



City of East Palo Alto



Water Capital Improvement Surcharges

December 2022



BARTLE WELLS ASSOCIATES
INDEPENDENT PUBLIC FINANCE ADVISORS



Date: December 22, 2022

To: Batool Zaro
Engineering Division
City of East Palo Alto

From: Alex Handlers
Principal & Vice-President
Bartle Wells Associates

Re: Updated Water Capital Improvement Surcharges

Water Capital Improvement Surcharges

In 2015, Bartle Wells Associates (BWA) assisted the City of East Palo Alto with development of a Water Capital Improvement Surcharge to provide funding for infrastructure improvements to the City's aging water system facilities. The surcharge was adopted by the City in June 2015 and is collected in addition to the City's regular Water Service Charges. The surcharge is used to fund high-priority capital improvements needed to address current deficiencies, improve water system reliability, and minimize the potential for service outages. Revenues are used to fund costs associated with planning, analysis, design, and construction of water system infrastructure, and cannot be used for any other purpose.

2022 Water System Master Plan Update

In September 2022, the City received an updated Water System Master Plan developed by the engineering consulting firm EKI Environment & Water, Inc. (EKI). The Master Plan identifies \$81 million (current \$) of potable water system infrastructure improvements needed over the next approximately 20 years to maintain water system reliability and meet the City's projected future water demands. The total includes a) roughly \$14 million of development-related hydraulic improvements that will be funded by new development, b) approximately \$2 million for replacement of old water meters, and c) roughly \$65 million for replacement of aging and substandard pipelines and other improvements needed to support water system reliability for the City's customer base.

Updated Water Capital Improvement Surcharges

The City's current Water Capital Improvement Surcharges only generate roughly \$500,000 per year and are not adequate to fund the capital funding needs identified in the updated Master Plan. To help support the City's water infrastructure needs, BWA developed updated Water Capital Improvement Surcharges.

Updated Water Capital Improvement Surcharges were developed under two scenarios, including:

- **Proposed Surcharges** designed to support the City's highest-priority water system infrastructure needs over the next 5 years.
- **Maximum Surcharges** designed to support full funding of the roughly \$65 million of ratepayer capital improvements needed over the next 20 years as identified in the updated Master Plan.

While the Proposed Surcharges are substantially lower than the Maximum Surcharges, they do represent a significant increase over the City's existing capital surcharges.

Reduced Billing Impacts due to Suspension of Meter Replacement Program Surcharges and Reduction of Water Usage Charges

Roughly concurrently with implementation of the Proposed Water System Capital Surcharges, the City is also planning to suspend collection of its Meter Replacement Program Surcharges. As such, the billing impacts due to the proposed increases to the capital surcharges will be partially offset by a reduction due to suspension of the Meter Replacement Program Surcharges.

While the net impacts will vary depending on customer class and meter size, the net billing impact to a typical single family home with 10 hundred cubic feet (hcf) of monthly water use is estimated at \$2.81 per month. Customers with lower water use will face smaller impacts and customer with higher levels of water use will face larger increases.

In addition, the City also recently reduced its regular Water Usage Charges by roughly 9% effective November 1, 2022. Accounting for this rate reduction, all single family residential customers, and most multi-family and commercial customers, will end up with water bills that are lower than they were paying prior to November 1 when the updated Water Capital Improvement Surcharges are projected to go into effect.

Proposed Water Capital Improvement Surcharge Derivation

The attached tables provide information on the City's current and historical water rates and surcharges and calculate updated Water System Capital Surcharges designed to support the City's highest-priority water system infrastructure needs over the next 5 years. A description of each table is summarized starting on the following page.

As noted, the Proposed Surcharges are lower than the Maximum Surcharges calculated to support full funding of ratepayer capital needs identified in the updated Master Plan. Tables deriving the Maximum Surcharges are included in Appendix A.

Table 1 shows a history of water rates and surcharges. In addition to regular Water Service Charges for ongoing water service, the City also levies two surcharges including the Water Capital Improvement Surcharges and Meter Replacement Program Surcharges.

Table 2 shows a breakdown of water accounts by customer class and meter size along with the associated number of Demand Equivalents. Each Demand Equivalent represents the equivalent water demand of a typical single family home. Demand Equivalents are assigned to accounts based on customer class and meter size in proportion to both usage by customer class (as determined by analysis of water use over the past two years) and meter capacity. In total, the City serves 3,935 water service accounts whose water demands equate to about 6,541 Demand Equivalents.

Table 3 shows the City's highest priority water system capital improvements planned for the next 5 years. The projects are estimated to cost roughly \$8.5 million with projected 3% cost escalation to construction midpoint. The City anticipates applying \$2 million of water capital fund reserves to these projects to reduce the funding needs from updated capital surcharges. Proposed Water System Capital Surcharges are designed to recover the remaining roughly \$6.5 million of funding needs over the next 5 years.

Table 4 calculates proposed updated Water Capital Improvement Surcharges, which include two components, similar to the City's existing capital surcharges:

- A fixed charge component that is levied based on customer class and water meter size regardless of water use.
- A variable charge component that is levied based on metered water consumption.

The capital surcharges can be recovered anywhere within a range from 100% fixed charges (recovered based on the system capacity needs for serving each account) to 100% variable charges (recovered based on each customer's actual water usage). The proposed surcharges are designed to recover costs from a balance of fixed and variable charges with 65% of revenues recovered from fixed charges and 35% from variable charges. This balance reflects that a large share of water system infrastructure is sized to meet the capacity needs of each account based on customer class and meter size, but also reflects that a significant portion of costs will be recovered based on actual water usage such that customers that use more water will also pay for more infrastructure related to actual water delivery.

Table 5 shows proposed Water Capital Improvement Surcharges which include both Fixed Monthly Meter Surcharges based on customer class and meter size (aligned with the capacity needs for serving each account) and Water Usage Surcharges levied per hundred cubic feet of metered water use.

Table 6 calculates the monthly billing impacts of the proposed Water Capital Improvement Surcharges on a range of customers. The billing impacts account for proposed increases to Water Capital Improvement Surcharges offset by suspension of the City's Meter Replacement Program Surcharges. This table does not also account for the recent approximately 9% reduction in regular Water Usage Charges, which would more than offset the increases to the combined water rate surcharges for most of the City's water customers.

For a small number of commercial customers with larger meter sizes but low monthly water use, the proposed Water Capital Improvement Surcharges will result in a net increase in the total monthly water bill as the increase in the capital surcharges will exceed to the amount offset due to the suspension of the meter replacement program surcharges and recent reduction to Water Usage Charges.

Chart A shows a comparison of current vs. proposed surcharges for single family homes with 5/8-inch meters and a range of monthly water usage. Current surcharges include both a) existing Water Capital Improvement Surcharges and b) Meter Replacement Program Surcharges, while proposed surcharges include only the updated Water Capital Improvement Surcharges assuming the City suspends the Meter Replacement Program Surcharges. Again, this chart does not also account for the recent approximately 9% reduction in regular Water Usage Charges.

Maximum Water Capital Improvement Surcharge Derivation

Appendix A includes a set of tables deriving Maximum Surcharges designed to support full funding of the roughly \$65 million of ratepayer infrastructure improvements needed over the next 20 years as identified in the updated Master Plan.

Water Use per Meter Equivalent

Appendix B includes tables calculating water use per meter equivalent based on two recent years of water consumption data. A meter equivalent represents the demand and associated water system capacity needs for serving a single family residential 5/8-inch meter. On average, commercial and multi-family customers use significantly more water per meter size than single family homes. Based on the updated analysis, water use per comparable meter size for customers other than single family homes is 1.55x that per average single family residence. This ratio is in line with the historical ratio factored into the City's existing water rates and surcharges.

Table 1
City of East Palo
Water Rates

	July 2 2019	July 1 2020	July 1 2021	July 1 2022	Nov 1 2022	July 1 2023
WATER SERVICE CHARGES						
Water Usage Charges (\$ per ccf)	\$7.40	\$7.55	\$7.66	\$8.55	\$7.76	\$8.67
Fixed Monthly Meter Charges						
<u>Single Family Residential</u>						
5/8" - 1"	\$17.19	\$17.53	\$17.79	\$18.06	\$18.06	\$18.33
<u>All Other</u>						
5/8"	\$25.34	\$25.85	\$26.24	\$26.63	\$26.63	\$27.03
3/4"	38.01	38.77	39.35	39.94	39.94	40.54
1"	63.36	64.63	65.60	66.58	66.58	67.58
1-1/2"	126.72	129.25	131.19	133.16	133.16	135.16
2"	202.75	206.81	209.91	213.06	213.06	216.26
3"	380.15	387.75	393.57	399.47	399.47	405.46
4" & larger	633.58	646.25	655.94	665.78	665.78	675.77
MONTHLY FIRE SERVICE & EMERGENCY INTERTIE CHARGE						
5/8"	\$5.07	\$5.17	\$5.25	\$5.33	\$5.33	\$5.41
3/4"	7.60	7.76	7.87	7.99	7.99	8.11
1"	12.67	12.93	13.12	13.32	13.32	13.52
1-1/2"	25.34	25.85	26.24	26.63	26.63	27.03
2"	40.54	41.36	41.98	42.61	42.61	43.25
3"	76.02	77.55	78.72	79.89	79.89	81.09
4" & larger	126.70	129.25	131.20	133.15	133.15	135.15
WATER CAPITAL IMPROVEMENT SURCHARGES						
Water Usage Charges (\$ per ccf)						
All Customers	\$0.43	\$0.43	\$0.43	\$0.43	\$0.43	tbd
Fixed Monthly Meter Charges						
<u>Single Family Residential</u>						
5/8" - 1"	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	tbd
<u>All Other Water Service Meters</u>						
5/8"	\$4.46	\$4.46	\$4.46	\$4.46	\$4.46	tbd
3/4"	6.70	6.70	6.70	6.70	6.70	tbd
1"	11.16	11.16	11.16	11.16	11.16	tbd
1-1/2"	22.29	22.29	22.29	22.29	22.29	tbd
2"	35.66	35.66	35.66	35.66	35.66	tbd
3"	66.86	66.86	66.86	66.86	66.86	tbd
4" & larger	111.44	111.44	111.44	111.44	111.44	tbd
METER REPLACEMENT PROGRAM SURCHARGES						
Monthly Meter Replacement Program Surcharge						
<u>All Water Service Meters</u>						
5/8"	\$6.24	\$6.24	\$6.24	\$6.24	\$6.24	-
3/4"	6.50	6.50	6.50	6.50	6.50	-
1"	6.94	6.94	6.94	6.94	6.94	-
1-1/2"	9.84	9.84	9.84	9.84	9.84	-
2"	10.92	10.92	10.92	10.92	10.92	-
3"	36.10	36.10	36.10	36.10	36.10	-
4"	37.34	37.34	37.34	37.34	37.34	-
6"	43.35	43.35	43.35	43.35	43.35	-

* One ccf = one hundred cubic feet = approximately 748 gallons.

Table 2
 City of East Palo
 Water Service Accounts & Demand Equivalents

	Number of Accounts	Demand Ratio	Demand Equivalents
Water Service Accounts by Class & Meter Size			
<u>Single Family Residential</u>			
5/8" - 1"	3,607	1.00	3,607.0
<u>All Other Water Service Accounts</u>			
5/8"	94	1.55	145.7
3/4"	18	2.33	41.9
1"	36	3.88	139.7
1-1/2"	51	7.75	395.3
2"	94	12.40	1,165.6
3"	20	23.25	465.0
4" & larger	15	38.75	581.3
Subtotal	328		2,934.4
Total	3,935		6,541.4

Source: Active Accounts with Meter Size and Customer Type; July 2022.

Table 3
 City of East Palo
 5-Year Water Capital Improvements for Cost Recovery

Project #	Project Description	Cost Included in Fee Recovery
WD-048 / WD-04C / P-3 / P-21A	12" University Ave Watermain Replacement & 12" Weeks Street Watermain Replacement	\$3,006,000
P-29	East Bayshore Improvements	1,290,000
P-32	West Bayshore Improvements	727,600
P-33	Euclid Project	1,752,000
WD-07	Small Projects/Water Valve Replacement Project	750,000
WD-06	Hydrant Replacement Projects	<u>331,500</u>
Subtotal		7,857,100
Cost Escalation	3% for 2.5 Years to Midpoint	1.077
Subtotal with Cost Esc		\$8,459,707
Less Use of Capital Fund Reserves		<u>(2,000,000)</u>
Total for Fee Recovery		\$6,459,707

Source: Based on 5-Year Water Capital Improvements from City of East Palo Alto and cost estimates identified in the Water System Master Plan.

Note: Costs include project expenditures anticipated over the next 5 years; some projects will require additional funding in subsequent years.

Table 4
 City of East Palo
 Calculation of Proposed Water Capital Improvement Surcharge

Net Capital Funding Requirement		\$6,459,707
Years for Completion		5
Annual Funding Requirement		\$1,291,941
Fixed Charge Revenue Recovery	65%	\$839,762
Current Meter Equivalents		6,541.4
Meter Equivalents with Estimated 10% Growth		654.1
Estimated Meter Equivalents		7,195.6
Charge per Meter Equivalent: Annual		\$116.71
Charge per Meter Equivalent: Monthly		\$9.73
Variable Charge Revenue Recovery	35%	\$452,180
Projected Annual Metered Water Sales*		700,000
Charge per Unit (ccf)		\$0.65

* Source: City of East Palo Alto, based on *2022 Annual Water Supply and Demand Assessment*, assumes continuation of Water Shortage Contingency Plan Stage 2 and accounts for a roughly 40,000 ccf increase in water demand due to anticipated growth.

Table 5
City of East Palo
Proposed Water Capital Improvement Surcharges

	Demand Ratio	Proposed Water Capital Improvement Surcharges
Water Usage Surcharge		
\$ per hundred cubic feet of metered use		\$0.65
Fixed Monthly Meter Surcharge		
<u>Single Family Residential</u>		
5/8" - 1"	1.00	\$9.73
<u>All Other</u>		
5/8"	1.55	\$15.07
3/4"	2.33	22.61
1"	3.88	37.69
1-1/2"	7.75	75.37
2"	12.40	120.60
3"	23.25	226.12
4" & larger	38.75	376.86

Table 6
 City of East Palo
 Projected Billing Impacts

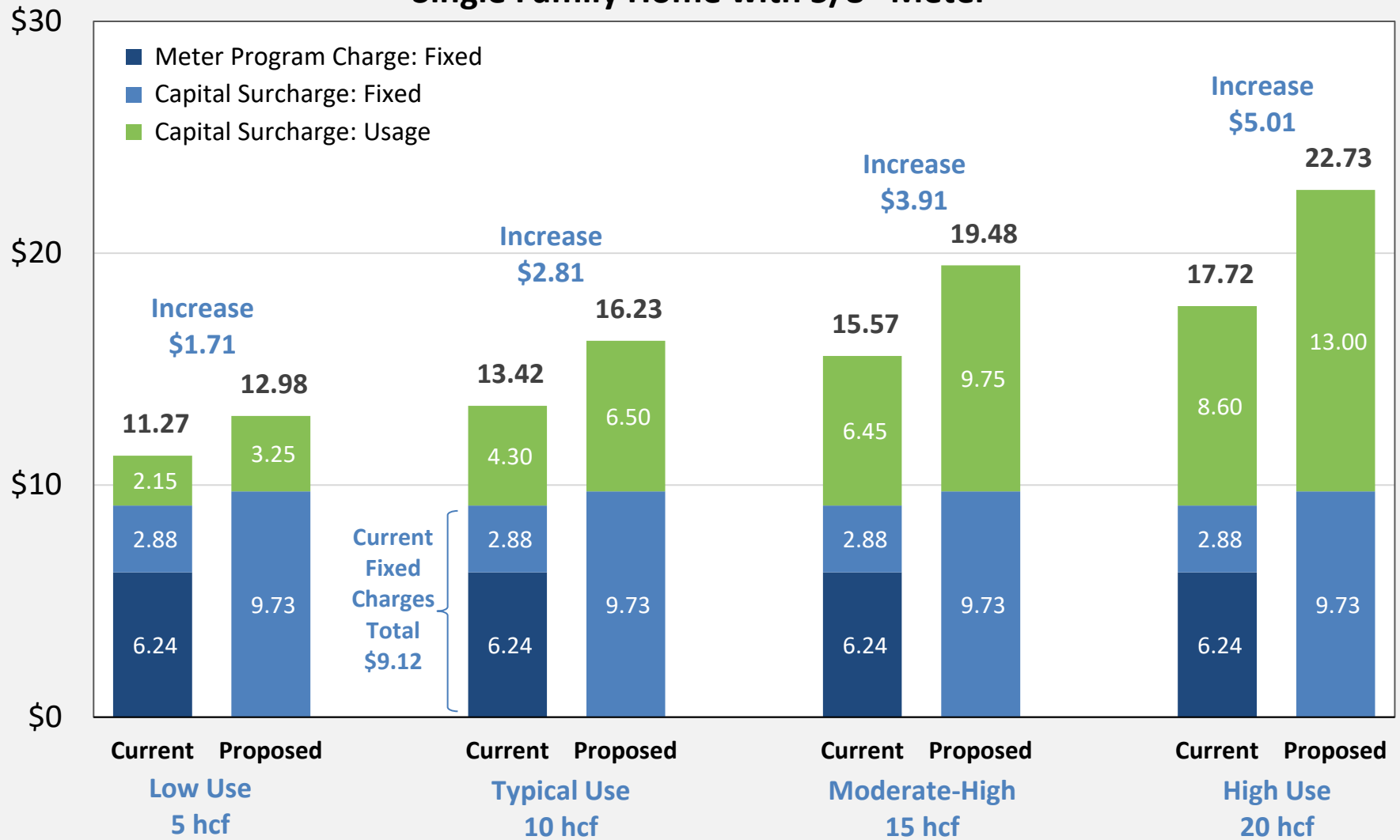
Billing Impact of Surcharges Only

			Current Surcharges				Proposed Surcharges			\$ Increase
Monthly Use (ccf)	Est % of Bills at or Below	Capital Surcharge		Meter Prog		Proposed Capital Surcharge				
		Fixed	Usage	Fixed Chg	Total	Fixed	Usage	Total		
Single Family Residential Rate Impacts										
<u>Meter Size 5/8" - 1"</u>										
Low Use	5	25%	\$2.88	\$2.15	\$6.24	\$11.27	\$9.73	\$3.25	\$12.98	\$1.71
Typical Use	10	50%	2.88	4.30	6.24	13.42	9.73	6.50	16.23	2.81
Mod-High Use	15	75%	2.88	6.45	6.24	15.57	9.73	9.75	19.48	3.91
High Use	20	90%	2.88	8.60	6.24	17.72	9.73	13.00	22.73	5.01
Sample Commercial & Multi-Family Residential Rate Impacts										
<u>Meter Size 5/8"</u>										
Low Use	8		\$4.46	3.44	6.24	14.14	\$15.07	\$5.20	\$20.27	\$6.13
Moderate Use	17		4.46	7.31	6.24	18.01	15.07	11.05	26.12	8.11
Mod-High Use	25		4.46	10.75	6.24	21.45	15.07	16.25	31.32	9.87
<u>Meter Size 2"</u>										
Low Use	75		\$35.66	32.25	10.92	78.83	\$120.60	\$48.75	\$169.35	\$90.52
Moderate Use	150		35.66	64.50	10.92	111.08	120.60	97.50	218.10	107.02
Mod-High Use	225		35.66	96.75	10.92	143.33	120.60	146.25	266.85	123.52
<u>Meter Size 4" (Estimates)</u>										
Ikea	800		\$111.44	344.00	37.34	492.78	\$376.86	\$520.00	\$896.86	\$404.08
Bay Road Housing	1500		111.44	645.00	37.34	793.78	376.86	975.00	1,351.86	558.08
Four Seasons	2000		111.44	860.00	37.34	1,008.78	376.86	1,300.00	1,676.86	668.08

Chart A

City of East Palo Alto

Current vs. Proposed Water Capital Improvement & Meter Surcharges Single Family Home with 5/8" Meter



Assumes termination of the current Meter Replacement Program Surcharges.

Table 7

City of East Palo

Current Surcharges vs. Proposed Water Capital Improvement Surcharges

	Number of Accounts	Current			Proposed
		Water Capital Improvement Surcharges	Meter Replacement Program Surcharges	Total Current Surcharges	Water Capital Improvement Surcharges
Water Usage Charges (\$ per ccf)					
All Customers		\$0.43	-	\$0.43	\$0.65
Fixed Monthly Meter Charges					
<u>Single Family Residential</u>					
5/8" - 1"	3,607	\$2.88	\$6.24	\$9.12	\$9.73
<u>All Other Water Service Meters</u>					
5/8"	94	\$4.46	\$6.24	\$10.70	\$15.07
3/4"	18	6.70	6.50	13.20	22.61
1"	36	11.16	6.94	18.10	37.69
1-1/2"	51	22.29	9.84	32.13	75.37
2"	94	35.66	10.92	46.58	120.60
3"	20	66.86	36.10	102.96	226.12
4" & larger	15	111.44	37.34	148.78	376.86

One ccf = one hundred cubic feet = approximately 748 gallons.

Assumes termination of current Meter Replacement Program Surcharges.

APPENDIX A

Maximum Water Capital Improvement Surcharges With 20-Year Capital Program

Table A-1
 City of East Palo
 20-Year Water Capital Improvements for Cost Recovery

With 20-Year Capital Program
Costs in 2022 \$

Master Plan CIP Funding Requirement	
Capital Improvement Program Cost (2022 \$)	\$81,151,000
Less Meter Replacements	(2,167,000)
Less Development-Related Hydraulic Improvements	(14,242,000)
Subtotal	64,742,000
Less Fund Balances & Other Funding Sources	
Less Total Capital Improvement Fund Balance	(\$4,600,000)
Less total Meter Replacement Fund Balance	(1,560,000)
Less Projected Grants/Other Funding Sources	(5,000,000)
Subtotal	(11,160,000)
Net Funding Requirement (2022 \$)	\$53,582,000

Source: Water System Master Plan 2022 and City of East Palo Alto.

Table A-2
 City of East Palo
 Calculation of Maximum Water Capital Improvement Surcharges

With 20-Year Capital Program
Surcharges in 2022 \$

Net Capital Funding Requirement (2022 \$)		\$53,582,000
Number of Years to Completion		20
Annual Funding Requirement (2022 \$)		\$2,679,100
Fixed Charge Revenue Recovery	65%	\$1,741,415
Current Meter Equivalents		6,541.4
Plus Meter Equivalents from Estimated Growth*		<u>2,725.0</u>
Projected Meter Equivalents		9,266.4
Charge per Meter Equivalent: Annual		\$187.93
Charge per Meter Equivalent: Monthly		\$15.66
Variable Charge Revenue Recovery	35%	\$937,685
Projected Metered Water Sales (ccf)*		1,027,000
Charge per Unit (ccf)		\$0.91

* Based on 2020 Urban Water Management Plan, average annual demand from 2025 - 2045 and corresponding percentage of growth in the City's customer base.

Table A-3
 City of East Palo
 Maximum Water Capital Improvement Surcharges

With 20-Year Capital Program
Surcharges in 2022 \$

	Demand Ratio	Capital Improvement Surcharge
Water Usage Surcharge		
\$ per hundred cubic feet of metered use		\$0.91
Fixed Monthly Meter Surcharge		
<u>Single Family Residential</u>		
5/8" - 1"	1.00	\$15.66
<u>All Other</u>		
5/8"	1.55	\$24.27
3/4"	2.33	36.41
1"	3.88	60.68
1-1/2"	7.75	121.37
2"	12.40	194.19
3"	23.25	364.11
4" & larger	38.75	606.85

Surcharge can be adjusted annually based on the change in the Engineering News-Record Construction Cost Index (20-Cities Average) to keep revenues in line with construction cost inflation.

Table A-4
 City of East Palo
 Projected Billing Impacts

With 20-Year Capital Program
 Surcharges in 2022 \$

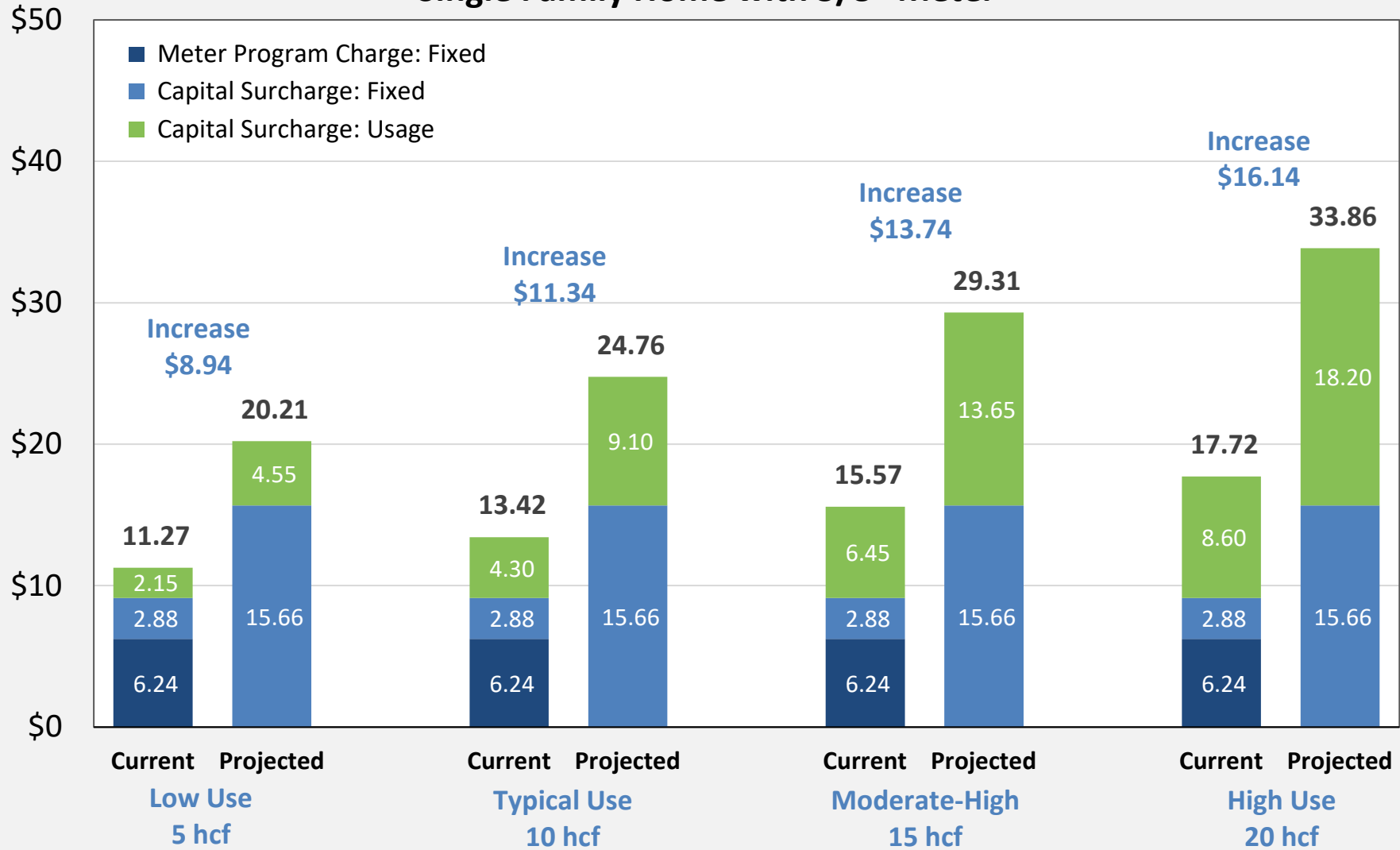
Monthly Use (hcf)	Est. % of Bills at or Below	Current Charges				Proposed Charges			\$ Increase to Bill	
		Capital Surcharge		Meter Prog		Maximum Capital Surcharge				
		Fixed	Usage	Fixed Chg	Total	Fixed	Usage	Total		
Single Family Residential Rate Impacts										
<u>Meter Size 5/8" - 1"</u>										
Low Use	5	25%	\$2.88	\$2.15	\$6.24	\$11.27	\$15.66	\$4.55	\$20.21	\$8.94
Typical Use	10	50%	2.88	4.30	6.24	13.42	15.66	9.10	24.76	11.34
Mod-High Use	15	75%	2.88	6.45	6.24	15.57	15.66	13.65	29.31	13.74
High Use	20	90%	2.88	8.60	6.24	17.72	15.66	18.20	33.86	16.14
Sample Commercial & Multi-Family Residential Rate Impacts										
<u>Meter Size 5/8"</u>										
Low Use	8		\$4.46	3.44	6.24	14.14	\$24.27	\$7.28	\$31.55	\$17.41
Moderate Use	17		4.46	7.31	6.24	18.01	24.27	15.47	39.74	21.73
Mod-High Use	25		4.46	10.75	6.24	21.45	24.27	22.75	47.02	25.57
<u>Meter Size 2"</u>										
Low Use	75		\$35.66	32.25	10.92	78.83	\$194.19	\$68.25	\$262.44	\$183.61
Moderate Use	150		35.66	64.50	10.92	111.08	194.19	136.50	330.69	219.61
Mod-High Use	225		35.66	96.75	10.92	143.33	194.19	204.75	398.94	255.61
<u>Meter Size 4" (Estimates)</u>										
Ikea	800		\$111.44	344.00	37.34	492.78	\$606.85	\$728.00	\$1,334.85	\$842.07
Bay Road Housing	1500		111.44	645.00	37.34	793.78	606.85	1,365.00	1,971.85	1,178.07
Four Seasons	2000		111.44	860.00	37.34	1,008.78	606.85	1,820.00	2,426.85	1,418.07

Chart B

City of East Palo Alto

With 20-Year Capital Program
 Surcharges in 2022 \$

Current vs. Projected Water Capital Improvement & Meter Surcharges Single Family Home with 5/8" Meter



Assumes termination of the current Meter Replacement Program Surcharges.

APPENDIX B

Water Use per Meter Equivalent

Table B-1
 City of East Palo Alto
 Water Use per Meter Equivalent

Year 1: September 2020 - August 2021

	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	Total
SINGLE FAMILY RESIDENTIAL										
Annual Water Use (ccf)	328,638	28,737	24,163	-	-	-	-	-	-	381,538
Meter Equivalents										
Avg Accounts in Year	3,145.8	249.5	239.3	-	-	-	-	-	-	3,634.7
Meter Capacity Ratio	1.0	1.0	1.0	-	-	-	-	-	-	
Meter Equivalents	3,145.8	249.5	239.3	-	-	-	-	-	-	3,634.7
Water Use per Meter Equivalent										
Annual (ccf)										105.0
Monthly (ccf)										8.7
ALL OTHER										
Annual Water Use (ccf)										
Apartment	5,629	-	21,313	15,792	81,447	22,184	20,218	-	-	
Commercial	10,602	2,691	26,700	10,894	51,512	17,718	9,955	8,328	-	
Government	196	39	761	671	17,651	-	-	9	-	
Industrial	3,355	508	2,068	1,106	1,641	-	-	-	-	
Subtotal	19,782	3,238	50,842	28,463	152,251	39,902	30,173	8,337	-	332,988
Meter Equivalents										
<u>Avg Accounts in Year</u>										
Apartment	11.0	-	26.8	26.0	39.7	11.0	4.0	-	-	
Commercial	55.0	9.0	31.3	13.8	38.5	10.0	8.7	2.0	-	
Government	2.7	2.2	5.0	4.0	17.2	-	-	1.0	-	
Industrial	31.5	2.5	6.0	5.0	2.0	-	-	-	-	
Subtotal	100.2	13.7	69.2	48.8	97.3	21.0	12.7	3.0	-	
Meter Capacity Ratio	1.0	1.5	2.5	5.0	8.0	15.0	25.0	50.0	80.0	
Meter Equivalents	100.2	20.5	172.9	244.2	778.7	315.0	316.7	150.0	-	2,098.1
Water Use per Meter Equivalent										
Annual (ccf)										158.7
Monthly (ccf)										13.2
Ratio to Single Family Residential										1.51

Table B-2
 City of East Palo Alto
 Water Use per Meter Equivalent

Year 2: September 2021 - August 2022

	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	Total
SINGLE FAMILY RESIDENTIAL										
Annual Water Use (ccf)	314,930	37,924	24,781	71	-	-	-	-	-	377,706
Meter Equivalents										
Avg Accounts in Year	2,899.8	310.3	228.0	0.8	-	-	-	-	-	3,438.9
Meter Capacity Ratio	1.0	1.0	1.0	1.0	-	-	-	-	-	
Meter Equivalents	2,899.8	310.3	228.0	0.8	-	-	-	-	-	3,438.9
Water Use per Meter Equivalent										
Annual (ccf)										109.8
Monthly (ccf)										9.2
ALL OTHER										
Annual Water Use (ccf)										
Apartment	7,633	-	21,541	18,116	91,717	25,524	20,770	-	-	
Commercial	12,780	3,723	32,217	13,540	46,008	13,193	18,088	9,795	-	
Government	147	40	630	1,473	15,775	-	-	10	-	
Industrial	3,201	467	1,915	1,416	1,887	-	-	-	-	
Subtotal	23,761	4,230	56,303	34,545	155,387	38,717	38,858	9,805	-	361,606
Meter Equivalents										
<u>Avg Accounts in Year</u>										
Apartment	9.6	-	25.7	25.3	34.9	11.0	5.3	-	-	
Commercial	51.3	11.9	31.3	13.3	37.1	8.9	10.0	2.0	-	
Government	2.0	2.8	4.3	3.8	16.1	-	-	1.0	-	
Industrial	28.8	3.4	5.8	4.8	1.9	-	-	-	-	
Subtotal	91.8	18.2	66.9	47.3	90.0	19.9	15.3	3.0	-	
Meter Capacity Ratio	1.0	1.5	2.5	5.0	8.0	15.0	25.0	50.0	80.0	
Meter Equivalents	91.8	27.3	167.3	236.3	720.0	298.8	383.3	150.0	-	2,074.6
Water Use per Meter Equivalent										
Annual (ccf)										174.3
Monthly (ccf)										14.5
Ratio to Single Family Residential										1.59

Table B-3
 City of East Palo Alto
 Water Use per Meter Equivalent

2 Year Average

	5/8"	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	Total
SINGLE FAMILY RESIDENTIAL										
Annual Water Use (ccf)	321,784	33,331	24,472	36	-	-	-	-	-	379,622
Meter Equivalents										
Avg Accounts in Year	3,022.8	279.9	233.7	0.4	-	-	-	-	-	3,536.8
Meter Capacity Ratio	1.0	1.0	1.0	1.0	-	-	-	-	-	
Meter Equivalents	3,022.8	279.9	233.7	0.4	-	-	-	-	-	3,536.8
Water Use per Meter Equivalent										
Annual (ccf)										107.3
Monthly (ccf)										8.9
ALL OTHER										
Annual Water Use (ccf)										
Apartment	6,631	-	21,427	16,954	86,582	23,854	20,494	-	-	
Commercial	11,691	3,207	29,459	12,217	48,760	15,456	14,022	9,062	-	
Government	172	40	696	1,072	16,713	-	-	10	-	
Industrial	3,278	488	1,992	1,261	1,764	-	-	-	-	
Subtotal	21,772	3,734	53,573	31,504	153,819	39,310	34,516	9,071	-	347,297
Meter Equivalents										
<u>Avg Accounts in Year</u>										
Apartment	10.3	-	26.3	25.7	37.3	11.0	4.7	-	-	
Commercial	53.2	10.5	31.3	13.6	37.8	9.5	9.3	2.0	-	
Government	2.3	2.5	4.6	3.9	16.6	-	-	1.0	-	
Industrial	30.2	3.0	5.9	4.9	2.0	-	-	-	-	
Subtotal	96.0	15.9	68.0	48.0	93.7	20.5	14.0	3.0	-	
Meter Capacity Ratio	1.0	1.5	2.5	5.0	8.0	15.0	25.0	50.0	80.0	
Meter Equivalents	96.0	23.9	170.1	240.2	749.3	306.9	350.0	150.0	-	2,086.4
Water Use per Meter Equivalent										
Annual (ccf)										166.5
Monthly (ccf)										13.9
Ratio to Single Family Residential										1.55