



Memo

Item 9A

To: Board of Directors

From: Benjamin T. Porter, District Manager-Engineer

Date: January 6, 2021

RE: Rate Study Workshop No. 5 – Draft Rate Study Methodology

This memorandum provides a summary of the methodology that will be used to prepare a rate study for Cupertino Sanitation District (CuSD). The goal of the rate study will be to develop fair and equitable rates to CuSD customers. At the December 16, 2020 Board meeting, the Board decided to proceed with development of rates for different customers that were more proportional to each customer's flow and load contribution to the system and based upon an improved allocation of the cost of service required to serve each customer. The resultant rates will be used to prepare a rate study by District staff.

CuSD has conducted four workshops to evaluate options for more fair and equitable rates. The four workshops are:

- Workshop #1 – Adoption of Rates for Accessory Dwelling Units (ADUs)
- Workshop #2 – Re-classify and establish rates for Multi-Family Units
- Workshop #3 – Establishment of User Rates Based on Flow and Load
- Workshop #4 – Establishment of special zone assessment: Pump Station Zones

Shown on Tables 1, 2, and 3 are a tabulation of the impact of rate changes from Workshop numbers #1, #2, #3, and #4.

- Table 1 provides the summary of rates.
- Table 2 provides the load and flow data which were used to re-allocate the rates.
- Table 3 provides the percentage increase or decrease in rates for each customer type.

The revised rate changes are calculated by assuming that the total revenue remains unchanged for all scenarios in a given class of customers (residential, commercial, industrial and institutional). The changes in rates as a result of each workshop are described below.

Workshop #1 – Adoption of Rates for Accessory Dwelling Units (ADUs): Re-allocate fees proportionally based on cost of service for different residential types based on re-classifying ADUs. CuSD will move forward with a rate study that includes a rate for ADUs that is 76% of the single-family rate.

- **Impact:** Assuming revenue for residential remains unchanged, reduction in rate for ADUs would result in an increase for the Single Family Rate (SFR). See column “(d)” in Table 1. The increase in SFR is reflected in the rates calculation done based on Workshop 3.

Workshop #2 – Re-classify and establish rates for Multi-Family Units: Re-allocate fees proportionally based on cost of service for different residential types based on re-classifying multi-family units. Based on the Board Meeting conducted on December 16, 2020, it was agreed to: Classify five-plex and higher number of units as a Multi-Family, and adopt Multi-Family Rates as 76% of the SFR rate.

- **Impact:** Assuming revenue for residential remains unchanged, reduction in rate for Multi-Family would result in an increase the rate for SFR. See column “(e)” in Table 1. The increase in SFR is reflected in the rates calculation done based on Workshop 3.

Workshop #3 –Establishment of User Rates Based on Flow and Load: Re-allocate fees proportionally based on cost of service for different user types based on flow and load. These current rate structures were established using the standard California State Water Resources Control Board (SWRCB) Revenue Program Guidelines factors [flow, biochemical oxygen demand (BOD), suspended solids (SS), and ammonia (NH₃)], and the City of San Jose’s adopted revenue program.

- **Impact:** New recalculated rates based of Workshop #3, would be more equitable for all user types because they are based on flow and load data. Shown on Table 2 are the calculations for how rates were adjusted based upon flow and load. Complying with the decision made in Workshop #1 and #2, rates for Multi-Family and ADUs are 76% of SFR (see column “(f)” in Table 1). Increases in rates across all user types that have a greater impact on the treatment and collection system would be offset by decreases in users that do not have as great of an impact. All user fees would more closely align with SWRCB Revenue Program guidelines.

Workshop #4 – Establishment of special zone assessment: Pump Station Zones: Re-allocate fees proportionally based on cost of service for different user types based on whether service is provided by pumping flows or by gravity. At the Board meeting conducted on December 16, 2020, it was agreed to proceed with a rate study analysis based on charging pump station service area customers a higher rate to account for higher cost of service.

- **Impact:** New recalculated rates based on Workshop #4, would result in increase in rates for residential, commercial, institutional, and industrial units located in pump station zones. The rate would decrease for users located in non-pump station zones. See column “(g)”, “(h)” and “(i)” in Table 1. Column “g” provides the additional cost of service for users in pump station zones. The overall increase in rates for pump station zone users is shown in column “(h)” and

the overall decrease in rates for users located in non-pump station zones is shown in column “(i)”.

The current adopted rates are shown in column “(c)”. The final revised rates based on all workshops are provided in column “(j)” and “(k)”. These rates will be used for the rate study. Table 3 shows the comparison of current adopted rates with final revised rates calculated based on workshops #1, #2, #3, and #4. It shows the rates in \$/year/unit and percentage change for each user type.

Table 1: Summary of Rates Based on Workshops #1, #2, #3, #4

Summary and Final Rates Based on All Workshops											
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
	Summary of Rates									Final Revised Rates Based on all workshops	
	Number of Sewer EDUs / Accounts	Annual Flow Volume	Current Adopted Rates (May 2020)	Workshop #1	Workshop #2	Workshop #3	Workshop #4: Added Cost for Pump Station Zone	Workshop #4: In Pump Station Zone	Workshop #4: NOT In Pump Station Zone	In Pump Station Zone	NOT In Pump Station Zone
	Count	HCF	\$	\$	\$	\$	\$	\$	\$	\$	\$
Residential			\$/Year	Rate	Rate	\$/Year	\$/Year	\$/Year	\$/Year	\$/Year	\$/Year
Single Family	17,080	1,619,651	\$638.86	SFR	SFR	\$670.87	\$153.94	\$778.59	\$624.65	\$778.59	\$624.65
Multi Family	4,006	288,707	\$638.86	SFR	76% of SFR	\$509.86	\$116.99	\$607.46	\$490.47	\$607.46	\$490.47
Accessory Dwelling Unit	274	19,747	\$638.86	76% of SFR	76% of SFR	\$509.86	\$116.99	\$573.05	\$456.06	\$573.05	\$456.06
Total Residential	21,360	1,928,105									
Commercial/Industrial			\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF
Retail Professional Office	1,085	339,954	\$4.80	\$4.80	\$4.80	\$5.16	\$1.18	\$6.30	\$5.11	\$6.30	\$5.11
Domestic Laundry	4	1,280	\$4.69	\$4.69	\$4.69	\$5.05	\$1.16	\$5.90	\$4.75	\$5.90	\$4.75
Restaurant	236	226,671	\$10.90	\$10.90	\$10.90	\$11.67	\$2.68	\$14.28	\$11.60	\$14.28	\$11.60
Repair Shops and Service Station	25	4,202	\$5.23	\$5.23	\$5.23	\$5.72	\$1.31	\$6.80	\$5.49	\$6.80	\$5.49
Hotel/Motel with Food Service	5	17,165	\$8.94	\$8.94	\$8.94	\$9.56	\$0.00	\$9.56	\$9.56	\$9.56	\$9.56
Hotel/Motel	5	17,592	\$5.34	\$5.34	\$5.34	\$5.80	\$0.00	\$5.80	\$5.80	\$5.80	\$5.80
Printing Plant	2	13	\$9.02	\$9.02	\$9.02	\$7.95	\$0.00	\$7.95	\$7.95	\$7.95	\$7.95
Car Wash	17	3,421	\$4.36	\$4.36	\$4.36	\$4.57	\$0.00	\$4.57	\$4.57	\$4.57	\$4.57
Machinery Manufacturing	1	15	\$7.67	\$7.67	\$7.67	\$8.66	\$0.00	\$8.66	\$8.66	\$8.66	\$8.66
Total Commercial/Industrial	1,380	610,313									
Institutional			\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF	\$/HCF
School	3	2,491	\$6.79	\$6.79	\$6.79	\$6.22	\$1.43	\$7.35	\$5.92	\$7.35	\$5.92
Hand Billing School	29	43,239	\$6.79	\$6.79	\$6.79	\$6.22	\$0.00	\$6.22	\$6.22	\$6.22	\$6.22
Hand Billing Retail	64	53,657	\$4.80	\$4.80	\$4.80	\$5.99	\$0.00	\$5.99	\$5.99	\$5.99	\$5.99
Convalescent Home	7	18,964	\$5.04	\$5.04	\$5.04	\$5.60	\$1.28	\$6.10	\$4.81	\$6.10	\$4.81
Multiple Occupancy Units	8	14,969	\$10.08	\$10.08	\$10.08	\$10.57	\$2.42	\$10.57	\$8.14	\$10.57	\$8.14
Total Institutional	111	133,320									
Total	22,851	2,671,738									

Flow and Loadings from District CUSD Revenue Program for FY 2020-21
 SFR = Single Family Rate

Table 2: Summary of Rates Based on Workshops #1, #2, #3, #4, including Flow and Load Data

Workshop #5: Summary of Rates Based on All Workshops showing Flow, Load, and Cost Data																									
Summary of Rates Based on All Workshops																									
Revised Rates for Fiscal Year 2021-22																									
	Flow Data						Load									Current Adopted Rates (May 2020)									
	Number of Sewer EDUs / Accounts	Annual Flow Volume	Working Days Per Year	Projected Flow Rate		Projected Flow Rate Per User Type	Projected Flow Rate Compared to Total	BOD	SS	NH3	BOD	SS	NH3	BOD	SS				NH3						
				mgd	gpd per unit															%	%	mg/L	mg/L	mg/L	lbs/d
Count	HCF	Days	Count	Rate	%	%	mg/L	mg/L	mg/L	lbs/d	lbs/d	lbs/d	%	%	%	\$	In Pump Station Zone	NOT In Pump Station Zone							
Residential																									
Single Family	15,622	1,481,392	365	3.035840	194	78.2%	56.2%	250	250	35	6,329.7	6,329.7	886.2	43.1%	55.5%	66.8%	\$638.86	\$638.86	\$638.86	\$670.87	\$153.94	\$778.59	\$624.65	\$778.59	\$624.65
Single Family (Outside)	127	12,043	365	0.024680	194	0.6%	0.5%	250	250	35	51.5	51.5	7.2	0.4%	0.5%	0.5%	\$638.86	\$638.86	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Multi Family	5,567	401,207	365	0.822199	148	21.2%	15.2%	250	250	35	1,714.3	1,714.3	240.0	11.7%	15.0%	18.1%	\$638.86	\$485.53	\$509.86	\$116.99	\$607.46	\$490.47	\$607.46	\$490.47	
Accessory Dwelling Unit																									
Total Residential	21,316	1,894,642		3.882719	536	100.0%	71.8%	750	750	105	8,095.5	8,095.5	1,133.4	55.2%	71.0%	85.4%									
Commercial/Industrial																									
Retail Professional Office	1,085	339,954	330	0.770562	710	55.7%	12.9%	130	80	11	835.4	514.1	70.7	5.7%	4.5%	5.3%	\$4.80	\$4.80	\$4.80	\$5.16	\$1.18	\$6.30	\$5.11	\$6.30	\$5.11
Domestic Laundry	4	1,280	360	0.002660	665	0.2%	0.0%	150	110	5	3.3	2.4	0.1	0.0%	0.0%	0.0%	\$4.69	\$4.69	\$5.05	\$1.16	\$5.90	\$4.75	\$5.90	\$4.75	
Restaurant	236	226,671	360	0.470972	1,996	37.1%	8.6%	1,250	560	10	4,909.9	2,199.6	39.3	33.5%	19.3%	3.0%	\$10.90	\$10.90	\$10.90	\$11.67	\$2.68	\$14.28	\$11.60	\$14.28	\$11.60
Repair Shops and Service Station	25	4,202	360	0.008731	349	0.7%	0.2%	180	280	0	13.1	20.4	0.0	0.1%	0.2%	0.0%	\$5.23	\$5.23	\$5.72	\$1.31	\$6.80	\$5.49	\$6.80	\$5.49	
Hotel/Motel with Food Service	5	17,165	365	0.035176	7,035	2.8%	0.7%	500	600	35	146.7	176.0	10.3	1.0%	1.5%	0.8%	\$8.94	\$8.94	\$9.56	\$0.00	\$9.56	\$9.56	\$9.56	\$9.56	
Hotel/Motel	5	17,592	365	0.036052	7,210	2.9%	0.7%	310	121	7	93.2	36.4	2.1	0.6%	0.3%	0.2%	\$5.34	\$5.34	\$5.80	\$0.00	\$5.80	\$5.80	\$5.80	\$5.80	
Printing Plant	2	13	273	0.000036	18	0.0%	0.0%	250	500	0	0.1	0.1	0.0	0.0%	0.0%	0.0%	\$9.02	\$9.02	\$7.95	\$0.00	\$7.95	\$7.95	\$7.95	\$7.95	
Car Wash	17	3,421	330	0.007754	456	0.6%	0.1%	20	150	0	1.3	9.7	0.0	0.0%	0.1%	0.0%	\$4.36	\$4.36	\$4.57	\$0.00	\$4.57	\$4.57	\$4.57	\$4.57	
Machinery Manufacturing	1	15	261	0.000043	43	0.0%	0.0%	290	550	0	0.1	0.2	0.0	0.0%	0.0%	0.0%	\$7.67	\$7.67	\$8.66	\$0.00	\$8.66	\$8.66	\$8.66	\$8.66	
Total Commercial/Industrial	1,380	610,313		1.331986	18,483	100.0%	23.1%	3,080	2,951	68	6,003.1	2,959.0	122.5	40.9%	26.0%	9.2%									
Institutional																									
School	3	2,491	300	0.006211	2,070	1.9%	0.1%	130	100	30	6.7	5.2	1.6	0.0%	0.0%	0.1%	\$6.79	\$6.79	\$6.22	\$1.43	\$7.35	\$5.92	\$7.35	\$5.92	
Hand Billing School	29	43,239	300	0.107809	3,718	32.4%	1.6%	130	100	30	116.9	89.9	27.0	0.8%	0.8%	2.0%	\$6.79	\$6.79	\$6.22	\$0.00	\$6.22	\$6.22	\$6.22	\$6.22	
Hand Billing Retail	64	53,657	330	0.121623	1,900	40.2%	2.0%	130	100	30	131.9	101.4	30.4	0.9%	0.9%	2.3%	\$4.80	\$4.80	\$5.99	\$0.00	\$5.99	\$5.99	\$5.99	\$5.99	
Convalescent Home	7	18,964	365	0.038863	5,552	14.2%	0.7%	230	85	15	74.5	27.6	4.9	0.5%	0.2%	0.4%	\$5.04	\$5.04	\$5.60	\$1.28	\$6.10	\$4.81	\$6.10	\$4.81	
Multiple Occupancy Units	8	14,969	365	0.030676	3,835	11.2%	0.6%	950	467	28	243.0	119.5	7.0	1.7%	1.0%	0.5%	\$10.08	\$10.08	\$10.57	\$2.42	\$10.57	\$8.14	\$10.57	\$8.14	
Total Institutional	111	133,320		0.305182	17,075	100.0%	5.1%	1,570	852	133	573.1	343.6	70.9	3.9%	3.0%	5.3%									
Total	22,807	2,638,275		5.519887	36,093	100.0%		5,400	4,353	306	14,672	11,398	1,327	100.0%	100.0%	100.0%									

Flow and Loadings from District CLUSD Revenue Program for FY 2020-21

Table 3: Comparison of percentage change between current adopted rate and revised rates

Comparison of Final Revised Rates with Current Adopted Rates							
	Number of Sewer EDUs / Accounts	Annual Flow Volume	Current Adopted Rates (May 2020)	Final Revised Rates Based on all workshops		Percentage Change From Current Adopted Rate	
				In Pump Station Zone	NOT In Pump Station Zone	In Pump Station Zone	NOT In Pump Station Zone
				\$	\$	%	%
Residential			\$/Year	\$/Year	\$/Year		
Single Family	17,080	1,619,651	\$638.86	\$778.59	\$624.65	22%	-2%
Multi Family	4,006	288,707	\$638.86	\$607.46	\$490.47	-5%	-23%
Accessory Dwelling Unit	274	19,747	\$638.86	\$573.05	\$456.06	-10%	-29%
Total Residential	21,360	1,928,105					
Commercial/Industrial			\$/HCF	\$/HCF	\$/HCF		
Retail Professional Office	1,085	339,954	\$4.80	\$6.30	\$5.11	31%	7%
Domestic Laundry	4	1,280	\$4.69	\$5.90	\$4.75	26%	1%
Restaurant	236	226,671	\$10.90	\$14.28	\$11.60	31%	6%
Repair Shops and Service Station	25	4,202	\$5.23	\$6.80	\$5.49	30%	5%
Hotel/Motel with Food Service	5	17,165	\$8.94	\$9.56	\$9.56	7%	7%
Hotel/Motel	5	17,592	\$5.34	\$5.80	\$5.80	9%	9%
Printing Plant	2	13	\$9.02	\$7.95	\$7.95	-12%	-12%
Car Wash	17	3,421	\$4.36	\$4.57	\$4.57	5%	5%
Machinery Manufacturing	1	15	\$7.67	\$8.66	\$8.66	13%	13%
Total Commercial/Industrial	1,380	610,313					
Institutional			\$/HCF	\$/HCF	\$/HCF		
School	3	2,491	\$6.79	\$7.35	\$5.92	8%	-13%
Hand Billing School	29	43,239	\$6.79	\$6.22	\$6.22	-8%	-8%
Hand Billing Retail	64	53,657	\$4.80	\$5.99	\$5.99	25%	25%
Convalescent Home	7	18,964	\$5.04	\$6.10	\$4.81	21%	-5%
Multiple Occupancy Units	8	14,969	\$10.08	\$10.57	\$8.14	5%	-19%
Total Institutional	111	133,320					
Total	22,851	2,671,738					