

**Seattle Public Utilities**  
**2018-2020 Wholesale Water Rate Study**  
 June 11, 2017

**Summary**

Seattle proposes to adjust regional wholesale water rates beginning January 1, 2018, as shown below.

Rates per CCF	2017		2018		2019		2020	
	Off-Peak 9/16-5/15	Peak 5/16-9/15	Off-Peak 9/16-5/15	Peak 5/16-9/15	Off-Peak 9/16-5/15	Peak 5/16-9/15	Off-Peak 9/16-5/15	Peak 5/16-9/15
Full & Partial Rates	\$1.42	\$2.10	\$1.50	\$2.22	\$1.58	\$2.36	\$1.67	\$2.50
Change from Prior Year:			5.6%	5.7%	5.3%	6.3%	5.7%	5.9%
Subregional Surcharge Rates								
Southwest Subregion:	\$0.16		\$0.16		\$0.16		\$0.16	
Northwest Subregion:	\$0.07		\$0.07		\$0.07		\$0.07	
East Subregion, Segment 3:	\$0.08		\$0.00		\$0.00		\$0.00	
East Subregion, Segment 4:	\$0.16		\$0.00		\$0.01		\$0.01	
Renton New Water Adjustment	\$(0.01)	\$(0.02)	\$0.05	\$0.08	\$0.06	\$0.08	\$0.06	\$0.09
Facilities Charges, per connection								
1" and smaller	\$936.00		\$936.00		\$1,081.00		\$1,081.00	
1.5"	4,180.00		4,180.00		4,825.00		4,825.00	
2"	6,688.00		6,688.00		7,720.00		7,720.00	
3"	18,392.00		18,392.00		21,230.00		21,230.00	
4"	25,916.00		25,916.00		29,915.00		29,915.00	
6"	55,176.00		55,176.00		63,690.00		63,690.00	
8"	93,632.00		93,632.00		108,080.00		108,080.00	
10"	141,284.00		141,284.00		163,085.00		163,085.00	
12" and larger	198,968.00		198,968.00		229,670.00		229,670.00	

This document describes the calculation of rates for wholesale customers. It is organized to follow the steps involved in the rate study process including the assumptions, allocation of O&M and asset costs to develop the regional cost, allocation of the regional cost between Block contracts and Full and Partial Requirements customers, incorporation true up adjustments, and design of rates. This rate study also discusses the Southwest Subregion, and develops rates for the East Subregion, Renton New Supply block, CWA and Northshore blocks, and the North Bend treatment discount.

**Overall Assumptions and Background Information**

1. The effect of North Bend, Edmonds, and Lake Forest Park demand and revenue is excluded because it is unknown and minimal. The actual effect of any water sales will be captured through the true up process.
2. Seattle's average cost of debt is assumed at 4.4% throughout the rate study period, which is the rate calculated for 2017.
3. A true up is performed each year to compare the prior year's actual revenues and actual costs of service. A running balance of the excess or deficit in revenues is maintained. This rate study sets rates to amortize the projected 2017 year-end true up balances over the 2018-2020 rate period.
4. The Northwest wheeling rate is updated on a separate schedule and will not affect this rate study.

5. The Facilities Charge rate is updated independently based on Regional Conservation decisions by the Water Supply Operating Board at their June 1, 2017 meeting. The new rate will be effective January 1, 2019.
6. Regional O&M is based on Seattle’s 2017 spending plan and the Strategic Business Plan baseline for 2018-2020.
7. Assets are based on the 2018-2023 Capital Improvement Plan (CIP) presented at the March 2, 2017 Operating Board meeting.
8. As part of the second amendment to their contract, Cascade Water Alliance (CWA) is scheduled to make a \$12M Contract Transition Payment in 2018. Under their contract, this payment is treated as Full and Partial Contract Existing Supply revenue and does not offset block costs allocated to CWA.

### **Significant Changes Since the Last Rate Study**

Although there have been transfers from the Facilities Charge (FC) cost pool to New Supply rates before, these occurred after commodity rates were set. Accordingly, the transfers had not been incorporated into a rate study. This is also the first time that a change to the FC rate coincides with a rate study. Because commodity rates for 2018-2020 will depend on the projected annual transfer from the FC cost pool, these transfers are incorporated into the 2018-2020 rate study.

Another change is within the New Supply rate cost pool. Due to the transfer of excess Facilities Charge revenues through 2017, the New Supply rate cost pool is overfunded. In order to bring this cost pool to zero by the end of the rate setting period, the New Supply component of regional rates will be negative and will offset the Existing Supply and Existing Transmission components of regional rates.

Renton participates in Regional Conservation through a block allocation rather than through Facilities Charges. Their allocation is based on their total retail flows as compared to all retail flows covered by Regional Conservation. As per section IV.E. 7.e.iii of their contract, this percentage is updated every five years, with the first update effective January 1, 2017. Based on flow data covering 2011-2015 their allocation was updated to 6.3% from the previous allocation of 5.7%.

The Southwest Subregional surcharge is usually updated at the same time as regional rates. This surcharge is calculated using flow based allocations for the peak summer month. However, the meters that the allocations depend on are currently being replaced and relocated, and additional meters are being added. The surcharge will be held at the 2017 rate until a separate rate study on the Southwest Subregional surcharge is completed in 2018 using 2017 peak month data.

### **Total Regional O&M Costs**

Yearly operations costs for each cost pool (e.g. Existing Supply) are calculated by applying an index to a base amount. The index is developed from the cost of certain O&M activities as identified in the contract. The original base amount for each cost pool is identified in the contracts, and has been adjusted every year by the index.

The starting point for this rate study was the 2016 base and index amounts developed during the 2016 true up. For 2017, SPU’s O&M Spending Plan by activity was used. For 2018-2023, the rate study uses the O&M baseline budget developed as part of the Strategic Business Plan. The New Supply O&M index costs for 2019-2023 reflect the Regional Conservation decisions made at the June 1, 2017 Operating Board. These decisions set the Regional Conservation program O&M and CIP budget for 2019-2028.

	<b>2016 Preliminary</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Existing Supply</b>								
Prior Year Base	37,947,363	36,232,291	36,371,247	37,296,632	38,635,957	39,944,736	41,134,186	42,359,841
Prior Year Costs in Index activities	26,382,975	25,190,569	25,287,177	25,930,553	26,861,721	27,771,652	28,598,620	29,450,759
Current Year Costs in Index activities	25,190,569	25,287,177	25,930,553	26,861,721	27,771,652	28,598,620	29,450,759	30,329,966
Ratio of Current to Prior	0.9548	1.0038	1.0254	1.0359	1.0339	1.0298	1.0298	1.0299
Current Year Operations Cost Base	36,232,291	36,371,247	37,296,632	38,635,957	39,944,736	41,134,186	42,359,841	43,624,428
Expensed CIP, loss/gain on sale	227,853.54							
Total Current Year Cost	36,460,145	36,371,247	37,296,632	38,635,957	39,944,736	41,134,186	42,359,841	43,624,428
<b>Existing Transmission</b>								
Prior Year Base	14,636,756	15,282,082	15,978,564	16,401,609	16,667,081	17,253,584	17,547,293	18,005,653
Prior Year Costs in Index activities	3,842,454	4,011,866	4,194,707	4,305,765	4,375,457	4,529,426	4,606,531	4,726,860
Current Year Costs in Index activities	4,011,866	4,194,707	4,305,765	4,375,457	4,529,426	4,606,531	4,726,860	4,850,504
Ratio of Current to Prior	1.0441	1.0456	1.0265	1.0162	1.0352	1.0170	1.0261	1.0262
Current Year Operations Cost Base	15,282,082	15,978,564	16,401,609	16,667,081	17,253,584	17,547,293	18,005,653	18,476,641
Expensed CIP, loss/gain on sale								
Total Current Year Cost	15,282,082	15,978,564	16,401,609	16,667,081	17,253,584	17,547,293	18,005,653	18,476,641
<b>New Supply</b>								
Prior Year Base	1,026,935	990,541	964,181	991,122	1,853,852	1,900,199	1,947,704	1,996,396
Prior Year Costs in Index activities	459,775	443,481	431,680	443,742	830,000	850,750	872,019	893,819
Current Year Costs in Index activities	443,481	431,680	443,742	830,000	850,750	872,019	893,819	916,165
Ratio of Current to Prior	0.9646	0.9734	1.0279	1.8705	1.0250	1.0250	1.0250	1.0250
Total Current Year Cost	990,541	964,181	991,122	1,853,852	1,900,199	1,947,704	1,996,396	2,046,306
<b>New Transmission</b>								
Costs in allocated activities	0	0	0	0	0	0	0	0
Apply G&A as per CIP								
Total New Transmission Costs	0	0	0	0	0	0	0	0

**Total Regional Capital Costs**

Yearly capital costs for the Existing Supply and Existing Transmission cost pools are calculated on the utility basis for assets assigned to those cost pools. Under the utility basis, the annual cost of an asset is depreciation plus the Net Book Value of the asset multiplied by a return on assets. The capital costs for the New Supply cost pool are calculated on the utility basis for assets created prior to 2011, and on a cash basis for assets added in 2011 and later.

The assets to be included in each cost pool are identified in the contract. Administratively, there are three categories of assets to be included in the rate study calculation: existing assets, future assets (in-construction or planned), and special assets.

### **Existing Assets**

The basis for existing assets was the 2016 asset schedule. Depreciation and Net Book Value were calculated for each asset through 2020 and allocated to the appropriate cost pool.

### **In-Construction and Future Assets**

Identification of future assets came from the Water Fund’s 2017 capital budget and 2018-2023 Capital Improvement Plan. The SPU financial system provided Work-in-Progress balances on these projects as of December 31, 2016. For each project, an in-service year was determined – typically the last year of spending shown in the CIP budget. Exceptions were annual programs, such as Transmission Pipeline Rehabilitation, that are capitalized at the end of each year.

Assets were assigned to cost pools per the lists in the contract exhibits. In a few cases, the CIP item consists of smaller projects (such as the Cathodic Protection Program). Some of these smaller projects are on regional assets and some are not. For rate setting purposes, these assets were prorated 50:50 between regional and Seattle retail. When the projects are executed, they will be disaggregated for tracking and allocating actual costs.

### **Special Assets**

There are several assets that receive special treatment for rate making/cost allocation purposes.

#### **1. Interest paid during construction on the Tolt Filtration Plant.**

Wholesale customers agreed to pay a portion of interest costs during construction of the Tolt Filtration Plant. These payments reduce the rate-based cost of the Tolt Filtration Plant now that construction is complete. This appears as a contributed asset on the existing asset schedule.

#### **2. Interest paid during construction on the Cedar Treatment Plant.**

Wholesale customers agreed to pay a portion of the interest costs for the Cedar Treatment Plant during construction. These payments reduce the rate-based cost of the Cedar Treatment Plant now that construction is complete. This appears as a contributed asset on the existing asset schedule.

#### **3. Contributed assets.**

Any assets or portion of assets that were directly “paid for by others” such as a grant or a direct customer payment are categorized separately and not included as regional or subregional assets.

### **Allocation of Total Regional Costs**

The work above determines total regional costs, which are then allocated between wholesale customers. For cost allocation purposes, Seattle’s retail service area is considered a wholesale customer of the water system. Each allocation described below is done in parallel for each cost pool, where applicable.

#### **Allocation to Block Customers**

CWA has a Declining Block contract with Seattle. For its Base Block, CWA shares in the Regional Existing Supply and Existing Transmission cost pools but not New Supply or New Transmission. The allocation to Cascade’s Base Block is done according to the CWA contract (CWA pays 18.1% of the regional existing supply and transmission costs). This allocation is 102% of the CWA block volume (30.3 MGD) divided by the system firm yield as defined in the Declining Block contract (171 MGD). The cost of Cascade’s Supplemental Block is calculated using 3.0 MGD priced at the Full & Partial rates for each year.

Northshore has a Fixed Block contract with Seattle. Northshore shares in the Regional Existing Supply and Existing Transmission cost pools, and the conservation related portions of the New Supply and Facilities Charge cost pools. The allocation of Existing Supply and Existing Transmission is 5.1%, which is 102% of

Northshore’s block volume (8.55 MGD) divided by the system firm yield as defined in the Fixed Block contract (171 MGD). Northshore’s allocation of conservation is 6.2%, which is 102% of Northshore’s block volume (8.55 MGD) divided by the contract based system firm yield minus the CWA Base Block (171 MGD - 30.3 MGD). CWA’s Base Block is not included in conservation calculations since CWA does not participate in SPU’s regional conservation programs.

Renton has a Partial Requirements Contract, but their allocation of New Supply costs is handled as a block allocation. This is because their entire retail area participates in Regional Conservation while their purchases from Seattle are only a small portion of their supply. Rather than paying Facilities Charges for the CIP side of New Supply and small amount of rates towards the O&M side of New Supply, their block allocation is based on their total retail flows as compared to all retail flows covered by Regional Conservation. As per section IV.E. 7.e.iii of their contract, this percentage is updated every five years, with the first update effective January 1, 2017. Based on flow data from 2011-2015, their allocation was increased to 6.3% from the previous allocation of 5.7%.

	2011	2012	2013	2014	2015
Bothell	627,483	645,746	663,539	715,943	738,030
Cedar River	791,574	845,321	837,278	856,402	920,373
Coal Creek	443,453	479,094	472,781	491,909	560,980
Duvall	215,895	216,172	213,225	229,374	228,157
Highline	2,644,611	2,659,258	2,703,065	2,779,089	2,847,534
Lake Forest Park	97,582	90,176	89,863	91,564	94,995
Mercer Island	791,529	897,230	900,575	966,483	959,114
North City	709,027	731,780	746,917	754,150	750,242
Northshore	2,266,068	2,362,615	2,427,789	2,452,293	2,505,023
Olympic View	575,861	558,421	586,950	603,319	618,309
Renton	2,830,862	2,955,165	2,867,155	2,859,392	3,007,726
Soos Creek	1,737,069	1,867,566	1,861,518	1,894,792	1,903,748
Woodinville	1,696,919	1,724,180	1,739,578	1,848,832	1,897,607
WD 20	1,005,816	1,013,874	994,177	1,035,187	1,029,163
WD 45	100,065	105,855	104,628	107,942	111,737
WD 49	548,355	548,241	537,628	558,191	572,646
WD 90	638,859	667,072	697,405	706,094	764,579
WD 119 (est)	113,957	113,957	112,750	112,750	127,510
WD 125	559,617	570,319	555,828	573,455	582,314
Seattle	25,824,242	26,279,721	26,429,190	26,190,327	27,150,842
Total	44,218,844	45,331,763	45,541,839	45,827,488	47,370,629
Percentage	6.4%	6.5%	6.3%	6.2%	6.3%
Average 2011-2015	<b>6.3%</b>				

**Remainder to Full and Partial Requirements Contract Holders**

Full and Partial Requirements customers, including Seattle-as-wholesale, pay the remaining costs in the new contract cost pool.

### **True Up Adjustments**

Although regional cost development is done jointly for Full and Partial Requirements Customers and the CWA, Northshore, and Renton blocks, the true ups and resulting excesses/deficiencies for these groups are maintained separately. As such, Seattle (rather than Full and Partial wholesale customers) temporarily funds any excesses or deficiencies in the CWA, Northshore, and Renton blocks.

### **Block Balances**

For costs recovered through block payments, the excess or deficiency is applied to the following year's block payments. For example, the true up covering 2016 was calculated in 2017 and applied to the 2018 block.

### **Rate Based Balances**

For costs recovered through rates, the true up balance is applied over the rate study period to raise or lower future rates in order to deplete the balance by the end of the rate setting period. This is done separately for the Existing Supply, Existing Transmission, and New Supply cost pools.

This rate study includes the actual Full and Partial Requirements Contracts true up balances from the 2016 true up and the current forecast for the 2017 true up. Rates are set to amortize the projected 2017 year-end balances plus interest over the 2018-2020 period.

### **Facilities Charge Cost Pool Balances**

The balance in the FC cost pool is not amortized over the rate setting period, and is not used to adjust the FC price. As per the contracts, any FC cost pool balance in excess of the Net Book Value of the assets allocated to the FC cost pool is transferred annually to the rate based New Supply cost pool to offset costs in that cost pool. This transfer is the cause of the negative New Supply rate.

### **Cost Allocation Summary**

The following schedule presents the summary of Regional Full and Partial Contract costs for 2018-2023. The table steps through subtracting block allocations from each cost pool, as well as adding the CWA Transition Payment in 2018 and the ongoing transfers of excess Facilities Charge revenues to the New Supply rates cost pool.

### Regional Costs & Allocation between Contract Types

	2016 (Preliminary)	2017	2018	2019	2020	2021	2022	2023
<b>Existing Supply Cost Pool</b>								
Regional Asset cost	34,963,499	37,109,167	39,774,015	40,397,636	41,067,613	41,185,566	39,494,680	39,057,874
Regional O&M cost	36,460,145	36,371,247	37,296,632	38,635,957	39,944,736	41,134,186	42,359,841	43,624,428
<b>Total Regional Cost</b>	<b>71,423,644</b>	<b>73,480,414</b>	<b>77,070,646</b>	<b>79,033,592</b>	<b>81,012,349</b>	<b>82,319,751</b>	<b>81,854,521</b>	<b>82,682,302</b>
Allocation to CWA Base Block	(12,908,884)	(13,280,618)	(13,929,505)	(14,284,282)	(14,641,916)	(14,878,212)	(14,794,128)	(14,943,738)
Allocation to CWA Supplemental Block	(1,768,608)	(1,768,608)	(1,790,508)	(1,951,183)	(2,104,716)	(2,104,716)	(2,104,716)	(2,104,716)
Allocation to NUD Block	(3,642,606)	(3,747,501)	(3,930,603)	(4,030,713)	(4,131,630)	(4,198,307)	(4,174,581)	(4,216,797)
Cascade Transition Payment			(12,000,000)					
Remaining Costs to F&P rates	53,103,546	54,683,686	45,420,030	58,767,414	60,134,087	61,138,516	60,781,097	61,417,051
True Up balance applied	-	-	4,800,000	(4,000,000)	(1,000,000)	-	-	-
<b>Amount to be collected through rates</b>	<b>-</b>	<b>-</b>	<b>50,220,030</b>	<b>54,767,414</b>	<b>59,134,087</b>	<b>61,138,516</b>	<b>60,781,097</b>	<b>61,417,051</b>
<b>Expected F&amp;P revenues</b>	<b>48,259,886</b>	<b>49,877,629</b>	50,255,101	54,751,634	59,164,806	61,242,094	60,840,483	61,292,453
CY (under)/Over payment	(4,843,660)	(4,806,057)	4,835,071	(4,015,780)	(969,281)	103,578	59,386	(124,598)
<b>Balance</b>	<b>4,548,267</b>	<b>(53,118)</b>	<b>4,779,615</b>	<b>974,138</b>	<b>47,720</b>	<b>153,397</b>	<b>219,533</b>	<b>104,595</b>
Interest on above, affects following year	204,672	(2,337)	210,303	42,862	2,100	6,749	9,659	4,602
<b>Existing Transmission Cost Pool</b>								
Regional Asset cost	19,030,378	18,521,845	18,464,811	18,341,241	18,081,201	19,008,609	19,754,617	20,926,327
Regional O&M cost	15,282,082	15,978,564	16,401,609	16,667,081	17,253,584	17,547,293	18,005,653	18,476,641
<b>Total Regional Cost</b>	<b>34,312,460</b>	<b>34,500,410</b>	<b>34,866,420</b>	<b>35,008,322</b>	<b>35,334,785</b>	<b>36,555,903</b>	<b>37,760,270</b>	<b>39,402,967</b>
Allocation to CWA Base Block	(6,201,526)	(6,235,495)	(6,301,647)	(6,327,294)	(6,386,297)	(6,606,998)	(6,824,672)	(7,121,568)
Allocation to CWA Supplemental Block	(781,949)	(781,949)	(1,023,080)	(1,030,458)	(1,052,240)	(1,052,240)	(1,052,240)	(1,052,240)
Allocation to NUD Block	(1,749,935)	(1,759,521)	(1,778,187)	(1,785,424)	(1,802,074)	(1,864,351)	(1,925,774)	(2,009,551)
Remaining Costs to F&P rates	25,579,050	25,723,445	25,763,506	25,865,145	26,094,174	27,032,313	27,957,585	29,219,608
True Up balance applied			3,000,000	3,000,000	3,300,000	-	-	-
<b>Amount to be collected through rates</b>	<b>-</b>	<b>-</b>	<b>28,763,506</b>	<b>28,865,145</b>	<b>29,394,174</b>	<b>27,032,313</b>	<b>27,957,585</b>	<b>29,219,608</b>
<b>Expected F&amp;P revenues</b>	<b>23,049,498</b>	<b>22,026,598</b>	28,671,421	28,953,410	29,502,213	27,114,994	27,979,734	29,191,947
CY (under)/Over payment	(2,529,553)	(3,696,847)	2,907,914	3,088,265	3,408,040	82,681	22,149	(27,661)
<b>Balance</b>	<b>(4,833,579)</b>	<b>(8,747,936)</b>	<b>(6,224,931)</b>	<b>(3,410,563)</b>	<b>(152,588)</b>	<b>(76,621)</b>	<b>(57,843)</b>	<b>(88,049)</b>
Interest on above, affect following year	(217,511)	(384,909)	(273,897)	(150,065)	(6,714)	(3,371)	(2,545)	(3,874)
<b>New Supply Cost Pool - Rate Based</b>								
Regional Asset cost	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Regional O&M cost	990,541	964,181	991,122	1,853,852	1,900,199	1,947,704	1,996,396	2,046,306
<b>Total Regional Cost</b>	<b>990,541</b>	<b>964,181</b>	<b>991,122</b>	<b>1,853,852</b>	<b>1,900,199</b>	<b>1,947,704</b>	<b>1,996,396</b>	<b>2,046,306</b>
Allocation to CWA Supplemental Block	(21,900)	(21,900)	94,977	102,355	109,616	109,616	109,616	109,616
Allocation to NUD Block	(61,397)	(59,763)	(61,433)	(114,907)	(117,780)	(120,724)	(123,743)	(126,836)
Allocation to Renton Block	(56,461)	(60,743)	(62,441)	(116,793)	(119,713)	(122,705)	(125,773)	(128,917)
Remaining Costs to F&P rates	850,784	821,775	962,225	1,724,508	1,772,322	1,813,890	1,856,496	1,900,168
Transfer (from)/to FC cost pool	3,694,997	2,388,569	764,707	1,573,772	1,602,045	1,622,366	1,485,752	1,401,345
True Up balance applied	-	-	(3,000,000)	(3,000,000)	(3,300,000)	-	-	-
<b>Amount to be collected through rates</b>	<b>-</b>	<b>-</b>	<b>(2,802,481)</b>	<b>(2,849,265)</b>	<b>(3,129,723)</b>	<b>191,523</b>	<b>370,744</b>	<b>498,823</b>
<b>Expected F&amp;P revenues</b>	<b>720,297</b>	<b>600,294</b>	(2,643,402)	(2,898,833)	(3,074,715)	173,060	426,300	426,466
CY (under)/Over payment	3,564,510	2,167,088	(2,840,921)	(3,049,568)	(3,244,992)	(18,463)	55,555	(72,357)
<b>Balance</b>	<b>6,007,524</b>	<b>8,444,950</b>	<b>5,975,607</b>	<b>3,188,966</b>	<b>84,289</b>	<b>69,534</b>	<b>128,149</b>	<b>61,430</b>
Interest on above, affect following year	270,339	371,578	262,927	140,315	3,709	3,059	5,639	2,703
<b>New Transmission Cost Pool</b>								
Asset cost	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
O&M cost	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Regional Cost</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>New Supply Cost Pool - FC Based</b>								
Regional Asset cost	2,270,849	2,144,585	2,140,696	1,436,072	1,252,370	1,050,625	1,076,891	1,103,813
<b>Total Regional Cost</b>	<b>2,270,849</b>	<b>2,144,585</b>	<b>2,140,696</b>	<b>1,436,072</b>	<b>1,252,370</b>	<b>1,050,625</b>	<b>1,076,891</b>	<b>1,103,813</b>
Allocation to NUD Block	(140,754)	(132,928)	(132,687)	(89,012)	(77,626)	(65,121)	(66,749)	(68,418)
Allocation to Renton Block	(84,982)	(88,557)	(90,770)	(63,000)	(64,575)	(66,189)	(67,844)	(69,540)
<b>Remaining Costs to FC Cost Pool</b>	<b>2,045,113</b>	<b>1,923,101</b>	<b>1,917,239</b>	<b>1,284,060</b>	<b>1,110,169</b>	<b>919,315</b>	<b>942,298</b>	<b>965,855</b>
<b>Expected revenues</b>	<b>5,479,068</b>	<b>3,811,324</b>	<b>2,090,000</b>	<b>1,930,000</b>	<b>1,930,000</b>	<b>1,930,000</b>	<b>1,930,000</b>	<b>1,930,000</b>
CY (under)/Over payment	3,433,955	1,888,223	172,761	645,940	819,831	1,010,685	987,702	964,145
Balance before Transfer to New Supply Rates	12,051,975	10,621,264	8,767,695	9,001,059	8,573,919	8,289,321	7,948,003	7,710,735
New Supply Facility NBV	8,356,978	8,232,695	8,002,988	7,427,287	6,971,874	6,666,955	6,462,251	6,309,390
Transfer to New Supply Rate Base	(3,694,997)	(2,388,569)	(764,707)	(1,573,772)	(1,602,045)	(1,622,366)	(1,485,752)	(1,401,345)
<b>Balance after Transfer</b>	<b>8,356,978</b>	<b>8,232,695</b>	<b>8,002,988</b>	<b>7,427,287</b>	<b>6,971,874</b>	<b>6,666,955</b>	<b>6,462,251</b>	<b>6,309,390</b>
Interest on above, affect following year	376,064	362,239	352,131	326,801	306,762	293,346	284,339	277,613

## Rate Making

The essence of rate making is to determine the unit price by dividing the revenues to be collected by the units of service. Water rates are set in whole penny amounts and are seasonally differentiated (i.e. there is a peak rate and an off-peak rate). Seasonal rate rounding was selected to generate revenues that were closest to the annual revenue requirement while maintaining the existing ratio of peak rate to off-peak rate of 1.45 to 1.5. The peak season is May 16 to September 15 and the remainder of the year is off-peak.

## Demand Volumes

Demand forecasts have an impact on rates as generated revenues are dependent upon the amount of water sold. Volumes in 2017 are higher than the prior rate study had projected, and are expected to remain relatively flat going forward. This helps offset the rate increases over 2018-2020.

	2016	Prior 2017 Projection	2017	2018	2019	2020	2021	2022	2023
<b>Full and Partial (metered)</b>									
Peak CCF	6,257,000	5,424,200	5,997,600	5,940,900	5,965,800	5,990,800	6,014,200	6,037,700	6,061,100
Off-Pk. CCF	7,768,600	6,622,800	7,552,000	7,421,100	7,452,400	7,483,900	7,513,300	7,542,500	7,571,900
<b>Total Base CCF</b>	<b>14,025,600</b>	<b>12,047,000</b>	<b>13,549,600</b>	<b>13,362,000</b>	<b>13,418,200</b>	<b>13,474,700</b>	<b>13,527,500</b>	<b>13,580,200</b>	<b>13,633,000</b>
<b>CWA (metered)</b>									
Peak CCF	5,949,200	6,094,000	5,899,700	5,915,600	5,931,500	5,947,500	5,954,200	5,960,800	5,967,500
Off-Pk. CCF	7,287,500	7,161,500	7,062,800	7,081,900	7,100,900	7,120,000	7,128,000	7,136,000	7,144,000
<b>Total Base CCF</b>	<b>13,236,700</b>	<b>13,255,500</b>	<b>12,962,500</b>	<b>12,997,500</b>	<b>13,032,400</b>	<b>13,067,500</b>	<b>13,082,200</b>	<b>13,096,800</b>	<b>13,111,500</b>
<b>Northshore (metered)</b>									
Peak CCF	1,112,800	1,130,200	1,102,400	1,104,500	1,106,700	1,108,800	1,110,800	1,112,900	1,115,000
Off-Pk. CCF	1,414,100	1,461,300	1,431,700	1,434,500	1,437,200	1,440,000	1,442,700	1,445,300	1,448,000
<b>Total Base CCF</b>	<b>2,526,900</b>	<b>2,591,500</b>	<b>2,534,100</b>	<b>2,539,000</b>	<b>2,543,900</b>	<b>2,548,800</b>	<b>2,553,500</b>	<b>2,558,200</b>	<b>2,563,000</b>
<b>Seattle Retail (metered)</b>									
Peak CCF	10,517,400	10,602,946	10,519,300	10,514,400	10,509,400	10,504,500	10,490,400	10,476,400	10,462,300
Off-Pk. CCF	15,999,700	16,118,254	15,974,600	15,967,000	15,959,500	15,952,000	15,930,700	15,909,300	15,888,000
<b>Total Base CCF</b>	<b>26,517,100</b>	<b>26,721,200</b>	<b>26,493,900</b>	<b>26,481,400</b>	<b>26,468,900</b>	<b>26,456,500</b>	<b>26,421,100</b>	<b>26,385,700</b>	<b>26,350,300</b>
<b>Total Metered Demand</b>									
Peak CCF	23,836,400	23,251,346	23,519,000	23,475,400	23,513,400	23,551,600	23,569,600	23,587,800	23,605,900
Off-Pk. CCF	32,469,900	31,363,854	32,021,100	31,904,500	31,950,000	31,995,900	32,014,700	32,033,100	32,051,900
<b>Total Base CCF</b>	<b>56,306,300</b>	<b>54,615,200</b>	<b>55,540,100</b>	<b>55,379,900</b>	<b>55,463,400</b>	<b>55,547,500</b>	<b>55,584,300</b>	<b>55,620,900</b>	<b>55,657,800</b>
<b>Non-Revenue Water (estimated at 8.0 MGD)</b>									
Peak CCF	1,315,508	1,315,508	1,315,508	1,315,508	1,315,508	1,315,508	1,315,508	1,315,508	1,315,508
Off-Pk. CCF	2,588,235	2,588,235	2,588,235	2,588,235	2,588,235	2,588,235	2,588,235	2,588,235	2,588,235
<b>Total Base CCF</b>	<b>3,903,743</b>	<b>3,903,743</b>	<b>3,903,743</b>	<b>3,903,743</b>	<b>3,903,743</b>	<b>3,903,743</b>	<b>3,903,743</b>	<b>3,903,743</b>	<b>3,903,743</b>
<b>Transmission Non-Revenue Water (2% )</b>									
Peak CCF	503,038	491,337	496,690	495,818	496,578	497,342	497,702	498,066	498,428
Off-Pk. CCF	701,163	679,042	692,187	689,855	690,765	691,683	692,059	692,427	692,803
<b>Total Base CCF</b>	<b>1,204,201</b>	<b>1,170,379</b>	<b>1,188,877</b>	<b>1,185,673</b>	<b>1,187,343</b>	<b>1,189,025</b>	<b>1,189,761</b>	<b>1,190,493</b>	<b>1,191,231</b>
<b>Remainder of Non-Revenue to Seattle</b>									
Peak CCF	812,470	824,171	818,818	819,690	818,930	818,166	817,806	817,442	817,080
Off-Pk. CCF	1,887,073	1,909,194	1,896,049	1,898,381	1,897,471	1,896,553	1,896,177	1,895,809	1,895,433
<b>Total Base CCF</b>	<b>2,699,542</b>	<b>2,733,364</b>	<b>2,714,866</b>	<b>2,718,070</b>	<b>2,716,400</b>	<b>2,714,718</b>	<b>2,713,982</b>	<b>2,713,250</b>	<b>2,712,512</b>
<b>Seattle as Wholesale</b>									
Peak CCF	11,329,870	11,427,117	11,338,118	11,334,090	11,328,330	11,322,666	11,308,206	11,293,842	11,279,380
Off-Pk. CCF	17,886,773	18,027,447	17,870,649	17,865,381	17,856,971	17,848,553	17,826,877	17,805,109	17,783,433
<b>Total Base CCF</b>	<b>29,216,642</b>	<b>29,454,564</b>	<b>29,208,766</b>	<b>29,199,470</b>	<b>29,185,300</b>	<b>29,171,218</b>	<b>29,135,082</b>	<b>29,098,950</b>	<b>29,062,812</b>
<b>Total F&amp;P Demand + Seattle as wholesale</b>									
Peak CCF	17,586,870	16,851,317	17,335,718	17,274,990	17,294,130	17,313,466	17,322,406	17,331,542	17,340,480
Off-Pk. CCF	25,655,373	24,650,247	25,422,649	25,286,481	25,309,371	25,332,453	25,340,177	25,347,609	25,355,333
<b>Total Base CCF</b>	<b>43,242,242</b>	<b>41,501,564</b>	<b>42,758,366</b>	<b>42,561,470</b>	<b>42,603,500</b>	<b>42,645,918</b>	<b>42,662,582</b>	<b>42,679,150</b>	<b>42,695,812</b>



**Cost Pools and Regional Rates**

Full and Partial Contract customers technically have separate rates for each cost pool (Existing Supply, Existing Transmission, New Supply, and New Transmission). The following breakdown is provided because Renton pays for Existing Supply, Existing Transmission and New Transmission costs through rates, while New Supply costs are paid through the Renton New Supply block payment.

Rates per CCF	2018		2019		2020	
	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak
Existing Supply	\$0.99	\$1.46	\$1.07	\$1.60	\$1.16	\$1.72
Existing Transmission	\$0.56	\$0.84	\$0.57	\$0.84	\$0.57	\$0.87
New Supply	\$(0.05)	\$(0.08)	\$(0.06)	\$(0.08)	\$(0.06)	\$(0.09)
New Transmission	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total</b>	<b>\$1.50</b>	<b>\$2.22</b>	<b>\$1.58</b>	<b>\$2.36</b>	<b>\$1.67</b>	<b>\$2.50</b>

**Full and Partial Rate Drivers**

For regional rates, the main drivers of the change in rates were the depletion of the 2014 true up balance that held down 2015-2017 rates, and an increase in O&M as compared to what was assumed in the 2015-2017 rate study. The breakdown among all rate drivers for 2018 is:

Increase in Regional Asset Costs	0.6 %
Increase in Regional O&M Costs	7.3 %
Depletion of 2014-2017 True Up Balance	10.9 %
Facilities Charge Transfer	(1.1) %
Cascade Transition Payment	(9.6) %
<u>Increase in demand</u>	<u>(2.5) %</u>
<b>Total</b>	<b>5.6 %</b>

**Facilities Charge Fee**

The current Facilities Charge rate of \$836/ERU became effective 2/1/2014. This charge is based on the Operating Board’s decisions to recover the cost of the capital side of the regional conservation program from 2001 through 2018 through Facility Charges.

At their June 1, 2017 meeting the Operating Board set the regional conservation goal and budget for 2019-2028 and allocated the first five years of capital spending to the Facilities Charge cost pool. The resulting FC is \$965/ERU, which is equivalent to \$1,081 per 1” and smaller connections. This will become effective January 1, 2019.

**Southwest Subregion**

The Southwest Subregion is comprised of six “Facilities” as defined in the contract. Rates are typically calculated for the Southwest Subregion at the same time as the main rate study, but as a separate step. For each Facility, total O&M and utility basis capital costs are determined. Then, for each of the six facilities, the percent used by all wholesale customers (as opposed to Seattle) during the peak summer month is determined, and that percent is applied to the O&M and asset cost for the corresponding facility. These costs are combined to form the Southwest Subregional cost pool.

In 2017, existing metering equipment is being replaced and relocated, and additional meters are being added to better determine the portion of water used by retail versus wholesale through each facility. Due to

expected changes in the allocations, the Subregional rate will be held at the 2017 rate. A separate rate study on just this surcharge will be completed in 2018 using 2017 peak month data.

### **East Subregion**

The East Subregion consists of four segments of the Mercer Island Pipeline, each serving different combinations of wholesale customers. Because the segments are in series (each segment feeds the next one) cost allocation is a sequential calculation based on flows.

### **Capital Cost and O&M**

Since no CIP items were identified that affect the Mercer Island Pipeline, the asset costs are based only on the existing asset schedule. Allocated O&M costs are assumed to be zero for all segments except Segment 3, which includes costs for work on a slow-moving slide affecting that section of the pipeline.

### **Setting Rates**

A rate was calculated for each segment of the pipeline and the rate will be applied to flow through wholesale meters on that segment. These rates and the revenues they generate will be tracked and trued up separately for each segment. As a result, Mercer Island (which has meters on two different segments) will experience two different Subregional surcharges on their monthly bills.

Rates have fluctuated significantly over the years for two reasons:

- 1) Any change to use patterns of taps on Segment 3 versus Segment 4 affects which Subregional segment receives revenues to offset accumulated costs, which are based on historic patterns.
- 2) Lumpy costs occurred in past years due to the slide on Segment 3. Because these costs were spread over a small amount of flow, rates fluctuated significantly.

Both segments are currently overfunded and the rates for both will be zero in 2018, and \$0.01 for segment 4 in 2019 and 2020. This does leave a positive true up balance in Segment 3 at the end of 2020.

<b><u>Split Cost to Segment by Flows</u></b>					
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Segment 1</b>					
Assets	13,230	12,745	12,376	12,007	11,638
O&M	0	0	0	0	0
<b>Cost</b>	<b>13,230</b>	<b>12,745</b>	<b>12,376</b>	<b>12,007</b>	<b>11,638</b>
Bellevue Taps (part of CWA Block)	845	814	790	767	743
Downstream	12,385	11,931	11,586	11,240	10,895
<b>Segment 2</b>					
Assets	18,486	17,820	17,321	16,822	16,323
O&M	0	0	0	0	0
<b>Cost</b>	<b>30,872</b>	<b>29,751</b>	<b>28,907</b>	<b>28,062</b>	<b>27,218</b>
Bellevue Taps (part of CWA Block)	5,901	5,687	5,526	5,364	5,203
Downstream	24,970	24,064	23,381	22,698	22,015
<b>Segment 3</b>					
Assets	31,977	30,871	30,073	29,275	28,477
O&M	8,391	6,000	6,000	6,000	6,000
<b>Cost</b>	<b>65,338</b>	<b>60,935</b>	<b>59,454</b>	<b>57,973</b>	<b>56,492</b>
Mercer Island & Seattle Taps	5,530	5,157	5,032	4,907	4,781
Downstream	59,808	55,778	54,422	53,066	51,711
<b>Segment 4</b>					
Assets	13,101	12,620	12,255	11,890	11,525
O&M	0	0	0	0	0
<b>Cost</b>	<b>72,909</b>	<b>68,398</b>	<b>66,677</b>	<b>64,956</b>	<b>63,235</b>
Mercer Island Taps	72,909	68,398	66,677	64,956	63,235
<b><u>Calculate Rates for each segment:</u></b>					
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Segment 3 Rate Calculation:</b>					
Total Cost Allocated to Segment 3	5,530	5,157	5,032	4,907	4,781
True Up balance applied			(5,032)	(4,907)	(4,781)
<b>Amount to be collected through rates</b>	<b>5,530</b>	<b>5,157</b>	<b>0</b>	<b>0</b>	<b>0</b>
Flow	191,646	187,183	188,106	189,015	189,938
<b>Rounded rates</b>	<b>\$ 0.08</b>	<b>\$ 0.08</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Expected revenues</b>	<b>15,332</b>	<b>14,975</b>	<b>0</b>	<b>0</b>	<b>0</b>
CY (under)/Over payment	9,802	9,817	(5,032)	(4,907)	(4,781)
True up Balance	36,715	48,185	45,273	42,359	39,441
Interest on above, affect following year	1,652	2,120	1,992	1,864	1,735
	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Segment 4 Rate Calculation:</b>					
Total Cost Allocated to Segment 4	72,909	68,398	66,677	64,956	63,235
True Up balance applied			(66,000)	(60,000)	(50,000)
<b>Amount to be collected through rates</b>	<b>72,909</b>	<b>68,398</b>	<b>677</b>	<b>4,956</b>	<b>13,235</b>
Flow	906,549	880,378	885,937	891,411	896,970
<b>Rounded rates</b>	<b>\$ 0.16</b>	<b>\$ 0.16</b>	<b>\$ -</b>	<b>\$ 0.01</b>	<b>\$ 0.01</b>
<b>Expected revenues</b>	<b>145,048</b>	<b>140,861</b>	<b>0</b>	<b>8,914</b>	<b>8,970</b>
CY (under)/Over payment	72,139	72,462	(66,677)	(56,042)	(54,266)
True up Balance	86,325	162,671	103,152	51,648	(345)
Interest on above, affect following year	3,885	7,158	4,539	2,273	(15)

**North Bend Treatment Discount**

North Bend’s Contract is designed to use the published rates for Full and Partial Requirements (the “Basic Services Rate” defined in the contract) with a discount for untreated water. This discount is mentioned in Section IV.C.2 of their contract and detailed in Attachment 1, Exhibit C.

The table below shows the calculation of this discount and resulting North Bend rates for 2018-2020.

<b>Treatment Costs</b>		<b>2018</b>	<b>2019</b>	<b>2020</b>
Cedar Treatment NBV		64,565,315	62,093,577	59,621,839
Cedar Treatment Depreciation		2,471,738	2,471,738	2,471,738
<b>Cedar Treatment Util Basis Cost</b>		<b>6,281,092</b>	<b>6,135,259</b>	<b>5,989,427</b>
Tolt Treatment NBV		49,429,382	47,088,066	44,746,749
Tolt Treatment Depreciation		2,341,316	2,341,316	2,341,316
<b>Tolt Treatment Util Basis Cost</b>		<b>5,257,650</b>	<b>5,119,512</b>	<b>4,981,374</b>
<b>O&amp;M Budget Items</b>				
N050302	TOLT DBO CONTRACT PAYMENTS	3,557,786	3,897,204	4,126,672
N050303	CEDAR DBO CONTRACT PA YMENTS	2,864,957	2,950,906	3,039,433
N750705	TOLT DBO MANAGEMENT COSTS	331,099	345,838	360,935
N750707	CEDAR DBO MANAGEMENT COSTS	780,112	817,365	856,117
N750101	CEDAR CHLORINATION FAC O&M	526,540	541,779	556,996
N750102	FLUORIDATION PROGRAM O&M	400,710	412,617	424,562
N751300	SWTR MONITORING,REPRTING & ADM	161,588	166,267	170,679
N751301	TCR MONITORING, REPRTING & ADM	1,055,935	1,058,276	1,085,634
N751302	LCR MONITORING, REPRTING & ADM	22,427	23,072	23,663
N751303	DBP MONITORING, REPRTING & ADM	178,168	131,964	135,298
N751304	PUBLIC INFRMATION/NOTIFICATION	163,695	168,601	173,640
N751305	REGULATORY SUPPORT	107,049	110,106	112,851
	Overhead on above at 43.823%	4,448,063	4,655,754	4,849,663
	<b>O&amp;M Cost</b>	<b>14,598,130</b>	<b>15,279,749</b>	<b>15,916,142</b>
	<b>Total Regional Cost related to treatment</b>	<b>26,136,871</b>	<b>26,534,520</b>	<b>26,886,943</b>
	CWA Base Block and NUD Allocation	6,056,876	6,149,026	6,230,695
	Portion of regional cost to full and partial contract	20,079,995	20,385,494	20,656,248
	Flow under full and partial contracts (incl. CWA Supplemental)	44,126,486	44,143,054	44,159,716
	<b>Treatment discount per ccf</b>	<b>\$ 0.46</b>	<b>\$ 0.46</b>	<b>\$ 0.47</b>
	<b>North Bend Rates</b>			
	<b>Off Peak</b>	<b>\$ 1.04</b>	<b>\$ 1.12</b>	<b>\$ 1.20</b>
	<b>Peak</b>	<b>\$ 1.76</b>	<b>\$ 1.90</b>	<b>\$ 2.03</b>

**Renton New Supply Cost Pool**

Renton’s Partial Supply Contract has an alternative cost recovery mechanism for the New Supply cost pool since their entire retail area participates in conservation yet only a small portion of the area is served by Seattle water. As per their contract, Renton is allocated a portion of the Renton New Supply cost pool, which differs from the regional New Supply cost pool in that it includes both O&M and CIP, but does not include the costs for conservation assets created prior to 2012. As per section IV.E. 7.e.iii of their contract,

the allocation percentage is updated every five years, with the first update effective January 1, 2017. Based on the most recent five year data (shown on page 5), their allocation for 2017-2021 will be 6.3%.

The resulting costs for Renton are shown below, *before any prior year true up adjustments*.

	2018	2019	2020
<b>Renton New Supply Block</b>			
Asset cost	1,440,800	1,000,000	1,025,000
Allocation to Renton New Supply Block	90,770	63,000	64,575
O&M cost	991,122	1,853,852	1,900,199
Allocation to Renton New Supply Block	62,441	116,793	119,713
<b>Total cost for each year, before prior year true up adjustment</b>	<b>153,211</b>	<b>179,793</b>	<b>184,288</b>

**Renton Commodity Rates**

Because Renton pays for the New Supply cost pool through a block payment, their commodity rate does not include the New Supply cost pool portion of the Full and Partial rate. For 2018-2020, this means that their rate is higher than the Full and Partial rates. Because they do not pay Facilities Charges (and did not help create the current surplus) they will not benefit from the Facilities Charge Transfers that have overfunded the New Supply cost pool.

Rates per CCF	2018		2019		2020	
	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak
Existing Supply	\$0.99	\$1.46	\$1.07	\$1.60	\$1.16	\$1.72
Existing Transmission	\$0.56	\$0.84	\$0.57	\$0.84	\$0.57	\$0.87
New Supply	\$(0.05)	\$(0.08)	\$(0.06)	\$(0.08)	\$(0.06)	\$(0.09)
New Transmission	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Total Full and Partial Rates</b>	<b>\$1.50</b>	<b>\$2.22</b>	<b>\$1.58</b>	<b>\$2.36</b>	<b>\$1.67</b>	<b>\$2.50</b>
Remove New Supply cost pool portion of rate	\$0.05	\$0.08	\$0.06	\$0.08	\$0.06	\$0.09
<b>Renton Commodity Rates</b>	<b>\$1.55</b>	<b>\$2.30</b>	<b>\$1.64</b>	<b>\$2.44</b>	<b>\$1.73</b>	<b>\$2.59</b>

**Northshore Fixed Block**

Northshore is allocated a portion of the Existing Supply and Existing Transmission cost pools. This allocation is 5.1%, which is 102% of Northshore’s block volume (8.55 MGD) divided by the system firm yield as defined in the Fixed Block contract (171 MGD).

Northshore also participates in the regional conservation program and shares in the conservation portion of the New Supply and Facilities Charge cost pools. These costs have been combined into a “Conservation” cost pool and allocated to Northshore at 6.2%, which is 102% of Northshore’s block volume (8.55 MGD) divided by the contract based system firm yield minus the CWA Base block (171 MGD - 30.3 MGD).

The resulting costs for Northshore are shown below, *before any prior year true up adjustments*.

	2018	2019	2020
<b>Existing Supply Cost Pool</b>			
Asset cost	39,774,015	40,397,636	41,067,613
O&M cost	37,296,632	38,635,957	39,944,736
<b>Regional Cost</b>	77,070,646	79,033,592	81,012,349
<b>Adjust for curtailment discount</b>			
<b>Allocation to NUD Block</b>	<b>3,930,603</b>	<b>4,030,713</b>	<b>4,131,630</b>
<b>Existing Transmission Cost Pool</b>			
Asset cost	18,464,811	18,341,241	18,081,201
O&M cost	16,401,609	16,667,081	17,253,584
<b>Regional Cost</b>	34,866,420	35,008,322	35,334,785
<b>Adjust for curtailment discount</b>			
<b>Allocation to NUD Block</b>	<b>1,778,187</b>	<b>1,785,424</b>	<b>1,802,074</b>
<b>Conservation Block</b>			
Asset cost	2,140,696	1,436,072	1,252,370
Allocation to NUD Conservation Block	132,687	89,012	77,626
<b>Adjust for curtailment discount</b>			
O&M cost	991,122	1,853,852	1,900,199
Allocation to NUD Conservation Block	61,433	114,907	117,780
<b>Adjust for curtailment discount</b>			
<b>Total Conservation Block</b>	<b>194,119</b>	<b>203,919</b>	<b>195,405</b>
<b>Total cost for each year, before prior year true up adjustment</b>	<b>5,902,910</b>	<b>6,020,057</b>	<b>6,129,109</b>

**Cascade Water Alliance Declining Block**

Cascade’s Base Block is allocated a portion of the Existing Supply and Existing Transmission cost pools. This allocation is 18.1%, which is 102% of Cascade’s Base block volume (30.3 MGD) divided by the system firm yield as defined in the Declining Block contract (171 MGD).

Cascade is also allocated Subregional costs for the facilities that serve only Cascade or that Cascade shares with a few neighboring utilities (i.e. the Cascade Subregion). Subregion A is the Bellevue Feeders, which are used solely by Cascade (NE 8th St., Bellevue Redmond Road, and NE 24th St). Segments 1 and 2 are the same as East Subregion 1 and 2, and the costs below were developed under that section. Segment 3 is specific to the CWA contract - the costs are currently zero because the West Marginal Way feeder is not yet identified separately in the asset schedule.

Cascade’s Supplemental Block is a 3.0 MGD block priced at the Full and Partial Commodity rates developed above. The resulting total costs for Cascade are shown below, *before any prior year true up adjustments*.

	2018	2019	2020
<b>BASE BLOCK</b>			
<b>Existing Supply Cost Pool</b>			
Asset cost	39,774,015	40,397,636	41,067,613
O&M cost	37,296,632	38,635,957	39,944,736
<b>Regional Cost</b>	<b>77,070,646</b>	<b>79,033,592</b>	<b>81,012,349</b>
<b>Adjust for curtailment discount</b>			
Allocation to CWA Base Block	13,929,505	14,284,282	14,641,916
<b>Existing Transmission Cost Pool</b>			
Asset cost	18,464,811	18,341,241	18,081,201
O&M cost	16,401,609	16,667,081	17,253,584
<b>Regional Cost</b>	<b>34,866,420</b>	<b>35,008,322</b>	<b>35,334,785</b>
<b>Adjust for curtailment discount</b>			
Allocation to CWA Base Block	6,301,647	6,327,294	6,386,297
<b>Total Base Block Cost</b>	<b>20,231,152</b>	<b>20,611,575</b>	<b>21,028,213</b>
<b>CWA SUBREGIONAL COST</b>			
Cascade Subregion A			
Operations Costs	N/A	N/A	N/A
Asset Recovery Costs	6,428	0	0
Cascade Subregion B - Segment 1 calculated on East tab	790	767	743
Cascade Subregion B - Segment 2 calculated on East tab	5,526	5,364	5,203
Cascade Subregion B - Segment 3			
Operations Costs	N/A	N/A	N/A
Asset Recovery Costs	N/A	N/A	N/A
<b>Total Subregional Cost</b>	<b>12,744</b>	<b>6,131</b>	<b>5,946</b>
<b>SUPPLEMENTAL BLOCK</b>			
<b>Supplemental Block Cost at Full &amp; Partial rates</b>	<b>2,718,611</b>	<b>2,879,286</b>	<b>3,047,340</b>
<b>Total cost for each year, before prior year true up adjustment</b>	<b>22,962,507</b>	<b>23,496,993</b>	<b>24,081,499</b>

**Facilities Charge Update**

The majority of Seattle’s water contracts also require wholesale customers pay a one-time new service fee (Facilities Charge) to Seattle when they connect new retail customers to their water distribution systems. The Facilities Charge is based on the costs of new water supply investments, which include regional water conservation. This is the “growth pays for growth” concept of the Contracts.

Under the Contracts, the Seattle Water Supply Operating Board can specify which new supply projects are paid for through Facilities Charges versus wholesale rates. In June 2017, the Operating Board elected to recover the capital cost of the 2019-2023 regional conservation program through Facilities Charges. Cascade’s Base Block is allocated a portion of the Existing Supply and Existing Transmission cost pools. The resulting Facilities Charges will be effective January 1, 2019.

Facilities Charges, per connection	Through December 31, 2018	Effective January 1, 2019
1" and smaller	\$936.00	\$1,081.00
1.5"	4,180.00	4,825.00
2"	6,688.00	7,720.00
3"	18,392.00	21,230.00
4"	25,916.00	29,915.00
6"	55,176.00	63,690.00
8"	93,632.00	108,080.00
10"	141,284.00	163,085.00
12" and larger	198,968.00	229,670.00