running very slowly so as to prevent the Water Service line from freezing. In these cases, the Utility will adjust the water bill of the Customer to reflect the applicable charge for base consumption.

15. Maintenance of Hydrants/Standpipes

In accordance with a certain service agreement with the Regional District of Nanaimo, British Columbia, the Utility provides maintenance of the hydrants and standpipes within the Utility's licensed area. The Utility will inspect, test, maintain and operate each hydrant and standpipe on an annual basis.

The Utility will inspect and service fire hydrants in accordance with the service agreement.

D. Service Issues

1. Change in Customers

- (a) If a Person, who is not a Customer of the Utility, becomes the owner or lessee of the Premises to which Water Service is provided, the owner or lessee, as applicable, must apply for a transfer of the Water Service and become a Customer of the Utility.
- (b) When there is a change in the Person who is the Customer, through a change in ownership of the Premises to which Water Service is provided or a change in the leasing of the Premises, Water Service to the Premises may be disconnected as provided in Subsection 7 of Section I of these Terms and Conditions if all outstanding water bills for Water Service provided to the Premises prior to such change have not been paid when due.

2. Alternate Water Billing

If the Customer is the owner of the Premises to which Water Service is provided, is leasing the Premises to a lessee, and requests that the water bill be sent to the lessee, the Customer shall be required to complete an authorization form using the form provided by the Utility. The authorization form will authorize the Utility to send the water bill in the name of the Customer to the lessee and will require the following information:

- (a) the legal description of the Premises; and
- (b) the current municipal address, including postal code, and telephone number of the Customer.

The authorization form must also bear the legal signature of the Customer before the Utility will consider it.

Notwithstanding that the water bill is sent to the lessee, the Customer will remain responsible for payment of the bill. If the lessee vacates the Premises leaving an outstanding water bill or for any other reason does not pay a water bill when it becomes due, the owner of the Premises shall be responsible to pay the balance owing on the water bill. If the water bill is not paid when due, Water Service to the Premises may be discontinued as provided in Subsection 7 of Section I of these Terms and Conditions.

3. Reasonable Access to Premises

(a) ~~(a)~~ — Easements and Rights-of-Way

At the request of the Utility, a Customer shall grant or cause to be granted to the Utility, without cost to the Utility, such easements or rights-of-way over, upon or under property owned or controlled by the Customer as the Utility reasonably requires for the construction, installation, maintenance, repair and operation of the Waterworks required for Water Service to the Customer and the performance of all other obligations required for Water

Service to the Customer and the performance of all other obligations required to be performed by the Utility under this Agreement.

(b) Right of Entry

- i. The Utility's employees, duly authorized representatives and agents shall have the right to enter a Customer's Premises at all reasonable times, or at any time during an event of Force Majeure, for the purposes of making connections or disconnections, reading meters, inspecting Waterworks and appurtenances, inspecting for back-flow prevention devices and/or possible cross-connections, or documenting or checking on the use, waste, or misuse of water and for any other purpose incidental to the provision of Water Services. A Customer shall not prevent or hinder the Utility's entry to the Customer's Premises for any such purpose. Without limiting the generality of the foregoing, the Utility has the right to enter a Customer's Premises at any reasonable hour to:
 - (1) install, inspect, test, repair or remove Waterworks;
 - (2) perform necessary maintenance to the Waterworks;
 - (3) investigate or respond to a Customer complaint or inquiry; or
 - (4) conduct an unannounced inspection where the Utility has reasonable grounds to believe that theft of Water Services or interference with the Waterworks has occurred or is occurring.
- ii. The Utility shall make reasonable efforts to notify the Customer in advance of entering a Customer's Premises or to notify any other person who is at the Customer's Premises and appears to have authority to permit entry, except:
 - (1) in cases of emergency;
 - (2) where entry is permitted by order of a court or other authority having jurisdiction;
 - (3) where otherwise legally empowered to enter; or
 - (4) where the purpose of the entry is in accordance with Section D, subsection 3(b)(i)(4) of these Terms and Conditions.
- iii. When a Customer who has requested a service call or who has been given advance notice of a required service will not permit the Utility to provide the service during normal business hours of the Utility, the Customer shall be required to pay applicable charges (plus labour overtime charges for any

service provided after regular working hours) as provided in Schedule H of this Tariff to provide the service.

4. Interruptions in Service

The Utility shall have the right at all times to suspend or terminate the supply of water to any Premises without any advance notice, in order to effect emergency repairs, replacements, alterations, or extensions to the Waterworks as the Utility deems necessary. However, for interruptions in excess of 48 hours, a proportionate rebate will be allowed to Customers served on flat rates.

5. Pressure, Supply and Quality

The Utility does not guarantee pressure or continuous supply of water, nor does it accept responsibility at any time for the maintenance of pressure on its lines or for increases or decreases in pressure. The Utility shall not be liable for any damage caused by a discontinuance or interruption in the water supply including for the purpose of repairing, renewing, altering, extending, maintaining, or cleaning the Waterworks or for the connection of a water distribution main extension. The Utility reserves the right at any and all times, without notice, to change operating Water Service for the purpose of making repairs, extensions, alterations or improvements, or for any other reason, and to increase or reduce pressure at any time. Neither the Utility, its directors, officers, employees or agents shall incur any liability of any kind whatsoever by reason of the cessation in whole or in part of water pressure or water supply, or changes in operating pressures, or by reason of the water containing sediments, deposits or other foreign matter including contaminants. Customers depending on a continuous and uninterrupted supply of water or having processes or equipment that require particularly clear or pure water shall provide such emergency storage, over-size piping, pumps, tanks, filters, pressure regulators, check valves, additional service pipes or other means for a continuous and adequate supply of water suitable to their requirements.

6. Locking Mechanisms

If a Customer has violated a provision of this Tariff, or is indebted to the Utility for water supply or other services rendered, the Utility may, in addition to discontinuing the water supply to the Premises in question, physically place a locking mechanism on the Waterworks within the Premises or on the Waterworks immediately outside the property line of the Premises.

The locking mechanism shall not be removed until charges for the removal and all other charges and fees accrued by the Customer have been paid in full. No Person whose water supply is discontinued pursuant to this Tariff shall have any claim against the Utility for discontinuance of the water supply.

7. Access to Water Meters

If the water meter is located on private property, as a condition of service, the Customer shall provide access for installing and maintaining the meter and appurtenances and for meter reading.

Where in the opinion of the Utility, a meter is located on the Customer's Premises or its accessory is situated in an unsafe area, or where its location creates a dangerous situation to a meter reader, the meter or accessory shall be deemed to be an inaccessible meter. The Utility may clear the area or shut off Water Service as appropriate if the meter or accessory remains inaccessible for meter reading and maintenance for a period that exceeds two (2) months. The reconnection fee prescribed in Schedule H of this Tariff will apply.

8. Policy and Procedures for Estimating Water Consumption

If for any reason the Utility is required to estimate the water consumption for a Premises to which Water Service is provided for any given period, the Utility shall adhere to the following procedure:

- (a) the estimate shall be based on the water consumption history and the intended water use by the Customer; or
- (b) if no sufficient history exists on which to base an estimate, the estimate shall be calculated on the basis of an average of the water consumption for similar Premises in the same area.

9. Charges for Alterations to Waterworks System

- (a) Subject to the approval of the Utility, a Customer who desires that the Utility remove, relocate or change the Utility's Waterworks system, including service pipes, meters, valves, chambers, hydrants, fittings and/or appurtenances, shall be required to pay any and all costs related to the removal, relocation or change. A deposit, based on the Utility's written estimates for cost of the work, will be paid to the Utility in advance of commencing the work.
- (b) The Utility shall provide the Customer with a detailed calculation of actual total cost for the alterations to the Waterworks requested by the Customer.

Where the total cost of the alterations is less than the advance payment deposited with the Utility, the Utility will refund the difference, without interest, to the Customer.

Where the total cost of the alterations exceeds the advance payment deposited with the Utility, the Utility will bill the Customer for the difference and the Customer will pay the bill immediately upon receipt. Failure to pay the Utility immediately upon receipt of the bill shall be sufficient grounds for the Utility not to provide Water Service.

E. Compliance

1. Penalties for Failure to Comply with Tariff

Where any Customer fails to comply with the Terms and Conditions contained in this Tariff, the Utility, after giving written notice of three (3) business days, may undertake any lawful action or actions it deems necessary to enforce compliance. Any costs incurred by such action or actions shall be recovered from the Customer as a service charge under this Tariff regardless of whether or not it is specifically included in this Tariff.

2. Willful Interference with Waterworks

No Customer or any other Person, who is not an authorized agent or employee of the Utility, shall make any connections with, tamper with, or willfully alter, or cause to be altered, any of the Utility's Waterworks within any street or land or within the Utility's rights-of-way or property or any water meter placed upon any service pipe or connection therewith, within or without any house, building, or other place or structure, so as to lessen or alter the amount and/or flow of water registered, unless specifically authorized by the Utility for that particular purpose and occasion.

At the discretion of the Utility, such interference may result in immediate termination of Water Service. No Water Service so terminated shall be reconnected without both payment of the charges prescribed in Schedule H of this Tariff and approval of the Utility.

F. Water Main Extension Rules

1. Application for Extensions

All applications for extensions of existing Water Service distribution works shall be made in writing to the Utility by the owner of the Premises to which the application refers and to which Water Service is desired or a duly authorized agent of the owner. The Utility shall determine the terms and conditions of obtaining service.

Each application for extension of service requires an amendment to the Utility's Certificate of Public Convenience & Necessity (CPCN) to include the lot(s) within its authorized service area. In response to each application, the Utility will detail the terms and conditions of service, including all rates and charges applicable. Prior to issuance of an amended CPCN, confirmation is required that either a deposit into the Utility's Deferred Capacity Trust Fund under Schedule B of this Tariff has been made or that additional works have been constructed and contributed to the Utility by the applicant as required by the Comptroller of Water Rights.

Once the amended CPCN is issued, and while lot(s) are not receiving service, availability of service charges under Schedule G of this Tariff will be applicable.

2. Information on Proposed Developments

An applicant(s) who has applied for an extension of a main to serve a proposed development shall be required to provide the Utility with the following information in respect of the development:

- (a) the legal description and municipal address of the proposed development;
- (b) one set of drawings of the proposed development identifying the height of the proposed structure and the number of suites for both residential and commercial use;
- (c) the anticipated fire flow requirements and water requirements for the proposed development;
- (d) a contact name, telephone number, and/or fax number should the Utility require any additional information pertaining to the development;
- (e) the scheduling of the construction and the anticipated time line for completion of the development; and
- (f) advance notice if a temporary water supply will required under Section G of these Terms and Conditions for construction purposes.

3. Right to Refuse Extensions

The Utility reserves the right to refuse to make a water main extension should weather or other conditions, in the opinion of the Utility, make such undertaking impractical.

The Utility will not be required to make extensions where road grades have not been brought to those established by public authority.

4. Ownership of Extensions to Waterworks System

All extensions to the Waterworks system that may be installed (whether paid for by the Utility or by the applicant(s) or the Customer, as applicable) shall be the sole property of the Utility.

5. Extensions within Road Rights-of-Way or Utility's Easement or Property

All extensions of water mains shall be located along a gazetted road or highway within the right-of-way for the road or highway or in an easement held in the name of the Utility or on property solely owned by the Utility.

6. Construction and Design of Extensions

The size, type, quality of materials for a water main extension and their location will be specified by the Utility and the actual construction will be done by the Utility or by a construction agency acceptable to the Utility.

7. Connection of Extensions to Mains

The Utility or its authorized representative or agent shall make all connections of an extension of the water main to existing live water mains. The applicant(s) shall pay the cost of making all such connections prior to the Utility making the connection.

8. Advance Requirements

(a) An applicant(s) who has applied for an extension of a water main to serve a subdivision or housing project shall be required to advance to the Utility, before construction is commenced, by way of a cash deposit, the estimated cost of the Waterworks to be installed including, without limitation,

- (i) the estimated cost of any upgrade in size or capacity of any part of the existing Waterworks; and
- (ii) the estimated cost of installation of the main required to serve such project, including necessary valves, fittings and fire hydrants.

- (b) If pipelines to a subdivision do not exist, the estimate cost of the extension shall be based upon a pipeline of sufficient diameter to supply the entire subdivision in accordance with requirements for fire flows.
- (c) In determining the physical length of the water main extension necessary to render service to any point, the distance from such point to the nearest distribution main, with the required capacity and flow requirements to satisfy the requirements of the proposed service, the “Suitable Main” shall be considered along lines of proper construction and common practice in the location of public waterworks, with due consideration being given to the general layout of the Utility’s Waterworks system. The length of the extension shall be measured along such lines of proper construction and common practice from the Suitable Main to the middle of the furthest property to be serviced.
- (d) Where a water main extension must comply with a law, statute, bylaw, ordinance, regulation, specification or order of a public authority, the estimated cost of the extension shall be based upon the Waterworks required to comply therewith.

9. Advances by Original Applicants

- (a) When more than one applicant is involved and an advance is required for a water main extension, then the amount of the advance shall be divided equally or as otherwise agreed among the applicants and made known to the Utility.
- (b) Any adjustments to differences between the estimated cost and the actual cost of any main extension made shall be completed within ninety (90) days after the actual cost of the installation has been ascertained by the Utility and after the installed works have been disinfected and pressure tested to the satisfaction of the Utility.
- (c) The Utility shall maintain, at all times during installation of the water main extension and for a period of ninety (90) days following both the completion of construction and the initial approval by the Utility, a minimum of fifteen percent (15%) of the total deposit made by the applicant(s) so as to allow sufficient time for all contractors and suppliers to submit bills and for satisfactory performance of the installation to be proven.
- (d) Upon completion of the construction and installation of the water main extension, the Utility shall ascertain the actual cost of the construction and installation.
- (e) If the actual cost is less than the amount of the advance received from the applicant(s), the remaining portion of the advance will be refundable to the applicant(s) in accordance with Subsection 9(f) of this Section F, without interest.

If the actual cost exceeds the amount of the advance received from the applicant(s), the Utility shall bill the applicant(s) for the difference and the applicant(s) shall pay the bill immediately upon receipt. Failure to pay the Utility immediately upon receipt of the bill shall be sufficient grounds not to provide Water Service.

- (f) At the end of the ninety (90) day period, provided that all suppliers and contractors have then submitted their bills and the installation has then proven to be satisfactory, the Utility shall return any refundable portion of the advance to the applicant(s) and the Utility will accept no further responsibility for any costs in connection with the development.

10. Advances by Customers Connecting to Water Main Extension

An extension charge equal to a pro-rata share of the original cost of the water main extension shall be collected by the Utility from each Customer who makes an application for a Water Service connection to the original main extension within five (5) years. The extension charge collected above shall be refunded equally, or as agreed otherwise, to the Customers who already have advances deposited with the Utility as a result of connection to the extension, so that in the result all Customers will have paid their pro-rated share or as otherwise agreed by them and made known to the Utility.

11. Application of Advances

Advances required from an applicant(s) in payment for water main extensions will be held by the Utility without interest. Refunds will be made in accordance with Subsection 10 and this Subsection 11 and no Person will have refunded an amount in excess of the amount of the advance received by the Utility. Refunds will be paid to the current registered owners of the properties on account of which the advances were received.

Any amount not used by the Utility for construction of the extension and not refunded at the end of five years from the date the advance was received by the Utility from the original applicant or applicants will be retained by the Utility and transferred to the Deferred Capacity Trust Fund account. Thereafter additional customers will be connected without being required to pay the extension charge.

G. Temporary Water Service

Any contractor, developer or other Person (“Temporary Customer”) who requires temporary Water Service for the purposes of construction or expansion of a development or for another reason must make an application to the Utility and, if the application is approved, may acquire water from a standpipe or hydrant as designated by the Utility subject to the following conditions:

1. Connections to Fire Hydrants or Standpipes

- (a) All connections to the fire hydrant or standpipe must be fitted with a back-flow prevention device, and an independent shut off valve to regulate the flow. The back-flow prevention device must be approved by the Utility and shall either be provided by the party requiring the service, or rented from the Utility at a daily rate prescribed by the Utility. If the device is rented from the Utility, the party requiring the device shall be responsible for the costs associated with the proper installation, maintenance and disconnection of the device and also for any damage to the device.
- (b) If the fire hydrant or standpipe is required by the Parksville or Qualicum Beach Fire Protection Districts for an emergency situation, including an event of Force Majeure, the Temporary Customer must remove any connections to a hydrant or standpipe without delay.
- (c) All tanker trucks, street sweepers, and water sprinkler trucks, etc. must be fitted with a back-flow prevention device approved by the Utility and permission to use the fire hydrant must be obtained from the Utility before hooking up to a fire hydrant for the purpose of taking on water.

2. Connections to Temporary Service Pipe

- (a) The Temporary Customer shall keep a record of the amount of water consumed when connected to a temporary service pipe and shall advise the Utility promptly when the Water Service is no longer required and report to the Utility the amount of water consumed. The Utility will provide a water meter for the purpose of recording the consumption, however, the Temporary Customer will be responsible to cover the cost of any damage to said device.
- (b) The Utility shall issue a bill for water consumed by the Temporary Customer based on Rates as prescribed in the applicable Schedules of this Tariff. The bill shall be payable immediately upon receipt.

H. Disconnection of Water Service

1. Disconnection for Non-Payment

The Utility may withhold or disconnect the supply of water from any Customer who is already indebted to or in dispute with the Utility for Water Service or any other service provided by the Utility.

2. At Customer Request

No water rate shall be charged with respect to Water Service to any property that has been disconnected for a period of one (1) month or more and where;

- (a) the Water Service connection to the property remains unused; and
- (b) the Water Service has been turned off at the request of the Customer.

Any Customer who wishes to discontinue Water Service for a period of one (1) month or more shall give to the Utility at least seven (7) days written notice of the discontinuance. If the Customer fails to give the required written notice, the Customer shall continue to be responsible for payment for Water Service.

3. Unauthorized Service

Where a Water Service connection has been made or Water Service has been turned on without proper authorization from the Utility, the Utility may remove the water meter unless and until the applicable charges, as prescribed in Schedule H of this Tariff, have been paid in advance to the Utility by, or on behalf of, the Customer to defray the costs of the removal and replacement of the said water meter. The charges shall be in addition to any other charges outstanding against the Premises or required to be paid in order to receive Water Service pursuant to these Terms and Conditions.

4. Non-Compliance

The Utility may discontinue Water Service to any Customer for non-compliance with these Terms and Conditions. Where Water Service is discontinued for non-compliance with these Terms and Conditions, the Utility shall not permit a reconnection for any Customer until proof of compliance with these Terms and Conditions is demonstrated and both the service charge prescribed in Schedule H of this Tariff for reconnection after disconnection and a security deposit in an amount equal to two times the highest bill in the previous three billing periods, or twelve months, whichever is greater, is paid by way of cash deposit, certified cheque or satisfactory letter of credit to the Utility.

5. Resumption of Water Service

If Water Service is turned off or disconnected, Water Service will not be turned on or reconnected until all outstanding charges and fees for services rendered have been paid in full to the Utility as per this Tariff.

6. Charges for Service Resumption

Where any applicable charges and fees have been paid according to the requirements of this Tariff, and a Customer first becomes connected to a service by the turn of a valve in an existing service pipe, or when a Customer becomes reconnected after service has been shut off either for non-payment, non-compliance with these Terms and Conditions or at the request of the Customer, the service charge for any such turn on or reconnection of Water Service shall be as prescribed in Schedule H of this Tariff.

I. Payment for Services Rendered

1. Calculation of Water Charges

All water charges are calculated in accordance with the applicable rates prescribed in the Schedules attached to this Tariff.

2. Bill and Payment

All water bills will be issued by the Utility to Customers at time intervals determined by the Utility and shall be due and payable at the Utility office or at any duly authorized collecting agency within 10 days from the issue date of the water bill.

3. Meter Reading

Water bills will be based on meter reads with meter reading schedules as determined by the Utility.

4. Dishonored Cheques

When, for any reason whatsoever, a cheque issued to the Utility in payment of a bill is dishonored, the Customer shall be required to immediately pay a service charge as prescribed in Schedule H of this Tariff, related bank charges and any outstanding amounts owed to the Utility.

5. Payment Calculation if Meters Malfunction

In cases where a meter for the Water Service to a Premises is found not to register, or appears to have registered incorrectly, for billing purposes the Utility shall compute the water charges for the property based on the procedures for estimating water consumption set out in Section D, Subsection 8.

6. Appeal of Calculation of Water Charges

Any Customer obtaining water from the Utility's Waterworks may formally register a complaint with the Utility regarding the amount of any water bill, no later than thirty (30) days from the issue date of the bill.

7. Policy Regarding Bill Collection

In the case of non-payment by a Customer of charges after the same have become due and payable, the following procedures will be followed by the Utility:

- (a) When a bill issued for Water Service provided to a Premises becomes one (1) month overdue, the Water Service to the Premises in respect of which the bill is due and payable may be disconnected upon fifteen (15) days written notice. A disconnection notice mailed to the last known postal address of the Customer shall be deemed good and sufficient notice and the notice will be deemed to have been given on the date that it is mailed.

- (b) If payment is not received at the Utility office during normal working hours within fifteen (15) days after the disconnection notice is given, the Utility may disconnect the Water Service in respect of which the disconnection notice has been given without any further notice to the Customer or any other Person.
- (c) If the Water Service is discontinued as the result of non-payment, the Utility shall not reconnect the Water Service, except upon payment of the whole amount due and payable together with service charges as prescribed in Schedule H of this Tariff for the expense of disconnecting and reconnecting the Water Service.

8. Change of Billing Address Information

All Customers must, at all times, inform the Utility of any and all changes to any billing address, including changes to telephone numbers or fax numbers.

9. Additional Charges for Delinquent Bill Collection

All additional charges incurred in the collection of a delinquent water bill must be paid to the Utility in full prior to the reconnection of Water Service. Such additional charges shall include, but are not limited to, charges incurred through the use of any collection agencies or other methods employed in retrieving delinquent payments.

10. Lost Bills

If a Customer loses a bill or does not receive a bill, the Customer must contact the Utility to determine the amount owing. Loss of a bill or the failure to receive a bill does not release a Customer from the obligation to pay the amount owing to the Utility. The late payment charges under Subsection 11 of this Section I will apply if the bill is not paid by its due date.

11. Late Payment Charge

At the discretion of the Utility, if a Customer does not pay a bill in full by the due date as specified in the bill, the Customer will be liable to pay to the Utility, in addition to the amount of the bill, a late payment charge equal to interest at 2.0% of the outstanding amount of the bill, compounded monthly, will apply. Should the bill remain outstanding after the due date, the Utility may commence collection action.

J. General

1. Disagreement in the Application of Terms and Conditions of Water Service

In case of disagreement regarding the application of these Terms and Conditions, or in circumstances where such application of these Terms and Conditions appears impracticable or unjust to either party, the Utility, or the applicant(s) or the Customer may refer the matter to the Comptroller of Water Rights for a ruling.

2. Limitation on Liability

Notwithstanding anything to the contrary contained in these Terms and Conditions, neither the Utility nor the Customer shall be liable to the other party for any damage, cost, expense, injury loss or other liability of an indirect, special or consequential nature suffered by the other party or claimed by any third party against the other party, howsoever arising. Without limiting the generality of the foregoing, damage, injury or loss of an indirect, special or consequential nature shall include loss of revenue, loss of profits, loss of production, loss of earnings, loss of contract, cost of capital and loss of the use of any facilities or property or any other similar damage or loss whatsoever.

3. Force Majeure

(a) Force Majeure Relief

If an event or circumstance of Force Majeure occurs that adversely affects the Utility's ability to provide a service connection or Water Service, the Utility's obligations and responsibilities under these Terms and Conditions, and under any agreement relating to service connections or provision of Water Services, so far as they are affected by the event of Force Majeure or the consequences thereof, shall be suspended until such Force Majeure event or the consequences thereof are remedied for such period thereafter as may reasonably be required to restore the service connection or Water Services. All charges for consumption, including the applicable charge for base consumption, in all customer classes will continue to be payable during the period in which the Utility claims relief by reason of Force Majeure.

(b) Notice

The Utility shall where practicable give notice of an event of Force Majeure to Customers affected and shall, where practicable, give notice to Customers affected when the Force Majeure event ceases to prevent performance of the Utility's obligations.

(c) Obligation to Remedy

The Utility shall promptly remedy the cause and effect of the Force Majeure event insofar as it is reasonable to do so.

(d) Strikes and Lockouts

Notwithstanding any other provision of these Terms and Conditions, the settlement of any strike, lockout or other industrial disturbance shall be wholly at the discretion of the Utility, and the Utility may settle such strike, lockout or industrial disturbance at such time and on such terms and conditions as it may deem appropriate. No failure or delay in settling such strike, lockout or industrial disturbance shall constitute a cause or event within the control of the Utility or deprive the Utility of the benefits of this section.

4. Restrictions on Use of Water

The Utility may restrict or prohibit the use of water for gardening, sprinkling, air conditioning, the filling of swimming pools or other purposes when, in its opinion, such action is necessary to conserve the water supply or to maintain water pressure. The Customer shall comply with all such restrictions and prohibitions.

5. Water Meter Testing

When any Customer whose Water Service is metered makes a complaint that their account is, in the Customer's opinion, excessive, the Utility will make an inspection for leaks at the meter box. If the Utility finds no leaks and, should the Customer continue to feel that the Customer is being charged for excessive consumption, the Customer can make a request in writing to have the water meter tested for accuracy.

Upon receipt of the request and payment of the fee, the Utility will remove the meter and send it to the manufacturer or its agent for testing. The complainant will in due course receive a copy of the report from the manufacturer or agent. Where the test shows an error in registering the quantity of water passing through the meter of over five percent (5%) in favor of the Utility, a new water meter will be installed.

However, if the test shows an accurate measurement of water or an error in favour of the Customer, the Utility will bill the Customer for all applicable costs pertaining to the test request and, in the case of an error in favour of the Customer, the Customer's account for Water Service will be adjusted accordingly.

C McMillan
Secretary to the Comptroller

Schedule A – Water Service Connection

Applicability: To all applications for Water Service from an existing water distribution main.

Rates:

(a) Connection Charge At Cost

The Connection Charge recovers the cost incurred by the Utility, not otherwise recovered, of installing a service connection from the water main to a curb stop and, if required, a meter at the property line of the Customer’s Premises or in the building. Cost includes any administrative overhead incurred.

(b) Connection of Customer’s Service Pipe to an Existing Curb Stop At Cost

Where, at a time prior to a Customer’s application for service, a service connection has been installed at no cost to the Utility or at a cost otherwise recovered by the Utility, then upon connection of the service pipe, the rate shown in (b) shall be paid upon application for service.

C McMillan
Secretary to the Comptroller

Schedule B – Contribution in Aid of Future Construction

Applicability: Where as a result of Premises becoming qualified as Authorized Premises and a greater number of units require or may require service from the Utility, thus utilizing Waterworks capacity presently or in the future. Then upon application for an extension of service, in addition to the water service connection charge and any main extension costs, the charges shown below shall be paid.

Monies collected are to be deposited to the Utility’s Deferred Capacity Trust Fund and may only be released with the written authorization of the Comptroller of Water Rights.

Rates:	<u>Charge</u>
<u>Effective January 1, 2021</u>	
<u>For each unit qualifying as Authorized Premises</u>	<u>\$21,600*</u>
<u>Effective January 1, 2022</u>	
<u>For each unit qualifying as Authorized Premises</u>	<u>\$19</u> <u>\$22,000*</u>
<u>Effective January 1, 2023</u>	
<u>For each unit qualifying as Authorized Premises</u>	<u>\$22,500*</u>

* Charge is based on the number of Residential Single Family equivalent units as describe below:

- Residential Single Family – 1 unit = 1 dwelling unit (0.01865 L/s)
- Residential Multi-Family – 1 unit = 1 dwelling unit
- Commercial – number of units = Development Max Day Demand/0.01865 L/s, rounded up to the next whole number

C McMillan
Secretary to the Comptroller

Schedule C – Residential, Multi-Residential & Commercial Service Flat Rates - 20182021

Applicability: Within the authorized service area of the Utility

Rates:	Monthly Flat Rate Charge
Residential Units	\$47.50 <u>43.45</u>
Multi-Residential Units (per unit)	\$43.32 <u>39.53</u>
Commercial Units	\$41.38 <u>38.39</u>

C McMillan
Secretary to the Comptroller

Schedule C – Residential, Multi-Residential & Commercial Service Flat Rates - 20192022

Applicability: Within the authorized service area of the Utility

Rates:	Monthly Flat Rate Charge
Residential Units	\$46.90 <u>43.45</u>
Multi-Residential Units (per unit)	\$42.77 <u>39.53</u>
Commercial Units	\$40.86 <u>38.39</u>

C McMillan
Secretary to the Comptroller

Schedule C – Residential, Multi-Residential & Commercial Service Flat Rates - 20202023

Applicability: Within the authorized service area of the Utility

Rates:	Monthly Flat Rate Charge
Residential Units	\$46.30 <u>43.45</u>
Multi-Residential Units (per unit)	\$42.23 <u>39.53</u>
Commercial Units	\$40.34 <u>38.39</u>

C McMillan
Secretary to the Comptroller

Schedule D – Metered Rates - 20192021

Applicability: To all Customers with water meters

Rates:	Monthly Charge
Residential Units	
First 15 <u>12</u> cubic meters plus	\$ 46.90 <u>43.45</u>
For each cubic meter between 15 <u>12</u> and 75 cubic meters	\$ <u>1.9593</u>
For each cubic meter over 75 cubic meters	\$ <u>1.9593</u>
Multi-Residential Units (per unit)	
First 15 <u>12</u> cubic meters plus	\$ 42.77 <u>39.53</u>
For each cubic meter between 15 <u>12</u> and 75 cubic meters	\$ <u>1.9593</u>
For each cubic meter over 75 cubic meters	\$ <u>1.9593</u>
Commercial Units	
First 15 <u>12</u> cubic meters plus	\$ 40.86 <u>38.39</u>
For each cubic meter between 15 <u>12</u> and 75 cubic meters	\$ <u>0.9896</u>
For each cubic meter over 75 cubic meters	\$ <u>0.9896</u>

C McMillan
Secretary to the Comptroller

Schedule D – Metered Rates - 20202022

Applicability: To all Customers with water meters

Rates:

	<u>Monthly Charge</u>
<u>Residential Units</u>	
<u>First 12 cubic meters plus</u>	<u>\$43.45</u>
<u>For each cubic meter between 12 and 75 cubic meters</u>	<u>\$ 1.93</u>
<u>For each cubic meter over 75 cubic meters</u>	<u>\$ 1.93</u>
<u>Multi-Residential Units (per unit)</u>	
<u>First 12 cubic meters plus</u>	<u>\$39.53</u>
<u>For each cubic meter between 12 and 75 cubic meters</u>	<u>\$ 1.93</u>
<u>For each cubic meter over 75 cubic meters</u>	<u>\$ 1.93</u>
<u>Commercial Units</u>	
<u>First 12 cubic meters plus</u>	<u>\$38.39</u>
<u>For each cubic meter between 12 and 75 cubic meters</u>	<u>\$ 0.96</u>
<u>For each cubic meter over 75 cubic meters</u>	<u>\$ 0.96</u>

C McMillan
Secretary to the Comptroller

Schedule D – Metered Rates - 2023

Applicability: To all Customers with water meters

Rates:	Monthly Charge
Residential Units	
First 15 <u>12</u> cubic meters plus	\$46.30 <u>\$43.45</u>
For each cubic meter between 15 <u>12</u> and 75 cubic meters	\$ 1.93
For each cubic meter over 75 cubic meters	\$ 1.93
Multi-Residential Units (per unit)	
First 15 <u>12</u> cubic meters plus	\$42.23 <u>\$39.53</u>
For each cubic meter between 15 <u>12</u> and 75 cubic meters	\$ 1.93
For each cubic meter over 75 cubic meters	\$ 1.93
Commercial Units	
First 15 <u>12</u> cubic meters plus	\$40.34 <u>\$38.39</u>
For each cubic meter between 15 <u>12</u> and 75 cubic meters	\$ 0.96
For each cubic meter over 75 cubic meters	\$ 0.96

C McMillan
Secretary to the Comptroller

Schedule E – Fire Hydrant & Standpipe Rates - ~~2020~~2021

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

Rates:	<u>Charge</u>
Hydrants	\$582.84/ hydrant / year
Standpipes	\$233.14/ standpipe / year

C McMillan
Secretary to the Comptroller

Schedule E – Fire Hydrant & Standpipe Rates - 2022

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

<u>Rates:</u>	<u>Charge</u>
<u>Hydrants</u>	<u>\$582.84 / hydrant / year</u>
<u>Standpipes</u>	<u>\$233.14 / standpipe / year</u>

C McMillan
Secretary to the Comptroller

Schedule E – Fire Hydrant & Standpipe Rates - 2023

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

<u>Rates:</u>	<u>Charge</u>
<u>Hydrants</u>	<u>\$582.84 / hydrant / year</u>
<u>Standpipes</u>	<u>\$233.14 / standpipe / year</u>

C McMillan
Secretary to the Comptroller

Schedule F – Intentionally Omitted

C McMillan
Secretary to the Comptroller

Schedule G – Availability of Service Charge per Rent Charge Agreements - 20182021

Applicability: To owners of the legal subdivision with Rent Charge Agreements eligible to be registered on title.- The Rent Charge becomes effective and due and payable on the first day of the month following CPCN issuance and acceptance of certified as-built drawings (i.e., when lot or lots are eligible for subdivision registration).

Availability: All owners of the lots to which this Rent Charge is applicable shall pay the rate during the period they are not users of water service.

Rate: ~~\$ 398.99~~ \$ 365.01 per annum, per residential services lot

Notes:

1. For other than residential services lots, the Rent Charge shall be calculated on a Single Family Residential Equivalent basis.
2. Once a customer has received approval to connect to the Utility's waterworks, has passed inspection and has been accepted by the Utility as a customer, this Rent Charge will no longer apply to the portion of the property connected to the Utility's waterworks. -A pro-rated refund of the Rent Charge will be credited to the customer's account, if applicable. If service is temporarily shut-off (e.g., seasonal use), the customer shall pay a minimum of the Rent Charge payable on a pro-rated basis while disconnected or a greater amount if specified in another rate schedule(s) of the Tariff.
3. For the purposes of this Schedule, townhouses and side-by-side duplexes are equivalent to one (1) single family residential premises.
4. Any arrears of Rent Charges shall bear interest from the due date until payment at a rate of 18% per annum accruing daily, and shall be a charge upon the Lands or Future Lot or Lots in question in the same manner as the Rent Charge charged on the Lands.

C McMillan
Secretary to the Comptroller

Schedule G – Availability of Service Charge per Rent Charge Agreements - ~~2019~~2022

Applicability: To owners of the legal subdivision with Rent Charge Agreements eligible to be registered on title.- The Rent Charge becomes effective and due and payable on the first day of the month following CPCN issuance and acceptance of certified as-built drawings (i.e., when lot or lots are eligible for subdivision registration).

Availability: All owners of the lots to which this Rent Charge is applicable shall pay the rate during the period they are not users of water service.

Rate: ~~\$ 393.94~~ \$ 365.01 per annum, per residential services lot

Notes:

5. For other than residential services lots, the Rent Charge shall be calculated on a Single Family Residential Equivalent basis.
6. Once a customer has received approval to connect to the Utility's waterworks, has passed inspection and has been accepted by the Utility as a customer, this Rent Charge will no longer apply to the portion of the property connected to the Utility's waterworks. -A pro-rated refund of the Rent Charge will be credited to the customer's account, if applicable. If service is temporarily shut-off (e.g., seasonal use), the customer shall pay a minimum of the Rent Charge payable on a pro-rated basis while disconnected or a greater amount if specified in another rate schedule(s) of the Tariff.
7. For the purposes of this Schedule, townhouses and side-by-side duplexes are equivalent to one (1) single family residential premises.
8. Any arrears of Rent Charges shall bear interest from the due date until payment at a rate of 18% per annum accruing daily, and shall be a charge upon the Lands or Future Lot or Lots in question in the same manner as the Rent Charge charged on the Lands.

C McMillan
Secretary to the Comptroller

Schedule G – Availability of Service Charge per Rent Charge Agreements - ~~2020~~2023

Applicability: To owners of the legal subdivision with Rent Charge Agreements eligible to be registered on title.- The Rent Charge becomes effective and due and payable on the first day of the month following CPCN issuance and acceptance of certified as-built drawings (i.e., when lot or lots are eligible for subdivision registration).

Availability: All owners of the lots to which this Rent Charge is applicable shall pay the rate during the period they are not users of water service.

Rate: ~~\$ 388.96~~ \$ 365.01 per annum, per residential services lot

Notes:

9. For other than residential services lots, the Rent Charge shall be calculated on a Single Family Residential Equivalent basis.
10. Once a customer has received approval to connect to the Utility's waterworks, has passed inspection and has been accepted by the Utility as a customer, this Rent Charge will no longer apply to the portion of the property connected to the Utility's waterworks. -A pro-rated refund of the Rent Charge will be credited to the customer's account, if applicable. If service is temporarily shut-off (e.g., seasonal use), the customer shall pay a minimum of the Rent Charge payable on a pro-rated basis while disconnected or a greater amount if specified in another rate schedule(s) of the Tariff.
11. For the purposes of this Schedule, townhouses and side-by-side duplexes are equivalent to one (1) single family residential premises.
12. Any arrears of Rent Charges shall bear interest from the due date until payment at a rate of 18% per annum accruing daily, and shall be a charge upon the Lands or Future Lot or Lots in question in the same manner as the Rent Charge charged on the Lands.

C McMillan
Secretary to the Comptroller

Schedule H – Miscellaneous Service Charges

This Schedule sets out the charges and fees prescribed for the following work or services rendered by the Utility.

1. Service Charges and Fees for Specified Services

<u>Description of Work or Service</u>	<u>Amount</u>
Reconnection after disconnection at customer's request	\$ 50.00
Reconnection after disconnection	\$ 50.00
Dishonored Cheques	\$ 25.00
Application for Water Service	\$ 25.00
Service Shut-Off Charge	\$30.00
<u>Vacuum Breaker Installation Fee</u>	<u>\$ 75.00</u>
Restriction of Water Use - Violation Charge	\$50 \$100.00
<u>Willful Interference with a Water Meter</u>	<u>\$100.00</u>
<u>Illegal Connection Fee</u>	<u>\$500.00</u>
<u>Illegal Use of a Fire Hydrant</u>	<u>\$500.00*</u>
<u>*plus applicable repair costs</u>	

2. Charges for Other Work and Services

The Utility will charge the Customer for any work or service provided, for which a charge or fee is not specifically prescribed, the Utility's costs of providing such work or service. Such costs will include repayment of all monies expended by the Utility for gross wages and salaries, administrative costs, employee fringe benefits, and materials, as calculated by the Utility. The costs will also include any expenditure for equipment rentals at rates paid by the Utility or set by the Utility for its own equipment, as well as any other costs that may reasonably arise in providing the service. Labor charges for service call outs after regular working hours will be at the Utility's overtime rates.

Temporary water supply will be charged rates in accordance with Schedule D of this Tariff.

C McMillan
Secretary to the Comptroller

Schedule I – Rate Rider Refund for Metered Rates - 20182021

Applicability: To all Customers with water meters

Rates:	Monthly Charge
Residential Units	
First 15 <u>12</u> cubic meters plus	(\$ 3.38 <u>48</u>)
For each cubic meter between 15 <u>12</u> and 75 cubic meters	(\$0.15)
For each cubic meter over 75 cubic meters	(\$0.15)
Multi-Residential Units (per unit)	
First 15 <u>12</u> cubic meters plus	(\$ 3.08 <u>17</u>)
For each cubic meter between 15 <u>12</u> and 75 cubic meters	(\$0.15)
For each cubic meter over 75 cubic meters	(\$0.15)
Commercial Units	
First 15 <u>12</u> cubic meters plus	(\$ 2.95 <u>3.07</u>)
For each cubic meter between 15 <u>12</u> and 75 cubic meters	(\$ 0.07 <u>08</u>)
For each cubic meter over 75 cubic meters	(\$ 0.07 <u>08</u>)

C McMillan
Secretary to the Comptroller

Schedule I – Rate Rider Refund for Metered Rates - 2022

Applicability: To all Customers with water meters

<u>Rates:</u>	<u>Monthly Charge</u>
<u>Residential Units</u>	
<u>First 12 cubic meters plus</u>	<u>(\$2.35)</u>
<u>For each cubic meter between 12 and 75 cubic meters</u>	<u>(\$0.10)</u>
<u>For each cubic meter over 75 cubic meters</u>	<u>(\$0.10)</u>
<u>Multi-Residential Units (per unit)</u>	
<u>First 12 cubic meters plus</u>	<u>(\$2.14)</u>
<u>For each cubic meter between 12 and 75 cubic meters</u>	<u>(\$0.10)</u>
<u>For each cubic meter over 75 cubic meters</u>	<u>(\$0.10)</u>
<u>Commercial Units</u>	
<u>First 12 cubic meters plus</u>	<u>(\$2.07)</u>
<u>For each cubic meter between 12 and 75 cubic meters</u>	<u>(\$0.05)</u>
<u>For each cubic meter over 75 cubic meters</u>	<u>(\$0.05)</u>

C McMillan
Secretary to the Comptroller

Schedule I – Rate Rider Refund for Metered Rates - 2023

Applicability: To all Customers with water meters

<u>Rates:</u>	<u>Monthly Charge</u>
<u>Residential Units</u>	
<u>First 12 cubic meters plus</u>	<u>(\$1.13)</u>
<u>For each cubic meter between 12 and 75 cubic meters</u>	<u>(\$0.05)</u>
<u>For each cubic meter over 75 cubic meters</u>	<u>(\$0.05)</u>
<u>Multi-Residential Units (per unit)</u>	
<u>First 12 cubic meters plus</u>	<u>(\$1.03)</u>
<u>For each cubic meter between 12 and 75 cubic meters</u>	<u>(\$0.05)</u>
<u>For each cubic meter over 75 cubic meters</u>	<u>(\$0.05)</u>
<u>Commercial Units</u>	
<u>First 12 cubic meters plus</u>	<u>(\$1.00)</u>
<u>For each cubic meter between 12 and 75 cubic meters</u>	<u>(\$0.02)</u>
<u>For each cubic meter over 75 cubic meters</u>	<u>(\$0.02)</u>

C McMillan
Secretary to the Comptroller

Schedule J – Rate Rider Refund for Fire Hydrant & Standpipe Rates - 20182021

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

Rates:	<u>Charge</u>
Hydrants	(\$29.16 <u>46.67</u>) / hydrant / year
Standpipes	(\$11.66 <u>18.67</u>) / standpipe / year

C McMillan
Secretary to the Comptroller

Schedule J – Rate Rider Refund for Fire Hydrant & Standpipe Rates - 2022

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

<u>Rates:</u>	<u>Charge</u>
<u>Hydrants</u>	<u>(\$31.49) / hydrant / year</u>
<u>Standpipes</u>	<u>(\$12.59) / standpipe / year</u>

C McMillan
Secretary to the Comptroller

Schedule J – Rate Rider Refund for Fire Hydrant & Standpipe Rates - 2023

Applicability: Within that portion of the Utility’s authorized service area in the Parksville or Qualicum Beach Fire Protection District or other recognized local fire protection authority

<u>Rates:</u>	<u>Charge</u>
<u>Hydrants</u>	<u>(\$15.16) / hydrant / year</u>
<u>Standpipes</u>	<u>(\$6.06) / standpipe / year</u>

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**CUSTOMER COUNT AND CONSUMPTION FORECAST
FINANCIAL SCHEDULE 1.1**

CUSTOMER GROWTH PERCENTAGE	A	B	C
	2021	2022	2023
	Forecast	Forecast	Forecast
1 Residential	0.90%	0.90%	0.90%
2 Multi-residential	0.00%	0.00%	0.00%
3 Commercial	0.00%	0.00%	0.00%

CUSTOMER COUNT FORECAST	A	B	C	D	E	F	G	H	I	J
	2015	2016	2017	2018	2019	2020	2020	2021	2022	2023
	Actual	Actual	Actual	Actual	Actual	Decision	Forecast	Forecast	Forecast	Forecast
1 Metered Units	1,998	2,012	2,028	2,060	2,088	2,063	2,121	2,139	2,156	2,172
2 Residential Units	1,707	1,721	1,740	1,772	1,794	1,775	1,812	1,828	1,845	1,861
3 Multi-Residential Units	248	248	248	248	253	248	268	268	268	268
4 Commercial Units	43	43	40	40	41	40	41	43	43	43
5 Fire Protection										
6 Hydrants	153	161	163	163	175	172	179	181	183	185
7 Standpipes	11	8	4	3	3	10	3	3	3	3

MONTHLY CONSUMPTION PER CUSTOMER (m ³ per Customer per month)	A	B	C	D	E	F	G	H	I	J	K
	2015	2016	2017	2018	2019	2020	2020	2021	2022	2023	2015A to 2019A
	Actual	Actual	Actual	Actual	Actual	Decision	Forecast	Forecast	Forecast	Forecast	Average
1 Residential Units	18.6	19.9	19.6	19.3	19.2	19.2	19.3	19.3	19.3	19.3	19.3
2 Multi-Residential Units	16.0	19.8	18.3	18.8	18.9	18.1	18.4	18.4	18.4	18.4	18.4
3 Commercial Units	94.4	101.1	99.3	103.9	114.2	95.3	103.1	102.6	102.6	102.6	102.6

**CUSTOMER COUNT AND CONSUMPTION FORECAST
FINANCIAL SCHEDULE 1.1**

CONSUMPTION FORECAST WITH BASE CONSUMPTION AT 15m ³	A	B	C	D	E	F	G	H	I	J	K
	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Decision	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2017A to 2019A Average
1 Residential Units	381,762	410,601	409,664	409,657	413,372	408,267	419,991	423,829	427,655	431,503	100.00%
2 First 15 cubic metres plus	242,623	244,994	245,931	245,038	248,574	247,864	254,367	254,272	256,567	258,876	59.99%
3 For each cubic metre between 15 and 75 cubic metres	132,194	154,726	149,951	151,569	152,660	148,325	153,709	156,158	157,567	158,985	36.84%
4 For each cubic metre over 75 cubic metres	6,945	10,881	13,782	13,050	12,138	12,078	11,914	13,399	13,520	13,641	3.16%
5 Multi-Residential Units	47,646	59,056	54,399	56,005	57,411	53,731	59,066	59,086	59,086	59,086	100.00%
6 First 15 cubic metres plus	33,044	33,037	33,491	34,387	34,086	33,161	36,157	35,900	35,900	35,900	60.76%
7 For each cubic metre between 15 and 75 cubic metres	13,542	22,565	17,837	18,894	20,861	18,641	20,175	20,278	20,278	20,278	34.32%
8 For each cubic metre over 75 cubic metres	1,060	3,454	3,071	2,724	2,464	1,930	2,734	2,908	2,908	2,908	4.92%
9 Commercial Units	48,730	52,143	47,675	49,887	56,172	45,749	50,735	52,933	52,933	52,933	100.00%
10 First 15 cubic metres plus	6,505	6,154	6,126	5,986	6,107	5,246	6,013	6,273	6,273	6,273	11.85%
11 For each cubic metre between 15 and 75 cubic metres	11,881	12,086	11,612	11,302	12,210	10,007	11,592	12,094	12,094	12,094	22.85%
12 For each cubic metre over 75 cubic metres	30,344	33,903	29,937	32,599	37,855	30,495	33,131	34,566	34,566	34,566	65.30%
13 Total Consumption	478,138	521,800	511,738	515,549	526,955	507,747	529,792	535,848	539,673	543,522	

CONSUMPTION FORECAST WITH BASE CONSUMPTION AT 12m ³	A	B	C	D	E	F	G	H	I	J	K
			2017 Actual	2018 Actual	2019 Actual	2020 Decision	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2017A to 2019A Average
14 Residential Units			409,664	409,657	413,372	N/A	419,991	423,829	427,655	431,503	100.00%
15 First 12 cubic metres plus			214,766	213,877	216,796	N/A	220,645	221,917	223,920	225,935	52.36%
16 For each cubic metre between 12 and 75 cubic metres			181,116	182,730	184,438	N/A	187,432	188,513	190,215	191,926	44.48%
17 For each cubic metre over 75 cubic metres			13,782	13,050	12,138	N/A	11,914	13,399	13,520	13,641	3.16%
18 Multi-Residential Units			54,399	56,005	57,411	N/A	59,066	59,086	59,086	59,086	100.00%
19 First 12 cubic metres plus			29,742	29,550	29,915	N/A	31,495	31,409	31,409	31,409	53.16%
20 For each cubic metre between 12 and 75 cubic metres			21,586	23,731	25,032	N/A	24,837	24,769	24,769	24,769	41.92%
21 For each cubic metre over 75 cubic metres			3,071	2,724	2,464	N/A	2,734	2,908	2,908	2,908	4.92%
22 Commercial Units			47,675	49,887	56,172	N/A	50,735	52,933	52,933	52,933	100.00%
23 First 12 cubic metres plus			5,092	5,009	5,068	N/A	5,006	5,223	5,223	5,223	9.87%
24 For each cubic metre between 12 and 75 cubic metres			12,646	12,279	13,249	N/A	12,598	13,144	13,144	13,144	24.83%
25 For each cubic metre over 75 cubic metres			29,937	32,599	37,855	N/A	33,131	34,566	34,566	34,566	65.30%
26 Total Consumption			511,738	515,549	526,955	N/A	529,792	535,848	539,673	543,522	

**OTHER REVENUE FORECAST
FINANCIAL SCHEDULE 1.2**

OTHER REVENUE GROWTH PERCENTAGE	A	B	C
	2021	2022	2023
	Forecast	Forecast	Forecast
1 BC CPI	2.0%	2.0%	2.0%
2 Availability of Service Charge rate reduction	-6.2%	0.0%	0.0%

OTHER REVENUE ACTUALS & FORECAST	A	B	C	D	E	F	G
	2018	2019	2020	2020	2021	2022	2023
	Actual	Actual	Decision	Forecast	Forecast	Forecast	Forecast
1 Late payment fees and collection charges	2,001	1,863	2,210	1,900	1,938	1,977	2,016
2 Connection and service fees	4,125	3,575	6,408	3,647	3,719	3,794	3,870
3 Miscellaneous revenue	13,476	14,248	14,630	14,532	13,638	13,638	13,638
4 Total Other Revenues	19,602	19,685	23,248	20,079	19,295	19,408	19,524

REVENUE FORECAST WITH BASE CONSUMPTION AT 15m³
FINANCIAL SCHEDULE 1.3

REVENUE REQUIREMENT AND REVENUE	A	B	C	D
	2021 Forecast \$	2022 Forecast \$	2023 Forecast \$	2021-2023 Forecast \$
1 Forecast Revenue Requirement	1,664,511	1,709,737	1,751,415	5,125,663
2 Tariff Revenue at Current Rates	1,695,243	1,708,530	1,721,890	5,125,663
3 Revenue Shortfall (Surplus) at Current Rates	(30,732)	1,207	29,525	-
4 Forecast Revenue Requirement	1,664,511	1,709,737	1,751,415	5,125,663
5 Tariff Revenue	1,695,243	1,708,530	1,721,890	5,125,663
6 Revenue Shortfall (Surplus)	(30,732)	1,207	29,525	-
7 Proposed Annual Rate Adjustments	0.00%	0.00%	0.00%	

RATE SCHEDULE	A	B	C	D	E	F	G	H
	2018 Actual \$	2019 Actual \$	2020 Decision \$	2020 Forecast \$	2021 Forecast \$	2022 Forecast \$	2023 Forecast \$	Basis of Charge
1 METERED RATES								
2 Residential - Monthly Charge								
3 Monthly Fixed Charge	47.50	46.90	46.30	46.30	46.30	46.30	46.30	Monthly flat rate charge
5 For each cubic meter between 15 and 75 cubic meters	1.98	1.95	1.93	1.93	1.93	1.93	1.93	per cubic meter
6 For each cubic meter over 75 cubic meters	1.98	1.95	1.93	1.93	1.93	1.93	1.93	per cubic meter
7 Multi-Residential - Monthly Charge per Unit								
8 Monthly Fixed Charge	43.32	42.77	42.23	42.23	42.23	42.23	42.23	Monthly flat rate charge
10 For each cubic meter between 15 and 75 cubic meters	1.98	1.95	1.93	1.93	1.93	1.93	1.93	per cubic meter
11 For each cubic meter over 75 cubic meters	1.98	1.95	1.93	1.93	1.93	1.93	1.93	per cubic meter
Commercial Units - Monthly Charge								
13 First 15 cubic meters plus	41.38	40.86	40.34	40.34	40.34	40.34	40.34	Monthly flat rate charge
14 For each cubic meter between 15 and 75 cubic meters	0.99	0.98	0.96	0.96	0.96	0.96	0.96	per cubic meter
15 For each cubic meter over 75 cubic meters	0.99	0.98	0.96	0.96	0.96	0.96	0.96	per cubic meter
14 NON-METERED RATES								
15 Residential Units	47.50	46.90	46.30	46.30	46.30	46.30	46.30	Monthly flat rate charge
16 Multi-Residential Units	43.32	42.77	42.23	42.23	42.23	42.23	42.23	Monthly flat rate charge
17 Commercial Units	41.38	40.86	40.34	40.34	40.34	40.34	40.34	Monthly flat rate charge
18 WATER SERVICE CONNECTION CHARGES								
19 Connection Charge	at cost	at cost	at cost	at cost	at cost	at cost	at cost	
20 Connection of Customer's Service Pipe to Existing Curb Stop	at cost	at cost	at cost	at cost	at cost	at cost	at cost	
21 CONTRIBUTION IN AID OF FUTURE CONSTRUCTION								
22 For each unit qualifying as Authorized Premises ¹	19,000.00	19,000.00	19,000.00	21,200.00	21,600.00	22,000.00	22,500.00	
23 FIRE HYDRANT AND STANDPIPE RATES								
24 Hydrants	597.87	590.31	582.84	582.84	582.84	582.84	582.84	per hydrant, per annum
25 Standpipes	239.15	236.13	233.14	233.14	233.14	233.14	233.14	per standpipe, per annum
26 AVAILABILITY OF SERVICE CHARGE PER RENT CHARGE AGREEMENTS								
27 Annual Charge	398.99	393.94	388.96	388.96	388.92	388.92	388.92	70% of Res. Min Base

¹ 2018-2020 Decision Per Order No. 2440, CIAC charge is \$19,000 effective September 1, 2015

2020-2023 Forecast Per Application for Adjustment to Contribution in Aid of Future Construction Charge submitted to the Comptroller of Water Rights on June 23, 2020

REVENUE FORECAST WITH BASE CONSUMPTION AT 12m3
FINANCIAL SCHEDULE 1.4

REVENUE REQUIREMENT AND REVENUE		A	B	C	D
		2021 Forecast \$	2022 Forecast \$	2023 Forecast \$	2021-2023 Forecast \$
1 Forecast Revenue Requirement	S. 2-8	1,664,511	1,709,737	1,751,415	5,125,663
2 Tariff Revenue at Current Rates		1,695,243	1,708,530	1,721,890	5,125,663
3 Revenue Shortfall (Surplus) at Current Rates		(30,732)	1,207	29,525	-
4 Forecast Revenue Requirement		1,664,511	1,709,737	1,751,415	5,125,663
5 Tariff Revenue		1,695,243	1,708,530	1,721,890	5,125,663
6 Revenue Shortfall (Surplus)		(30,732)	1,207	29,525	-
7 Proposed Annual Rate Adjustments		0.00%	0.00%	0.00%	

RATE SCHEDULE	A	B	C	D	E	F	G	H
	2018 Actual \$	2019 Actual \$	2020 Decision \$	2020 Forecast \$	2021 Forecast \$	2022 Forecast \$	2023 Forecast \$	Basis of Charge
1 METERED RATES								
2 Residential - Monthly Charge								
3 Monthly Fixed Charge	47.50	46.90	46.30	46.30	43.45	43.45	43.45	Monthly flat rate charge
5 For each cubic meter between 12 and 75 cubic meters	1.98	1.95	1.93	1.93	1.93	1.93	1.93	per cubic meter
6 For each cubic meter over 75 cubic meters	1.98	1.95	1.93	1.93	1.93	1.93	1.93	per cubic meter
7 Multi-Residential - Monthly Charge per Unit								
8 Monthly Fixed Charge	43.32	42.77	42.23	42.23	39.53	39.53	39.53	Monthly flat rate charge
10 For each cubic meter between 12 and 75 cubic meters	1.98	1.95	1.93	1.93	1.93	1.93	1.93	per cubic meter
11 For each cubic meter over 75 cubic meters	1.98	1.95	1.93	1.93	1.93	1.93	1.93	per cubic meter
Commercial Units - Monthly Charge								
13 First 12 cubic meters plus	41.38	40.86	40.34	40.34	38.39	38.39	38.39	Monthly flat rate charge
14 For each cubic meter between 12 and 75 cubic meters	0.99	0.98	0.96	0.96	0.96	0.96	0.96	per cubic meter
15 For each cubic meter over 75 cubic meters	0.99	0.98	0.96	0.96	0.96	0.96	0.96	per cubic meter
14 NON-METERED RATES								
15 Residential Units	47.50	46.90	46.30	46.30	46.30	46.30	46.30	Monthly flat rate charge
16 Multi-Residential Units	43.32	42.77	42.23	42.23	42.23	42.23	42.23	Monthly flat rate charge
17 Commercial Units	41.38	40.86	40.34	40.34	38.39	38.39	38.39	Monthly flat rate charge
18 WATER SERVICE CONNECTION CHARGES								
19 Connection Charge	at cost	at cost	at cost	at cost	at cost	at cost	at cost	
20 Connection of Customer's Service Pipe to Existing Curb Stop	at cost	at cost	at cost	at cost	at cost	at cost	at cost	
21 CONTRIBUTION IN AID OF FUTURE CONSTRUCTION								
22 For each unit qualifying as Authorized Premises ¹	19,000.00	19,000.00	19,000.00	21,200.00	21,600.00	22,000.00	22,500.00	
23 FIRE HYDRANT AND STANDPIPE RATES								
24 Hydrants	597.87	590.31	582.84	582.84	582.84	582.84	582.84	per hydrant, per annum
25 Standpipes	239.15	236.13	233.14	233.14	233.14	233.14	233.14	per standpipe, per annum
26 AVAILABILITY OF SERVICE CHARGE PER RENT CHARGE AGREEMENTS								
27 Annual Charge	398.99	393.94	388.96	388.96	365.01	365.01	365.01	70% of Res. Min Base

¹ 2018-2020 Decision Per Order No. 2440, CIAC charge is \$19,000 effective September 1, 2015

2020-2023 Forecast Per Application for Adjustment to Contribution in Aid of Future Construction Charge submitted to the Comptroller of Water Rights on June 23, 2020

**FORECAST PARAMETERS
FINANCIAL SCHEDULE 2.1**

FORECAST PARAMETERS	A	B	C	D	E
	2020 Decision	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast
1 Escalation factors					
2 BC CPI (annual) ¹	2.00%	2.10%	2.00%	2.00%	2.00%
3 Hydro Cost Escalator ²	3.00%	1.76%	0.50%	0.50%	0.50%
4 Construction - Implicit Price Deflator	2.30%	1.75%	1.20%	1.20%	1.20%
5 Wage & Salary Escalation Factor (annual) ⁴	2.60%	3.30%	2.60%	2.60%	2.60%
6 Deemed Debt Ratio	60.00%	60.00%	60.00%	60.00%	60.00%
7 Cost of Capital					
8 Average Cost of Debt	5.36%	5.26%	5.26%	5.22%	5.19%
9 Cost of new intercompany debt ⁵	4.87%	3.58%	3.79%	3.79%	3.79%
10 Cost of Equity	9.75%	7.64%	9.75%	9.75%	9.75%

References

¹ BC Ministry of Finance Budget and Fiscal Plan 2020/21 – 2022/23, page 87

² BC Hydro F2020 to F2021 Revenue Requirement Application, page 1

³ BC Ministry of Finance Budget and Fiscal Plan 2020/21 – 2022/23, page 87

The Conference Board of Canada February 21, 2020

⁴ The Conference Board of Canada February 21, 2020

⁵ EPCOR Treasury Department May 7, 2020

OPERATING COSTS
FINANCIAL SCHEDULE 2.2

OPERATING COSTS	A	B	C	D	E	F	G
	2018	2019	2020	2020	2021	2022	2023
	Actual \$	Actual \$	Decision \$	Forecast \$	Forecast \$	Forecast \$	Forecast \$
1 Salaries & Benefits	495,175	498,334	542,128	567,461	583,286	598,452	614,011
2 Salaries	292,648	301,541	425,281	297,905	305,161	313,095	321,236
3 Benefits	65,133	69,125	100,531	75,264	78,575	80,618	82,714
4 Salary transfers	137,394	127,667	16,316	194,292	199,550	204,739	210,062
5 Power & Other Utilities	60,854	67,950	92,312	70,310	75,000	75,375	75,752
6 Chemicals	36,311	31,124	44,945	32,000	32,000	32,640	33,293
7 Operations	192,172	223,361	212,250	192,622	233,703	238,377	243,145
8 BCUC D&O 2519, page 10			(20,000)				
9 Contractors and consultants	39,076	68,012	59,602	47,654	81,221	82,846	84,503
10 Travel	27,388	17,940	24,025	23,559	18,351	18,718	19,092
11 Rent	29,842	30,602	32,086	31,289	32,800	33,456	34,125
12 Telecommunications	19,816	19,248	25,369	26,005	21,000	21,420	21,848
13 Insurance	19,520	13,589	29,275	10,872	11,664	11,897	12,135
14 Vehicle costs	11,282	14,021	10,770	10,560	14,700	14,994	15,294
15 Materials and supplies	15,562	37,647	24,907	22,381	32,800	33,456	34,125
16 Advertising	1,295	2,203	4,249	2,083	2,199	2,243	2,288
17 Office	19,278	18,142	20,463	19,111	20,272	20,677	21,091
18 Other	16,962	8,589	8,278	6,264	6,038	6,159	6,282
19 Capital overhead	(7,850)	(6,633)	(6,774)	(7,156)	(7,342)	(7,489)	(7,639)
20 Property Taxes	40,289	40,153	43,510	42,556	44,711	45,605	46,517
21 Intercorporate Service Charges	186,410	191,745	192,200	192,200	160,536	162,704	166,514
22 Total Operating Costs	1,011,210	1,052,667	1,127,344	1,097,149	1,129,236	1,153,153	1,179,232

**INTER-CORPORATE SERVICE CHARGES
FINANCIAL SCHEDULE 2.3**

INTER-CORPORATE SERVICE CHARGES	A Basis of Allocation	B			C			D			E			F			D			H			I			J		
		2021									2022									2023								
		EWSI Cost	% Allocated to EWVI	Forecast \$	EWSI Cost	% Allocated to EWVI	Forecast \$	EWSI Cost	% Allocated to EWVI	Forecast \$	EWSI Cost	% Allocated to EWVI	Forecast \$	EWSI Cost	% Allocated to EWVI	Forecast \$	EWSI Cost	% Allocated to EWVI	Forecast \$	EWSI Cost	% Allocated to EWVI	Forecast \$	EWSI Cost	% Allocated to EWVI	Forecast \$			
1 EUI Corporate Services		15,376,694	0.47%	72,999	15,783,293	0.47%	74,521	16,098,959	0.47%	76,342																		
2 Executive	Composite / Causation	764,540	0.44%	3,349	782,229	0.44%	3,427	797,874	0.44%	3,495																		
3 Board	Composite	429,039	0.43%	1,841	430,166	0.43%	1,846	438,769	0.43%	1,882																		
4 Corporate Finance	Composite / Causation	984,159	0.72%	7,065	944,309	0.72%	6,517	963,195	0.72%	6,915																		
5 Treasury	Composite / Causation	672,634	0.38%	2,556	637,105	0.38%	2,395	649,847	0.38%	2,469																		
6 Risk Assurance and Advisory Services	Composite / Causation	663,831	0.42%	2,775	667,143	0.42%	2,787	680,485	0.42%	2,845																		
7 Human Resources	Causation	2,926,931	0.48%	14,021	3,001,256	0.48%	14,377	3,061,281	0.48%	14,665																		
8 Information Services	Causation	2,760,477	0.51%	13,975	2,928,604	0.51%	14,835	2,987,176	0.51%	15,122																		
9 Public and Government Affairs	Composite / Causation	1,830,854	0.43%	7,855	1,868,493	0.43%	8,016	1,905,863	0.43%	8,177																		
10 Legal	Composite	570,508	0.43%	2,448	591,029	0.43%	2,536	602,849	0.43%	2,586																		
11 Health, Safety & Environment Services	Causation	271,987	0.48%	1,303	279,824	0.48%	1,340	285,420	0.48%	1,367																		
12 Supply Chain Management	Composite / Causation	1,953,378	0.43%	8,433	2,054,290	0.43%	8,869	2,095,375	0.43%	9,047																		
13 At-Risk Compensation	Composite / Causation	1,548,355	0.48%	7,378	1,598,847	0.48%	7,576	1,630,824	0.48%	7,771																		
14 EWSI Shared Services		14,991,960	0.44%	66,594	15,387,224	0.44%	68,344	15,694,969	0.44%	69,711																		
15 SVP	Composite	1,239,803	0.43%	5,319	1,250,092	0.43%	5,363	1,275,094	0.43%	5,470																		
16 Controller	Composite	1,943,985	0.43%	8,340	1,912,868	0.43%	8,207	1,951,125	0.43%	8,371																		
17 Business Process Management	Causation	-	0.00%	-	-	0.00%	-	-	0.00%	-																		
18 Regulatory	Causation	1,333,612	0.45%	5,958	1,251,562	0.45%	5,591	1,276,593	0.45%	5,703																		
19 Health, Safety & Environment	Causation	1,400,814	0.48%	6,710	1,421,317	0.48%	6,809	1,449,743	0.48%	6,945																		
20 Supply Chain Management	Composite / Causation	1,212,864	0.43%	5,245	1,241,304	0.43%	5,368	1,266,130	0.43%	5,475																		
21 Operations Communications	Composite	1,109,139	0.43%	4,758	1,145,185	0.43%	4,913	1,168,088	0.43%	5,011																		
22 Human Resources	Causation	439,102	0.48%	2,103	459,718	0.48%	2,202	468,913	0.48%	2,246																		
23 IT Direct Corporate Charges	Causation	3,595,213	0.43%	15,554	3,869,703	0.43%	16,742	3,947,097	0.43%	17,077																		
24 Technical Training	Causation	1,544,935	0.48%	7,401	1,599,743	0.48%	7,663	1,631,738	0.48%	7,817																		
25 At Risk Compensation	Composite / Causation	1,172,494	0.44%	5,206	1,235,733	0.44%	5,486	1,260,448	0.44%	5,596																		
26 EUI Asset Usage Fees		6,128,819	0.34%	20,942	5,863,048	0.34%	19,839	5,980,309	0.34%	20,461																		
27 Disaster Recovery Leasehold	AUF - Composite	46,109	0.43%	198	32,754	0.43%	141	33,410	0.43%	143																		
28 Equipment - EPCOR Tower	AUF - Composite	15,911	0.43%	68	5,772	0.43%	25	5,888	0.43%	25																		
29 Furniture and Fixtures	AUF - Composite	115,720	0.43%	496	112,514	0.43%	483	114,764	0.43%	492																		
30 HR System	AUF - Headcount	88,080	0.48%	422	74,626	0.48%	357	76,119	0.48%	365																		
31 I/S Capital - Corporate	AUF - Composite	5,032,263	0.31%	15,524	4,811,325	0.31%	14,706	4,907,552	0.31%	15,139																		
32 Leasehold Improvement - EPCOR Tower	AUF - Composite	222,310	0.43%	954	219,092	0.43%	940	223,473	0.43%	959																		
33 Oracle	AUF - Composite	608,425	0.54%	3,280	606,965	0.54%	3,188	619,104	0.54%	3,338																		
34 Vehicles	AUF - Composite	0	0.43%	0	0	0.43%	0	0	0.43%	0																		
35 Total Inter-Corporate Service Charges		36,497,474	0.44%	160,536	37,033,565	0.44%	162,704	37,774,236	0.44%	166,514																		

**CAPITAL EXPENDITURES
FINANCIAL SCHEDULE 2.4**

Project Name	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	Funding	2017 Decision \$	2017 Actual \$	2018 Decision \$	2018 Actual \$	2019 Decision \$	2019 Actual \$	2020 Decision \$	2020 Forecast \$	2021 Forecast \$	2022 Forecast \$	2023 Forecast \$	2018D to 2020D \$	2018A to 2018F \$	2021F to 2023F \$
1 Capital Expenditures															
2 Existing Wells - Well Rehabilitation (Springhill, Well ID RWs1)	Partially Contributed - 29%		17,089										-	-	-
3 Existing Wells - Well Rehabilitation Program (Overhauls)	Rate Base		53,571	30,000		30,690	25,096	31,396		19,318	19,799	20,729	92,086	25,096	59,845
4 New Wells to Support Growth (Well IDs TWs1, TWn1)	Fully Contributed		124,508	290,000	272,763		27,110		2,664				290,000	302,538	-
5 New Well to Support Growth (Well ID ACs1)	Partially Contributed - 29%		157,792	224,000	229,879		(3,677)						224,000	226,202	-
6 Decommissioning Existing Well - Springhill and Oceanside	Rate Base					35,805	10,666						35,805	10,666	-
7 Well Licensing as per Water Sustainability Act(ACs1, TWn1, RWn2, RWs1)	Rate Base			20,000		20,460	22,171						40,460	22,171	-
8 Standby Generator - Oceanside #2 (RWn2)	Rate Base			75,000			29,586						75,000	29,586	-
22 Portable Diesel Power Generator (ACs1 & RWN2 Water Wells)	Rate Base								37,630				-	37,630	-
9 Drew Road Pump Station Upgrade	Partially Contributed - 9%		116,082	51,000	18,564								51,000	18,564	-
10 Church Road Reservoir Upgrades	Rate Base	158,547	109,481										-	(236)	-
11 Printer Replacement	Rate Base			15,000									15,000	-	-
12 System Balancing Storage Control	Rate Base		1,829										-	-	-
13 Billing System Upgrade	Rate Base									86,553			-	-	86,553
14 Drew Road Complex Flow Meter Upgrade	Rate Base										31,575		-	-	31,575
15 Booster Pump Station	Partially Contributed - 25%										483,288		-	-	483,288
16 Pump House Decommissioning	Rate Base										15,362		-	-	15,362
17 Bulk Water Connection to RDN	Fully Contributed									349,140			-	-	349,140
18 Single Meter Service Connections (contributed)	Fully Contributed	5,613	1,859	5,800	1,200	5,933	4,434	6,070	18,700	22,521	24,846	26,222	17,803	24,334	73,589
19 Subdivision – Multi-meter Installations (contributed)	Fully Contributed	40,068	760	40,000	3,230	40,920	17,621	41,861	54,947	25,320	27,679	27,155	122,781	75,799	80,153
20 Meter Replacement Program	Rate Base	72,067	45,141	45,000	37,005	46,035	32,988	47,094	39,305	30,056	30,072		138,129	109,297	60,128
21 Hydrant Replacement Program	Rate Base	40,745	10,386	60,000	54,378	61,380	53,795	62,792	67,650	35,704	34,321	39,903	184,172	175,823	109,927
23 Total		317,040	638,498	855,800	616,784	241,223	219,790	189,212	220,896	568,611	666,942	114,008	1,286,236	1,057,470	1,349,560
24 Contributions															
25 Existing Wells - Well Rehabilitation (Springhill, Well ID RWs1)	Partially Contributed - 29%		(4,956)										-	-	-
26 New Wells to Support Growth (Well IDs TWs1, TWn1)	Fully Contributed			(1,609,518)	(1,592,281)		(27,110)						(1,609,518)	(1,619,391)	-
27 New Well to Support Growth (Well ID ACs1)	Partially Contributed - 29%			(332,287)	(333,992)								(332,287)	(333,992)	-
28 Drew Road Pump Station Upgrade	Partially Contributed - 9%			(16,406)	(13,487)								(16,406)	(13,487)	-
31 Booster Pump Station	Partially Contributed - 25%										(120,822)	-	-	-	(120,822)
32 Bulk Water Connection to RDN	Fully Contributed									(349,140)			-	-	(349,140)
29 Single Meter Service Connections	Fully Contributed	(5,613)	(8,495)	(5,800)	(3,593)	(5,933)	(4,075)	(6,070)	(19,010)	(22,521)	(24,846)	(26,222)	(17,803)	(26,679)	(73,589)
30 Subdivision – Multi-meter Installations	Fully Contributed	(40,068)	(5,056)	(40,000)	(5,703)	(40,920)	(20,851)	(41,861)	(54,947)	(25,320)	(27,679)	(27,155)	(122,781)	(81,502)	(80,153)
33 Total		(45,681)	(18,506)	(2,004,011)	(1,949,057)	(46,853)	(52,036)	(47,931)	(73,957)	(396,980)	(173,347)	(53,376)	(2,098,795)	(2,075,050)	(623,704)
34 Capital Expenditures, net of Contributions		271,359	619,992	(1,148,211)	(1,332,272)	194,370	167,754	141,281	146,938	171,631	493,594	60,631	(812,560)	(1,017,580)	725,857

CAPITAL ASSET CONTINUITY SCHEDULE
FINANCIAL SCHEDULE 2.5

		Year ended December 31, 2017 - Actual													
CAPITAL ASSET CONTINUITY SCHEDULE		Property, Plant and Equipment (PP&E), at cost						Accumulated Depreciation (A/D)						Net Book Value	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
		Op Bal	Capex	Additions	Retirements	Transfers & Adj	CI Bal	Rate	Op Bal	Transfers & Adjs	Expense	Retirement	CI Bal	Op Bal	CI Bal
1	Source of Supply	3,689,929	-	99,129	-	-	3,789,058		250,033	-	84,709	-	334,742	3,439,896	3,454,316
2	Wells & Springs	54,616	-	-	-	-	54,616	2.50%	6,895	-	1,425	-	8,320	47,721	46,297
3	Wells & Springs	2,529,945	-	99,129	-	-	2,629,075	2.50%	147,184	-	64,697	-	211,881	2,382,762	2,417,193
4	Structures & Improvements	1,105,367	-	-	-	-	1,105,367	1.67%	95,954	-	18,587	-	114,541	1,009,413	990,826
5	Water Treatment Plant	1,418,184	-	-	-	-	1,418,184		282,293	-	50,683	-	332,976	1,135,892	1,085,209
6	Filter and Chemical Systems	1,399,402	-	-	-	-	1,399,402	3.33%	282,058	-	50,213	-	332,271	1,117,344	1,067,130
7	Equipment	18,783	-	-	-	-	18,783	2.50%	235	-	470	-	704	18,548	18,078
8	Pumping Plant	3,380	-	109,469	-	-	112,850		795	-	2,341	-	3,137	2,585	109,713
9	Electric Pumping Equipment	3,380	-	109,469	-	-	112,850	4.00%	795	-	2,341	-	3,137	2,585	109,713
10	General Plant	1,012,585	-	-	-	-	1,012,585		492,406	-	48,280	-	540,686	520,179	471,899
11	Fencing & Gates	7,685	-	-	-	-	7,685	10.00%	7,301	-	384	-	7,685	384	-
12	Computer Hardware (SCADA)	482,590	-	-	-	-	482,590	10.00%	411,908	-	27,057	-	438,965	70,682	43,625
13	Computer Hardware	10,122	-	-	-	-	10,122	20.00%	5,142	-	2,111	-	7,253	4,981	2,869
14	Structures & Improvements	453,287	-	-	-	-	453,287	2.00%	38,292	-	9,031	-	47,322	414,995	405,964
15	Transportation & Equipment	58,900	-	-	-	-	58,900	14.29%	29,763	-	9,697	-	39,460	29,137	19,440
16	Transmission & Distribution Plant	3,048,151	-	69,051	-	-	3,117,203		268,071	-	72,513	-	340,584	2,780,081	2,776,619
17	Structures & Improvements	124,228	-	-	-	-	124,228	2.00%	6,710	-	2,975	-	9,685	117,518	114,543
18	Mains	2,423,110	-	-	-	-	2,423,110	1.67%	190,679	-	43,612	-	234,292	2,232,430	2,188,818
19	Meters	368,732	-	56,506	-	-	425,238	5.00%	61,334	-	22,006	-	83,339	307,399	341,899
20	Meters	56,859	-	-	-	-	56,859	4.00%	7,960	-	2,274	-	10,235	48,899	46,625
21	Hydrants	74,212	-	10,386	-	-	84,598	2.00%	1,371	-	1,588	-	2,959	72,841	81,639
22	Services	1,010	-	2,160	-	-	3,170	2.00%	16	-	57	-	74	994	3,096
23	Software	117,636	-	1,829	-	-	119,465		66,275	-	21,329	-	87,604	51,361	31,861
24	Software	92,912	-	-	-	-	92,912	20.00%	65,038	-	18,582	-	83,621	27,874	9,291
25	Software - SCADA	24,724	-	1,829	-	-	26,553	10.00%	1,236	-	2,747	-	3,983	23,488	22,570
26	Sub-Total	9,289,866	-	279,479	-	-	9,569,345		1,359,872	-	279,855	-	1,639,727	7,929,993	7,929,618
27	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
28	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
29	Total PP&E	9,630,450	-	279,479	-	-	9,909,929		1,359,872	-	279,855	-	1,639,727	8,270,577	8,270,202
30	Construction Work in Progress (CWIP)	2,013,608	619,992	(261,310)	-	-	2,372,289							2,013,608	2,372,289
31	Contributions in Aid of Construction (CIAC)	(4,283,848)	-	(18,169)	-	-	(4,302,017)		(432,907)	-	(126,569)	-	(559,476)	(3,850,941)	(3,742,541)
32	PP&E Net of CIAC	7,360,210	619,992	-	-	-	7,980,201		926,965	-	153,286	-	1,080,251	6,433,244	6,899,950

CAPITAL ASSET CONTINUITY SCHEDULE
FINANCIAL SCHEDULE 2.5

		Year ended December 31, 2018 - Actual													
CAPITAL ASSET CONTINUITY SCHEDULE		Property, Plant and Equipment (PP&E), at cost						Accumulated Depreciation (A/D)						Net Book Value	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
		Op Bal	Capex	Additions	Retirements	Transfers & Adjs	Cl Bal	Rate	Op Bal	Transfers & Adjs	Expense	Retirements	Cl Bal	Op Bal	Cl Bal
1	Source of Supply	3,789,058	-	2,743,978	-	-	6,533,036		334,742	-	120,248	-	454,990	3,454,316	6,078,047
2	Wells & Springs	54,616	-	-	-	-	54,616	2.50%	8,320	-	1,425	-	9,744	46,297	44,872
3	Wells & Springs	2,629,075	-	2,743,978	-	-	5,373,053	2.50%	211,881	-	100,236	-	312,117	2,417,193	5,060,936
4	Structures & Improvements	1,105,367	-	-	-	-	1,105,367	1.67%	114,541	-	18,587	-	133,128	990,826	972,239
5	Water Treatment Plant	1,418,184	-	-	-	-	1,418,184		332,976	-	50,683	-	383,658	1,085,209	1,034,526
6	Filter and Chemical Systems	1,399,402	-	-	-	-	1,399,402	3.33%	332,271	-	50,213	-	382,485	1,067,130	1,016,917
7	Equipment	18,783	-	-	-	-	18,783	2.50%	704	-	470	-	1,174	18,078	17,609
8	Pumping Plant	112,850	-	149,618	-	-	262,468		3,137	-	6,207	-	9,344	109,713	253,124
9	Electric Pumping Equipment	112,850	-	149,618	-	-	262,468	4.00%	3,137	-	6,207	-	9,344	109,713	253,124
10	General Plant	1,012,585	-	-	-	-	1,012,585		540,686	-	35,568	-	576,254	471,899	436,331
11	Fencing & Gates	7,685	-	-	-	-	7,685	10.00%	7,685	-	-	-	7,685	-	-
12	Computer Hardware (SCADA)	482,590	-	-	-	-	482,590	10.00%	438,965	-	15,331	-	454,296	43,625	28,294
13	Computer Hardware	10,122	-	-	-	-	10,122	20.00%	7,253	-	1,509	-	8,762	2,869	1,360
14	Structures & Improvements	453,287	-	-	-	-	453,287	2.00%	47,322	-	9,031	-	56,353	405,964	396,933
15	Transportation & Equipment	58,900	-	-	-	-	58,900	14.29%	39,460	-	9,697	-	49,157	19,440	9,743
16	Transmission & Distribution Plant	3,117,203	-	95,813	-	-	3,213,016		340,584	-	75,418	-	416,001	2,776,619	2,797,015
17	Structures & Improvements	124,228	-	-	-	-	124,228	2.00%	9,685	-	2,975	-	12,661	114,543	111,568
18	Mains	2,423,110	-	-	-	-	2,423,110	1.67%	234,292	-	43,612	-	277,904	2,188,818	2,145,206
19	Meters	425,238	-	37,761	-	-	462,999	5.00%	83,339	-	24,261	-	107,600	341,899	355,399
20	Meters	56,859	-	-	-	-	56,859	4.00%	10,235	-	2,274	-	12,509	46,625	44,350
21	Hydrants	84,598	-	54,378	-	-	138,976	2.00%	2,959	-	2,203	-	5,163	81,639	133,813
22	Services	3,170	-	3,674	-	-	6,844	2.00%	74	-	92	-	165	3,096	6,679
23	Software	119,465	-	-	-	-	119,465		87,604	-	11,947	-	99,550	31,861	19,915
24	Software	92,912	-	-	-	-	92,912	20.00%	83,621	-	9,291	-	92,912	9,291	-
25	Software - SCADA	26,553	-	-	-	-	26,553	10.00%	3,983	-	2,655	-	6,638	22,570	19,915
26	Sub-Total	9,569,345	-	2,989,410	-	-	12,558,755		1,639,727	-	300,070	-	1,939,797	7,929,618	10,618,958
27	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
28	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
29	Total PP&E	9,909,929	-	2,989,410	-	-	12,899,339		1,639,727	-	300,070	-	1,939,797	8,270,202	10,959,542
30	Construction Work in Progress (CWIP)	2,372,289	(1,332,272)	(1,040,326)	-	-	(309)							2,372,289	(309)
31	Contributions in Aid of Construction (CIAC)	(4,302,017)	-	(1,949,085)	-	-	(6,251,102)		(559,476)	-	(129,835)	-	(689,311)	(3,742,541)	(5,561,790)
32	PP&E Net of CIAC	7,980,201	(1,332,272)	(1)	-	-	6,647,928		1,080,251	-	170,235	-	1,250,486	6,899,950	5,397,443

CAPITAL ASSET CONTINUITY SCHEDULE
FINANCIAL SCHEDULE 2.5

		Year ended December 31, 2019 - Actual													
CAPITAL ASSET CONTINUITY SCHEDULE		Property, Plant and Equipment (PP&E), at cost						Accumulated Depreciation (A/D)						Net Book Value	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
		Op Bal	Capex	Additions	Retirements	Transfers & Adjts	CI Bal	Rate	Op Bal	Transfers & Adjts	Expense	Retirements	CI Bal	Op Bal	CI Bal
1	Source of Supply	6,533,036	-	81,367	-	-	6,614,403		454,990	-	155,473	-	610,462	6,078,047	6,003,941
2	Wells & Springs	54,616	-	-	-	-	54,616	2.50%	9,744	-	1,425	-	11,169	44,872	43,448
3	Wells & Springs	5,373,053	-	81,367	-	-	5,454,420	2.50%	312,117	-	135,461	-	447,578	5,060,936	5,006,842
4	Structures & Improvements	1,105,367	-	-	-	-	1,105,367	1.67%	133,128	-	18,587	-	151,715	972,239	953,652
5	Water Treatment Plant	1,418,184	-	-	-	-	1,418,184		383,658	-	50,683	-	434,341	1,034,526	983,843
6	Filter and Chemical Systems	1,399,402	-	-	-	-	1,399,402	3.33%	382,485	-	50,213	-	432,698	1,016,917	966,704
7	Equipment	18,783	-	-	-	-	18,783	2.50%	1,174	-	470	-	1,643	17,609	17,139
8	Pumping Plant	262,468	-	-	-	-	262,468		9,344	-	7,902	-	17,246	253,124	245,222
9	Electric Pumping Equipment	262,468	-	-	-	-	262,468	4.00%	9,344	-	7,902	-	17,246	253,124	245,222
10	General Plant	1,012,585	-	29,586	-	-	1,042,171		576,254	-	20,156	-	596,410	436,331	445,761
11	Fencing & Gates	7,685	-	-	-	-	7,685	10.00%	7,685	-	-	-	7,685	-	-
12	Computer Hardware (SCADA)	482,590	-	-	-	-	482,590	10.00%	454,296	-	3,773	-	458,069	28,294	24,521
13	Computer Hardware	10,122	-	-	-	-	10,122	20.00%	8,762	-	907	-	9,669	1,360	453
14	Structures & Improvements	453,287	-	29,586	-	-	482,873	2.00%	56,353	-	9,453	-	65,807	396,933	417,066
15	Transportation & Equipment	58,900	-	-	-	-	58,900	14.29%	49,157	-	6,023	-	55,180	9,743	3,720
16	Transmission & Distribution Plant	3,213,016	-	107,988	-	-	3,321,004		416,001	-	78,103	-	494,105	2,797,015	2,826,899
17	Structures & Improvements	124,228	-	-	-	-	124,228	2.00%	12,661	-	2,975	-	15,636	111,568	108,593
18	Mains	2,423,110	-	-	-	-	2,423,110	1.67%	277,904	-	43,612	-	321,516	2,145,206	2,101,593
19	Meters	462,999	-	35,903	-	-	498,902	5.00%	107,600	-	25,811	-	133,411	355,399	365,491
20	Meters	56,859	-	-	-	-	56,859	4.00%	12,509	-	2,274	-	14,783	44,350	42,076
21	Hydrants	138,976	-	52,944	-	-	191,920	2.00%	5,163	-	3,163	-	8,326	133,813	183,594
22	Services	6,844	-	19,141	-	-	25,985	2.00%	165	-	267	-	432	6,679	25,552
23	Software	119,465	-	-	-	-	119,465		99,550	-	2,655	-	102,206	19,915	17,260
24	Software	92,912	-	-	-	-	92,912	20.00%	92,912	-	-	-	92,912	-	-
25	Software - SCADA	26,553	-	-	-	-	26,553	10.00%	6,638	-	2,655	-	9,293	19,915	17,260
26	Sub-Total	12,558,755	-	218,941	-	-	12,777,696		1,939,797	-	314,973	-	2,254,770	10,618,958	10,522,926
27	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
28	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
29	Total PP&E	12,899,339	-	218,941	-	-	13,118,280		1,939,797	-	314,973	-	2,254,770	10,959,542	10,863,510
30	Construction Work in Progress (CWIP)	(309)	167,754	(166,595)	-	-	850							(309)	850
31	Contributions in Aid of Construction (CIAC)	(6,251,102)	-	(52,346)	-	-	(6,303,448)		(689,311)	-	(156,051)	-	(845,362)	(5,561,790)	(5,458,086)
32	PP&E Net of CIAC	6,647,928	167,754	-	-	-	6,815,682		1,250,486	-	158,922	-	1,409,408	5,397,443	5,406,275

CAPITAL ASSET CONTINUITY SCHEDULE
FINANCIAL SCHEDULE 2.5

		Year ended December 31, 2020 - Forecast													
CAPITAL ASSET CONTINUITY SCHEDULE		Property, Plant and Equipment (PP&E), at cost						Accumulated Depreciation (A/D)						Net Book Value	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
		Op Bal	Capex	Additions	Retirements	Transfers & Adjs	CI Bal	Rate	Op Bal	Transfers & Adjs	Expense	Retirements	CI Bal	Op Bal	CI Bal
1	Source of Supply	6,614,403	-	2,664	-	-	6,617,068		610,462	-	156,454	-	766,916	6,003,941	5,850,152
2	Wells & Springs	54,616	-	-	-	-	54,616	2.50%	11,169	-	1,425	-	12,593	43,448	42,023
3	Wells & Springs	5,454,420	-	2,664	-	-	5,457,084	2.50%	447,578	-	136,492	-	584,070	5,006,842	4,873,014
4	Structures & Improvements	1,105,367	-	-	-	-	1,105,367	1.67%	151,715	-	18,538	-	170,253	953,652	935,114
5	Water Treatment Plant	1,418,184	-	-	-	-	1,418,184		434,341	-	50,683	-	485,024	983,843	933,160
6	Filter and Chemical Systems	1,399,402	-	-	-	-	1,399,402	3.33%	432,698	-	50,213	-	482,911	966,704	916,490
7	Equipment	18,783	-	-	-	-	18,783	2.50%	1,643	-	470	-	2,113	17,139	16,670
8	Pumping Plant	262,468	-	-	-	-	262,468		17,246	-	7,886	-	25,132	245,222	237,336
9	Electric Pumping Equipment	262,468	-	-	-	-	262,468	4.00%	17,246	-	7,886	-	25,132	245,222	237,336
10	General Plant	1,042,171	-	37,630	-	-	1,079,800		596,410	-	17,392	-	613,802	445,761	465,998
11	Fencing & Gates	7,685	-	-	-	-	7,685	10.00%	7,685	-	-	-	7,685	-	-
12	Computer Hardware (SCADA)	482,590	-	-	-	-	482,590	10.00%	458,069	-	3,773	-	461,842	24,521	20,749
13	Computer Hardware	10,122	-	-	-	-	10,122	20.00%	9,669	-	453	-	10,122	453	-
14	Structures & Improvements	482,873	-	37,630	-	-	520,502	2.00%	65,807	-	10,864	-	76,670	417,066	443,832
15	Transportation & Equipment	58,900	-	-	-	-	58,900	14.29%	55,180	-	2,302	-	57,482	3,720	1,418
16	Transmission & Distribution Plant	3,321,004	-	181,452	-	-	3,502,456		494,105	-	82,189	-	576,294	2,826,899	2,926,163
17	Structures & Improvements	124,228	-	-	-	-	124,228	2.00%	15,636	-	2,975	-	18,611	108,593	105,617
18	Mains	2,423,110	-	-	-	-	2,423,110	1.67%	321,516	-	43,604	-	365,120	2,101,593	2,057,989
19	Meters	498,902	-	94,252	-	-	593,154	5.00%	133,411	-	28,466	-	161,877	365,491	431,277
20	Meters	56,859	-	-	-	-	56,859	4.00%	14,783	-	2,274	-	17,058	42,076	39,802
21	Hydrants	191,920	-	68,500	-	-	260,420	2.00%	8,326	-	4,268	-	12,594	183,594	247,826
22	Services	25,985	-	18,700	-	-	44,685	2.00%	432	-	601	-	1,034	25,552	43,651
23	Software	119,465	-	-	-	-	119,465		102,206	-	2,655	-	104,861	17,260	14,604
24	Software	92,912	-	-	-	-	92,912	20.00%	92,912	-	-	-	92,912	-	-
25	Software - SCADA	26,553	-	-	-	-	26,553	10.00%	9,293	-	2,655	-	11,949	17,260	14,604
26	Sub-Total	12,777,696	-	221,746	-	-	12,999,442		2,254,770	-	317,258	-	2,572,028	10,522,926	10,427,413
27	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
28	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
29	Total PP&E	13,118,280	-	221,746	-	-	13,340,026		2,254,770	-	317,258	-	2,572,028	10,863,510	10,767,997
30	Construction Work in Progress (CWIP)	850	146,938	(147,788)	-	-	-		-	-	-	-	-	850	-
31	Contributions in Aid of Construction (CIAC)	(6,303,448)	-	(73,957)	-	4,956	(6,372,449)		(845,362)	310	(157,800)	-	(1,002,853)	(5,458,086)	(5,369,597)
32	PP&E Net of CIAC	6,815,682	146,938	-	-	4,956	6,967,576		1,409,408	310	159,458	-	1,569,176	5,406,275	5,398,401

CAPITAL ASSET CONTINUITY SCHEDULE
FINANCIAL SCHEDULE 2.5

		Year ended December 31, 2021 - Forecast													
CAPITAL ASSET CONTINUITY SCHEDULE		Property, Plant and Equipment (PP&E), at cost						Accumulated Depreciation (A/D)						Net Book Value	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
		Op Bal	Capex	Additions	Retirements	Transfers & Adjts	CI Bal	Rate	Op Bal	Transfers & Adjts	Expense	Retirements	CI Bal	Op Bal	CI Bal
1	Source of Supply	6,617,068	-	368,458	-	-	6,985,525		766,916	-	159,605	-	926,521	5,850,152	6,059,004
2	Wells & Springs	54,616	-	-	-	-	54,616	2.50%	12,593	-	1,425	-	14,018	42,023	40,599
3	Wells & Springs	5,457,084	-	19,318	-	-	5,476,402	2.50%	584,070	-	136,733	-	720,803	4,873,014	4,755,599
4	Structures & Improvements	1,105,367	-	349,140	-	-	1,454,507	1.67%	170,253	-	21,447	-	191,700	935,114	1,262,807
5	Water Treatment Plant	1,418,184	-	-	-	-	1,418,184		485,024	-	50,683	-	535,707	933,160	882,477
6	Filter and Chemical Systems	1,399,402	-	-	-	-	1,399,402	3.33%	482,911	-	50,213	-	533,125	916,490	866,277
7	Equipment	18,783	-	-	-	-	18,783	2.50%	2,113	-	470	-	2,583	16,670	16,200
8	Pumping Plant	262,468	-	-	-	-	262,468		25,132	-	7,886	-	33,018	237,336	229,450
9	Electric Pumping Equipment	262,468	-	-	-	-	262,468	4.00%	25,132	-	7,886	-	33,018	237,336	229,450
10	General Plant	1,079,800	-	-	-	-	1,079,800		613,802	-	17,009	-	630,811	465,998	448,989
11	Fencing & Gates	7,685	-	-	-	-	7,685	10.00%	7,685	-	-	-	7,685	-	-
12	Computer Hardware (SCADA)	482,590	-	-	-	-	482,590	10.00%	461,842	-	3,773	-	465,614	20,749	16,976
13	Computer Hardware	10,122	-	-	-	-	10,122	20.00%	10,122	-	-	-	10,122	-	-
14	Structures & Improvements	520,502	-	-	-	-	520,502	2.00%	76,670	-	11,818	-	88,489	443,832	432,013
15	Transportation & Equipment	58,900	-	-	-	-	58,900	14.29%	57,482	-	1,418	-	58,900	1,418	-
16	Transmission & Distribution Plant	3,502,456	-	113,600	-	-	3,616,056		576,294	-	86,802	-	663,096	2,926,163	2,952,961
17	Structures & Improvements	124,228	-	-	-	-	124,228	2.00%	18,611	-	2,975	-	21,586	105,617	102,642
18	Mains	2,423,110	-	-	-	-	2,423,110	1.67%	365,120	-	43,604	-	408,725	2,057,989	2,014,385
19	Meters	593,154	-	55,376	-	-	648,530	5.00%	161,877	-	31,187	-	193,065	431,277	455,466
20	Meters	56,859	-	-	-	-	56,859	4.00%	17,058	-	2,274	-	19,332	39,802	37,527
21	Hydrants	260,420	-	35,704	-	-	296,124	2.00%	12,594	-	5,215	-	17,808	247,826	278,315
22	Services	44,685	-	22,521	-	-	67,205	2.00%	1,034	-	1,546	-	2,580	43,651	64,625
23	Software	119,465	-	86,553	-	-	206,018		104,861	-	6,983	-	111,844	14,604	94,175
24	Software	92,912	-	86,553	-	-	179,465	20.00%	92,912	-	4,328	-	97,240	-	82,226
25	Software - SCADA	26,553	-	-	-	-	26,553	10.00%	11,949	-	2,655	-	14,604	14,604	11,949
26	Sub-Total	12,999,442	-	568,611	-	-	13,568,053		2,572,028	-	328,968	-	2,900,996	10,427,413	10,667,056
27	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
28	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
29	Total PP&E	13,340,026	-	568,611	-	-	13,908,637		2,572,028	-	328,968	-	2,900,996	10,767,997	11,007,640
30	Construction Work in Progress (CWIP)	-	171,631	(171,631)	-	-	-		-	-	-	-	-	-	-
31	Contributions in Aid of Construction (CIAC)	(6,372,449)	-	(396,980)	-	-	(6,769,429)		(1,002,853)	-	(163,630)	-	(1,166,482)	(5,369,597)	(5,602,947)
32	PP&E Net of CIAC	6,967,576	171,631	-	-	-	7,139,207		1,569,176	-	165,338	-	1,734,514	5,398,401	5,404,693

CAPITAL ASSET CONTINUITY SCHEDULE
FINANCIAL SCHEDULE 2.5

Year ended December 31, 2022 - Forecast															
CAPITAL ASSET CONTINUITY SCHEDULE		Property, Plant and Equipment (PP&E), at cost						Accumulated Depreciation (A/D)						Net Book Value	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
		Op Bal	Capex	Additions	Retirements	Transfers & Adjs	CI Bal	Rate	Op Bal	Transfers & Adjs	Expense	Retirements	CI Bal	Op Bal	CI Bal
1	Source of Supply	6,985,525	-	19,799	-	-	7,005,324		926,521	-	163,003	-	1,089,524	6,059,004	5,915,800
2	Wells & Springs	54,616	-	-	-	-	54,616	2.50%	14,018	-	1,425	-	15,442	40,599	39,174
3	Wells & Springs	5,476,402	-	19,799	-	-	5,496,201	2.50%	720,803	-	137,222	-	858,025	4,755,599	4,638,176
4	Structures & Improvements	1,454,507	-	-	-	-	1,454,507	1.67%	191,700	-	24,357	-	216,057	1,262,807	1,238,450
5	Water Treatment Plant	1,418,184	-	-	-	-	1,418,184		535,707	-	50,683	-	586,390	882,477	831,794
6	Filter and Chemical Systems	1,399,402	-	-	-	-	1,399,402	3.33%	533,125	-	50,213	-	583,338	866,277	816,064
7	Equipment	18,783	-	-	-	-	18,783	2.50%	2,583	-	470	-	3,052	16,200	15,731
8	Pumping Plant	262,468	-	483,288	-	-	745,756		33,018	-	15,941	-	48,958	229,450	696,798
9	Electric Pumping Equipment	262,468	-	483,288	-	-	745,756	4.00%	33,018	-	15,941	-	48,958	229,450	696,798
10	General Plant	1,079,800	-	15,362	-	-	1,095,162		630,811	-	15,745	-	646,556	448,989	448,606
11	Fencing & Gates	7,685	-	-	-	-	7,685	10.00%	7,685	-	-	-	7,685	-	-
12	Computer Hardware (SCADA)	482,590	-	-	-	-	482,590	10.00%	465,614	-	3,773	-	469,387	16,976	13,203
13	Computer Hardware	10,122	-	-	-	-	10,122	20.00%	10,122	-	-	-	10,122	-	-
14	Structures & Improvements	520,502	-	15,362	-	-	535,864	2.00%	88,489	-	11,972	-	100,461	432,013	435,403
15	Transportation & Equipment	58,900	-	-	-	-	58,900	14.29%	58,900	-	-	-	58,900	-	-
16	Transmission & Distribution Plant	3,616,056	-	148,493	-	-	3,764,549		663,096	-	90,630	-	753,726	2,952,961	3,010,823
17	Structures & Improvements	124,228	-	-	-	-	124,228	2.00%	21,586	-	2,975	-	24,561	102,642	99,667
18	Mains	2,423,110	-	-	-	-	2,423,110	1.67%	408,725	-	43,604	-	452,329	2,014,385	1,970,781
19	Meters	648,530	-	89,326	-	-	737,856	5.00%	193,065	-	33,217	-	226,281	455,466	511,574
20	Meters	56,859	-	-	-	-	56,859	4.00%	19,332	-	2,274	-	21,607	37,527	35,253
21	Hydrants	296,124	-	34,321	-	-	330,444	2.00%	17,808	-	5,851	-	23,660	278,315	306,785
22	Services	67,205	-	24,846	-	-	92,052	2.00%	2,580	-	2,708	-	5,288	64,625	86,764
23	Software	206,018	-	-	-	-	206,018		111,844	-	11,311	-	123,154	94,175	82,864
24	Software	179,465	-	-	-	-	179,465	20.00%	97,240	-	8,655	-	105,895	82,226	73,570
25	Software - SCADA	26,553	-	-	-	-	26,553	10.00%	14,604	-	2,655	-	17,259	11,949	9,294
26	Sub-Total	13,568,053	-	666,942	-	-	14,234,994		2,900,996	-	347,312	-	3,248,309	10,667,056	10,986,686
27	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
28	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
29	Total PP&E	13,908,637	-	666,942	-	-	14,575,578		2,900,996	-	347,312	-	3,248,309	11,007,640	11,327,270
30	Construction Work in Progress (CWIP)	-	493,594	(493,594)	-	-	(0)		-	-	-	-	-	-	(0)
31	Contributions in Aid of Construction (CIAC)	(6,769,429)	-	(173,347)	-	-	(6,942,777)		(1,166,482)	-	(170,689)	-	(1,337,171)	(5,602,947)	(5,605,605)
32	PP&E Net of CIAC	7,139,207	493,594	-	-	-	7,632,802		1,734,514	-	176,623	-	1,911,138	5,404,693	5,721,664

CAPITAL ASSET CONTINUITY SCHEDULE
FINANCIAL SCHEDULE 2.5

Year ended December 31, 2023 - Forecast															
CAPITAL ASSET CONTINUITY SCHEDULE		Property, Plant and Equipment (PP&E), at cost						Accumulated Depreciation (A/D)						Net Book Value	
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
		Op Bal	Capex	Additions	Retirements	Transfers & Adjts	Cl Bal	Rate	Op Bal	Transfers & Adjts	Expense	Retirements	Cl Bal	Op Bal	Cl Bal
1	Source of Supply	7,005,324	-	20,729	-	-	7,026,053		1,089,524	-	163,913	-	1,253,437	5,915,800	5,772,616
2	Wells & Springs	54,616	-	-	-	-	54,616	2.50%	15,442	-	1,425	-	16,867	39,174	37,750
3	Wells & Springs	5,496,201	-	20,729	-	-	5,516,929	2.50%	858,025	-	138,132	-	996,157	4,638,176	4,520,773
4	Structures & Improvements	1,454,507	-	-	-	-	1,454,507	1.67%	216,057	-	24,357	-	240,414	1,238,450	1,214,093
5	Water Treatment Plant	1,418,184	-	-	-	-	1,418,184		586,390	-	50,683	-	637,073	831,794	781,111
6	Filter and Chemical Systems	1,399,402	-	-	-	-	1,399,402	3.33%	583,338	-	50,213	-	633,551	816,064	765,850
7	Equipment	18,783	-	-	-	-	18,783	2.50%	3,052	-	470	-	3,522	15,731	15,261
8	Pumping Plant	745,756	-	-	-	-	745,756		48,958	-	23,995	-	72,954	696,798	672,802
9	Electric Pumping Equipment	745,756	-	-	-	-	745,756	4.00%	48,958	-	23,995	-	72,954	696,798	672,802
10	General Plant	1,095,162	-	-	-	-	1,095,162		646,556	-	15,898	-	662,455	448,606	432,708
11	Fencing & Gates	7,685	-	-	-	-	7,685	10.00%	7,685	-	-	-	7,685	-	-
12	Computer Hardware (SCADA)	482,590	-	-	-	-	482,590	10.00%	469,387	-	3,773	-	473,160	13,203	9,430
13	Computer Hardware	10,122	-	-	-	-	10,122	20.00%	10,122	-	-	-	10,122	-	-
14	Structures & Improvements	535,864	-	-	-	-	535,864	2.00%	100,461	-	12,126	-	112,587	435,403	423,278
15	Transportation & Equipment	58,900	-	-	-	-	58,900	14.29%	58,900	-	-	-	58,900	-	-
16	Transmission & Distribution Plant	3,764,549	-	93,279	-	-	3,857,828		753,726	-	93,964	-	847,690	3,010,823	3,010,138
17	Structures & Improvements	124,228	-	-	-	-	124,228	2.00%	24,561	-	2,975	-	27,536	99,667	96,692
18	Mains	2,423,110	-	-	-	-	2,423,110	1.67%	452,329	-	43,604	-	495,933	1,970,781	1,927,176
19	Meters	737,856	-	27,155	-	-	765,010	5.00%	226,281	-	35,174	-	261,455	511,574	503,555
20	Meters	56,859	-	-	-	-	56,859	4.00%	21,607	-	2,274	-	23,881	35,253	32,979
21	Hydrants	330,444	-	39,903	-	-	370,347	2.00%	23,660	-	6,562	-	30,222	306,785	340,125
22	Services	92,052	-	26,222	-	-	118,274	2.00%	5,288	-	3,374	-	8,662	86,764	109,611
23	Software	206,018	-	-	-	-	206,018		123,154	-	11,311	-	134,465	82,864	71,553
24	Software	179,465	-	-	-	-	179,465	20.00%	105,895	-	8,655	-	114,550	73,570	64,915
25	Software - SCADA	26,553	-	-	-	-	26,553	10.00%	17,259	-	2,655	-	19,915	9,294	6,638
26	Sub-Total	14,234,994	-	114,008	-	-	14,349,002		3,248,309	-	359,765	-	3,608,073	10,986,686	10,740,929
27	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
28	Land & Land Rights	340,584	-	-	-	-	340,584		-	-	-	-	-	340,584	340,584
29	Total PP&E	14,575,578	-	114,008	-	-	14,689,586		3,248,309	-	359,765	-	3,608,073	11,327,270	11,081,513
30	Construction Work in Progress (CWIP)	(0)	60,631	(60,631)	-	-	-							(0)	-
31	Contributions in Aid of Construction (CIAC)	(6,942,777)	-	(53,376)	-	-	(6,996,153)	2.5%	(1,337,171)	-	(173,496)	-	(1,510,667)	(5,605,605)	(5,485,486)
32	PP&E Net of CIAC	7,632,802	60,631	-	-	-	7,693,433		1,911,138	-	186,269	-	2,097,406	5,721,664	5,596,027

**RATE BASE AND RETURN ON RATE BASE
FINANCIAL SCHEDULE 2.6**

RATE BASE AND RETURN ON RATE BASE		A	B	C	D	E	F	G
		2018 Actual \$	2019 Actual \$	2020 Decision \$	2020 Forecast \$	2021 Forecast \$	2022 Forecast \$	2023 Forecast \$
1	Property, Plant & Equipment (PP&E)							
2	Balance at beginning of year	9,909,929	12,899,339	13,379,578	13,118,280	13,340,026	13,908,637	14,575,578
3	Balance at end of year	12,899,339	13,118,280	13,568,791	13,340,026	13,908,637	14,575,578	14,689,586
4	Mid-year PP&E	11,404,634	13,008,810	13,474,184	13,229,153	13,624,331	14,242,108	14,632,582
5	Accumulated Depreciation							
6	Balance at beginning of year	(1,639,727)	(1,939,797)	(2,274,925)	(2,254,770)	(2,572,028)	(2,900,996)	(3,248,309)
7	Balance at end of year	(1,939,797)	(2,254,770)	(2,607,109)	(2,572,028)	(2,900,996)	(3,248,309)	(3,608,073)
8	Mid-year Accumulated Depreciation	(1,789,762)	(2,097,284)	(2,441,017)	(2,413,399)	(2,736,512)	(3,074,653)	(3,428,191)
9	Mid-Year PP&E, net of Accumulated Depreciation	9,614,872	10,911,526	11,033,168	10,815,754	10,887,819	11,167,455	11,204,391
10	CIAC							
11	Balance at beginning of year	(4,302,017)	(6,251,102)	(6,353,218)	(6,303,448)	(6,372,449)	(6,769,429)	(6,942,777)
12	Balance at end of year	(6,251,102)	(6,303,448)	(6,401,149)	(6,372,449)	(6,769,429)	(6,942,777)	(6,996,153)
13	Mid-Year CIAC	(5,276,559)	(6,277,275)	(6,377,184)	(6,337,949)	(6,570,939)	(6,856,103)	(6,969,465)
14	Accumulated Amortization							
15	Balance at beginning of year	559,476	689,311	884,484	845,362	1,002,853	1,166,482	1,337,171
16	Balance at end of year	689,311	845,362	1,061,777	1,002,853	1,166,482	1,337,171	1,510,667
17	Mid-Year Accumulated Amortization	624,394	767,337	973,131	924,107	1,084,667	1,251,827	1,423,919
18	Mid-Year CIAC, net of Accumulated Amortization	(4,652,166)	(5,509,938)	(5,404,053)	(5,413,841)	(5,486,272)	(5,604,276)	(5,545,546)
19	Working Capital Allowance							
20	Operating costs	1,011,210	1,052,667	1,127,344	1,097,149	1,129,236	1,153,153	1,179,232
21	Less: Intercorporate Service Charges	(186,410)	(191,745)	(192,200)	(192,200)	(160,536)	(162,704)	(166,514)
22	Less: Municipal Taxes	(40,289)	(40,153)	(43,510)	(42,556)	(44,711)	(45,605)	(46,517)
23	Total Eligible Expenses	784,512	820,770	891,635	862,393	923,989	944,844	966,201
24	Working Capital Allowance (45 days / 365 days)	96,721	101,191	109,928	106,322	113,916	116,488	119,121
25								
26	Mid-Year Net Rate Base	5,059,427	5,502,779	5,739,042	5,508,235	5,515,463	5,679,666	5,777,966
27	Return on Rate Base							
28	Deemed Capital Structure							
29	Debt	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
30	Equity	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%
31	Cost Rates							
32	Average Cost of Debt	5.43%	5.27%	5.36%	5.26%	5.26%	5.22%	5.19%
33	Equity	15.10%	11.21%	9.75%	8.65%	9.75%	9.75%	9.75%
34	Weighted Average Cost of Capital							
35	Debt	3.26%	3.16%	3.22%	3.16%	3.16%	3.13%	3.12%
36	Equity	6.04%	4.48%	3.90%	3.46%	3.90%	3.90%	3.90%
37	Weighted Average Cost of Capital	9.30%	7.64%	7.12%	6.62%	7.06%	7.03%	7.02%
38	Return on Rate Base							
39	Debt	164,696	173,847	184,511	173,964	174,128	177,862	180,097
40	Equity	305,613	246,672	223,823	190,524	215,103	221,507	225,341
41	Total Return on Rate Base	470,308	420,519	408,333	364,488	389,231	399,369	405,438

**DEBT AND INTEREST EXPENSE
FINANCIAL SCHEDULE 2.7**

DEBT AND INTEREST EXPENSE	A	B	C	D	E	F	G
	2018 Actual \$	2019 Actual \$	2020 Decision \$	2020 Forecast \$	2021 Forecast \$	2022 Forecast \$	2023 Forecast \$
1 Deemed Mid-Year Inter-Company Debt							
2 Mid-Year Rate Base	5,059,427	5,502,779	5,739,042	5,508,235	5,515,463	5,679,666	5,777,966
3 Deemed Debt Component of Mid-Year Rate Base	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%	60.00%
4 Mid-Year Deemed Inter-Company Debt	3,035,656	3,301,667	3,443,425	3,304,941	3,309,278	3,407,800	3,466,780
5 Deemed Inter-Company Interest Expense							
6 Deemed Inter-company Debt							
7 Current Year	3,035,656.16	3,301,667	3,443,425	3,304,941	3,309,278	3,407,800	3,466,780
8 Prior Year	2,742,892.47	3,035,656	3,433,826	3,301,667	3,304,941	3,309,278	3,407,800
9 Deemed Inter-Company Debt Issues	292,764	266,011	9,599	3,274	4,337	98,522	58,980
10 Cost of New Intercompany Debt	4.00%	3.44%	4.87%	3.58%	3.79%	3.79%	3.79%
11 Interest on Deemed Inter-Company Debt							
12 Pre-2018 Debt	152,985	152,985	152,985	152,985	152,985	152,985	152,985
13 Interest on 2018 Debt	11,711	11,711	15,520	11,711	11,711	11,711	11,711
14 Interest on 2019 Debt		9,151	15,538	9,151	9,151	9,151	9,151
15 Interest on 2020 Debt			467	117	117	117	117
16 Interest on 2021 Debt					164	164	164
17 Interest on 2022 Debt						3,734	3,734
18 Interest on 2023 Debt							2,235
19 Deemed Inter-Company Interest Expense	164,695.82	173,847	184,511	173,964	174,128	177,862	180,097
20 Average Cost of Debt	5.43%	5.27%	5.36%	5.26%	5.26%	5.22%	5.19%

Interest Expense	A	B	C
	Deemed Debt Issue	Debt Cost Rate	Deemed Interest Expense
1 2018-2020 Decision			
2 Pre-2015 Deemed Intercompany Debt	2,502,701	5.74%	143,661
3 2015 Deemed Intercompany Debt	(55,147)	4.26%	(2,349)
4 2016 Deemed Intercompany Debt	116,895	3.88%	4,536
5 2017 Deemed Intercompany Debt	178,444	4.00%	7,138
6 Interest on pre-2018 Debt	2,742,892	5.58%	152,985
7 2018 Deemed Intercompany Debt	356,786	4.35%	15,520
8 2019 Deemed Intercompany Debt -	334,148	4.65%	15,538
9 2020 Deemed Intercompany Debt	9,599	4.87%	467
10 2020 Interest Expense	3,443,425	5.36%	184,511

11 Actual/Forecast Interest Expenses			
12 Pre-2015 Deemed Intercompany Debt	2,502,701	5.74%	143,661
13 2015 Deemed Intercompany Debt	(55,147)	4.26%	(2,349)
14 2016 Deemed Intercompany Debt	116,895	3.88%	4,536
15 2017 Deemed Intercompany Debt	178,444	4.00%	7,138
16 Interest on pre-2018 Debt	2,742,892	5.58%	152,985
17 2018 Deemed Intercompany Debt	292,764	4.00%	11,711
18 2019 Deemed Intercompany Debt	266,011	3.44%	9,151
19 2020 Deemed Intercompany Debt	3,274	3.58%	117
20 2020 Interest Expense	3,304,941	5.26%	173,964

**REVENUE REQUIREMENT
FINANCIAL SCHEDULE 2.8**

REVENUE REQUIREMENT	A	B	C	D	E	F	G	H	I
	2018 Decision \$	2018 Actual \$	2019 Decision \$	2019 Actual \$	2020 Decision \$	2020 Forecast \$	2021 Forecast \$	2022 Forecast \$	2023 Forecast \$
1 Operating Costs									
2 Salaries & Benefits	515,000	495,175	528,390	498,334	542,128	567,461	583,286	598,452	614,011
3 Power & Other Utilities	87,208	60,854	89,723	67,950	92,312	70,310	75,000	75,375	75,752
4 Chemicals	43,200	36,311	44,064	31,124	44,945	32,000	32,000	32,640	33,293
5 Operations and Maintenance	203,269	192,172	207,715	223,361	212,250	192,622	233,703	238,377	243,145
6 Property taxes	41,820	40,289	42,656	40,153	43,510	42,556	44,711	45,605	46,517
7 Inter-Corporate Service Charges	186,410	186,410	191,745	191,745	192,200	192,200	160,536	162,704	166,514
8 Total Operating Costs	1,076,907	1,011,210	1,104,294	1,052,667	1,127,344	1,097,149	1,129,236	1,153,153	1,179,232
9 Depreciation	306,126	300,070	329,072	314,973	332,184	317,258	328,968	347,312	359,765
10 Amortization of Contributions	(150,061)	(129,835)	(174,947)	(156,051)	(177,293)	(157,800)	(163,630)	(170,689)	(173,496)
11 Interest Expense	168,506	164,696	184,043	173,847	184,511	173,964	174,128	177,862	180,097
12 Equity Return	201,479	305,613	223,199	246,672	223,823	190,524	215,103	221,507	225,341
13 Revenue Requirement before Revenue Offsets	1,602,957	1,651,754	1,665,662	1,632,108	1,690,569	1,621,095	1,683,806	1,729,145	1,770,939
14 Revenue Offsets	(22,345)	(19,602)	(22,792)	(19,685)	(23,248)	(20,079)	(19,295)	(19,408)	(19,524)
15 Revenue Requirement	1,580,611	1,632,151	1,642,869	1,612,423	1,667,320	1,601,016	1,664,511	1,709,737	1,751,415

**DEFERRAL ACCOUNTS SUMMARY
FINANCIAL SCHEDULE 3.1**

DEFERRAL ACCOUNT BALANCES	A	B	C	D	E	F	G
	2017 Actual \$	2018 Actual \$	2019 Actual \$	2020 Forecast \$	2021 Forecast \$	2022 Forecast \$	2023 Forecast \$
1 Deferral Accounts Balance, Beginning of Year	83,589	(79,927)	(82,872)	(183,852)	(256,904)	(131,388)	(43,658)
2 Current Year Deferrals							
3 Consumption	(8,143)	(69,075)	(81,239)	(49,952)			
4 Property Taxes	513	(1,531)	(2,504)	(954)			
5 Interest	(38,372)	(3,810)	(10,197)	(10,547)			
6 Hearing Costs	3,815	7,309	-	-			
7 Current Year Deferrals	(42,188)	(67,107)	(93,940)	(61,452)	-	-	-
8 Current Year Carrying Charges	5,659	(4,417)	(7,023)	(11,600)	(10,216)	(4,568)	(1,134)
9 Deferral Account Balance before Amounts Refunded/(Recovered) from Rate Rider	47,060	(151,451)	(183,835)	(256,904)	(267,120)	(135,956)	(44,792)
10 Amounts to be Refunded/(Recovered) from Rate Rider	(126,987)	68,578	(17)	-	135,733	92,298	44,792
11 Deferral Accounts Balance, End of Year	(79,927)	(82,872)	(183,852)	(256,904)	(131,388)	(43,658)	-

CARRYING CHARGES	A	B	C	D	E	F	G
	2017 Actual \$	2018 Actual \$	2019 Actual \$	2020 Forecast \$	2021 Forecast \$	2022 Forecast \$	2023 Forecast \$
1 Carrying Charges Balance, Beginning of Year	5,557	-	-	-	-	-	-
2 Current Year Carrying Charges							
3 Deferral Accounts Balance, Beginning of Year	83,589	(79,927)	(82,872)	(183,852)	(256,904)	(131,388)	(43,658)
4 Deferral Accounts Balance, End of Year	(79,927)	(82,872)	(183,852)	(256,904)	(131,388)	(43,658)	-
5 Mid-Year Deferral Account Balance	1,830.75	(81,400)	(133,362)	(220,378)	(194,146)	(87,523)	(21,829)
6 Weighted Average Cost of Debt	5.58%	5.43%	5.27%	5.26%	5.26%	5.22%	5.19%
7 Current Year Carrying Charges	102	(4,417)	(7,023)	(11,600)	(10,216)	(4,568)	(1,134)
8 Carrying Charges Balance before Amounts Refunded/(Recovered) from Rate Rider	5,659	(4,417)	(7,023)	(11,600)	(10,216)	(4,568)	(1,134)
9 Amounts to be Refunded/(Recovered) from Rate Rider	(5,659)	4,417	7,023	11,600	10,216	4,568	1,134
10 Carrying Charges Balance, End of Year	-	-	-	-	-	-	-

DEFERRAL ACCOUNTS
FINANCIAL SCHEDULE 3.2

DEFERRAL ACCOUNTS	A	B	C	D	E	F	G	H	I
	2018 Decision \$	2018 Actual \$	2018 Deferral \$	2019 Decision \$	2019 Actual \$	2019 Deferral \$	2020 Decision \$	2020 Forecast \$	2020 Deferral \$
1 Consumption Deferral									
2 Base Consumption (monthly charge per unit)	1,144,504	1,195,790	(51,286)	1,137,901	1,194,863	(56,962)	1,131,338	1,162,239	(30,901)
3 Residential Units	995,716	1,043,288	(47,572)	990,996	1,039,197	(48,201)	986,292	1,006,581	(20,289)
4 Multi-Residential Units	128,925	130,380	(1,455)	127,294	133,442	(6,148)	125,684	135,812	(10,128)
5 Commercial Units	19,862	22,122	(2,260)	19,611	22,224	(2,613)	19,363	19,847	(485)
6 Water Consumption in Excess of Base (charge per cubic metre)	392,733	410,521	(17,788)	390,232	414,510	(24,277)	387,750	406,800	(19,050)
7 Residential Units	312,045	324,181	(12,136)	310,566	319,962	(9,396)	309,092	319,653	(10,562)
8 Multi-Residential Units	40,661	42,805	(2,143)	40,147	45,484	(5,337)	39,639	44,213	(4,575)
9 Commercial Units	40,026	43,535	(3,509)	39,520	49,064	(9,544)	39,020	42,934	(3,914)
10 Consumption Deferral	1,537,236	1,606,311	(69,075)	1,528,134	1,609,373	(81,239)	1,519,088	1,569,040	(49,952)
11 Property Tax Deferral	41,820	40,289	(1,531)	42,656	40,153	(2,504)	43,510	42,556	(954)
12 Interest Expense Deferral	168,506	164,696	(3,810)	184,043	173,847	(10,197)	184,511	173,964	(10,547)
13 Hearing Cost Deferral	-	7,309	7,309	-	-	-	-	-	-
14 Total Deferral Amount			(67,107)			(93,940)			(61,452)

2021, 2022 AND 2023 RATE RIDERS
FINANCIAL SCHEDULE 4.0

RATE RIDER FOR 2021	A Forecast	B Forecast Rates \$	C Forecast Annual Revenue \$	D Proportionate Share of Revenue \$	E Share of Deferral Account Balance \$	F Total to be Refunded \$	G Rate Rider \$
1 Monthly Charge per Unit							
2 Residential Units	1828	43.45	953,191	56.23%	(76,319)	(76,319)	(3.48) per connection per month
3 Multi-Residential Units	268	39.53	127,143	7.50%	(10,180)	(10,180)	(3.17) per connection per month
4 Commercial Unites	43	38.39	19,807	1.17%	(1,586)	(1,586)	(3.07) per connection per month
5 Water Consumption in excess of base							
6 Residential (up to 75 cubic metres)	188,513	1.93	363,830	21.46%	(29,131)	(29,131)	(0.15) per cubic metre
7 Residential (in excess of 75 cubic metres)	13,399	1.93	25,860	1.53%	(2,071)	(2,071)	(0.15) per cubic metre
8 Multi-residential (up to 75 cubic metres)	24,769	1.93	47,804	2.82%	(3,828)	(3,828)	(0.15) per cubic metre
9 Multi-residential (in excess of 75 cubic metres)	2,908	1.93	5,612	0.33%	(449)	(449)	(0.15) per cubic metre
10 Commercial (up to 75 cubic metres)	13,144	0.96	12,618	0.74%	(1,010)	(1,010)	(0.08) per cubic metre
11 Commercial (in excess of 75 cubic metres)	34,566	0.96	33,183	1.96%	(2,657)	(2,657)	(0.08) per cubic metre
12 Fire Protection							
13 Hydrants	181	582.84	105,494	6.22%	(8,447)	(8,447)	(46.67) per hydrant per annum
14 Standpipes	3	233.14	699	0.04%	(56)	(56)	(18.67) per standpipe per annum
15 Total			1,695,243	100.00%	(135,733)	(135,733)	

RATE RIDER FOR 2022	A Forecast	B Forecast Rates \$	C Forecast Annual Revenue \$	D Proportionate Share of Revenue \$	E Share of Deferral Account Balance \$	F Total to be Refunded \$	G Rate Rider \$
1 Monthly Charge per Unit							
2 Residential Units	1845	43.45	961,795	56.29%	(51,958)	(51,958)	(2.35) per connection per month
3 Multi-Residential Units	268	39.53	127,143	7.44%	(6,869)	(6,869)	(2.14) per connection per month
4 Commercial Unites	43	38.39	19,807	1.16%	(1,070)	(1,070)	(2.07) per connection per month
5 Water Consumption in excess of base							
6 Residential (up to 75 cubic metres)	190,215	1.93	367,114	21.49%	(19,832)	(19,832)	(0.10) per cubic metre
7 Residential (in excess of 75 cubic metres)	13,520	1.93	26,093	1.53%	(1,410)	(1,410)	(0.10) per cubic metre
8 Multi-residential (up to 75 cubic metres)	24,769	1.93	47,804	2.80%	(2,582)	(2,582)	(0.10) per cubic metre
9 Multi-residential (in excess of 75 cubic metres)	2,908	1.93	5,612	0.33%	(303)	(303)	(0.10) per cubic metre
10 Commercial (up to 75 cubic metres)	13,144	0.96	12,618	0.74%	(682)	(682)	(0.05) per cubic metre
11 Commercial (in excess of 75 cubic metres)	34,566	0.96	33,183	1.94%	(1,793)	(1,793)	(0.05) per cubic metre
12 Fire Protection							
13 Hydrants	183	582.84	106,660	6.24%	(5,762)	(5,762)	(31.49) per hydrant per annum
14 Standpipes	3	233.14	699	0.04%	(38)	(38)	(12.59) per standpipe per annum
15 Total			1,708,530	100.00%	(92,298)	(92,298)	

RATE RIDER FOR 2023	A Forecast	B Forecast Rates \$	C Forecast Annual Revenue \$	D Proportionate Share of Revenue \$	E Share of Deferral Account Balance \$	F Total to be Refunded \$	G Rate Rider \$
1 Monthly Charge per Unit							
2 Residential Units	1861.1	43.45	970,451	56.36%	(25,244)	(25,244)	(1.13) per connection per month
3 Multi-Residential Units	268	39.53	127,143	7.38%	(3,307)	(3,307)	(1.03) per connection per month
4 Commercial Unites	43	38.39	19,807	1.15%	(515)	(515)	(1.00) per connection per month
5 Water Consumption in excess of base							
6 Residential (up to 75 cubic metres)	191,926	1.93	370,418	21.51%	(9,636)	(9,636)	(0.05) per cubic metre
7 Residential (in excess of 75 cubic metres)	13,641	1.93	26,328	1.53%	(685)	(685)	(0.05) per cubic metre
8 Multi-residential (up to 75 cubic metres)	24,769	1.93	47,804	2.78%	(1,244)	(1,244)	(0.05) per cubic metre
9 Multi-residential (in excess of 75 cubic metres)	2,908	1.93	5,612	0.33%	(146)	(146)	(0.05) per cubic metre
10 Commercial (up to 75 cubic metres)	13,144	0.96	12,618	0.73%	(328)	(328)	(0.02) per cubic metre
11 Commercial (in excess of 75 cubic metres)	34,566	0.96	33,183	1.93%	(863)	(863)	(0.02) per cubic metre
12 Fire Protection							
13 Hydrants	185	582.84	107,825	6.26%	(2,805)	(2,805)	(15.16) per hydrant per annum
14 Standpipes	3	233.14	699	0.04%	(18)	(18)	(6.06) per standpipe per annum
15 Total			1,721,890	100.00%	(44,792)	(44,792)	

NET INCOME
FINANCIAL SCHEDULE 5.0

NET INCOME	A	B	C	D	E	F	G
	2018 Actual \$	2019 Actual \$	2020 Decision \$	2020 Forecast \$	2021 Forecast \$	2022 Forecast \$	2023 Forecast \$
1 Revenue							
2 Water service	1,606,311	1,609,373	1,519,088	1,569,040	1,589,049	1,601,171	1,613,365
3 Fire protection	97,363	104,013	102,580	105,028	106,193	107,359	108,525
4 Other revenue	19,602	19,685	23,248	20,079	19,295	19,408	19,524
	1,723,276	1,733,071	1,644,916	1,694,147	1,714,538	1,727,938	1,741,414
5 Deferral Accounts	(71,523)	(93,940)	-	(61,452)	-	-	-
6 Carrying Charges on Deferral Balance	-	(7,023)	-	(11,600)	-	-	-
7 Total Forecast Revenue	1,651,754	1,632,108	1,644,916	1,621,095	1,714,538	1,727,938	1,741,414
8 Operating Costs	1,011,210	1,052,667	1,127,344	1,097,149	1,129,236	1,153,153	1,179,232
9 Depreciation and amortization	170,235	158,922	154,891	159,458	165,338	176,623	186,269
10 Interest Expense	164,696	173,847	184,511	173,964	174,128	177,862	180,097
11 Total Expenses	1,346,141	1,385,436	1,466,746	1,430,571	1,468,703	1,507,638	1,545,598
12 Net Income	305,613	246,672	178,170	190,524	245,835	220,300	195,816
13 Equity Component of Rate Base	2,023,771	2,201,112	2,295,617	2,203,294	2,206,185	2,271,866	2,311,186
14 Effective Rate of Return	15.10%	11.21%	7.76%	8.65%	11.14%	9.70%	8.47%

APPENDIX A

COMPTROLLER DIRECTIONS

1.0 CORPORATE SERVICE COSTS

1. The Comptroller of Water Rights (the “Comptroller”) issued a number of Directions to EPCOR Water (West) Inc. (“EWW”) in Order No. 2519, in respect of EWW’s 2018-2020 Revenue Requirements Application. The Directions which apply to this Application and the manner in which EWW has responded to these Directions is provided below.

1.1 Capital Programs (Direction 1)

2. In Order No. 2519, EWW was directed as follows:

“EWW is expected to greatly improve its capital cost forecasting ability in future applications. Future capital projects that require a CPCN are to be reviewed by EWSI before being submitted to the Deputy Comptroller .”

3. As directed, EWW now adheres to the following process:

4. Annually: Capital projects are initiated through the annual budgeting process. An internal EPCOR capital justification sheet is written up outlining the operational need, risks, regulatory approach/approval and costs of the project. EWSI senior leadership along with French Creek Operational team, Capital Governance and Finance teams review the detailed capital justification sheets and the overall annual capital spend portfolio for French Creek prior to the budget being formally submitted for review to the consolidated EPCOR Senior Leadership team.

5. Monthly/Quarterly: Capital spend plan compared to budgeted spend to date is reviewed monthly. The information is presented by the French Creek Operational team quarterly to EWSI Senior Leadership at the Water Capital Steering Committee (WCSC). Significant variances to budget are discussed to ensure capital spend continues on budget or there is a reasonable plan in place to manage deviations from the approved budget.

6. Unplanned capital projects: projects required that were not approved through the annual budgeting process are presented at the monthly WCSC by the French Creek Operational team. A capital justification sheet is prepared and formally reviewed by leadership and is required to be approved prior to the project proceeding.

1.2 Inter-Corporate Charges (Direction 7)

7. In Order No. 2519, EWW was directed as follows:

“In future RRAs, EWW is instructed to document the involvement of EWSI in reviewing forecasts of significant capital initiatives and updates to the Master Plan ”

8. For significant capital projects, the project management support in Regional Operations and a project manager will be leveraged to manage both the financial and construction and ensure that the project is completed on time and on budget.

9. EWW presented the preliminary draft of the 2020 Master Plan to Regulatory and Finance groups within EWSI and obtained feedback and final approval of the filed 2020 Master Plan. The Steering Committee for the development of the 2021-2023 RRA Application, which included Senior Management from Regulatory and Regional Operations, met monthly or more often, as required, throughout the development of the application.



Regulatory 101

French Creek Community Advisory Panel
December 5, 2019

Presented by: Camille Jasper-Fabiyi
Lindsay Hall

Outline

- Regulatory Framework
- Rates Application Process
- 2019 Master Plan
- 2021-2023 Rates Application

Regulatory Framework

- Water Quality
 - Health Canada
 - Ministry of Health Services
 - Regional Health Authority

- Operations and Rates
 - Comptroller of Water Rights

- Environment
 - Ministry of Environment (Provincial)
 - Department of Fisheries & Oceans (Federal)



Regulatory Framework

- Regulatory Terms
- Regulator's Responsibilities
- Rates Approval Process
- Rates Application Process



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Regulator – Water Quality

- Health Canada, in collaboration with provinces/territories:
 - Establishes the Guidelines for Canadian Drinking Water Quality

- BC Ministry of Health Services
 - Develops provincial legislation, policies, program standards relating to drinking water quality

- Island Health Authority
 - Implements and enforces policies and program standards of the BC Ministry of Health Services
 - Responsible for protection of the public from waterborne illness
 - Approves and issues operating permits as required under Drinking Water Protection Act and Drinking Water Protection Regulation

Regulator – Operations and Rates

Comptroller of Water Rights

- Under Ministry of Forests, Lands and Natural Resource Operations
 - Resource Stewardship Division
 - Water Management Branch
 - Utility Regulation Section
- Under the *Water Utility Act* and the *Utilities Commission Act*, the Comptroller of Water Rights is responsible for regulation of privately owned water utilities
- Responsible for regulation of 178 privately owned water utilities serving approximately 20,000 households in BC



Comptroller of Water Rights

■ Responsibilities

- To assure that water systems installed by the utility are properly designed and constructed
- To assure that customers of the utility receive acceptable water service at reasonable rates

■ Utility Regulation Section

- Assess each application for new systems and extensions to existing water systems by evaluating the design and financial viability
- Upon satisfying requirements, recommendation is made to Comptroller of Water Rights to issue a Certificate of Public Convenience and Necessity ('CPCN')

Certificate of Public Convenience and Necessity (CPCN)

- Authorizes a private water utility to construct and operate a water system to serve customers within a defined area
- Describes the conditions under which a utility is established and will operate
- Granted by the Comptroller of Water Rights
- Amended to include additional lots to a utility's service area



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Regulatory Terms

- Revenue Requirement
 - Amount of money that a utility must receive from its customers to cover its costs, operating expenses, taxes, interest and a reasonable return

- Rate Base
 - The asset (property) value of a given utility

- Test Period
 - Time period revenue requirement and rates are applicable
 - French Creek has typically applied for 3 year forecast period
 - Balances regulatory efficiency and forecasting accuracy

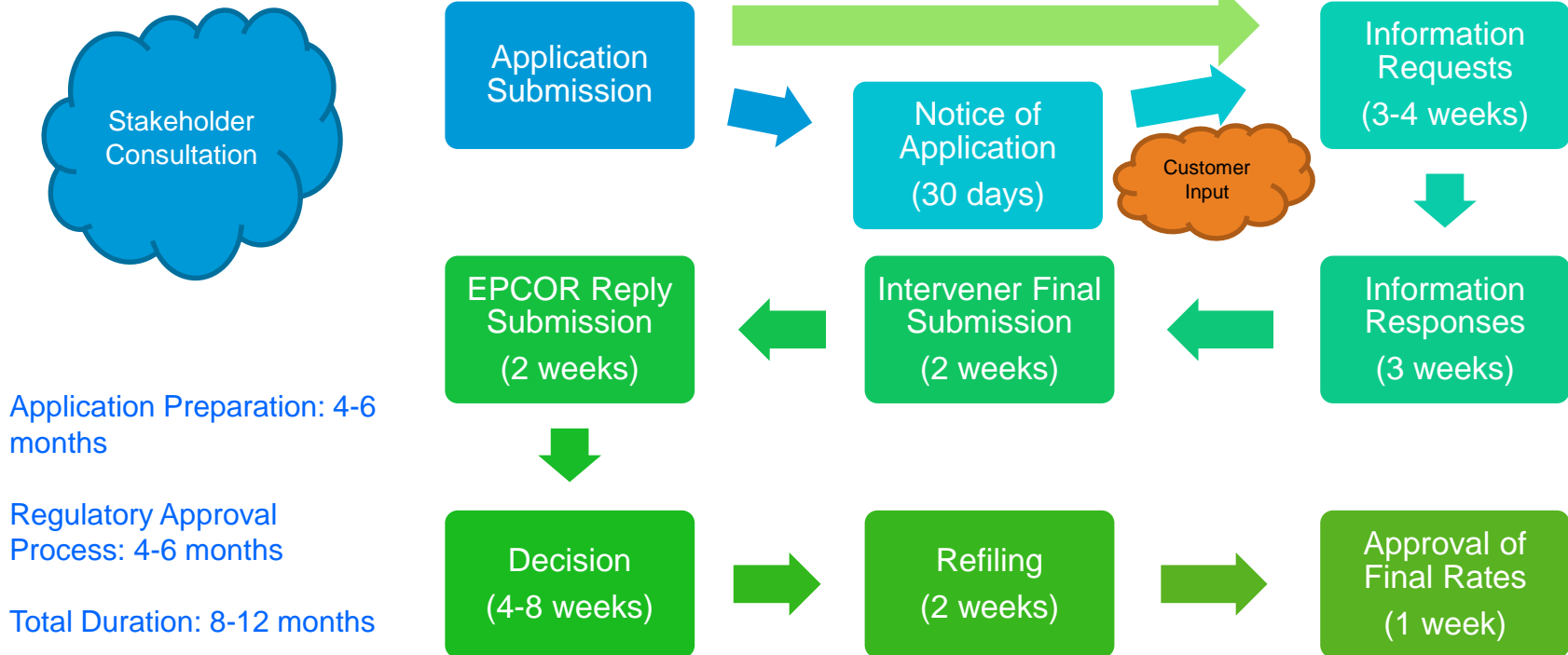


Regulator's Responsibilities

- Oversees a Utility's business and ensures it is working effectively in providing safe, reliable service and is in the best interest of the customers they serve – sets rates or tariffs that a utility is allowed to charge users
- Responds to customer inquiries and formal complaints respecting utility matters
- Establishes mandatory requirements and standards of practice
- Examines and evaluates a Utility's costs of providing services, along with invited stakeholders (intervenors)
- Sets a fair return of the Utility's investment so that the Utility will be financially viable



Rates Approval Process - Timelines



Application Preparation: 4-6 months

Regulatory Approval Process: 4-6 months

Total Duration: 8-12 months



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Rates Application Process

Rates are established through a two-phase process under a cost of service regulatory framework

■ **Phase 1: Revenue Requirement**

- How much revenue the utility requires to operate and earn a fair return on its investment
- “the size of the pie”
- Application to regulator prior to expiry of existing rates



Rates Application Process

Rates are established through a two-phase process under a cost of service regulatory framework

- Phase 2: Cost of Service (COS) & Rate Design
 - Amount of revenues recovered from each rate class
 - “how to slice the pie”
 - Submit to regulator as required (typically as utility changes) or as directed
 - EWW completed a COS in the last application and modified the rate structure at the same time (from declining blocks to uniform blocks). No further changes are proposed

- Phase 1 and 2 can be filed as a single application or as two separate applications.



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Phase 1: Revenue Requirement

- Identify forecast information:
 - Escalation factors – CPI, power, construction, wages & salaries
 - Financial – operating costs and capital related costs, financing
 - Non-Financial – consumption and customer counts

- Rate Base
 - Utility assets, net of depreciation and contributions
 - Reflect impacts of annual capital additions

- Revenue requirement includes: operating costs, depreciation, interest expense and equity return on rate base

- Regulator reviews ('tests') capital and operating costs to ensure reasonableness and accuracy of forecasts



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Rate Riders

- Regulatory approval of deferral account mechanism to record the difference between actual and forecast for consumption, property taxes and interest costs
- Recovery of deferral amounts are facilitated through rate riders
- Rate rider is a charge or credit on the customer bill, separate from the water consumption charge, approved by the Comptroller to clear the deferral amounts



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Regulatory Principles (1/2)

- Cost of Service Standard
 - Rates set to allow for recovery of costs including fair return
- Inter-generational Equity
 - Customers in a given period pay the costs necessary in that period
- Matching
 - Costs matched to period that benefits from costs being incurred
- Rate Stability and Predictability
 - Rates should remain stable and predictable



Regulatory Principles (2/2)

- Used or Required to be Used
 - Customers only pay for the cost of those assets that are either used or required to be used

- Prudence Standard
 - Customers charged only for prudently incurred costs

- Fair Rate of Return
 - Commensurate with returns on investment having corresponding risk

- No Undue Discrimination
 - Customers must be treated on an equitable basis



Regulatory Reporting

- Annual Report and Annual Compliance Filing submitted to Comptroller of Water Rights
- Annual Report
 - Includes corporate business information
 - Includes revenue analysis and financial statements (unaudited)
- Annual Compliance Filing
 - Compares actual results with approved filing for year
 - Summary analysis on consumption, revenue, operating costs, capital expenditures, debt and equity financing with supporting financial schedules
- For reference, copies are typically included with Application Filing



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2019 Master Plan

- Master Plan provides an analysis of the current water system and identifies areas where improvement may be required
 - Defines current state
 - Identifies growth assumptions
- Used as a planning document for the Rate Application
- Master Plans for French Creek previously completed in 2008 and 2014.



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2019 Master Plan

Customer Considerations

Reliable Service

Water Quality

System Sustainability

Rate Stability

System Considerations

Customer Service

Regulatory Compliance

Public Safety / Environment

Reliability

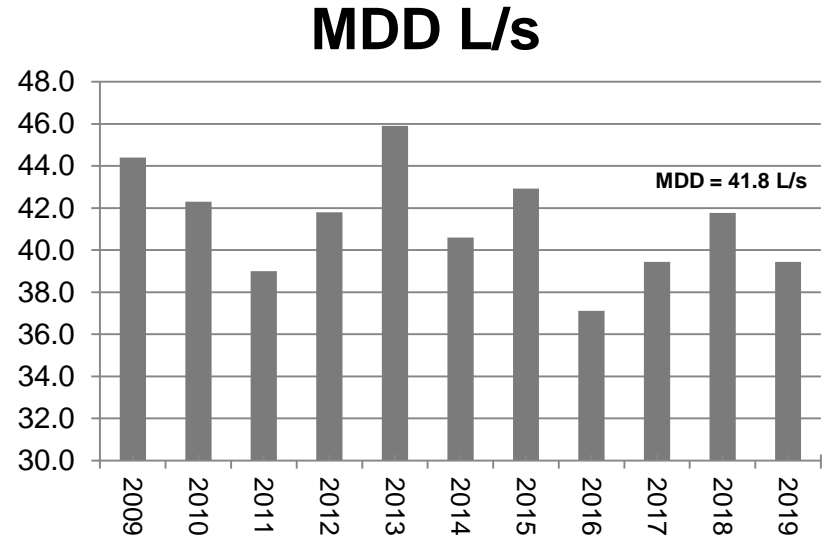
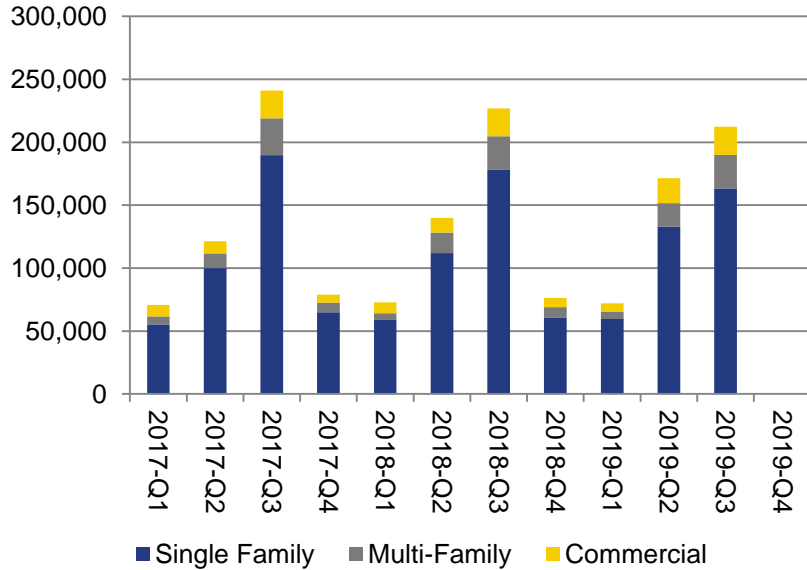
Development

- Updated Master Plan completed by Dec 31, 2019
- Information considered:
 - Previous master plans
 - Completed work
 - Potential development
 - Regulatory changes
 - Current consumption trends
 - Customer Feedback



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2019 Master Plan - Consumption



2019 Master Plan - Supply

North Field

- Lundine Lane (TWN1)
- Oceanside Replacement (RWN2)
- Drew Road Well #2
- Ravensbourne Well

South Field

- Church Road #1
- Church Road #2
- Church Road #3
- Church Road #4
- Springhill Replacement (RWS1)
- Springhill #2A
- Hills of Columbia #6A
- Hills of Columbia #7
- Hills of Columbia Well #9
- Bosa Well
- Hills of Columbia #11
- ACS1
- TWS1

R-8

- R-8 Well

System Capacity	Flow (L/s)
Total Capacity (All Wells)	51.8
Supply Capacity (largest well out of service)	41.8



2019 Master Plan

Customer Service

- Rate Structure
- Billing Software Functionality Improvements
- Meter Replacement (Annual)

Reliability

- Meter Replacement (Annual)
- Well Rehab
- Well Communication Upgrades
- Twin Church Road Main
- Church Road Main at Morningstar Creek
- Drew Road Reservoir Study
- Supply Study
- Pressure Zones / Looping
- AC Main Replacement Program
- Billing Software Version Upgrade

Public Health / Environment

- Drew Road Reservoir Study
- Church Road Main at Morningstar Creek
- Supply Study

- Wellhead Protection Plan
- Groundwater Licensing
- Water Quality

Regulatory Compliance

- Pressure Zones / Looping
- Fire Hydrant Installations (Annual)
- Well Closures

- Wellhead Protection Plan
- Groundwater Licensing
- Water Quality

Development

- Twin Church Road Main
- Supply Study
- Church Road Reservoir Expansion
- Drew Road Reservoir Study
- Additional Supply Capacity Installation
- Well Rehab

Rate Structure

- Change Rate Structure from a flat block to increasing block
 - The more water a customer uses, the higher the water rate
 - Advantages
 - Incentivizes conservation
 - Better affordability for those motivated to conserve
 - More fair allocation of costs

Water Conservation (BC Gov)

What Water Service Costs

Gathering data on your water service costs can help you to determine what pricing structure will support service provision and water conservation.

- ◆ System Energy Consumption (Distribution System, Treatment System, Incidental System Use) (•)
- ◆ Annual System Budget (Expenditure, Revenue, Average Water Rate) (•)

When determining your water system expenditure, all of the costs associated with supplying water services should be considered, including associated operations, maintenance, and administrative costs, as well as capital costs to repair and replace infrastructure³. This full cost accounting helps to determine the total cost of providing water services to customers.

Comparing your full cost expenditure to your revenue shows you whether the cost of service provision is being fairly recouped through water rates and other revenues. Full cost accounting also enables you to see the benefits of water conservation in terms of money saved through reduced wear and tear on existing infrastructure and reduced or deferred needs for new supply infrastructure.

Appropriate pricing for water services is one proven way to promote water conservation. As a general rule, water service pricing should allow for the full cost of services to be covered. This allows customers to see the true cost of water provision. Using volume-based pricing with increasing block pricing (i.e. beyond a minimum usage level prices increase as more water is used (per m³)) provides an economic incentive for users to conserve water.

What kind of rate structure are you using (e.g. fixed, inclining block, seasonal rates, etc.)? Is it currently designed to promote efficient water use? In the Step 5 chapter you will learn more about how to use economic measures such as conservation-oriented pricing to achieve your goals.

With the final piece of the picture in place, you are ready to move on to the next chapter where you will project future water demand for your community.

Preference?

- Increasing block structure
 - Is this something you are interested in?
 - For this rates filing or next?
 - Is this something we should survey the overall customer base on?

Billing Functionality

- Online billing, automatic PAP processing
 - Is this something you are interested in?
 - Is this something you are interested in if it causes rates to go up?
 - For this rates filing or next?
 - Is this something we should survey the overall customer base on?

2021-2023 Rate Application

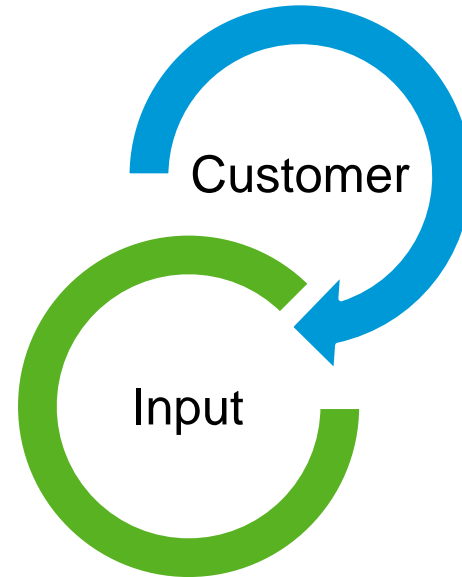
- Current state of the utility:
 - System water supply and capacity is balanced, small amount of capacity for future growth
 - No significant system deficiencies
 - Numerous applications and inquiries for development
- Focus of 2021-2023 Rates Filing
 - Continue to address system deficiencies (hydrants)
 - Continue to work to improve system reliability and robustness
 - Develop plans and strategies for the future

2021-2023 Rate Application

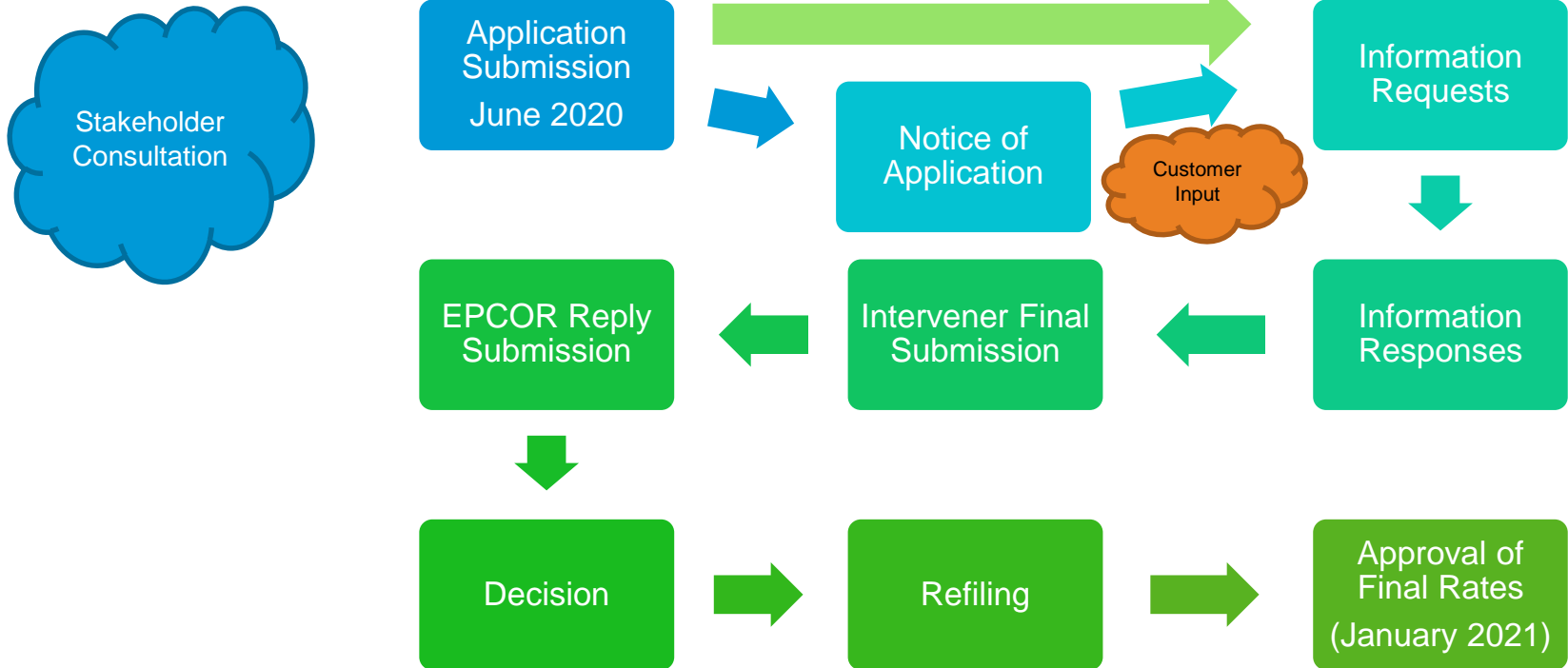
- Majority of projects to be included in this rates filing are to meet an operational need or to ensure system reliability
 - Hydrant Installations
 - Meter Replacements
 - Engineering studies for future work
 - Pressure Management
 - Twin Church Road Main under Island Highway

2021-2023 Rate Application

- Other Projects are to improve customer service & experience
 - Billing System Improvements
 - Rate Structure



Rates Approval Process - Timelines





FRENCH CREEK WATER RATES: A PRIMER

April 2020

When you turn on the tap, you expect clean, safe water to flow for everything you need. It's our job to make that happen. We put your drinking water through an intensive treatment process, send it through pipes to your home and, in case of emergencies, make sure there's always enough water pressure to fight a fire in your neighbourhood.

This year, EPCOR will submit an application to the B.C. Comptroller of Water Rights for approval to set new water rates for 2021-2023. In this pamphlet, you will find information about:

- what water rates include;
- how water rates are set;
- how to get involved;
- definition of some key terms; and
- where to find additional information

This document provides a high-level summary and is not intended to be comprehensive.

The current French Creek rates will expire on December 31, 2020. This year, EPCOR will submit an application for approval to set new water rates for the 2021-2023 period. This "Revenue Requirement and Rates Application" is pursuant to Sections 58-60, 80 and 90 of the Utilities Commission Act. For more information about this Act, check out: www.bclaws.ca/civix/document/id/complete/statreg/96473_01

Our rates reflect the cost to provide water to you based on your use of the water system. We work carefully to ensure new rates are just and reasonable while addressing operational requirements and supporting investment that will allow us to continue to provide clean, safe water and reliable service.

HOW RATES ARE SET

EPCOR applies for approval of its water rates in French Creek to the B.C. Comptroller of Water Rights (our regulator) every three years. The application is called a “Revenue Requirement and Rates Application.”

Water rates reflect the forecasted costs of providing safe and reliable water services to customers, which is referred to as the “revenue requirement.” The revenue requirement is comprised of operating and capital costs.

Operating Costs

These are the costs incurred to support day-to-day operations. Operating costs generally remain fairly

consistent from one rate application to the next and include things like:

- employee wages and salaries
- power
- chemicals
- maintenance costs
- materials and supplies
- contractor costs
- overhead

Capital Related Costs

These costs are for the fixed assets required to run the water utility and the financing of those assets. These fixed assets can include reservoirs, water pipes, wells, meters, and hydrants. Capital costs can change from one rate application to the next depending on the assets requiring upgrading or replacement.

Capital costs are financed through debt or equity. The cost of debt and equity is included in the utility revenue requirement and the utility is allowed to earn a fair rate of return on its equity investment. This rate of return is set by the regulator.

In British Columbia, water rates are regulated by the B.C. Comptroller of Water Rights. Each rate period, the Comptroller reviews the forecasted costs and proposed rates through a regulatory process that provides opportunity for customer input. For more information about the Comptroller, check out: www.env.gov.bc.ca/wsd/water_rights/water_utilities/

INTERESTED IN THE MATH?

$$R = O + (V - D) r$$

R is the utility’s total revenue requirement or rate level. This is the total amount of money a regulator allows a utility to earn.

O is the utility’s operating expenses.

V is the gross value of the utility’s tangible and intangible property.

D is the utility’s accrued depreciation. Combined (V – D) constitute the utility’s rate base, also known as its capital investment.

r is the rate of return a utility is allowed to earn on its capital investment or on its rate base

Information from Wikipedia, the free encyclopedia. Online at: en.wikipedia.org/wiki/Utility_ratemaking (retrieved August 23, 2017)

KEY TERMS

To help you understand the rate application, we have defined a few of the most commonly-used terms here:

Term	What it means
Assets	The physical infrastructure supporting the water utility; such as vehicles, building, reservoirs, water pipes, etc.
Capital Costs	Costs associated with the utilities' assets
Deferral Accounts	Used to record the difference between forecast and actual revenues or costs. These are reserved for costs that are beyond EPCOR's control. French Creek has four deferral accounts: <ol style="list-style-type: none"> 1. Consumption - to reconcile the difference between forecast and actual consumption. 2. Property Taxes - to reconcile the difference between forecast and actual property taxes. 3. Interest - to reconcile the difference between forecast interest on debt and actual interest. 4. Hearing costs - to recover the costs associated with a rate hearing.
EPCOR Water (West) Inc. ("EWW")	A corporation that operates out of French Creek and is registered under the applicable business corporation acts in Alberta and B.C. EWW is a wholly-owned subsidiary of EPCOR Water Services Inc. West ("EWSI") which, in turn, is a subsidiary of EPCOR Utilities Inc ("EUI" or "EPCOR"). The City of Edmonton is EPCOR's sole shareholder. ESWI and its predecessors have been designing, building, operating and financing water and wastewater treatment facilities for more than a century.
Interim Rates	If the current rates expire before new rates have been approved, the Comptroller may approve interim rates. Interim rates are charged on a temporary and fully-refundable basis. This means that: <ul style="list-style-type: none"> • They only apply until final rates are approved through a regulatory proceeding; and • If a lower rate is approved, EPCOR will refund the difference for the period of time that interim rates were in place
Operating Costs	Costs associated with the day-to-day operations of the utility.
Rate of Return	The gain or loss on an investment of a specified time period expressed as a percentage of the investment's cost.
Rate Rider	A rate rider is a charge or credit, separate from your water consumption charge, that is approved by the B.C. Comptroller of Water Rights and used to refund or charge for outstanding deferral account balances.
Revenue Requirement	The amount of money required to run the utility day-to-day, invest in and maintain its assets, and earn a reasonable rate of return.

The Water Sustainability Act was enacted on February 29, 2016 to ensure a sustainable supply of fresh, clean water that meets the needs of B.C. residents. In addition to supporting economic, social and environmental goals, the new legislation promotes better water management, secures the rights of users and protects B.C.'s water resources. For more information about this Act, check out: <http://www.bclaws.ca/civix/document/id/complete/statreg/14015>



Our employees work to ensure that your drinking water meets or exceeds standards for safety, reliability and quality. In French Creek, we test your water quality regularly and conduct annual water quality assurance audits. The results of these tests are summarized in our annual performance reports, which are available on epcor.com

Rath Trevor Park & Beach, British Columbia

HOW TO GET INVOLVED

We are currently preparing EPCOR's *2021-2023 Revenue Requirement and Rates Application* and will submit it to the B.C. Comptroller of Water Rights for approval this year.

Once we submit our application to the Comptroller, all customers will receive a notice advising them of our application and the process to provide comments to the Comptroller. At that time, you can become involved in their public review process by emailing, phoning or writing the Comptroller.

MORE INFORMATION

For more information, or to clarify any of the information in this document, please contact:

Lindsay Humber
Community Engagement Specialist
lhumber@epcor.com
(780) 412-3390

To view past rate applications, visit us online at: www.epcor.com/RateApplications

We always have a full version of the most recent rate application available for viewing at our office:

EPCOR French Creek
#10-D Pine Tree Centre
1343 Alberni Highway
Parksville, BC V9P 2B9



2021-2023 Rates Application

For discussion during the May 12, 2020 virtual French Creek
Community Advisory Panel (CAP) meeting.

Questions? Email lhumber@epcor.com

Presentation Outline

- Your role in the rates application
- Master plan update
- How a master plan is created
- 2014 versus 2020 master plans
- Three year assessment
- 10 and 20 year assessments
- 2021 - 2023 Rates Application overview

Your role in the Rates Application

- This information is provided to update you on the master plan and help you understand the upcoming rates application.
- This document will help you:
 - Know where to find information about the application and our plans so that you can respond to questions you may receive;
 - Communicate to your neighbours, friends, colleagues and others about the rates application;
 - Get context on the subject and provide feedback to EPCOR so you can help us:
 - Better understand your community's priorities around water and water service delivery;
 - Get your input on how to communicate to the wider French Creek community (e.g. what you don't understand, would like to know more about, areas we should communicate in the newsletter etc.); and,
 - Understand how/when to engage in the regulatory process, and have the information you need to do so.

Your role

- As discussed during the inaugural CAP meeting, the role of the CAP is advisory.
 - You are our link to the French Creek community. We want to know what you think so that we can better understand your community's priorities around water service in French Creek. The dialogue that takes place during the CAP meetings helps us ensure that our operations align with these priorities.
 - All advice/suggestions that you provide us will be considered alongside the technical and regulatory requirements necessary to safely and reliably operate the water utility. In some cases, these considerations will take precedence over the input you provide.
 - Even if not accepted for use; all input from CAP members is highly valued and appreciated.

Your role

- As you read this document, think about:
 - What areas are clear/not clear?
 - Where do you have questions and/or want more information?
 - Which areas are uninteresting and should not be discussed?
 - What areas do you think other members of your community will be concerned about/interested in?
- Please send your initial questions to Lindsay by May 5th, 2020 so that we can ensure we bring the correct information/answers to the meeting.
- Come prepared to discuss during the May 12th virtual CAP meeting.

2020 Master Plan Update

Since our December CAP meeting, we have done a number of studies and financial modeling, and have completed the master plan. We are providing an update on the completed master plan in the following slides.

A quick re-cap (from December)...

- A master plan provides an analysis of the current water system and identifies areas where improvement may be required. The plan:
 - defines the current state of the utility;
 - identifies growth assumptions; and will be
 - used as a planning document for the upcoming rate application.
- Master Plans for French Creek were previously completed in 2008 and 2014.
- The new master plan will help EPCOR ensure the utility is positioned to best meet the needs of all rate payers (now and in the future) and that we can continue to provide you with clean, safe drinking water.



September 9, 2020

Appendix B-3

PROVIDING MORE



Page 7

2020 Master Plan Overview

Customer Considerations

Reliable Service

Water Quality

System Sustainability

Rate Stability

System Considerations

Customer Service

Regulatory Compliance

Public Safety / Environment

Reliability

Development

- December 5, 2019 – draft master plan discussed with the French Creek CAP.
- Subsequently, the master plan was updated and finalized for inclusion in the upcoming Rates Application.
- Information considered:
 - Previous master plans
 - Completed work
 - Potential development
 - Regulatory changes
 - Current consumption trends
 - Customer Feedback



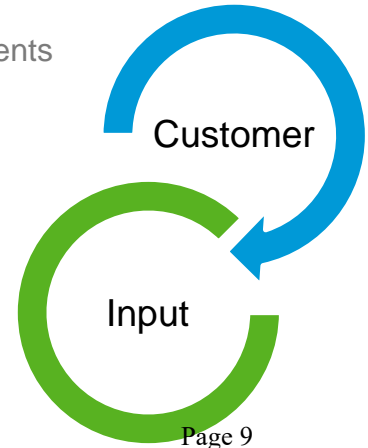
Upcoming Projects

- As discussed at our December meeting, the majority of projects to be included in the upcoming 2021-2023 rates filing are to meet an operational need and/or to ensure system reliability. From EPCOR's perspective, these projects are required, and include:

- Hydrant Installations
- Meter Replacements
- Engineering studies for future work
- Pressure Management
- Twin Church Road Main under the Island Highway

- During our December meeting, we discussed other projects that are to improve customer service and experience. While these projects are also important, they are more flexible and can be modified. These projects include:

- Billing System Improvements
- Rate Structure



What we heard

During the last CAP meeting, we asked for your input about whether to include two projects in the new master plan:

1. Improve billing system functionality (add online billing and automatic PAP processing).
 - The majority indicated interest in improving billing functionality; however, not if it causes rates to increase.
 - Respondents were split about whether to consider this a top priority and include in the upcoming rates filing.
2. Change rate structure (from flat rate block to increasing block rate).
 - The majority indicated interest in changing the rate structure.
 - Respondents considered this a top priority and indicated this should be included in the upcoming rates filing.



What we are doing

Thank you - your input about these projects was appreciated. After considering this input alongside our various regulatory and technical considerations (note: more detail on these considerations is included in the following slides), we are planning to apply for approval to:

- 1. Improve billing system functionality (add online billing and automatic PAP processing).**
 - Billing system functionality will be improved as part of a general version update of the billing software.
 - If approved, this work is anticipated to be completed in late 2021.
- 2. Change rate structure (from flat rate block to increasing block rate).**
 - Preliminary model of the new rate structure has been completed.
 - Model is being reviewed and refined to minimize rate shock to customers.
 - If approved, the new rate structure would come into effect January 2, 2021.



How a Master Plan is Created

There are several distinct steps to developing a master plan and a large amount of information to collect and process. The following slides provide an overview of the information included in the updated 2020 Master Plan.

Current Consumption

- Information on the current population and current water consumption was collected and compared to what the data used in the previous master plan.
- Consumption data is collected in a variety of ways, including:
 - Historical maximum daily demand (MDD) – the highest total system consumption in a 24 hour period each year
 - Metered water usage – the amount of water metered to each customer group on a quarterly basis
- Trends and changes in consumption were identified:
 - Are people using more or less water?
 - Is there any change in when people are using water?
- This data was used to calculate a unit consumption rate for each customer class that was then used to model/predict consumption going forward.



Growth / Future Consumption

- Historic growth and consumption data, along with development plans / trends in the service area, were used to predict future growth for the planning period.
- Key observations include:
 - Projected population growth in previous master plans and in previous rate applications has been fairly aggressive, at 2.0% growth per year (~50 new connections each year).
 - Actual growth over the previous 10 years has been closer to 20 new units per year, which corresponds to 0.9% growth.
 - Overestimating population growth can result in over-investing in additional capacity that is not needed.
 - A forecasted growth rate of 0.9% was used in the 2020 Master Plan.

Table 2-2 Population Projections

Year	Growth Rate	Population
2019 Existing		5175
2023 (3 Year)	0.9%	5316
2030 (10 Year)		5660
2040 (20 Year)		6191

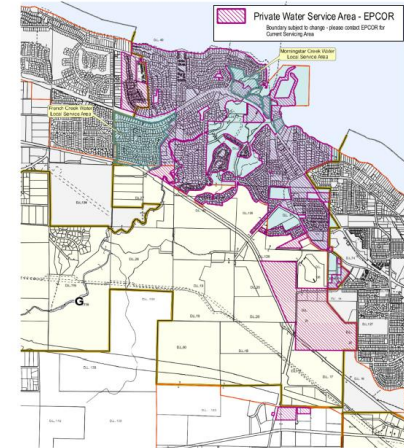
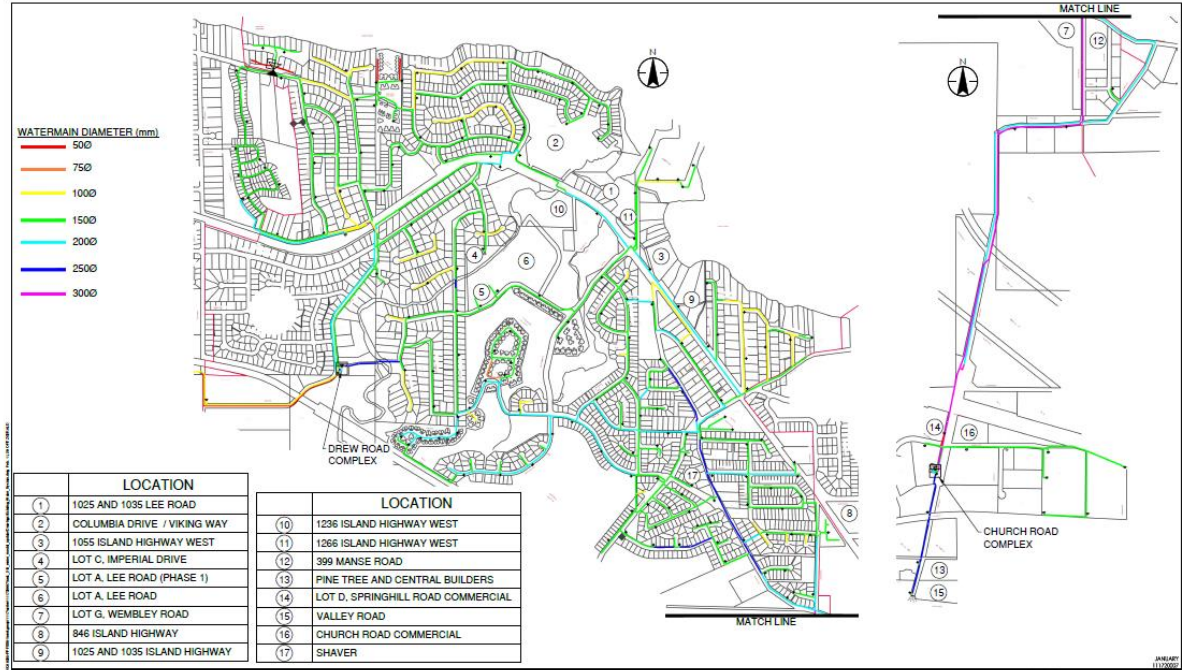


Figure 2-1 "Area G": French Creek Water Service Area (Z)

The population projections shown here are from the 2020 Master Plan.

Potential Development Sites

- Potential development sites within the French Creek service area were used to inform estimates of potential future growth in the system and to predict how / where the system might grow.



Design Criteria

- The areas that the Master Plan covers were then defined and the design criteria and assumptions for those areas assembled.
- Key observations include:
 - Design criteria are used to define and determine the basic requirements of a water system.
 - Design criteria that define a system are typically based on actual system data (including per capita demand and well capacity).
 - Design criteria that are used to determine if a system is meeting all requirements are typically based on regulatory requirements or design standards (including fire flow, hydrant spacing, water pressure, hydraulic design, reservoir capacity).



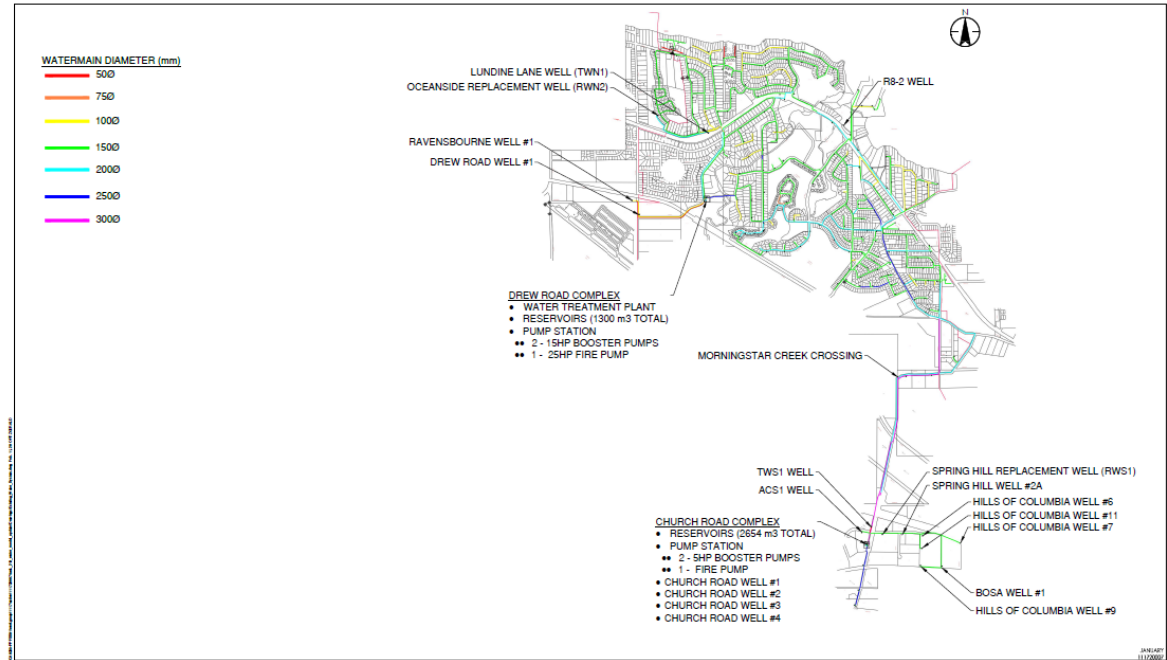
Status of Current System

- The French Creek Water System was then modelled in computer software.
 - As part of the master plan update, the model was reviewed to confirm that all of the system was accurately represented and that the values that the model produces, align with what we see in the field.
- The previously determined design criteria were applied to the current system to identify any areas that do not meet the design criteria.
- Any operational, health and safety or regulatory concerns noted by EPCOR staff were collected for inclusion in the master plan.
 - It is worth noting that, while these items will typically not impact the water system's performance when measured against any of the design criteria, they are still important to keep the water system operating smoothly.



Modelling Software

- Modelling software was used to determine if the French Creek water system meets the design criteria for pressure and flow.
- This is what the French Creek water system looks like in the modelling software.



September 9, 2020



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 Victoria BC
 www.stantec.com

Status of Future System

- The French Creek water system model, along with the predicted future growth and consumption, were used to predict what the French Creek water system may look like in the future.
- The model was used to project three future scenarios, including:
 - Three years – to give a short-term plan for items that should be included in the next rate application
 - Ten years – a medium-term plan
 - Twenty years – a long-term plan
- Note: The further into the future the plans predict, the less accurate they are and the more likely they will change over time.



Estimated Costs

- Once the planning scenarios were developed, preliminary cost estimates were developed for each item included in the plan.
- Who will pay for each item was also defined. This process involved analyzing whether:
 - Is this an item that supports existing customers? If 'yes', the cost goes into rates.
 - Is this a project that supports new development? If 'yes', the cost is borne by developers.
 - Some projects support both groups and a portion of the cost of those projects is paid by both through rates and by the developers.

2014 versus 2020

A number of items changed from the previous (2014) master plan as a result of the (2020) master plan update. A comparison of the two plans is provided in the following slides.

2014 & 2020 Plan Comparison

- Unit consumption has not changed significantly from 2014 Master Plan to 2020 Master Plan.
- There was a slight decrease in both overall MDD and per capita demand rates in the 2020 Master Plan. This decrease reflects a focus on water conservation.
- Projected growth in the 2020 Master Plan is lower than in the 2014 Master Plan.
 - Projected population growth in previous master plans and in previous rate applications has been fairly aggressive, at 2.0% growth per year (~50 new connections each year).
 - Actual growth over the previous 10 years has been closer to 20 new units per year, which corresponds to 0.9% growth.
- Design criteria for all categories was consistent between the 2014 and 2020 master plans.



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2014 & 2020 Plan Comparison

- The majority of the projects included in the 2014 Master Plan have been completed.
- Any work that has not been completed (e.g. remaining hydrant installations, remaining meter installations, looping to address fire flow and pressure issues) has been carried forward into the 2020 Master Plan.
- During the plan update, EPCOR completed a thorough review of the French Creek water system and identified where hydrants from neighbouring communities may be accessible. The list of hydrants to be installed has been updated as a result of this review.



Three-Year Assessment

The following slides provide an overview of the three-year assessment included in the 2020 Master Plan. This assessment is what we are using to base the upcoming rates application on.

Three-Year Assessment

Projects	Description	Breakout
<i>Projects Established within EPCOR</i>		
Meter Replacement Program	100 meters per year for 2021 and 2022	RB=100%
Fire Hydrant Installation Program	2 hydrants per year for 2021, 2022 and 2023	RB=100%
Well Rehabilitation Program	3 wells over the rate period	RB=100%
Billing Software Upgrades	Upgrade software to ensure continued vendor support, add e-bill functionality	RB=100%
Decommission / Demolish French Creek Pump House	Remove abandoned structure	RB=100%
Groundwater System Capacity Study	Update groundwater data, look into options for increasing the supply for the French Creek system	RB=50% D=50%
Church Road Main Twinning under Island Highway Study	Look at options / costs for installation of second line along Church Road under Island Highway	RB=50% D=50%
Drew Road Complex: Reservoir Study	Scoping / Design Study on capacity and seismic stability	RB=100%
Drew Road Complex: Flow Meter Upgrade	Replace Existing Paddle Meter with Mag Meter	RB=100%
Bulk Water Line Connection to the RDN	Investigate Options	D=100%
<i>Projects Established Using the Model to Improve Serviceability</i>		
Booster Pump on Church Road	Install booster pump station along Church Road to address low pressure issues in the system	RB=75% D=50%

"Breakout" tells you who will be paying for the project. The percentages tell you how much each group will pay of the total amount.

B = Ratebase
D = Developer

Projects in the top section of the table address operational, health and safety or regulatory items noted by EPCOR staff.

Projects in the lower section of the table address deficiencies in the system that were identified using the water model.



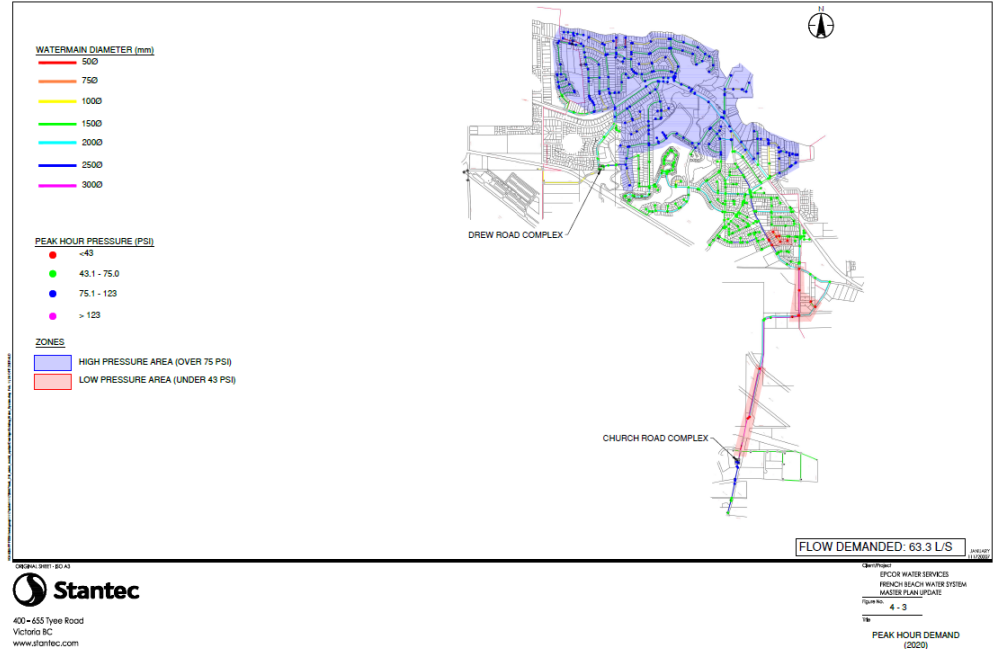
Three Year Assessment

- The focus of the work in the next three years is to continue to address deficiencies in the water system and to collect information for future planning.
- Existing annual programs would continue. These include:
 - The meter program is expected to be complete by the end of 2022.
 - In our hydrant program, we propose to install two hydrants per year. Three hydrants will be carried into the 2024-2026 Rates Application.
 - Well rehabilitations will be added as an annual program to ensure continuing optimum operation of the wells.
- Three engineering studies will be completed. These studies will give EPCOR additional information to make decisions for the 2024-2026 rate period.



Three Year Assessment

- A booster station will be added to address low pressure issues in the Wembley area.
- Addressing the high pressure areas (which will require the installation of Pressure Reducing Valves and the creation of new pressure zones) will be deferred until a later period.



10 & 20 Year Assessments

The following slides provide an overview of the 10 and 20 year assessments included in the 2020 Master Plan. These assessments are used for future planning of the utility and will help inform the next (2024-2027) rates application.

10 & 20 Year Assessments

- The same process was completed to generate the 10 and 20 year assessments of the French Creek water system:
 - Consumption was projected using the existing growth rates.
 - The water model was checked against the design criteria, deficiencies noted and solutions proposed.
 - EPCOR reviewed any operational, health and safety or regulatory concerns over the assessment period.
 - Estimates costs were developed and categorized.
- The 10 and 20 year assessments will be used for medium to long term planning.



10-Year Assessment

- The focus of the work in the 10 year assessment is to address existing fire flow issues.
 - The water main upgrades to address fire flow issues aligns with a new annual program to replace old pipes with PVC. This new annual program would potentially be put into place following the completion of the annual hydrant and meter programs.
- The well rehabilitation annual program would be evaluated and potentially extended past 2023.
- Existing known issues and potential health and safety items would continue to be monitored and addressed (e.g. auxiliary French Creek well closure, exposed water main near Morningstar Creek).
- Pending the results of the *Church Road Water Main Twinning Study*, this period is the likely timeframe for the twinning of the Church Road water main, or the implementation of other mitigating measures.

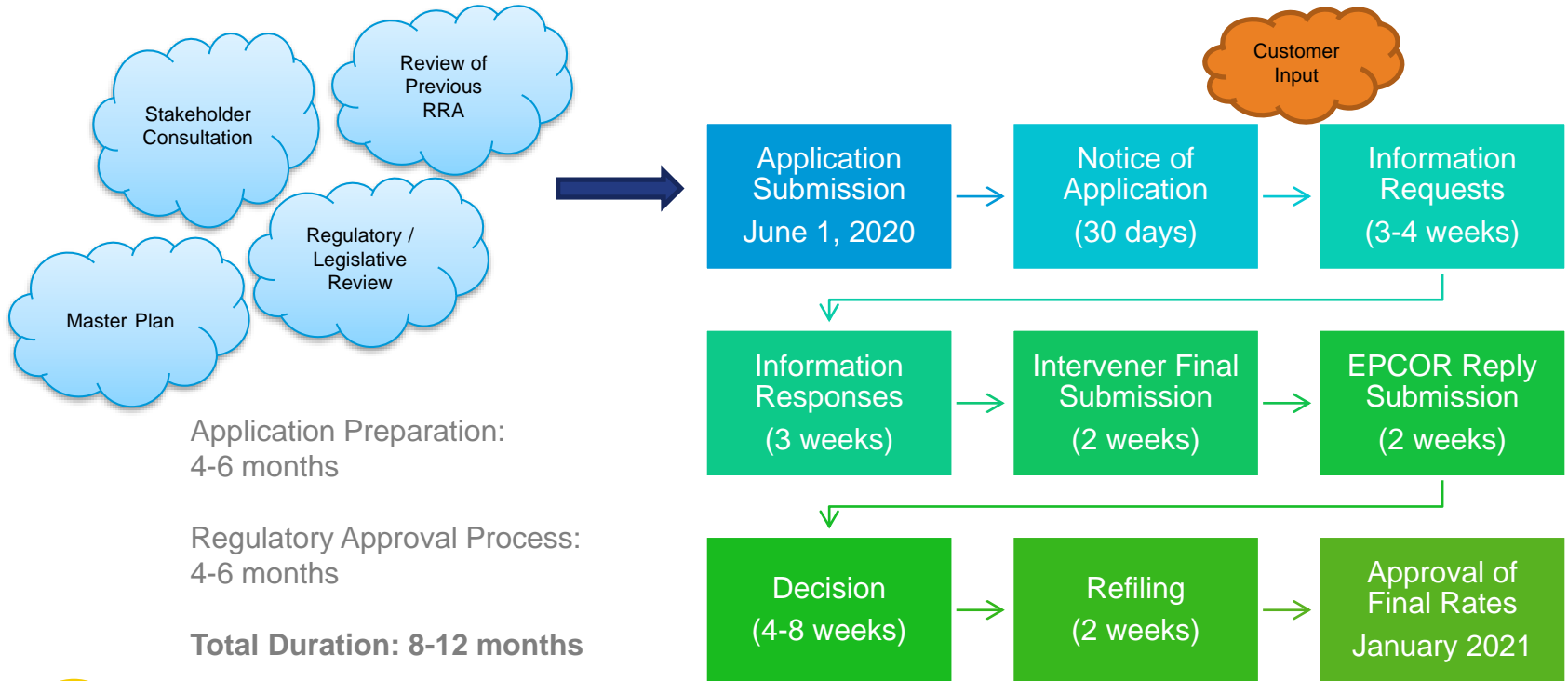
20 Year Assessment

- At some point in the future of the French Creek water system, additional supply will be required.
 - EPCOR plans to propose a Groundwater Capacity Study for completion in the 2021-2023 rate period to establish where additional supply could be located and the costs associated with connecting the additional supply.
 - If additional storage capacity is required, expansion of the Church Road reservoir may be examined.
- In order to continue to improve the serviceability of the French Creek water system, pressure reducing valves (PRVs) may be installed.
 - These PRVs would create additional pressure zones within the water system to address high pressure issues in the lower elevation parts of the system.

2021-2023 Rates Application

In the spring of 2020, EPCOR will submit an application to the B.C. Comptroller of Water Rights for approval to set new water rates for 2021-2023. The following slides contain information about the upcoming application.

Regulatory Process Timelines



Rates Application

- The final outcome of the rates application is the usage rate that will appear on customers' bills.
- The development of that application aligns with EPCOR's internal budget timelines, currently underway.
- A useful guide for understanding the rates application is to follow the process for the calculation of the rates. More information can also be found in the Rates Primer distributed in March 2020 by e-mail.
- Evaluation of the previous period:
 - Although it doesn't contribute to the process for the calculation of the new rates, a summary of the work completed in the previous rates application is typically included in the new rates application.
 - This information is presented on the next three slides for your reference.

Evaluation of Previous Period (2018-2020)

- The rate application will include a review of the work planned and completed during the previous rate period (2017-2019).
- In the previous rate period, the following work was planned:
 1. Hydrant Replacement Program – three hydrants per year
 2. Meter Replacement Program – 100 meters per year
 3. Well Decommissioning – Oceanside, Springhill, Lornedunn
 4. Licensing of all groundwater wells in the EPCOR system
 5. Standby Generator purchase and installation
 6. Printer replacement
- The status of this work is provided on the next two slides.

Evaluation of Previous Period

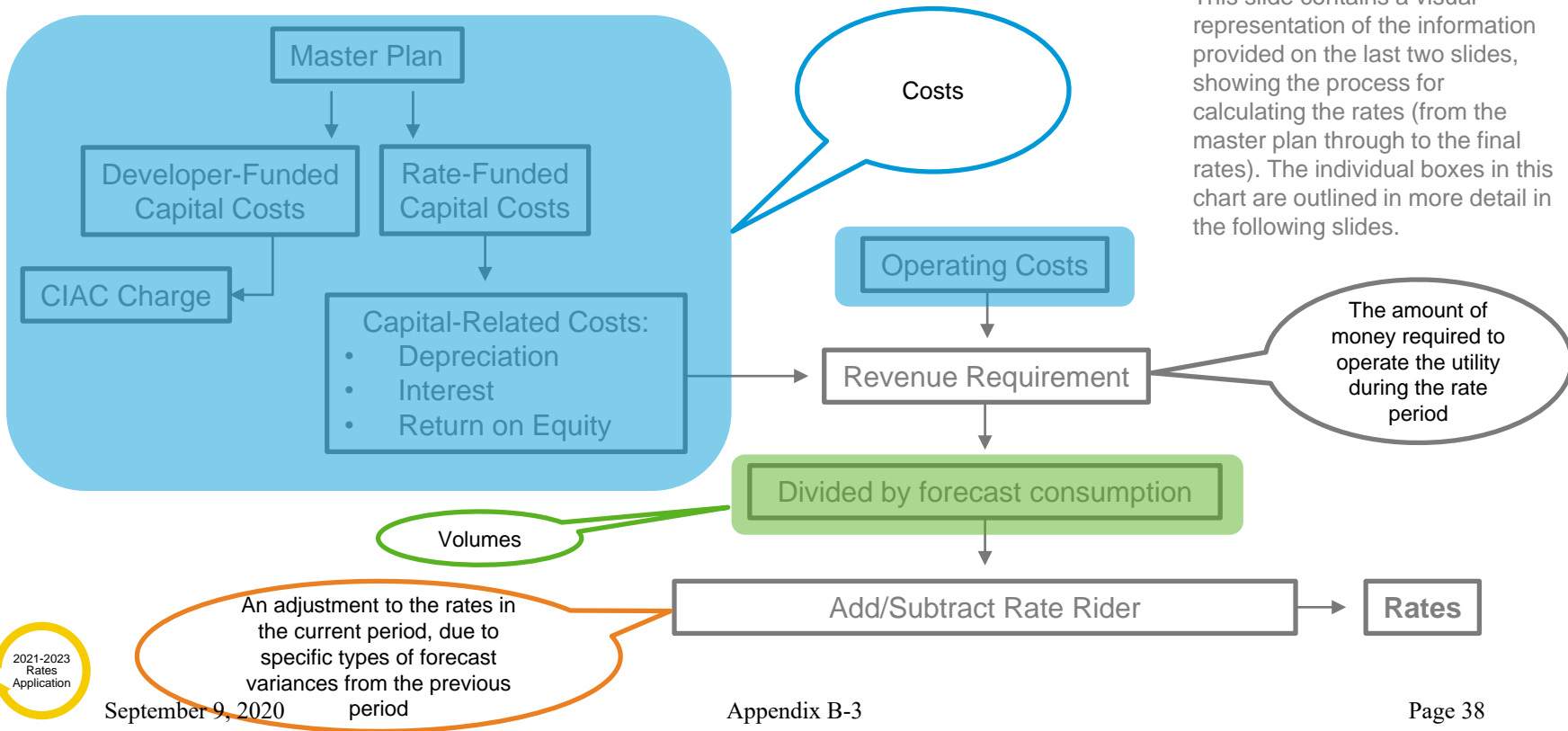
1. Hydrants:
 - Two hydrants installed in 2018
 - Three hydrants installed in 2019
 - Four hydrant installations planned for 2020
2. Meters:
 - 100 meters installed in 2018
 - 100 meters installed in 2019
 - 100 meters planned for 2020
3. Well Closures:
 - Imperial, Lornedunn and Springhill wells were closed in 2019
 - Oceanside well closure is planned for late 2020.
4. Well Licensing:
 - Applications for all wells in the EPCOR system were submitted to the new well licensing process in 2018.
 - All of the well applications have passed the initial stage of review and are waiting for further processing with the Province.
 - A wellhead protection plan was developed in 2019 for the entire EPCOR groundwater well system. Further expansion / update of this document is planned for 2020.
5. Standby Generator:
 - A portable standby generator was sourced, purchased and installed in 2019.
 - Generator connections were installed on the Oceanside #2 (RWn2) and ACS1 wells to allow the portable generator to be connected to either well in the event of an extended power loss.
6. New Printer:
 - A new printer was sourced and purchased for the French Creek office.
 - The new printer replaced two existing printers.

Evaluation of Previous Period

7. Well Rehabilitation:

- This work was not originally included in the application, but was necessary to keep the wells operational.
- Church Road #3 well (ID 13793) was installed over 15 years ago and failed in early 2019. A new well pump, motor and stainless steel drop pipe were installed. New aboveground piping was installed. The next rehabilitation of this well is likely to be planned for 2034.
- Lundine Lane (TWN1 ID 22514) had a well motor failure in June 2019. 8 feet of fine sand was removed from the well. The original pump and motor were oversized for the amount of flow produced by the well. A smaller motor and pump were installed. This well should be inspected again in 3-5 years to determine if the sand infiltration is improving. Cleaning of this well on a regular basis will minimize the risk of an unexpected failure of this well.
- Bosa Well is planned for rehabilitation in 2020.

Calculation of Rates



This slide contains a visual representation of the information provided on the last two slides, showing the process for calculating the rates (from the master plan through to the final rates). The individual boxes in this chart are outlined in more detail in the following slides.

Costs & Volumes

■ Costs include:

- Capital Costs (depreciation, interest and return on equity)
 - The Master Plan allocates costs between developers and rate payers for all projects
 - Costs required to support new development are allocated to developers and recovered through the Contribution in Aid of Future Construction (CIAC) Charges
- Operating Costs (salaries, utilities, chemicals, property taxes, etc.)
- Inflation: Based on government and Conference Board of Canada forecasts

■ Volumes (Forecast Consumption) include:

- Number of customers
- Average consumption per customer
- Based on historical trending

Costs

- Information from the 2020 Master Plan and the annual operations and maintenance budget is used as the source of the cost information for the rates application.
- Details of the specific projects and programs that will be included in the 2021-2023 Rates Application are provided on the next three pages.

	Annual Capital Programs	Capital Projects	O&M Projects
2021	<ul style="list-style-type: none"> Hydrant Installation Meter Replacement Well Rehabilitation 	<ul style="list-style-type: none"> Billing Software Upgrade Bulk Water Connection to RDN 	<ul style="list-style-type: none"> Supply Capacity Study Church Road Twinning Study
2022	<ul style="list-style-type: none"> Hydrant Installation Meter Replacement Well Rehabilitation 	<ul style="list-style-type: none"> Drew Road Flow Meter Upgrade Demo French Creek Pump House Booster Station – Phase 1 	<ul style="list-style-type: none"> Drew Road Seismic Study
2023	<ul style="list-style-type: none"> Hydrant Installation Well Rehabilitation 	<ul style="list-style-type: none"> Booster Station – Phase 2 	<ul style="list-style-type: none"> No O&M Projects planned for 2023



Rate-Funded Capital Costs

■ Hydrant Installations

- Hydrant coverage was reviewed as part of the 2020 Master Plan development. After the four hydrants are installed in 2020, there are nine remaining hydrants to be installed.
- EPCOR is proposing to install two hydrants in each of the three years of the 2021-2023 Rate Period and one hydrant per year in the 2024-2026 Rate Period.

■ Meter Installations

- 100 meters will be installed in 2021 and 2022. After that, all of the end of life meters in French Creek will have been replaced.

■ French Creek Pump House Demolition

- Demolish the abandoned French Creek pump house and associated infrastructure.

■ Well Rehabilitation

- One well to be rehabilitated each year.
- Typical rehabilitation includes removal of the pump, video inspection, motor inspection, mechanical cleaning of the casing and screen to remove deposits, and re-development of the screen to remove anything trapped behind the screen.
- General recommendations are to rehabilitate wells every 5-10 years.

Rate-Funded Capital Costs

- **French Creek Billing Software Upgrade**
 - Upgrade the billing software to the most recent version, as the version that EPCOR is currently using will no longer be supported at the end of 2020.
 - Purchase and install additional functionality to allow customers to receive electronic bills via email, instead of paper bills through the mail.
- **Drew Road Flow Meter Upgrade**
 - The existing flow meter at the Drew Road complex is reaching end of life and is no longer accurate.
 - The replacement of this meter with a new style of flow meter will require piping modifications.
- **Drew Road Reservoir Study**
 - Inspect the Drew Road Reservoirs for seismic stability.

Other Capital Costs

Developer Funded Capital:

Bulk Water Connection to RDN

- Enter negotiations with the RDN to look at options that would allow EPCOR to treat water from the Sandpiper system at the Drew Road treatment plant (using the existing excess treatment plant capacity).
- EPCOR would provide treated water to the RDN for Sandpiper and would be able to use any excess treated water for their own customers (for future development).

Developer & Rate Funded Capital:

Booster Pump Station

- Design and install a booster pump station on the Church Road Reservoir portion of the French Creek Water System to address existing low water pressure issues
- This project will be completed in two phases – the first phase will be a study to develop the plan and the costs, the second phase will be the construction.

Operations & Maintenance Costs

Rate Funded:

Drew Road Reservoir Study

- Inspect the Drew Road Reservoirs for seismic stability.

General Costs

- Salaries, utilities, chemicals, property taxes, etc.

Developer & Rate Funded:

Groundwater Capacity Study

- Examine options to increase the capacity of the French Creek system.
- A number of options will be examined, including: potential gains from rehabilitation or re-drilling of existing wells, and drilling new wells in a different aquifer.

Developer & Rate Funded (cont'd):

Church Road Water Main Twinning Study

- Examine the options and costs for running an additional water main under the Island Highway along Church Road.
- This additional water main will provide redundancy of supply and provide increased reliability for existing customers.
- The study will look at sizing the line to allow for full build out of planned developments in the area served by the Church Road Reservoirs.
- If there are concerns with their condition, develop a plan to make the reservoirs seismically sound.

Volumes - Forecast Consumption

- Volumes / consumption data from the master plan is used in the calculations for new rates.
- Consumption data is collected in a variety of ways:
 - Historical MDD – the highest total system consumption in a 24 hour period each year.
 - Metered water usage – amount of water metered to each customer group on a quarterly basis.
- Overestimating population growth can result in over-investing in additional capacity that is not needed.
- A forecasted growth rate of 0.9% was used in the 2020 Master Plan.

Table 2-2 Population Projections

Year	Growth Rate	Population
2019 Existing		5175
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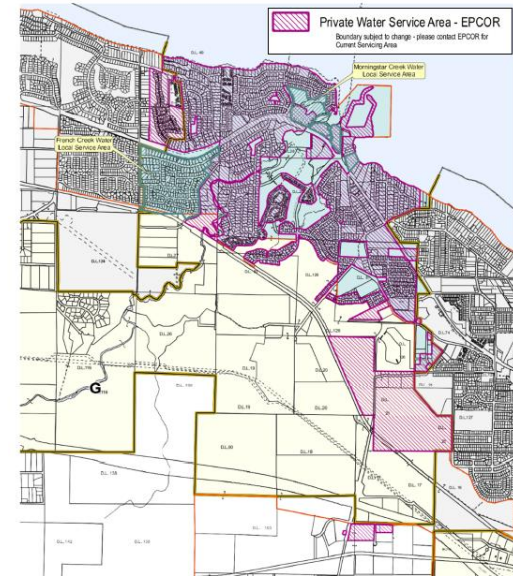


Figure 2-1 "Area G": French Creek Water Service Area (2)

Rate Rider

- A rate rider is a charge or credit, separate from your water consumption charge, that is approved by the B.C. Comptroller of Water Rights and used to refund or charge for outstanding deferral account balances.
- The rate rider may be positive (refund) or negative, as it provides protection to both customers and the utility.
- The following items are forecast:
 - Consumption
 - Property Tax
 - Interest

} Over-charged = refund to customers
} Under-charged = recovered from customers
- Hearing costs associated with the previous (2018-2020) rate application are also included in the calculation of the rate rider.

Rate Structure

- In the 2021-2023 Rates Application, EPCOR is proposing to move to an inclining block structure from the current level block structure.
- If approved, this means that the more water a customer uses, the more they will be charged. This rate structure:
 - incentivizes conservation;
 - delivers better affordability for those motivated to conserve; and is
 - more fair allocation of costs.



Rate Structure

- EPCOR is not currently forecasting any decline in usage volumes as a result of this rate structure change.
 - In future RRA periods, any reductions in customer water consumption will help to lower the cost of the overall system.
 - Since the entire system must be built to meet peak summer demand, it is that peak demand that drives the total cost. Reduction in peak demand means a reduction in total cost to the customers.
 - Additionally, the French Creek system is growing with new customers being added to the system each term. Any reduction in usage due to conservation efforts would just help to offset the volume increase resulting from that growth.

Next Steps

- We are currently preparing the 2021-2023 Rates Application and will submit it to the B.C. Comptroller of Water Rights for approval this spring/summer.
- We will advise you when our application has been submitted.
- Once we submit our application to the Comptroller, all customers will receive a notice advising them of our application and the process to provide comments to the Comptroller.
- At that time, you can become involved in their public review process by emailing, phoning or writing the Comptroller.
- Once the application has been submitted, all questions must be addressed through the public process set out by the Comptroller. This ensures that all French Creek customers can view both the questions and responses.

Questions?

Please e-mail your initial questions to lhumber@epcor.com
by May 5th, 2020 and come prepared to discuss during
the May 12th virtual CAP meeting.



**French Creek Water System
Master Plan Update 2020**

French Creek, British Columbia

March 4, 2020

Prepared for:

EPCOR Water West

Prepared by:

Stantec Consulting Ltd.
400 - 655 Tyee Road
Victoria BC V9A 6X5
P: (250) 388-9161

Project Number: 111720007



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

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FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**Executive Summary**

Stantec Consulting Ltd. (Stantec) has been retained by EPCOR Water (West) Inc. (EPCOR) to provide the French Creek 2020 Water System Master Plan Update.

The community of French Creek is located within the Regional District of Nanaimo's (RDN) Electoral Area "G". French Creek is centered between the Town of Qualicum Beach to the West, the City of Parksville to the South East, and the Strait of Georgia to the North. In May 2006, the French Creek water system assets of Breakwater Enterprises Ltd were transferred to EPCOR. EPCOR continues to manage and operate and manage all aspects of the water system.

This report intends to provide a basis for EPCOR French Creek to review the various options for upgrading the water system for both domestic and fire supplies as a result of future potential development based on the RDN's official community plan and existing zoning. The scope of the master plan includes:

- Review of OCP projections
- Review of the latest French Creek Master Plan Update
- Required system upgrades for planned developments
- Required system upgrade for current developments
- Existing water system model review
- Service and bulk meter data review
- Capital plan update, list developed with EPCOR
- Recommended improvements and conceptual capital cost.

In addition to the above, we further assess the water system using demand projections for the 3-year, 10-year, and 20-year outlooks including increased density potential for any undeveloped property zoned for either multifamily or commercial developments. Within the French Creek existing water system industrial zoning is limited, Springhill Road and the Church Road area contain industrial zoned development potential which carries a fire flow of 225L/s under MMCD guidelines.

The number of customers serviced by EPCOR is expected to steadily increase as the population of French Creek grows. Based on previously collected lot data, the projected growth rate is approximately 0.9% (20 lots/ year). For the population projections, we used this established rate using actual growth data collected by EPCOR from the previous 10 years at 0.9%.

Population Projections

Year	Growth Rate	Population
2019 Existing	0.9%	5175
2023 (3 Year)		5316
2030 (10 Year)		5660
2040 (20 Year)		6191



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In order to develop an appropriate Maximum Daily Demand (MDD) flow we referenced the historical data between the years 2016 and 2019. The reason for referencing the data in those years is accurate SCADA metering was introduced in 2016; in addition to, the number of days each week customers could water during watering restrictions changed from two days per week to every other day. This resulted in a decreased in the MDD, as water use was spread out throughout the week.

The following data was collected by and provided by EPCOR.

Summary of Historic MDD

Year	MDD		Date
	MLD	L/s	Month - Day
2009	3.8	44.4	Jul-02
2010	3.7	42.3	Aug-12
2011	3.4	39.0	Aug-04
2012	3.6	41.8	Aug-05
2013	4.0	45.9	Jul-26
2014	3.5	40.6	Jul-17
2015	3.7	42.9	Jul-03
2016 ¹	3.2	37.1	Jul-29
2017	3.4	39.4	Aug-04
2018	3.6	41.8	Aug-10
2019	3.4	39.4	Aug-14

We have recommended and used the data presented in August 2018 escalated to the end of 2019 as the accurate worst case MDD consumption calculated at 42.2L/s.

The projected MDD was calculated with the assumption that the demand would increase at the same rate as the population at 0.9%.

MDD Forecast Using 2019 Data

Year	MDD's (L/s)	PHD (1.5 X MDD)
2019 Existing	42.2	63.3
2023 (3 Year)	43.7	65.6
2030 (10 Year)	46.6	69.9
2040 (20 Year)	50.9	76.4

Using this information, we then analyzed the water system using demand the projections for the 3-year, 10-year, and 20-year outlooks. The water system was analyzed using the active Bentley WaterCAD model updated to 2019 conditions. The first 3-year outlook involved detailed review of fire flow, hydrant replacement programs, domestic water pressure improvements, storage, well, and know development assessments. The system was analyzed using MMCD design standards, and good engineering practice.



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Under the 3-year analysis the following list of improvements were developed in conjunction with EPCOR's input.

French Creek Water System 2021 - 2023 Opinion of Probable Cost				
Limits of Commission:				
Whereas any opinions of probable cost prepared by Stantec Consulting Ltd. ("the Engineer") will be based on incomplete or preliminary information, and will also be based on factors over which the Engineer has no control, the Engineer does not guarantee the accuracy of these opinions of probable cost and shall have no liability where the probable costs are exceeded.				
Description	Units	Quantity	Rate (\$)	Amount (\$)
Projects Established with EPCOR				
Meter Replacement Program (Approximately 200 from 2021 - 2023)	Lump Sum	1	50,000	50,000
Well Rehabilitated (1 well per year)	Each	3	20,000	60,000
Fire Hydrant Installations	Each	6	16,000	96,000
Billing Software Upgrades	Lump Sum	1	75,000	75,000
Decommission / Demolish the French Creek Pump House	Lump Sum	1	25,000	25,000
Groundwater/ System Capacity Study (update the groundwater data and the FC system capacity)	Lump Sum	1	50,000	50,000
Church Road Complex: Radio modem upgrade work on Church Road wells	Lump Sum	1	25,000	25,000
Church Road Main Twinning under Island Highway Study	Lump Sum	1	30,000	30,000
Drew Road Complex: Reservoir Study (scoping/ design study on capacity and seismic stability study)	Lump Sum	1	50,000	50,000
Drew Road Complex: Flow Meter (replace existing paddle meter with mag meter)	Lump Sum	1	25,000	25,000
Bulk Water Line Connection to the RDN	Lump Sum	1	300,000	300,000
Projects Established as a Result of our Analysis to Improve Serviceability				
Booster Pump on Church Road	Lump Sum	1	400,000	400,000
			Sub-Total	1,234,000
			40% Contingency	493,600
			Total	1,727,600



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The mid-term 10-year assessment goal was to review required improvements to the water system for the established growth potential for domestic flows and improve the fire supply to the various deficient areas determined under the existing system analysis.

Such items as new hydrants and metering programs are considered complete with any new distribution piping or new services to be constructed to MMCD design standards.

Additional items unrelated to recommended upgrades for increasing pressure and supply, we developed this list with input from EPCOR.

French Creek Water System 2030 Evaluation Opinion of Probable Cost				
Limits of Commission:				
Whereas any opinions of probable cost prepared by Stantec Consulting Ltd. ("the Engineer") will be based on incomplete or preliminary information, and will also be based on factors over which the Engineer has no control, the Engineer does not guarantee the accuracy of these opinions of probable cost and shall have no liability where the probable costs are exceeded.				
Description	Units	Quantity	Rate (\$)	Amount (\$)
Projects Established with EPCOR				
R8 Well Treatment	Lump Sum	1	250,000	250,000
Close Auxiliary French Creek Well (Has not been used since 1997 is a liability risk. Removal of pump and old shack and filling in dug well)	Lump Sum	1	25,000	25,000
Leak detection study	Lump Sum	1	30,000	30,000
Church Road watermain exposed near Morningstar Creek (pipe bursting)	Lump Sum	1	100,000	100,000
System AC watermain replacement program	Meter		TBD	
Projects Established as a Result of our Analysis to Improve Serviceability				
Upgrade 100mm Watermain to 200mm: Lundine Lane	Meter	200	450	90,000
Upgrade 150mm Watermain to 200mm: Ackerman Road Development	Meter	60	450	27,000
Upgrade 200mm Watermain to 250mm: Old Island Highway	Meter	300	500	150,000
Install 400mm Watermain: Church Road Twinning	Meter	3580	700	2,506,000
Upgrade 200mm Watermain to 250mm: Riley Road	Meter	410	500	205,000
Upgrading 100mm Watermain to 150mm: Single Family Deficient Fire Flow	Meter	2400	400	960,000
			Sub -Total	4,343,000
			40% Contingency	1,737,200
			Total	6,080,200



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The 20-year assessment includes suggested improvements for the remaining deficient serviceability issues and ultimate fire flow for the industrial areas serviced by the Church Road upper pressure zone. Further development of supply wells and capacity are not specifically quantified in each assessment but is a known issue throughout with EPCOR's direct involvement required when exploring new capacity sources.

French Creek Water System 2040 Evaluation Opinion of Probable Cost				
Limits of Commission:				
Whereas any opinions of probable cost prepared by Stantec Consulting Ltd. ("the Engineer") will be based on incomplete or preliminary information, and will also be based on factors over which the Engineer has no control, the Engineer does not guarantee the accuracy of these opinions of probable cost and shall have no liability where the probable costs are exceeded.				
Description	Units	Quantity	Rate (\$)	Amount (\$)
Projects Established with EPCOR				
Groundwater Exploration (Exploratory Boreholes). Electrical Resistivity tomography (EMT) to map a portion of the aquifer and drilling boreholes.	Lump Sum	1	149,000	149,000
Re-drill wells	Each	9	250,000	2,250,000
Projects Established as a Result of our Analysis to Improve Serviceability				
Pressure Reducing Valves (Including bypass and isolation valves)	Each	2	400,000	800,000
Church Road Complex: Reservoir Expansion (adding panels to existing reservoir)	Lump Sum	1	337,500	337,500
Church Road Complex Fire Pump	Lump Sum	1	450,000	450,000
			Sub -Total	3,986,500
			40% Contingency	1,594,600
			Total	5,581,100



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**Abbreviations**

AAD	Average Annual Demand
AC	Asbestos Cement
ADD	Average Daily Demand
BDD	Base Day Demand
CI	Cast Iron Water Main
CPCN	Certificate of Public Convenience and Necessity
DI	Ductile Iron Water Main
EPCOR	EPCOR Water (West) Inc.
HGL	Hydraulic Grade Line
ICI	Industrial, Commercial and Institutional
KWL	Kerr Wood Leidal Consulting Engineers
MDD	Max Day Demand (2 x ADD)
MMCD	Master Municipal Construction Document
OPC	Official Community Plan
PHD	Peak Hour Demand (1.5 x MDD)
PRV	Pressure Reducing Valve
RDN	Regional District of Nanaimo
Stantec	Stantec Consulting Ltd.
TDH	Total Dynamic Head
VFD	Variable Frequency Drive
WTP	Water Treatment Plant



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

1.0 INTRODUCTION

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1.1 SCOPE OF WORK

This report intends to provide a basis for EPCOR French Creek to review the various options for upgrading the water system for both domestic and fire supplies as a result of future potential development based on the RDN's official community plan and existing zoning. The scope of the master plan includes:

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2.0 POPULATION AND GROWTH RATE ASSESSMENT

2.1 GROWTH RATE CALCULATION

Based on the number of residential and multi-residential connections and a 2.2 person per connection estimate, one can estimate the 2019 population of the community of French Creek to be approximately 5,175 persons. The data used for the number of connections and establishing the per connection estimate is provided by EPCOR.

Refer to table below for information on customer class and population in French Creek.

Table 2-1 2019 Estimated Population and Per Capita Demand Unit Rates (1)

Customer Class	Number of Units ³	Estimated Population ⁴	Meter Usage (ML) ⁵	Unit Rate (L/ca/day) ⁶
Single Family ¹	1834	4035	59.5	163.7
Multi-Family ²	300	660	5.8	97.2
Commercial ²	40	480	6.7	154.4
Total		5175	71.9	154 (Blended total)
1. Assumes Oceanside Strata Lots and all Single-Family Residential Lots 2. Assume includes all strata lots, including Mercer Point and the trailer park 3. Based on approved CPCN applications as of March 31, 2019 4. Population Estimate is based on 2.2 capita per Single Family and Multi-Family and 12 per Commercial – Provided by EPCOR 5. January 1- March 31, 2019 metered usage 6. Unit rate provided by EPCOR using field data				

The “Area G” Official Community Plan (OCP), adopted as Bylaw 1540 in 2008 (2), identified several areas for growth including French Creek, Harbour Centre and Wembley Centre. In order to accurately represent the community’s growth rate, we used historical data provided by EPCOR.

The number of customers serviced by EPCOR is expected to steadily increase as the population of French Creek grows. Based on previously collected lot data, the projected growth rate is approximately 0.9% (20 lots/ year). For the population projections, we will use this established rate using actual growth data collected by EPCOR from the previous 10 years at 0.9%. The following growth equation is used in the development of Table 2-2 Population Projections.

Population growth formula: $P = P_0(1 + r)^t$

P = Total Population

P₀ = Starting Population

r = % Rate Growth

t = Time in years



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

Table 2-2 Population Projections

Year	Growth Rate	Population
2019 Existing	0.9%	5175
2023 (3 Year)		5316
2030 (10 Year)		5660
2040 (20 Year)		6191

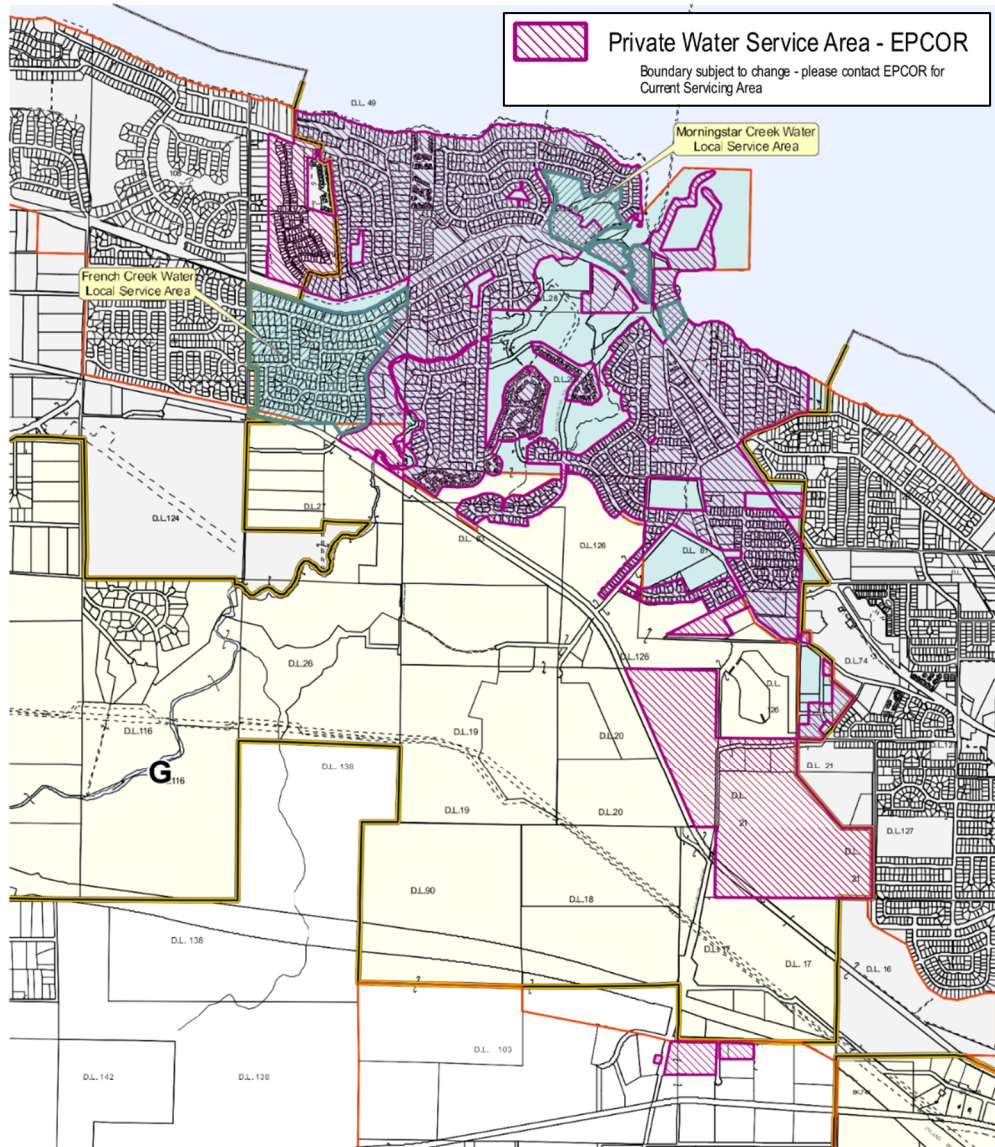


Figure 2-1 “Area G”: French Creek Water Service Area (2)



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**3.0 WATER SYSTEM DESIGN CRITERIA**

The conceptual design parameters used in this report were based upon a combination of the design guidelines of the MMCD – Design Guideline Manuals (3), Fire Underwriters Survey (FUS) and actual consumption data collected within the past 10 years. The parameter used for the basis of our evaluation is established as follows.

3.1 PER CAPITA DEMAND

Referencing table 2.1 above, we used the blended per capita rate of 154 L/ca/day. This rate is established using actual historical consumption data collected and calculated by EPCOR.

3.2 FIRE FLOW

When establishing fire flow for a development, MMCD Design Guidelines 2014 section 2.5 provides the following as a model; however, MMCD also identifies the use of the Fire Underwriters Survey in order to better refine the actual fire flow requirement. Each development is analyzed on a case by case basis to ensure adequate fire flows are provided.

Land Use Type	MMCD Design Guideline	Required Duration	Storage Volume
Single Family Residential minimum fire flow	60 L/s	1.4 hr	0.3 ML
Apartments, Townhouses	90 L/s	1.9 hr	0.6 ML
Institutional	150 L/s	2.0 hr	1.1 ML
Commercial	150 L/s	2.0 hr	1.1 ML
Industrial	225 L/s	2.0 hr	2.3 ML

3.3 HYDRANTS

Based on the MMCD Design Guidelines 2014 section 2.15 Hydrants

Residential Areas
Not more than 150m apart
Not more than 90m from a building

Additional fire hydrants may be required where fire flows exceed 90 L/s.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**3.4 WATER PRESSURE**

Based on the MMCD Design Guidelines 2014 section 2.7 Water Pressure, the following parameters were used within each of our assessments.

Design Parameter	MMCD Design Guideline
Maximum allowable system pressure	850 kPa (123 psi)
Maximum service connection pressure	515 kPa (75 psi)
Minimum pressure at Peak Hour Demand (PHD)	300 kPa (43 psi)
Minimum pressure in system during fire flow and Maximum Day Demand (MDD)	150 kPa (21 psi)

3.5 HYDRAULIC DESIGN

Based on the MMCD Design Guidelines 2014 section 2.8 Hydraulic Design, we reviewed the system for any exceedance of the following parameters.

Design Parameter	MMCD Design Guideline
Maximum allowable design velocity under peak hour flow conditions	2.0 m/s
Maximum design velocity under maximum daily demand plus fire flow	3.5 m/s

3.6 CAPACITY**3.6.1 Reservoir Capacity**

Based on the MMCD Design Guidelines 2014 section 2.23.2 Capacity, reservoirs should be designed to suit the particular operating circumstances. Reservoir capacity is calculated by the following formula:

$$\text{Total Storage Volume} = A + B + C$$

A = Fire Storage

B = Equalization Storage (25% of Maximum Day Demand)

C = Emergency Storage (25% of A + B)

3.6.2 Well Capacity

Based on the MMCD Design Guidelines 2014 section 2.24.2 Capacity, the supply capacity for a water system must exceed the Maximum Daily Demand (MDD) to avoid water shortages during peak demands typically during summer months. In rating the supply capacity, it is normal practice to exclude the largest well to provide a level of safety to deal with maintenance emergencies that may occur, this is defined as firm capacity.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

4.0 EXISTING WATER SYSTEM (2019)

4.1 WATER SYSTEM DESCRIPTION

The French Creek water system, that is owned and operated by EPCOR, mainly comprises of single family residential with approximately 1834 single family residence connections, 300 multi-family unit connections, and 40 commercial connections. There are three pressure zones in the French Creek water system; the Main Pressure Zone, Church Road Booster Zone, and Mercer Point Reduced Pressure Zone. System pressurization is provided by both gravity and pumping from two reservoir sites.

The major supply facilities in the existing French Creek System include:

- 18 groundwater wells
- Drew Road Complex
 - Drew Road Water Treatment Plant (WTP)
 - Drew Road Reservoirs
 - Drew Road Pump Station
- Church Road Complex
 - Church Road Reservoirs
 - Church Road Pump Station

4.1.1 Main Pressure Zone (HGL = 79m)

Most of the water system users, approximately 96%, are located within the main pressure zone including all the groundwater supply wells. Two production sites deliver treated water to the main pressure zone, by gravity at Church Road and by pumping at Drew Road.

The Church Road site contains approximately 66% of the total storage capacity of the French Creek water system and 62% of the groundwater supply. Further specific details of storage volumes and groundwater supply can be found in chapters 4.6 and 4.7. Both domestic and fire supplies are delivered to the main pressure zone through a 300mm diameter transmission pipe travelling down Church Road to Wembley Road.

Drew Road treats and pumps both domestic and fire supplies to the main pressure zone through a 200mm diameter supply main. Drew Road's supply consists of the remaining 38% of the systems groundwater and 33% of the system storage. The pumping system uses up to three pumps to increase pressures throughout the lower main pressure zone areas.

4.1.2 Church Road Booster Zone (HGL = 168m)

The Church Road Booster Zone is located south of the Church Road Complex up to the Alberni Highway. The isolated upper pressure zone is supplied by a pump station at the Church Road reservoir which provides both domestic and fire protection. Using the same source and storage supply as described in the chapter above, treated water is pumped from the reservoirs by two booster pumps and balanced by a



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

pressure tank. Fire protection to the upper zone is provided by a direct drive engine, horizontal fire pump which draws water directly from the existing reservoirs.

4.1.3 Mercer Point Zone (HGL = 68m)

Embedded in the main pressure zone is the Mercer Point reduced pressure zone. This small privately owned and operated system is pressure reduced at the property line of the development. This small system is located in the North East area of the main pressure zone. EPCOR's responsibility for the Mercer Point Zone ends at the Water Meter / Fire Valve at the property line.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**4.2 HISTORIC DATA**

The following chapters contains the historical data used to establish our base MDD rate of 42.2 L/s. This is explained further in chapter 4.2.3.

4.2.1 Metered Water Usage Data

The data provided in the table below shows a summary of the monthly source flow totals for the metered water usage. The following data used in our assessments is collected and provided by EPCOR.

Table 4-1 Monthly Source Flow Totals (1)

Billing Period	Single Family		Multi-Family		Commercial		Total	
	# of Meters	Usage (ML)	# of Meters	Usage (ML)	# of Meters	Usage (ML)	# of Meters	Usage (ML)
2017								
Jan 1- Mar 31	1,803	55	248	6	24	9	2,075	71
April 1- June 30	1,932	100	250	12	47	10	2,229	121
July 1-Sept 30	1,891	190	250	29	47	22	2,188	241
Oct 1- Dec 31	1,851	65	249	7	37	6	2,137	79
2017 Total		410		54		48		512
2018								
Jan 1- Mar 31	1,785	59	249	5	35	9	2,069	73
April 1- June 30	1,874	112	250	16	47	12	2,171	140
July 1-Sept 30	1,877	178	250	27	47	22	2,174	227
Oct 1- Dec 31	1,916	61	250	8	47	7	2,213	76
2018 Total		410		56		50		516
2019								
Jan 1- Mar 31	1,825	59	248	6	35	7	2,108	72
April 1- June 30	1,878	133	250	19	49	20	2,177	171
July 1-Sept 30	1,894	163	269	27	49	22	2,212	212
Oct 1- Dec 31	1,870	58	270	6	36	7	2,176	72
2019 Total		413		58		56		527
Current System	1608		506		43			
Current CPCN Approved	1834		300		40			



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**4.2.2 Existing Demand Summary**

The existing demands for the current system are summarized in the table below. The table provides the data as to how the MDD is constructed as a sum of the base demand and seasonal demand for each type of water consumer. The base day demand (BDD) is the average demand over the winter months (January, February and March) which corresponds to the metered billing period with the seasonal demand including irrigation use. The following data dissects how the MDD values are established and expanded further in chapter 4.2.2. The information is collected and provided by EPCOR.

Table 4-2 Demand Summary (1)

		Single Family	Multi-family	Commercial	Total RES	Total	Notes
Number of Meters		1894	269	49	2163	2212	July 2 - October 1, 2019 metered usage
Number of Residential Units		1834	300	40	2134	2174	MDD and Lot Table 2019
Percentage of Total Meters		86%	12%	2%			
Meter Usage (ML)		58.7	5.4	8.6		72.7	Jan 1- March 31, 2019 metered usage
Base Demand	Base Demand	7.55	0.70	1.1	8.24	9.35	July 2 - October 1, 2018 metered usage
	Percentage of Total Metered Usage	81%	7%	12%	88%		
	Base Demand Rate (L/ca/day)	154	154	154			Jan 2 - April 1, 2019 metered usage
	Population/Population Equivalents	4035	660	588	4695	5283	Population Estimate is based on 2.2 capita per SF and MF and 12 per Commercial
Seasonal Demand	Estimated Irrigation Area (ha)	91.7	42	3.54	133.7	137.24	Based on 45% of lot area for SF/MF and 10% for commercial
	Seasonal Demand (L/s)	27	2	4	29	33	Additional Seasonal Demand on Max Demand Day, based on 2018 MDD, assumes same % split between Customer Classes as Base Day Demand
Max Day	MDD (L/s)	34.2	3.2	5.0	37.4	42.2	Base Demand plus Seasonal Demand



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**4.2.3 Historical MDD Data**

The following historical data used in our following assessments is a derivative of the table provided above in chapter 4.2.2. The MDD represents the base demand and seasonal demand as defined above. The information is collected by and provided by EPCOR.

Table 4-3 Summary of Historic MDD (1)

Year	MDD		Date
	MLD	L/s	Month - Day
2009	3.8	44.4	Jul-02
2010	3.7	42.3	Aug-12
2011	3.4	39.0	Aug-04
2012	3.6	41.8	Aug-05
2013	4.0	45.9	Jul-26
2014	3.5	40.6	Jul-17
2015	3.7	42.9	Jul-03
2016 ¹	3.2	37.1	Jul-29
2017	3.4	39.4	Aug-04
2018	3.6	41.8	Aug-10
2019	3.4	39.4	Aug-14

1. The number of days each week customers could water during watering restrictions changed from two days per week to every other day. This resulted in a decreased in the MDD, as water use was spread out throughout the week.

From the footnote 1 above, 2016 to 2019 represents accurate field data for establishing a worst case MDD. We have recommended and used the data presented in August 2018 escalated to the end of 2019 as the accurate worst case MDD consumption calculated at **42.2L/s**.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**4.3 WATER MODEL (2019)**

The following provides a synopsis of the water model's development since 2002 with Table 4-5 providing a detailed summary of the modifications Stantec completed on their active model.

Year	Notes
2002	Developed by Koers & Associates Engineering Ltd.
2008	Updated by KWL
2011	Updated by Stantec (WaterCAD model updated and used in the analysis for this report)
2014	Updated by KWL version 10.2.2.6 (file corrupt and unusable)
2019	Reverted to 2011 model because of corrupt and unusable file provided from KWL. Updated by Stantec version 10.02.02.06

Table 4-4 Water Model Updates (2019)

Drawing Number or Source	Updates
	Updated volume of Church Road Reservoirs to 2,654 m ³
	Updated volume of Drew Road Reservoirs to 1,300 m ³
	Changed pipe with "Ductile Iron" material type to material type "Unknown" with C Factor of 110
175-008	Nodes pipes adjusted to match current EPCOR French Creek Distribution System Plan
(4)	Add background layers from CAD provided by EPCOR
	Removed obsolete model scenario
1176-152-01	Size and material for watermain along Reid Road adjusted to 150mm diameter per EPCOR correspondence
L-722-02-02-07	No Change EPCOR unable to locate drawing: Confirmation of 200mm main on Wembley Rd between Crystal Court and Ackerman Rd to 250mm main requested.
L-722-02-02-07	No Change EPCOR unable to locate drawing: Confirmation of 200mm dia main and hydrant on Rd A and additional hydrant on Wembley Rd.
L-845-01-07-05	Added 200mm dia main and 2 hydrants on Wally's Way
120-03-2	38 Lot Subdivision: water model updated
120-03-12	Added 150 mm dia main and 3 hydrants on Road 1, Lowrys Rd, and Road 2
120-03-12	Changed material type of existing water main on Arrowsmith Way, Yellowbrick Road, and Lowery Rd from Ductile Iron to PVC
120-04-1 to 120-04-18	54 Lot Subdivision, 1032 Lowery
L-772-03-04-05	Added 200mm dia main and 3 hydrants on Sanika Close and Neden Way
120-02-1	Added 200mm dia main, 150mm dia main and 2 hydrants on Prospect Point Dr and Road 1
120-02-W1	20 Lot Subdivision: water model updated
190-02-1	No Change EPCOR unable to locate drawing: Confirmation of 50mm dia main on Wright Rd east of Ocean Pl.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

Drawing Number or Source	Updates
218-01-1	EPCOR unable to locate drawing: Added 1 hydrant at 770 Woodland Dr from google maps.
206-01-1	Added 1 hydrant at north east side of intersection of Johnstone Rd and Old Island Highway
(4)	Added 150mm dia main and 1 hydrant on Emerald City Way per CAD provided by EPCOR
(4)	Added 150mm dia main, 100mm dia main and 5 hydrants for Lakes Blvd development per CAD provided by EPCOR
(4)	Revised alignment of 200mm dia main at the intersection of the Old Island Hwy and Columbia Dr per CAD provided by EPCOR
(4)	Added hydrant at the east end of Cavin Rd per CAD provided by EPCOR
	Updated diameters of pipe on Meadow Dr/ White Pine Way to 150mm diameter
(5)	Added Demands for: COOP (2.0 L/s) RDN Transfer Station (1.9 L/s) School District 69 Maintenance Building (4.0 L/s) Mechanical Shop (0.1 L/s)
	Updated diameter of Church Road Reservoir per information in 2011 Stantec Report /total volume at Church Rd is 2654 m3)
(6)	Updated Church Road Complex piping based off record drawings
	Revised well capacities per 'Model Bases Calculations' spreadsheet provided by EPCOR
269-01-1	504 Church Road: water model updated
257-01-2	745 Drew Road: water model updated
1176-152-01	808 Wembley: 150mm diameter PVC pipe confirmed
272-01-1	828 Reid Road: water model updated
1010-001-C02	833 Reid Road: water model updated
60848-01-D1	852 Woodland Drive: water model updated
263-01-1	853 Miller: water model updated
190-02-1A	863 Cavin Road: water model updated
3701-001-C02	1031 Robertson Place: water model updated
120-04-2	1032 Lowrys: water model updated
60931-01-D1	1316 Woodland Drive: water model updated
3517-C01	1371 Lundine Lane: water model updated
0292-01-01-B	1497 Mason Trail: water model updated
126-03-1 to 126-03-17	Esslinger Ackerman 20 Unit: water model updated
254-06-1	Lot H Johnstone Road: water model updated
39-010-2	Sumar Lane: water model updated
	Oceanside Well #2 not active and removed from model
	R8-2 Well added to model, but closed due to no flow per 'Model Bases Calculations'
	Springhill #2A Well added to model, but closed due to no flow per 'Model Bases Calculations'



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Drawing Number or Source	Updates
	EPCOR unable to provide surface information: Fire Hydrant elevations updated based off Google Earth Pro elevation profile creation tool
	EPCOR unable to provide surface information: Node elevations updated based off Google Earth Pro elevation profile creation tool
1649-01	Drew Road Bypass and Pump Station Upgrade added to water model
3703-001-C01	2 lots (Lots 4 and 5, Remainder Lot B DL 81 Plan 44150): water model updated
	Pipe diameters adjusted to reflect ND
	Church Road Pump Curves: water model updated Pump 5HP = 4.39 L/s (pump head 51.1 m) Pump 5HP = 4.39 L/s (pump head 51.1 m) Fire Pump = 155 L/s (pump head 50.73 m)
	Drew Road Pump Curves: water model updated 2x15 HP: Aurora pump model 344 size 2x2.5x7A with 5.75-inch diameter impeller 1x25 HP: Goulds 25 HP pump Model#: 3756 S with size 2.5 X 3 - 7 impeller diameter 7.063
	Pump Curves for well pumps created based off elevations from Google Earth Pro and flows provided from EPCOR per 'Model Bases Calculations'
	Created pressure zones in water model
	Assigned zones to nodes in water model
	PRV added for Mercer Point Zone. The valve station includes a single 150mm diameter PRV set to 80 psi
	Added MDD Existing scenario in water model
	Added MDD New Development scenario in water model
	Added Fire Flow scenario in water model
	Added PHD scenario in water model
	Added ACS1 well to model
	Added TWS1 well to model



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**4.4 FIRE FLOW (2020)**

Using the active updated water model, we evaluated the fire flow potential throughout the system while under MDD and found several deficient areas. Fire flow water modeling results indicate that there are fire flow deficiencies for each of the exiting user types (Single Family less than 60 L/s, Multi-Family less than 90 L/s, Commercial less than 150 L/s and Industrial less than 225 L/s). Specific to the Single family fire flow requirement of 60 L/s, the following table in conjunction with figure 4-2 highlight these areas.

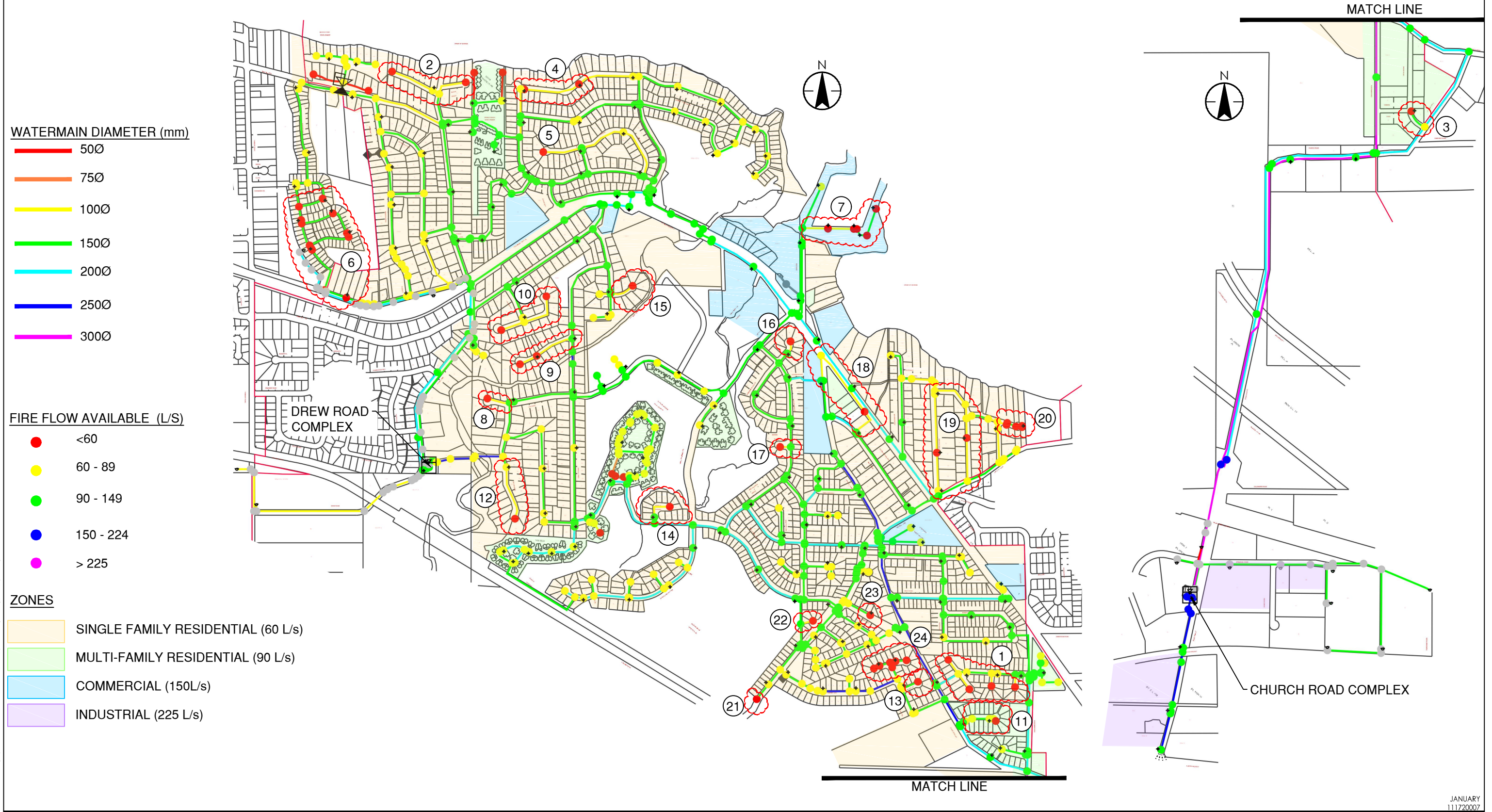
Table 4-5 Deficient Areas Less Than 60L/s

Item	Location	Description	Item	Location	Description
1	Neden Way	<ul style="list-style-type: none"> Dead End 200mm Pipe 	13	Rockland Place	<ul style="list-style-type: none"> Dead End
2	Mallard Road and Black Brant Road	<ul style="list-style-type: none"> Dead End 100mm Pipe 	14	Crocus Corner	<ul style="list-style-type: none"> Dead End 100mm Pipe
3	Manse Road	<ul style="list-style-type: none"> Dead End 	15	River Crescent	<ul style="list-style-type: none"> Dead End 100mm Pipe
4	Admiral Tyron Boulevard	<ul style="list-style-type: none"> 100mm Pipe 	16	Fishermans Circle	<ul style="list-style-type: none"> Dead End 100mm Pipe
5	Marine Circle	<ul style="list-style-type: none"> Dead End 100mm Pipe 	17	Pepper Place	<ul style="list-style-type: none"> Dead End 100mm Pipe
6	Windward Way, Oceanside Drive and Leeward Way		18	Old Island Highway	<ul style="list-style-type: none"> 100mm Pipe
7	Marina	<ul style="list-style-type: none"> Dead End 100mm Pipe 	19	Breakwater Road and Glenhole Crescent	<ul style="list-style-type: none"> 100mm Pipe
8	Lee Road	<ul style="list-style-type: none"> Dead End 	20	Cavin Road	<ul style="list-style-type: none"> Dead End 100mm Pipe
9	Mason Trail	<ul style="list-style-type: none"> Dead End 100mm Pipe 	21	Lowrys Road	<ul style="list-style-type: none"> Dead End
10	Pacific Crescent	<ul style="list-style-type: none"> Dead End 100mm Pipe 	22	Eagle Tree Close	<ul style="list-style-type: none"> Dead End 100mm Pipe
11	Wallys Way	<ul style="list-style-type: none"> Dead End 	23	Roberton Boulevard	<ul style="list-style-type: none"> Dead End
12	Miller Road	<ul style="list-style-type: none"> Dead End 100mm Pipe 	24	Windridge Place	<ul style="list-style-type: none"> Dead End

Continuing to reference figure 4-2, each of the Multi-family areas shaded in light green, the Commercial areas shaded in blue, and the Industrial areas, adjacent to the Church Road reservoir, are all fire flow deficient. The figure also identifies how much fire flow is available to each area node while under MDD. The available fire flows within the Main Pressure Zone range from 90 to 120L/s adjacent to the deficient areas.

In order to meet or exceed the minimum fire flow parameters within these deficient areas, the recommended improvements are developed and summarized within Chapter 7 under the 10-year system assessment.





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AVAILABLE FIRE FLOW
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FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**4.5 WATER PRESSURE AND MDD****4.5.1 Water Pressure**

The following figures shows the pressure during a PHD and MDD event for the existing system.

Modeling indicates that there are existing PHD and MDD pressure deficiencies (less than 43 psi) as well as many areas exceeding the maximum allowable pressure (greater than 75 psi). Each of the deficient areas are circled in red and labeled highlighting the extent of the deficient area.

In order to correct the minimum pressure areas, we have provided recommendations within the following Chapter 5 which identify the use of localized booster pumping. Over pressure management is developed within the 20-year plan in Chapter 7, this includes the introduction of a new lower pressure zone using large pressure reducing valves and closing specific line valves.

4.5.2 MDD and PHD Forecast Using the Established Growth Rate and Historical MDD

The 2018 escalated through 2019 MDD results were used as a starting point to project future MDD's as summarized in chapter 4.2.3 above. 2018 through 2019 is the highest consumption year since the implementation of SCADA metering.

The projected MDD was calculated with the assumption that the demand would increase at the same rate as the population. Refer to section 2.2 for the population projections and how the growth rate is established as 0.9%.

Table 4-6 below summarizes the resulting flow demand using the established MDD and growth rate projections for each of our study periods. Supplementing the MDD calculation is the PHD calculation which is found to be 1.5 X MDD, this standard is a derivative of the MMCD Design Guidelines 2014 section 2.3.

Table 4-6 MDD Forecast Using 2019 Data

Year	MDD's (L/s)	PHD (1.5 X MDD)
2019 Existing	42.2	63.3
2023 (3 Year)	43.7	65.6
2030 (10 Year)	46.6	69.9
2040 (20 Year)	50.9	76.4

Supplementing the data above is EPCOR's peak instantaneous flow measured at greater than 95L/s which occurs during dry summer months when residences are allowed to irrigate every other day. The instantaneous demand flow is reported to occur sporadically throughout the months of July and August only during irrigation days.





WATERMAIN DIAMETER (mm)

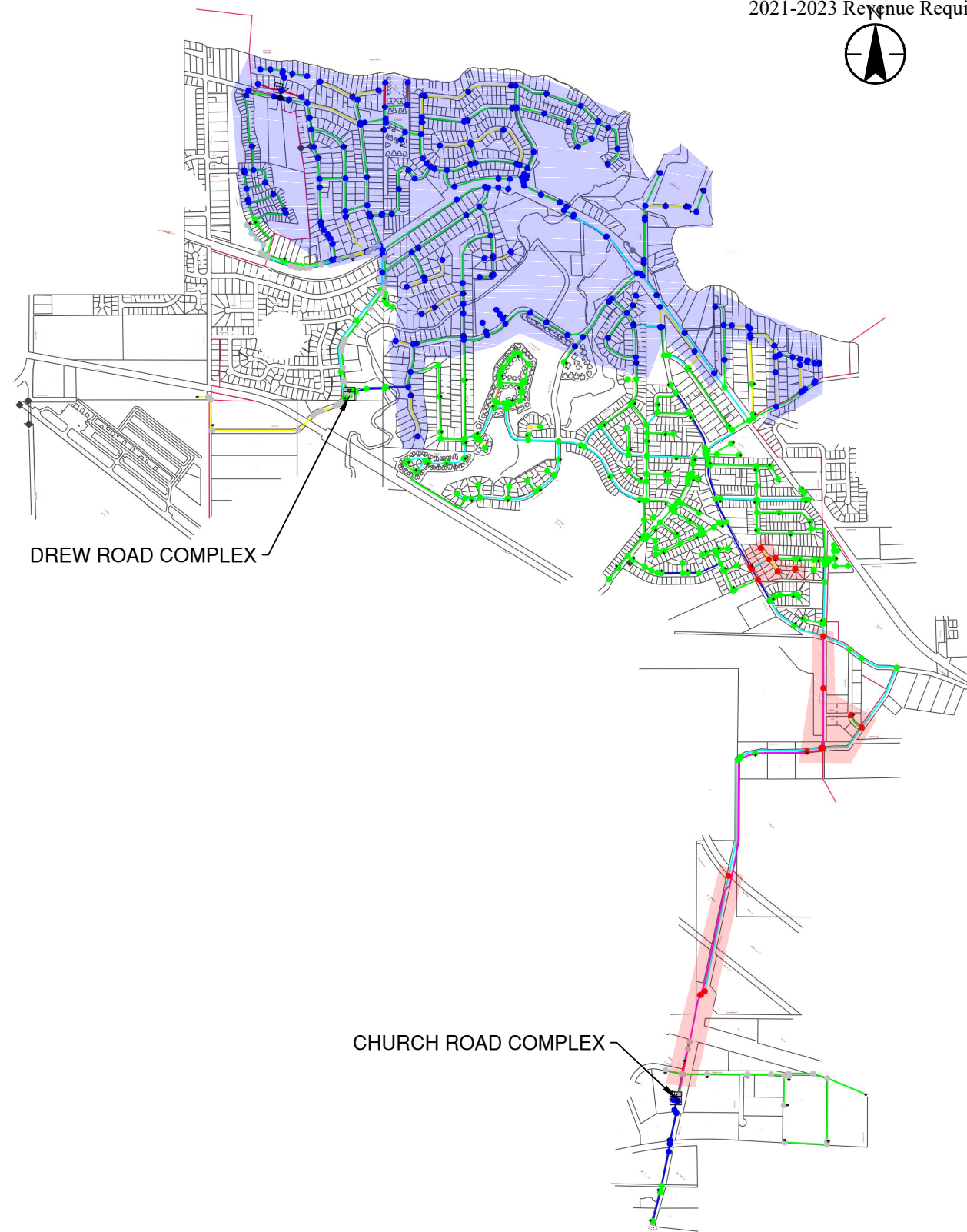
- 50Ø
- 75Ø
- 100Ø
- 150Ø
- 200Ø
- 250Ø
- 300Ø

PEAK HOUR PRESSURE (PSI)

- <43
- 43.1 - 75.0
- 75.1 - 123
- > 123

ZONES

- HIGH PRESSURE AREA (OVER 75 PSI)
- LOW PRESSURE AREA (UNDER 43 PSI)



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FLOW DEMANDED: 63.3 L/S

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**PEAK HOUR DEMAND
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WATERMAIN DIAMETER (mm)

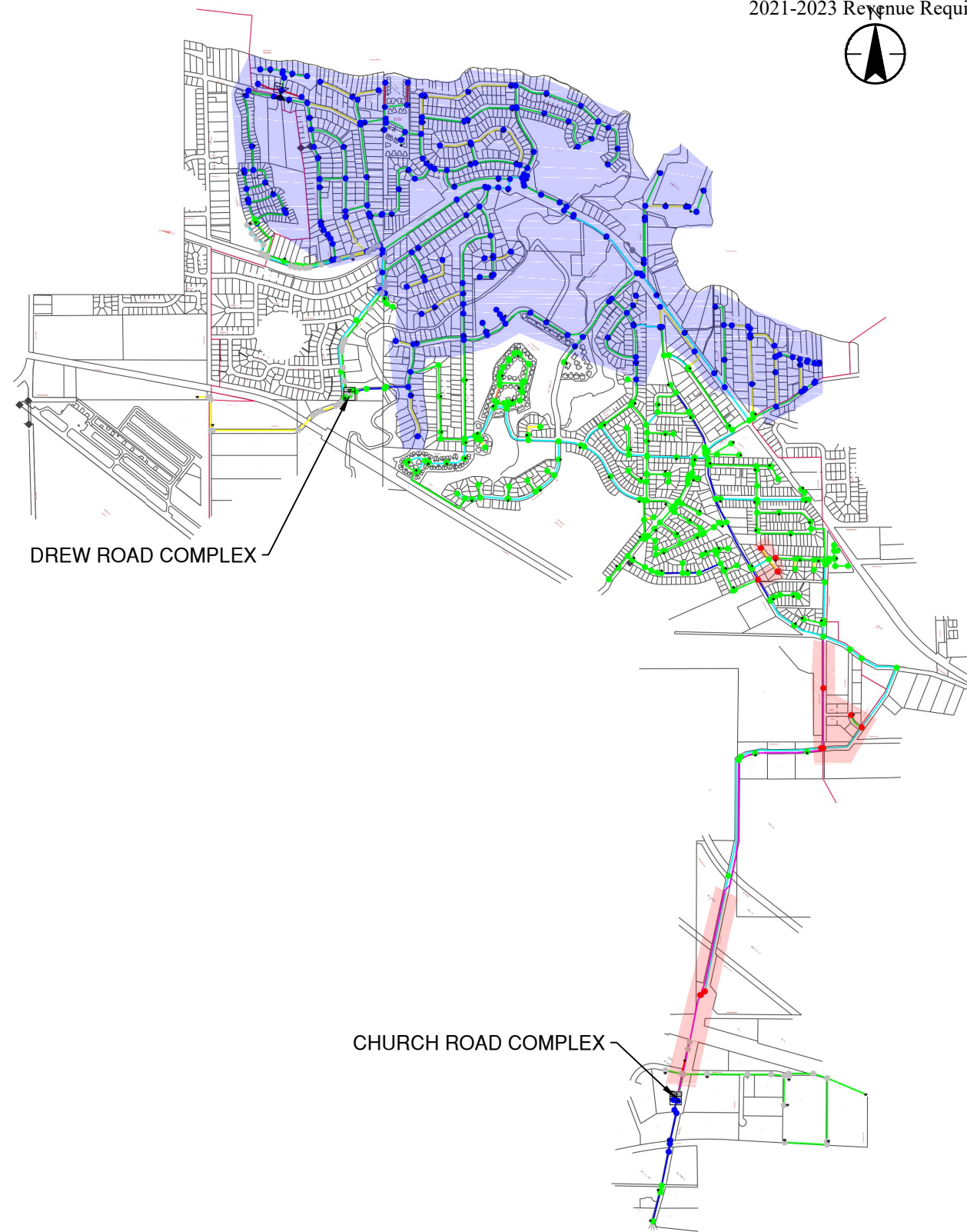
- 50Ø
- 75Ø
- 100Ø
- 150Ø
- 200Ø
- 250Ø
- 300Ø

PEAK HOUR PRESSURE (PSI)

- <43
- 43.1 - 75.0
- 75.1 - 123
- > 123

ZONES

- HIGH PRESSURE AREA (OVER 75 PSI)
- LOW PRESSURE AREA (UNDER 43 PSI)



FLOW DEMANDED: 42.2 L/S

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MAX DAY DEMAND
 (2020) Page 30

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4.6 STORAGE CAPACITY (2020)

Required storage capacity has been calculated according to MMCD design criteria as a guideline, as described in the Water System Design Criteria section. The MDD used in the calculations is referenced from Table 2-2. An assessment of the condition of the existing reservoirs is outside the scope of this report.

Table 4-7 Storage Assessment (2019)

Storage Capacity (2019)			
	Flow (L/s)	Duration (hrs)	Storage Required (m ³)
A. Required Fire Flow	150	2.0	$\frac{150 \text{ L}}{1 \text{ s}} \times \frac{1 \text{ m}^3}{1000 \text{ L}} \times \frac{3600 \text{ s}}{1 \text{ hr}} \times 2.0 \text{ hr}$ = 1080
B. Maximum Daily Demand (Equalization Storage 25% MDD)	42.2	24	$\frac{42.2 \text{ L}}{1 \text{ s}} \times \frac{1 \text{ m}^3}{1000 \text{ L}} \times \frac{3600 \text{ s}}{1 \text{ hr}} \times 24.0 \text{ hr} \times 25\%$ = 912
C. Emergency Storage (Storage 25% of A +B)	-	-	$(1080 \text{ m}^3 + 912 \text{ m}^3) \times 25\%$ = 498
Total Required Storage (A + B + C)	-	-	$1080 \text{ m}^3 + 912 \text{ m}^3 + 498 \text{ m}^3$ = 2489
Available Storage Capacity (2019)			
Church Road Reservoirs	2654 m ³		
Drew Road Reservoirs	1300 m ³		
Total Available Storage	3954 m ³		
Deficiency (Total Available – Total Required)	$3954 \text{ m}^3 - 2489 \text{ m}^3 = 1465 \text{ m}^3$ No Deficiency		

Given our findings above, the existing system does not need additional capacity to meet the emergency, fire, and balance storage requirement.

4.7 WELL CAPACITY (2020)

The French Creek water system is currently supplied by 18 groundwater wells. With the exception Well R8-2, all the wells pump to either the Drew Road Reservoirs or the Church Road Reservoirs with well R8-2 pumping directly to the distribution system.

The following analysis is based from the MMCD Design Guidelines 2014 section 2.24.2 - Capacity. The supply capacity for a water system must exceed the MDD to avoid water shortages during peak demands typically during summer months. In rating the supply capacity, it is normal practice to exclude the largest well to provide a level of safety to deal with maintenance emergencies that may occur, this is defined as “firm” capacity.

The following table represents the supply from the wells vs. the MDD calculations. Well status and flow data are provided by EPCOR and represents typical summer flow field conditions.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**Table 4-8 Groundwater Wells (2019)**

North Wells	Well ID	Summer Flow and Real Condition Max Flow Average (L/s)	Notes
Lundine Lane Well (TWN1)	22514	1.3	
Oceanside Replacement Well (RWN2)	22525	11	11 L/s to be excluded per MMCD 2.24.2
Drew Rd Well #1	13803	3.5	
Ravensbourne Well	13804	4.0	
R8-2 Well	13808	3.0	Would be turned on when approaching MDD with largest well (RWN2) out of service. Groundwater well feeds directly into water main after addition of chlorine
South Wells	Well ID		
Church Road Well #1	13791	1.8	
Church Road Well #2	13792	1.9	
Church Road Well #3	13793	2.4	
Church Road Well #4	13794	1.8	
Springhill Replacement Well (RWS1)	22580	5.8	
Springhill #2A Well	13796	0.8	Would be turned on when approaching MDD with largest well (RWN2) out of service
Hills of Columbia Well #6A	13797	1.5	
Hills of Columbia Well #7	13798	1.4	
Hills of Columbia Well #9	13800	2.5	
Bosa Well	13799	2.8	
Hills of Columbia Well #11	13801	3.0	
ACS1	22600	6.5	Status: Recently approved and online
TWS1	22550	1.5	Status: Will be online shortly
Closed Wells			
Imperial Well	-	-	Decommissioned 2019
Lornedun Well	-	-	Decommissioned 2019
Total Capacity (All Wells)		55.3	
Total Supply Available		55.3 - 11.0 = 44.3	Largest well excluded to provide a level of safety to deal with maintenance emergencies that may occur, this is defined as firm capacity.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**Table 4-9 Groundwater Wells Capacity**

Year	MDD	Supply Capacity of Groundwater Wells – MDD = Flow Difference
2019	[42.2 L/s] Actual Consumption based of field data	44.3 – 42.2 = 2.1 L/s
<p>The following assumptions were made when calculating the well capacity:</p> <ul style="list-style-type: none"> MDD demand is derived from using actual field consumption data provided by EPCOR and distributed into the active existing water model. 		

The above calculation identifies the existing system, when referencing MMCD firm capacity calculations, to be in surplus by 2.1 L/s. As the surplus capacity is in close proximity to the total available supply, exploring new supply sources is recommended and further expanded in chapter 5.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**5.0 THREE YEAR ASSESSMENT (2023)**

The 3-year assessment identifies immediate known projects through collaboration with EPCOR. The projects are a continuation of existing programs in place, assessments to further determine condition or ability of existing infrastructure, and continuation of system improvement programs.

The analysis includes recommendations for fire flow, hydrant replacement programs, domestic water pressure improvements, storage, well, and know development assessments. Finally, each of the recommended projects and their associated opinion of probable cost is listed in section 5.8.

Each analysis section (if applicable) references the 2023 MDD and PHD flow rates as generated above in Table 2-2.

5.1 FIRE FLOW (2023)

The immediate 3-year outlook recommends the system continue to operate under its existing fire flow plus MDD condition including know deficiencies. The following Chapter 6 provides our recommendations for improving the deficient Multi-family and Commercial fire flow areas to meet or exceed MMCD design parameters. The 20-year plan provides recommendations for providing minimum fire flow for the zoned Industrial areas near the Church Road reservoir and Springhill Road.

5.2 HYDRANTS (2023)

Hydrant spacing throughout the system was reviewed in a previous Stantec report for compliance to MMCD design guidelines which state maximum hydrant spacing is 150m with a maximum distance from a building of 90m of hose laying length (unobstructed distance). The 2011 Stantec report indicated that 47 additional hydrants were required. Since then, additional hydrants have been installed as new developments or redevelopment occurred. There are still areas that do not meet the design criteria for hydrant spacing.

To improve fire protection in the existing system, an annual hydrant installation program was established. Currently four fire hydrants are scheduled to be installed in 2020. Beyond 2020, two fire hydrants will be installed annually. The current list of fire hydrants to be installed are listed on the following page.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**Table 5-1 Locations Requiring Fire Hydrant Installations**

Fire Hydrants		
Location	Pipe Diameter (mm)	Required Hydrants
559 - 575 Johnstone Road	150	1
790 Barclay Crescent South	150	1
839 Woodland Drive	150	1
1212 Lee Road	150	1
1327 Lee Road West	150	1
Riley Road (923 Kasba Circle Back Side)	150	1
1373 - 1383 Pintail Drive	100	1
1576 Admiral Tryon	100	1
1518 Sunrise Drive	150	1

5.3 DOMESTIC WATER PRESSURE (2023)

Building on the PHD analysis of the existing system, the Wembley area is a known deficient area during MDD and PHD scenarios. In order to increase service pressures within the immediate area we recommend a domestic booster station is constructed along Church Road. This station will boost the immediate area when the pressure falls below minimum criteria using a series of smaller continuous duty jockey pumps. The exact location of this station is to be determined however it should be sited near the area of Lornedunn Road and Church Road.





WATERMAIN DIAMETER (mm)

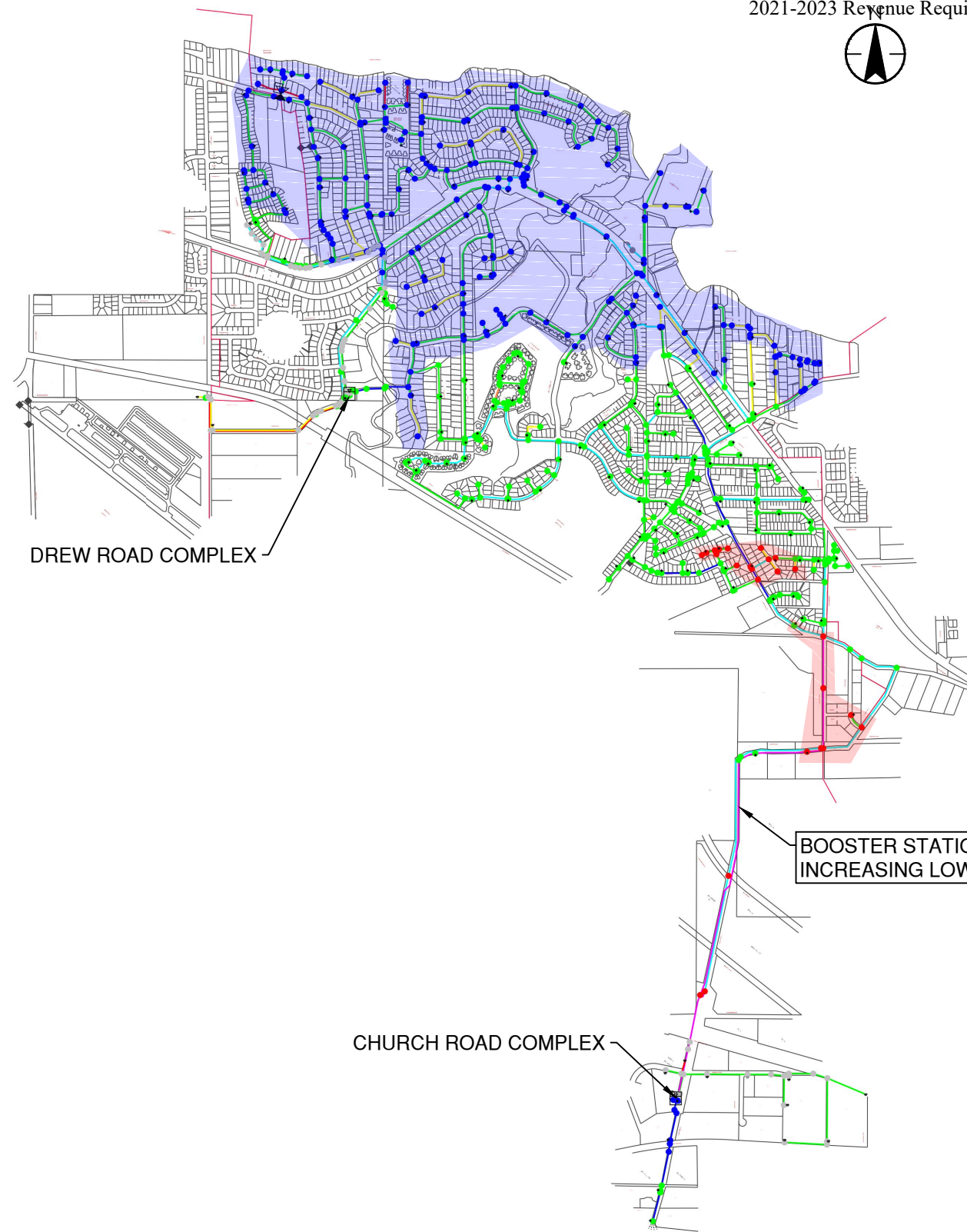
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- 150Ø
- 200Ø
- 250Ø
- 300Ø

PEAK HOUR PRESSURE (PSI)

- <43
- 43.1 - 75.0
- 75.1 - 123
- > 123

ZONES

- HIGH PRESSURE AREA (OVER 75 PSI)
- LOW PRESSURE AREA (UNDER 43 PSI)



FLOW DEMANDED: 65.6 L/S

JANUARY 11/2007

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**PEAK HOUR DEMAND
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5.4 STORAGE CAPACITY (2023)

The MDD used in the calculations is referenced from Table 2-2. An assessment of the condition of the existing reservoirs is outside the scope of this report.

Table 5-2 Storage Assessment (2023)

Storage Capacity (2023 - Projected) (For Projected Data Refer to section 2.1 Growth Rate Calculation)			
	Flow (L/s)	Duration (hrs)	Storage Required (m³)
A. Required Fire Flow	150	2.0	= 1080
B. Maximum Daily Demand (Equalization Storage 25% MDD)	43.7	24	= 944
C. Emergency Storage (Storage 25% of A +B)	-	-	= 506
Total Required Storage (A + B + C)	-	-	= 2530
Available Storage Capacity (2019)			
Church Road Reservoirs	2654 m ³		
Drew Road Reservoirs	1300 m ³		
Total Available Storage	3954 m ³		
Deficiency (Total Available – Total Required)	3954 m ³ – 2530 m ³ = 1424 m³ No Deficiency		

Given our findings above, the system does not need additional capacity to meet the emergency, fire, and balance storage requirement for the 3-year outlook.

5.5 WELL CAPACITY (2023)

The following table represents the known supply from the wells and the extrapolated 2023 MDD value.

Table 5-3 Groundwater Wells Capacity

Year	MDD	Supply Capacity of Groundwater Wells – MDD = Flow Difference
2023	[43.7 L/s] Projected Consumption (For Projected Data Refer to section 2.1 Growth Rate Calculation)	44.3 – 43.7 = 0.6 L/s
The following assumptions were made when calculating the well capacity: <ul style="list-style-type: none"> Existing Supply Capacity of Ground Water Wells [44.3 L/s] calculated in section 4.7 Well Capacity MDD demand is derived with the assumption that the demand would increase at the same rate as the population. 		

As noted in section 4.7 and the above calculation identifies the system to be in surplus, when referencing MMCD firm capacity calculations. As the surplus capacity is in close proximity to the total available supply, exploring new supply sources is required. EPCOR is currently investigating potential for a bulk



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

water connection with the RDN. The potential additional supply capacity as a result of this connection is yet to be determined.

5.6 ACTIVE METER REPLACEMENT (2020)

There are 2,212 water meters in the EPCOR French Creek Water System according to the 2019 meter records provided by EPCOR. An annual meter replacement program is currently in progress where approximately 50 - 100 touch read meters are replaced each year. EPCOR staff have indicated that in approximately two years the meter replacement program will be complete and transition to a meter replacement for faulty meters only.

Meters have continued to function as they age; however, wear over time will cause them to under record resulting in loss of revenue. The optimum replacement age is dependent on local factors such as water chemistry, soil conditions and usage. According to the AWWA M6 "Water Meters - Selection, Installation, Testing, and Maintenance" manual, a water supplier should develop a meter replacement program based on testing of a representative sample of residential meters that establishes an accuracy versus age relationship. After the existing meter replacement plan is completed It is recommended to follow the industry standard, which is to replace meters on a 20-year cycle as well as replacing faulty meters as they appear.

5.7 POTENTIAL DEVELOPMENTS (2023)

Shown below is a list of the development applications within the next three years. These added capacity request and fire flow requirements are evaluated on a case by case scenario. Understanding extra capacity of the existing system is limited, these developments may be required to explore additional source capacity as part of their development application.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**Table 5-4 Lot Count and Water System Demands (2023)**

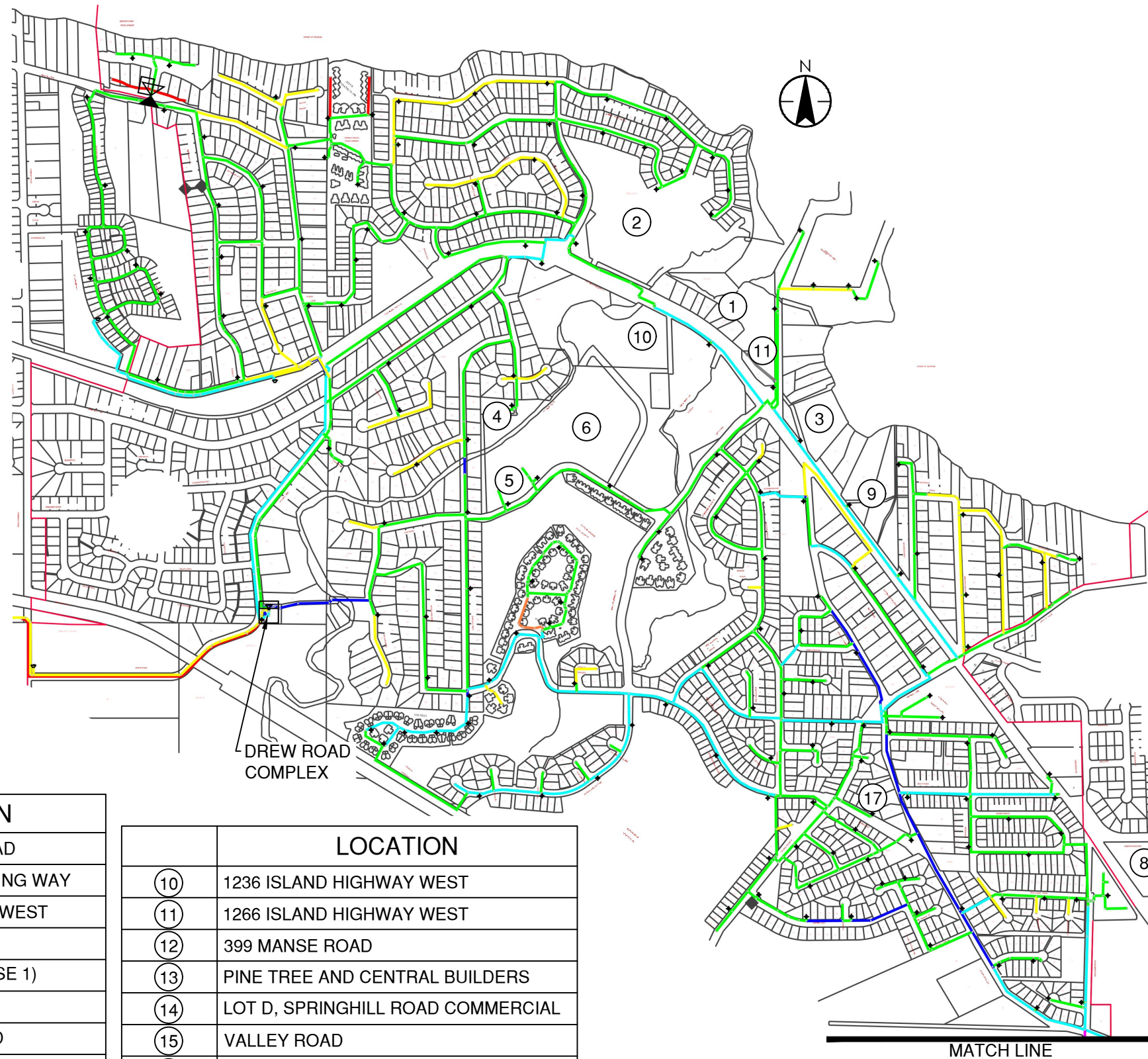
Location	Number of Units	MDD (L/s)	Notes
2019 Existing	2174	42.2	
Lot C, Imperial Drive	9	0.14	Application in Progress - Connection expected before the end of 2020
Lot A, Lee Road (Phase 1)	9	0.15	Application in Progress - Connection expected before the end of 2020
Pine Tree and Central Builders	4	0.58	Application in Progress - Connection expected before the end of 2020
Shaver	2	-	Application in Progress - Connection expected before the end of 2020
1025 and 1035 Lee Road	166		French Creek House Development
Columbia Drive/ Viking Way	80		French Creek House Development
1055 Island Highway West	13		
Lot A, Lee Road	86	16.0	Quest Homes
Lot G, Wembley Road	86	1.47	
1025 and 1035 Island Highway	51	-	Future discussion. Not part of current scope of work
1236 Island Highway West	56	-	Future discussion. Not part of current scope of work
1266 Island Highway West	33	-	Future discussion. Not part of current scope of work
399 Manse Road	102	-	Future discussion. Not part of current scope of work
Lot D, Springhill Road Commercial	-	-	Future discussion. Not part of current scope of work
Valley Road	-	-	Future discussion. Not part of current scope of work
Church Road Commercial	-	-	Future discussion. Not part of current scope of work

The above identifies a capacity request of 0.14 L/s to 16.0 L/s, with the existing system identified as in a surplus to 2.1 L/s these applications may be required to source additional well supply in order to meet their added capacity request.



WATERMAIN DIAMETER (mm)

- 500
- 750
- 1000
- 1500
- 2000
- 2500
- 3000

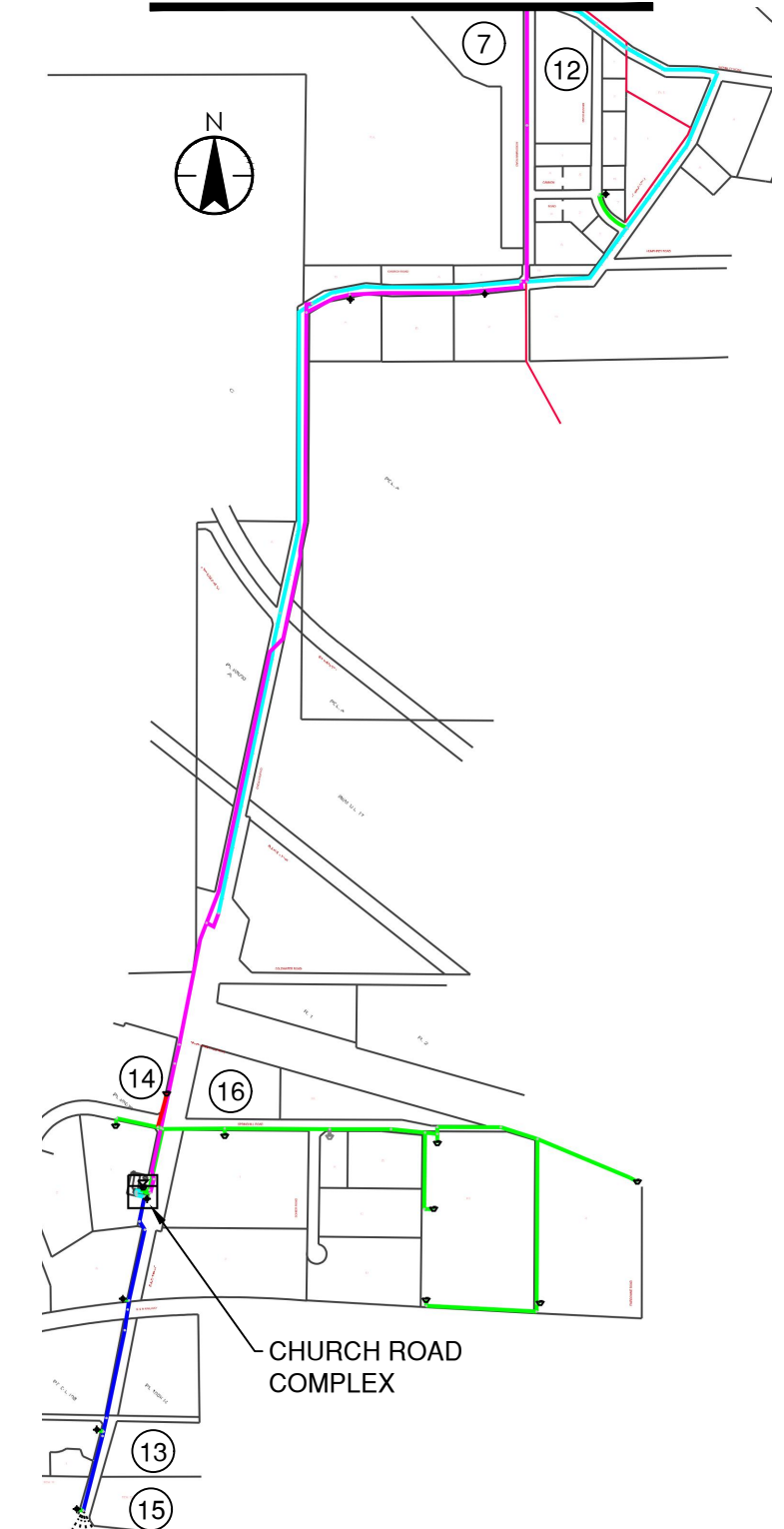


DREW ROAD COMPLEX

MATCH LINE

LOCATION	
①	1025 AND 1035 LEE ROAD
②	COLUMBIA DRIVE / VIKING WAY
③	1055 ISLAND HIGHWAY WEST
④	LOT C, IMPERIAL DRIVE
⑤	LOT A, LEE ROAD (PHASE 1)
⑥	LOT A, LEE ROAD
⑦	LOT G, WEMBLEY ROAD
⑧	846 ISLAND HIGHWAY
⑨	1025 AND 1035 ISLAND HIGHWAY

LOCATION	
⑩	1236 ISLAND HIGHWAY WEST
⑪	1266 ISLAND HIGHWAY WEST
⑫	399 MANSE ROAD
⑬	PINE TREE AND CENTRAL BUILDERS
⑭	LOT D, SPRINGHILL ROAD COMMERCIAL
⑮	VALLEY ROAD
⑯	CHURCH ROAD COMMERCIAL
⑰	SHAVER



CHURCH ROAD COMPLEX

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DEVELOPMENTS
 (2023) Page 40

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FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

5.8 RECOMMENDED PROJECTS AND CONCEPTUAL OPINION OF PROBABLE COST (2023)

Given each analysis above we provide the following list of improvements and conceptual cost. For the listed items unrelated to the recommended serviceability upgrades, these were developed in conjunction with EPCOR for known required projects.

The final column within the opinion of probable cost labeled “Breakout” is intended to provide EPCOR with an understanding of how the improvement could be paid by either a developer or if the improvement is rate based.

How each payee is determined is based on if the improvement corrects an existing deficient condition or is required to facilitate a development. If the improvement is a combination of new development and rate based funding, we have provided our recommendation accordingly.

French Creek Water System 2021 - 2023 Opinion of Probable Cost
Items Not Included in Cost Estimate
<ol style="list-style-type: none"> 1. Engineering design and further assessments 2. Geotechnical investigations 3. Environmental Impact studies and mitigation 4. Archeological encounters and mitigation 5. Owners Administration 6. Topographic Surveys
General Notes
<ol style="list-style-type: none"> 1. Pipe lengths are estimated between pump and connection point 2. Opinion of probable costs are based on preliminary information only and conceptual evaluations and are subject to wide variation in quantity and cost 3. Costs are in 2020 Dollars
Limits of Commission:
Whereas any opinions of probable cost prepared by Stantec Consulting Ltd. ("the Engineer") will be based on incomplete or preliminary information, and will also be based on factors over which the Engineer has no control, the Engineer does not guarantee the accuracy of these opinions of probable cost and shall have no liability where the probable costs are exceeded.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

French Creek Water System 2021 - 2023 Opinion of Probable Cost					
Description	Units	Quantity	Rate (\$)	Amount (\$)	Breakout ¹
Projects Established with EPCOR					
Meter Replacement Program (Approximately 200 from 2021 - 2023)	Lump Sum	1	50,000	50,000	RB = 100%
Well Rehabilitated (1 well per year)	Each	3	20,000	60,000	RB = 100%
Fire Hydrant Installations	Each	6	16,000	96,000	RB = 100%
Billing Software Upgrades	Lump Sum	1	75,000	75,000	RB = 100%
Decommission / Demolish the French Creek Pump House	Lump Sum	1	25,000	25,000	RB = 100%
Groundwater/ System Capacity Study (update the groundwater data and the FC system capacity)	Lump Sum	1	50,000	50,000	RB = 50% ² D = 50%
Church Road Complex: Radio modem upgrade work on Church Road wells	Lump Sum	1	25,000	25,000	RB = 100%
Church Road Main Twinning under Island Highway Study	Lump Sum	1	30,000	30,000	RB = 50% ³ D = 50%
Drew Road Complex: Reservoir Study (scoping/ design study on capacity and seismic stability study)	Lump Sum	1	50,000	50,000	RB = 100%
Drew Road Complex: Flow Meter (replace existing paddle meter with mag meter)	Lump Sum	1	25,000	25,000	RB = 100%
Bulk Water Line Connection to the RDN	Lump Sum	1	300,000	300,000	D = 100%
Projects Established as a Result of our Analysis to Improve Serviceability					
Booster Pump on Church Road	Lump Sum	1	400,000	400,000	RB = 75% ⁴ D = 25%
Sub-Total				1,234,000	
40% Contingency				493,600	
Total				1,727,600	

- 1 Within the breakout column D = development funded and RB = rate based funded as a percentage.
- 2 The developer could benefit from this study by locating additional potential supply.
- 3 The system is known to be deficient in both fire flow and pressure with this improvement eliminating the reduced fire flow. The developer could benefit from this study and project as this would improve fire flow to the main pressure zone which the development could increase density.
- 4 The system is known to be deficient during elevated use domestic demand scenarios. The rate based payer would benefit the most with the increase pressures within their system however a developer could also benefit by opening up new opportunities to develop the surrounding area.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**6.0 TEN YEAR ASSESSMENT (2030)**

The mid-term 10-year assessment goal is to review required improvements to the water system for the established growth potential for domestic flows as summarized in Table 2-2 and improve the fire supply to the various deficient areas determined under the existing system analysis.

Such items as new hydrants and metering programs are considered complete with any new distribution piping or new services to be constructed to MMCD design standards.

Additional items unrelated to recommended upgrades for increasing pressure and supply, we developed this list with input from EPCOR.

6.1 FIRE FLOW (2030)

In order to upgrade the system to meet MMCD specified fire flow and minimum pressure requirements to the Multi-family and Commercial deficient areas noted in Section 4.4, we propose twinning the Church Road transmission main and include a series of pipe loops or specific pipe diameter increases. These suggested improvements are as follows and shown schematically in the following figure:

Item	Type	Proposed Diameter (mm)	Description	Length (m)
1	Upgrade 100mm Watermain	200	Lundine Lane (Transmission Pipe)	200
2	Upgrade 200mm Watermain	250	Riley Road	410
3	Upgrade 150mm Watermain	200	Ackerman Road Development	60
4	Upgrade 200mm Watermain	250	Old Island Highway	300
5	Install Watermain	400	Church Road Twinning	3580
6	Upgrade 100mm and 150mm Watermain	250	Wembley Road	400

When evaluating the fire flow potential including the upgrades above and using the 2030 MDD we find the Multi-family areas shown in light green requiring 90 L/s and Commercial areas shown in blue requiring 150 L/s is now achievable including meeting minimum pressures. The following two figures provide the suggested upgrades and the resulting fire flow when including the upgrades.

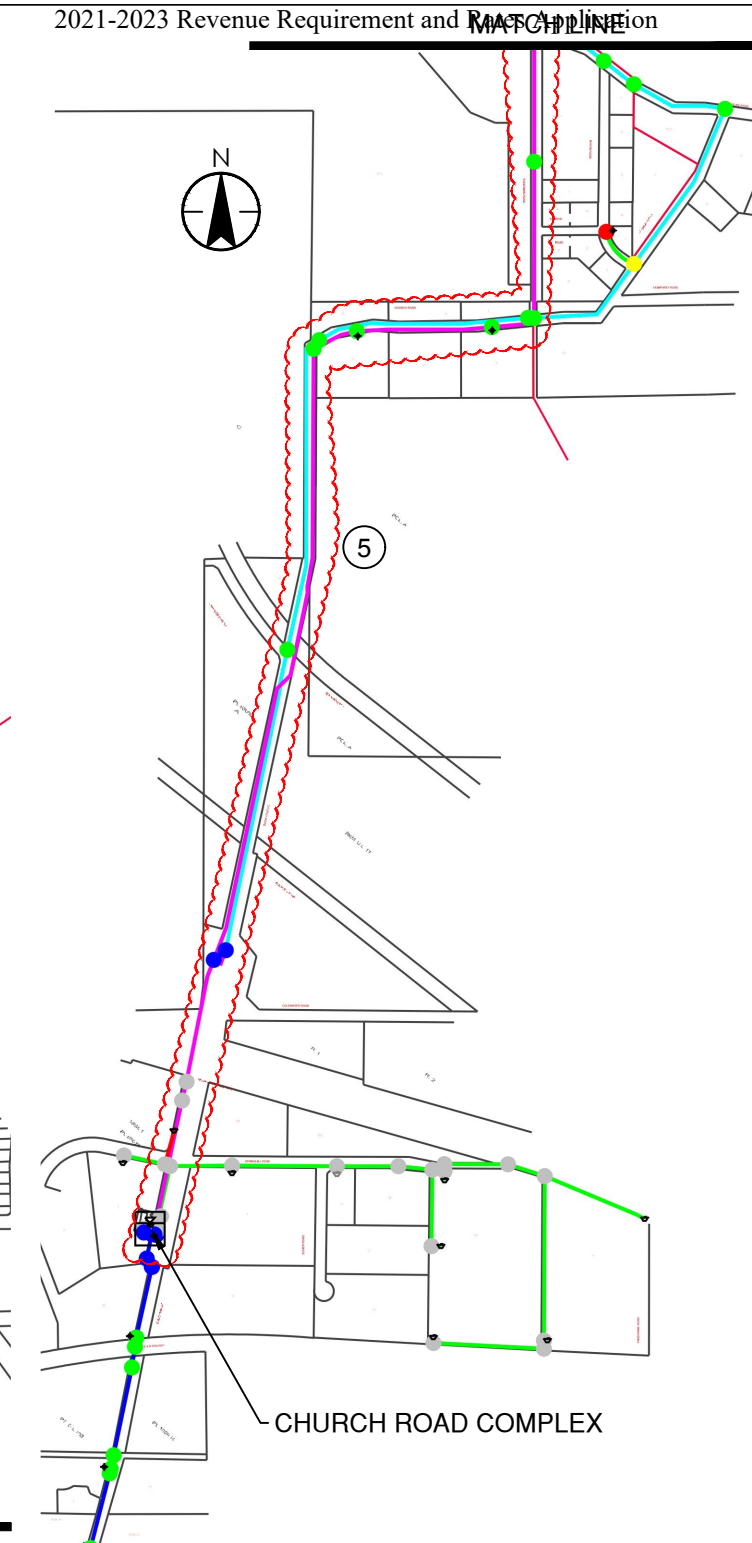
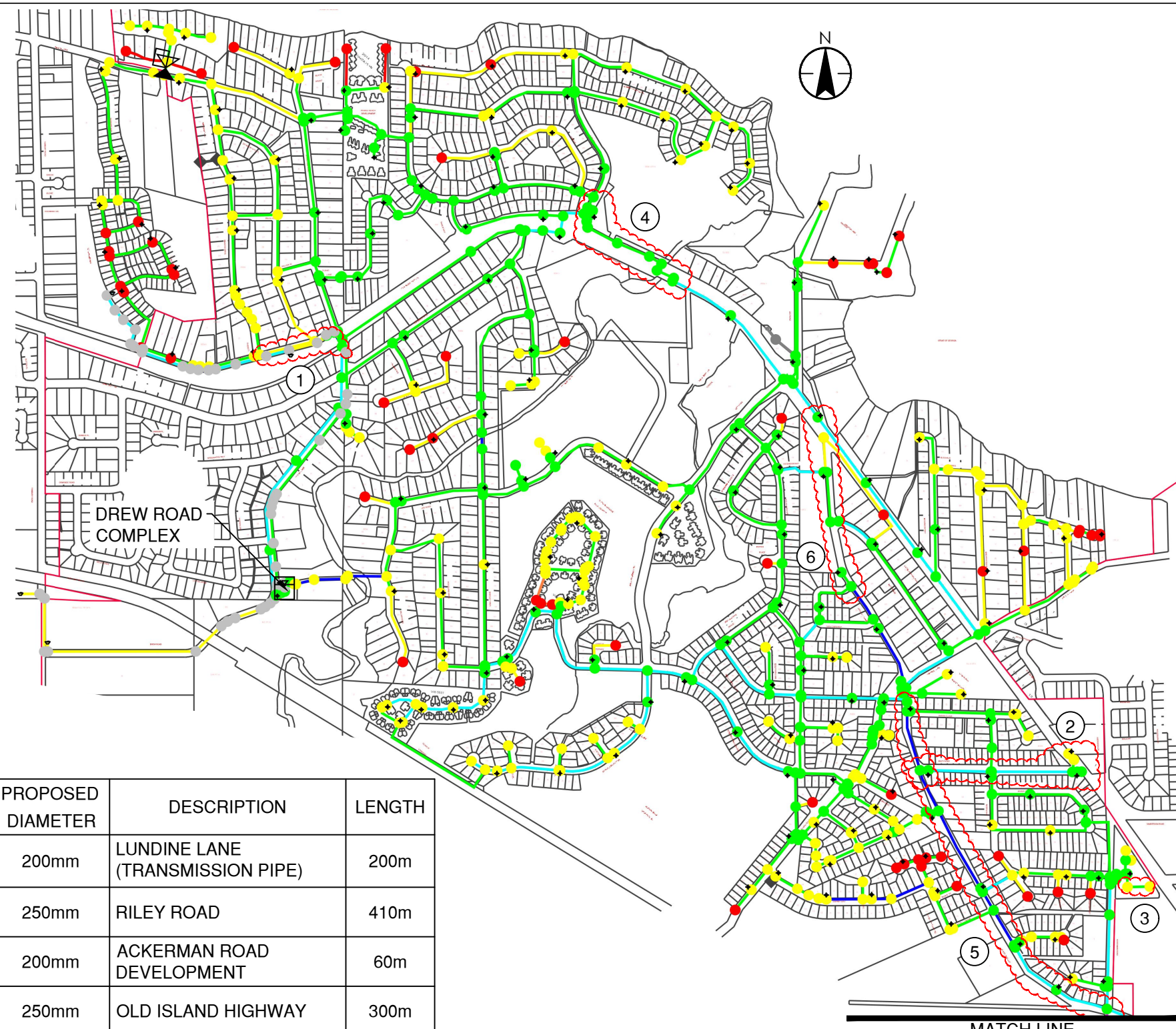
Each of the Single family deficient areas listed in Section 4.4 and Figure 4-2 includes dead ends and undersized piping. For each of these areas it is recommended an upgrade program is established however it is not as important as the system upgrades for the Multi-family and Commercial fire flow demands. Quantification of this upgrade is included as a total quantity of pipe for all 24 locations.

Industrial fire flows of 225 L/s within the Church Road / Springhill Road areas is evaluated within Chapter 7 under the 20-year plan.



WATERMAIN DIAMETER (mm)

- 50Ø
- 75Ø
- 100Ø
- 150Ø
- 200Ø
- 250Ø
- 300Ø



ITEM	TYPE	PROPOSED DIAMETER	DESCRIPTION	LENGTH
①	UPGRADE 100mm WATERMAIN	200mm	LUNDINE LANE (TRANSMISSION PIPE)	200m
②	UPGRADE 200mm WATERMAIN	250mm	RILEY ROAD	410m
③	UPGRADE 150mm WATERMAIN	200mm	ACKERMAN ROAD DEVELOPMENT	60m
④	UPGRADE 200mm WATERMAIN	250mm	OLD ISLAND HIGHWAY	300m
⑤	INSTALL WATERMAIN	400mm	CHURCH ROAD TWINNING	3580m
⑥	UPGRADE 100mm and 150mm WATERMAIN	250mm	WEMBLEY ROAD	400m

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ZONES

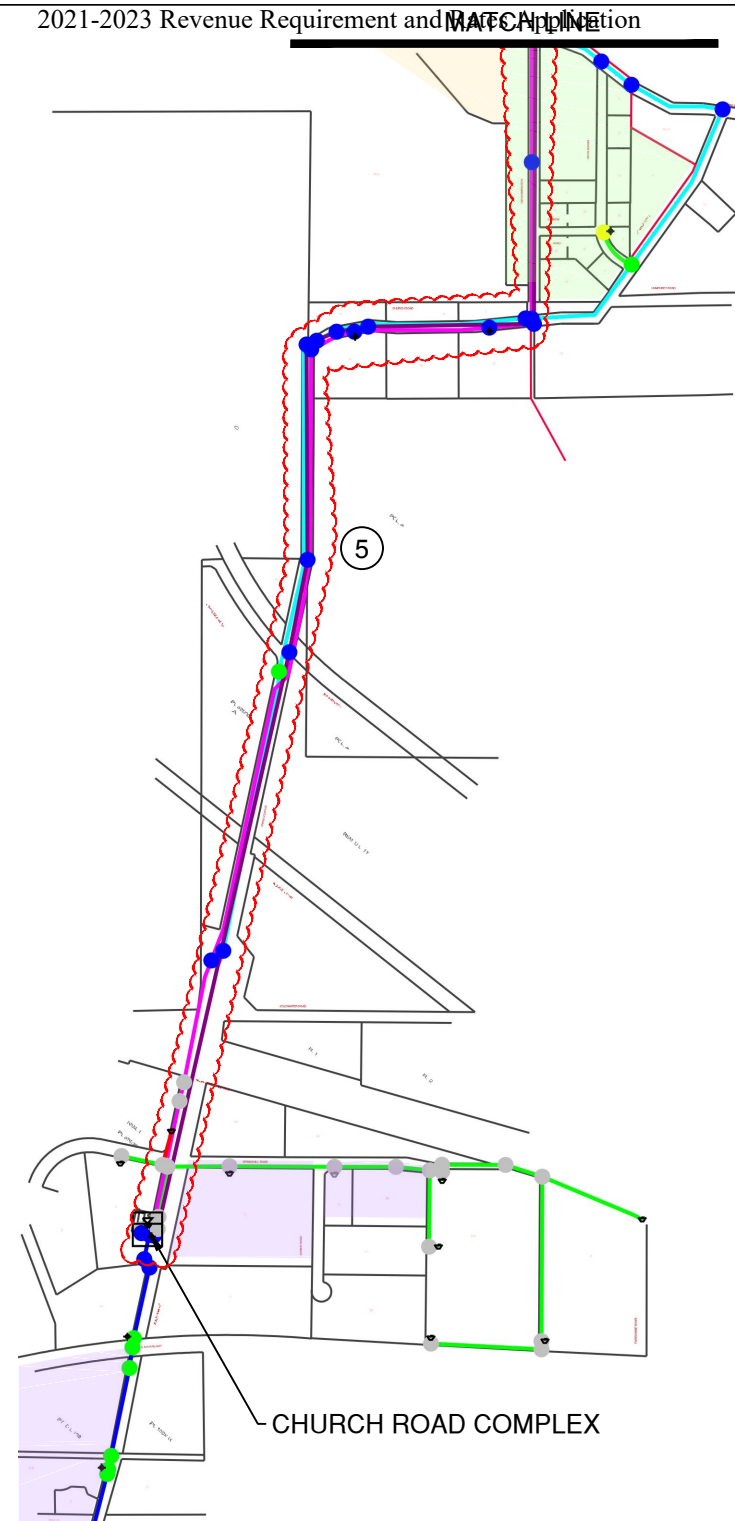
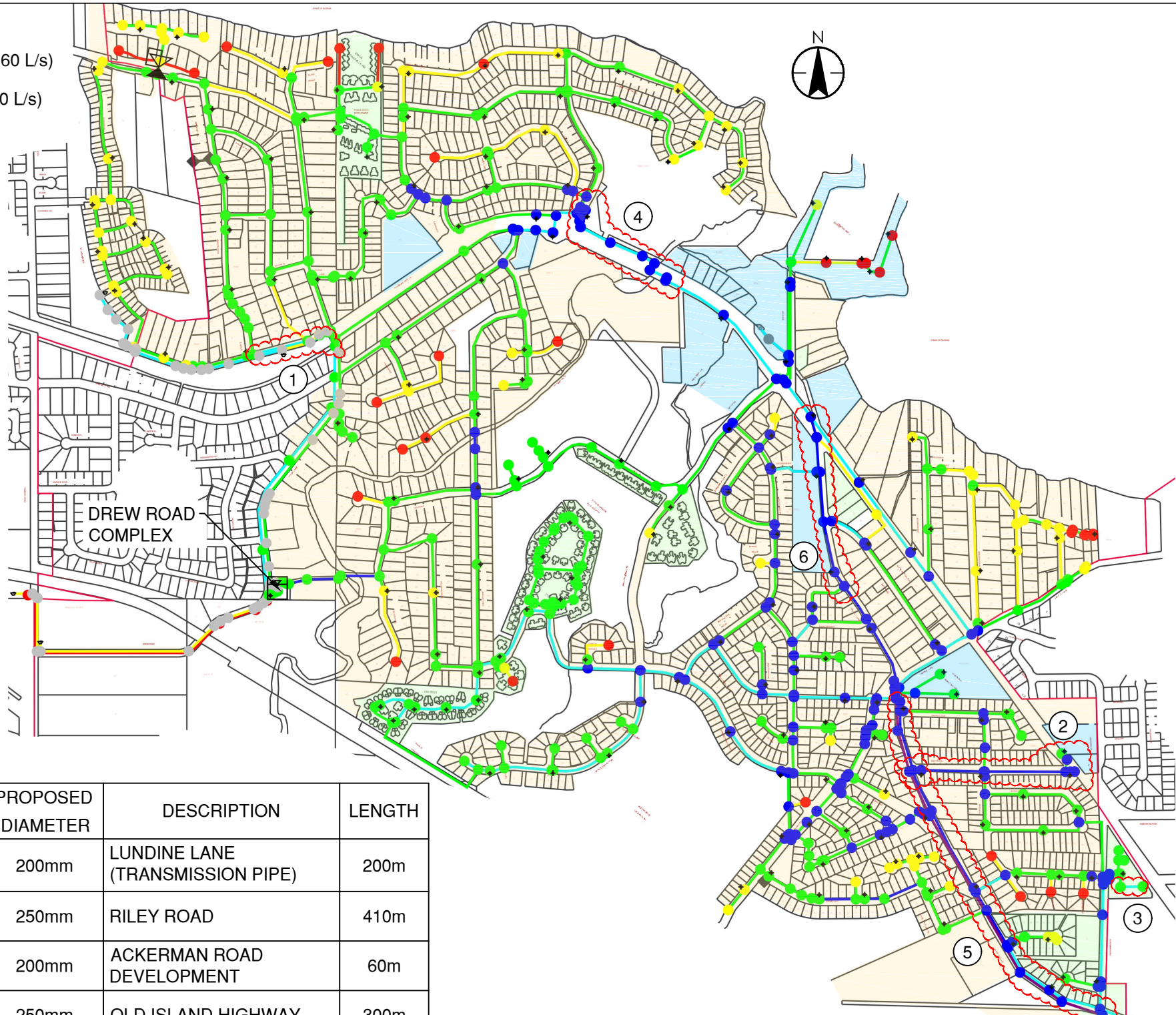
- SINGLE FAMILY RESIDENTIAL (60 L/s)
- MULTI-FAMILY RESIDENTIAL (90 L/s)
- COMMERCIAL (150L/s)
- INDUSTRIAL (225 L/s)

WATERMAIN DIAMETER (mm)

- 500
- 750
- 1000
- 1500
- 2000
- 2500
- 3000

FIRE FLOW AVAILABLE (L/S)

- <60
- 60 - 89
- 90 - 149
- 150 - 224
- > 225



ITEM	TYPE	PROPOSED DIAMETER	DESCRIPTION	LENGTH
①	UPGRADE 100mm WATERMAIN	200mm	LUNDINE LANE (TRANSMISSION PIPE)	200m
②	UPGRADE 200mm WATERMAIN	250mm	RILEY ROAD	410m
③	UPGRADE 150mm WATERMAIN	200mm	ACKERMAN ROAD DEVELOPMENT	60m
④	UPGRADE 200mm WATERMAIN	250mm	OLD ISLAND HIGHWAY	300m
⑤	INSTALL WATERMAIN	400mm	CHURCH ROAD TWINNING	3580m
⑥	UPGRADE 100mm and 150mm WATERMAIN	250mm	WEMBLEY ROAD	400m

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FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

Of the 6 improvements detailed within the figures and the above table, the most beneficial or important upgrades involve upsizing of the transmission main from Church Road reservoir to the core area of the water system. Improvements 5 - Church Road Twinning, 6 – Wembley Road, and 4 – Old Island Highway are interconnected and would prove as the most benefit to the system in transmitting the required fire flow to the deficient areas. The remaining secondary improvements including 1 – Lundine Lane, 2 – Riley Road, and 3 – Ackerman Road would use the supply water from the primary improvements to mitigate that local areas fire serviceability issue.

6.2 DOMESTIC WATER PRESSURE (2030)

When evaluating the minimum pressure for the 10-year design flows for both MDD and PHD scenarios, we find the system is able to provide the specified flow within minimum pressure requirements. The evaluation includes using the suggested Church Road Booster Station quoted in Chapter 5.

Over pressure management continues to be an issue with the suggested improvements provided in the subsequent 20-year plan in Chapter 7.

6.3 STORAGE CAPACITY (2030)

The MDD used in the calculations is referenced from Table 2-2. An assessment of the condition of the existing reservoirs is outside the scope of this report.

Table 6-1 Storage Assessment (2030)

Storage Capacity (2030 - Projected) (For Projected Data Refer to section 2.1 Growth Rate Calculation)			
	Flow (L/s)	Duration (hrs)	Storage Required (m³)
A. Required Fire Flow	150	2.0	= 1080
B. Maximum Daily Demand (Equalization Storage 25% MDD)	46.6	24	= 1007
C. Emergency Storage (Storage 25% of A +B)	-	-	= 522
Total Required Storage (A + B + C)	-	-	= 2608
Available Storage Capacity (2019)			
Church Road Reservoirs	2654 m ³		
Drew Road Reservoirs	1300 m ³		
Total Available Storage	3954 m ³		
Deficiency (Total Available – Total Required)	3954 m ³ – 2608 m ³ = 1346 m³ No Deficiency		

Given our findings above, the system does not need additional capacity to meet the emergency, fire, and balance storage requirement for the 10-year outlook.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

6.4 WELL CAPACITY (2030)

The following table represents the known supply from the wells and the extrapolated 2030 MDD value.

Table 6-2 Groundwater Wells Capacity

Year	MDD	Supply Capacity of Groundwater Wells – MDD = Flow Difference
2030	[46.6 L/s] Projected Consumption (For Projected Data Refer to section 2.1 Growth Rate Calculation)	44.3 – 46.6 = - 2.3 L/s
The following assumptions were made when calculating the well capacity: <ul style="list-style-type: none"> Existing Supply Capacity of Ground Water Wells [44.3 L/s] calculated in section 4.7 Well Capacity MDD demand is derived with the assumption that the demand would increase at the same rate as the population. 		

As noted in section 4.7, the firm capacity of the existing system is balanced with the available well production rates with no available additional flow. The above analysis identifies a shortfall of the additional MDD given the compounded growth rate to 0.9%. Additional system capacity is required in order to support new developments.

6.5 RECOMMENDED PROJECTS AND CONCEPTUAL OPINION OF PROBABLE COST (2030)

Given each analysis above we provide the following list of improvements and conceptual cost. For the listed items unrelated to the recommended fire flow upgrades, these were developed in conjunction with EPCOR for known required projects.

One notable project is the AC watermain replacement program, this scope is mentioned below however a specific list and quantity is required from EPCOR.

French Creek Water System 2030 Opinion of Probable Cost	
Items Not Included in Cost Estimate	
1. Engineering design and further assessments 2. Geotechnical investigations 3. Environmental Impact studies and mitigation 4. Archeological encounters and mitigation 5. Owners Administration 6. Topographic Surveys	
General Notes	
1. Pipe lengths are estimated between pump and connection point 2. Opinion of probable costs are based on preliminary information only and conceptual evaluations and are subject to wide variation in quantity and cost 3. Costs are in 2020 Dollars	



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

Limits of Commission:					
Whereas any opinions of probable cost prepared by Stantec Consulting Ltd. ("the Engineer") will be based on incomplete or preliminary information, and will also be based on factors over which the Engineer has no control, the Engineer does not guarantee the accuracy of these opinions of probable cost and shall have no liability where the probable costs are exceeded.					
Description	Units	Quantity	Rate (\$)	Amount (\$)	Breakout¹
Projects Established with EPCOR					
R8 Well Treatment	Lump Sum	1	250,000	250,000	RB = 100%
Close Auxiliary French Creek Well (Has not been used since 1997 is a liability risk. Removal of pump and old shack and filling in dug well)	Lump Sum	1	25,000	25,000	RB = 100%
Leak detection study	Lump Sum	1	30,000	30,000	RB = 100%
Church Road watermain exposed near Morningstar Creek (pipe bursting)	Lump Sum	1	100,000	100,000	RB = 50% ² D = 50%
System AC watermain replacement program	Meter	TBD			RB = 100%
Projects Established as a Result of our Analysis to Improve Serviceability					
Upgrade 100mm Watermain to 200mm: Lundine Lane	Meter	200	450	90,000	RB = 50% ² D = 50%
Upgrade 150mm Watermain to 200mm: Ackerman Road Development	Meter	60	450	27,000	RB = 50% ² D = 50%
Upgrade 200mm Watermain to 250mm: Old Island Highway	Meter	300	500	150,000	RB = 50% ² D = 50%
Install 400mm Watermain: Church Road Twinning	Meter	3580	700	2,506,000	RB = 50% ² D = 50%
Upgrade 200mm Watermain to 250mm: Riley Road	Meter	410	500	205,000	RB = 50% ² D = 50%
Upgrading 100mm Watermain to 150mm: Single Family Deficient Fire Flow	Meter	2400	400	960,000	RB = 100%
Sub -Total				4,343,000	
40% Contingency				1,737,200	
Total				6,080,200	

1 Within the breakout column D = development funded and RB = rate based funded as a percentage.

2 The rate based user and developer would equally benefit from each of these improvements as this improves a deficient system and also allows for increased density / development.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**7.0 TWENTY YEAR ASSESSMENT (2040)**

The 20-year assessment includes suggested improvements for the remaining deficient serviceability issues and ultimate fire flow for the industrial areas serviced by the Church Road upper pressure zone. Further development of supply wells and capacity are not specifically quantified in each assessment but is a known issue throughout with EPCOR's direct involvement required when exploring new capacity sources.

7.1 FIRE FLOW (2040)

The industrial zones located along Springhill Road and surrounding the Church Road Reservoir will be serviced by the pumped Church Road Reservoir site. The required fire flow stated by MMCD is 225 L/s which exceeds the ability of the existing Church Road diesel driven fire pump. Necessary upgrades would include a new pumping system and transmission main to the requested industrial developed site with a minimum 300mm diameter pipe.

7.2 DOMESTIC WATER PRESSURE (2040)

When evaluating the minimum pressure for the 20-year design flows for both MDD and PHD scenarios, we find the system is able to provide the specified flow within minimum pressure requirements. The evaluation includes using the suggested Church Road Booster Station quoted in Chapter 5.

Over pressure management is suggested within the long term plan, the following figure suggests the green area contain pressure reducing valves to establish a pressure range from 43 psi to 75 psi without the use of single pressure reduction. We recommend two PRV's are installed looping the upper water system to the lower system and closing strategic line valves to establish the pressure boundary.

Benefits of introducing system pressure management include reduced leakage, mitigating stress on pipes and bends, and reducing maintenance costs on older weaker sections of distribution piping.



WATERMAIN DIAMETER (mm)

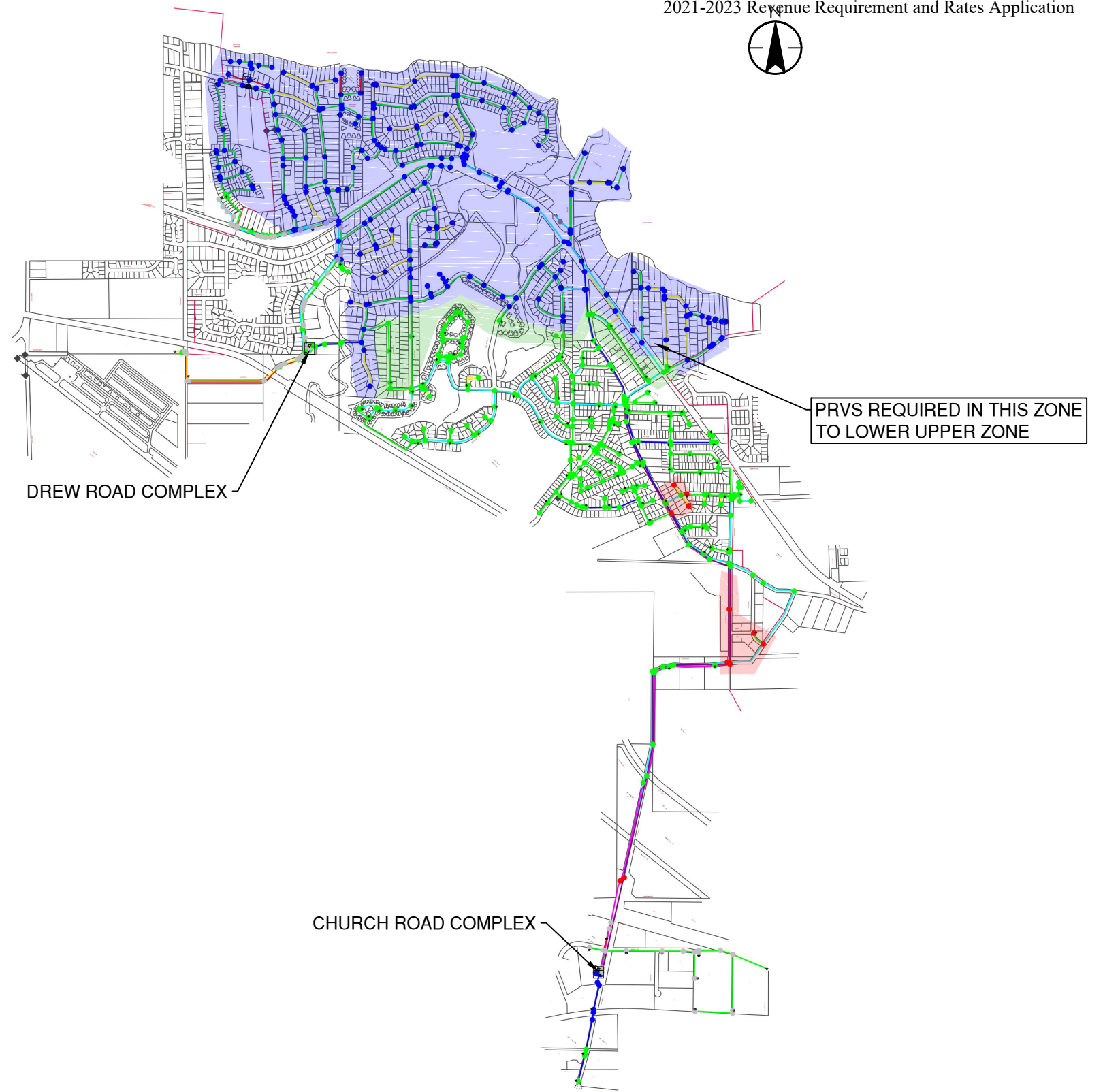
- 50Ø
- 75Ø
- 100Ø
- 150Ø
- 200Ø
- 250Ø
- 300Ø

PEAK HOUR PRESSURE (PSI)

- <43
- 43.1 - 75.0
- 75.1 - 123
- > 123

ZONES

- HIGH PRESSURE AREA (OVER 75 PSI)
- LOW PRESSURE AREA (UNDER 43 PSI)
- PRV REQUIRED ZONE



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FLOW DEMANDED: 76.4 L/S

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Title

**PEAK HOUR DEMAND
 (2040) Page 50**

FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**7.3 STORAGE CAPACITY (2040)****Table 7-1 Storage Assessment (2040)**

Storage Capacity (2040 - Projected) (For Projected Data Refer to section 2.1 Growth Rate Calculation)			
	Flow (L/s)	Duration (hrs)	Storage Required (m³)
A. Required Fire Flow (Industrial Development)	225	2.0	= 1620
B. Maximum Daily Demand (Equalization Storage 25% MDD)	50.5	24	= 1099
C. Emergency Storage (Storage 25% of A +B)	-	-	= 680
Total Required Storage (A + B + C)	-	-	= 3399
Available Storage Capacity (2019)			
Church Road Reservoirs	2654 m ³		
Drew Road Reservoirs	1300 m ³		
Total Available Storage	3954 m ³		
Deficiency (Total Available – Total Required)	3954 m ³ – 3399 m ³ = 555 m ³ Deficient Storage		

Based on the above analysis using 2040 MDD design flows, we recommend the existing Church Road reservoir is upgraded to its ultimate capacity of 1,400 cubic meters of storage.

7.4 WELL CAPACITY (2040)

The following table represents the known supply from the wells and the extrapolated 2040 MDD value.

Table 7-2 Groundwater Wells Capacity

Year	MDD	Supply Capacity of Groundwater Wells – MDD = Flow Difference
2040	[50.9 L/s] Projected Consumption (For Projected Data Refer to section 2.1 Growth Rate Calculation)	44.3 – 50.9 = - 6.6 L/s
<p>The following assumptions were made when calculating the well capacity:</p> <ul style="list-style-type: none"> Existing Supply Capacity of Ground Water Wells [44.3 L/s] calculated in section 4.7 Well Capacity MDD demand is derived with the assumption that the demand would increase at the same rate as the population. 		

The above carries the known capacity issue through to the 2040 outlook. Additional source and capacity exploration are required to accommodate the prescribed 0.9% growth rate.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

7.5 RECOMMENDED PROJECTS AND CONCEPTUAL OPINION OF PROBABLE COST (2040)

We recommend the following long term improvements given our analysis above to meet industrial fire flows, storage, and correct known pressure management deficiencies.

French Creek Water System Long Term 2040 Opinion of Probable Costs
Items Not Included in Cost Estimate
<ol style="list-style-type: none"> 1. Engineering design and further assessments 2. Geotechnical investigations 3. Environmental Impact studies and mitigation 4. Archeological encounters and mitigation 5. Owners Administration Topographic Surveys
General Notes
<ol style="list-style-type: none"> 1. Pipe lengths are estimated between pump and connection point 2. Opinion of probable costs are based on preliminary information only and conceptual evaluations and are subject to wide variation in quantity and cost Costs are in 2020 Dollars
Limits of Commission:
Whereas any opinions of probable cost prepared by Stantec Consulting Ltd. ("the Engineer") will be based on incomplete or preliminary information, and will also be based on factors over which the Engineer has no control, the Engineer does not guarantee the accuracy of these opinions of probable cost and shall have no liability where the probable costs are exceeded.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020

French Creek Water System Long Term 2040 Opinion of Probable Cost					
Description	Units	Quantity	Rate (\$)	Amount (\$)	Breakout¹
Projects Established with EPCOR					
Groundwater Exploration (Exploratory Boreholes). Electrical Resistivity tomography (EMT) to map a portion of the aquifer and drilling boreholes.	Lump Sum	1	149,000	149,000	RB = 50% ² D = 50%
Re-drill wells ³	Each	9	250,000	2,250,000	RB = 50% ² D = 50%
Projects Established as a Result of our Analysis to Improve Serviceability					
Pressure Reducing Valves (Including bypass and isolation valves)	Each	2	400,000	800,000	RB = 100%
Church Road Complex: Reservoir Expansion (adding panels to existing reservoir)	Lump Sum	1	337,500	337,500	D = 100%
Church Road Complex Fire Pump	Lump Sum	1	450,000	450,000	D = 100%
Sub -Total				3,986,500	
40% Contingency				1,594,600	
Total				5,581,100	

- 1 Within the breakout column D = development funded and RB = rate based funded as a percentage.
- 2 The rate based user and developer would equally benefit from exploration of new supply sources given the expiration of existing wells and the introduction of additional supply for development.
- 3 Re-drilling of wells does not include every existing supply well within the system as EPCOR will and continue to focus on well rehabilitation including general maintenance to sustain extraction rates.



FRENCH CREEK WATER SYSTEM MASTER PLAN UPDATE 2020**8.0 REFERENCES**

1. **EPCOR French Creek Water Inc.** *Model Basis Calculations.xls*. 2019.
2. **RDN.** *A Bylaw to Establish the Electoral Area 'G' Official Community Plan. BYLAW No. 1540.*
3. **MMCD.** *Design Guidelines*. 2014.
4. **EPCOR.** *17508SITE.dwg*. French Creek : EPCOR, April 2018. Existing Water System Plan. 175-008.
5. **Stantec.** *French Creek Updated Pinetree Centre Domestic and Central Builders Domestic Water Connection Assessment*. March 14, 2019.
6. —. *Church Road Pump Station New Reservoir - Phase 3*. April 8, 2011.
7. **Ker Wood Leidal Association Ltd.** *French Creek 2014 Master Plan Update*. Burnaby : KWL, December 8, 2014.
8. **Stantec.** *EPCOR French Creek Growth Assessment Study*. October 2011.





EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Hydrant Installation Program		
Project Number	TBD	Project/Program	Program
BU:	French Creek	Capitalization Criteria:	The probable creation or acquisition of a new tangible or intangible item with a useful life greater than one year
Project Initiator:	Lindsay Hall		Compliance with specific environmental or regulatory requirements (externally imposed) and with a useful life greater than one year.
Project Manager:	TBD		
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	1. Regulatory and HSE

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	36,000	34,000	40,000	110,000
External Contribution (\$)	0	0	0	0
TOTAL	36,000	34,000	40,000	110,000

Project Description / Summary:	This program installs hydrants in existing neighbourhoods that do not currently have sufficient hydrant coverage. Hydrant coverage in certain areas does not meet the guidelines from the Master Municipal Construction Document (MMCD) Design Guideline Manual.
Timeline for Project Completion:	Two hydrants will be installed each year from 2021-2023.
Consequences of NOT doing the project:	EPCOR will continue to have deficiencies in hydrant coverage in the French Creek Water service area.
Risk Executive Summary:	HSE risk is typical for this type of construction project and well managed by EPCOR's existing processes and procedures. Minimal regulatory, reputation and financial risk.



EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Meter Replacement Program		
Project Number	TBD	Project/Program	Program
BU:	French Creek	Capitalization Criteria:	The probable creation or acquisition of a new tangible or intangible item with a useful life greater than one year
Project Initiator:	Lindsay Hall		
Project Manager:	TBD		
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	3. Reliability or Life Cycle Replacement

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	30,000	30,000	0	60,000
External Contribution (\$)	0	0	0	0
TOTAL	30,000	30,000	0	60,000

Project Description / Summary:	Meters within the French Creek System require ongoing replacement partially due to the age (over 20 years) of the meters that were part of the system when it was purchased in 2006 and partially due to upgrading (new meters have touch read capability not found in the old meters).
Timeline for Project Completion:	Approximately 200 meters will be installed in 2021 and 2022. After that, the majority of the end of life meters in the French Creek system will have been replaced.
Consequences of NOT doing the project:	End of life meters may not provide accurate reading of water consumption and may be more susceptible to leaking. Without adequate water meters, water usage cannot be accurately determined and billing cannot be accurately completed.
Risk Executive Summary:	HSE risk is typical for this type of construction project and well managed by EPCOR's existing processes and procedures. Minimal regulatory, reputation and financial risk.



EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Well Rehabilitation Program		
Project Number	TBD	Project/Program	Program
BU:	French Creek	Capitalization Criteria:	Extension of the original useful life of an existing asset by more than one year
Project Initiator:	Lindsay Hall		
Project Manager:	TBD		
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	4. Efficiency, profit, or performance improvement

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	19,000	20,000	21,000	60,000
External Contribution (\$)	0	0	0	0
TOTAL	19,000	20,000	21,000	60,000

Project Description / Summary:	Typical rehabilitation includes removal of the pump, video inspection, motor inspection, mechanical cleaning of the casing and screen to remove deposits, and re-development of the screen to remove fines and precipitates trapped behind the screen. General recommendations are to rehabilitate wells every 5-10 years.
Timeline for Project Completion:	This program rehabilitates one well each calendar year.
Consequences of NOT doing the project:	Well capacity will de-grade over time. Lack of routine / scheduled redevelopment may result in permanent losses in capacity and the need for drilling new wells to compensate for lost capacity.
Risk Executive Summary:	HSE risk is typical for this type of construction project and well managed by EPCOR's existing processes and procedures. Minimal regulatory, reputation and financial risk.



EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Billing Software Upgrade		
Project Number	TBD	Project/Program	Project
BU:	French Creek	Capitalization Criteria:	Extension of the original useful life of an existing asset by more than one year
Project Initiator:	Lindsay Hall		
Project Manager:	TBD		
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	3. Reliability or Life Cycle Replacement

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	87,000	0	0	87,000
External Contribution (\$)	0	0	0	0
TOTAL	87,000	0	0	87,000

Project Description / Summary:	Upgrade the billing software to the most recent version, as the version that EPCOR is currently using will no longer be supported at the end of 2020. Purchase and install additional functionality to allow customers to receive electronic bills via email, instead of paper bills through the mail.
Timeline for Project Completion:	This project will be completed before the end of 2021.
Consequences of NOT doing the project:	If the billing software is not supported by the software vendor, EPCOR cannot rely on the vendor for technical support and there is the risk that EPCOR may not be able to process customer bills in a timely manner. If the additional functionality is not added, customer dissatisfaction may increase.
Risk Executive Summary:	Minimal HSE or Regulatory Risk associated with this project. Potential for customer impact / reputation impact or financial impact if project is not executed.



EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Drew Road Complex Flow Meter Upgrade		
Project Number	TBD	Project/Program	Project
BU:	French Creek	Capitalization Criteria:	The probable creation or acquisition of a new tangible or intangible item with a useful life greater than one year
Project Initiator:	Lindsay Hall		
Project Manager:	TBD		
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	3. Reliability or Life Cycle Replacement

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	0	32,000	0	32,000
External Contribution (\$)	0	0	0	0
TOTAL	0	32,000	0	32,000

Project Description / Summary:	The existing flow meter at the Drew Road complex is reaching end of life and is no longer accurate. The replacement of this meter with a new style of flow meter will require piping modifications.
Timeline for Project Completion:	This project will be completed before the end of 2022.
Consequences of NOT doing the project:	Inaccurate measurement of water leaving Drew Road – may be unable to accurately quantify leaks in the system, or determine overall daily water consumption.
Risk Executive Summary:	HSE risk is typical for this type of construction project and well managed by EPCOR's existing processes and procedures. Minimal regulatory, reputation and financial risk.



EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Booster Pump Station		
Project Number	TBD	Project/Program	Project
BU:	French Creek	Capitalization Criteria:	The probable creation or acquisition of a new tangible or intangible item with a useful life greater than one year
Project Initiator:	Lindsay Hall		
Project Manager:	TBD		
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	2. Growth/Customer Requirements

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	0	0	483,000	483,000
External Contribution (\$)	0	0	0	0
TOTAL	0	0	483,000	483,000

Project Description / Summary:	Design and install a booster pump station on the Church Road Reservoir portion of the French Creek Water System to address existing low water pressure issues
Timeline for Project Completion:	This project will be completed before the end of 2023.
Consequences of NOT doing the project:	Customers in this section of the French Creek Water System will continue to experience low water pressure.
Risk Executive Summary:	HSE risk is typical for this type of construction project and well managed by EPCOR's existing processes and procedures. Minimal regulatory, reputation and financial risk.



EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Demo French Creek Pump House		
Project Number	TBD	Project/Program	Project
BU:	French Creek	Capitalization Criteria:	O&M - Not capitalizable by IFRS rules.
Project Initiator:	Lindsay Hall		100% Ratebase Funded
Project Manager:	TBD		
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	1. Regulatory and HSE

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	0	15,000	0	15,000
External Contribution (\$)	0	0	0	0
TOTAL	0	15,000	0	15,000

Project Description / Summary:	Demolish the French Creek pumphouse and associated infrastructure.
Timeline for Project Completion:	This project will be completed before the end of 2022.
Consequences of NOT doing the project:	The French Creek pumphouse may become a safety hazard to EPCOR employees or members of the general public.
Risk Executive Summary:	HSE risk is typical for this type of construction project and well managed by EPCOR's existing processes and procedures. Minimal regulatory, reputation and financial risk.



EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Groundwater Capacity Study		
Project Number	TBD	Project/Program	Project
BU:	French Creek	Capitalization Criteria:	O&M - Not capitalizable by IFRS rules.
Project Initiator:	Lindsay Hall		100% Developer Funded
Project Manager:	TBD		
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	2. Growth/Customer Requirements

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	52,500	0	0	52,500
External Contribution (\$)	0	0	0	0
TOTAL	52,500	0	0	52,500

Project Description / Summary:	Examine options to increase the capacity of the French Creek System. Options including potential gains from rehabilitation or redrilling of existing wells, and drilling new wells in a different aquifer will be examined.
Timeline for Project Completion:	This project will be completed before the end of 2021.
Consequences of NOT doing the project:	The EPCOR system currently has slightly more supply capacity than customers require. If the groundwater capacity study is delayed, EPCOR may not be able to connect new customers / developments to the system in a timely manner.
Risk Executive Summary:	Minimal HSE or Regulatory Risk associated with this project. Potential for customer impact / reputation impact or financial impact if project is not executed.



EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Church Road Twinning Study		
Project Number	TBD	Project/Program	Project
BU:	French Creek	Capitalization Criteria:	O&M - Not capitalizable by IFRS rules.
Project Initiator:	Lindsay Hall		50% rate base funded
Project Manager:	TBD		50% developer funded
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	3. Reliability or Life Cycle Replacement

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	31,500	0	0	31,500
External Contribution (\$)	0	0	0	0
TOTAL	31,500	0	0	31,500

Project Description / Summary:	Examine the options and costs for running an additional water main under the Island Highway along Church Road. This additional water main will provide redundancy of supply and provide increased reliability for existing customers. The study will look at sizing the line to allow for full build out of planned developments in the area served by the Church Road Reservoirs.
Timeline for Project Completion:	This project will be completed before the end of 2022.
Consequences of NOT doing the project:	If the water main that runs under Island Highway along Church Road fails, EPCOR has no way to get water from the Church Road Reservoir to customers on the other side of Church Road.
Risk Executive Summary:	Minimal HSE or Regulatory Risk associated with this project. Potential for customer impact / reputation impact or financial impact if project is not executed.



EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Drew Road Reservoir Study		
Project Number	TBD	Project/Program	Project
BU:	French Creek	Capitalization Criteria:	O&M - Not capitalizable by IFRS rules.
Project Initiator:	Lindsay Hall		100% rate base funded
Project Manager:	TBD		
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	1. Regulatory and HSE

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	0	52,000	0	52,000
External Contribution (\$)	0	0	0	0
TOTAL	0	52,000	0	52,000

Project Description / Summary:	Inspect the Drew Road Reservoirs for seismic stability. If there are concerns with their condition, develop a plan to make the reservoirs seismically sound
Timeline for Project Completion:	This project will be completed before the end of 2022.
Consequences of NOT doing the project:	Unknown risk associated with the Drew Road Reservoirs in the event of a seismic event.
Risk Executive Summary:	Minimal HSE or Regulatory Risk associated with this project. Potential for customer impact / reputation impact or financial impact if project is not executed.



EPCOR - Capital Project Justification Sheet (CPJS)

Project Name:	French Creek Bulk Water Connection to RDN		
Project Number	TBD	Project/Program	Project
BU:	French Creek	Capitalization Criteria:	The probable creation or acquisition of a new tangible or intangible item with a useful life greater than one year
Project Initiator:	Lindsay Hall		100% Developer Funded
Project Manager:	TBD		
Project Sponsor:	Kevin Visser		
Filing Category:	2021-2023 RRA	Project Categories	2. Growth/Customer Requirements

FUNDING BY YEAR				
	2021	2022	2023	TOTAL
Capital Expenditure (\$)	349,000	0	0	349,000
External Contribution (\$)	0	0	0	0
TOTAL	349,000	0	0	349,000

Project Description / Summary:	Enter negotiations with the RDN to look at options that would allow EPCOR to treat water from the Sandpiper system at the Drew Road treatment plant (using the existing excess treatment plant capacity). EPCOR would provide treated water to the RDN for Sandpiper and would be able to use any excess treated water for their own customers (for future development)
Timeline for Project Completion:	This project will be completed before the end of 2021, pending negotiations with the RDN.
Consequences of NOT doing the project:	If the work is not completed, EPCOR will need to look at alternative options for increasing the supply capacity of the French Creek system.
Risk Executive Summary:	Minimal HSE or Regulatory Risk associated with this project. Potential for customer impact / reputation impact or financial impact if project is not executed.

SERVICE AGREEMENT

BETWEEN

EPCOR WATER SERVICES INC.

- AND -

EPCOR WATER (WEST) INC.

THIS AGREEMENT made effective as of the 1st day of January, 2021.

BETWEEN:

EPCOR WATER SERVICES INC., a corporation incorporated under the laws of the Province of Alberta (hereinafter referred to as the "**Service Provider**" or "EWSI")

OF THE FIRST PART

- and -

EPCOR WATER (WEST) INC., a corporation incorporated under the laws of the Province of British Columbia (hereinafter referred to as the "**Service Receiver**" or "EWW")

OF THE SECOND PART

WHEREAS the Service Receiver has requested the Service Provider to provide, and the Service Provider is willing to provide or cause others to provide Contract Services to the Service Receiver upon the terms and conditions set forth in this Agreement;

NOW THEREFORE THIS AGREEMENT WITNESSES that in consideration of the premises and of the mutual covenants and agreements contained in this Agreement and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto do hereby covenant and agree as follows:

ARTICLE 1
INTERPRETATION

1.1 **Definitions**

In this Agreement including the recitals hereto unless otherwise indicated or the context otherwise requires, the following words and expressions shall have the following meanings:

"**Affiliate**" in relation to any Person shall mean any other Person directly or indirectly controlling, controlled by or under direct or indirect common control with, such Person and, for the purpose of this definition, a Person shall be deemed to control another Person if such Person possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of such other Person, whether through the ownership of voting securities, by contract or otherwise;

"**Business**" means the water utility business carried on by the Service Receiver;

"**Business Day**" shall mean any day except a Saturday, Sunday or statutory holiday in the Province of British Columbia and/or in the Province of Alberta;

"**Canadian Prime Rate**" shall mean the rate of interest expressed as a rate per annum which the Royal Bank of Canada establishes from time to time at its main office in Edmonton, Alberta as its posted prime rate;

"**Contract Services**" means, collectively, the services more particularly described in Schedule "A";

"**Effective Date**" means January 1, 2021;

"**EUI**" means EPCOR Utilities Inc., an Affiliate of the Service Provider;

"**Information**" shall have the meaning ascribed thereto in Section 6.1;

"**Person**" shall mean an individual, corporation, partnership, joint venture, association, trust or unincorporated organization.

1.2 Number and Gender

Words used herein importing the singular number only shall include the plural and vice versa and words importing the use of any gender shall include all genders.

1.3 References

References to the words "Article" and "Section" herein shall, unless the contrary be expressly stated, refer to an Article or Section of this Agreement, and references to "hereof", "herein", "hereby", "hereunder" and "this Agreement" refer to the whole of this Agreement including the Schedules attached hereto.

1.4 Amendments to Agreements and Law

References herein to any agreement or document, shall be deemed to be a reference to such agreement or document as varied, amended, modified, supplemented, or replaced from time to time. Any specific reference herein to any enactment of law shall be deemed to be such enactment as the same may be amended or re-enacted from time to time and every statute that may be substituted therefor and, in any such event reference to such enactment shall be read as referring to such enactment as so amended, re-enacted or the statute substituted therefor, as the case may be.

1.5 Headings

The division of this Agreement into Articles, Sections and other subdivisions, the provision of a table of contents and the insertion of headings are for convenience of reference only and are not to be used in construing or interpreting this Agreement or any portion thereof.

1.6 Governing Law

This Agreement shall be governed by and interpreted in accordance with the laws of the Province of Alberta and the federal laws of Canada applicable therein.

1.7 Severability

Each provision of this Agreement is intended to be severable and, if any provision is determined by a court of competent jurisdiction to be illegal or invalid or unenforceable for any reason whatsoever, such provision shall be severed from this Agreement and will not affect the legality or validity or enforceability of the remainder of this Agreement or any other provision hereof.

1.8 Next Business Day

In the event that any date on which any action is required to be taken hereunder by any of the parties hereto is not a Business Day, such action shall be required to be taken on the next succeeding day which is a Business Day.

1.9 Entire Agreement

This Agreement including the annexed Schedules constitutes the entire agreement among the parties relating to the matters set forth herein and in the Schedules and shall supersede and cancel any and all pre-existing agreements and understandings among the parties relating thereto and any and all prior contemporaneous negotiations, prior memoranda of understanding or position, and preliminary drafts and prior versions of this Agreement or the Schedules, whether signed or unsigned, shall not be used to construe the terms or affect the validity or interpretation of this Agreement or the Schedules.

1.10 Schedules

The following Schedules are attached to and form part of this Agreement:

Schedule "A" – Contract Services

Schedule "B" – Basis of Payment for Contract Services

ARTICLE 2 **CONTRACT SERVICES**

2.1 Contract Services

Commencing on the Effective Date, the Service Provider shall provide, or cause an Affiliate or Affiliates of the Service Receiver to provide, the Contract Services more particularly described in Schedule "A" in accordance with this Agreement and the directions of the Service Receiver.

2.2 Warranty

The Service Provider represents and warrants that it is capable of providing, or causing an Affiliate or Affiliates of the Service Provider to provide, as the case may be, the Contract Services as required by this Agreement. The Service Provider further represents and warrants that the Contract Services provided by the Service Provider or by an Affiliate of the Service Provider pursuant to this Agreement will be performed with reasonable skill, care, and diligence and in accordance with generally accepted, good utility operating standards and practices.

ARTICLE 3 **PAYMENT**

3.1 Compensation

As full consideration for performance of the Contract Services whether by the Service Provider or an Affiliate or Affiliates of the Service Provider, the Service Receiver shall pay the Service Provider the compensation provided in Schedule B at the times and in the manner provided in Section 3.2. The Service Receiver shall have no obligation to pay any part of the compensation to any Affiliate of the Service Provider that may provide any of the Contract Services and the Service Provider shall instead be solely responsible for any such payments.

3.2 Invoicing and Payment

The Service Provider shall invoice the Service Receiver for the amount payable by the Service Receiver on account of the Contract Services for each month no later than the fifteenth (15th) calendar day of the following month or, in the alternative, shall direct charge the appropriate account as provided by the Service Receiver. Each invoice is payable within ten (10) days of the date on the invoice.

3.3 Method of Payment

Each invoice shall be paid in full in Canadian funds by account entry in the books of account of the Service Provider or by cheque or wire transfer to the Service Provider's account at such bank as the Service Provider may stipulate by notice to the Service Receiver from time to time. Direct charges shall be handled in accordance with the Service Receiver's standard accounting policies and practices.

3.4 Invoice or Charge Errors

If an error is found in any invoice or record of direct charge, the party identifying the error shall immediately advise the other party. Any adjustment necessary to correct such error shall be made in the following month's invoice or, in the case of an error in a direct charge, in accordance with the Service Receiver's standard accounting policies and practices.

3.5 Records

The Service Provider shall maintain complete and accurate books, records, and accounts of, and supporting documents for, all work performed and items billed for Contract Services. The Service Provider shall ensure that the books, records, accounts, and documents are not destroyed without the Service Receiver's written authorization for a period of seven (7) years after the termination or expiration of this Agreement.

The Service Provider shall, on demand, make available to the Service Receiver or its respective duly authorized representatives for inspection, reproduction, audit or any other reasonable purposes, every such book, record, account, and document.

3.6 Invoice or Charge Disputes

In the event that the Service Receiver disputes in good faith any part of a monthly invoice or direct charge, such dispute shall be resolved, in accordance with the provisions of Article 8. The Service Receiver shall nevertheless pay to the Service Provider the full amount of the invoice within the time limited by this Article 3. The Service Provider shall pay to the Service Receiver any adjustment which may finally be determined to be due to the Service Receiver on the resolution of the dispute plus interest at the rate of two percent (2%) per annum above the Canadian Prime Rate within fifteen (15) days of the date of such final determination.

ARTICLE 4 LIMITATION OF LIABILITY, ETC.

4.2 Limitation of Liability for Consequential Damages

Notwithstanding anything to the contrary contained in this Agreement, neither party will be liable to the other party for any damage, cost, expense, injury loss or other liability of an indirect, special or consequential nature suffered by the other party or claimed by any third party against the other party which arises due to such party's

failure to perform its obligations under this Agreement or for any other reason (including negligence on its part or on the part of any person for whose acts it is responsible), howsoever and whensoever caused, and whether arising in contract, negligence or other tort liability, strict liability or otherwise; and without limiting the generality of the foregoing, damage, injury or loss of an indirect or consequential nature shall include loss of revenue, loss of profits, loss of production, loss of earnings, loss of contract, cost of purchased or replacement capacity and energy, cost of capital and loss of the use of any facilities or property owned, operated, leased or used by the other party.

ARTICLE 5 **TERM**

This Agreement shall commence on the date hereof and shall continue in full force until December 31, 2023.

ARTICLE 6 **CONFIDENTIALITY**

6.2 Confidentiality

Subject to Section 6.2, each party shall keep confidential and shall not:

- (a) use, except for the purpose of performing its obligations or exercising its rights under this Agreement; or
- (b) disclose, except as contemplated or permitted in this Agreement;

any confidential information, trade secret or confidential financial, technical, scientific, business or other confidential or proprietary information or document of the other party or its Affiliates received by it or any of its Affiliates in the course of, or as a result of, the relationship established between the parties pursuant to this Agreement (herein referred to collectively as the "**Information**").

6.3 Exceptions

A party shall be entitled to disclose any Information to the extent:

- (a) such Information is or becomes generally known to the public other than through a breach of this Agreement or any other obligation of confidentiality between the parties;
- (b) such Information is lawfully obtained by that party from a third party or parties without breach of this Agreement or any other obligation of confidentiality between the parties, as shown by documentation sufficient to establish the third party as the source of such Information and to the knowledge of the disclosing party, without such disclosure constituting a breach by such third party or parties of an obligation of confidentiality;
- (c) such Information is comprised of technical Information and was known to the disclosing party prior to receipt thereof from the other party, as shown by documentation sufficient to establish such knowledge;
- (d) such disclosure is required in connection with any regulatory, legal or administrative proceeding; provided that where circumstances permit prior to disclosure, the disclosing party shall notify the other party in writing of such proposed disclosure and at the other party's

request (and expense) apply for appropriate court or other orders to preserve the confidentiality of such Information;

- (e) that such disclosure is required by law or by order of any governmental body having competent authority; provided that where the circumstances permit prior to disclosure (other than any disclosure required by applicable securities laws) the disclosing party shall notify the other party in writing of any such proposed disclosure and shall at the other party's request (and expense) apply for appropriate court or other orders to preserve the confidentiality of such Information;
- (f) the other party shall have provided its prior written approval for such disclosure by the disclosing party.

ARTICLE 7

FORCE MAJEURE

7.1 Relief from Obligations

Subject to Section 7.3, if, by reason of Force Majeure either party to this Agreement is unable, wholly or partially, to perform or comply with its covenants and obligations hereunder then the party so affected by Force Majeure shall be relieved of liability and shall suffer no prejudice for failing to perform or comply during the continuance and to the extent of the inability so caused from and after the happening of the event of Force Majeure, provided that the party invoking Force Majeure gives to the other party prompt notice, written or oral (but if oral, promptly confirmed in writing) of such inability and reasonably full particulars of the cause thereof. If notice is not promptly given then the party suffering the Force Majeure shall only be relieved from such performance or compliance from and after the giving of such notice. The party invoking Force Majeure shall use all reasonable efforts to remedy the situation and remove, so far as possible and with reasonable dispatch, the cause of its inability to perform or comply, provided, however, that settlement of strikes, lockouts and other industrial disturbances shall be wholly within the discretion of the party involved. The party invoking Force Majeure shall give prompt notice of the cessation of the event of Force Majeure. Nothing in this section shall relieve a party of its obligations to make payments when due hereunder.

7.2 Force Majeure

For the purposes of this Agreement, Force Majeure shall mean any event beyond the reasonable control of the party invoking Force Majeure including therein but without restricting the generality thereof:

- (a) lightning, storms, earthquakes, landslides, floods, tsunamis, washouts, and other Acts of God;
- (b) fires, explosions, ruptures, breakage of or accidents to pipeline, plant, machinery, equipment or storage facility;
- (c) strikes, lockouts, or other labour disturbances;
- (d) civil disturbances, sabotage, war, blockades, insurrections, vandalism, riots, epidemics;
- (e) arrests and restraints by governments or governmental agencies;
- (f) the order of any court;

- (h) inability to obtain or curtailment of supplies of feedstocks or of electric power, water, fuel or other necessary utilities or services to operate any facilities or of any materials or equipment; or
- (i) inability to obtain or revocation or amendment of any permit, authorization or approval of any governmental authority required to perform or comply with any obligation under this Agreement, unless the revocation or modification of any such necessary permit, authorization or approval was caused by the violation of the terms thereof or consented to by the party holding the same.

7.3 Exclusions From Relief

No party shall be entitled to the benefits of the provisions of this Article 7 under any of the following circumstances:

- (a) if the failure to perform or comply with any of the covenants or obligations herein imposed upon it was caused by arrest or restraint by governments or governmental agencies or the order of any court and such arrest, restraint or order was the result of a breach by the party claiming suspension of the term of a permit, license, certificate or other authorization granted by a governmental or regulatory body having jurisdiction or of any applicable laws, regulations or orders;
- (b) if the failure to perform or comply with any of the covenants or obligations herein imposed upon it was caused by the party invoking Force Majeure having failed to use all reasonable efforts to remedy the situation and remove, so far as possible and with reasonable dispatch, the cause of its inability to perform or comply with such covenants or obligations; or
- (c) if the failure to perform or comply with any of the covenants or obligations herein imposed upon it was caused by lack of funds or other financial cause for whatever reason.

ARTICLE 8 DISPUTE RESOLUTION

8.1 Dispute Resolution

Any matter in dispute under or relating to this Agreement unless settled in the manner provided by Section 8.2 shall be finally resolved by binding arbitration in the manner provided in Article 8.

8.2 Informal Dispute Resolution

The parties wish to foster a mutually beneficial relationship under this Agreement and to encourage an informal mechanism for the resolution of disputes. Either party may at any time notify the other party of an intention to discuss or dispute any matter connected with this Agreement. Within fifteen (15) days of receiving such notification, the parties shall each appoint a representative knowledgeable on the topic at issue and such representatives shall meet within the following thirty (30) days in an attempt to settle the matter at issue. If the representatives of the parties are unable to resolve the matter at issue within thirty (30) days of their first meeting, then the parties shall each appoint a senior officer knowledgeable on the topic at issue and such senior officers shall meet within fifteen (15) days in an attempt to resolve the matter at issue. If the senior officers of

the parties are unable to resolve the matter at issue within a further thirty (30) day period following their first meeting, or if either party fails to appoint a representative or senior officer or if such representatives or senior officers fail to meet with each other in either case within the time periods specified herein, then either party may refer the matter at issue to binding arbitration in accordance with this Article 8.

8.3 Arbitration

In the event that the parties are unable to resolve a disagreement or dispute pursuant to Section 8.2, either party may serve a notice on the other party of its intention to formally arbitrate stating with reasonable particularity the subject matter of such dispute. Within sixty (60) days of service of such notice the parties shall endeavour to agree upon and appoint a single arbitrator who shall determine the matter. Should the parties be unable to agree upon a single arbitrator within such sixty (60) day period, then either party may at any time thereafter appoint its own arbitrator and may serve notice upon the other party to appoint an arbitrator. Upon receipt of such notice the other party shall have ten (10) days in which to appoint an arbitrator. If either party shall fail to appoint an arbitrator within ten (10) days of receipt of a demand to do so, then upon application by the party that has appointed an arbitrator the second arbitrator shall be appointed by any Justice of the Court of Queen's Bench of Alberta. The two arbitrators thus appointed shall appoint a third arbitrator within ten (10) days of the appointment of the second arbitrator. If the two arbitrators shall fail to appoint the third arbitrator, then upon application by either party such third arbitrator shall be appointed by any Justice of the Court of Queen's Bench of Alberta. The three arbitrators shall constitute a board of arbitrators (herein referred to as the "Board of Arbitrators") which shall determine the matter.

8.4 Qualifications

Each of the parties shall endeavour to select an arbitrator who in its sole discretion is qualified by education and training to pass upon the particular question in dispute and in selecting a third arbitrator the two arbitrators shall also endeavour in their discretion to select a person who is qualified by education and training to pass upon the particular question in dispute.

8.5 Proceedings

The single arbitrator or the Board of Arbitrators so chosen shall proceed immediately to hear and determine the question in dispute. The parties shall use their respective best efforts to cause the decision of the single arbitrator or of the Board of Arbitrators or the majority thereof to be communicated to the parties not later than thirty (30) days after the close of argument in the arbitration, subject to any reasonable delay due to unforeseen circumstances.

8.6 Questions of Law

Every submission to arbitration pursuant to this Article 8 shall contain a provision requiring the arbitrator or Board of Arbitrators, if so requested by either party, to state in the form of a special case for the opinion of the Court of Queen's Bench of Alberta any question of law arising in the course of the reference.

8.7 Final Decision

The decision of the single arbitrator or of the majority of the Board of Arbitrators, as the case may be, shall be drawn up in writing and signed and shall, notwithstanding anything to the contrary contained in the *Arbitration Act* and subject to the specific provisions of and limitations in this Agreement, be final and binding upon the parties hereto and all Persons claiming through or under them as to any question or questions so submitted to arbitration, and the parties shall perform and comply with the terms and conditions thereof. Judgment upon the award rendered the single arbitrator or the majority of the Board of Arbitrators, as the case may be, may be entered in any Court having jurisdiction and thereupon execution or other legal process may issue thereon.

8.8 Costs

Unless otherwise agreed by the parties, each party shall bear the costs it incurs in connection with the arbitration and all other costs of the arbitration shall be borne equally by the parties hereto.

8.9 Arbitration Act

In all respects not provided for elsewhere in this Article 8 the provisions of the *Arbitration Act* shall apply to any arbitration undertaken hereunder.

8.10 Continuing Obligations

The supply and purchase of Contract Services and payment therefor under this Agreement shall continue during the dispute resolution proceedings contemplated by this Article 8.

ARTICLE 9
NOTICE

Any notice, consent, request or other communication to be given in connection with this Agreement shall be in writing and shall be given by:

- (a) personal delivery or registered mail, postage prepaid, to the following address for the recipient; or
- (b) facsimile transmission to the following facsimile number (confirmed by a copy delivered by personal delivery to the following address) for the recipient;

addressed to the recipient as follows:

To Service Provider:

EPCOR Water Services Inc.
EPCOR Tower, 2000 10423-101 Street, NW
Edmonton, Alberta
T5H OE8

Attention: Shawn Bradford
Senior Vice President, Water Canada
Telephone: (780) 412-3761
Facsimile: (780) 969-8249

To Service Receiver:

EPCOR Water (West) Inc.
#10 – D 1343 Alberni Highway, Pine Tree Centre
Parksville, British Columbia
V9P 2B9

Attention: Christian Madsen
Director, Regional Operations
Telephone: (403) 717-8903
Facsimile: (780) 425-7876

or to such other address, facsimile number or individual for notice as may then have been designated by the respective party pursuant to Section 9.2. Any communication given to a party as aforesaid shall be deemed to have been given at the time and upon the date of the receipt at the address of such party.

9.3 Change of Address

Any party may from time to time change its address, facsimile number or individual for notice by a notice given to the other parties in accordance with Section 9.1.

ARTICLE 10
GENERAL

10.1 Time of Essence

Time shall be of the essence of this Agreement and of all of its terms.

10.2 Further Assurance

The parties shall with reasonable diligence perform all acts, execute and deliver all documents and instruments, do all such things and provide all such reasonable assurances as may be necessary or desirable to give effect to the provisions of this Agreement.

10.3 Amendments or Waiver

This Agreement may not be amended except by written instrument signed by all of the parties hereto. No indulgence or forbearance by any party hereunder shall be deemed to constitute a waiver of its rights to insist on performance in full and in a timely manner of all covenants of each of the other parties hereunder and any such waiver, in order to be binding upon a party, must be express and in writing and signed by such party and then such waiver shall be effective only in the specific instance and for the purpose for which it is given. No waiver of any term, condition or covenant by any party shall be deemed to be a waiver by such party of its rights to require full and timely compliance with the same term, condition or covenant thereafter, or with any other term, covenant or condition of this Agreement at any time.

10.4 No Discharge on Termination

Any provision of this Agreement under which an obligation of one party hereto has accrued but has not been discharged shall not be affected by termination of this Agreement, nor shall the party liable to perform be discharged as a result of any such termination, nor shall termination prejudice any right of one party against the other in respect of anything done or omitted hereunder prior to such termination or in respect of any right to damages or other remedies.

10.5 Enurement

This Agreement shall enure to the benefit of and be binding upon the Service Provider and the Service Receiver and their respective successors and permitted assigns.

10.6 Assignment

This Agreement shall be assignable by either party as necessary in connection with any bona fide financings, financing leases, reorganizations and mergers but this Agreement shall not otherwise be assigned by either party without the prior written consent of the other party which consent each of the parties covenants not to unreasonably withhold. Notwithstanding any permitted assignment the assignor shall continue to remain liable for the performance of obligations under this Agreement unless such assignor is released therefrom by instrument in writing signed by the other party.

10.7 Counterparts

This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which when taken together shall constitute one and the same agreement.

[Remainder of Page Intentionally Left Blank, Signature Page Follows]

IN WITNESS WHEREOF this Agreement has been duly executed by the parties hereto under their respective corporate seals attested by the signatures of their respective officers duly authorized in that behalf as of the day and year first above written.


EPCOR WATER SERVICES INC.

Per: 

Shawn Bradford
Senior Vice President, Water Canada

Dated: 7/30/20

EPCOR WATER (WEST) INC.

Per: 

Christian Madsen
Director, Regional Operations

Dated: July 22nd, 2020

SCHEDULE A**CONTRACT SERVICES**

The Contract Services shall consist of the following services:

A1. SERVICES PROVIDED BY AFFILIATES OF THE SERVICE PROVIDER (EUI)**1. Board**

The Board provides services necessary to carry on the Business, including, without limitation, the following services:

- (a) Establishing corporate strategic objectives and direction;
- (b) Maintaining and enforcing articles and corporate bylaws;
- (c) Electing and appointing corporate officers;
- (d) Delegating special authorities to management;
- (e) Reviewing and approving corporate policies;
- (f) Providing direction and oversight to safeguard and maintain the long-term value of corporate assets;
- (g) Reviewing and approving significant financial matters;
- (h) Participation in strategic planning; and
- (i) Monitoring compliance with corporate policies and procedures.

2. Executive and Executive Assistants

Executive and Executive Assistants provide services and support necessary to carry on the Business, including, without limitation, the following services :

- (a) Preparing and implementing overall corporate goals and direction;
- (b) Reviewing and approving operating and capital budgets, and any financing requirements for the Business;
- (c) Developing corporate-level strategy and plans for Board of Directors for approval;
- (d) Carrying out the special authorities delegated by the Board of Directors; and

- (e) Establishing and approving corporate policies and adequate control frameworks, and approve corporate policies.

3. Corporate Finance

All corporate finance services necessary to carry on the Business including, without limitation, the following services:

- (a) Corporate Finance – this category is comprised of the following:
 - i. Consolidated Reporting and Analysis – preparing internal consolidated financial statements and analysis, developing internal controls over financial reporting and managing annual and quarterly budget processes for all of EPCOR;
 - ii. Corporate Accounting – providing accounting support related to regulatory filings, financial transactions, financial budgeting for Shared Service Units and developing and maintaining corporate accounting policies, procedures, and internal controls;
 - iii. Taxation Services – providing tax-related support to EUI, business units and subsidiaries such as preparing and filing tax returns and remittances related to GST, income, linear, business and property taxes; and
 - iv. Audit Fees.
- (b) Accounts payable – processing vendor transactions for payment;
- (c) Management Development Program; and
- (d) Center of Excellence – providing leadership, best practices, research, support and training for the Oracle Financial suite of products as well as the Adaptive budgeting and forecasting tool, standardizing EPCOR processes and procedures across the company, and develop and provide finance specific training and support for the ERP system across the company.

4. Treasury

All treasury services necessary to carry on the Business including, without limitation, the following services:

- (a) Treasurer – Corporate Finance – performing services associated with raising capital to finance business units and other subsidiaries' capital expenditures and working capital;

- (b) Treasury Operations – providing banking and cash management services to EUI business units and subsidiaries; and
- (c) Strategic Planning – developing and refining EUI’s corporate strategy.

5. Audit and Risk Management

The Audit and Risk Management department provides services necessary to carry on the Business, including, without limitation, the following services:

- (a) Internal Audit – Provides assurance and advisory services to independently examine, evaluate and report on the adequacy, effectiveness and efficiency of the internal controls framework across EUI’s operations, facilitating operational risk assessments across EUI, and developing and maintaining an Enterprise Risk Management (“ERM”) framework and risk management process standard for all EUI business units; and
- (b) Risk Management – provides insurance and enterprise risk management services to EWW and other EUI subsidiaries.

6. Human Resources

The Human Resources department provides services necessary to carry on the Business, including, without limitation, in the areas of :

- (a) Total Rewards and Labour Relations – planning, design and administration of EUI’s compensation, pension and savings plans and employee benefits; managing the Human Resources Information System; Payroll processing – managing payroll services; Labour relations – planning and execution of collective bargaining for all of EUI’s unions across the enterprise including EWW, and includes support for managers on the dispute resolution processes;
- (b) Human Resources Consulting– providing recruitment services, succession planning, and advice concerning employee performance management on behalf of corporate departments that support EWW;
- (c) Talent Management – administration and management of learning and professional development programs for all EPCOR employees and support to corporate departments that support EWW in respect to recruitment, succession planning, and training tools; and
- (d) Learning and Development – provide the processes, programs, systems, and structures to ensure that EWW is able to meet its legislated training requirements.

7. Information Services

All information services necessary to carry on the Business including, without limitation, the following:

- (a) Major Capital Projects – planning, architecture and project delivery services for implementation of major applications and installation of major computer hardware devices;
- (b) Application Services – user support services related to shared and business unit specific system applications;
- (c) Infrastructure Operations – managing the operation and maintenance of information technology infrastructure, including IT security planning and services, governance and oversight for policies and procedures such as disaster recovery and pandemic planning; and
- (d) Security – providing continuous threat and risk analysis of all security related threats and vulnerabilities, developing and refining corporate security strategy and managing the administration of security contracts and maintenance of security systems.

8. Supply Chain Management

The Supply Chain Management department provides services necessary to carry on the Business, including, without limitation, in the areas of :

- (a) Mailroom – operating the mailroom function at Edmonton EPCOR locations;
- (b) Disaster Recovery Planning Facilities – operating and maintaining back-up facilities for IT infrastructure;
- (c) Procurement – sourcing goods and services strategically in support of operational and capital activities; developing strategic vendor partnerships, overseeing policy and process, ensuring legislative compliance, and managing the administration of vendor data and contract terms and conditions on behalf of corporate departments that support EWW;
- (d) Real Estate – maintaining and operating EUI facilities; and
- (e) SCM Corporate Services – space rent associated with EPCOR’s Corporate Services departments and business units that are located in EPCOR Tower.

9. Public and Government Affairs

The Public & Government Affairs department provides services necessary to carry on the Business, including, without limitation, in the areas of :

- (a) Corporate Communications – managing external communication, such as corporate profile and reputation management, media relations and online communications for customers and the general public. Also includes the management of issues of corporate interest and impact;
- (b) Government Relations – liaising with various levels of government and providing counsel to EPCOR businesses on the impact of current or contemplated government policies or legislation;
- (c) Community Relations – fostering EPCOR’s reputation and relationship objectives with stakeholders, including development of such items as brand design, school education programs and promotion of public safety awareness.

10. Legal

The Legal Services department provides services necessary to carry on the Business, including, without limitation, in the areas of:

- (a) Legal services – managing and providing advice and support for corporate, business and regulatory affairs;
- (b) Governance oversight – providing advice on corporate governance matters and preparing corporate documentation to ensure compliance with legislation;
- (c) Corporate Secretarial services – providing support for Board, Committee and Shareholder material submissions;
- (d) Compliance – providing administration and oversight in the areas of ethics, privacy, the Code of Conduct Regulation or EUI and its business units and subsidiaries’ activities; and
- (e) Records management – developing, implementing and overseeing internal document retention policies and practices.

11. Health, Safety & Environment Services

All health, safety and environment services necessary to carry on the Business including, without limitation, the following services:

- (a) Maintenance and ongoing implementation of the Integrated Health, Safety and Environment Management System which conforms to ISO 14001 (Environment) and OHSAS 18001 (Health and Safety) requirements and is implemented across all business units within EPCOR; and
- (b) Trend analysis, evaluation, and reporting for the EPCOR group to assist business units in ensuring that regulatory monitoring and reporting requirements are met.

12. Corporate Incentive Compensation

This category includes incentive compensation paid to corporate employees based on individual performance ratings when EUI's overall annual corporate targets are realized.

A2. ASSET USAGE FEES (EUI)

Asset usage fees related to assets owned by EUI that are used in providing corporate Services to EPCOR business units. The categories of assets for which corporate asset usage fees are charged include the following:

- (a) Leasehold Assets;
- (b) Human Resources Information System;
- (c) Information Systems Infrastructure;
- (d) Financial System;
- (e) Furniture and fixtures; and
- (f) Vehicles.

A3. FINANCIAL AND ADMINISTRATIVE SERVICES PROVIDED BY THE SERVICE PROVIDER (EWSI)**1. Operations Management / Senior Vice President group**

All operations management services necessary to carry on the Business including, without limitation, the following functions:

- (a) General management and oversight.
- (b) Operational and business related oversight.

2. Financial Services / Business Unit Controller group

All financial services necessary to carry on the Business including, without limitation, the following functions:

- (a) Financial oversight.
- (b) Administration of the financial reporting services.
- (c) Asset accounting administration.
- (d) Budget administration and development and maintenance of corporate accounting policies and procedures.
- (e) Financial support for regulatory applications.
- (f) Costs associated with maintaining office space in EPCOR Tower.

3. Operational Health and Safety / Business Unit Health, Safety and Environment group

All operational health and safety services necessary to carry on the Business including, without limitation, the following functions:

- (a) Ensuring that existing Health and Safety practices and procedures are well designed and in compliance with legislation and compatible with Service Provider Safety Management Policies.
- (b) Business services including internal loss management, safety and training and related support staff.
- (c) Health, Safety and Environment Audit and Inspections.

- (d) Environmental Issues Management.
- (e) Health, Safety, Environment and Training, Legal Compliance and Reporting.

All safety program services necessary to carry on the Business including, without limitation, the following functions:

- (a) Implement and ensure maintenance of EPCOR based safety program.
- (b) Provide necessary support during incidents and investigative support.
- (c) Access to all safety training.
- (d) Review, track and corrective action of safety performance within the water utility.

4. Information Services / Information Technology Direct Corporate Charges group

All information services necessary to carry on the Business including, without limitation, the following functions:

- (a) Application support.
- (b) Relationship management.
- (c) Licence fees, desktop support and server support.

5. Public & Government Affairs / Business Unit Operations Communications group

All public and government affairs services necessary to carry on the Business including, without limitation, the following functions:

- (a) Stakeholder relations and public consultation services.
- (b) Internal communications (related to business unit matters).
- (c) External communications (includes coordination of business' unit considerations such as public safety notices, performance reports, public addresses and presentations, print collateral, operational issues management, etc.).

6. Technical Training

All technical training services necessary to carry on the Business including, without limitation, the following functions:

- (a) Design, development and delivery of technical training to operations staff and

monitoring their compliance with regulatory requirements to maintain continuous and current health, safety and technical training.

7. Human Resources / Business Unit Human Resources group

All human resources functions necessary to carry on the Business including, without limitation, the following function:

- (a) Human resources management.
- (b) Abilities management.
- (c) Recruiting.

8. Regulatory and Operational Excellence

All regulatory affairs services necessary to carry on the Business including, without limitation, the following services:

- (a) Monitor and coordinate responses to regulatory and policy activities or initiatives within various government ministries, departments and/or agencies which may affect the Business.
- (b) Manage regulatory interfaces with government, regulatory and market agencies, and other industry participants.
- (c) Manage and co-ordinate tariff and facility applications with business units.

All business process management services necessary to carry on the Business including, without limitation, the following services:

- (d) Reviewing and managing current business processes.
- (e) Implementing new business processes.

9. Supply Chain Management / Business Unit Supply Chain Management group

All supply chain management services necessary to carry on the Business including, without limitation, the following services:

- (a) Administration of procurement services. Including but not limited to competitive bidding, PO creation, issuing requests for quotations and requests for proposals, contract administration, and Supplier Relationship management.

- (b) Setting and managing standards of products and services.
- (c) Setting terms of payment.
- (d) Administration of the Warehousing and Materials Management services.
- (e) Inventory Management and Item Administration.

10. Shared Services Incentive

The above services include an at-risk element related to incentive programs. The program itself is not a separate service, but the costs of any incentives are tracked separately.

A4. MANAGEMENT AND TECHNICAL SERVICES PROVIDED BY THE SERVICE PROVIDER (EWSI)

1. Capital Planning and Management

All capital planning and management services necessary to carry on the Business including, without limitation, the following functions:

- (a) Provide support for long term utility capital planning program annually and provide conceptual assessment, cost estimates/budgeting, project justification, regulatory support and management of capital plan implementation.

2. Operational Planning and Management

All operational planning and management services necessary to carry on the Business including, without limitation, the following functions:

- (a) Development and maintenance of operations procedures, maintenance protocols, emergency and disaster recovery plans.
- (b) Access to computer based water operations and maintenance management
- (c) Access to specialized technical expertise and intellectual property related to water utility operations including water quality, , daily, monthly reporting, etc.
- (d) Support review of emerging drinking water and environmental standards and implications related to local utilities.
- (e) Support for water source protection initiatives including aquifer management and stakeholder interface and liaison.

3. Operational Audits and Due Diligence

All operational audits and due diligence services necessary to carry on the Business including, without limitation, the following functions:

- (a) Introduce specific operational performance measures and tracking system.
- (b) Regular water quality audits and Quality Assurance and Quality Control due diligence.
- (c) Asset reviews and checks.
- (d) Ensure implementation of all water operations programs and procedures.
- (e) Review of monthly and annual reports and tracking of specific outcome measures.

SCHEDULE B**BASIS OF PAYMENT FOR CONTRACT SERVICES****A. Contract Price to Service Receiver**

The Compensation (“Contract Price”) payable by the Service Receiver to the Service Provider for 2021, 2022 and 2023 shall be as follows:

Services Provided by	2021	2022	2023
A1. Corporate Services provided by affiliates of the service provider (EUI)	\$72,999	\$74,521	\$76,342
A2. Asset usage fees (EUI)	\$20,942	\$19,839	\$20,461
A3. Shared Services provided by the service provider (EWSI)	\$66,594	\$68,344	\$69,711
A4. Management and Technical Services provided by the Service Provider (EWSI)	Fully Loaded Cost: Standard salary and labour rate, sectional overhead, fringe burden, and cost recovery surcharge. Actual vehicle, material, fringe benefit, contractor and out of pocket expenses incurred.		

B. Method of Payment and True Up

The Service Provider will charge the Service Receiver a monthly contract price for items A1, A2 and A3. At the end of the year, the Service Provider will true up the charged amount with the allocated costs.

1.0 CORPORATE SERVICE COSTS

1.1 Overview

1. EPCOR Water Services Inc. (“EWSI”) obtains corporate service from its parent corporation, EPCOR Utilities Inc. (“EUI” or “EPCOR”). Corporate services are comprised of activities that are centrally managed within the EPCOR group due to their nature and/or for the purpose of realizing economies and greater effectiveness. The amounts paid by EWSI in respect of these services include Corporate Service Charges. The Corporate Service Charges are determined on a cost recovery basis in accordance with EPCOR’s Inter-Affiliate Code of Conduct and are reflected in a Service Agreement between the parties

2. This section describes the corporate services received from EUI and the allocation process used by EUI to EWSI as well as the allocation process from EWSI to EWW. As much as possible the same allocation methodology was used by EWSI to allocate costs to EWW as those used by EUI; however, in certain cases, the methodology was changed to better reflect the cost drivers. The process used to develop the forecast and allocation of Corporate Service Charges is described in Section 1.2 below.

3. For some functional categories, such as Human Resources, Supply Chain and Public and Government Affairs, services are provided from both EUI and EWSI. In these instances, the services provided by EUI tend to be limited to governance, oversight and broad policy considerations, while the services provided by EWSI are more tactical and are specifically driven by the business needs of EWSI. In the case of Information Services, the EUI cost allocation is generally related to corporate applications such as the financial and human resources systems while EWSI Information Services costs are generally related to applications and technical infrastructure unique to EWSI.

1.2 Corporate Services Departments

4. The organization of the Corporate Services departments remains largely the same as in EWW’s 2018-2020 RRA Application, with the exception of the Learning and Development function which was created in Corporate Services in 2019.

5. There are 11 Corporate Services departments providing services to EUI and its subsidiaries through a shared services model. This model is appropriate because of the governance nature of the services and/or the substantial economies of scale inherent in delivering the services through a shared services model. The Corporate Services departments and services include:

- Supply Chain
- Human Resources
- Information Services
- Corporate Finance Services
- Executive and Executive Assistants
- Treasury
- Board
- Audit and Risk Management
- Public and Government Affairs
- Legal Services
- Health, Safety and Environment

1.3 Corporate Cost Forecast and Allocation Process

6. The Forecast Corporate Services Costs are based on EUI's 2020 budget. Consistent with previous years, EUI used a "bottom up" approach to budget expenditures based on the best available information with respect to historical workloads and expected work activity and cost levels. EUI also continued to allocate Corporate Services costs to the EPCOR business units using the following six step process:

- i) Categorize Corporate Services costs as either directly assignable or allocable.
- ii) Assign directly assignable costs to the appropriate business unit.
- iii) Review/develop/modify/refine allocation methods for allocable costs.
- iv) Apply allocation methods to allocable costs.
- v) Allocate Corporate Services costs to each business unit's Master Overhead Pool.
- vi) Conduct a final review for reasonableness.

Step 1 – Categorize Corporate Service costs as either directly assignable or allocable

7. The first step was to review each Corporate Service cost and categorize it into one of two defined groups:

- Directly assignable costs
- Allocable costs

8. Directly assignable costs are costs that are directly associated with a particular business unit's activity or operation. The relevant Corporate Services department and business unit work together to determine the quantum of directly assigned costs, if any, related to the Corporate Service in question.

9. Allocable costs are those costs that provide benefits to EUI business units but by their nature cannot be directly assigned, and are charged to business units using appropriate cost allocators. These costs are allocated among EPCOR business units using cost allocators that reflect the factor or factors that drive the cost of providing the Corporate Service to each business unit.

10. Directly assignable Corporate Services costs include the following:

- Corporate Security costs incurred directly on behalf of business units (e.g., security costs related to EDTI's buildings and facilities).
- Space Rent costs for office space in the EPCOR Tower (e.g., office space occupied by EWSI in EPCOR Tower).
- Certain information system operating costs that can be directly attributable to the business units (e.g., support costs for business unit specific applications and databases; server costs and licensing fees that relate to business unit specific applications; and desktop support costs for desktops that are used by the business unit).
- Facilities management costs incurred directly on behalf of business units (i.e., building services, general services, risk management and environmental services).
- Health and Safety costs incurred directly on behalf of business units to develop and implement an ergonomics program.
- Human Resources (Total Rewards) costs incurred directly on behalf of business units to facilitate a mental health training program.

Step 2 - Assign directly assignable costs to Business Units

11. Once the directly assignable costs are identified and determined, they are charged directly to each Business Unit. Directly assignable costs are included in the budgets of the business units, and are not included in the budgets of the respective Corporate Services departments (i.e., they are removed from the Corporate Services departments' "cost pools", with the remaining costs forming the pool of allocable costs for each department).

Step 3 - Review/develop/modify/refine allocation methods for allocable costs

12. EPCOR's cost allocation process is designed to ensure that the allocation of Corporate Services costs among business units is appropriate, fair and reasonable, cost-effective, predictable, reflects the benefit received by function (i.e., cost causation), and is consistent with the transfer pricing principles in EPCOR's Inter-Affiliate Code of Conduct.

13. If EUI determines that an individual allocator or allocation method should be revised, then business unit executives become involved to provide input and to test the validity of potential revisions. Input is also solicited from the business units relating to the data which forms the basis for the allocators, which is then input into the corporate allocation model along with the EUI budget.

14. EUI's approach to determining its allocation methods is as follows:

15. The costs associated with a Corporate Services department, except for the Treasury department, are allocated on one of two bases: (i) using a single "functional cost causation allocator", or (ii) using a "composite cost causation allocator". The allocation methods used for Treasury costs are allocated using a composite of net income, depreciation and debt.

16. A functional cost causation allocator has been used where the costs can be logically allocated using an identified cost causation driver, such as headcount. The composite cost causation allocator has been used where the costs cannot be allocated using a particular functional cost causation allocator. The latter types of costs tend to be related to Corporate Services that are of a governance nature, and it is appropriate that these types of costs be allocated based on a combination of the business unit's share of EPCOR's group revenues, assets, and headcount.

17. The allocation methods applicable to EUI's allocable Corporate Service costs in EUI's 2020 Budget are summarized in Table D-3-1 below.

**Table D-3-1
Cost Allocators 2020**

Department and Function	A Allocators
Supply Chain Management	
1 Mailroom	Functional Cost Causation - Headcount
2 Disaster Recovery Planning Facilities	Functional Cost Causation - Direct IS Costs
3 Procurement	Functional Cost Causation - Purchase Order Lines
4 Real Estate	Composite - EUI Revenue, Assets, Headcount
5 Security	Functional Cost Causation - Headcount
6 SCM Corporate	Composite - EUI Revenue, Assets, Headcount
Human Resources	
7 Total Rewards	Functional Cost Causation - Headcount
8 Human Resources Consulting	Functional Cost Causation - Headcount
9 Talent Management	Functional Cost Causation - Headcount
10 Learning and Development	Functional Cost Causation - Headcount
Information Services	
11 Major Capital Projects	Functional Cost Causation - Headcount
12 Application Services	Functional Cost Causation - Headcount
13 Infrastructure Operations	Functional Cost Causation - Direct IS Costs
Corporate Finance Services	
14 Corporate Finance	Composite - EUI Revenue, Assets, Headcount
15 Accounts Payable	Functional Cost Causation - Number of Invoices
16 Management Development Program	Composite - EUI Revenue, Assets, Headcount
17 Centre of Excellence	Composite - EUI Revenue, Assets, Headcount
Executive and Executive Assistants	
18 Executive and Executive Assistants	Composite - EUI Revenue, Assets, Headcount
Treasury	
19 Treasurer - Corporate Finance	40% PP&E, 30% CapEx, 30% Acquisitions
20 Treasury Operations	50% of (NI + Depreciation), 50% Debt
Board	
21 All Costs	Composite - EUI Revenue, Assets, Headcount
Audit and Risk Management	
22 Internal Audit	Composite - EUI Revenue, Assets, Headcount
23 Risk Management	Functional Cost Causation - PP&E
Public and Government Affairs	
24 Director, Public & Government Affairs	Functional Cost Causation - Weighted Average of Costs for P&GA
25 Corporate Communications	Functional Cost Causation - Net Income
26 Government Relations	Composite - EUI Revenue, Assets, Headcount
27 Community Relations	Functional Cost Causation - Net Income
Legal Services	
28 Legal Services	Composite - EUI Revenue, Assets, Headcount
Health, Safety and Environment	
29 All Functions	Functional Cost Causation - Headcount
Incentive Compensation	
30 All Costs	Average Corporate Cost Allocation

Step 4 – Apply allocation methods to allocable costs

18. Once the allocation methods were determined, they were applied against EUI's final budgeted Corporate Services costs to arrive at the amounts charged to each business unit.

Step 5 – Final review of Corporate Service Charges for reasonableness

19. The resulting Corporate Services charges were carefully reviewed by EWSI and EUI management to confirm that the process set out above was properly applied, and that the resulting charges were reasonable.

1.4 Direct Assigned Corporate Costs

20. Certain costs are directly assigned from EUI to its business units. These direct assigned costs include information services (“IS”) application support, IS infrastructure support (i.e., desktops, servers, network, databases, printers, etc.), space rent at EPCOR Tower, corporate security, Athletes Move Safe training program and mental health training program.

APPENDIX E-3

EPCOR WATER SERVICES INC. SHARED AND DIRECT SERVICE CHARGES ALLOCATION METHODOLOGY

1.0 OVERVIEW

1. As a member of the EPCOR group of companies, EPCOR Water (West) Inc. (“EWW”) obtains certain services from EPCOR Water Services Inc. (“EWSI”) to enable EWW to carry on business as the owner and operator of the French Creek water utility. These services allow EWW to benefit both from the extensive experience and expertise that resides within EWSI and from economies of scale and scope that arise from the EPCOR group’s inter-corporate services approach to its business operations.

2. The services provided by EWSI, many of which specifically relate to technical aspects of the water utility business, include: (1) Shared Services, which are financial, administrative and other services that are allocated to EWW through an annual fee, as shown in Financial Schedule 2.3; and (2) Direct Services, which are management and technical services provided by EWSI, and directly charged to EWW based on direct labour costs, material costs and other expenses directly related to a specific job.

3. All of these services are provided pursuant to an inter-corporate services agreement between EWW and EWSI, a pro-forma copy of which is attached as Appendix F-1 to this Application. In return for these services, EWW pays inter-corporate service charges to EWSI in accordance with the terms of the agreement.

4. Appendix F-3 describes the services and associated costs related to services that are provided from EUI to EWSI. These services are provided by functional groups that are part of the EUI corporate group while Shared and Direct Services are provided by functional groups from within EWSI. For some functional categories, such as Human Resources, Supply Chain and Public and Government Affairs, services are provided from both EUI and EWSI. In these instances, the services provided by EUI tend to be limited to governance, oversight and broad policy considerations, while the services provided by EWSI are more tactical and are specifically driven by the business needs of EWW. In the case of Information Services, the EUI cost allocation is generally related to corporate applications such as the financial and human

resources systems while EWSI Information Services costs are generally related to applications and technical infrastructure unique to EWSI.

5. The specific shared services that EWSI provides to EWW, including the methodologies used to determine the inter-corporate service charges, are described below.

2.0 SHARED SERVICES PROVIDED BY EWSI

6. Sections 2.2 to 2.9 below sets out the allocated Shared Services provided by EWSI to EWW.

2.1 Senior Vice President (SVP)

7. SVP includes compensation of the Senior Vice President of EWSI together with associated ancillary costs. SVP services are necessary to carry on the business of EWW and include the following functions:

- General management and oversight; and Operational and business related oversight.

2.2 Controller

8. Controller includes the compensation related to the Controller and resources required to provide financial oversight and accounting services. Controller includes the following functions:

- Financial oversight.
- Preparation of financial reports and analysis.
- Administration of the financial reporting services.
- Asset accounting administration.
- Budget administration and development and maintenance of corporate accounting policies and procedures.
- Financial support for regulatory applications.
- Costs associated with maintaining office space in EPCOR Tower.

2.3 Health, Safety and Environment

9. Health, Safety and Environment includes costs associated with ensuring that EWW maintains appropriate health and safety practices that are in compliance with legislation. Specific functions include:

- Ensuring that existing Health and Safety practices and procedures are well designed and in compliance with legislation and compatible with Service Provider Safety Management Policies.
- Business services including internal loss management, safety and training and related support staff.
- Health, Safety and Environment Audit and Inspections.
- Environmental Issues Management.
- Health, Safety, Environment and Training, Legal Compliance and Reporting.

2.4 IT Direct Corporate Charges

10. IT Direct Corporate Charges includes charges related to EWSI's unique applications as well as costs associated with desktops, printers and network support used in EWW's operations. Specific functions include:

- Application support.
- Relationship management.
- License fees, desktop support and server support.

2.5 Operations Communications

11. Operations Communications includes charges related to the stakeholder and public consultation requirements of EWW. Specific functions include:

- Stakeholder relations and public consultation services.
- Internal communications (related to business unit matters).
- External communications (includes coordination of business' unit considerations such as public safety notices, performance reports, public addresses and presentations, print collateral, operational issues management, etc.).

2.6 Technical Training

12. Technical Training includes the costs to design, develop and deliver technical training to operations staff and monitor that the operating staff are compliant with regulatory requirements to maintain continuous and current health, safety and technical training.

2.7 Human Resources

13. Human Resources, which includes human resources management; facilitating the management of return to work scenarios for short-term disability, long-term disability as well as Workers' Compensation Board and non-supported claims management.

14. *Regulatory and Operational Excellence* Regulatory and Operational Excellence includes costs related to EWW's regulatory applications and associated requirements. Specific functions include:

- Applications development: regulatory proceeding participation, relationship management, and regulatory research.
- Monitor and coordinate responses to regulatory and policy activities or initiatives within various government ministries, departments and/or agencies which may affect the Business.
- Manage regulatory interfaces with government, regulatory and market agencies, and other industry participants.
- Manage and co-ordinate tariff and facility applications with business units.

15. Regulatory also includes Business Process Management functions. Business Process Management includes the execution of planning, operating, and maintenance activities associated with business transformation projects, operational improvement initiatives, and process redesign, as well as development of training tools and methods for the advancement of processes and change management skills within EWSI.

2.8 Supply Chain Management

16. Supply Chain Management are services for purchasing and strategic sourcing including management of the end-to-end procurement process for the goods required by EWW. Specific functions include:

- Administration of procurement services, including but not limited to competitive bidding, PO creation, issuing requests for quotations and requests for proposals, contract administration and Supplier Relationship management.
- Setting and managing standards of products and services.
- Setting terms of payment.
- Administration of the Warehousing and Materials Management Services.
- Inventory Management and Item Administration.
- Fleet Management including general oversight and administration.

2.9 At-Risk Compensation

17. At-Risk Compensation is paid to EWSI employees based on individual performance ratings and overall annual corporate targets. The EPCOR group's structure for compensating its

non-union employees has four components: base compensation (annual salary), employer paid benefits, Short Term Incentive (“STI”), and Mid-Term Incentive (“MTI”) for participating Directors, VPs and Executives. EPCOR’s structure for compensating unionized employees has three components: base compensation (hourly wages / annual salaries), employer paid benefits and STI. The compensation was designed to bring employee total compensation to a level which is at par with comparable positions in the market from which EPCOR must draw employees (i.e., to market value).

3.0 SHARED SERVICES ALLOCATION

18. The allocation methodologies have been designed to ensure that the allocation of EWSI’s shared service costs are fair and reasonable, cost-effective, predictable and reflect the benefit received by function or cost causation.

Table F-2-1
Allocation of EWSI Financial and Administrative Costs
Cost Allocators

A	B
Responsibility Centre and Function	Allocator
1 SVP	Composite – EWSI Revenue, Assets, Headcount
2 Controller	Composite - EWSI Revenue, Assets, Headcount
3 Health, Safety and Environment	Functional Cost Causation – EWSI Headcount
4 IT Direct Corporate Charges	Functional Cost Causation – EWSI Total Assets
5 Operations Communications	Composite – EWSI Revenue, Assets, Headcount
6 Technical Training	Functional Cost Causation – EWSI Headcount
7 Human Resources	Functional Cost Causation – EWSI Headcount
8 Regulatory and Operational Excellence	Functional Cost Causation –EWSI Regulated Assets
9 Supply Chain Management	Composite - EWSI Revenue, Assets, Headcount
10 At-Risk Compensation	Average based on allocated costs above

4.0 DIRECT SERVICES PROVIDED BY EWSI

19. Direct Services, which generally relate to management and technical functions, are charged to EWW through direct charges (included in EWSI’s operating and maintenance and general and administrative operating costs in Financial Schedule 2.2). These services are described below.

20. The services listed below are reflected in the Contract Services in the pro-forma inter-organizational services agreement between EWW and EWSI. These services are directly charged to EWW based on direct labour costs, material costs and other expenses directly related to a specific job.

4.1 Capital Planning and Management Services

21. Capital Planning and Management services includes EWSI staff providing support to EWW management with respect to the development of long-term capital planning, including cost estimates/budgeting, project justification and management of capital plan.

4.2 Operational Planning and Management Services

22. Operational Planning and Management services, which includes EWSI staff providing support to EWW management with respect to water plant operations. Specific functions include:

- Development and maintenance of operations procedures, maintenance protocols, emergency and disaster recovery plans.
- Access to computer based water operations and maintenance management systems (hydrant maintenance, water main flushing program, valve maintenance, fire hydrant flow tests, etc.).
- Maintenance of the water distribution engineering and water models and utilization of these models for system planning and operational assessments.
- Access to specialized technical expertise and intellectual property related to water utility operations including water quality, water distribution, demand management and forecasting, daily, monthly reporting, etc.
- Review of submissions from developers and the community of French Creek for new customer connections and water main extensions/upgrades to assess serviceability, location of valves and hydrants, and to confirm available versus required fire flows.
- Support review of emerging drinking water and environmental standards and implications related to local utilities.
- Support for water source protection initiatives including aquifer management and stakeholder interface and liaison.

4.3 Safety Program

23. Safety Programs includes safety courses to reduce accidents, incident reviews and the design and implementation of corrective action to reduce the likelihood of future incidents. Specific functions include:

- Implement and ensure maintenance of EPCOR based safety program.
- Provide necessary support during incidents and investigative support.
- Access to all safety training and loss control programs.
- Review, track and corrective action of safety performance within the water utility.

4.4 Operational Audits and Due Diligence Work

24. Operational Audits and Due Diligence work involves monitoring of specific operational performance measures and tracking systems, audits of water quality and asset reviews and checks. Specific functions include:

- Introduce specific operational performance measures and tracking system.
- Regular water quality audits and Quality Assurance and Quality Control due diligence.
- Asset reviews and checks.
- Ensure implementation of all water operations programs and procedures.
- Review of monthly and annual reports and tracking of specific outcome measures.
- Annual water loss audits to monitor water use and identify any concerns with leakage.

EPCOR WATER (WEST) INC.
- FRENCH CREEK OPERATIONS -
2017 RESULTS

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
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**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
CUSTOMER COUNT AND CONSUMPTION FORECAST
FINANCIAL SCHEDULE 1.1**

CUSTOMER COUNT	2017	2017
	Filing	Actual
1 Metered Units	2,055	2,028
2 Domestic Units	1,760	1,740
3 Condominium Units	248	248
4 Commercial Units	47	40
5 Fire Protection		
6 Hydrants	171	163
7 Standpipes	15	4

MONTHLY CONSUMPTION PER CUSTOMER (m3 per Customer per month)	2017	2017
	Filing	Actual
1 Domestic Units	19.4	19.6
2 Condominium Units	17.1	18.3
3 Commercial Units	100.0	99.3

CONSUMPTION (m3)	2017	2017
	Filing	Actual
1 Domestic Units	408,903	409,664
2 First 15 cubic metres plus	243,133	245,931
3 For each cubic metre between 15 and 75 cubic metres	151,161	149,951
4 For each cubic metre over 75 cubic metres	14,609	13,782
5 Condominium Units	50,789	54,399
6 First 15 cubic metres plus	32,284	33,491
7 For each cubic metre between 15 and 75 cubic metres	16,075	17,837
8 For each cubic metre over 75 cubic metres	2,430	3,071
9 Commercial Units	56,396	47,675
10 First 15 cubic metres plus	5,717	6,126
11 For each cubic metre between 15 and 75 cubic metres	11,388	11,612
12 For each cubic metre over 75 cubic metres	39,291	29,937
13 Total Consumption	516,088	511,738

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
OTHER REVENUE FORECAST
FINANCIAL SCHEDULE 1.2**

OTHER REVENUE ACTUALS & FORECAST	2017	2017
	Filing	Actual
1 Late payment fees and collection charges	7,803	949
2 Connection and service fees	20,808	3,983
3 Miscellaneous revenue	15,044	15,550
4 Total Other Revenues	43,655	20,482

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
REVENUE FORECAST
FINANCIAL SCHEDULE 1.3**

REVENUE FORECAST	2017	2017
	Filing	Actual
	\$	\$
1 METERED RATES		
2 Domestic Units	1,347,910	1,361,158
3 First 15 cubic metres plus	1,016,039	1,033,364
4 For each cubic metre between 15 and 75 cubic metres	302,624	300,202
5 For each cubic metre over 75 cubic metres	29,247	27,592
6 Condominium Units	167,625	173,327
7 First 15 cubic metres plus	130,578	131,469
8 For each cubic metre between 15 and 75 cubic metres	32,182	35,710
9 For each cubic metre over 75 cubic metres	4,865	6,148
10 Commercial Units	74,361	63,555
11 First 15 cubic metres plus	23,637	21,968
12 For each cubic metre between 15 and 75 cubic metres	11,398	11,622
13 For each cubic metre over 75 cubic metres	39,326	29,964
14 TOTAL METERED REVENUE	1,589,896	1,598,039
15 FIRE PROTECTION	107,180	99,605
16 Hydrants	103,547	98,636
17 Standpipes	3,633	969
18 TARIFF REVENUE	1,697,076	1,697,644
19 OTHER REVENUE	43,655	20,482
20 TOTAL REVENUE	1,740,731	1,718,126

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
OPERATING COSTS
FINANCIAL SCHEDULE 2.2**

OPERATING COSTS	2017	2017
	Filing	Actual
	\$	\$
1 Salaries & Benefits	510,402	501,592
2 Salaries	440,982	356,141
3 Benefits	98,282	68,398
4 Salary transfers	(28,862)	77,053
5 Power & Other Utilities	71,397	71,611
6 Chemicals	33,780	42,279
7 Operations	201,729	179,465
8 Contractors and consultants	46,772	46,717
9 Travel	22,964	20,910
10 Rent	29,934	28,661
11 Telecommunications	23,906	19,781
12 Insurance	24,808	25,032
13 Vehicle costs	14,136	9,273
14 Materials and supplies	23,386	14,050
15 Advertising	4,417	2,409
16 Office	17,669	20,804
17 Other	9,589	(1,185)
18 Capital overhead	(15,852)	(6,987)
19 Property Taxes	37,937	38,450
20 Subtotal	855,245	833,396
21 Inter-Corporate Service Charges	203,081	203,081
22 Total Operating Costs	1,058,326	1,036,477

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
CAPITAL EXPENDITURES
FINANCIAL SCHEDULE 2.4**

	Project Name	2017 Filing \$	2017 Actual \$
	Source of Supply		
	Springhill Road No. 2A Replacement Well (RWs1) and tie-in to system	-	17,089
	Existing Wells - Wells Rehabilitation	-	53,571
	Church Road South Test Well and Monitoring Well (TWn1 and TWs1) Completion	-	124,508
	Springhill Road Additional Capacity Well (ACs1) Completion	-	157,792
	Pumping Plant		
	Drew Road Pump Station Upgrade	-	116,082
	Water Treatment Plant		
	Church Road Reservoir Upgrades	158,547	109,481
	Transmission & Distribution Plant		
	Single Meter Service Connections	5,613	1,859
	Subdivision – Multi-meter Installations	40,068	760
	Meter Replacement Program	72,067	45,141
	Hydrant Installation Program	40,745	10,386
	System Balancing Storage Control	-	1,829
	Capital Expenditures before CIAC	317,040	638,498
	Contributions in Aid of Construction (CIAC)	(45,681)	(18,506)
	Total Expenditures, net of CIAC	271,359	619,992

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
RATE BASE AND RETURN ON RATE BASE
FINANCIAL SCHEDULE 2.6**

RATE BASE AND RETURN ON RATE BASE		2017	2017
		Filing	Actual
		\$	\$
1	Mid-Year Net Rate Base		
2	Mid-Year Plant-In-Service, net		
3	PP&E, at cost		
4	Opening	12,564,076	9,630,450
5	Closing	12,881,116	9,909,929
6	Mid-Year	12,722,596	9,770,189
7	Accumulated Depreciation		
8	Opening	(1,604,967)	(1,359,872)
9	Closing	(1,945,201)	(1,639,727)
10	Mid-Year	(1,775,084)	(1,499,800)
11	Mid-Year PP&E, net	10,947,512	8,270,389
12	Mid-Year CIAC, net		
13	CIAC, gross		
14	Opening	(5,964,171)	(4,283,848)
15	Closing	(6,009,852)	(4,302,354)
16	Mid-Year	(5,987,012)	(4,293,101)
17	Accumulated Amortization		
18	Opening	498,135	432,907
19	Closing	653,131	559,476
20	Mid-Year	575,633	496,192
21	Mid-Year CIAC, net	(5,411,379)	(3,796,909)
22	Working Capital Allowance		
23	Operating costs	1,058,326	1,036,477
24	Less: Intercompany Service Charges	(203,081)	(203,081)
25	Less: Municipal Taxes	(37,937)	(38,450)
26	Total Eligible Expenses	817,308	794,946
27	Working Capital Allowance (45 days / 365 days)	100,764	98,007
28	Mid-Year Net Rate Base	5,636,897	4,571,487
29	Return on Rate Base		
30	Deemed Capital Structure		
31	Debt	60.00%	60.00%
32	Equity	40.00%	40.00%
33	Cost Rate		
34	Weighted Average Cost of Debt	5.66%	5.58%
35	Equity	9.75%	18.22%
36	Weighted Average Cost of Capital		
37	Debt	3.39%	3.35%
38	Equity	3.90%	7.29%
39	Weighted Average Cost of Capital	7.29%	10.63%
40	Return on Rate Base		
41	Debt	191,357	152,985
42	Equity	219,839	333,190
43	Total Return on Rate Base	411,196	486,175

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
DEBT AND INTEREST EXPENSE
FINANCIAL SCHEDULE 2.7**

DEBT AND INTEREST EXPENSE	2017	2017
	Filing	Actual
	\$	\$
1 Deemed Mid-Year Inter-Company Debt		
2 Mid-Year Rate Base	5,636,897	4,571,487
3 Deemed Debt Component of Mid-Year Rate Base	60.00%	60.00%
4 Mid-Year Deemed Inter-Company Debt	3,382,138	2,742,892
5 Deemed Inter-Company Interest Expense		
6 Deemed Inter-company Debt		
7 Current Year	3,382,138	2,742,892
8 Prior Year	3,257,026	2,564,449
9 Deemed Inter-Company Debt Issues	125,113	178,444
10 Cost of New Intercompany Debt	5.00%	3.89%
11 Interest on Deemed Inter-Company Debt		
12 Pre-2012 Debt	96,397	96,397
13 Interest on 2012 Debt	848	848
14 Interest on 2013 Debt	25,228	25,228
15 Interest on 2014 Debt	25,125	21,189
16 Interest on 2015 Debt	15,393	(2,349)
17 Interest on 2016 Debt	22,112	4,536
18 Interest on 2017 Debt	6,256	7,138
19 Deemed Inter-Company Interest Expense	191,357	152,985
20 Weighted Average Cost of Debt	5.66%	5.58%

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
REVENUE REQUIREMENT
FINANCIAL SCHEDULE 2.8**

REVENUE REQUIREMENT	2017	2017
	Filing	Actual
	\$	\$
1 Operating Costs		
2 Salaries & Benefits	510,402	501,592
3 Power & Other Utilities	71,397	71,611
4 Chemicals	33,780	42,279
5 Operations and Maintenance	201,729	179,465
6 Property taxes	37,937	38,450
7 Subtotal	855,245	833,396
8 Inter-Corporate Service Charges	203,081	203,081
9 Total Operating Costs	1,058,326	1,036,477
10 Depreciation	340,233	279,855
11 Amortization of Contributions	(154,996)	(126,569)
12 Interest Expense	192,109	152,985
13 Equity Return	220,815	333,190
15 Revenue Requirement before Revenue Offsets	1,656,487	1,675,938
16 Revenue Offsets	(43,655)	(20,482)
17 Revenue Requirement	1,612,832	1,655,456

18 Depreciation		
19 Depreciation Expense	340,233	279,855
20 Cancelled Projects	-	-
21 Loss (Gain) on Disposal	-	(79)
22 Total Depreciation	340,233	279,776

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
DEFERRAL ACCOUNT
FINANCIAL SCHEDULE 3.0**

DEFERRAL ACCOUNTS	A	B	C
	2017 Filing \$	2017 Actual \$	2017 Deferral \$
1 Consumption Deferral			
2 Base Consumption (monthly charge per unit)	1,170,254	1,186,802	(16,548)
3 Domestic Units	1,016,039	1,033,364	(17,325)
4 Condominium Units	130,578	131,469	(891)
5 Commercial Units	23,637	21,968	1,669
6 Water Consumption in Excess of Base (charge per cubic metre)	419,642	411,238	8,404
7 Domestic Units	331,871	327,793	4,078
8 Condominium Units	37,047	41,858	(4,811)
9 Commercial Units	50,724	41,586	9,138
10 Consumption Deferral	1,589,896	1,598,039	(8,143)
11 Property Tax Deferral	37,937	38,450	513
12 Interest Expense Deferral	191,357	152,985	(38,372)
13 Hearing Cost Deferral	-	3,815	3,815
14 Total Deferral Amount			(42,188)

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2017
NET INCOME
FINANCIAL SCHEDULE 5.0**

NET INCOME	2017	2017
	Filing	Actual
	\$	\$
1 Revenue		
2 Water service	1,589,896	1,598,039
3 Fire protection	107,180	99,605
4 Other revenue	43,655	20,482
	1,740,731	1,718,126
5 Deferral Accounts	-	(42,086)
6 Total Forecast Revenue	1,740,731	1,676,040
7 Operating Costs	1,058,326	1,036,477
8 Depreciation and amortization	185,237	153,286
9 Interest Expense	191,357	152,985
10 Total Expenses	1,434,920	1,342,748
11 Net Income	305,811	333,292
12 Equity Component of Rate Base	2,254,759	1,828,595
13 Effective Rate of Return	13.56%	18.23%

EPCOR WATER (WEST) INC.
- FRENCH CREEK OPERATIONS -
2018 RESULTS

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
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**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
CUSTOMER COUNT AND CONSUMPTION FORECAST
FINANCIAL SCHEDULE 1.1**

CUSTOMER COUNT	2018	2018
	Filing	Actual
1 Metered Units	2,035	2,060
2 Domestic Units	1,747	1,772
3 Condominium Units	248	248
4 Commercial Units	40	40
5 Fire Protection		
6 Hydrants	166	163
7 Standpipes	10	3

MONTHLY CONSUMPTION PER CUSTOMER (m3 per Customer per month)	2018	2018
	Filing	Actual
1 Domestic Units	19.2	19.3
2 Condominium Units	18.1	18.8
3 Commercial Units	95.3	103.9

CONSUMPTION (m3)	2018	2018
	Filing	Actual
1 Domestic Units	401,804	409,657
2 First 15 cubic metres plus	243,940	245,038
3 For each cubic metre between 15 and 75 cubic metres	145,977	151,569
4 For each cubic metre over 75 cubic metres	11,887	13,050
5 Condominium Units	53,732	56,005
6 First 15 cubic metres plus	33,161	34,387
7 For each cubic metre between 15 and 75 cubic metres	18,641	18,894
8 For each cubic metre over 75 cubic metres	1,930	2,724
9 Commercial Units	45,748	49,887
10 First 15 cubic metres plus	5,246	5,986
11 For each cubic metre between 15 and 75 cubic metres	10,007	11,302
12 For each cubic metre over 75 cubic metres	30,495	32,599
13 Total Consumption	501,284	515,549

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
OTHER REVENUE FORECAST
FINANCIAL SCHEDULE 1.2**

OTHER REVENUE ACTUALS & FORECAST	2018	2018
	Filing	Actual
1 Late payment fees and collection charges	2,124	2,001
2 Connection and service fees	6,159	4,125
3 Miscellaneous revenue	14,062	13,476
4 Total Other Revenues	22,345	19,602

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
REVENUE FORECAST
FINANCIAL SCHEDULE 1.3**

REVENUE FORECAST	2018	2018
	Filing	Actual
	\$	\$
1 METERED RATES		
2 Domestic Units	1,307,761	1,367,469
3 First 15 cubic metres plus	995,716	1,043,288
4 For each cubic metre between 15 and 75 cubic metres	288,549	298,482
5 For each cubic metre over 75 cubic metres	23,496	25,699
6 Condominium Units	169,587	173,185
7 First 15 cubic metres plus	128,925	130,380
8 For each cubic metre between 15 and 75 cubic metres	36,846	37,411
9 For each cubic metre over 75 cubic metres	3,815	5,394
10 Commercial Units	59,888	65,657
11 First 15 cubic metres plus	19,862	22,122
12 For each cubic metre between 15 and 75 cubic metres	9,890	11,208
13 For each cubic metre over 75 cubic metres	30,137	32,327
14 TOTAL METERED REVENUE	1,537,236	1,606,311
15 FIRE PROTECTION	101,639	97,363
16 Hydrants	99,247	96,646
17 Standpipes	2,392	717
18 TARIFF REVENUE	1,638,875	1,703,674
19 OTHER REVENUE	22,345	19,602
20 TOTAL REVENUE	1,661,220	1,723,276

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
OPERATING COSTS
FINANCIAL SCHEDULE 2.2**

OPERATING COSTS	2018	2018
	Filing \$	Actual \$
1 Salaries & Benefits	515,000	495,175
2 Salaries	404,000	292,648
3 Benefits	95,500	65,133
4 Salary transfers	15,500	137,394
5 Power & Other Utilities	87,208	60,854
6 Chemicals	43,200	36,311
7 Operations	203,269	192,172
8 BCUC D&O 2519, page 10	(20,000)	
9 Contractors and consultants	57,288	39,076
10 Travel	23,092	27,388
11 Rent	30,840	29,842
12 Telecommunications	24,384	19,816
13 Insurance	28,138	19,520
14 Vehicle costs	10,352	11,282
15 Materials and supplies	23,939	15,562
16 Advertising	4,084	1,295
17 Office	19,669	19,278
18 Other	7,956	16,962
19 Capital overhead	(6,473)	(7,850)
20 Property Taxes	41,820	40,289
21 Subtotal	890,497	824,800
22 Inter-Corporate Service Charges	186,410	186,410
23 Total Operating Costs	1,076,907	1,011,210

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
CAPITAL EXPENDITURES
FINANCIAL SCHEDULE 2.4**

	Project Name	2018 Filing \$	2018 Actual \$
	Source of Supply		
	Church Road South Test Well and Monitoring Well (TWN1 and TWs1) Completion and tie-in to system (870997)	290,000	272,763
	Springhill Road Additional Capacity Well (ACs1) Completion and tie-in to system (070997)	224,000	229,879
	Existing Wells - Well Rehabilitation Program (Overhauls)	30,000	-
	Well Licensing as per Water Sustainability Act (ACs1, TWn1, RWn2, RWs1)	20,000	-
	Standby Generator - Oceanside #2 (RWn2)	75,000	-
	Pumping Plant		
	Drew Road Pump Station Upgrade	51,000	18,564
	Water Treatment Plant		
	Church Road Reservoir Upgrades	-	(236)
	Transmission & Distribution Plant		
	Single Meter Service Connections	5,800	1,200
	Subdivision – Multi-meter Installations	40,000	3,230
	Meter Replacement Program	45,000	37,005
	Hydrant Installation Program	60,000	54,378
	General Plant		
	Printer Replacement	15,000	-
	Capital Expenditures before CIAC	855,800	616,784
	Contributions in Aid of Construction (CIAC)	(2,004,011)	(1,949,057)
	Total Expenditures, net of CIAC	(1,148,211)	(1,332,272)

EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
RATE BASE AND RETURN ON RATE BASE
FINANCIAL SCHEDULE 2.6

RATE BASE AND RETURN ON RATE BASE		2018	2018
		Filing	Actual
		\$	\$
1	Mid-Year Net Rate Base		
2	Mid-Year Plant-In-Service, net		
3	PP&E, at cost		
4	Opening	9,909,929	9,909,929
5	Closing	13,138,355	12,899,339
6	Mid-Year	11,524,142	11,404,634
7	Accumulated Depreciation		
8	Opening	(1,639,727)	(1,639,727)
9	Closing	(1,945,853)	(1,939,797)
10	Mid-Year	(1,792,790)	(1,789,762)
11	Mid-Year PP&E, net	9,731,352	9,614,872
12	Mid-Year CIAC, net		
13	CIAC, gross		
14	Opening	(4,302,354)	(4,302,017)
15	Closing	(6,306,365)	(6,251,102)
16	Mid-Year	(5,304,360)	(5,276,559)
17	Accumulated Amortization		
18	Opening	559,476	559,476
19	Closing	709,537	689,311
20	Mid-Year	634,507	624,393
21	Mid-Year CIAC, net	(4,669,853)	(4,652,166)
22	Working Capital Allowance		
23	Operating costs	1,076,907	1,011,210
24	Less: Intercompany Service Charges	(186,410)	(186,410)
25	Less: Municipal Taxes	(41,820)	(40,289)
26	Total Eligible Expenses	848,677	784,512
27	Working Capital Allowance (45 days / 365 days)	104,631	96,721
28	Mid-Year Net Rate Base	5,166,130	5,059,427
29	Return on Rate Base		
30	Deemed Capital Structure		
31	Debt	60.00%	60.00%
32	Equity	40.00%	40.00%
33	Cost Rate		
34	Weighted Average Cost of Debt	5.44%	5.43%
35	Equity	9.75%	15.10%
36	Weighted Average Cost of Capital		
37	Debt	3.26%	3.26%
38	Equity	3.90%	6.04%
39	Weighted Average Cost of Capital	7.16%	9.30%
40	Return on Rate Base		
41	Debt	168,506	164,696
42	Equity	201,479	305,612
43	Total Return on Rate Base	369,985	470,308

EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
DEBT AND INTEREST EXPENSE
FINANCIAL SCHEDULE 2.7

DEBT AND INTEREST EXPENSE	2018	2018
	Filing	Actual
	\$	\$
1 Deemed Mid-Year Inter-Company Debt		
2 Mid-Year Rate Base	5,166,130	5,059,427
3 Deemed Debt Component of Mid-Year Rate Base	60.00%	60.00%
4 Mid-Year Deemed Inter-Company Debt	3,099,678	3,035,656
5 Deemed Inter-Company Interest Expense		
6 Deemed Inter-company Debt		
7 Current Year	3,099,678	3,035,656
8 Prior Year	2,742,892	2,742,892
9 Deemed Inter-Company Debt Issues	356,786	292,764
10 Cost of New Intercompany Debt	4.35%	4.00%
11 Interest on Deemed Inter-Company Debt		
12 Pre-2015 Debt	143,661	143,661
13 Interest on 2015 Debt	(2,349)	(2,349)
14 Interest on 2016 Debt	4,536	4,536
15 Interest on 2017 Debt	7,138	7,138
16 Interest on 2018 Debt	15,520	11,711
17 Interest on 2019 Debt		
18 Interest on 2020 Debt		
19 Deemed Inter-Company Interest Expense	168,506	164,696
20 Weighted Average Cost of Debt	5.44%	5.43%

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
REVENUE REQUIREMENT
FINANCIAL SCHEDULE 2.8**

REVENUE REQUIREMENT	2018	2018
	Filing	Actual
	\$	\$
1 Operating Costs		
2 Salaries & Benefits	515,000	495,175
3 Power & Other Utilities	87,208	60,854
4 Chemicals	43,200	36,311
5 Operations and Maintenance	203,269	192,172
6 Property taxes	41,820	40,289
7 Inter-Corporate Service Charges	186,410	186,410
8 Total Operating Costs	1,076,907	1,011,210
9 Depreciation	306,126	300,070
10 Amortization of Contributions	(150,061)	(129,835)
11 Interest Expense	168,505	164,696
12 Equity Return	201,479	305,612
13 Revenue Requirement before Revenue Offsets	1,602,956	1,651,753
14 Revenue Offsets	(22,345)	(19,602)
15 Revenue Requirement	1,580,611	1,632,151

18 Depreciation		
19 Depreciation Expense	306,126	300,070
20 Cancelled Projects	-	-
21 Loss (Gain) on Disposal	-	-
22 Total Depreciation	306,126	300,070

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
DEFERRAL ACCOUNT
FINANCIAL SCHEDULE 3.0**

DEFERRAL ACCOUNTS	A	B	C
	2018 Filing \$	2018 Actual \$	2018 Deferral \$
1 Consumption Deferral			
2 Base Consumption (monthly charge per unit)	1,144,504	1,195,790	(51,286)
3 Domestic Units	995,716	1,043,288	(47,572)
4 Condominium Units	128,925	130,380	(1,455)
5 Commercial Units	19,862	22,122	(2,260)
6 Water Consumption in Excess of Base (charge per cubic metre)	392,733	410,521	(17,788)
7 Domestic Units	312,045	324,181	(12,136)
8 Condominium Units	40,661	42,805	(2,143)
9 Commercial Units	40,026	43,535	(3,509)
10 Consumption Deferral	1,537,236	1,606,311	(69,075)
11 Property Tax Deferral	41,820	40,289	(1,531)
12 Interest Expense Deferral	168,506	164,696	(3,810)
13 Hearing Cost Deferral	-	7,309	7,309
14 Total Deferral Amount			(67,107)

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2018
NET INCOME
FINANCIAL SCHEDULE 5.0**

NET INCOME	2018	2018
	Filing	Actual
	\$	\$
1 Revenue		
2 Water service	1,537,236	1,606,311
3 Fire protection	101,639	97,363
4 Other revenue	22,345	19,602
	1,661,220	1,723,276
5 Deferral Accounts	-	(71,523)
6 Total Forecast Revenue	1,661,220	1,651,754
7 Operating Costs	1,076,907	1,011,210
8 Depreciation and amortization	156,064	170,235
9 Interest Expense	168,506	164,696
10 Total Expenses	1,401,477	1,346,141
11 Net Income	259,743	305,612
12 Equity Component of Rate Base	2,066,452	2,023,771
13 Effective Rate of Return	12.57%	15.10%

EPCOR WATER (WEST) INC.
- FRENCH CREEK OPERATIONS -
2019 RESULTS

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
FINANCIAL SCHEDULES
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**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
CUSTOMER COUNT AND CONSUMPTION FORECAST
FINANCIAL SCHEDULE 1.1**

CUSTOMER COUNT	2019	2019
	Filing	Actual
1 Metered Units	2,049	2,088
2 Domestic Units	1,761	1,794
3 Condominium Units	248	253
4 Commercial Units	40	41
5 Fire Protection		
6 Hydrants	169	175
7 Standpipes	10	3

MONTHLY CONSUMPTION PER CUSTOMER (m3 per Customer per month)	2019	2019
	Filing	Actual
1 Domestic Units	19.2	19.2
2 Condominium Units	18.1	18.9
3 Commercial Units	95.3	114.2

CONSUMPTION (m3)	2019	2019
	Filing	Actual
1 Domestic Units	405,024	413,372
2 First 15 cubic metres plus	245,895	248,574
3 For each cubic metre between 15 and 75 cubic metres	147,147	152,660
4 For each cubic metre over 75 cubic metres	11,982	12,138
5 Condominium Units	53,731	57,411
6 First 15 cubic metres plus	33,161	34,086
7 For each cubic metre between 15 and 75 cubic metres	18,641	20,861
8 For each cubic metre over 75 cubic metres	1,930	2,464
9 Commercial Units	45,749	56,172
10 First 15 cubic metres plus	5,246	6,107
11 For each cubic metre between 15 and 75 cubic metres	10,007	12,210
12 For each cubic metre over 75 cubic metres	30,495	37,855
13 Total Consumption	504,504	526,955

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
OTHER REVENUE FORECAST
FINANCIAL SCHEDULE 1.2**

OTHER REVENUE ACTUALS & FORECAST	2019	2019
	Filing	Actual
1 Late payment fees and collection charges	2,166	1,863
2 Connection and service fees	6,282	3,575
3 Miscellaneous revenue	14,344	14,248
4 Total Other Revenues	22,792	19,685

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
REVENUE FORECAST
FINANCIAL SCHEDULE 1.3**

REVENUE FORECAST	2019	2019
	Filing	Actual
	\$	\$
1 METERED RATES		
2 Domestic Units	1,301,562	1,359,159
3 First 15 cubic metres plus	990,996	1,039,197
4 For each cubic metre between 15 and 75 cubic metres	287,181	296,396
5 For each cubic metre over 75 cubic metres	23,385	23,566
6 Condominium Units	167,441	178,926
7 First 15 cubic metres plus	127,294	133,442
8 For each cubic metre between 15 and 75 cubic metres	36,380	40,679
9 For each cubic metre over 75 cubic metres	3,767	4,805
10 Commercial Units	59,130	71,287
11 First 15 cubic metres plus	19,611	22,224
12 For each cubic metre between 15 and 75 cubic metres	9,764	11,966
13 For each cubic metre over 75 cubic metres	29,755	37,098
14 TOTAL METERED REVENUE	1,528,134	1,609,373
15 FIRE PROTECTION	102,124	104,013
16 Hydrants	99,762	103,304
17 Standpipes	2,361	708
18 TARIFF REVENUE	1,630,257	1,713,386
19 OTHER REVENUE	22,792	19,685
20 TOTAL REVENUE	1,653,049	1,733,071

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
OPERATING COSTS
FINANCIAL SCHEDULE 2.2**

OPERATING COSTS	2019	2019
	Filing	Actual
	\$	\$
1 Salaries & Benefits	528,390	498,334
2 Salaries	414,504	301,541
3 Benefits	97,983	69,125
4 Salary transfers	15,903	127,667
5 Power & Other Utilities	89,723	67,950
6 Chemicals	44,064	31,124
7 Operations	207,715	223,361
8 BCUC D&O 2519, page 10	(20,000)	
9 Contractors and consultants	58,434	68,012
10 Travel	23,554	17,940
11 Rent	31,457	30,602
12 Telecommunications	24,872	19,248
13 Insurance	28,701	13,589
14 Vehicle costs	10,559	14,021
15 Materials and supplies	24,418	37,647
16 Advertising	4,166	2,203
17 Office	20,062	18,142
18 Other	8,115	8,589
19 Capital overhead	(6,622)	(6,633)
20 Property Taxes	42,656	40,153
21 Subtotal	912,549	860,922
22 Inter-Corporate Service Charges	191,745	191,745
23 Total Operating Costs	1,104,294	1,052,667

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
CAPITAL EXPENDITURES
FINANCIAL SCHEDULE 2.4**

	Project Name	2019 Filing \$	2019 Actual \$
	Source of Supply		
	Church Road South Test Well and Monitoring Well (TWN1 and TWs1) Completion and tie-in to system (870997)	-	27,110
	Springhill Road Additional Capacity Well (ACs1) Completion and tie-in to system (070997)	-	(3,677)
	Existing Wells - Well Rehabilitation Program (Overhauls)	30,690	25,096
	Well Licensing as per Water Sustainability Act (ACs1, TWn1, RWn2, RWs1)	20,460	22,171
	Standby Generator - Oceanside #2 (RWn2)	-	29,586
	Well Decommissioning	35,805	10,666
	Transmission & Distribution Plant		
	Single Meter Service Connections	5,933	4,434
	Subdivision – Multi-meter Installations	40,920	17,621
	Meter Replacement Program	46,035	32,988
	Hydrant Installation Program	61,380	53,795
	Capital Expenditures before CIAC	241,223	219,790
	Contributions in Aid of Construction (CIAC)	(46,853)	(52,036)
	Total Expenditures, net of CIAC	194,370	167,754

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
RATE BASE AND RETURN ON RATE BASE
FINANCIAL SCHEDULE 2.6**

RATE BASE AND RETURN ON RATE BASE		2019	2019
		Filing	Actual
		\$	\$
1	Mid-Year Net Rate Base		
2	Mid-Year Plant-In-Service, net		
3	PP&E, at cost		
4	Opening	13,138,355	12,899,339
5	Closing	13,379,578	13,118,280
6	Mid-Year	13,258,966	13,008,810
7	Accumulated Depreciation		
8	Opening	(1,945,853)	(1,939,797)
9	Closing	(2,274,925)	(2,254,770)
10	Mid-Year	(2,110,389)	(2,097,284)
11	Mid-Year PP&E, net	11,148,577	10,911,526
12	Mid-Year CIAC, net		
13	CIAC, gross		
14	Opening	(6,306,365)	(6,251,102)
15	Closing	(6,353,218)	(6,303,447)
16	Mid-Year	(6,329,792)	(6,277,274)
17	Accumulated Amortization		
18	Opening	709,537	689,311
19	Closing	884,484	845,362
20	Mid-Year	797,011	767,337
21	Mid-Year CIAC, net	(5,532,781)	(5,509,937)
22	Working Capital Allowance		
23	Operating costs	1,104,294	1,052,667
24	Less: Intercompany Service Charges	(191,745)	(191,745)
25	Less: Municipal Taxes	(42,656)	(40,153)
26	Total Eligible Expenses	869,892	820,770
27	Working Capital Allowance (45 days / 365 days)	107,247	101,191
28	Mid-Year Net Rate Base	5,723,043	5,502,780
29	Return on Rate Base		
30	Deemed Capital Structure		
31	Debt	60.00%	60.00%
32	Equity	40.00%	40.00%
33	Cost Rate		
34	Weighted Average Cost of Debt	5.36%	5.27%
35	Equity	9.75%	11.21%
36	Weighted Average Cost of Capital		
37	Debt	3.22%	3.16%
38	Equity	3.90%	4.48%
39	Weighted Average Cost of Capital	7.12%	7.64%
40	Return on Rate Base		
41	Debt	184,043	173,847
42	Equity	223,199	246,673
43	Total Return on Rate Base	407,242	420,520

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
DEBT AND INTEREST EXPENSE
FINANCIAL SCHEDULE 2.7**

DEBT AND INTEREST EXPENSE		2019	2019
		Filing	Actual
		\$	\$
1	Deemed Mid-Year Inter-Company Debt		
2	Mid-Year Rate Base	5,723,043	5,502,780
3	Deemed Debt Component of Mid-Year Rate Base	60.00%	60.00%
4	Mid-Year Deemed Inter-Company Debt	3,433,826	3,301,668
5	Deemed Inter-Company Interest Expense		
6	Deemed Inter-company Debt		
7	Current Year	3,433,826	3,301,668
8	Prior Year	3,099,678	3,035,656
9	Deemed Inter-Company Debt Issues	334,147	266,012
10	Cost of New Intercompany Debt	4.65%	3.44%
11	Interest on Deemed Inter-Company Debt		
12	Pre-2015 Debt	143,661	143,661
13	Interest on 2015 Debt	(2,349)	(2,349)
14	Interest on 2016 Debt	4,536	4,536
15	Interest on 2017 Debt	7,138	7,138
16	Interest on 2018 Debt	15,520	11,711
17	Interest on 2019 Debt	15,538	9,151
18	Deemed Inter-Company Interest Expense	184,043	173,847
19	Weighted Average Cost of Debt	5.36%	5.27%

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
REVENUE REQUIREMENT
FINANCIAL SCHEDULE 2.8**

REVENUE REQUIREMENT	2019	2019
	Filing	Actual
	\$	\$
1 Operating Costs		
2 Salaries & Benefits	528,390	498,334
3 Power & Other Utilities	89,723	67,950
4 Chemicals	44,064	31,124
5 Operations and Maintenance	207,715	223,361
6 Property taxes	42,656	40,153
7 Inter-Corporate Service Charges	191,745	191,745
8 Total Operating Costs	1,104,294	1,052,667
9 Depreciation	329,072	314,973
10 Amortization of Contributions	(174,947)	(156,051)
11 Interest Expense	184,043	173,847
12 Equity Return	223,199	246,673
13 Revenue Requirement before Revenue Offsets	1,665,662	1,632,109
14 Revenue Offsets	(22,792)	(19,685)
15 Revenue Requirement	1,642,870	1,612,424

16 Depreciation		
17 Depreciation Expense	329,072	314,973
18 Cancelled Projects	-	-
19 Loss (Gain) on Disposal	-	-
20 Total Depreciation	329,072	314,973

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
DEFERRAL ACCOUNT
FINANCIAL SCHEDULE 3.0**

DEFERRAL ACCOUNTS	A	B	C
	2019 Filing \$	2019 Actual \$	2019 Deferral \$
1 Consumption Deferral			
2 Base Consumption (monthly charge per unit)	1,137,901	1,194,863	(56,962)
3 Domestic Units	990,996	1,039,197	(48,201)
4 Condominium Units	127,294	133,442	(6,148)
5 Commercial Units	19,611	22,224	(2,613)
6 Water Consumption in Excess of Base (charge per cubic metre)	390,232	414,510	(24,277)
7 Domestic Units	310,566	319,962	(9,396)
8 Condominium Units	40,147	45,484	(5,337)
9 Commercial Units	39,520	49,064	(9,544)
10 Consumption Deferral	1,528,134	1,609,373	(81,239)
11 Property Tax Deferral	42,656	40,153	(2,504)
12 Interest Expense Deferral	184,043	173,847	(10,197)
13 Hearing Cost Deferral	-	-	-
14 Total Deferral Amount			(93,940)

**EPCOR WATER (WEST) INC. - FRENCH CREEK OPERATIONS
FOR YEAR ENDED DECEMBER 31, 2019
NET INCOME
FINANCIAL SCHEDULE 5.0**

NET INCOME	2019	2019
	Filing	Actual
	\$	\$
1 Revenue		
2 Water service	1,528,134	1,609,373
3 Fire protection	102,124	104,013
4 Other revenue	22,792	19,685
	1,653,049	1,733,071
5 Deferral Accounts	-	(93,940)
6 Carrying Charges on Deferral Balance	-	(7,022)
7 Total Forecast Revenue	1,653,049	1,632,109
8 Operating Costs	1,104,294	1,052,667
9 Depreciation and amortization	154,126	158,922
10 Interest Expense	184,043	173,847
11 Total Expenses	1,442,463	1,385,436
12 Net Income	210,587	246,673
13 Equity Component of Rate Base	2,289,217	2,201,112
14 Effective Rate of Return	9.20%	11.21%