

**CUPERTINO SANITARY DISTRICT  
SANITARY BOARD MEETING  
WEDNESDAY, OCTOBER 7, 2020**

**A\_G\_E\_N\_D\_A**

**In accordance with Executive Order N-33-20, meeting to be held at 7:00 p.m. via teleconference [call 1 (866) 899 - 4679 Conference Access Code: 251566821] and anyone interested may also call in. The District Office at 20863 Stevens Creek Blvd, Suite 100, Cupertino is closed.**

**1. ROLL CALL:**

**2. MINUTES:**

- A. APPROVAL OF THE MINUTES OF SEPTEMBER 16, 2020
- B. APPROVED MINUTES OF SEPTEMBER 02, 2020

**3. PERSONAL PRESENTATIONS:**

THIS PORTION OF THE MEETING IS RESERVED FOR PERSONS DESIRING TO ADDRESS THE BOARD ON ANY MATTER NOT ON THE AGENDA. SPEAKERS ARE LIMITED TO THREE (3) MINUTES.

ALL STATEMENTS REQUIRING A RESPONSE WILL BE REFERRED TO STAFF FOR FURTHER ACTION. IN MOST CASES, STATE LAW WILL PROHIBIT THE BOARD FROM MAKING ANY DECISIONS WITH RESPECT TO A MATTER NOT LISTED ON THE AGENDA.

**4. CORRESPONDENCE:**

NONE

**5. MEETINGS:**

- A. THE REGULAR MEETING OF THE SAN JOSE/SANTA CLARA TREATMENT PLANT ADVISORY COMMITTEE (TPAC) TO BE HELD ON OCTOBER 8, 2020

**6. REPORTS:**

- A. TELECONFERENCE MEETING OF THE SAN JOSE/SANTA CLARA TREATMENT PLANT TECHNICAL ADVISORY COMMITTEE (TAC) HELD OCTOBER 5, 2020

**7. UNFINISHED BUSINESS:**

- A. COVID-19 UPDATES

**CUPERTINO SANITARY DISTRICT  
SANITARY BOARD MEETING  
WEDNESDAY, OCTOBER 7, 2020**

B. STAFFING UPDATE

**8. NEW BUSINESS:**

A. RATE STUDY WORKSHOP No. 2 - SFR vs MFR

B. DRAFT ANNUAL REPORT

**9. STAFF REPORT:**

A. FUTURE DEVELOPMENT PROJECTS

B. FORUM UPDATE

C. INFLOW REDUCTION PLAN

**10. CLOSED SESSION:**

A. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION  
in accordance with government code section Paragraph (1) of Subdivision (d)  
of Section 54956.9, existing litigation. Name of Case: County Sanitation District  
2-3, West Valley Sanitation District, Cupertino Sanitary District, Burbank  
Sanitary District and the City of Milpitas v. The City of San Jose, The City of  
Santa Clara and Does 1 through 50 inclusive.

**11. CALENDAR ITEMS:**

A. NEXT REGULAR DISTRICT BOARD MEETING IS SCHEDULED TO BE HELD  
ON WEDNESDAY, OCTOBER 21, 2020

**12. ADJOURNMENT:**

# CUPERTINO SANITARY DISTRICT MEETING/EVENT SCHEDULE

## OCTOBER 2020

10/05: TAC  
 10/07: 1<sup>st</sup> Regular Meeting  
 10/08: TPAC  
 10/21: 2<sup>nd</sup> Regular Meeting

OCTOBER 2020						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5 <b>TAC</b>	6	7 1 <sup>st</sup> Regular Meeting	8 <b>TPAC</b>	9	10
11	12	13	14	15	16	17
18	19	20	21 2 <sup>nd</sup> Regular Meeting	22	23	24
25	26	27	28	29	30	31

## NOVEMBER 2020

11/04: 1<sup>st</sup> Regular Meeting  
 11/09: TAC  
 11/12: TPAC  
 11/18: 2<sup>nd</sup> Regular Meeting

NOVEMBER 2020						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4 1 <sup>st</sup> Regular Meeting	5	6	7
8	9 <b>TAC</b>	10	11	12 <b>TPAC</b>	13	14
15	16	17	18 2 <sup>nd</sup> Regular Meeting	19	20	21
22	23	24	25	26-27 <b>Holiday</b>		28
29	30					

## DECEMBER 2020

12/02: 1<sup>st</sup> Regular Meeting  
 12/07: TAC  
     SCCSDA  
 12/10: TPAC  
 12/16: 2<sup>nd</sup> Regular Meeting

DECEMBER 2020						
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2 1 <sup>st</sup> Regular Meeting	3	4	5
6	7 <b>TAC</b> SCCSDA	8	9	10 <b>TPAC</b>	11	12
13	14	15	16 2 <sup>nd</sup> Regular Meeting	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

## CUPERTINO SANITARY DISTRICT BOARD MEETING WEDNESDAY, SEPTEMBER 16, 2020

The Sanitary Board of the Cupertino Sanitary District convened this date at 7:00 p.m. in accordance with the Executive Order N-33-20 via teleconferencing.

### 1. ROLL CALL:

President Chen called the meeting to order and roll call was taken, with the following members in attendance:

Directors present: Angela S. Chen, Taghi S. Saadati, John M. Gatto, William A. Bosworth, and Patrick S. Kwok.

Staff present: District Manager Benjamin Porter, District Advisor Richard K. Tanaka, Deputy Manager Robert Woodhouse, and Counsel Marc Hynes.

Guests: None

### 2. MINUTES & BILLS:

A. On a motion by Director Bosworth, seconded by Director Saadati, by a vote of 5-0-0, the minutes of Wednesday, September 2, 2020 were approved.

B. By consensus, the Minutes of Wednesday, August 19, 2020 are to be Noted & Filed.

C. The Board reviewed the August financials for payment. On a motion by Director Gatto, seconded by Director Bosworth, by a vote of 5-0-0, payment of bills was approved. The Board agreed that an electronic board package is acceptable for all board members except for Director Kwok for the first meeting of each month. For the second board meeting of the month, the finance committee will continue to get hard copies of agenda package and the financial documents and Director Kwok will continue to receive a hard copy of the agenda package.

D. The Board members will submit their timesheets electronically.

### 3. PERSONAL PRESENTATIONS:

There were none.

### 4. CORRESPONDENCE:

There was none.

### 5. MEETINGS:

A. Manager Porter will attend the teleconference meeting of The San Jose/Santa Clara Treatment Plant Technical Advisory Committee (TAC) scheduled to be held October 5, 2020.

CUPERTINO SANITARY DISTRICT BOARD MEETING  
WEDNESDAY, SEPTEMBER 16, 2020

- B. Director Gatto plans to attend the teleconference meeting of The San Jose/Santa Clara Treatment Plant Advisory Committee (TPAC) scheduled to be held October 8, 2020.

6. REPORTS:

- A. Manager Porter reported on the teleconference meeting of The San Jose/Santa Clara Treatment Plant Technical Advisory Committee (TAC) held September 8, 2020.
- B. Director Gatto reported that he had a difficult time teleconferencing into the meeting of The San Jose/Santa Clara Treatment Plant Advisory Committee (TPAC) held September 10, 2020. Afterwards, he had a discussion with Kerrie Romanow, particularly related to the pond issue.
- C. Director Bosworth reported on the virtual meeting of Santa Clara County Special Districts Association held Monday, September 14, 2020.

7. UNFINISHED BUSINESS:

- A. Manager Porter updated the Board on San Jose Joint Interceptor.
- B. COVID-19 discussion: Manager Porter reported that all staff is healthy.
- C. Four Board members are now up-to-date on their Ethics Training. One Board member will complete training tomorrow.

8. NEW BUSINESS:

There was none.

9. STAFF REPORTS:

- A. Manager Porter and Advisor Tanaka reported on the status of future development projects including Vallco. Vallco is currently planning to secure two estimates, one for a 12” replacement and one for a 48” storage option. District has requested Vallco to pay an additional \$50,000 for district engineering and administration expenses.
- B. Manager Porter reported on The Forum update. The District received an additional deposit (\$8,000) for district administration, engineering, and inspection services. Once the generator relocation and sewer main testing are completed, the Installer’s agreement can be closed out.
- C. Manager Porter reported on the monthly maintenance report. There were no SSOs. Staff will check with CASA to see if there are more problems due to COVID-19. President Chen reported that Manager Porter’s presentation to the Asian American Business Council (AABC) went well.

10. CLOSED SESSION:

President Chen adjourned the regular meeting session and opened the closed session at 7:45 p.m. Manager Porter and Advisor Tanaka were excused from the closed session.

CUPERTINO SANITARY DISTRICT BOARD MEETING  
WEDNESDAY, SEPTEMBER 16, 2020

- A. Conference with legal counsel – Existing Litigation in accordance with government code section Paragraph (1) of Subdivision (d) of Section 54956.9, existing litigation. Name of Case: County Sanitation District 2-3, West Valley Sanitation District, Cupertino Sanitary District, Burbank Sanitary District, and the City of Milpitas v. The City of San Jose, The City of Santa Clara, and Does 1 through 50 inclusive.

Closed session was adjourned at 8:08 p.m. and the regular meeting was called to order. Manager Porter and Advisor Tanaka rejoined the regular meeting. There was no reportable action.

11. NEXT MEETING:

The next regular District Board meeting is scheduled to be held on Wednesday, October 7, 2020.

12. ADJOURNMENT:

On a motion properly made and seconded, at 8:10 p.m. the meeting was adjourned.

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Secretary of the Sanitary Board

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President of the Sanitary Board

## CUPERTINO SANITARY DISTRICT BOARD MEETING WEDNESDAY, SEPTEMBER 02, 2020

The Sanitary Board of the Cupertino Sanitary District convened this date at 7:00 p.m. This meeting was conducted in accordance with the Executive Order N-33-20 via teleconferencing. The District office at 20863 Stevens Creek Blvd, Suite 100, Cupertino was closed.

### 1. ROLL CALL:

President Chen called the meeting to order and the following proceedings were had to wit: Roll call was taken, with the following members in attendance:

Directors present: Angela S. Chen, Taghi S. Saadati, John M. Gatto, William A. Bosworth, and Patrick S. Kwok.

Staff present: District Manager Benjamin Porter, District Advisor Richard K. Tanaka, Robert Woodhouse, Deputy District Manager, Sasha Dansky (Mark Thomas Principal), and Counsel Marc Hynes.

Public: None

By consensus, the Board moved Item 10. CLOSED SESSION to before Item 2-Minutes.

### 10. CLOSED SESSION:

President Chen adjourned the regular meeting session and opened the closed session at 7:07 p.m. Advisor Tanaka was present for a portion of the Closed Session to provide historical background information. Manager Porter was excused from the closed session.

- A. Conference with legal counsel – Existing Litigation in accordance with government code section Paragraph (1) of Subdivision (d) of Section 54956.9, existing litigation. Name of Case: County Sanitation District 2-3, West Valley Sanitation District, Cupertino Sanitary District, Burbank Sanitary District, and the City of Milpitas v. The City of San Jose, The City of Santa Clara, and Does 1 through 50 inclusive.

Closed session was adjourned at 8:36 p.m. and the regular meeting was called to order. Manager Porter and Advisor Tanaka rejoined the regular meeting. There was no reportable action.

### 2. MINUTES:

- A. On a motion by Director Gatto, seconded by Director Kwok, by a vote of 5-0-0 the minutes of Wednesday, August 19, 2020 were approved with corrections to Items 6A and 6B.
- B. By consensus, the Minutes of Wednesday, August 5, 2020 are to be Noted & Filed.

### 3. PERSONAL PRESENTATIONS:

There were none.

CUPERTINO SANITARY DISTRICT BOARD MEETING  
WEDNESDAY, SEPTEMBER 02, 2020

4. CORRESPONDENCE:

There was none.

5. MEETINGS:

- A. Manager Porter plans to attend the teleconference meeting of The San Jose/Santa Clara Treatment Plant Technical Advisory Committee (TAC) scheduled to be held September 8, 2020.
- B. Director Gatto plans to attend the teleconference meeting of The San Jose/Santa Clara Treatment Plant Advisory Committee (TPAC) scheduled to be held September 10, 2020.
- C. Director Bosworth plans to attend the virtual meeting of Santa Clara County Special Districts Association scheduled to be held Monday, September 14, 2020.

6. REPORTS:

There were none.

7. UNFINISHED BUSINESS:

- A. Manager Porter reported on COVID-19 updates. In response to a notice the District received on August 14, 2020 about a confirmed case of COVID-19 at the District office complex, Staff requested that inspectors who were in contact with the affected area get tested for the virus and wait for a negative result before returning to work. Four inspectors got tested and all came up negative for the COVID-19 virus. Manager Porter reported that he is primarily using his cell phone for business purposes.
- B. The Board received and reviewed an updated Resolution No. 1326, Accepting Notice of Completion for the Hyatt House Installer's Agreement. On a motion by Director Gatto, seconded by Director Bosworth, by a vote of 5-0-0, Resolution No. 1326 was approved.

8. NEW BUSINESS:

- A. The Board discussed the rate study workshop for accessory dwelling units. Staff is to obtain the City of Cupertino's ADU definition and bring this item back to the Board.
- B. Staff announced the retirement of Advisor Tanaka from Mark Thomas effective at the end of this calendar year.
- C. Directors Gatto, Bosworth, Kwok, and Saadati are required to renew their Ethics Training Certificate by September 30, 2020.



CUPERTINO SANITARY DISTRICT BOARD MEETING  
WEDNESDAY, SEPTEMBER 02, 2020

9. STAFF REPORTS:

- A. There were no updates to report for future development projects.
- B. Advisor Tanaka reported that the District requested and received an additional deposit of \$8,000 to complete project close-out for The Forum.
- C. Manager Porter reported that Via Regina retaining wall has been constructed with no apparent impact to the District sewer system at this time. The District did not design, construct, or inspect the retaining wall, but District staff did make observations during the construction and after it was completed.

10. CLOSED SESSION:

Moved up to before Item 2A.

11. NEXT MEETING:

The next regular District Board meeting is scheduled to be held on Wednesday, September 16, 2020.

12. ADJOURNMENT:

On a motion properly made and seconded, at 9:58 p.m. the meeting was adjourned.

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Secretary of the Sanitary Board

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President of the Sanitary Board



# Memo

Item 8A

**To: Board of Directors**  
**From: Benjamin T. Porter, District Manager-Engineer**  
**Date: October 7, 2020**  
**RE: Rate Study Workshop No. 2 – Residential Unit Rates**

Workshop No. 1 (ADU) Follow-up:

Workshop No. 1 related to Accessory Dwelling Units (ADUs) was conducted at the September 2 Board Meeting. As a result, staff contacted both the Cities of Cupertino and Saratoga to gain information on the number of approved ADUs in each City.

The City of Cupertino provided a list of ADUs that have been approved since January 2019. A total of 73 ADUs were approved with five currently pending in process. Of the 73 ADUs, 35 units were new construction, 31 units were detached ADU units and 42 units were attached ADU units.

The City of Saratoga provided a list of approved ADUs/Secondary Dwellings. The City has issued 129 building permits. The Majority of these building permits indicate that the ADU/Secondary Dwelling is new construction. The City's records indicate that the total valuation of these new building permits at \$28,461,010 and the City has collected \$761,893 in building permit fees.

Staff recommends adoption of one rate for ADU.

Workshop No. 2 – Residential Rates:

Workshop No. 2 deals with residential rates. See attached Residential Rates Memo

Next Month Workshop No.3 – Overall Parity:

Workshop No. 3 will focus on the overall parity and fairness among all users in Cupertino Sanitary District. Treatment of the wastewater at the San Jose-Santa Clara Regional Wastewater Facility is based on four factors (volume, biochemical oxygen demand, suspended solids and nitrate concentration). However, the district owned infrastructure is primarily dependent on volume (capacity of the interceptor).

**Attachment:**

- 1) Residential Unit Rates Memo

## RESIDENTIAL UNIT RATES

### Background – Residential Rates

Proposition 218, the “Right to Vote on Taxes Act,” was approved by California voters in November 1996 and is codified as Articles XIIC and XIID of the California Constitution. Proposition 218 establishes requirements for imposing any new or increasing any existing property-related fees and charges. For many years, there was no legal consensus on whether water and sewer service fees met the definition of “property-related fees.” In July 2007, the California Supreme Court confirmed that Proposition 218 applies to water and wastewater (sewer) service fees.

Proposition 218 also established substantive requirements that apply to sewer rates and charges which include:

1. **Intended Purpose** - Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
2. **Cost of Service** - Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the “cost of service.”
3. **Proportional Cost Recovery** - The amount of the fee or charge levied on any customer shall not exceed the proportional cost of service attributable to that customer.
4. **Availability of Service** - No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property.
5. **General Government Services** - No fee or charge may be imposed for general governmental services where the service is available to the public at large.

This memo provides guidance to comply with above Item 2 and 3.

### Rate Setting by other agencies:

In step 1 of this process, staff gathered rate data from seventy-nine (79) nine Bay Area County cities and sewer districts. The Methods used by these 79 agencies are summarized as follows:

Method used to determine Single Family Residence (SFR) and Multi-Family Residence (MFR) Rates	No. of Agencies
MFR charged a percentage of SFR rate	38
Same rate for SFR and MFR	18
Actual usage based on water meter reading	20
Information not available on agency’s website	3

Based on the staff’s finding, it appears that the most equitable strategy for setting the sewer service charges would be to use the actual water consumptions for the winter months. Twenty of the agencies bill customers a base fee plus actual water use throughout the year. All of the cities/agencies using this approach own and maintain the water and sewer system.

There are 18 agencies currently using the same rate for SFR and MFR. A summary of the methodology utilized to develop the “same rate” structure is as follows:

Methodology to justify same rate	No. of Agencies
Rate Study indicated they serve multiple cities and districts and water usage is difficult to obtain	3
Rate Study indicated similar water usage	2
Small districts – Does not apply	8
Rate Study states SFR and MFR are the same equivalent dwelling unit (EDU) – CuSD in this category	4

Thirty-eight (38) cities/agencies utilize a method that charges the MFR a percentage of the SFR rate. The following table summarizes percentages being used by each agency, starting with the lowest percentage:

AGENCIES	Percentage of MFU as compared to SFU
City of Pleasanton	52%
Dublin-San Ramon Services District	56%
Santa Clara County Sanitation District No. 2-3	56%
Napa Sanitation District	60%
Town of Yountville	66%
City of San Jose (CSJ)	67%
Richardson Bay Sanitary District	68%
City of Sunnyvale	69%
East Bay Dischargers Authority (EBDA)	71%
West Valley Sanitation District (WVSD)	74%
City of American Canyon	75%
City of Livermore	75%
City of Milpitas	77%
City of Berkeley	78%
City of Windsor	79%
Crockett Community Services District	79%
Mt. View Sanitary District (MVSD)	80%
City of Richmond	80%
Burbank Sanitary District	82%
City of Piedmont	83%
City of Oakland	84%
City of Calistoga	84%

AGENCIES	Percentage of MFU as compared to SFU
City of Pinole-Hercules	85%
City of Petaluma	85%
City of San Carlos	86%
East Bay Municipal Utilities District (EBMUD)	86%
Stege Sanitary District (SSD)	87%
Union Sanitary District	87%
West County Wastewater District	87%
Sausalito/Marin City Sanitary District (SMCSD)	88%
City of Hayward	89%
Sanitary District of Marin County No. 2 (Corte Madera)	90%
So. San Francisco-San Bruno Water Quality Plant	90%
Ross Valley Sanitary District	90%
City of Redwood City	90%
City of Alameda	90%
City of Antioch	91%
Central Contra Costa Sanitary District (CCCSD)	95%
Central Marin Sanitation Agency (CMSA)	95%

Staff was able to review twelve agency rate studies to determine how each agency developed these percentages. Based on these twelve rate studies, the percentages were based primarily on water usage during the wet winter season.

**Methodology for setting residential rates for Cupertino Sanitary District:**

In the past, the District could not obtain water usage for residential uses from both San Jose Water and Cal Water. Therefore, the District continued to use the same equivalent dwelling unit (EDU) method for both single family and multi-family residences. However, because sewer treatment charges are prorated by the City of San Jose to all tributary agencies and were based on a 1973 study, and as part of the San Jose Treatment Plant Master Plan process, the City of San Jose, in cooperation with the Tributary Agencies, performed a water usage study over a three-year period from 2011 to 2013 (see attached copy of the report).

A portion of report applicable to Cupertino Sanitary District is reproduced as follows:

Cupertino Sanitary District provided data from 2011 to 2013 to estimate the residential per unit flow rates as well as a list of residential accounts. Cupertino did not have any mobile homes in the residential accounts provided. Flow rates were obtained from winter water consumption while the property types and the number of units for each household were obtained from the list of residential accounts provided.

In general, water accounts that contained winter water consumption data were linked to the corresponding wastewater accounts to determine the property type as well as the number of units each account serves. The first step involved linking water consumption data with residential accounts through the assessor's parcel number (APN). Once the number of units and the property type for the winter water consumption data was obtained, a per unit flow rate was calculated by dividing the water

consumption (in gallons) by the number of days between two successive reading dates, and then dividing again by the number of units for each household. The per unit flow rates for each account for the winter months were then averaged per year. An average residential per unit flow rate, which excluded any flow rate greater than 400 GPD per unit for single family premise types and any flow rate greater than 300 GPD per unit for multi-family premise types, was obtained for both single family and multi-family premise types. The results are presented in Table 2.18 and Table 2.19.

Year	GPD/Account SF	GPD/Account MF	GPD/Account MH
2011	178	131	Not Applicable
2012	212	164	
2013	195	153	

Year	GPCD SF	GPCD MF	GPCD MH
2011	60	53	Not Applicable
2012	72	67	
2013	66	62	

Based on the study above, the SFR use as percentages of MRF use for the three-year period is as follows:

Year surveyed	Single Family Average Flow /Acct (gpd)	Multi-Family Average Flow /Acct (gpd)	Percentage
2011	178	131	73.6%
2012	212	164	77.4%
2013	195	153	78.4%

The City of San Jose utilized the average of the three-year period to finalize flow rates for Cupertino Sanitary District as follows:

Category	Average GPCD	Density 2012 Census	GPD/Household
Single Family	66	2.94	194
Multi Family	60	2.47	148

Based on the three-year average, the percentage is calculated to be 76.3%. This average percentage was implemented by City of San Jose to allocate treatment plant operations and maintenance costs to all agencies.

**Special Residential Types – Townhomes and Condominiums:**

The City of San Jose, in their Municipal Code Section 15.12.460, defines townhomes as a single-family residence as it is designed, improved, or used as a residence for one family only. San Jose does not have a separate charge for ADU.

The Cities of Santa Clara and Milpitas classify townhomes and condominiums as multi-family units and have a separate rate for ADU.

The city of Redwood City classifies up to nine units as a single family and uses a 90% MFR/SFR factor. The Rate study does not provide the details of how the city determined this classification and percentage. An ADU is categorized as one of the living units.

The City of Sunnyvale has two rates for residential – single family and all other residential. It is assumed that ADUs are classified in the all other residential category.

The City of Hayward has five rates for residential – standard residential living unit, multiple residential living unit, mobile home, economy rate, and lifeline rate. ADUs are classified as in the multiple dwelling unit category.

Dublin-San Ramon Sanitary District has three rates for residential – single family and townhomes, condominiums and multi-family. ADUs are included in the multi-family rate.

West Valley Sanitation District has four rates for residential – single family dwelling, multiple dwelling unit, mobile home, and ADU. Townhomes and condominiums are classified as multiple family.

**Recommendations:**

- 1) Adopt multi-family percentage of 76% of the single-family rate as a reasonable percentage based on the most recent available data.
- 2) Classify duplex and higher number of units as an MFR
- 3) Classify condominium as an MFR.
- 4) Classify townhomes as an SFR.
- 5) Implement separate classification for accessory dwelling unit (ADU)



# Memo

Item 9C

**To: Board of Directors**  
**From: Benjamin T. Porter, District Manager-Engineer**  
**Date: October 7, 2020**  
**RE: Plan to Minimize Inflow**

Flow from the Cupertino Sanitary District passes through a flume located just north of I280 on Homestead Road where the flow is measured prior to discharge to the City of Santa Clara sewer system. A 1985 agreement with the City of Santa Clara limits the amount of peak flow that Cupertino Sanitary District can send to the City of Santa Clara system. The peak flow limit is 13.8 million gallons per day (MGD) during a 10-year wet weather rainfall event. Flow monitoring conducted during 2016 by V&A Consultants and sewer system modeling completed by District staff in 2019 indicates that Cupertino Sanitary District may exceed the 13.8 MGD peak flow limits during a 10-year rainfall event. Violation of this peak flow limit during a future wet weather event may trigger lawsuits and/or a building moratorium for the District which would severely limit future growth in the service area.

To reduce flows to the City of Santa Clara CUSD should proceed with a peak inflow reduction program. The inflow reduction program will be used to reduce the peak flows to the City of Santa Clara during wet weather events and create the required capacity in the sewer system to accommodate future sanitary flows without violating the 1985 agreement with the City of Santa Clara. Reducing inflow serves many positive purposes and aligns with the District Capital Improvement Master Plan. The Inflow Reduction Program is described below.

## **Previous Infiltration Inflow (I/I) Studies**

The 2016 V&A flow monitoring study characterized each of the sewer basins in the Cupertino service area in terms of the amount of infiltration and inflow that was being contributed due to defects in the sewer pipes and manholes (infiltration sources) or the number of locations where stormwater was entering the system during wet weather events (inflow sources). The measured inflows far exceeded the infiltration flows so another study was completed by V&A in 2018 to identify the sources of inflow in three of the high inflow basins in the system using a field investigation technique called smoke testing. The 2018 V&A Smoke Testing and Field Investigation study identified specific inflow sources and defects in the three basins (basins 4A, 9, and 22) that were allowing stormwater to enter the sanitary sewer system. The next steps for reducing inflow in the system are to implement an Inflow Reduction Program are described below.



## Inflow Reduction Program

1. Complete the inflow correction measures in sewer basins 4A, 9, and 22. Most of the defects that are contributing inflow reside on the private property side of the sewer lateral (the upper lateral) and some are in the public right of way controlled by the City of Cupertino.
  - a. Letters have already been sent to the homeowners where the defective upper laterals are located. District staff will follow-up with homeowners on how to repair the defects, line up resources to help them complete the work, and manage the work until it is completed.
  - b. Additional defects in the public right of way will need to be repaired by the City of Cupertino. A letter has been sent to the City of Cupertino that identifies stormwater connection defects that are under the jurisdiction of the City for correction. District staff will follow-up with the City of Cupertino to confirm that all the public right of way defects have been repaired.
  - c. Inflow defects located in the lower laterals and manholes will be corrected by the Cupertino Sanitary District with a small construction project.

The inflow correction measures in basins 4A, 9, and 22 will be completed prior to the end of 2020.

2. Additional smoke testing and field investigations will be completed by V&A in the spring of 2021 in sewer basins 18, 19, 20, 25, and 27 (126,000 feet of pipe) to identify the sources of inflow and defects in each of the remaining “high inflow” sewer basins. The V&A smoke testing study will be completed in the spring of 2021 and will identify specific defects in public and private property that need to be repaired to minimize inflow.
3. Complete the inflow correction measures in sewer basins 18, 19, 20, 25, and 27.
  - a. Letters will be sent to the homeowners where the defective upper laterals are located. District staff will follow-up with homeowners on how to repair the defects, lining up resources to help them complete the work, and manage the work until it is completed.
  - b. Additional defects in the public right of way will need to be repaired by the City of Cupertino. A letter will be sent to the City of Cupertino that identifies stormwater connection defects that are under the jurisdiction of the City for correction. District staff will follow-up with the City of Cupertino to confirm that all the public right of way defects have been repaired.
  - c. Inflow defects located in the lower laterals and manholes will be corrected by the Cupertino Sanitary District with a small construction project.

The inflow correction measures in basins 18, 19, 20, 25, and 27 will be completed prior to the end of 2021.

4. V&A will conduct systemwide flow monitoring during the spring of 2022 to determine

the flows for all sewer basins to see how much the peak flows have been reduced as a result of the inflow correction work in basins 4A, 9, 18, 19, 20, 22, 25, and 27. The flow data analysis will identify high inflow sewer basins and rank them to determine the areas which contribute the highest amount of inflow to the system.

5. District staff will update the hydraulic model with the new flow data and changes to the sewer system inventory. Model runs will be completed in 2024 to determine the impacts of the inflow correction work that has been completed. The modeled wet weather peak flows at the flume will be used to determine if there is capacity to accommodate the future sanitary flows without exceeding the maximum allowable peak flow of 13.8 MGD to the City of Santa Clara sewer system.
6. Once the hydraulic modeling is completed a determination will be made as to whether the Inflow reduction measures create the required system capacity to accommodate future flows. This determination will be based upon the results of systemwide flow monitoring and hydraulic modeling that incorporate the inflow reduction measures.
7. If the decision is made to continue with the Phase II Inflow Reduction program then proceed with Phase II Smoke Testing, Field Investigations, Inflow Reduction Projects, and Flow monitoring for the new highest ranked inflow basins. Determine what additional source work detection work will be required to locate remaining sources of inflow in basins 4A, 9, 18, 19, 20, 22, 25, and 27 in Phase II of the Inflow Reduction Program. Complete additional source detection work in the summer/fall of 2022 and correct remaining inflow defects in the spring of 2023.

**Phase I – Inflow Correction Program Cost Estimate**

The cost and schedule to implement Phase I of the Inflow Reduction Program and Capacity Improvements are shown in Table 1.

**Table 1 – Phase I - Inflow Reduction Program**

Task	Start Date	End Date	Cost
<b>Phase I</b>			
1. Manage Inflow Correction in 4A, 9, and 22	09/01/20	12/31/20	\$5,000
2. Repair Manholes and Lower Laterals	10/01/20	03/31/20	30,000
3. Smoke Testing 18, 19, 20, 25, 27	04/01/21	07/31/21	130,000
4. Manage Inflow Correction in 18, 19, 20, 25, 27	08/01/21	12/31/21	10,000
5. Repair Manholes and Lower Laterals	08/01/21	12/31/21	50,000
6. Systemwide Flow Monitoring	01/01/22	03/01/22	120,000
<b>Phase I - Inflow Reduction Program</b>			<b>\$345,000</b>

***Recommendation:***

Staff’s recommendation is to proceed with Phase I of the inflow reduction program.

***Attachment:***

- 1) Smoke Testing Proposal

V&A Project No. 20-0045Rev1

September 29, 2020

Robert Woodhouse  
Deputy District Manager  
Mark Thomas  
2833 Junction Ave. Suite 110  
San Jose, CA 95134

**Subject:** Sanitary Sewer Smoke Testing in Cupertino, CA: Approximately 126,000 linear feet

Dear Mr. Woodhouse,

Thank you for requesting a proposal and detailed scope of work for sanitary sewer smoke testing to be performed within Cupertino Sanitary District (CuSD) in the City of Cupertino (City), CA for Mark Thomas. V&A Consulting Engineers, Inc. (V&A) is prepared to perform approximately 126,000 linear feet of sanitary sewer smoke testing in the City service area. The following is our detailed scope of work for the subject services.

## Scope of Work

### Task | Description

- 1 **Project Preparation and Accounting:** V&A will gather, and review documents and information provided by CuSD including maps of the study area, the CuSD sewer system atlas book and available GIS, and list of streets and addresses within the study area. V&A will use this information to plan the testing locations and associated smoke testing fieldwork. CuSD will distribute the 1-week notifications to the affected residents and businesses. V&A will distribute the 24-hour smoke testing notifications.
- 2 **Smoke Testing:** V&A will perform smoke testing of the sanitary sewer lines as directed by CuSD and Mark Thomas. V&A will attempt to minimize impacts or inconveniences to the community, but at the same time maintain a high level of reporting accuracy. Work hours will be between 8:00 AM and 5:00 PM on low traffic volume streets and between 9:00 AM and 3:30 PM on arterial streets. If applicable, V&A will not perform smoke testing in the proximity of schools during morning drop-off and afternoon pick-up hours. Smoke testing will not be performed on weekends or holidays. Three (3) V&A staff will perform the fieldwork and anticipate sixteen (16) days to complete the smoke testing. V&A will be responsible for notification of appropriate fire department daily prior to start of work and at the end of the day at conclusion of work. V&A will be responsible for execution and equipment for this project.
  - a. **Additional Liaison:** Due to the current COVID-19 situation, some clients have requested V&A provide a liaison that could answer questions that may arise from homeowners during the smoke testing. This liaison would accompany the crew during the field days and allow the crew performing smoke testing to concentrate on the field work.
- 3 **Smoke Testing Letter Report Preparation:** V&A will provide documentation of system deficiencies and illicit connections that could be sources of inflow or infiltration found during smoke testing. V&A will summarize findings in a final report, including the identification of parcels, photographic documentation, and GPS coordinates.



V&A proposes to complete this work on a lump sum basis, shown as follows:

**Summary of Cost per Task**

Task	Amount
Approximately 126,000 linear feet of Smoke Testing – Standard Crew	<b>\$123,400</b>
Approximately 126,000 linear feet of Smoke Testing – 4-person Crew	<b>\$157,250</b>

Terms are Net 30 days. This fee is valid for 90 days from the date of this proposal. The scope of work was developed from our discussion and represents our mutual understanding. If unforeseen circumstances should arise, which indicate that more work is required, we would provide a written estimate of the additional cost. We will not proceed with work beyond the not to exceed figure without a written authorization from your office. We request that you carefully review this proposal to assure that we fully understand the scope of the work. We are prepared to begin work on your project upon receiving written approval, a Notice-to-Proceed, or purchase order from your office.

V&A assumes that no encroachment permit is currently required. If it is determined permits are required, the associated cost will be in addition to the stated costs for the flow monitoring.

V&A assumes only simple traffic control set-ups (truck mounted light board and cones) will be required for this project. If complex traffic control set-ups requiring a traffic control contractor are deemed necessary, the costs of the traffic control contractor will be in addition to the stated costs for the flow monitoring, as noted in the table above.

In the event of legislative actions by any level of government that impose any taxes, fees, or costs on V&A's services or other costs associated with Work hereunder or compensation, such new taxes, fees, or costs shall be invoiced to and paid by the Client as a Reimbursable Expense. Should such taxes, fees, or costs be imposed, they will be in addition to V&A's estimated total expenses.

On behalf of our staff and myself, I would like to thank you for the opportunity to be of service to you, the Cupertino Sanitary District and Mark Thomas. We look forward to working with you.

Sincerely,

**V&A Consulting Engineers**

Oliver Pohl, P.E.  
Project Manager

Accepted: \_\_\_\_\_ Date: \_\_\_\_\_

Mark Thomas