WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION STAFF AND
RAINIER VIEW JOINT RESPONSE TO DATA REQUEST

DATE PREPARED:	June 25, 2012	WITNESS:	Jim Ward, Amy White
DOCKET:	UW-110054	RESPONDER:	Jim Ward, Amy White
REQUESTER:	Bench	TELEPHONE:	(360) 664-1250, 664-1247

BENCH REQUEST NO. 1:

Paragraph 15 of the Settlement Agreement provides for a General Facilities Charge (GFC) of $1,549 for a 3/4 inch or smaller meter that will increase proportionately for larger meters using the meter size factors published by the American Water Works Association (AWWA).

a. Explain the basis for the $1549 GFC and provide all supporting workpapers to calculate the GFC.
b. Explain why the meter size factors published by the AWWA accurately reflect the Company's costs for meter sizes larger than 3/4 inch.

RESPONSE NO. 1:

a. In 1998, Rainier View contracted with Apex Engineering to conduct a study of general facilities charges. A copy of the study's conclusions is provided in Attachment 1.a.-1. In the study, the engineering firm determined that the components of the infrastructure to be built with the proceeds of facilities charges were: source, treatment, storage, transmission, and booster pumping. As provided in Attachment 1.a.-1, the engineering firm calculated a cost of $1,572 per residential equivalent connection. Rainier View then applied a 30 percent Company match to the total cost of $1,572 by dividing that amount by 130 percent to calculate a per-customer cost of $1,210 for the general facilities fee. This amount was used in dozens, if not hundreds, of contract filings made by the Company from 1998 through 2010.

In 2010, the Company reviewed and updated the cost of the infrastructure components to $2,213 and, using the same method of applying the Company's 30 percent match, developed a general facilities charge amount of $1,702 due from the customer. See Attachment 1.a.-2, which was prepared by Rainier View and provided to Staff.

Staff reviewed this calculation and determined that the proper way to compute the general facilities amount charge would be to multiply the new total component cost of $2,213 by 70 percent (rather than dividing by 130 percent), resulting in a general facilities charge of $1,549. A copy of Staff's worksheet is provided in Attachment 1.a.-3. The Company concurred with this correction.

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION STAFF AND
RAINIER VIEW JOINT RESPONSE TO DATA REQUEST

DATE PREPARED:	June 25, 2012	WITNESS:	Jim Ward, Amy White
DOCKET:	UW-110054	RESPONDER:	Jim Ward, Amy White
REQUESTER:	Bench	TELEPHONE:	(360) 664-1250, 664-1247

b. The meter size factor reflects the flow capacity of the water meter, and the amount of the water system capacity that is "reserved" to provide adequate service to the meter. The Department of Health sets the total flow capacity of a water system based on many criteria. Meter size factors are a way to "reserve" water system capacity to provide adequate service to each customer. Staff and the companies use the meter size factor to allocate and distribute the supporting infrastructure cost of the entire system based on the flow capacity of each meter size to provide full cost allocation and recovery. AWWA meter size factors are the national industry standard for meter size factors.

Attachment 1.a.-1

Apex Engineering PLLC

October 7, 1998

Mr. Bob Blackman
Rainier View Water Company
P.O. Box 44427
Tacoma, Washington 98444

Reference: General Facilities Charge for Rainier View Water Systems
File #25002/9

Dear Mr. Blackman:

We have completed our study regarding the general facilities charges for the Rainier View water systems. Enclosed is our copies of our study and calculations regarding the rational methodology and calculations regarding establishing a general facilities charges for the Rainier View water system. I hope this information is of assistance in our future discussions regarding implementing the new capital improvement program.

If you have any questions or need additional information, please call me at 473-4494.

Sincerely,

Jerry A. Wakefield, P.E.
Principal

JAW/kd

Attachment

0/25002_W40

2601 South 35th, Suite 200
Tacoma, Washington 98409
(253) 473-4494
Fax: (253) 473-0599

October 7, 1998
File #25002/9

GENERAL FACILITIES CHARGE FOR RAINIER VIEW WATER SYSTEMS

Rationale:

Ideally, a general facilities charge should be calculated on the basis of known capital improvement costs for those facilities required to serve a specific number of connections. Also, calculation of this charge would be simplified if all the users requested connection and paid the connection charge at the exact time the water facilities were constructed and paid for. These conditions rarely occur in practice. Exact costs of facilities are usually determined only when construction is completed, long after the time when collection of general facilities charges may have been initiated. Normally, charges are paid for connection to system capacity previously constructed, in order to finance construction of new facilities necessary to accommodate continuing growth in demand. Thus, the charge should be based on a combination of past and future costs. Normally, a system owner/operator will have paid interest and maintenance costs on existing facilities. The cost of future facilities will be subject to unknown inflation costs as well as the difficult-to-estimate costs of well drilling, treatments, transmission mains, storage construction, financing costs, and the timing of receipt of general facility charges from future connections. The amount of storage required per residential equivalent will vary during phases when excess well capacity may be available, or when fire storage instead of standby storage may be the governing requirement.

The most equitable method for developing a general facilities charge is to base it on average long-term costs per increment of capacity. This is consistent with the accepted practice of using average demand per residential equivalent as a basis for both connection charges and monthly user charges.

The methodology used in evaluating the needs and general requirements were based on a maximum day demand of 1000 gpd/ERU. Also, those facilities common to all customers, which include source of supply, treatment, storage, transmission main and booster pump facilities.

For purposes of developing a reasonable general facilities charge for Rainier View water systems, cost estimates were obtained from recent water system reports and studies done for the water utility.

The attached calculation sheets indicate the process of developing these figures.

Apex Engineering

CALCULATION SHEET

GENERAL FACILITIES CHARGES

Source

Well Development: (assume 250 gpm source)

Costs

Drilling and developing	$ 65,000
Pumping equipment and pump house	40,000
Engineering, testing and putting on-line	30,000
TOTAL	**$135,000**

Cost per gpm $\frac{\$135,000}{250}$ = $540.00/gpm

Treatment: (Assumes wells need minimum level of corrosion control, iron and manganese removal and disinfection.) Costs are from existing activities and based again on 250 gpm well capacity.

(1) Corrosion Control

Building and equipment	$ 85,000
Engineering, permits, approvals fee, legal	35,000
TOTAL	**$119,000**

(2) Iron and Manganese Treatment

Building and treatment	$ 78,000
Engineering, permits, legal and fees	31,000
TOTAL	**$109,000**

(3) Disinfection

Chlorination system similar to existing wells	**$ 10,000**
TOTAL TREATMENT COSTS	**$238,000**

Cost per gpm $\frac{\$238,000}{250}$ = $952.00/gpm

Apex Engineering

Storage: Assumption of 0.5 of maximum day demand provide for level of service

0.5 (1000) = 500 gallons/ERU

Cost of storage $0.5/gallon

Transmission Mains:

Assumes $100,000 per year in extending mains that are not developer funded.

With a growth projection similar to prior years of approximately 400 ERU's per year.

$$\text{Cost per ERU } \frac{\$100{,}000}{400 \text{ ERU}} = \$250.00/\text{ERU}$$

Booster Pumping Facilities

Approximate cost approximately $50,000

Needs for booster facilities to assist in pressure zones and movement of water throughout system. Anticipated cost every third year at a growth rate of 400 ERU's per year.

$$\text{Cost per ERU } \frac{\$50{,}000}{3(400)} = \$42.00/\text{ERU}$$

GENERAL FACILITIES COSTS

Source: At peak day demand 1,000 gpcd

Source - $\frac{1{,}000}{1{,}440}$ - 0.69 gpm

Wells = 0.69 (540) =	$ 373
Treatment - 0.69 (952)	657
Storage = 0.5 (500)	250
Transmission	250
Booster facilities	42
TOTAL COST/ERU	**$1,572**

Exhibits/25002_W40

RAINIER VIEW WATER COMPANY INC.

219 S. 115TH ST.
P. O. BOX 44427
TACOMA, WA 98444
(253) 537-6634
OR TOLL FREE 1-800-562-6542
FAX (253) 537-7896

December 14, 1998

Washington Utilities and Transportation Commission
P. O. Box 47250
Olympia, WA 98504-7250

Attn: Jim Ward

Ref: UT 4-1250
Docket: UW-981552

Dear Mr. Ward:

I am sorry, but the attached study was supposed to be submitted with reference contract with the Plat of The Rim (Silver Creek Development).

The need to include other factors besides just source and storage, prompted us to ask our engineer, Apex Engineering, to calculate a reasonable facilities charge to deliver the current level of service for future connections. Using their calculated cost of $1,572 per residential equivalent and company policy of 30% investment for rate base, we used the following calculation to determine the new Developer Contingency Charge.

$1,572 divided by 130% = **$1,210**

Any questions please contact me directly.

Sincerely,

DOUG FISHER
Office Manager

Attachments

Attachment 1.a.-2

	A	B	C	D	E	F	G	H
1	**General Facilities Charge**			As prepared by Rainier View engineering staff				
2	Calculation sheet						Attachment 1.a.-2	
3	12/23/2010						Docket UW-110054	
4		**Source Development**					Page 1 of 1	
5			Costs based on 500 gpm source				Costs	
6			Well drilling and development				$175,000	
7			Pumping equiement and pump house				$80,000	
8			scada and controls				$30,000	
9			Engineering, testing and final acceptance				$70,000	
10			Total				$355,000	
11			gpm				500	
12			Cost per gpm				$710	
13			gpm per ERU		MDD/1440		0.52	
14			Cost per ERU				**$370**	
15		**Treatment**						
16			Assumes treatment needs to be consistant with current requirements for corrision control, iron and manganses removal and disinfection.					
17			Costs are based on treating source capacity of 500 gpm					
18			Corrosion Control				Costs	
19				Building and equipement			$150,000	
20				Scada and controls			$20,000	
21				Engineering, permits, approvals			$65,000	
22						Total	$235,000	
23			Iron and Manganese				Costs	
24				Building and equipement			$125,000	
25				Scada and controls			$20,000	
26				Engineering, permits, approvals			$60,000	
27						Total	$205,000	
28			Disinfection				Costs	
29				Building and equipement			$12,000	
30				Scada and controls			$10,000	
31				Engineering, permits, approvals			$4,000	
32						Total	$26,000	
33			Total treatment costs				$466,000	
34			rate				500	gpm
35			Costs per gallon per minute rate				$932	
36			gpm per ERU		MDD/1440		0.52	
37			Cost per ERU				**$485**	
38		**Storage**						
39			Assumes 0.5 of maximum day demand provide for level of service					
40			0.5(750)=	375	gallon/ERU			
41			Cost of storge =		$1.00/gallon stored			
42			Cost per ERU=		**$375**			
43		**Transmission mains**						
44			Assumes $200,000 per year in extending mains that are not developer funded.					
45			Growth projects per water system plan is 228 ERU/year					
46			Total Cost		$200,000			
47			growth rate		228			
48			Cost per ERU =		**$877**			
49		**Booster Pumping Facilities**						
50			Assumes new booster facilities anticipated every 5 years with the growth rate in water system plan of 228 ERU/Year					
51			Booster pump facility costs, with Scada controls			$120,000		
52			growth			228		
53			years			5		
54			Cost per ERU=			**$105**		
55								
56		**Summary of General Facilities Costs**				Costs/ERU		
57			Source Development			**$370**		
58			Treatment			**$485**		
59			Storage			**$375**		
60			Transmission Main			**$877**		
61			Booster facilities			**$105**		
62			**Total Cost/ERU**			**$2,213**		
63			**Developer Charge(Total Cost/130%)**			**$1,702**		

Attachment 1.a.-3

Rainier View Water Company — As calculated by Staff
UW-110054
Facilities Charges - General and Lakewood Pipeline
Cost Calculation Review

General Facilities charge

Source	$370
Treatment	$485
Storage	$375
Transmission	$877
Booster	$105
Total / ERU	$2,212

			GFC
Customer	70%	$1,548.40	**$1,549**
Equity	30%	$663.60	

Lakewood Pipe Line (Southwood/Sound)

Project cost		$11,573,000
Growth	Time Years	
228	10	2,280
Average Cost per ERU		$5,076

		No customers	Total collected		
Total cost of project	$ 11,573,000				
Per customer amt	$ 5,076	2,280	11,573,000		
Per customer amt, "first 6 years"	$ 8,460	1,368	11,573,000	LFC	
				$ 8,460	
Per customer amt, "last 4 years"	$ 5,076	912	4,629,200	LFC	
				$ 5,076	$ 3,384 Difference between average and "first 6 years" amount
		2,280	16,202,200		

					YRS	
Excess paid by first 6 years' customers each		$ 3,384				
Ultimate amts due from customers						
First 6 years	60.0%	6,943,800		GFC + LFC	6	**$ 10,009**
Last 4 years	40.0%	4,629,200		GFC + LFC	4	**$ 6,625**
		11,573,000				

Total refunded to "1st 6 years" customers: 4,629,200
Amt due to each "1st 6 years" customers: $ 3,384

REFUNDS AFTER SIX YEARS

Year	Customers	Cumulative Customers	Amt Collected	Refund	Cumulative Collected	Staff comment
1	228	228	1,928,833	-	1,928,833	
2	228	456	1,928,833		3,857,667	
3	228	684	1,928,833		5,786,500	
4	228	912	1,928,833		7,715,333	
5	228	1140	1,928,833		9,644,167	
6	228	1368	1,928,833		11,573,000	
7	228	1596	1,157,300	(1,157,300)	11,573,000	342 refunds @ $3384
8	228	1824	1,157,300	(1,157,300)	11,573,000	342 refunds @ $3384
9	228	2052	1,157,300	(1,157,300)	11,573,000	342 refunds @ $3384
10	228	2280	1,157,300	(1,157,300)	11,573,000	342 refunds @ $3384
11	228					
			16,202,200	(4,629,200)	11,573,000	1368 refunds @ $ 3384

Assumes all refunds paid only after all money collected. Commission may want ongoing refunds as money is accumulated from latecomers.

Customers due refund: 1368

NO REFUNDS

Year	Customers	Cumulative Customers	Amt Collected	Refund	Cumulative Collected	Staff comment
1	228	228	1,157,300	-	1,157,300	
2	228	456	1,157,300		2,314,600	228 refunds @$3384
3	228	684	1,157,300		3,471,900	
4	228	912	1,157,300		4,629,200	
5	228	1140	1,157,300		5,786,500	
6	228	1368	1,157,300		6,943,800	
7	228	1596	1,157,300		8,101,100	
8	228	1824	1,157,300		9,258,400	
9	228	2052	1,157,300		10,415,700	
10	228	2280	1,157,300		11,573,000	
11	228					
			11,573,000	-	11,573,000	

Attachment 1.a.-3
Docket UW-110054
Page 1 of 2

Amt distributed to each "first 6 yrs" customers		(3,384)
Original payment from "first 6 yrs" customers	$	8,460
Less: refund amount		(3,384)
Net amount paid by "first 6 yrs" customers	$	5,076
Amt paid by "last 4 yrs" customers	$	5,076

			Growth	Time to Fund			Paid excess greater Average	
	60.0%	1,392	232	6		1,392	Each	Total
					Excess		$3,238	4,507,379
					Average		$5,076	
							$8,314	
				Amount to fund full cost		$8,314		11,573,000
			Growth	Time to Fund			Recover Excess	
	40.0%	928	232	4		928	Each	Total
					Excess		$4,857	4,507,379
	100.0%	2,320			Average		$5,076	
							$9,933	
				Amount to recover full cost		$9,933		
				Late comer fee		$1,619		

Attachment 1.a.-3
Docket UW-110054
Page 2 of 2