

PAINTBRUSH HILLS METROPOLITAN DISTRICT WATER RATE STUDY

PROJECT NO. 1070.0001
AS OF: APRIL, 2016



PURPOSE

- Reassess rates applied in 2011 in light of 15.9% MVEA increase
- Recover costs of operations
- Develop and implement a new rate structure
- Cover costs of anticipated augmentation program
- Cover costs of increased maintenance and capital replacements
- Develop a stable capital replacement fund

OBJECTIVES

- **Rates that:**
 - Provide approximately \$130,000 in excess revenue on December 31 of every year
 - Are fair to all users
 - Encourage conservation
 - Absorb increased costs of operations
 - Provide a stable replacement fund
 - Reduce PBHMD sewer fee

WATER SYSTEM CONFIGURATION

- Denver Basin Wells
- Transmission
- Distribution
- Storage

RATE STUDY VARIABLES

- **Two basic cost categories:**
 - Fixed
 - Variable

- **Four basic fee categories:**
 - Base Fee
 - Includes no water
 - Pays for fixed costs
 - Tiered Water Usage Fee
 - Simple – Fixed cost per 1,000 gallons used
 - Pays for variable costs theoretically

CURRENT RATE STRUCTURE

- Base fee with no water included
- Six Tiers

TRIAL RATE CALCULATIONS – HIGH RATE

2016 Water Rates Model

Proposed Water Rates

Friday, April 08, 2016

RGA Job No: 1070

Table 3-1A: Monthly Potable Water Rates

	Rate Structure/1000 gal		
Base Fee	\$36.00	for first	0
Tier 1	\$8.00	up to	10,000
Tier 2	\$12.00	up to	15,000
Tier 3	\$15.00	up to	20,000
Tier 4	\$20.00	up to	25,000
Tier 5	\$25.00	up to	30,000
Tier 6	\$30.00	for all over	30,000

Table 3-1C: Yearly Rate Increases

Year	Yearly SFE Increase	Rate Increase	% SFE Increase	% Tap Fee Increase	Inflation Factor
2016	9	0%	1.20%	0.00%	0.00%
2017	9	0%	1.20%	5.00%	3.00%
2018	9	0%	1.20%	5.00%	3.00%
2019	9	0%	1.20%	5.00%	3.00%
2020	9	0%	1.20%	5.00%	3.00%
Out of Town Multiplier		0.00			
3/4" Tap Fee		\$5,542.70		\$ 18,856.75	

Table 3-1D: Yearly Rate Increase Effects on Revenue

Year	Metered Revenue	Connection Revenue (Tap Fee)	Total Revenue	Expenses	Accumulated Net Revenue
2016	\$ 976,715.89	\$ 49,884.30	\$ 1,026,600.19	\$ 902,496.15	\$ 124,104.05
2017	\$ 988,403.68	\$ 52,378.52	\$ 1,040,782.19	\$ 951,314.78	\$ 213,571.46
2018	\$ 1,000,091.46	\$ 54,997.44	\$ 1,055,088.91	\$ 954,711.83	\$ 313,948.53
2019	\$ 1,011,779.25	\$ 57,747.31	\$ 1,069,526.56	\$ 958,108.89	\$ 425,366.21
2020	\$ 1,038,654.54	\$ 60,634.68	\$ 1,099,289.21	\$ 961,505.95	\$ 563,149.47

RESULTANT RESIDENTIAL MONTHLY CHARGES FOR LOW WATER USERS IN DISTRICT HIGH RATE

<u>Category</u>	<u>Gallons</u>	<u>Cost</u>
Base Fee	-	\$36.00
Tier 1	5,000	\$40.00
Tier 2	0	\$ 0.00
Tier 3	0	\$ 0.00
Tier 4	0	\$ 0.00
Tier 5	0	\$ 0.00
Tier 6	0	\$ 0.00
Estimated Monthly Bill		\$76.00

RESULTANT RESIDENTIAL MONTHLY CHARGES FOR AVERAGE WATER USERS IN DISTRICT HIGH RATE

<u>Category</u>	<u>Gallons</u>	<u>Cost</u>
Base Fee	-	\$36.00
Tier 1	10,000	\$80.00
Tier 2	2,000	\$24.00
Tier 3	0	\$ 0.00
Tier 4	0	\$ 0.00
Tier 5	0	\$ 0.00
Tier 6	0	\$ 0.00
Estimated Monthly Bill		\$140.00

RESULTANT RESIDENTIAL MONTHLY CHARGES FOR HIGH WATER USERS IN DISTRICT HIGH RATE

<u>Category</u>	<u>Gallons</u>	<u>Cost</u>
Base Fee	-	\$ 36.00
Tier 1	10,000	\$ 80.00
Tier 2	5,000	\$ 60.00
Tier 3	5,000	\$ 75.00
Tier 4	5,000	\$100.00
Tier 5	5,000	\$125.00
Tier 6	0	\$ 0.00
Estimated Monthly Bill		\$476.00

TRAIL RATES CALCULATIONS – MEDIUM RATE

2016 Water Rates Model
 Proposed Water Rates
 Friday, April 08, 2016
 RGA Job No: 1070

Table 3-1A: Monthly Potable Water Rates

	Rate Structure/1000 gal		
Base Fee	\$36.00	for first	0
Tier 1	\$7.50	up to	10,000
Tier 2	\$11.50	up to	15,000
Tier 3	\$14.50	up to	20,000
Tier 4	\$19.50	up to	25,000
Tier 5	\$24.50	up to	30,000
Tier 6	\$29.50	for all over	30,000

Table 3-1C: Yearly Rate Increases

Year	Yearly SFE Increase	Rate Increase	% SFE Increase	% Tap Fee Increase	Inflation Factor
2016	9	0%	1.20%	0.00%	0.00%
2017	9	0%	1.20%	5.00%	3.00%
2018	9	0%	1.20%	5.00%	3.00%
2019	9	0%	1.20%	5.00%	3.00%
2020	9	0%	1.20%	5.00%	3.00%
Out of Town Multiplier		0.00			
3/4" Tap Fee		\$5,542.70		\$ 18,856.75	

Table 3-1D: Yearly Rate Increase Effects on Revenue

Year	Metered Revenue	Connection Revenue (Tap Fee)	Total Revenue	Expenses	Accumulated Net Revenue
2016	\$ 947,232.32	\$ 49,884.30	\$ 997,116.62	\$ 902,496.15	\$ 94,620.47
2017	\$ 958,567.30	\$ 52,378.52	\$ 1,010,945.82	\$ 951,314.78	\$ 154,251.51
2018	\$ 969,902.29	\$ 54,997.44	\$ 1,024,899.73	\$ 954,711.83	\$ 224,439.40
2019	\$ 981,237.27	\$ 57,747.31	\$ 1,038,984.59	\$ 958,108.89	\$ 305,315.10
2020	\$ 1,007,506.63	\$ 60,634.68	\$ 1,068,141.31	\$ 961,505.95	\$ 411,950.46

RESULTANT RESIDENTIAL MONTHLY CHARGES FOR LOW WATER USERS IN DISTRICT MEDIUM RATE

<u>Category</u>	<u>Gallons</u>	<u>Cost</u>
Base Fee	-	\$36.00
Tier 1	5,000	\$37.50
Tier 2	0	\$ 0.00
Tier 3	0	\$ 0.00
Tier 4	0	\$ 0.00
Tier 5	0	\$ 0.00
Tier 6	0	\$ 0.00
Estimated Monthly Bill		\$73.50

RESULTANT RESIDENTIAL MONTHLY CHARGES FOR AVERAGE WATER USERS IN DISTRICT MEDIUM RATE

<u>Category</u>	<u>Gallons</u>	<u>Cost</u>
Base Fee	-	\$36.00
Tier 1	10,000	\$75.00
Tier 2	2,000	\$23.00
Tier 3	0	\$ 0.00
Tier 4	0	\$ 0.00
Tier 5	0	\$ 0.00
Tier 6	0	\$ 0.00
Estimated Monthly Bill		\$134.00

RESULTANT RESIDENTIAL MONTHLY CHARGES FOR HIGH WATER USERS IN DISTRICT MEDIUM RATE

<u>Category</u>	<u>Gallons</u>	<u>Cost</u>
Base Fee	-	\$ 36.00
Tier 1	10,000	\$ 75.00
Tier 2	5,000	\$ 57.50
Tier 3	5,000	\$ 72.50
Tier 4	5,000	\$ 97.50
Tier 5	5,000	\$122.50
Tier 6	0	\$ 0.00
Estimated Monthly Bill		\$461.00

TRIAL RATE CALCULATIONS - LOW RATE

2016 Water Rates Model

Proposed Water Rates
Friday, April 08, 2016
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Table 3-1A: Monthly Potable Water Rates

	Rate Structure/1000 gal		
Base Fee	\$36.00	for first	0
Tier 1	\$7.00	up to	10,000
Tier 2	\$11.00	up to	15,000
Tier 3	\$14.00	up to	20,000
Tier 4	\$19.00	up to	25,000
Tier 5	\$24.00	up to	30,000
Tier 6	\$29.00	for all over	30,000

Table 3-1C: Yearly Rate Increases

Year	Yearly SFE Increase	Rate Increase	% SFE Increase	% Tap Fee Increase	Inflation Factor
2016	9	0%	1.20%	0.00%	0.00%
2017	9	0%	1.20%	5.00%	3.00%
2018	9	0%	1.20%	5.00%	3.00%
2019	9	0%	1.20%	5.00%	3.00%
2020	9	0%	1.20%	5.00%	3.00%
Out of Town Multiplier		0.00			
3/4" Tap Fee		\$5,542.70		\$ 18,856.75	

Table 3-1D: Yearly Rate Increase Effects on Revenue

Year	Metered Revenue	Connection Revenue (Tap Fee)	Total Revenue	Expenses	Accumulated Net Revenue
2016	\$ 917,748.74	\$ 49,884.30	\$ 967,633.04	\$ 902,496.15	\$ 65,136.89
2017	\$ 928,730.93	\$ 52,378.52	\$ 981,109.44	\$ 951,314.78	\$ 94,931.56
2018	\$ 939,713.11	\$ 54,997.44	\$ 994,710.55	\$ 954,711.83	\$ 134,930.27
2019	\$ 950,695.30	\$ 57,747.31	\$ 1,008,442.61	\$ 958,108.89	\$ 185,263.99
2020	\$ 976,358.73	\$ 60,634.68	\$ 1,036,993.41	\$ 961,505.95	\$ 260,751.45

RESULTANT RESIDENTIAL MONTHLY CHARGES FOR LOW WATER USERS IN DISTRICT LOW RATE

<u>Category</u>	<u>Gallons</u>	<u>Cost</u>
Base Fee	-	\$36.00
Tier 1	5,000	\$35.00
Tier 2	0	\$ 0.00
Tier 3	0	\$ 0.00
Tier 4	0	\$ 0.00
Tier 5	0	\$ 0.00
Tier 6	0	\$ 0.00
Estimated Monthly Bill		\$71.00

RESULTANT RESIDENTIAL MONTHLY CHARGES FOR AVERAGE WATER USERS IN DISTRICT LOW RATE

<u>Category</u>	<u>Gallons</u>	<u>Cost</u>
Base Fee	-	\$36.00
Tier 1	10,000	\$70.00
Tier 2	2,000	\$22.00
Tier 3	0	\$ 0.00
Tier 4	0	\$ 0.00
Tier 5	0	\$ 0.00
Tier 6	0	\$ 0.00
Estimated Monthly Bill		\$128.00

RESULTANT RESIDENTIAL MONTHLY CHARGES FOR HIGH WATER USERS IN DISTRICT LOW RATE

<u>Category</u>	<u>Gallons</u>	<u>Cost</u>
Base Fee	-	\$ 36.00
Tier 1	10,000	\$ 70.00
Tier 2	5,000	\$ 55.00
Tier 3	5,000	\$ 70.00
Tier 4	5,000	\$ 95.00
Tier 5	5,000	\$120.00
Tier 6	0	\$ 0.00
Estimated Monthly Bill		\$446.00

PROCESS

- Updated operations costs
- Actual water usage for 10% ± sampling of population
- Updated usage and cost projections using 2014 budget
- Updated occupancy and growth projections within district limits:
 - 2015 – 747 (current SFE)
 - 2016 – 9 new SFE
 - 2017 – 9 new SFE
 - 2018 – 9 new SFE
 - 2019 – 9 new SFE
 - 2020 – 9 new SFE

COMMERCIAL RATES

- **Tap Equivalency**
 - Ratio of actual commercial water usage through meter to residential expectations

BOARD DECISION

