



1902 - Serving Our Community for over 120 Years - 2023

WEST BAY SANITARY DISTRICT

AGENDA OF BUSINESS

REGULAR MEETING OF THE DISTRICT BOARD

WEDNESDAY, DECEMBER 13, 2023 AT 7:00 P.M.

**RONALD W. SHEPHERD ADMINISTRATION BUILDING,
500 LAUREL STREET, MENLO PARK, CALIFORNIA 94025**

Board Members

Fran Dehn, President
David Walker, Secretary
Roy Thiele-Sardiña, Treasurer
Edward P. Moritz, Member
George Otte, Member

General Manager

Sergio Ramirez

District General Counsel

Anthony Condotti, Esq.

AGENDA OF BUSINESS

To participate by telephone or Zoom meeting, public comments can be made by joining Zoom meeting at:

<https://us06web.zoom.us/j/86725615742?pwd=8VwBabZqwsDIlvBwmQKyBw0bVcP72b.1>

Meeting ID: 867 2561 5742 Passcode: 183235

1. Call to Order and Roll Call
2. Communications from the Public
3. Public Hearing: Consideration of Proposed Solid Waste/Recycling Collection Rates for the Years 2024 and 2025 Pg. 3-1
4. Consider Resolution to Approve Solid Waste/Recycling Collection Rates and "Rates for Other Services" Effective January 1, 2024 and Effective January 1, 2025 Pg. 4-1
5. Public Hearing - Annexing Certain Territory Within the West Bay Sanitary District's On-Site Wastewater Disposal Zone – Lands of Poute (315 Grove Drive, Portola Valley) Pg. 5-1
6. Consider Adopting Resolution Ordering Annexation of Certain Parcels in the Territory of West Bay Sanitary District to the West Bay Sanitary District's On-Site Wastewater Disposal Zone Including Certain Determinations, Findings and Declarations of the District Board – Lands of Poutre (315 Grove Drive Portola Valley) Pg. 6-1
7. Consent Calendar

Matters listed under this item are considered routine and will be enacted by one motion. The motion, seconds, and vote are applicable to any included resolutions and recorded accordingly. There will be no separate discussion of these items unless specifically requested by a member of the Board.

 - A. Approval of Minutes for Regular meeting November 8, 2023 Pg. 7A-1
 - B. Approval of the Financial Activity Report Authorizing Payment of Certain Bills and Salaries and Consideration of Other Financial Matters thru November 30, 2023 Pg. 7B-1
 - C. WBSD Operations and Maintenance Report – November 2023 Pg. 7C-1
 - D. Town of Los Altos Hills Operations and Maintenance Report for Work Performed by WBSD – November 2023 Pg. 7D-1

- E. Town of Woodside Operations and Maintenance Report for Work Performed by WBSD – November 2023 Pg. 7E-1
 - F. Consider Authorizing the General Manager to Issue Class 3 Sewer Permit No. 18156 for the Construction of Force Main Extension, and Class 5 Sewer Permit No. 18157 for the Construction of Wastewater Facilities for 115 Sausal Drive, Portola Valley, California Pg. 7F-1
 - G. Monthly Investment Portfolio Statements – October 2023 Pg. 7G-1
 - H. Monthly Investment Portfolio Statements - November 2023 Pg. 7H-1
 - I. Consideration of Resolution Consenting to Annexation of Territory to the West Bay Sanitary District by the San Mateo County Local Agency Formation Commission- 315 Grove Drive, Portola Valley (079-020-030), Land of Michael William Poutre and Janeen Michelle Poutre Pg. 7I-1
 - J. Consider Approving Closing of Tidmarsh Reimbursement Agreement Pg. 7J-1
 - K. Consider Resolution Accepting Deed of Easement Pursuant to Class 3 Sewer Permit No. 1624 for the Sewer Realignment required for 358 Walsh Road, Town of Atherton, California Pg. 7K-1
 - L. Consider Authorizing the General Manager to Issue Class 3 Sewer Permit No. 18156 for the Construction of Force Main Extension, and Class 5 Sewer Permit No. 18157 for the Construction of Wastewater Facilities for 115 Sausal Drive, Portola Valley, California Pg. 7L-1
- 8. General Manager's Report Pg. 8-1
 - 9. Discussion and Direction by the Finance Advisory Committee Pg. 9-1
 - 10. Consider Adopting the District's Audited Financial Statements for the Year Ended June 30, 2023 Pg. 10-1
 - 11. Consider Approving the Financial Statements FY 2022-23, Year Ending 6/30/2023 Pg. 11-1
 - 12. Consider Approving the Financial Statements FY 2023-24, 1st Quarter Ending 9/30/2023 Pg. 12-1
 - 13. Consider Approval of the Revised Purchasing Policy and Resolution Pg. 13-1
 - 14. Consider Accepting the 2023 Wastewater Collection System Master Plan by V. W. Housen & Associates Pg. 14-1
 - 15. Consider Authorizing the General Manager to Issue the Call for Bids for the Willow Road Pump Station Project No. 1764.0 Pg. 15-1
 - 16. Consider Authorizing the General Manager to Issue the Call for Bids for the Stowe Lane Pump Station Project No. 1763.0 Pg. 16-1
 - 17. Consider Authorizing the General Manager to Enter Into an Agreement for On-Call Geotechnical Observation and Testing Services and Special Inspections with BAGG Engineers for the Flow Equalization and Resource Recovery Facility (FERRF) Levee Improvement Project Pg. 17-1
 - 18. Consider Accepting Reclaimed Water Facilities Constructed Pursuant to Class 3 Permit No. 1611 at 100 Terminal Ave., Menlo Park (Menlo Park Community Campus), and Accept the Public Utility Easement and Approve the Reimbursement for such Facilities Pg. 18-1

19. Consider Approving an Amendment to Agreement with Woodard & Curran to Prepare a Recycled Water Feasibility Study and Facilities Plan for the Woodside Recycled Water Facility, in collaboration with Menlo Country Club Pg. 19-1
20. Consider Resolution to Elect President, and Secretary to the District Board, Appoint a Treasurer and Consider Appointment of Committee Appointees and Alternates Pg. 20-1
21. Discussion and Direction on Sharon Heights Recycled Water Plant Pg. 21-1
22. Discussion and Direction on Bayfront Recycled Water Project and Status Update Pg. 22-1
23. Report and Discussion on South Bayside Waste Management Authority (SBWMA) including Solid Waste Franchise Re-Assignment Pg. 23-1
24. Report and Discussion on Silicon Valley Clean Water (SVCW) Plant Pg. 24-1
25. Consider Authorizing the General Manager to Enter Into an Agreement for Construction Support Services for the Bayfront Park Sanitary Sewer Project in Menlo Park, San Mateo County Pg. 25-1
26. Closed Session
 - A. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
(Subdivision (a) of Section 54956.9)
Name of Case: Tony Chan, et al. vs. West Bay Sanitary District – SMCC No. 19 CIV 07567
 - B. PUBLIC EMPLOYEE PERFORMANCE EVALUATION/CONF. WITH LABOR NEGOTIATORS
Agency designated representatives: Board President/Legal Counsel
Unrepresented employee: General Manager
27. Consider Approving End-of-Year Goals and Objectives Performance Compensation for the General Manager Pg. 27-1
28. Comments or Reports from Members of the District Board and Consider Items to be Placed on Future Agenda
29. Adjournment

The West Bay Sanitary District does not discriminate against persons with disabilities. Upon request, the agenda and agenda packet can be provided in a format to accommodate special needs. If you require a copy of the agenda or related materials in an alternative format to accommodate a disability, or if you wish to attend this public meeting and will require special assistance or other special equipment, please call the District at (650) 321-0384 at least five days in advance and we will make every reasonable attempt to provide such an accommodation.

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WEST BAY SANITARY DISTRICT AGENDA ITEM 3

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*

Subject: *Public Hearing: Consideration of Proposed Solid
Waste/Recycling Collection Rates for the Years 2024 and 2025*

Background

As a member of the South Bayside Waste Management Authority (SBWMA), West Bay Sanitary District, as well as the other Member Agencies is closing the thirteenth year of the Collection Services provided by Recology San Mateo County. The transition to these services commencing on January 1, 2011 has been significant in not just the expanded scope of services but also on diversion of materials from landfill. We've seen significant increases in residential recycling and organic materials collection. Solid waste generation has significantly decreased. The collection services now include more convenient weekly collection of single stream recycling, organic materials (yard trimmings and food scraps) and solid waste. The Shoreway Environmental Center which is operated by South Bay Recycling has undergone substantial capital improvements to facilitate single stream recycling service provided by Recology, enhance onsite public recycling activities and greatly improve traffic circulation.

In the past, residential rates were set to incentivize the use of smaller containers and promote more recycling. This was done by making small residential container rates much lower than the larger residential containers. With the outreach efforts over the past 10 years and educating residents on the importance of recycling, Staff feels the incentive aspect of the rate is no longer warranted. In some cases, it's been reported that the 20-gallon container users may be contributing to cross contamination of recyclables because the cart is too small for their need and excess waste ends up in the recycling container. Therefore, if a customer really needs a 32-gallon container versus a 20-gallon container the price difference should not be set artificially low so as to dissuade someone from acquiring the size cart that best fits their needs. This should help avoid the unintended consequence of cross contamination, by having the 20-gallon cart rate set too low. The Board's goal is to have customers pay rates that are more in line with the actual cost of service.

Based on a rate study conducted by HF&H Consultants, solid waste service expenses will exceed revenue from current rates by 9.36% in 2024. The Board has expressed the need to actively move rates toward the "cost for service" for each customer class and level of service within each customer class. To achieve cost-of-service for each customer class and service level, the 9.36% increase in revenue that is necessary will not affect all rates

equally. Considerations taken for such adjustments (to bring rates to their cost-of-service in 2024), are as follows:

- The 20-gallon container rates will increase by \$4 per month in 2024, an 8.00% increase;
- The 32-gallon container rates will increase by \$5 per month in 2024, an 8.92% increase;
- The 64-gallon container rates will increase by \$6 per month in 2024, an 8.25% increase;
- The 96-gallon container rate is currently covering their cost-of-service; therefore, no adjustment is necessary in 2024; and,
- All Commercial bin rates will increase 2% in 2024 to align with the cost of service.

Note: the proposed rates for 2024 will generate an additional 6.9% in revenue. This is less than the 9.36% required to cover costs. The difference is being covered by funds available from the District's rate stabilization reserve and balancing account with Recology, to reduce the impacts on ratepayers.

The Implementation of the proposed rate adjustments in 2024, as described above, will align the rates being charged with the cost-of-service for all customers. As such, all rates are proposed to increase a uniform 4.5% in 2025 to cover the projected increase in collection, processing, and disposal costs in 2025.

In addition, the District has participated in talks with the County of San Mateo (County) to potentially have the County manage the District's solid waste collection program. The District's solid waste program is in the unincorporated areas of the County. It appears it would be beneficial to the public to have the County manage the solid waste program in these areas, as they do other parts of the County. The process has begun and has included several meetings with San Mateo Local Agency Formation Commission (LAFCo). LAFCo approval and a vote by the SBWMA Joint Powers Authority will be required. The next step is to enter into a Memorandum of Understanding with the County and the District.

Analysis

HF&H Consultants were contracted in 2023 to perform a rate analysis for the 2024 rates (Attachment 1). The rate study analyzed rates that are more in line with "Cost for Service" and reviewed rates for residential and commercial services. The HF&H rate model project rates for the next three years. On October 11, 2023 the Board decided to consider raising rates to the projected 2024 and 2025 costs in the rate study and establish a date for a public hearing on the new Solid Waste rates for December 13, 2023. Future increases will be evaluated on a year-by-year basis.

At its October 11, 2023 meeting, the District's Board was presented with a rates study recommending adjustments to the rates to achieve cost of service levels for solid waste and recycling collection. Over the past 5 years, the District has chosen to implement, as part of

a 3-to 5-year plan, differing rate adjustments for residential and commercial customers which will close the gap between the rates and the cost for the 20-gallon and 32-gallon services while generating sufficient revenue to cover the projected collection and processing costs. The recommended adjustments will bring each customer class and each service level to their actual cost of service.

Proposed Maximum Solid Waste Rates for 2024 and 2025

Customer Service Level	MONTHLY RATES			QUARTERLY RATES		
	Current Monthly Rate	Proposed Monthly Rate (2024)	Proposed Monthly Rate (2025)	Current Quarterly Rate	Proposed Quarterly Rate (2024)	Proposed Quarterly Rate (2025)
<i>Residential:</i>						
20 gallon can	\$50.00	\$54.00	\$56.43	\$150.00	\$162.00	\$169.29
32 gallon can	\$56.00	\$61.00	\$63.75	\$168.00	\$183.00	\$191.24
64 gallon can	\$72.75	\$78.75	\$82.29	\$218.25	\$236.25	\$246.88
96 gallon can	\$105.00	\$105.00	\$109.73	\$315.00	\$315.00	\$329.18
	Current Rate	Proposed Rate (2024)	Proposed Rate (2025)	Current Quarterly Rate	Proposed Quarterly Rate (2024)	Proposed Quarterly Rate (2025)
<i>Commercial: (Per Pick Up)</i>						
1 yard bin	\$176.27	\$179.80	\$187.89	\$528.81	\$539.40	\$563.66
2 yard bin	\$334.54	\$341.23	\$356.59	\$1,003.62	\$1,023.69	\$1,069.76
3 yard bin	\$372.53	\$379.98	\$397.08	\$1,117.59	\$1,139.94	\$1,191.24
4 yard bin	\$496.70	\$506.63	\$529.43	\$1,490.10	\$1,519.89	\$1,588.30
6 yard bin	\$615.76	\$628.08	\$656.34	\$1,847.28	\$1,884.24	\$1,969.02
32-Gallon Cart	\$56.00	\$61.00	\$63.75	\$168.00	\$183.00	\$191.24
64-Gallon Cart	\$72.75	\$78.75	\$82.29	\$218.25	\$236.25	\$246.88
96-Gallon Cart	\$105.00	\$105.00	\$109.73	\$315.00	\$315.00	\$329.18

Proposition 218

For a rate increase to be considered for adoption, public noticing and majority protest procedures as outlined by Proposition 218 need to be followed (Attachment 2). Notifications were distributed on October 26, 2023

Fiscal Impact

Staff reviewed several rate options to fund the solid waste service program for 2024 and 2025. Staff received confirmation from the Board as to the desired rate structure below, which meets the needs expressed by the Board members.

Recommendation

The General Manager recommends the adoption of the proposed rates shown in the table above, effective January 1, 2024 and January 1, 2025 In addition, the General Manager recommends the adoption of the rates for “Rate for Other Services” as described in Attachment 3 of this report.

Therefore, after allowing public comment and closing the Public Hearing, and provided that less than fifty percent of the District's solid waste ratepayers appeared at the Public Hearing to protest the proposed rate increase, the General Manager recommends:

1. The Board adopt the rate adjustments presented at the Public Hearing dated for December 13, 2023, for the proposed solid waste collection rates for year 2024, effective January 1, 2024, and the proposed solid waste collection rates for calendar year 2025, effective January 1, 2025, including the "Rates for Other Services", effective January 1, 2024 (Attachment 3).; and
2. Accept the 2024 and 2025 Projections in the Solid Waste Rate Study by HF&H dated October 5, 2023.

Attachments: Attachment 1— Solid Waste/Recycling Rate Study for 2024

Attachment 2— Proposition 218 notice

Attachment 3 – "Rates for Other Services" Attachment Q

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October 5, 2023

Sergio Ramirez
General Manager
West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Sent via e-mail

Subject: Update the District's Solid Waste/Recycling Rate Model

Dear Sergio Ramirez:

HF&H Consultants, LLC (HF&H), at your request, has reviewed the West Bay Sanitary District's (District) projected calendar year 2024 solid waste service projected costs and revenues¹ to determine the estimated surplus/shortfall for each customer class (residential and commercial). Additionally, we have updated the District's solid waste/recycling "cost of service" rate model to reflect 2024 projected results.

Based upon the findings described in this report, and the feedback received from our preliminary findings and recommendations presented to the District's Board at its September 13, 2023 meeting, the District's Board proposed the following rate adjustments for 2024.

Container Size Serviced 1X/Week	Residential	Commercial	Proposed \$ Increase	Proposed 2024 Rate
20 Gallon	8.00% Increase	N/A	\$4.00	\$54.00
32 Gallon	8.93% Increase	8.93% Increase	\$5.00	\$61.00
64 Gallon	8.25% Increase	8.25% Increase	\$6.00	\$78.75
96 Gallon	0.0% Increase	0.0% Increase	\$0.00	\$105.00
All Bins	N/A	2.0% Increase	Varies	Varies

¹ As presented in the SBWMA's "Draft Report Reviewing the 2024 Recology Compensation Application", dated August 11, 2023

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The adjustments for both residential and commercial rates will better reflect the cost of service, while generating sufficient revenue to cover the projected collection and processing costs for 2024. As part of a multi-year plan, similar adjustments were implemented in previous years.

BACKGROUND

As a member of the SBWMA, the District transitioned collection services and operation of the Shoreway Recycling and Disposal Center in San Carlos from Allied Waste/Republic to Recology San Mateo County (RSMC) and South Bay Recycling (SBR). RSMC and SBR took over collection services and operation of the Shoreway Environmental Center (Shoreway), respectively, beginning January 1, 2011. The District entered into a new 15-year agreement with RSMC with operations to start January 1, 2021 and a new contract to operate Shoreway with South Bay Industries (SBI) effective January 1, 2024.

Annually, the SBWMA provides the District with its allocation of the projected costs to provide collection service and operation of Shoreway. This information is utilized in the rate-setting process. A rate model was developed by HF&H and adopted by the District's Board of Directors (Board) on December 14, 2011.

The purpose of this update was to better reflect the cost of service, while generating sufficient revenue to cover the projected collection and processing costs through a three-year planning period (2024-2026) and providing recommended rates for the first year of the three-year planning period (2024) to be adopted by the Board.

SCOPE OF WORK

Based on the results, provided by the SBWMA for the 2024 rate-setting process, HF&H updated the "cost of service" model previously developed and enhanced the cost allocation methodology between residential container sizes.

We performed the following procedures as part of our review:

- Obtained cost, rate, and current customer account data from the District and Recology.

- Prepared a summary schedule projecting the District's revenues for 2024 and revenue for the next three years (through 2026).

- Prepared a summary schedule projecting Recology collection costs for the next three years (through 2026). Based on recent inflationary increases and discussions with the SBWMA and Recology, we assumed inflationary collection cost increases of 4.5% and 4.5% in 2025 and 2026, respectively. Historically higher than normal increases in CPI are driving the assumptions for higher-than normal increases.

- Prepared a summary schedule projecting SBWMA tip fee costs for the next three years (through 2026). Based on recent inflationary increases and discussions with the SBWMA, we assumed

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inflationary tip fee cost increases of 4.5% and 4.5% in 2025 and 2026, respectively. The increases reflect the anticipated costs increases to comply with SB 1383 and the impact of the procurement of a new operator of the Shoreway Environmental Center, as the current operator agreement will expire December 31, 2023.

Prepared a schedule projecting residential and commercial revenue requirement through 2026 with the objective of the residential revenue to equal the costs to provide the service.

Prepared a schedule proposing adjustments to the rates for the various residential carts with the objective of specific cart size revenue to equal its respective cost to provide the service.

LIMITATIONS

Our conclusions are based, in part, on Recology's projections of its financial results of operations included in the SBWMA's "Draft Report Reviewing the 2024 Recology Compensation Application," dated August 11, 2023. Actual results of operations will usually differ from projections because events and circumstances frequently do not occur as expected and the difference may be significant.

FINDINGS

General

HF&H has updated the prior year's rate structure analysis following its two-step process. The first step divides the solid waste collection system into two customer classes: residential and commercial. For the purposes of this study, we are including multi-family customers with the commercial customer class and we have not factored any surplus or deficit from the prior year revenue reconciliations. We then reviewed the revenues and the revenue requirements for each customer class independently.

Revenue Requirement (RSMC & SBR)	2023	2024	Variance Year over Year \$	Variance Year over Year %
Collection Cost	\$1,182,552	\$1,251,404	\$68,852	5.8%
Disposal/Processing	598,412	749,315	150,903	25.2%
Agency Fees (on net revenue)	111,222	120,043	8,821	7.9%
Total Costs	\$1,892,186	\$2,120,762	\$228,576	12.08%

The second step is to further review the residential customer class by examining the rate and cost to provide service for each size of container (20 gallon, 32 gallon, 64 gallon, and 96 gallon).

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Step 1 – Residential and Commercial Customer Classes

The following table shows the Rate Year 2024 revenue requirement by customer class. At current rates (2023 rates), the solid waste collection system as a whole is projected to generate less than the requirement, a \$181,478 deficiency of revenue compared to costs.

Table 1:
2024 Projected Revenue and Costs by Customer Class

	<i>Residential</i>	<i>Commercial</i>	<i>Total</i>
Projected Revenue at <u>Current Rates</u> ¹	\$1,649,769	\$289,515	\$1,939,284 A
Projected 2024 Costs by Service Sector			
Collection	\$1,047,745	\$203,659	\$1,251,404
Disposal/Processing	651,480	97,835	749,315
Agency Fees	101,953	18,090	120,043
Total Costs	<u>\$1,801,178</u>	<u>\$319,584</u>	<u>\$2,120,762 B</u>
Excess (Deficiency) of Revenues vs Costs	<u>\$ (151,409)</u>	<u>\$ (30,069)</u>	<u>\$ (181,478) A-B=C</u>
Projected Rate Adjustment	9.18%	10.39%	9.36%

¹ Projected Revenue is based on Recology's Compensation Application

NOTE: The amounts shown above are for 2024 activity only. Prior year surplus/shortfalls (i.e., the balancing account held at Recology) are NOT included.

If the District elects to have both the residential and commercial customer class rates generate sufficient revenue to cover its costs, rates could be adjusted all at once or over a period of time. The table below shows possible rate adjustments to both customer classes over a three-year period, assuming cost increase projections as discussed on Page 2 of this report.

Table 2:
2024 Proposed and 2025-2026 Projected Average Rate Adjustments

		<i>Residential</i>	<i>Commercial</i>
1	2024 - Proposed	7.77%	1.81%
2	2025 - Projected	4.43%	4.50%
3	2026 - Projected	4.43%	4.50%

The following table shows the projected revenues after the above rate adjustments. By 2026, the revenues are still slightly below the cost for commercial and residential, making use of the District's positive balancing account with Recology. Use of the balancing account allows the District to reduce rate volatility even when costs increase greater than inflation.

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Table 3:
Three-year Projected Revenue and Costs

Projections - Balance Revenue & Costs over 3 Years									
	1			2			3		
	2024			2025			2026		
	Residential	Commercial	Total	Residential	Commercial	Total	Residential	Commercial	Total
Proposed Average Rate Adjustment	7.77%	1.81%		4.43%	4.50%		4.43%	4.50%	
Total Revenue	\$1,778,312	\$294,767	\$2,073,078	\$1,857,046	\$309,359	\$2,166,405	\$1,939,344	\$323,280	\$2,262,625
Assumptions:									
1) Cost Increase	"Projected"	"Projected"		4.50%	4.50%		4.50%	4.50%	
2) Disposal/Processing Increase	"Projected"	"Projected"		4.50%	4.50%		4.50%	4.50%	
Collection	\$1,047,745	\$203,659	\$1,251,404	\$1,094,893	\$212,824	\$1,307,717	\$1,144,164	\$222,401	\$1,366,564
Disposal/Processing	\$651,480	\$97,835	\$749,315	\$680,797	\$102,238	\$783,034	\$711,432	\$106,838	\$818,271
Agency Fees	101,953	18,090	120,043	106,541	18,904	125,445	111,336	19,754	131,090
Total Costs	1,801,178	319,584	2,120,762	1,882,231	333,965	2,216,196	1,966,932	348,993	2,315,925
Excess (Deficiency) Amount	(\$22,867)	(\$24,817)	(\$47,684)	(\$25,186)	(\$24,606)	(\$49,791)	(\$27,588)	(\$25,713)	(\$53,301)
Excess (Deficiency) Percentage	-1.29%	-8.42%	-2.30%	-1.36%	-7.95%	-2.30%	-1.42%	-7.95%	-2.36%

Step 2 – Residential Container Rates

We reviewed the residential rates by container size and compared the rates to the cost of service by container size projected by the SBWMA, which assumed the variable cost between container sizes is primarily the disposal cost. Additionally, HF&H updated the cost of service by container size using the same approach used in the rate model from the previous year. We have assumed the following:

- **Organics collection costs** are fixed per household as every customer receives the same size container and is serviced at the same frequency (64-gallon cart, serviced 1 time per week). For 2024, the fixed cost is \$29.73 per home per month.
- **Recycling collection costs** are also fixed per household for the same reason as above (64-gallon cart - serviced 1 time per week). For 2024, the fixed cost is \$13.97 per home per month;
- **Disposal cost** is variable based upon the capacity/gallon size of the solid waste cart serviced. For 2024 the projected variable cost is \$0.21 per gallon.
- **Fixed solid waste (SW) route/collection costs** are costs that do not vary based on the level of service received (e.g., customer service costs, IT costs). For 2024, the fixed cost is \$3.56 per home per month.
- **All other SW route/collection costs** are attributed to each cart size using equivalent cart units (ECU) calculated by applying routing metrics. (The ECU basic principle establishes the numeric relationship between cart size and route capacities.) For 2024, the projected monthly cost per ECU is \$5.5861 multiplied by a factor of:

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- 1.000 for a 20 gallon cart
- 1.600 for a 32 gallon cart
- 3.627 for a 64 gallon cart
- 6.080 for a 96 gallon cart

The following tables shows the current rates (2023), the SBWMA and the HF&H projected 2024 costs by cart size.

Table 4a:
HF&H Projected 2024 Costs by Residential Container Size

<u>Analysis of Costs by Size of Container</u>						
	20	32	64	96		
Organics Collection Cost	\$29.73	\$29.73	\$29.73	\$29.73		
Recycling Collection Cost	13.97	13.97	13.97	13.97		
Disposal Cost (\$0.21 per gallon)	4.21	6.74	13.47	20.21		
Fixed Solid Waste Cost	3.56	3.56	3.56	3.56		
All Other Solid Waste Cost						
	\$5.5861	X a factor of	1.000	1.600	3.627	6.080
	\$5.59	\$8.94	\$20.26	\$33.96		
* Monthly Cost per Cart per HF&H	\$57.04	\$62.92	\$80.98	\$101.42		

* rounded to the nearest cent

Table 4b:
Comparison of Current Residential Rates and Projected 2024 Costs by Container Size

<u>Analysis of Costs by Size of Container</u>							
		Current Mo.	* 2024	Excess	Projected	2024 Variance	
Subscription	Container Size	Rate	Mo Cost per Cart	(Deficiency) of Revenues vs Costs	Rate Adjustment	before Adjustment	Adjustment
16% 344	20	\$50.00	\$57.04	(\$7.04)	14.1%	12.7%	
57% 1252	32	\$56.00	\$62.92	(\$6.92)	12.4%	4.8%	
23% 513	64	\$72.75	\$80.98	(\$8.23)	11.3%	-4.2%	
5% 100	96	\$105.00	\$101.42	\$3.58	-3.4%	-17.4%	
100% 2209							

* Rounded to the nearest cent

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The following table shows the projected adjustments in future years to continue to work towards the cost of service. These are projections based upon annual assumed increases in costs and would need to be revised as the actual costs are known and projections revised.

Table 5:
Proposed and Projected Residential Rate Adjustments (2024-2026)

<i>Container Size</i>								
20 gallon			32 gallon		64 gallon		96 gallon	
Current Rate→		\$50.00		\$56.00		\$72.75		\$105.00
Proposed 2024	8.00%	\$54.00	8.92%	\$61.00	8.25%	\$78.75	0.00%	\$105.00
Projected 2025	4.50%	\$56.43	4.50%	\$63.75	4.50%	\$82.29	2.00%	\$107.10
2026	4.50%	\$58.97	4.50%	\$66.62	4.50%	\$85.99	2.00%	\$109.24
2026 Projected Cost of Service		\$62.29		\$68.71		\$88.43		\$110.75

Rate Structure Summary

Current Rate Structure

Under the current rate structure, rate revenue (assuming current rates and no use of prior year surplus or shortfall) is projected to produce a shortfall of approximately \$181,478 in revenue for the forthcoming year (see Table 1).

Rate Adjustments

Residential and Commercial Customer Class

In the first step described above, HF&H divided the solid waste collection system into two customer classes: residential and commercial and modeled a rate structure which achieved a cost-of-service balance between the customer classes over the next few years. Overall revenue from residential rates is increased by 7.77% and revenue from commercial rates are increased by 1.81% in 2024 (see Table 2 and Table 3).

Recommendation

As we have seen in other jurisdictions over the past few years, the District's rate structure encourages customers to "downsize" their solid waste container by placing more materials in their recyclable material and organics carts, rather than in their solid waste containers, which ultimately reduces the amount of trash sent to the landfill. However, as customers reduce their container size, less revenue is generated but there is not an equal reduction of the cost to drive by, collect, and process the materials.

Sergio Ramirez
October 5, 2023
Page 8 of 8

At its September 13, 2023 meeting, the District's Board proposed to implement, as part of its multi-year plan began more than five years ago, the following rate adjustments for residential and commercial rates that will close the gap between the rates and the cost for the 20 gallon cart service, while generating sufficient revenue to cover the projected collection and processing costs for 2024.

Table 6:
District's Board Proposed Rate Adjustments

<i>Rates by Size of Container</i>						
	<u>Residential</u>				<u>Commercial</u>	
	20 Gallon	32 Gallon	64 Gallon	96 Gallon	1YD Bin 1x/week	3YD Bin 1x/week
Current Rates	\$50.00	\$56.00	\$72.75	\$105.00	\$176.27	\$372.53
Proposed Rate Adjustment	8.00%	8.92%	8.25%	0.00%	2.00%	2.00%
2024 Proposed Rate / Mo.	\$54.00	\$61.00	\$78.75	\$105.00	\$179.80	\$379.98
Increase (Decrease) / Mo.	\$4.00	\$5.00	\$6.00	\$0.00	\$3.53	\$7.45
<i>2024 Projected Revenue at Proposed Rates</i>						
	<u>Residential</u>	<u>Commercial</u>	<u>Total</u>			
Projected Revenue at <u>Current Rates</u> ¹	\$1,649,769	\$289,515	\$1,939,284			
2024 <u>Proposed Rate</u> Revenue	\$1,778,312	\$294,767	\$2,073,079 A			
2024 Proposed Costs	<u>1,801,178</u>	<u>319,854</u>	<u>2,121,032</u> B			
Excess Amount	-\$22,866	-\$25,087	-\$47,953 A - B = C			
Excess Percentage	-1.3%	-8.5%	-2.3%			

* * * *

We appreciate the opportunity to be of continued service to the District. We value our relationship with you and the District and are committed to providing you the highest level of service in the performance of this matter for you. Should you have any questions, please feel free to call me at (925) 977-6957.

Sincerely,
HF&H CONSULTANTS, LLC



Rick Simonson
Senior Vice President



Dave Hilton
Project Manager

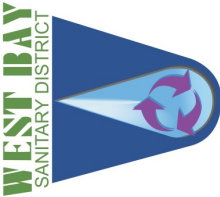
Rates for Other Services

The following are rates that would be charged for unscheduled services as necessary. 2025 Rates will reflect increases in accordance with the Franchise Agreement West Bay Sanitary District Holds with Recology.

Service Category	2024 Rate	Description of Rate
Backyard Collection Service—Single Family Dwelling	For one Solid Waste Cart: \$24.16 (0-50 ft) \$28.18 (51-100 ft)	Rates vary based on distance & number of carts. Contact the District for rates for distances beyond 100 feet and for more than one solid waste cart.
Return Trip Cost—Single Family Dwelling (Request to provide collection service after the regularly scheduled collection day)	\$20.14	Per collection event.
On-Call Bulky Item Collection	\$109.47	Per each collection event beyond first 2 per year. (Each customer receives 2 free bulky collections per year)
Distance charge—MFD and Commercial Accounts	A – 10% of base monthly rate B – 25% of base monthly rate	A – 51 to 100 feet from access by contractor's collection vehicle B – 101 feet or more from access by contractor's collection vehicle
Container Relocation Service	A – 12% of base monthly rate each container B – 27% of base monthly rate each container	A – 51 to 100 feet from access by contractor's collection vehicle B – 101 feet or more from access by contractor's collection vehicle
Extra Pick-Up Cost—MFD and Commercial Accounts	25% of the base monthly rate for the size of container collected once per week	Per collection event
Additional Targeted Recyclable Materials or Organic Materials Cart Rental	A -- \$ 4.03	A – Monthly rental fee (any size cart, minimum 6 months)
Collection of Contaminated Targeted Recyclable Materials or Organic Materials Container	25% of the base monthly rate for the size of container collected once per week Plus: \$20.14	Per collection event
Key Service	A -- \$11.41 per month B -- \$12.75 per month	A – Residential Customers B – Commercial Customers
Lock Purchase	\$22.81 –one time charge	One-time charge per account. No fee for replacement locks.
Overage Fee	100% of base monthly rate	Per collection event
Overage Bags	50% of the base monthly rate or \$10.73 minimum	Rate per bag
Container Cleaning	A – \$67.12 B – \$114.09	A – per Cart B – per Bin or Drop-Box
Dirty Cart Replacement	A – \$87.24 B – \$100.67 C – \$114.09	A – per 32 gallon Cart B – per 64 gallon Cart C – per 96 gallon Cart
Additional Compost Material Delivery	A – \$167.79 B – \$335.58	A – One way delivery B – Round trip delivery

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Important Information - Notice of Public Hearing
“Solid Waste & Recyclable Material Rate Increase”
Wednesday, December 13, 2023 at 7:00 p.m.

If you wish to file a written protest, please send a letter in a sealed envelope addressed to:

West Bay Sanitary District
Attn: General Manager (Solid Waste Rates)
500 Laurel Street, Menlo Park, CA 94025

Your letter must identify the real property you own or rent by street address and assessor's parcel number (APN). Your letter must be legibly signed by any one of the current property owners or ratepayers of record.

The District must receive your letter in a sealed envelope by 3:00 p.m. on December 13, 2023 or it must be presented at the District Board meeting on December 13, 2023 prior to the close of the public hearing on this matter or by Zoom Meeting <https://us06web.zoom.us/j/86725615742?pwd=8VwBabZgwsDIlvBwmQKyBw0bVcP72b.1> Meeting ID: 867 2561 5742 Passcode: 183235

Any person interested, including all solid waste/ recycling collection customers of the West Bay Sanitary District, may appear by Zoom or phone at the public hearing and be heard on any matter related to the proposed increase in rates.

If you would like additional information on the proposed rates, please call the District at 650-321-0384.

NOTICE OF INTENT TO INCREASE COLLECTION RATES FOR SOLID WASTE/RECYCLABLE

MATERIALS IN THE WEST BAY SANITARY DISTRICT

The District Board of the West Bay Sanitary District hereby gives public notice of its intent to increase some of the existing residential rates for the collection of recyclable materials, compost, and refuse for 2024 and 2025.

The District Board plans to consider this rate increase at a public hearing on December 13, 2023 at 7:00 p.m. in the Board Conference Room located at 500 Laurel Street, Menlo Park or by Zoom or telephone <https://us06web.zoom.us/j/86725615742?pwd=8VwBabZqwsDIlvBwmQKyBw0bVcP72b.1> Meeting ID: 867 2561 5742 Passcode: 183235

The need for this increase was discussed by the District Board at the October 11, 2023 Regular Board meeting, and is further detailed in the staff report for this matter and the Draft Report by HF&H Consultants (Rate Study), both of which are available at the District Office located at 500 Laurel Street, Menlo Park or online at www.westbaysanitary.org

Approximately fifty-six percent (57%) of residential service containers are a 32 gallon size. The new rate for 2024 for a 32 gallon container would increase from \$56.00 per month to \$61.00 per month, a \$5.00 per month increase. The new rate for the 20 gallon container would increase from \$50.00 per month to \$54.00 per month, a \$4.00 per month increase. 20 gallon containers will be grandfathered to current users but are no longer available to new customers or to customers wishing to migrate down to a 20 gallon container. As further detailed in the Rate Study, the purpose of these increases is to align the Solid Waste Rates with the actual proportionate cost of providing the service to customers in each Customer Service Level. In 2025 All rates will increase by 4.5%

For comparison purposes, the maximum typical residential rates for 32 gallon containers for SBWMA Cities including Burlingame, Belmont, Hillsborough, Menlo Park, Redwood City, San Carlos, and San Mateo, range from a low of \$27.52 (Foster City) to a high of \$64.60 (Hillsborough), based upon 2023 rates.

The following table shows the current rates and the proposed monthly rates for regularly scheduled service for West Bay Sanitary District Franchised Customers to be effective January 1, 2024, and January 1, 2025.

Proposed Maximum Solid Waste Rates for 2024 and 2025						
Customer Service Level	MONTHLY RATES			QUARTERLY RATES		
	Current Monthly Rate	Proposed Monthly Rate (2024)	Proposed Monthly Rate (2025)	Current Quarterly Rate	Proposed Quarterly Rate (2024)	Proposed Quarterly Rate (2025)
<i>Residential:</i>						
20 gallon can	\$50.00	\$54.00	\$56.43	\$150.00	\$162.00	\$169.29
32 gallon can	\$56.00	\$61.00	\$63.75	\$168.00	\$183.00	\$191.24
64 gallon can	\$72.75	\$78.75	\$82.29	\$218.25	\$236.25	\$246.88
96 gallon can	\$105.00	\$105.00	\$109.73	\$315.00	\$315.00	\$329.18
	Current Rate	Proposed Rate (2024)	Proposed Rate (2025)	Current Quarterly Rate	Proposed Quarterly Rate (2024)	Proposed Quarterly Rate (2025)
<i>Commercial:(Per Pick Up)</i>						
1 yard bin	\$176.27	\$179.80	\$187.89	\$528.81	\$539.40	\$563.66
2 yard bin	\$334.54	\$341.23	\$356.59	\$1,003.62	\$1,023.69	\$1,069.76
3 yard bin	\$372.53	\$379.98	\$397.08	\$1,117.59	\$1,139.94	\$1,191.24
4 yard bin	\$496.70	\$506.63	\$529.43	\$1,490.10	\$1,519.89	\$1,588.30
6 yard bin	\$615.76	\$628.08	\$656.34	\$1,847.28	\$1,884.24	\$1,969.02
32-Gallon Cart	\$56.00	\$61.00	\$63.75	\$168.00	\$183.00	\$191.24
64-Gallon Cart	\$72.75	\$78.75	\$82.29	\$218.25	\$236.25	\$246.88
96-Gallon Cart	\$105.00	\$105.00	\$109.73	\$315.00	\$315.00	\$329.18

(Continued) Rates for Other Services

*Commercial bin rates reflect collection charge for **one** pick up per week; To calculate charge for more than one collection per week, multiply rate by number of collections per week. For example, for 2024 1-Cubic Yard Bin (at proposed rate) collected 3 times per week = \$539.40 (\$179.80 x 3 collections/wk)



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NECESSITY FOR THE NEW RATES

The West Bay Sanitary District is a member of the South Bayside Waste Management Authority, and contracts with Recology San Mateo County (RSMC) for collection services as of January 1, 2011 and South Bay Industries (SBI) for operation of the Shoreway Center, as of January 1, 2024. The proposed rates result from the weekly recycling, organic materials and solid waste collection services and Shoreway operations provided by RSMC and SBI, contractual compensation adjustments, and migration to smaller containers.

The collection services include the convenient **weekly** collection, rather than bi-weekly collection, of single stream recycling, organic materials (yard trimmings and food scraps) and solid waste. The Shoreway facility has also undergone substantial capital improvements to construct a new Materials Recovery Facility (MRF) and an expanded Transfer Station. These improvements facilitate single stream (mixed) recycling, enhance onsite public recycling activities, and improve traffic circulation at the Shoreway Facility.

The District is in the seventh year of a multi-year pricing restructuring plan, so that a transition is made whereby the smaller cans will support their own cost of collection and disposal.

The West Bay Sanitary District hereby gives notice of a public hearing to be held at its Board meeting on December 13, 2023, at 7:00 p.m. in the District's "Ronald W. Shepherd" Administration Building located at 500 Laurel Street, Menlo Park, CA or by Zoom or telephone <https://us06web.zoom.us/j/86725615742?pwd=8VwBabZqwsDIlvBwmQKyBw0bVcP72b.1> Meeting ID: 867 2561 5742 Passcode: 183235

At this hearing, the Board of Directors will consider public comment as well as written protests by ratepayers regarding the proposed increase in monthly collection rates. If written protests are presented by a majority of the affected ratepayers prior to the close of the public hearing, the Board of Directors will not increase the rates as a matter of State law, however levels of service may be impacted.

ATTACHMENT Q - 2024 ADDITIONAL SERVICES

For Rate Years Eleven (2021) through the remaining Rate Years in the Term, the Charges for additional services specified in Attachment Q shall be adjusted annually in accordance with Attachment K.

The Charges for additional services for Rate Year Ten (2020) shall be the Charges for Rate Year Ten (2020) as determined under the 2009 Franchise Agreement. These are the Charges that will be adjusted as provided in Attachment K of this Agreement to determine the Charges for Rate Year Eleven (2021).

Two additional services are included in this Attachment Q there were not in Attachment Q of the 2009 Franchise Agreement. The two new services are Container Relocation Service and Agency-Specific Reporting for Abandoned Waste Collections. Charges for these services are presented in the table below.

	Service	Reference	Agency-Approved Charge	Description
	Additional Services for Customers			
1	Single-Family Dwelling Backyard Collection Service	Section 5.02.A	See Charges in the table at the end of this Attachment	See Charges in the table at the end of this Attachment
2	Long Distance Service for MFD, Mixed Use, and Commercial Accounts (Note: only applicable to Containers with wheels)	Sections 5.02.B, 5.02.C; and 8.02.B	<p>A – 10% of base monthly Rate of the Collection Rate for each Container requiring Long Distance Service</p> <p>B – 25% of base monthly Rate of the Collection Rate for each Container requiring Long Distance Service</p>	<p>A – Distance greater than 50 feet and less than or equal to 100 feet</p> <p>B – Distance greater than 100 feet</p> <p>Distance shall be measured from the face of the curb, or from the edge of the roadway nearest the closest edge of the Container, if there is no curb.</p>

ATTACHMENT Q - 2024 ADDITIONAL SERVICES

	Service	Reference	Agency-Approved Charge	Description
3	Container Relocation Service	Sections 5.02B and 8.02B	A – 12% of base monthly Rate of the Collection Rate for each Container requiring Container Relocation Service B – 27% of base monthly Rate of the Collection Rate for each Container requiring Container Relocation Service	A – Distance greater than 50 feet and less than or equal to 100 feet B – Distance greater than 100 feet Distance shall be measured from the face of the curb, or from the edge of the roadway nearest the closest edge of the Container, if there is no curb.
4	On-Call Pick-up for SFD, MFD, Mixed Use, and Commercial Customers	Sections 5.02.A, 5.02.B, and 5.02.C	25% of the base monthly Rate for the size of Container Collected once per week	Per Collection event per Container for Collection requested by Customer
5	Return Trip (SFD, MFD, Mixed Use, or Commercial)	Sections 5.02.A, B, C; 5.03.A, B, C; 5.04.A, B, C	\$20.14 for SFD \$20.14 for Commercial, Mixed Use, and MFD	Per Collection event (i.e., request to return and provide Collection service after the Customer failed to properly set out their Container(s) for regularly scheduled Collection)
6	Additional Targeted Recyclable Materials or Organic Materials Cart Service for SFD	Sections 5.03.A and 5.04.A	\$4.03 per Recycling Cart \$4.03 per Organic Materials Cart	Per Cart per month (any Cart size). Six month minimum charge required. Includes one-time Cart delivery upon start of service and removal of Cart when service is discontinued by Customer.
7	Additional On-Call Bulky Item Collection	Sections 5.05, 5.06	\$109.47	Per Bulky Item Collection event (in addition to the events provided at no charge to Customer pursuant to Section 5.12)

ATTACHMENT Q - 2024 ADDITIONAL SERVICES

	Service	Reference	Agency-Approved Charge	Description
8	Collect Contaminated Targeted Recyclable Materials or Organic Materials Container	Section 6.03.A and 8.02.F	25% of the base monthly Solid Waste Rate for the size of Container Collected once per week plus Return Trip Fee if applicable	Per Collection event for Container with Contamination Level greater than the maximum level pursuant to Table 1 in Section 6.02.B
9	Lock Service (Key Service)	Section 8.02.B	A – \$11.41 per usage B – \$12.75 per usage	Monthly cost: A – Residential Customers B – Commercial Customers
10	Lock Purchase	Section 8.02.B	\$22.81 per lock	Per lock
11	Overage Service	Section 8.02.G	100% of the base monthly Solid Waste Collection Rate	Per Collection event (after the first two events)
12	Overage Bags Cost	Section 8.02.G	50% of the base monthly Solid Waste Collection Rate or \$10.73 minimum	Per bag
13	Container Cleaning Service	Section 8.05.D	A – \$67.12 B – \$114.09	A – per Cart B – per Bin or Drop-Box Charge only applies to cleaning or Container exchange in addition to the service to be provided at no charge to the Customer pursuant to Section 8.05.D

ATTACHMENT Q - 2024 ADDITIONAL SERVICES

	Service	Reference	Agency-Approved Charge	Description
14	Dirty Cart Replacement (Exchange) Service	Section 8.05.D	A – \$87.24 B – \$100.67 C – \$114.09	A – per 32 gallon Cart B – per 64 gallon Cart C – per 96 gallon Cart Charge only applies to cleaning or Container exchange in addition to the service to be provided at no charge to the Customer pursuant to Section 8.05.D
Additional Services for Agency				
15	Additional Confidential Document Destruction Service Event	Section 5.07	\$1,610.74	Per event
16	Additional Compost Material Delivery	Section 5.11	A – \$167.79 per delivery B – \$335.58 per delivery	A – “one-way” only delivery by Contractor where Contractor delivers to and unloads compost at an Agency-approved location B – “Round-trip” delivery by Contractor where Contractor delivers compost in a Drop Box to an Agency-approved location and returns at a later time or date to pick up the Drop Box and any remaining compost (charge includes the delivery of and later pick-up of the Drop Box)
17	Community Drop-Off Events	Section 5.13	\$22,818.85 per event or day	Per event or day targeting 5,000 households. Does not include disposal or public education expenses.
18	Collection for Agency-Sponsored and Non-Agency sponsored Community Events	Section 5.08	A – \$4,026.86 B – \$6,711.42 C – \$10,067.14	A – One day event with a projected 2,500 or fewer attendees B – One (1) or two (2) day events with a projected 2,501 to 7,500 attendees per day C – One (1) or two (2) day events with a projected 7,501 to 10,000 attendees per day

ATTACHMENT Q - 2024 ADDITIONAL SERVICES

Backyard Collection Service Charge for Single-Family Dwellings* (Section 5.02.A)				
Distance from Curb**	Backyard Charge for Customers with One (1) Solid Waste Cart	Backyard Charge for Customers with Two (2) Solid Waste Carts	Backyard Charge for Customers with Three (3) Solid Waste Carts	Backyard Charge for Customers with Four (4) Solid Waste Carts
Distance <= 50 feet	\$24.16	\$38.55	\$77.10	\$115.65
50 < Distance <= 100 feet	\$28.18	\$42.58	\$81.13	\$119.68
100 < Distance <= 150 feet	\$32.21	\$46.61	\$85.16	\$123.71
150 < Distance <= 200 feet	\$36.24	\$50.63	\$89.19	\$127.73
200 < Distance <= 250 feet	\$40.27	\$54.66	\$93.20	\$131.76
250 < Distance <= 300 feet	\$44.29	\$58.68	\$97.24	\$135.78
300 < Distance <= 350 feet	\$48.32	\$62.71	\$101.26	\$139.81
Each additional 50 foot increment over 350 feet	Amount equals the difference between the Charge for 250 to 300 feet and 300 to 350 feet			

* Backyard Collection Service Charges are charges added to the base monthly Rate for Single-Family Collection service, and cover the provision of Backyard Collection Service for all of Customer's Solid Waste, Recyclable Materials, and Organic Materials Carts.

** Distance shall be measured from the face of the curb, or from the edge of the roadway nearest the closest edge of the Cart, if there is no curb.

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WEST BAY SANITARY DISTRICT AGENDA ITEM 4

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*

Subject: **Consider Resolution to Approve Solid Waste/Recycling Collection Rates and “Rates for Other Services” Effective January 1, 2024 and Effective January 1, 2025.**

Following the Public Hearing and the close of public comment and there being less than 50% ratepayer protest to the proposed rate increase, the General Manager recommends the Board approve the attached resolution adopting the proposed Solid Waste/Recycling Collection rate increase for 2024 and 2025 applied to the specific rate categories and for “Rates for Other Services” effective January 1, 2024 and effective January 1, 2025, as attached to the resolution and according to Proposition 218.

RESOLUTION NO. _____(2023)

**RESOLUTION APPROVING SOLID WASTE/RECYCLING COLLECTION RATES FOR
2024 and 2025**

WHEREAS, on February 24, 2010 the District Board approved the Franchise Agreement with Recology San Mateo County for Recyclable Materials, Organic Materials, and Solid Waste Collection Services; and

WHEREAS, on October 11, 2023, a regular meeting of the West Bay Sanitary District Board was held to discuss with the Board and the public the need for an increase in the Solid Waste/Recycling Collection Rates for 2024 and 2025; and

WHEREAS, the District Board directed staff to proceed with the public notification procedures as outlined by Proposition 218 for the consideration of new Solid Waste/Recycling Collection rates; and

WHEREAS, on October 26, 2023, notifications were sent to approximately 2,218 residential and commercial customers in the West Bay Sanitary District; and

WHEREAS, on December 13, 2023 a Public Hearing was held to present to the West Bay Sanitary District Board and the public a review of the Solid Waste/Recycling Collection Rates for 2024 and 2025; and

WHEREAS, the District received a minimal number of responses and protests; and

WHEREAS, per Proposition 218, based on the low protest rate, the District may proceed with the proposed rate increase.

NOW, THEREFORE, BE IT RESOLVED by the District Board that the Solid Waste/Recycling Collection rates for 2024 shall be as follows effective January 1, 2024 and for 2025 shall be as follows effective January 1, 2025:

Proposed Maximum Solid Waste Rates for 2024 and 2025

Customer Service Level	MONTHLY RATES			QUARTERLY RATES		
	Current Monthly Rate	Proposed Monthly Rate (2024)	Proposed Monthly Rate (2025)	Current Quarterly Rate	Proposed Quarterly Rate (2024)	Proposed Quarterly Rate (2025)
<u>Residential:</u>						
20 gallon can	\$50.00	\$54.00	\$56.43	\$150.00	\$162.00	\$169.29
32 gallon can	\$56.00	\$61.00	\$63.75	\$168.00	\$183.00	\$191.24
64 gallon can	\$72.75	\$78.75	\$82.29	\$218.25	\$236.25	\$246.88
96 gallon can	\$105.00	\$105.00	\$109.73	\$315.00	\$315.00	\$329.18
<u>Commercial:(Per Pick Up)</u>						
	Current Rate	Proposed Rate (2024)	Proposed Rate (2025)	Current Quarterly Rate	Proposed Quarterly Rate (2024)	Proposed Quarterly Rate (2025)
1 yard bin	\$176.27	\$179.80	\$187.89	\$528.81	\$539.40	\$563.66
2 yard bin	\$334.54	\$341.23	\$356.59	\$1,003.62	\$1,023.69	\$1,069.76
3 yard bin	\$372.53	\$379.98	\$397.08	\$1,117.59	\$1,139.94	\$1,191.24
4 yard bin	\$496.70	\$506.63	\$529.43	\$1,490.10	\$1,519.89	\$1,588.30
6 yard bin	\$615.76	\$628.08	\$656.34	\$1,847.28	\$1,884.24	\$1,969.02
32-Gallon Cart	\$56.00	\$61.00	\$63.75	\$168.00	\$183.00	\$191.24
64-Gallon Cart	\$72.75	\$78.75	\$82.29	\$218.25	\$236.25	\$246.88
96-Gallon Cart	\$105.00	\$105.00	\$109.73	\$315.00	\$315.00	\$329.18

BE IT FURTHER RESOLVED that the collection rates for “Other Services” shall be as shown in the attached Exhibit A “Rates for Other Services” for 2024 and 2025 effective January 1, 2024 and January 1, 2025.

PASSED AND ADOPTED by the District Board of the West Bay Sanitary District at a regular meeting thereof held on 13th day of December, 2023, by the following votes:

Ayes:

Noes:

Absent:

Abstain:

President of the District Board of the
West Bay Sanitary District of San
Mateo County, State of California

Attest:

Secretary of the District Board of the
West Bay Sanitary District of San Mateo
County, State of California

EXHIBIT A
ATTACHMENT Q – 2024 & 2025
ADDITIONAL SERVICES

For Rate Years Eleven (2021) through the remaining Rate Years in the Term, the Charges for additional services specified in Attachment Q shall be adjusted annually in accordance with Attachment K.

The Charges for additional services for Rate Year Ten (2020) shall be the Charges for Rate Year Ten (2020) as determined under the 2009 Franchise Agreement. These are the Charges that will be adjusted as provided in Attachment K of this Agreement to determine the Charges for Rate Year Eleven (2021).

Two additional services are included in this Attachment Q there were not in Attachment Q of the 2009 Franchise Agreement. The two new services are Container Relocation Service and Agency-Specific Reporting for Abandoned Waste Collections. Charges for these services are presented in the table below.

	Service	Reference	Agency-Approved Charge	Description
	Additional Services for Customers			
1	Single-Family Dwelling Backyard Collection Service	Section 5.02.A	See Charges in the table at the end of this Attachment	See Charges in the table at the end of this Attachment
2	Long Distance Service for MFD, Mixed Use, and Commercial Accounts (Note: only applicable to Containers with wheels)	Sections 5.02.B, 5.02.C; and 8.02.B	<p>A – 10% of base monthly Rate of the Collection Rate for each Container requiring Long Distance Service</p> <p>B – 25% of base monthly Rate of the Collection Rate for each Container requiring Long Distance Service</p>	<p>A – Distance greater than 50 feet and less than or equal to 100 feet</p> <p>B – Distance greater than 100 feet</p> <p>Distance shall be measured from the face of the curb, or from the edge of the roadway nearest the closest edge of the Container, if there is no curb.</p>

EXHIBIT A
ATTACHMENT Q – 2024 & 2025
ADDITIONAL SERVICES

	Service	Reference	Agency-Approved Charge	Description
3	Container Relocation Service	Sections 5.02B and 8.02B	A – 12% of base monthly Rate of the Collection Rate for each Container requiring Container Relocation Service B – 27% of base monthly Rate of the Collection Rate for each Container requiring Container Relocation Service	A – Distance greater than 50 feet and less than or equal to 100 feet B – Distance greater than 100 feet Distance shall be measured from the face of the curb, or from the edge of the roadway nearest the closest edge of the Container, if there is no curb.
4	On-Call Pick-up for SFD, MFD, Mixed Use, and Commercial Customers	Sections 5.02.A, 5.02.B, and 5.02.C	25% of the base monthly Rate for the size of Container Collected once per week	Per Collection event per Container for Collection requested by Customer
5	Return Trip (SFD, MFD, Mixed Use, or Commercial)	Sections 5.02.A, B, C; 5.03.A, B, C; 5.04.A, B, C	\$20.14 for SFD \$20.14 for Commercial, Mixed Use, and MFD	Per Collection event (i.e., request to return and provide Collection service after the Customer failed to properly set out their Container(s) for regularly scheduled Collection)
6	Additional Targeted Recyclable Materials or Organic Materials Cart Service for SFD	Sections 5.03.A and 5.04.A	\$4.03 per Recycling Cart \$4.03 per Organic Materials Cart	Per Cart per month (any Cart size). Six month minimum charge required. Includes one-time Cart delivery upon start of service and removal of Cart when service is discontinued by Customer.
7	Additional On-Call Bulky Item Collection	Sections 5.05, 5.06	\$109.47	Per Bulky Item Collection event (in addition to the events provided at no charge to Customer pursuant to Section 5.12)

EXHIBIT A
ATTACHMENT Q – 2024 & 2025
ADDITIONAL SERVICES

	Service	Reference	Agency-Approved Charge	Description
8	Collect Contaminated Targeted Recyclable Materials or Organic Materials Container	Section 6.03.A and 8.02.F	25% of the base monthly Solid Waste Rate for the size of Container Collected once per week plus Return Trip Fee if applicable	Per Collection event for Container with Contamination Level greater than the maximum level pursuant to Table 1 in Section 6.02.B
9	Lock Service (Key Service)	Section 8.02.B	A – \$11.41 per usage B – \$12.75 per usage	Monthly cost: A – Residential Customers B – Commercial Customers
10	Lock Purchase	Section 8.02.B	\$22.81 per lock	Per lock
11	Overage Service	Section 8.02.G	100% of the base monthly Solid Waste Collection Rate	Per Collection event (after the first two events)
12	Overage Bags Cost	Section 8.02.G	50% of the base monthly Solid Waste Collection Rate or \$10.73 minimum	Per bag
13	Container Cleaning Service	Section 8.05.D	A – \$67.12 B – \$114.09	A – per Cart B – per Bin or Drop-Box Charge only applies to cleaning or Container exchange in addition to the service to be provided at no charge to the Customer pursuant to Section 8.05.D

EXHIBIT A
ATTACHMENT Q – 2024 & 2025
ADDITIONAL SERVICES

	Service	Reference	Agency-Approved Charge	Description
14	Dirty Cart Replacement (Exchange) Service	Section 8.05.D	A – \$87.24 B – \$100.67 C – \$114.09	A – per 32 gallon Cart B – per 64 gallon Cart C – per 96 gallon Cart Charge only applies to cleaning or Container exchange in addition to the service to be provided at no charge to the Customer pursuant to Section 8.05.D
Additional Services for Agency				
15	Additional Confidential Document Destruction Service Event	Section 5.07	\$1,610.74	Per event
16	Additional Compost Material Delivery	Section 5.11	A – \$167.79 per delivery B – \$335.58 per delivery	A – “one-way” only delivery by Contractor where Contractor delivers to and unloads compost at an Agency-approved location B – “Round-trip” delivery by Contractor where Contractor delivers compost in a Drop Box to an Agency-approved location and returns at a later time or date to pick up the Drop Box and any remaining compost (charge includes the delivery of and later pick-up of the Drop Box)
17	Community Drop-Off Events	Section 5.13	\$22,818.85 per event or day	Per event or day targeting 5,000 households. Does not include disposal or public education expenses.
18	Collection for Agency-Sponsored and Non-Agency sponsored Community Events	Section 5.08	A – \$4,026.86 B – \$6,711.42 C – \$10,067.14	A – One day event with a projected 2,500 or fewer attendees B – One (1) or two (2) day events with a projected 2,501 to 7,500 attendees per day C – One (1) or two (2) day events with a projected 7,501 to 10,000 attendees per day

EXHIBIT A
ATTACHMENT Q – 2024 & 2025
ADDITIONAL SERVICES

Backyard Collection Service Charge for Single-Family Dwellings* (Section 5.02.A)				
Distance from Curb**	Backyard Charge for Customers with One (1) Solid Waste Cart	Backyard Charge for Customers with Two (2) Solid Waste Carts	Backyard Charge for Customers with Three (3) Solid Waste Carts	Backyard Charge for Customers with Four (4) Solid Waste Carts
Distance <= 50 feet	\$24.16	\$38.55	\$77.10	\$115.65
50 < Distance <= 100 feet	\$28.18	\$42.58	\$81.13	\$119.68
100 < Distance <= 150 feet	\$32.21	\$46.61	\$85.16	\$123.71
150 < Distance <= 200 feet	\$36.24	\$50.63	\$89.19	\$127.73
200 < Distance <= 250 feet	\$40.27	\$54.66	\$93.20	\$131.76
250 < Distance <= 300 feet	\$44.29	\$58.68	\$97.24	\$135.78
300 < Distance <= 350 feet	\$48.32	\$62.71	\$101.26	\$139.81
Each additional 50 foot increment over 350 feet	Amount equals the difference between the Charge for 250 to 300 feet and 300 to 350 feet			

* Backyard Collection Service Charges are charges added to the base monthly Rate for Single-Family Collection service, and cover the provision of Backyard Collection Service for all of Customer's Solid Waste, Recyclable Materials, and Organic Materials Carts.

** Distance shall be measured from the face of the curb, or from the edge of the roadway nearest the closest edge of the Cart, if there is no curb.

590 Ygnacio Valley Road, Suite 105
Walnut Creek, California 94596
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John W. Farnkopf, PE
Laith B. Ezzet, CMC
Richard J. Simonson
Marva M. Sheehan, CPA
Robert C. Hilton

October 5, 2023

Sergio Ramirez
General Manager
West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Sent via e-mail

Subject: Update the District's Solid Waste/Recycling Rate Model

Dear Sergio Ramirez:

HF&H Consultants, LLC (HF&H), at your request, has reviewed the West Bay Sanitary District's (District) projected calendar year 2024 solid waste service projected costs and revenues¹ to determine the estimated surplus/shortfall for each customer class (residential and commercial). Additionally, we have updated the District's solid waste/recycling "cost of service" rate model to reflect 2024 projected results.

Based upon the findings described in this report, and the feedback received from our preliminary findings and recommendations presented to the District's Board at its September 13, 2023 meeting, the District's Board proposed the following rate adjustments for 2024.

Container Size Serviced 1X/Week	Residential	Commercial	Proposed \$ Increase	Proposed 2024 Rate
20 Gallon	8.00% Increase	N/A	\$4.00	\$54.00
32 Gallon	8.93% Increase	8.93% Increase	\$5.00	\$61.00
64 Gallon	8.25% Increase	8.25% Increase	\$6.00	\$78.75
96 Gallon	0.0% Increase	0.0% Increase	\$0.00	\$105.00
All Bins	N/A	2.0% Increase	Varies	Varies

¹ As presented in the SBWMA's "Draft Report Reviewing the 2024 Recology Compensation Application", dated August 11, 2023

Sergio Ramirez
October 5, 2023
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The adjustments for both residential and commercial rates will better reflect the cost of service, while generating sufficient revenue to cover the projected collection and processing costs for 2024. As part of a multi-year plan, similar adjustments were implemented in previous years.

BACKGROUND

As a member of the SBWMA, the District transitioned collection services and operation of the Shoreway Recycling and Disposal Center in San Carlos from Allied Waste/Republic to Recology San Mateo County (RSMC) and South Bay Recycling (SBR). RSMC and SBR took over collection services and operation of the Shoreway Environmental Center (Shoreway), respectively, beginning January 1, 2011. The District entered into a new 15-year agreement with RSMC with operations to start January 1, 2021 and a new contract to operate Shoreway with South Bay Industries (SBI) effective January 1, 2024.

Annually, the SBWMA provides the District with its allocation of the projected costs to provide collection service and operation of Shoreway. This information is utilized in the rate-setting process. A rate model was developed by HF&H and adopted by the District's Board of Directors (Board) on December 14, 2011.

The purpose of this update was to better reflect the cost of service, while generating sufficient revenue to cover the projected collection and processing costs through a three-year planning period (2024-2026) and providing recommended rates for the first year of the three-year planning period (2024) to be adopted by the Board.

SCOPE OF WORK

Based on the results, provided by the SBWMA for the 2024 rate-setting process, HF&H updated the "cost of service" model previously developed and enhanced the cost allocation methodology between residential container sizes.

We performed the following procedures as part of our review:

- Obtained cost, rate, and current customer account data from the District and Recology.

- Prepared a summary schedule projecting the District's revenues for 2024 and revenue for the next three years (through 2026).

- Prepared a summary schedule projecting Recology collection costs for the next three years (through 2026). Based on recent inflationary increases and discussions with the SBWMA and Recology, we assumed inflationary collection cost increases of 4.5% and 4.5% in 2025 and 2026, respectively. Historically higher than normal increases in CPI are driving the assumptions for higher-than normal increases.

- Prepared a summary schedule projecting SBWMA tip fee costs for the next three years (through 2026). Based on recent inflationary increases and discussions with the SBWMA, we assumed

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inflationary tip fee cost increases of 4.5% and 4.5% in 2025 and 2026, respectively. The increases reflect the anticipated costs increases to comply with SB 1383 and the impact of the procurement of a new operator of the Shoreway Environmental Center, as the current operator agreement will expire December 31, 2023.

Prepared a schedule projecting residential and commercial revenue requirement through 2026 with the objective of the residential revenue to equal the costs to provide the service.

Prepared a schedule proposing adjustments to the rates for the various residential carts with the objective of specific cart size revenue to equal its respective cost to provide the service.

LIMITATIONS

Our conclusions are based, in part, on Recology's projections of its financial results of operations included in the SBWMA's "Draft Report Reviewing the 2024 Recology Compensation Application," dated August 11, 2023. Actual results of operations will usually differ from projections because events and circumstances frequently do not occur as expected and the difference may be significant.

FINDINGS

General

HF&H has updated the prior year's rate structure analysis following its two-step process. The first step divides the solid waste collection system into two customer classes: residential and commercial. For the purposes of this study, we are including multi-family customers with the commercial customer class and we have not factored any surplus or deficit from the prior year revenue reconciliations. We then reviewed the revenues and the revenue requirements for each customer class independently.

Revenue Requirement (RSMC & SBR)	2023	2024	Variance Year over Year \$	Variance Year over Year %
Collection Cost	\$1,182,552	\$1,251,404	\$68,852	5.8%
Disposal/Processing	598,412	749,315	150,903	25.2%
Agency Fees (on net revenue)	111,222	120,043	8,821	7.9%
Total Costs	\$1,892,186	\$2,120,762	\$228,576	12.08%

The second step is to further review the residential customer class by examining the rate and cost to provide service for each size of container (20 gallon, 32 gallon, 64 gallon, and 96 gallon).

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Step 1 – Residential and Commercial Customer Classes

The following table shows the Rate Year 2024 revenue requirement by customer class. At current rates (2023 rates), the solid waste collection system as a whole is projected to generate less than the requirement, a \$181,478 deficiency of revenue compared to costs.

Table 1:
2024 Projected Revenue and Costs by Customer Class

	<i>Residential</i>	<i>Commercial</i>	<i>Total</i>
Projected Revenue at <u>Current Rates</u> ¹	\$1,649,769	\$289,515	\$1,939,284 A
Projected 2024 Costs by Service Sector			
Collection	\$1,047,745	\$203,659	\$1,251,404
Disposal/Processing	651,480	97,835	749,315
Agency Fees	101,953	18,090	120,043
Total Costs	<u>\$1,801,178</u>	<u>\$319,584</u>	<u>\$2,120,762 B</u>
Excess (Deficiency) of Revenues vs Costs	<u>\$ (151,409)</u>	<u>\$ (30,069)</u>	<u>\$ (181,478) A-B=C</u>
Projected Rate Adjustment	9.18%	10.39%	9.36%

¹ Projected Revenue is based on Recology's Compensation Application

NOTE: The amounts shown above are for 2024 activity only. Prior year surplus/shortfalls (i.e., the balancing account held at Recology) are NOT included.

If the District elects to have both the residential and commercial customer class rates generate sufficient revenue to cover its costs, rates could be adjusted all at once or over a period of time. The table below shows possible rate adjustments to both customer classes over a three-year period, assuming cost increase projections as discussed on Page 2 of this report.

Table 2:
2024 Proposed and 2025-2026 Projected Average Rate Adjustments

		<i>Residential</i>	<i>Commercial</i>
1	2024 - Proposed	7.77%	1.81%
2	2025 - Projected	4.43%	4.50%
3	2026 - Projected	4.43%	4.50%

The following table shows the projected revenues after the above rate adjustments. By 2026, the revenues are still slightly below the cost for commercial and residential, making use of the District's positive balancing account with Recology. Use of the balancing account allows the District to reduce rate volatility even when costs increase greater than inflation.

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October 5, 2023
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Table 3:
Three-year Projected Revenue and Costs

Projections - Balance Revenue & Costs over 3 Years									
	1			2			3		
	2024			2025			2026		
	Residential	Commercial	Total	Residential	Commercial	Total	Residential	Commercial	Total
Proposed Average Rate Adjustment	7.77%	1.81%		4.43%	4.50%		4.43%	4.50%	
Total Revenue	\$1,778,312	\$294,767	\$2,073,078	\$1,857,046	\$309,359	\$2,166,405	\$1,939,344	\$323,280	\$2,262,625
Assumptions:									
1) Cost Increase	"Projected"	"Projected"		4.50%	4.50%		4.50%	4.50%	
2) Disposal/Processing Increase	"Projected"	"Projected"		4.50%	4.50%		4.50%	4.50%	
Collection	\$1,047,745	\$203,659	\$1,251,404	\$1,094,893	\$212,824	\$1,307,717	\$1,144,164	\$222,401	\$1,366,564
Disposal/Processing	\$651,480	\$97,835	\$749,315	\$680,797	\$102,238	\$783,034	\$711,432	\$106,838	\$818,271
Agency Fees	101,953	18,090	120,043	106,541	18,904	125,445	111,336	19,754	131,090
Total Costs	1,801,178	319,584	2,120,762	1,882,231	333,965	2,216,196	1,966,932	348,993	2,315,925
Excess (Deficiency) Amount	(\$22,867)	(\$24,817)	(\$47,684)	(\$25,186)	(\$24,606)	(\$49,791)	(\$27,588)	(\$25,713)	(\$53,301)
Excess (Deficiency) Percentage	-1.29%	-8.42%	-2.30%	-1.36%	-7.95%	-2.30%	-1.42%	-7.95%	-2.36%

Step 2 – Residential Container Rates

We reviewed the residential rates by container size and compared the rates to the cost of service by container size projected by the SBWMA, which assumed the variable cost between container sizes is primarily the disposal cost. Additionally, HF&H updated the cost of service by container size using the same approach used in the rate model from the previous year. We have assumed the following:

- **Organics collection costs** are fixed per household as every customer receives the same size container and is serviced at the same frequency (64-gallon cart, serviced 1 time per week). For 2024, the fixed cost is \$29.73 per home per month.
- **Recycling collection costs** are also fixed per household for the same reason as above (64-gallon cart - serviced 1 time per week). For 2024, the fixed cost is \$13.97 per home per month;
- **Disposal cost** is variable based upon the capacity/gallon size of the solid waste cart serviced. For 2024 the projected variable cost is \$0.21 per gallon.
- **Fixed solid waste (SW) route/collection costs** are costs that do not vary based on the level of service received (e.g., customer service costs, IT costs). For 2024, the fixed cost is \$3.56 per home per month.
- **All other SW route/collection costs** are attributed to each cart size using equivalent cart units (ECU) calculated by applying routing metrics. (The ECU basic principle establishes the numeric relationship between cart size and route capacities.) For 2024, the projected monthly cost per ECU is \$5.5861 multiplied by a factor of:

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- 1.000 for a 20 gallon cart
- 1.600 for a 32 gallon cart
- 3.627 for a 64 gallon cart
- 6.080 for a 96 gallon cart

The following tables shows the current rates (2023), the SBWMA and the HF&H projected 2024 costs by cart size.

Table 4a:
HF&H Projected 2024 Costs by Residential Container Size

<u>Analysis of Costs by Size of Container</u>						
	20	32	64	96		
Organics Collection Cost	\$29.73	\$29.73	\$29.73	\$29.73		
Recycling Collection Cost	13.97	13.97	13.97	13.97		
Disposal Cost (\$0.21 per gallon)	4.21	6.74	13.47	20.21		
Fixed Solid Waste Cost	3.56	3.56	3.56	3.56		
All Other Solid Waste Cost						
	\$5.5861	X a factor of	1.000	1.600	3.627	6.080
			\$5.59	\$8.94	\$20.26	\$33.96
* Monthly Cost per Cart per HF&H	\$57.04	\$62.92	\$80.98	\$101.42		

* rounded to the nearest cent

Table 4b:
Comparison of Current Residential Rates and Projected 2024 Costs by Container Size

<u>Analysis of Costs by Size of Container</u>							
		Current Mo.	* 2024	Excess	Projected	2024 Variance	
Subscription	Container Size	Rate	Mo Cost per Cart	(Deficiency) of Revenues vs Costs	Rate Adjustment	before Adjustment	Adjustment
16% 344	20	\$50.00	\$57.04	(\$7.04)	14.1%	12.7%	
57% 1252	32	\$56.00	\$62.92	(\$6.92)	12.4%	4.8%	
23% 513	64	\$72.75	\$80.98	(\$8.23)	11.3%	-4.2%	
5% 100	96	\$105.00	\$101.42	\$3.58	-3.4%	-17.4%	
100% 2209							

* Rounded to the nearest cent

Sergio Ramirez
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The following table shows the projected adjustments in future years to continue to work towards the cost of service. These are projections based upon annual assumed increases in costs and would need to be revised as the actual costs are known and projections revised.

Table 5:
Proposed and Projected Residential Rate Adjustments (2024-2026)

<i>Container Size</i>								
20 gallon			32 gallon		64 gallon		96 gallon	
Current Rate→		\$50.00		\$56.00		\$72.75		\$105.00
Proposed 2024	8.00%	\$54.00	8.92%	\$61.00	8.25%	\$78.75	0.00%	\$105.00
Projected 2025	4.50%	\$56.43	4.50%	\$63.75	4.50%	\$82.29	2.00%	\$107.10
2026	4.50%	\$58.97	4.50%	\$66.62	4.50%	\$85.99	2.00%	\$109.24
2026 Projected Cost of Service		\$62.29		\$68.71		\$88.43		\$110.75

Rate Structure Summary

Current Rate Structure

Under the current rate structure, rate revenue (assuming current rates and no use of prior year surplus or shortfall) is projected to produce a shortfall of approximately \$181,478 in revenue for the forthcoming year (see Table 1).

Rate Adjustments

Residential and Commercial Customer Class

In the first step described above, HF&H divided the solid waste collection system into two customer classes: residential and commercial and modeled a rate structure which achieved a cost-of-service balance between the customer classes over the next few years. Overall revenue from residential rates is increased by 7.77% and revenue from commercial rates are increased by 1.81% in 2024 (see Table 2 and Table 3).

Recommendation

As we have seen in other jurisdictions over the past few years, the District's rate structure encourages customers to "downsize" their solid waste container by placing more materials in their recyclable material and organics carts, rather than in their solid waste containers, which ultimately reduces the amount of trash sent to the landfill. However, as customers reduce their container size, less revenue is generated but there is not an equal reduction of the cost to drive by, collect, and process the materials.

Sergio Ramirez
October 5, 2023
Page 8 of 8

At its September 13, 2023 meeting, the District's Board proposed to implement, as part of its multi-year plan began more than five years ago, the following rate adjustments for residential and commercial rates that will close the gap between the rates and the cost for the 20 gallon cart service, while generating sufficient revenue to cover the projected collection and processing costs for 2024.

Table 6:
District's Board Proposed Rate Adjustments

Rates by Size of Container						
	Residential				Commercial	
	20 Gallon	32 Gallon	64 Gallon	96 Gallon	1YD Bin 1x/week	3YD Bin 1x/week
Current Rates	\$50.00	\$56.00	\$72.75	\$105.00	\$176.27	\$372.53
Proposed Rate Adjustment	8.00%	8.92%	8.25%	0.00%	2.00%	2.00%
2024 Proposed Rate / Mo.	\$54.00	\$61.00	\$78.75	\$105.00	\$179.80	\$379.98
Increase (Decrease) / Mo.	\$4.00	\$5.00	\$6.00	\$0.00	\$3.53	\$7.45
2024 Projected Revenue at Proposed Rates						
	Residential	Commercial	Total			
Projected Revenue at <u>Current Rates</u> ¹	\$1,649,769	\$289,515	\$1,939,284			
2024 <u>Proposed Rate</u> Revenue	\$1,778,312	\$294,767	\$2,073,079 A			
2024 Proposed Costs	<u>1,801,178</u>	<u>319,854</u>	<u>2,121,032</u> B			
Excess Amount	-\$22,866	-\$25,087	-\$47,953 A - B = C			
Excess Percentage	-1.3%	-8.5%	-2.3%			

* * * *

We appreciate the opportunity to be of continued service to the District. We value our relationship with you and the District and are committed to providing you the highest level of service in the performance of this matter for you. Should you have any questions, please feel free to call me at (925) 977-6957.

Sincerely,
HF&H CONSULTANTS, LLC


Rick Simonson
Senior Vice President


Dave Hilton
Project Manager

Rates for Other Services

The following are rates that would be charged for unscheduled services as necessary. 2025 Rates will reflect increases in accordance with the Franchise Agreement West Bay Sanitary District Holds with Recology.

Service Category	2024 Rate	Description of Rate
Backyard Collection Service—Single Family Dwelling	For one Solid Waste Cart: \$24.16 (0-50 ft) \$28.18 (51-100 ft)	Rates vary based on distance & number of carts. Contact the District for rates for distances beyond 100 feet and for more than one solid waste cart.
Return Trip Cost—Single Family Dwelling (Request to provide collection service after the regularly scheduled collection day)	\$20.14	Per collection event.
On-Call Bulky Item Collection	\$109.47	Per each collection event beyond first 2 per year. (Each customer receives 2 free bulky collections per year)
Distance charge—MFD and Commercial Accounts	A – 10% of base monthly rate B – 25% of base monthly rate	A – 51 to 100 feet from access by contractor's collection vehicle B – 101 feet or more from access by contractor's collection vehicle
Container Relocation Service	A – 12% of base monthly rate each container B – 27% of base monthly rate each container	A – 51 to 100 feet from access by contractor's collection vehicle B – 101 feet or more from access by contractor's collection vehicle
Extra Pick-Up Cost—MFD and Commercial Accounts	25% of the base monthly rate for the size of container collected once per week	Per collection event
Additional Targeted Recyclable Materials or Organic Materials Cart Rental	A -- \$ 4.03	A – Monthly rental fee (any size cart, minimum 6 months)
Collection of Contaminated Targeted Recyclable Materials or Organic Materials Container	25% of the base monthly rate for the size of container collected once per week Plus: \$20.14	Per collection event
Key Service	A -- \$11.41 per month B -- \$12.75 per month	A – Residential Customers B – Commercial Customers
Lock Purchase	\$22.81 –one time charge	One-time charge per account. No fee for replacement locks.
Overage Fee	100% of base monthly rate	Per collection event
Overage Bags	50% of the base monthly rate or \$10.73 minimum	Rate per bag
Container Cleaning	A – \$67.12 B – \$114.09	A – per Cart B – per Bin or Drop-Box
Dirty Cart Replacement	A – \$87.24 B – \$100.67 C – \$114.09	A – per 32 gallon Cart B – per 64 gallon Cart C – per 96 gallon Cart
Additional Compost Material Delivery	A – \$167.79 B – \$335.58	A – One way delivery B – Round trip delivery

Presorted
First Class
U.S. Postage
Paid
San Bruno, CA
Permit No. 655

If you wish to file a written protest, please send a letter in a sealed envelope addressed to:

West Bay Sanitary District
Attn: General Manager (Solid Waste Rates)
500 Laurel Street, Menlo Park, CA 94025

Your letter must identify the real property you own or rent by street address and assessor's parcel number (APN). Your letter must be legibly signed by any one of the current property owners or ratepayers of record.

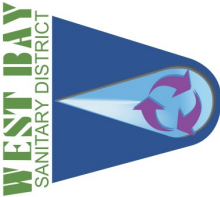
The District must receive your letter in a sealed envelope by 3:00 p.m. on December 13, 2023 or it must be presented at the District Board meeting on December 13, 2023 prior to the close of the public hearing on this matter or by Zoom Meeting <https://us06web.zoom.us/j/86725615742?pwd=8VwBabZgwsDIlvBwmQKyBw0bVcP72b.1> Meeting ID: 867 2561 5742 Passcode: 183235

Any person interested, including all solid waste/ recycling collection customers of the West Bay Sanitary District, may appear by Zoom or phone at the public hearing and be heard on any matter related to the proposed increase in rates.

If you would like additional information on the proposed rates, please call the District at 650-321-0384.

West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Important Information - Notice of Public Hearing
“Solid Waste & Recyclable Material Rate Increase”
Wednesday, December 13, 2023 at 7:00 p.m.



NOTICE OF INTENT TO INCREASE COLLECTION RATES FOR SOLID WASTE/RECYCLABLE

MATERIALS IN THE WEST BAY SANITARY DISTRICT

The District Board of the West Bay Sanitary District hereby gives public notice of its intent to increase some of the existing residential rates for the collection of recyclable materials, compost, and refuse for 2024 and 2025.

The District Board plans to consider this rate increase at a public hearing on December 13, 2023 at 7:00 p.m. in the Board Conference Room located at 500 Laurel Street, Menlo Park or by Zoom or telephone <https://us06web.zoom.us/j/86725615742?pwd=8VwBabZqwsDIlvBwmQKyBw0bVcP72b.1> Meeting ID: 867 2561 5742 Passcode: 183235

The need for this increase was discussed by the District Board at the October 11, 2023 Regular Board meeting, and is further detailed in the staff report for this matter and the Draft Report by HF&H Consultants (Rate Study), both of which are available at the District Office located at 500 Laurel Street, Menlo Park or online at www.westbaysanitary.org

Approximately fifty-six percent (57%) of residential service containers are a 32 gallon size. The new rate for 2024 for a 32 gallon container would increase from \$56.00 per month to \$61.00 per month, a \$5.00 per month increase. The new rate for the 20 gallon container would increase from \$50.00 per month to \$54.00 per month, a \$4.00 per month increase. 20 gallon containers will be grandfathered to current users but are no longer available to new customers or to customers wishing to migrate down to a 20 gallon container. As further detailed in the Rate Study, the purpose of these increases is to align the Solid Waste Rates with the actual proportionate cost of providing the service to customers in each Customer Service Level. In 2025 All rates will increase by 4.5%

For comparison purposes, the maximum typical residential rates for 32 gallon containers for SBWMA Cities including Burlingame, Belmont, Hillsborough, Menlo Park, Redwood City, San Carlos, and San Mateo, range from a low of \$27.52 (Foster City) to a high of \$64.60 (Hillsborough), based upon 2023 rates.

The following table shows the current rates and the proposed monthly rates for regularly scheduled service for West Bay Sanitary District Franchised Customers to be effective January 1, 2024, and January 1, 2025.

Proposed Maximum Solid Waste Rates for 2024 and 2025						
Customer Service Level	MONTHLY RATES			QUARTERLY RATES		
	Current Monthly Rate	Proposed Monthly Rate (2024)	Proposed Monthly Rate (2025)	Current Quarterly Rate	Proposed Quarterly Rate (2024)	Proposed Quarterly Rate (2025)
Residential:						
20 gallon can	\$50.00	\$54.00	\$56.43	\$150.00	\$162.00	\$169.29
32 gallon can	\$56.00	\$61.00	\$63.75	\$168.00	\$183.00	\$191.24
64 gallon can	\$72.75	\$78.75	\$82.29	\$218.25	\$236.25	\$246.88
96 gallon can	\$105.00	\$105.00	\$109.73	\$315.00	\$315.00	\$329.18
Commercial:(Per Pick Up)						
	Current Rate	Proposed Rate (2024)	Proposed Rate (2025)	Current Quarterly Rate	Proposed Quarterly Rate (2024)	Proposed Quarterly Rate (2025)
1 yard bin	\$176.27	\$179.80	\$187.89	\$528.81	\$539.40	\$563.66
2 yard bin	\$334.54	\$341.23	\$356.59	\$1,003.62	\$1,023.69	\$1,069.76
3 yard bin	\$372.53	\$379.98	\$397.08	\$1,117.59	\$1,139.94	\$1,191.24
4 yard bin	\$496.70	\$506.63	\$529.43	\$1,490.10	\$1,519.89	\$1,588.30
6 yard bin	\$615.76	\$628.08	\$656.34	\$1,847.28	\$1,884.24	\$1,969.02
32-Gallon Cart	\$56.00	\$61.00	\$63.75	\$168.00	\$183.00	\$191.24
64-Gallon Cart	\$72.75	\$78.75	\$82.29	\$218.25	\$236.25	\$246.88
96-Gallon Cart	\$105.00	\$105.00	\$109.73	\$315.00	\$315.00	\$329.18

(Continued) Rates for Other Services

*Commercial bin rates reflect collection charge for **one** pick up per week; To calculate charge for more than one collection per week, multiply rate by number of collections per week. For example, for 2024 1-Cubic Yard Bin (at proposed rate) collected 3 times per week = \$539.40 (\$179.80 x 3 collections/wk)



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NECESSITY FOR THE NEW RATES

The West Bay Sanitary District is a member of the South Bayside Waste Management Authority, and contracts with Recology San Mateo County (RSMC) for collection services as of January 1, 2011 and South Bay Industries (SBI) for operation of the Shoreway Center, as of January 1, 2024. The proposed rates result from the weekly recycling, organic materials and solid waste collection services and Shoreway operations provided by RSMC and SBI, contractual compensation adjustments, and migration to smaller containers.

The collection services include the convenient **weekly** collection, rather than bi-weekly collection, of single stream recycling, organic materials (yard trimmings and food scraps) and solid waste. The Shoreway facility has also undergone substantial capital improvements to construct a new Materials Recovery Facility (MRF) and an expanded Transfer Station. These improvements facilitate single stream (mixed) recycling, enhance onsite public recycling activities, and improve traffic circulation at the Shoreway Facility.

The District is in the seventh year of a multi-year pricing restructuring plan, so that a transition is made whereby the smaller cans will support their own cost of collection and disposal.

The West Bay Sanitary District hereby gives notice of a public hearing to be held at its Board meeting on December 13, 2023, at 7:00 p.m. in the District's "Ronald W. Shepherd" Administration Building located at 500 Laurel Street, Menlo Park, CA or by Zoom or telephone <https://us06web.zoom.us/j/86725615742?pwd=8VwBabZqwsDIlvBwmQKyBw0bVcP72b.1> Meeting ID: 867 2561 5742 Passcode: 183235

At this hearing, the Board of Directors will consider public comment as well as written protests by ratepayers regarding the proposed increase in monthly collection rates. If written protests are presented by a majority of the affected ratepayers prior to the close of the public hearing, the Board of Directors will not increase the rates as a matter of State law, however levels of service may be impacted.



WEST BAY SANITARY DISTRICT AGENDA ITEM 5

To: *Board of Directors*

From: *Fariborz Heydari, P.E. Project Manager*

Subject: *Public Hearing - Annexing Certain Territory Within the West Bay Sanitary District's On-Site Wastewater Disposal Zone – Lands of Poutre (315 Grove Drive, Portola Valley)*

Background

On October 11, 2023, the Board adopted a Resolution of intention to annex the parcel referenced above to the District's On-Site Wastewater Disposal Zone. The Public Hearing date was established as December 13, 2023

Analysis

The District's ***Master Resolution Governing Annexations of Territory to the West Bay Sanitary District On-Site Disposal Zone*** states: "Pursuant to Section 6959 of the Health and Safety Code, the date of the Public Hearing shall be commenced no less than 45 days nor more than 60 days from the date of adoption of the Resolution of Intention, and the Public Hearing shall be completed no more than 90 days after the first day of the hearing."

In accordance with Section 6960, and 6960.1 of the same code, reviews and reports of findings are required of both the County Health Officer and Regional Water Quality Control Board. Additionally, Section 6960.3 of this code requires the review and approval by a local agency formation commission, which has adopted rules and regulations affecting the functions and services of special districts.

The San Mateo County Health Officer has responded by a letter of approval dated November 7, 2023 a copy of which is attached; the San Francisco Bay Regional Water Quality Control Board responded by a letter of approval dated November 7, 2023, a copy of which is attached; and the San Mateo Local Agency Formation Commission has approved per their Resolution No. 1291 dated June 15, 2022, a copy of which is attached.

Fiscal Impact

Property owners have paid all annexation fees and the fiscal impact would be additional sewer service charge revenue to the District once the parcel is connected.

Report to the District Board for the Regular Meeting of December 13, 2023

Recommendation

The Board is asked to close the Public Hearing following public comment.

Attachments: San Mateo County Health Officer Letter

San Francisco Bay Regional Water Quality Control Board Letter

San Mateo Local Agency Formation Commission Resolution No. 1291



COUNTY OF SAN MATEO

Heather Forshey, MS, REHS
Director

Environmental Health Services
San Mateo County Health
2000 Alameda de las Pulgas
Suite 100
San Mateo, CA 94403
smchealth.org

November 7, 2023

APN 079-020-090

Todd Reese
West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Dear Mr. Reese:

**SUBJECT: ANNEXATION, 315 GROVE DRIVE, PORTOLA VALLEY,
APN 079-020-090**

Thank you for the November 7, 2023, letter of *Intention to Annex Certain Territory* to District's On-Site Wastewater Disposal Zone for the subject parcel. County Environmental Health has reviewed the letter of intent and has no objection to the annexation of this parcel into the District's on-site wastewater disposal zone. The existing onsite wastewater treatment systems (OWTS) must be destroyed under permit with Environmental Health upon connection to the West Bay system.

Should you have any questions, please call me at (650) 372-6279.

Sincerely,

Supervisor Water Protection and Land Use Programs

cc: Planning Director, Town of Portola Valley



SAN MATEO
COUNTY HEALTH

San Francisco Bay Regional Water Quality Control Board

November 7, 2023
File: CW-255833

Bill Kitajima (bkitajima@westbaysanitary.org)
Projects & IT Manager
West Bay Sanitary District
500 Laurel Street
Menlo Park, California 94025-3486

Approval to Annex Certain Territory (Lands of Poutre) to the West Bay Sanitary District On-Site Wastewater Disposal Zone: APN: 079-020-190

Dear Bill Kitajima:

The Regional Water Board hereby approves the annexation of the subject parcel to the On-Site Wastewater Disposal Zone of the West Bay Sanitary District (District). The property owners applied to the District for annexation “for the purpose of obtaining sewer service for a single-family residence.” To connect to existing District sewer facilities, the property owners require a Grinder Pump System that the District must maintain. Therefore, this parcel must be annexed into the District's disposal zone.

The Regional Water Board's approval is conditional upon the District (1) retaining responsibility for operation and maintenance of the grinder pump system, and (2) ensuring the proper operation and maintenance of the other sewerage facilities serving the parcel. Disposal of sewage onto soils within the disposal zone is not approved.

If you have any questions, please contact me at (510) 622-2407, or via e-mail at gaurav.mittal@waterboards.ca.gov.

Sincerely,

Gaurav Mittal
Water Resource Control Engineer

RESOLUTION NO. 2393 (2023)

**RESOLUTION OF INTENTION TO ANNEX CERTAIN TERRITORY TO THE WEST BAY
SANITARY DISTRICT ON-SITE WASTEWATER DISPOSAL ZONE**

Lands of Michael William Poutre and Janeen Michelle Poutre, as Trustees of the Poutre Living
Trust dated November 11, 2021

The District Board of West Bay Sanitary District finds and determines as follows:

A. This Resolution of Intention is adopted pursuant to the District's "Zone Master Annexation Resolution" ("ZOMAR"), which was adopted by the District Board August 12, 1996. The provisions of ZOMAR are incorporated by reference into this Resolution of Intention.

B. The District has received an application to annex a parcel of real property (the "Parcel") to the District's On-Site Wastewater Disposal Zone (the "Zone"). The Parcel is described in Exhibit "A" attached to this Resolution of Intention and the description contained in the Exhibits are incorporated by reference. The name and address of the applicants and the number, type, volume and location of on-site wastewater disposal systems which are proposed to operate on the parcels to be annexed are described in Exhibit "B" attached to this Resolution of Intention and the information contained in the Exhibit are incorporated by reference.

C. The applicants have demonstrated to the satisfaction of the District Board that the Parcel constitutes "real property" for the purposes of Section 2(b) of ZOMAR in that:

☒ All of the conditions described in Subsections i., ii., iii., iv. and v. of ZOMAR Section 2(b) are satisfied; or

☐ Other conditions exist which demonstrate that the Parcel will benefit directly or indirectly from the activities of the Zone. If applicable, those conditions are also set forth in Exhibit "B" and are incorporated by reference.

D. All of the conditions and requirements of ZOMAR Sections 2(a), 2(c), 2(d) and 2(e) have been fully satisfied.

In consideration of the foregoing findings and determinations,

IT IS RESOLVED by the District Board as follows:

1. It is the intention of the District Board to annex the Parcel to the Zone pursuant to the provisions of ZOMAR and applicable provisions of law.
2. In conjunction with a meeting of the District Board to be duly and regularly called and conducted, the Board will conduct a Public Hearing for the purpose of considering all matters pertaining to this Resolution of Intention.

The time, date and place of the Public Hearing are:

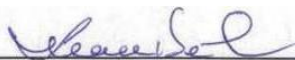
Date: December 13, 2023
Time: 7:00 PM
Place: West Bay Sanitary District Offices
500 Laurel Street
Menlo Park, CA 94025

& via Zoom

At the Public Hearing, all interested persons will be heard.

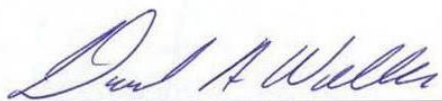
3. This Resolution of Intention shall be published and copies shall be delivered to the persons and entities as specified in ZOMAR Section 2(e)(i.).
4. A true copy of this Resolution of Intention shall promptly be filed for record in the office of the County Recorder of the County of San Mateo.
5. The General Manager shall cause the matters set forth in Sections 3 and 4 of this Resolution of Intention to be completed as directed.

Passed and adopted by the District Board of the West Bay Sanitary District at a regular meeting thereof held on the 11th day of October, 2023 by the following vote:



President of the District Board of the West
Bay Sanitary District of San Mateo County,
State of California

Attest:



Secretary of the District Board of the
West Bay Sanitary District of San Mateo
County, State of California

2022-065239 CONF

9:35 am 09/08/2022 CCL Fee: NO FEE

Count of Pages 7

Recorded in Official Records

County of San Mateo

Mark Church

Assessor-County Clerk-Recorder



* \$ R 0 0 0 3 2 8 5 8 1 8 \$ *

(This space for Recorder's use only)

RECORDING REQUESTED BY:

SAN MATEO LAFCO
LOCAL AGENCY FORMATION COMMISSION

WHEN RECORDED, PLEASE SEND TO:

San Mateo LAFCo

LAF 124

SHORT-FORM DESIGNATION OF DOCUMENT:

Annexation of 315 Grove Drive, Portola Valley to the West Bay Sanitary District

RECORDER'S CODE: CCL

(Exempt from filing fees per Government Code 6103)



LOCAL AGENCY FORMATION COMMISSION

455 COUNTY CENTER, 2ND FLOOR • REDWOOD CITY, CA 94063-1663 • PHONE (650) 363-4224 • FAX (650) 363-4849

CERTIFICATE OF COMPLETION

Pursuant to Government Code Section 57200, this Certificate is issued by the Executive Officer of the Local Agency Formation Commission of San Mateo County, California.

1. The short-form designation, as determined by LAFCo, is Annexation of 315 Grove Drive, Portola Valley to the West Bay Sanitary District.
2. The name of each district or city involved in this change of organization or reorganization and the kind or type of change of organization ordered for each city or district are as follows:

City or District

Type of Change of Organization

West Bay Sanitary District

Annexation

3. The above-listed cities and/or districts are located within the following counties: San Mateo County and Santa Clara County.
4. A description of the boundaries of the above-cited change of organization or reorganization is shown on the attached map, marked Exhibit A and by reference incorporated herein.
5. The territory involved in this change of organization or reorganization is uninhabited.
6. This change of organization has been approved subject to the following terms and conditions, if any: None.
7. The resolution confirming this change of organization was adopted on June 15, 2022 by LAFCo, is marked Exhibit B, and by reference incorporated herein.

I hereby certify that I have examined the above-cited resolution, including any terms and conditions, and the map description and have found these documents to be in compliance with Resolution 1291, adopted on June 15, 2022.

Dated: September 6, 2022

Roberto Bartoli
Executive Officer

COMMISSIONERS: MIKE O'NEILL, CHAIR, CITY ▪ ANN DRAPER, VICE CHAIR, PUBLIC ▪ HARVEY RARBACK, CITY ▪ DON HORSLEY, COUNTY
▪ WARREN SLOCUM, COUNTY ▪ KATI MARTIN, SPECIAL DISTRICT ▪ RIC LOHMAN, SPECIAL DISTRICT

ALTERNATES: VACANT, SPECIAL DISTRICT ▪ DIANA REDDY, CITY ▪ JAMES O'NEILL, PUBLIC ▪ DAVE PINE, COUNTY

STAFF: ROB BARTOLI, EXECUTIVE OFFICER ▪ TIM FOX, LEGAL COUNSEL ▪ ANGELA MONTES, CLERK

"EXHIBIT A"

DATE: 2-9-2022
ANNEXED TO: WEST BAY SANITARY DISTRICT
NAME OF ANNEXATION: WEST BAY SANITARY DISTRICT

**GEOGRAPHIC DESCRIPTION
LANDS OF POUTRE
AND A PORTION OF GROVE DRIVE
PROPOSED WEST BAY SANITARY DISTRICT ANNEXATION
1.52 ACRE +/- PARCEL**

ALL THAT REAL PROPERTY IN THE TOWN OF PORTOLA VALLEY, COUNTY OF SAN MATEO, STATE OF CALIFORNIA DESCRIBED AS FOLLOWS:

BEING ALL OF LOT 2, AND PORTIONS OF GROVE DRIVE, AS DESIGNATED ON THE MAP ENTITLED "STONEGATE MEADOWS", SAN MATEO COUNTY, CALIFORNIA, FILED IN THE OFFICE OF THE RECORDER OF THE COUNTY OF SAN MATEO, STATE OF CALIFORNIA ON JUNE 21, 1966 IN BOOK 65 OF MAPS AT PAGES 4 AND 5, AS SHOWN ON EXHIBIT 'B' ATTACHED HERETO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

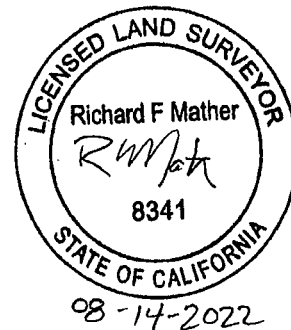
**BEGINNING AT THE MOST NORTHWESTERLY CORNER OF LOT 3 AS SHOWN ON SAID MAP, THENCE SOUTH 38°17'39" WEST 121.40 FEET (1);
THENCE SOUTH 25°29'42" WEST 185.06 FEET (2) TO A POINT IN THE CENTERLINE OF GROVE DRIVE, 50 FEET IN WIDTH;
THENCE ALONG THE CENTERLINE OF SAID GROVE DRIVE, NORTH 65°50'00" WEST 41.82 FEET (3) TO THE BEGINNING OF A CURVE TO THE RIGHT WITH A RADIUS OF 1000.00 FEET;
THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 2°34'00", AN ARC LENGTH OF 44.80 FEET (4);
THENCE SOUTH 63°16'00" EAST 30.89 FEET (5);
THENCE LEAVING SAID CENTERLINE, NORTH 21°16'29" EAST 339.65 FEET (6);
THENCE NORTH 03°39'00" EAST 73.04 FEET (7);
THENCE NORTH 40°02'00" EAST 48.20 FEET (8);
THENCE SOUTH 72°29'00" EAST 91.52 FEET (9);
THENCE SOUTH 45°13'30" EAST 124.41 FEET (10);
THENCE SOUTH 69°59'00" WEST 106.61 FEET (11);
THENCE SOUTH 23°09'00" EAST 68.07 FEET (12) TO POINT OF BEGINNING.**

CONTAINING 1.52 ACRES +/-

FOR ASSESSMENT PURPOSES ONLY. THIS DESCRIPTION OF LAND IS NOT A LEGAL PROPERTY DESCRIPTION AS DEFINED IN THE SUBDIVISION MAP ACT AND MAY NOT BE USED AS THE BASIS FOR AN OFFER FOR SALE OF THE LAND DESCRIBED.

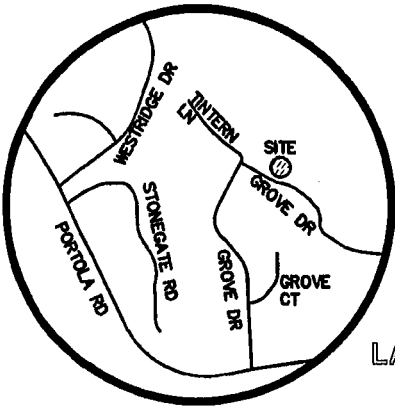
**APPROVED
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063**

EXHIBIT A PAGE 1 OF 2



**WEST BAY SANITARY DISTRICT
(315 GROVE DRIVE)**

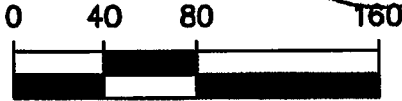
DISCLAIMER: FOR ASSESSMENT PURPOSES ONLY. THIS DESCRIPTION OF LAND IS NOT A LEGAL PROPERTY DESCRIPTION AS DEFINED IN THE SUBDIVISION MAP ACT AND MAY NOT BE USED AS THE BASIS FOR AN OFFER FOR SALE OF THE LAND DESCRIBED.



VICINITY MAP
NO SCALE

LANDS OF
PORTOLA
VALLEY
SCHOOL
DISTRICT
APN
077-240-320

LANDS
OF
PORTOLA
VALLEY
SCHOOL
DISTRICT
APN
077-240-320



SCALE: 1" = 80'

LOT 1
65 MAPS 4
APN 077-020-020

LOT 2
65 MAPS 4
1.52± ACRES
APN 079-020-030

LOT 3
65 MAPS 4
APN
077-020-040

RESOLUTION
#1166

GROVE DRIVE (50')

S63°16'00"E
30.89' (5)

R=1000.00' (4)
L=44.80'
D=2°34'00"

N65°50'00"W
41.82' (3)

POINT OF
BEGINNING

S72°29'00"E
91.52' (9)

S45°13'30"E
124.41' (10)

S69°59'00"W
106.61' (11)

S23°09'00"E
68.07' (12)

N40°02'00"E
48.20' (8)
N40°33'00"E
48.33' (7)

N21°16'29"E
339.65' (6)

121.40' (1)

S38°17'39"W

S25°29'42"W
185.06' (2)

EXHIBIT A PAGE 3 OF 1
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063

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(F) (510) 887-3019

SACRAMENTO REGION
3017 DOUGLAS BLVD, # 300
ROSEVILLE, CA 95661
(P) (916) 966-1338
(F) (916) 797-7363

WWW.LEABRAZE.COM

EXHIBIT 'B'

PLAT TO ACCOMPANY LEGAL DESCRIPTION
FOR PROPOSED SEWER ANNEXATION,
LANDS OF POUTRE AND PORTIONS OF
GROVE DRIVE, TOWN OF PORTOLA VALLEY,
SAN MATEO COUNTY, CALIFORNIA

JOB NO 2212080

SCALE: 1" = 80'

**RESOLUTION OF THE LOCAL AGENCY FORMATION COMMISSION
OF THE COUNTY OF SAN MATEO
MAKING DETERMINATIONS, APPROVING LAFCO FILE 22-04 -
ANNEXATION OF 315 GROVE DRIVE, PORTOLA VALLEY, (APN 079-020-030)
TO THE WEST BAY SANITARY DISTRICT AND THE ON-SITE WASTEWATER DISPOSAL ZONE, AND
WAIVING CONDUCTING AUTHORITY PROCEEDINGS**

RESOLVED, by the Local Agency Formation Commission of the County of San Mateo, State of California, that

WHEREAS, a proposal for the annexation of certain territory to the West Bay Sanitary District in the County of San Mateo was heretofore filed with the Executive Officer of this Local Agency Formation Commission pursuant to Title 5, Division 3, commencing with Section 56000 of the Government Code; and

WHEREAS, the Executive Officer has reviewed the proposal and prepared a report, including the recommendations thereon, the proposal and report having been presented to and considered by this Commission; and

WHEREAS, it appears to the satisfaction of this Commission that all owners of the land included in the proposal consent to the proceeding; and

WHEREAS, a public hearing by this Commission was held on the proposal and at the hearing this Commission heard and received all oral and written protests, objections and evidence which were made, presented or filed, and all persons present were given an opportunity to hear and be heard with respect to the proposal and the Executive Officer's report; and

WHEREAS, the landowners and District have requested that the Commission waive conducting authority proceedings pursuant to government code Section 56837(c); and

WHEREAS, the proposal is categorically exempt from the environmental review requirements of the California Environmental Quality Act (CEQA) under State CEQA Guidelines Section 15319(a) & (b) (Annexations of Existing Facilities and Lots for Exempt Facilities); and

NOW, THEREFORE, the Local Agency Formation Commission of the County of San Mateo DOES HEREBY RESOLVE, DETERMINE AND ORDER as follows:

Section 1. This proposal is approved, subject to the following conditions: None.

Section 2. The boundaries as set forth in the application are hereby approved as submitted and are as described in Exhibit "A" attached hereto and by this reference incorporated herein.

Section 3. The territory consists of 1.52 acres, is found to be uninhabited, and is assigned the following distinctive short form designation: Annexation of 315 Grove Drive, Portola Valley to the West Bay Sanitary District.

Section 4. Conducting authority proceedings are hereby waived in accordance with Government Code Section 56663 and this annexation is hereby ordered.

Section 5. Subsequent annexation to the On-Site Wastewater Disposal Zone is hereby approved.

APPROVED
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063

EXHIBIT B PAGE 2 OF 3

Regularly passed and adopted this 15th day of June 2022.

Ayes and in favor of said resolution:

Commissioners:

Don Horsley

Ric Lohman

Kati Martin

Harvey Rarback

Warren Slocum

Ann Draper, Vice Chair

Mike O'Neill, Chair

APPROVED
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063

EXHIBIT B PAGE 3 OF 3

Noes and against said resolution:

None

Commissioners Absent and/or Abstentions:

Commissioners:

None

Michael Davis

Chair

Local Agency Formation Commission

County of San Mateo

State of California

ATTEST:

Roberto J. Bartoliz

Executive Officer

Local Agency Formation Commission

Date: 6/15/2022

I certify that this is a true and correct copy of the resolution above set forth.

Date: _____

Clerk to the Commission

Local Agency Formation Commission

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WEST BAY SANITARY DISTRICT AGENDA ITEM 6

To: *Board of Directors*

From: *Fariborz Heydari, P.E., Project Manager*

Subject: *Consider Adopting Resolution Ordering Annexation of Certain Parcel in the Territory of West Bay Sanitary District to the West Bay Sanitary District's On-Site Wastewater Disposal Zone Including Certain Determinations, Findings and Declarations of the District Board- Land of Michael William Poutre and Janeen Michelle Poutre (315 Grove Drive, Portola Valley)*

Background

The property will utilize a Grinder Pump system; consequently this property must be annexed into the District's On-Site Wastewater Disposal Zone. The proponent shall be required to install a Grinder Pump system and connect to a WBSD force main (FM) located on Grove Drive.

Analysis

Following the Public Hearing to annex certain territory to the District's On-Site Wastewater District Disposal Zone, the attached resolution would formally complete the annexation of the referenced Land of Poutre.

Fiscal Impact

Property owners have paid all annexation fees and the fiscal impact would be additional sewer service charge revenue to the District once the parcel is connected.

Recommendation

Subject to the final review by legal counsel and the findings of the resolution holding true through the public hearing (i.e., protests by less than 35 percent of the voters and landholders), it is recommended by the Project Manager that the Board adopt the resolution as drafted.

Attachments: Resolution _____ (2023), Legal/Geographic Description, Site Map

WEST BAY SANITARY DISTRICT

RESOLUTION NO. _____ (2023)

**RESOLUTION ORDERING ANNEXATION OF CERTAIN TERRITORY OF WEST BAY
SANITARY DISTRICT TO THE WEST BAY SANITARY DISTRICT ON-SITE WASTEWATER
DISPOSAL ZONE INCLUDING CERTAIN DETERMINATIONS, FINDINGS AND
DECLARATIONS OF THE DISTRICT BOARD (LAND OF POUTRE)**

The District Board of West Bay Sanitary District determines, finds and declares as follows:

(a) The proceedings, which are the subject of the Resolution, are undertaken pursuant to Chapter 3 of Part 2 of Division 5 (commencing with Section 6950) of the California Health & Safety ("H & S") Code having to do with the formation of, and annexations to, on-site wastewater disposal zones.

(b) On October 11, 2023 the District Board approved and adopted Resolution No. 2393 (2023), "RESOLUTION OF INTENTION TO ANNEX CERTAIN TERRITORY TO THE WEST BAY SANITARY DISTRICT ON-SITE WASTEWATER DISPOSAL ZONE." Among other things, Resolution No. 2393 (2023) described the area to be annexed to the zone, the name and address of the applicant and the number, type, volume and location of on-site wastewater disposal systems proposed.

(c) Pursuant to Resolution No. 2393 (2023), a public hearing was noticed in the manner required by H&S § 6958. The public hearing was commenced on December 13, 2023 and closed on December 13, 2023.

(d) Prior to the close of the hearing, the District Board received and considered reports from the following public officials and agencies as required by law:

- i. From the Public Health and Environmental Protection Division, Health Services Agency of the County of San Mateo, a letter dated November 7, 2023, constituting the report of the local health officer specifying the matters required by H & S § 6960.1.
- ii. From the California Regional Water Quality Control Board, San Francisco Bay Region, a letter dated November 7, 2023 constituting the report of the affected regional water quality control board with regard to the matters required by H & S § 6960.1 and approving the proposed plan for wastewater disposal by the affected regional water quality control board required by H & S § 6960.4.
- iii. From San Mateo Local Agency Formation Commission, a letter by which the commission approved annexation to the District and the District's On-Site Wastewater Disposal Zone.

(e) At all times during the public hearing, the District was prepared to hear and receive any oral or written protests, objections and evidence which might be offered. No oral or written protests, objections or evidence in opposition to the proposal were made, presented or filed at any time. Therefore, pursuant to H & S § 6963, it is determined that written protests filed and not withdrawn prior to the conclusion of the public hearing represented:

- i. Less than 35 percent of the number of voters who reside in the territory to be annexed to the zone; and
- ii. Less than 35 percent of the number of owners of real property in the territory to be annexed to the zone who also own not less than 35 percent of the assessed value of real property in the territory to be annexed to the zone.

(f) The number and types of on-site wastewater disposal systems proposed to be acquired, operated, maintained and monitored in the territory to be annexed to the zone are in conformity with and do not exceed the limitations set forth in the reports referred to (d) i. and ii. above.

(g) The territory proposed for annexation to the zone contains two (2) voters as defined in the Elections Code.

(h) Operation of the zone in the territory to be annexed will not result in land uses that are not consistent with general plans, zoning ordinances or other land use regulations of the Town of Portola Valley, the County of San Mateo or any other affected public agency.

In consideration of the foregoing determinations, findings and declarations,

IT IS RESOLVED by the District Board as follows:

1. The territory described in Exhibit "A" shall be annexed to the West Bay Sanitary District On-Site Wastewater Disposal Zone.
2. This annexation shall be accomplished without an election and confirmation of voters within the area to be annexed shall not be required on the question of such annexation.
3. The exterior boundaries of the annexation shall include the same territory described in Exhibit "A" to Resolution No. 2393 (2023), which Exhibit "A" is attached to this Resolution and incorporated herein by reference.
4. There shall be one on-site wastewater disposal system serving one residential user in the territory to be annexed to the zone, which system the District will either acquire, operate, maintain or monitor, as the case may be, all as set forth in Exhibit "B" to Resolution No. 2393 (2023), which Exhibit "B" is attached to this Resolution and incorporated herein by reference.
5. Operations of the portions of the zone annexed herein shall be financed by a system of fees and charges imposed upon persons who make use of the on-site wastewater disposal system in the territory annexed to the zone. The fees and charges will be structured to take into account the actual costs of operating and administering the zone and the maintenance, repair and replacement of wastewater facilities within the

territory annexed to the zone. The fees and charges will, to the extent applicable, include the cost of transporting zone-generated wastewater to appropriate wastewater treatment facilities.

Passed and adopted by the District Board of West Bay Sanitary District at a regular meeting thereof held on the 13th day of December, 2023 by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

President of the District Board of the
West Bay Sanitary District, San
Mateo County, State of California

Attest:

Secretary of the District Board of the
West Bay Sanitary District, San Mateo
County, State of California

"EXHIBIT A"

DATE: 2-9-2022

ANNEXED TO: WEST BAY SANITARY DISTRICT

NAME OF ANNEXATION: WEST BAY SANITARY DISTRICT

**GEOGRAPHIC DESCRIPTION
LANDS OF POUTRE
AND A PORTION OF GROVE DRIVE
PROPOSED WEST BAY SANITARY DISTRICT ANNEXATION
1.52 ACRE +/- PARCEL**

ALL THAT REAL PROPERTY IN THE TOWN OF PORTOLA VALLEY, COUNTY OF SAN MATEO, STATE OF CALIFORNIA DESCRIBED AS FOLLOWS:

BEING ALL OF LOT 2, AND PORTIONS OF GROVE DRIVE, AS DESIGNATED ON THE MAP ENTITLED "STONEGATE MEADOWS", SAN MATEO COUNTY, CALIFORNIA, FILED IN THE OFFICE OF THE RECORDER OF THE COUNTY OF SAN MATEO, STATE OF CALIFORNIA ON JUNE 21, 1966 IN BOOK 65 OF MAPS AT PAGES 4 AND 5, AS SHOWN ON EXHIBIT 'B' ATTACHED HERETO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHWESTERLY CORNER OF LOT 3 AS SHOWN ON SAID MAP, THENCE SOUTH 38°17'39" WEST 121.40 FEET (1);
THENCE SOUTH 25°29'42" WEST 185.06 FEET (2) TO A POINT IN THE CENTERLINE OF GROVE DRIVE, 50 FEET IN WIDTH;
THENCE ALONG THE CENTERLINE OF SAID GROVE DRIVE, NORTH 65°50'00" WEST 41.82 FEET (3) TO THE BEGINNING OF A CURVE TO THE RIGHT WITH A RADIUS OF 1000.00 FEET;
THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 2°34'00", AN ARC LENGTH OF 44.80 FEET (4);
THENCE SOUTH 63°16'00" EAST 30.89 FEET (5);
THENCE LEAVING SAID CENTERLINE, NORTH 21°16'29" EAST 339.65 FEET (6);
THENCE NORTH 03°39'00" EAST 73.04 FEET (7);
THENCE NORTH 40°02'00" EAST 48.20 FEET (8);
THENCE SOUTH 72°29'00" EAST 91.52 FEET (9);
THENCE SOUTH 45°13'30" EAST 124.41 FEET (10);
THENCE SOUTH 69°59'00" WEST 106.61 FEET (11);
THENCE SOUTH 23°09'00" EAST 68.07 FEET (12) TO **POINT OF BEGINNING**.

CONTAINING 1.52 ACRES +/-

FOR ASSESSMENT PURPOSES ONLY. THIS DESCRIPTION OF LAND IS NOT A LEGAL PROPERTY DESCRIPTION AS DEFINED IN THE SUBDIVISION MAP ACT AND MAY NOT BE USED AS THE BASIS FOR AN OFFER FOR SALE OF THE LAND DESCRIBED.

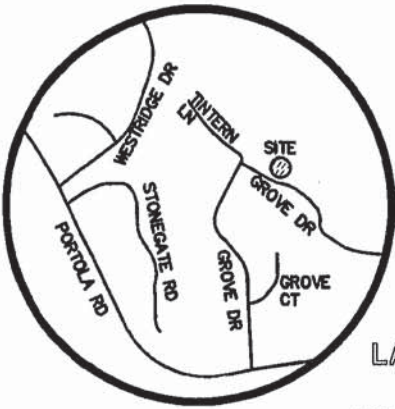
**APPROVED
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063**

EXHIBIT A PAGE 1 OF 2



**WEST BAY SANITARY DISTRICT
(315 GROVE DRIVE)**

DISCLAIMER: FOR ASSESSMENT PURPOSES ONLY. THIS DESCRIPTION OF LAND IS NOT A LEGAL PROPERTY DESCRIPTION AS DEFINED IN THE SUBDIVISION MAP ACT AND MAY NOT BE USED AS THE BASIS FOR AN OFFER FOR SALE OF THE LAND DESCRIBED.



VICINITY MAP
NO SCALE



SCALE: 1" = 80'

EXHIBIT A PAGE 3 OF 2

APPROVED
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063

DRIVE (50')

RESOLUTION
#1166

GROVE DRIVE (50')

LOT 1
65 MAPS 4
APN 077-020-020

LOT 2
65 MAPS 4
1.52± ACRES
APN 079-020-030

LOT 3
65 MAPS 4
APN 077-020-040

**LANDS OF
PORTOLA
VALLEY
SCHOOL
DISTRICT**
APN
077-240-320

**LANDS OF
PORTOLA
VALLEY
SCHOOL
DISTRICT**
APN
077-240-320

S72°29'00"E
91.52' (9)
N40°02'00"E
48.20' (8)
N03°39'00"E
73.04' (7)

S45°13'30"E
124.41' (10)

S69°59'00"W
106.61' (11)

S23°09'00"E
68.07' (12)

POINT OF
BEGINNING

(1)

121.40'

S38°17'39"W

(2)

185.06'

S25°29'42"W

(3)

41.82'

N65°50'00"W

(4)

30.89'

S63°16'00"E

(5)

339.65'

N21°16'29"E

(6)

339.65'

S63°16'00"E

(7)

30.89'

S63°16'00"E

(8)

30.89'

S63°16'00"E

(9)

91.52'

S72°29'00"E

(10)

124.41'

S45°13'30"E

(11)

106.61'

S69°59'00"W

(12)

68.07'

S23°09'00"E

(13)

121.40'

S38°17'39"W

(14)

185.06'

S25°29'42"W

(15)

41.82'

N65°50'00"W

(16)

EXHIBIT 'B'

**PLAT TO ACCOMPANY LEGAL DESCRIPTION
FOR PROPOSED SEWER ANNEXATION,
LANDS OF POUTRE AND PORTIONS OF
GROVE DRIVE, TOWN OF PORTOLA VALLEY,
SAN MATEO COUNTY, CALIFORNIA**

JOB NO 2212080

SCALE: 1" = 80'

BAY AREA REGION
2495 INDUSTRIAL PKWY WEST
HAYWARD, CALIFORNIA 94545
(P) (510) 887-4086
(F) (510) 887-3019

SACRAMENTO REGION
3017 DOUGLAS BLVD, # 300
ROSEVILLE, CA 95661
(P) (916) 966-1338
(F) (916) 797-7363

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COUNTY OF SAN MATEO

Heather Forshey, MS, REHS
Director

Environmental Health Services
San Mateo County Health
2000 Alameda de las Pulgas
Suite 100
San Mateo, CA 94403
smchealth.org

November 7, 2023

APN 079-020-090

Todd Reese
West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Dear Mr. Reese:

**SUBJECT: ANNEXATION, 315 GROVE DRIVE, PORTOLA VALLEY,
APN 079-020-090**

Thank you for the November 7, 2023, letter of *Intention to Annex Certain Territory* to District's On-Site Wastewater Disposal Zone for the subject parcel. County Environmental Health has reviewed the letter of intent and has no objection to the annexation of this parcel into the District's on-site wastewater disposal zone. The existing onsite wastewater treatment systems (OWTS) must be destroyed under permit with Environmental Health upon connection to the West Bay system.

Should you have any questions, please call me at (650) 372-6279.

Sincerely,

Supervisor Water Protection and Land Use Programs

cc: Planning Director, Town of Portola Valley



SAN MATEO
COUNTY HEALTH

San Francisco Bay Regional Water Quality Control Board

November 7, 2023
File: CW-255833

Bill Kitajima (bkitajima@westbaysanitary.org)
Projects & IT Manager
West Bay Sanitary District
500 Laurel Street
Menlo Park, California 94025-3486

Approval to Annex Certain Territory (Lands of Poutre) to the West Bay Sanitary District On-Site Wastewater Disposal Zone: APN: 079-020-190

Dear Bill Kitajima:

The Regional Water Board hereby approves the annexation of the subject parcel to the On-Site Wastewater Disposal Zone of the West Bay Sanitary District (District). The property owners applied to the District for annexation “for the purpose of obtaining sewer service for a single-family residence.” To connect to existing District sewer facilities, the property owners require a Grinder Pump System that the District must maintain. Therefore, this parcel must be annexed into the District's disposal zone.

The Regional Water Board's approval is conditional upon the District (1) retaining responsibility for operation and maintenance of the grinder pump system, and (2) ensuring the proper operation and maintenance of the other sewerage facilities serving the parcel. Disposal of sewage onto soils within the disposal zone is not approved.

If you have any questions, please contact me at (510) 622-2407, or via e-mail at gaurav.mittal@waterboards.ca.gov.

Sincerely,

Gaurav Mittal
Water Resource Control Engineer



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**WEST BAY SANITARY DISTRICT
MINUTES OF THE REGULAR MEETING OF THE DISTRICT BOARD
WEDNESDAY, NOVEMBER 8, 2023 AT 7:00 P.M.**

1. Call to Order

President Dehn called the meeting to order at 7:00 PM

Roll Call

BOARD MEMBERS PRESENT: President Dehn, Secretary Walker, Treasurer Thiele-Sardiña, Director Otte

BOARD MEMBERS ABSENT: Director Moritz

STAFF MEMBERS PRESENT: Ramirez and Heydari, AND Condotti by Zoom

Others Present: EJ Shalaby by Zoom

2. Communications from the Public: None.

3. Consent Calendar

CONSIDERATION OF ITEM(S) REMOVED FROM THE CONSENT CALENDAR

Discussion/Comments: None.

- A. Approval of Minutes for Regular Meeting October 11, 2023
- B. Approval of the Financial Activity Report Authorizing Payment of Certain Bills and Salaries and Consideration of Other Financial Matters thru October 31, 2023
- C. WBSD Operations and Maintenance Report – October 2023
- D. Town of Los Altos Hills Operations and Maintenance Report for Work Performed by WBSD – October 2023
- E. Town of Woodside Operations and Maintenance Report for Work Performed by WBSD – October 2023
- F. Consider Approving District Treasury Report Fourth Quarter FY 2022-23
- G. Consider Approving Resolution of Intention to Annex Certain Territory (118 Mapache Drive Portola Valley) to the West Bay Sanitary District On-Site Wastewater Disposal Zone and to Establish the Date and Time of Public Hearing
- H. Consider Approving Resolution of Intention to Annex Certain Territory (350 Grove Drive Portola Valley) to the West Bay Sanitary District On-Site Wastewater Disposal Zone and to Establish the Date and Time of Public Hearing

Motion to Approve by: Thiele-Sardiña 2nd by: Walker Vote: AYE: 4 NAY: 0 Abstain: 0

4. General Manager's Report

Discussion/Comments: General Manager Ramirez reported the Central Square permit system is now under implementation. He also reported the Bayfront Project tree removal will take place and will not be assessed the \$85,000 fee from the City of Menlo Park in exchange for planting twelve new trees as part of the Bayfront Recycled Water Facility landscape plan. He continued to report LAFCo will hold a hearing regarding the East Palo Alto Sanitary District on November 15th at 6pm. He reported on the Commuter benefit program in which 9 employees are participating. The program has removed 6 vehicles from the road. He continued to report that District crews installed a passive overflow pipe connecting two manholes in East Palo Alto in preparation for the anticipated heavy rainy season. The next regular meetings are November 22nd and December 13th, with the Thanksgiving lunch on November 15th and Holiday lunch on December 12th. The complete General Manager's written report is in the November 8th, 2023 agenda packet.

5. Consider Authorizing General Manager to Enter Into an Agreement for Design for the Proposed Reclaimed Water Infrastructure Within the O'Brien Drive and Menlo Park Labs (previously Menlo Business Park (MBP)) in Menlo Park

Motion to Approve by: Otte 2nd by: Walker Vote: AYE: 4 NAY: 0 Abstain: 0

Discussion/Comments: General Manager Ramirez reported the design work is for a recycled water pipeline on O'Brien Drive. The agreement will not exceed \$108,000 and is included in the entire project budgeted for \$2.5M.

6. Consider Authorizing Certain District Officers to Affect the Deposit and Withdrawal of Funds from the Local Agency Investment Fund

Motion to Approve by: Thiele-Sardiña 2nd by: Walker Vote: AYE: 4 NAY: 0 Abstain: 0

Discussion/Comments: General Manager Ramirez reported the LAIF resolution is required when making changes to the account. Changes will include adding the new title General Manager, removing the Projects & IT Manager and adding the Operations Superintendent.

7. Report and Discussion on Sharon Heights Recycled Water Plant

Discussion/Comments: General Manager Ramirez reported October production was 9.6MG while 7.4MG was delivered to the golf course. He also reported the Avy Altschul Pump Station panel is expected on November 17.

8. Discussion and Direction on Bayfront Recycled Water Project and Status Update

Discussion/Comments: General Manager Ramirez reported there was one response for the Bayfront Facility RFQ from Anderson Pacific and the next step is to perform the RFP. He also reported limestone has been applied to pond 3 to stabilize soil prior to sheet pile driving for the Levee Project.

9. Report, Discussion and Direction on South Bayside Waste Management Authority (SBWMA) including Solid Waste Franchise Re-Assignment

Discussion/Comments: None.

10. Report, Discussion & Direction on Silicon Valley Clean Water (SVCW) and Discussion on SVCW CIP Program and Financing

Discussion/Comments: Director Otte reported upcoming items include approval of re-building the Fixed Film Reactor which is projected to cost approximately \$35M.

11. Closed Session

Entered closed session at 8:09 p.m. Left closed session at 8:52 p.m.

- A. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION
(Cal. Govt. Code § 54956.9(d)(1))
Name of Case: 1740 Oak. Ave., LP v. West Bay Sanitary District, et al., - SMCSC
Case No. 18CIV02813
- B. THREAT TO PUBLIC SERVICES OR FACILITIES
(Cal. Govt. Code § 54957)
Consultation with: General Counsel

Reportable action: None.

12. Comments or Reports from Members of the District Board and Consider Items to be Placed on Future Agenda

Discussion/Comments: None.

13. Adjournment Time: The meeting was adjourned at 8:53 PM

Secretary

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WEST BAY SANITARY DISTRICT
Financial Activity Report
November 2023

Date: December 13, 2023

To: Board of Directors

From: Annette Bergeron, Personnel & Accounting Specialist
Debra Fisher, Finance Manager

Subject: Approve Monthly Financial Activity Report

Financial Activity for the month of November 2023.

Receipt Summary:

Commercial Deposits	198,453.77
Deposits in Transit/(Prior Period)	0.00
Returned Checks	0.00
Credit Cards	7,894.90
Franchise Fees	9,325.32
San Mateo County [Tax Roll]	0.00
Other Receipts	153,086.26
Transfers	3,050,000.00
Total Receipts	<u>3,418,760.25</u>

Withdrawal Summary

Total Checks	1,027,012.94
Total Corp Cards	13,959.81
Total Bank Wires/ACHs	1,462,976.14
External Withdrawals	2,503,948.89
Total Internal Bank Transfers	854,846.04
Total Withdrawals	<u>3,358,794.93</u>

Fund Expenditure Summary by Budget Category

100	Operations	2,225,374.40
200	Capital	237,122.91
300	Solid Waste	15,816.25
500	Recycled Water	284,465.37
800	Silicon Valley Clean Water	596,016.00
Expenditures by Fund		<u>3,358,794.93</u>

The transactions listed for November comprise multiple District checking accounts. The District separated payroll expenditures into a separate account to insulate employees from possible risk. On October 30, 2023, the District opened a new Operating account to provide security after a third party attempted to defraud the District.

Presented to West Bay Sanitary District Board of Directors for review and approval.

President _____

Secretary _____

**West Bay Sanitary District
Receipts
November 2023**

RECEIPT NUMBER	RECEIPT DATE	DESCRIPTION	AMOUNT
463271	11/1/2023	Diane & David Toole: 250 Alamos Rd, PV, SSC FY 2023-24	653.00
463272	11/1/2023	Thomas James Homes: 440 University Dr, MP, Permit	220.00
463273	11/2/2023	Elizabeth Holmes: 214 Grove Dr., PV, SSC FY 2023-24	2,226.00
463274	11/3/2023	Randall True: 4860 Alpine Rd, PV, SSC FY 2023-24	653.00
463275	11/6/2023	TJH Norcal Ilc: 848 College Ave., MP, Permit & ADU Conn	3,933.20
463276	11/6/2023	ABS Properties Intl: 115 Sausal Dr, PV, Permits & Conn Fee	16,868.00
463277	11/6/2023	Handy Plumbing Man: 1157 Marsh Rd, RC, Permit	490.00
463278	11/7/2023	Woodall Investors: 1843 Santa Cruz Ave, MP, SSC FY 2023-24	1,306.00
463279	11/8/2023	Bayshore Plumbers: 895 15th Ave, MP, Permit	490.00
463280	11/9/2023	Rebuild Green: 3 Robert S Dr, MP, Permit	220.00
463281	11/13/2023	Peninsula Innov(Meta): Recycled Water Project Mgmt 7/14/23	38,512.55
463282	11/13/2023	Clearline Pools: 70 Maple Leaf Way, Ath, Discharge Permit	749.90
463283	11/13/2023	Void	0.00
463284	11/14/2023	Georges R. Harik: 73 Hawthorne Dr, ATH, Permit & ADU	9,743.60
463285	11/14/2023	Samuel Quezada: 15 Sausal Dr, PV, SSC FY 2022-23	2,050.00
463286	11/14/2023	Miscowater: Refund Credit Inv.19938PARB 6/7/23	1,965.11
463287	11/14/2023	Void	0.00
463288	11/14/2023	Marrone & Marrone: 2 Santiago Ave, ATH, Permit & ADU Conn	7,376.40
463289	11/16/2023	Recology: SW Franchise Fee 10/2023	9,325.32
463290	11/17/2023	Paymac: Public Surplus Auction Unit 205 Van 9/2023	54,300.00
463291	11/17/2023	GS Disbursements: Ground Water Discharge 12/15/22-3/21/23	9,824.22
463292	11/17/2023	Thomas James Homes: 1220 Lemon St, MP, Permit	490.00
463293	11/17/2023	Thomas James Homes: 941 Menlo Oaks Dr, MP, Permit	490.00
463294	11/17/2023	Handy Plumbing Man: 41 Campbell Ln, MP, Permit	490.00
463295	11/20/2023	Caccia Plumbing Inc.: 1311 American Way, MP, Permit	490.00
463296	11/20/2023	Thomas James Homes: 491 Middle Ct, MP, Permit	490.00
463297	11/20/2023	Rebuild Green: 178 Atherton Ave, Ath, Permit	220.00
463298	11/20/2023	Thomas James Homes: 972 Olive St, MP, Permit	490.00
463299	11/20/2023	Samuel C Sinnott: 1111 Cotton St, MP, Permit	710.00
463300	11/20/2023	Keneth Eg: 917 Florence Ln, MP, Permit	490.00
463301	11/20/2023	Leah Fine: 20 Toro Ct, PV, SSC FY 2023-24	1,113.00
463302	11/20/2023	SHGCC: O&M 11/2023, SRF Loan # 8, Avy PS Legal 7/2023-8/2023	114,093.49
463303	11/27/2023	Iac-Pv Ilc: 4388 Alpine Rd, PV, Permit & Conn Fee (1831 gpd)	79,496.24
463304	11/27/2023	Viam Builders: 2308 Loma Prieta, MP, C1 Permit & ADU	6,946.00
463305	11/28/2023	June Melgar: 4388 Alpine Rd, PV, Permit	220.00
463306	11/28/2023	WBSD: Transfer LAIF to PR Acct.	800,000.00
463307	11/29/2023	Bayshore Plumbers: 206 Mckendry Dr, MP, Permit	490.00
463308	11/30/2023	Matthew Juelsgaard: 1065/1165 Los Trancos Rd, PV, Annex Fee	655.00
463309-463312	12/1/2023	December 2023 Receipts	0.00
463313	11/1/2023	WBSD: Transfer LAIF to BMO Ck Acct	750,000.00
463314	11/9/2023	WBSD: Transfer LAIF to BMO Equipment Acct (for BMO Ops)	1,500,000.00
463315	11/7/2023	ADP: Refund Outstanding PR Check#08068148, 5/3/23	480.22
Total Receipts			\$3,418,760.25

West Bay Sanitary District
Financial Activity Report
Withdrawals
November 2023

Check	Date	Payee	Purpose	Amount
70871	11/9/2023	Mallory Co.	Void: AED Pads 7/2023	(62.97)
71111	11/8/2023	Pier 2 Marketing	Q3 Quarterly Website Maintenance 6/2023	500.00
71112	11/9/2023	A-A Lock & Alarm	Maint. Rear Door Lever Replaced 9/2023	1,844.22
71113	11/9/2023	Matheson Tri-Gas	Tank Rentals 10/2023	94.03
71114	11/9/2023	Atchison, Barisone & Condotti	Legal Services 9/2023	9,334.65
71115	11/9/2023	Bay Alarm	UL Certificate Fees 10/2023	285.66
71116	11/9/2023	CDW GOVERNMENT	Office 365 G1 License for New Maintenance Workers 8/2023	84.44
71117	11/9/2023	CSDA	Annual Membership 2024	9,275.00
71118	11/9/2023	CWEA	CWEA Membership, Cert, & Test Fees - Lisandro M, R. Sandoval, D. Nanni, J.Beyer, R. Hi	1,559.00
71119	11/9/2023	California Car Sounds	Unit 229 Safety Lights 9/2023	2,039.80
71120	11/9/2023	California Water Service	Water Service - Stowe Ln 9/22/23-10/20/23	41.54
71121	11/9/2023	CalPERS LongTerm Care Program	LTC withholding 10/16/23-10/31/23	67.27
71122	11/9/2023	Cintas	Uniform Service 10/25/23 11/1/23	2,079.14
71123	11/9/2023	Cleanserv Universal Services	Janitorial Service 11/2023	1,075.00
71124	11/9/2023	Core & Main	Couplers & Supplies 10/2023 11/2023	2,098.94
71125	11/9/2023	D & L Supply	Manhole Frame and Cover with Gasket 10/2023	3,899.02
71126	11/9/2023	Dolphin Graphics	West Bay Gear 10/2023	2,223.00
71127	11/9/2023	FedEx	FedEx: Detection Instruments 10/18/2023	215.07
71128	11/9/2023	Navia Benefit Solutions	Commuter & FSA Fees 10/2023 & FSA Contributions PR 11/03/23	1,392.69
71129	11/9/2023	Freyer & Laureta	Stowe Lane PS & Willow Road PS, Staff Augmentation 9/2023	78,421.25
71130	11/9/2023	Freyer & Laureta	Point Repair Phase 1- Construction Support, Levee Design 9/2023	63,053.90
71131	11/9/2023	Granite Rock Company	Recycled Base Rock, Asphalt, Concrete Materials 9/2023 10/2023 11/2023	2,246.27
71132	11/9/2023	HF&H Consultants	Solid Waste Rate Study 9/2023	15,816.25
71133	11/9/2023	Harben California	Harben Pump Repair & Parts 10/2023	6,402.27
71134	11/9/2023	Void		0.00
71135	11/9/2023	Home Depot Credit Services	Operating Supplies 10/2023	1,911.38
71136	11/9/2023	Ieda	Consulting Fees 11/2023	814.00
71137	11/9/2023	Instrument Technology Corp.	Replacement Wheels for Push Camera 8/2023	60.16
71138	11/9/2023	Interstate Traffic Control	Traffic Control Signs (6) 10/2023	45.94
71139	11/9/2023	Kone Pasadena	Elevator Maintenance 11/2023	319.60
71140	11/9/2023	Mallory Co.	New AED & Pads 7/2023 & PPE Supplies 10/2023	7,150.98
71141	11/9/2023	Mccrometer Inc.	Flo-Dar Maintenance Contract 10/2023	12,993.75
71142	11/9/2023	City Of Menlo Park - Water Svc	Water Service - Hamilton Ave 9/15/23-10/20/23	50.68
71143	11/9/2023	City Of Menlo Park - Fuel	District Vehicles Fuel 10/2023	7,630.03
71144	11/9/2023	Napa Auto Parts	Heavy Duty Battery 11/2023	215.08
71145	11/9/2023	Occasions, Etc.	Anniversary Gifts 2023 & Retiree Plaque 2021, 2022	250.17
71146	11/9/2023	Void		0.00
71147	11/9/2023	Void		0.00
71148	11/9/2023	Void		0.00
71149	11/9/2023	PBM	Supplies for Rehabilitation Dept	4,212.49
71150	11/9/2023	Pier 2 Marketing	Website Maintenance Q4 2023	500.00
71151	11/9/2023	Ranger Pipelines	Bayfront Park Sanitary Sewer Improvement Project 1761.8	97,917.76
71152	11/9/2023	Void		0.00
71153	11/9/2023	Samuel M. Rose	SOP 9/15/23-11/3/23	360.00
71154	11/9/2023	Seekzen Systems	IT Consulting Service 10/2023	475.00
71155	11/9/2023	Silicon Valley Clean Water	Weekend Coliform Sampling - SVCW - SHRWF 9/2023	525.00
71156	11/9/2023	Towne Ford	Vehicle Repair 10/2023	6,234.07
71157	11/9/2023	MISCOwater	Chemical Pump Rebuild Kit (2) - SHRWF 10/2023	647.13
71158	11/9/2023	Underground Republic Water	Pipe Materials, ARC Couplers and Fittings 10/2023	9,264.28
71159	11/9/2023	Univar Solutions USA	12.5% Sodium Hypochlorite & Sodium Hydroxide (Caustic) for SHRWF 10/2023	5,799.89
71160	11/9/2023	Trojan Technologies Group ULC	UV Lamp Replacement - SHRWF 10/2023	30,576.68
71161	11/9/2023	V.W. Housen & Associates	Master Plan Update 9/2023	46,560.50
71162	11/9/2023	Verizon Wireless	District Cellphones 9/16/23-10/15/23; SHRWF Communications 10/2/23-11	1,694.14
71163	11/9/2023	West Yost & Associates	Grant Funding Services - USBR Title XVI WIIN 9/9/23-10/6/23	833.75
71164	11/15/2023	Void		0.00
71165	11/9/2023	Void		0.00
71166	11/9/2023	Void		0.00
71167	11/9/2023	Void		0.00
71168	11/9/2023	Void		0.00
71169	11/9/2023	Void		0.00
71170	11/9/2023	Void		0.00
71171	11/9/2023	Void		0.00
71172	11/15/2023	George Sanchez III	Misc. Expense - District Anniversary 11/2023	300.00
71173	11/16/2023	Veolia Water North America	Water Service - 1805 Purdue Ave 10/2/23-11/1/23	64.55
71174	11/16/2023	CSRMA c/o Alliant Insurance	Vehicle Insurance Premium Adj. 07/2023-09/2023	323.00

**West Bay Sanitary District
Financial Activity Report
Withdrawals
November 2023**

71175	11/16/2023	California Water Service	Water Service -Sept-Oct 2023	1,690.24
71176	11/16/2023	Calpers Longterm Care Program	LTC Withholding 11/1/23-11/15/23	67.27
71177	11/16/2023	Cintas	Uniform Service 11/8/23	1,257.88
71178	11/16/2023	Cleanserv Universal Services	Janitorial Supplies 11/2023	131.98
71179	11/16/2023	Du-All Safety, LLC	Safety Maint. Contract, SOP Dev., Electrical Safety Training 10/2023	11,848.05
71180	11/16/2023	Navia Benefit Solutions	FSA Contributions PR 11/17/23	1,192.69
71181	11/16/2023	Norcal Materials, Inc.	CDF Backfill for Newbridge St Relief Line 11/2023	1,205.34
71182	11/16/2023	Gabriel Hernandez	SHRWF Gardening Service 10/2023	300.00
71183	11/16/2023	Lisandro Marquez	Safety Boot Program PPE - L.Marquez 11/2023	250.00
71184	11/16/2023	Medco Supply Company	First Aid Supplies 10/2023	37.08
71185	11/16/2023	City Of Menlo Park - Water Svc	Water Service -Sept-Oct 2023	1,169.40
71186	11/16/2023	Morse Hydraulics	Hose & Hydraulic Fittings Replacement	1,385.41
71187	11/16/2023	Municipal Maintenance Equip.	Vehicle Equipment & Supplies 11/2023	961.92
71188	11/16/2023	D&J Gardening	Landscaping 11/2023	400.00
71189	11/16/2023	Precise Concrete Sawing, Inc.	Flat Saw - Cutting Asphalt 11/2023	708.40
71190	11/16/2023	Principal Life Insurance	Dental, Vision, Life, AD&D, Disability Ins 11/2023	7,434.16
71191	11/16/2023	Recology Peninsula Services	Recology Waste 2 Yard Bin - SHGCC 10/2023	249.39
71192	11/16/2023	Red Wing Shoe Store	Safety Boots - 11/2023	470.20
71193	11/16/2023	County Of San Mateo	LSSA Recording Fee: 560 Morey Dr, MP	20.00
71194	11/16/2023	County Of San Mateo	LSSA Recording Fee: 951 Peninsula Way, MP	20.00
71195	11/16/2023	San Mateo County Health	SMC Environmental Health Permit 11/2023	481.50
71196	11/16/2023	Sharp Business Systems	Copiers Monthly Lease 11/2023	1,279.93
71197	11/16/2023	TPX Communications	District VoIP & Fiber Service 10/2023	3,271.94
71198	11/16/2023	Teamsters Local No. 350	Union Dues 11/2023	1,098.00
71199	11/16/2023	Towne Ford	Vehicle Repair 10/2023	4,466.46
71200	11/16/2023	Vision Communications Co.	Radio Mics (12) 11/2023	1,145.63
71201	11/16/2023	Woodard & Curran	Woodside Reclaimed Water Facility Plan 8/2023	55,527.50
71202	11/16/2023	Young's Auto Supply Center	District Vehicles Auto Parts 10/2023	288.71
71203	11/21/2023	Scott Mitic	Reim Agmt: Tidmarsh	17,988.30
71204	11/21/2023	Elizabeth Holmes	Reim Agmt: Tidmarsh	42,718.94
71205	11/21/2023	Craig M. Buschbaum	Reim Agmt: Tidmarsh	48,845.85
71206	11/21/2023	John Ciancutti	Reim Agmt: Tidmarsh	52,157.11
71207	11/21/2023	Martin & Emiko Kim	Reim Agmt: Tidmarsh	52,157.11
71208	11/21/2023	George Tidmarsh & Courtney Moulds	Reim Agmt: Tidmarsh	48,845.85
71209	11/29/2023	Void		0.00
71210	11/29/2023	Pacific Gas & Electric	Electric Service - Sept-Oct 2023	24,679.65
71211	11/29/2023	AAA Rentals	Equipment Rental 10/2023	380.00
71212	11/29/2023	AT&T	Telemetry & Alarms 10/13/23-11/12/23	1,298.61
71213	11/29/2023	Airgas Usa, LLC	Tank Rentals 10/2023	59.38
71214	11/29/2023	Alpha Analytical Laboratories	Daily Coliform Samples - SHGCC RW Facility 10/2023 (bal due)	1,170.00
71215	11/29/2023	ReadyRefresh By Nestle	Water Delivery 10/1/23-10/31/23	342.19
71216	11/29/2023	BAGG Engineers	Point Repair Project Phase I Services 10/2023, Avy PS Field Services 8/2023	2,650.00
71217	11/29/2023	Bay Alarm	Alarm Monitoring Service 12/1/23-2/29/24	858.63
71218	11/29/2023	California Water Service	Water Service - Oct-Nov 2023	96.24
71219	11/29/2023	Cintas	Uniform Service 11/2023	2,636.44
71220	11/29/2023	Comcast	Internet - 2900 Sand Hill Rd 11/18/23-12/17/23	286.44
71221	11/29/2023	Core & Main	Couplers & Supplies 11/2023	887.05
71222	11/29/2023	CUES	Annual Renewal of GraniteNet Support Plan for CCTV FY 23/24	4,709.69
71223	11/29/2023	FedEx	Overnight Shipping 9/2023	69.60
71224	11/29/2023	FedEx	FedEx: LAIF 11/14/2023	39.24
71225	11/29/2023	Navia Benefit Solutions	FSA Contributions PR 12/01/23	1,192.69
71226	11/29/2023	Grainger	Small Tools New and Replacement 11/2023	945.06
71227	11/29/2023	Granite Rock Company	Base Rock, Asphalt, Concrete Materials 11/2023	542.34
71228	11/29/2023	Kone Pasadena	Elevator Maintenance 10/2023	319.60
71229	11/29/2023	R.D. Kincaide, Inc.	Pipe Patch 8/2023	14,588.44
71230	11/29/2023	Pacific Gas & Electric	Electric Service - Oct-Nov 2023	2,426.89
71231	11/29/2023	Precise Concrete Sawing, Inc.	Saw Cutting Asphalt 11/2023	500.00
71232	11/29/2023	Preferred Alliance	DOT Testing (19) 10/31/23	266.76
71233	11/29/2023	Redwood General Tire Co	Tire Purchase (1) 11/2023	273.51
71234	11/29/2023	Roadsafe Traffic Systems, Inc.	Traffic Control Setups Arrow Board (25-light solar) 10/2023	5,644.00
71235	11/29/2023	Silicon Valley Clean Water	SVCW Weekend Coliform Sampling - SHRWF 10/2023	525.00
71236	11/29/2023	Syneco Systems, Inc.	Converting Media 11/2023 - SHRWF	796.50
71237	11/29/2023	Teletrac Navman US	District Vehicles GPS 10/2023 & 11/2023	543.92
71238	11/29/2023	Leaf Capital Funding	Fujitsu Scanner Monthly Lease 11/2023	462.99
71239	11/29/2023	Verizon Wireless	District Cellphones 10/16/23-11/15/23	2,109.12
71240	11/29/2023	Vision Communications Co.	Radio Repair 10/2023 & 11/2023	3,481.96
71241	11/29/2023	Weco Industries	Sewer Cleaning Equipment Repairs 11/2023, CCTV Repair 10/2023	7,866.28
71242	11/29/2023	Woodard & Curran	Bayfront Project Management Services 9/2023	141,577.03
Checks				1,027,012.94

**West Bay Sanitary District
Financial Activity Report
Withdrawals
November 2023**

Corporate Cards:

GL	Date	Account Name	Description	Amount
12000	11/21/2023	Accounts Receivable	Amazon: H.Cortez: Ear Buds Ordered by Mistake 10/07/23	44.29
54028	11/21/2023	Commuter Benefits	Fastrak: Commuter Expense 10/18/23	1,070.00
54063	11/21/2023	Diesel Pump Stations Fuel	Chargepoint: EV Charging Unit 232 10/22/23	40.00
54080	11/21/2023	Memberships	CWEA: Safety Day Registration, Peloton Membership: Subscription	434.00
54091	11/21/2023	Stationary and Office Supplies	CSDA: 2024 Labor Law Posters (2), Staples & Costco: Office Supplies	2,377.84
54095	11/21/2023	Postage	Postable.Com: October Bday Cards, SMC Building: Document Copies	94.33
54101	11/21/2023	Ops Supplies & Materials	Operating Supplies	3,188.74
54103	11/21/2023	Vehicle & Equipment Supplies	Amazon: Adhesive Remover 10/18/23	39.36
54119	11/21/2023	Misc Contract Services	UPS Store: Notary Public 10/23/23	30.00
54121	11/21/2023	General Eng, Surveys, Studies	SMC Building: Document Copies 10/17/23	19.00
54129	11/21/2023	Recruitment	Indeed Jobs: Maint. Worker Job Posting, Safeway: Interview Panel	216.62
54133	11/21/2023	Public Outreach	Dolphin Graphics: Public Outreach 9/26/23	1,119.76
54151	11/21/2023	Fleet/Vehicle R&M	Oil Changer: Oil Service Unit 206 10/18/23	157.59
54154	11/21/2023	Mobile & Non-mobile Equip R&M	V&V Bros. RV & Trailer: New Toilet Unit 216 10/03/23	396.60
54155	11/21/2023	Alarm/Radio/Telemetry/Notific	Motorola Solutions: Unit 229 Radio Head sets 10/11/23	789.62
54158	11/21/2023	Computer Software R & M	Duo.com: MFA, Zoom: Video Conference Monthly Subscription	79.00
54159	11/21/2023	Computer Hardware R & M	Amazon: Wall & Car Charger Adapters 10/07/23	55.96
54173	11/21/2023	Dept Training & EE Development	In N Out Burger, Noah's Bagels, Rolling Pin, Safeway: Interview, Trainings	229.02
54174	11/21/2023	Mgmt Conf. & District Meetings	Costco, Safeway, Amicus, DutchGoose, Round Table, Togos: Lunch Meetings	1,132.41
54175	11/21/2023	CWEA Conf/Section Mtgs	Moxy Dwnntn Los Angeles: A.Bergerong PERS Conf. 10/01/23	772.08
54176	11/21/2023	Business Meetings	CWEA, Deluchies, Donuts, Jeffreys, Lulu's, Round Table, Starbucks: Meetings	710.04
54191	11/21/2023	Internet	Comcast: Internet SHRWF 10/07/23	186.76
54204	11/21/2023	State Water Board	OPC State WB Fees, State Water Board: SWPP Fees - Bayfront	776.79
US Bank - CalCard Payment Cards				13,959.81

Bank Transfers:

Date	Payee	Purpose	Amount
11/2/2023	Paytrace	Credit Card Processing Fees	1,637.72
11/2/2023	ADP	Payroll Taxes - Board	297.18
11/2/2023	ADP	Director Fees 10/2023	1,680.77
11/2/2023	ADP	Payroll Taxes - 11/03/2023	38,295.73
11/2/2023	ADP	Employee Payroll - Check Date: 11/03/2023	129,496.04
11/2/2023	MissionSquare	Deferred Compensation	14,825.35
11/9/2023	SVCW	SVCW Monthly Operating Contribution	596,016.00
11/9/2023	CalPERS	Retirement Contributions PR 11/03/2023	29,475.50
11/10/2023	ADP	ADP Fees	332.85
11/10/2023	CalPERS	Health Premiums	67,224.40
11/14/2023	ADP	PMPP Taxes - 11/15/2023	40,002.94
11/14/2023	ADP	Employee PMPP - Check Date: 11/15/2023	148,086.99
11/16/2023	ADP	Payroll Taxes - 11/17/2023	41,864.46
11/16/2023	ADP	Employee Payroll - Check Date: 11/17/2023	129,496.58
11/17/2023	MissionSquare	Deferred Compensation	19,099.83
11/20/2023	NeoPost	Postage	300.00
11/22/2023	BMO	Bank Fees	251.46
11/24/2023	ADP	ADP Fees	588.50
11/28/2023	Navia Benefit Solutions	Commuter Deduction Benefits 11/2023	886.10
11/28/2023	CalPERS	Retirement Contributions PR 11/17/2023	29,495.43
11/29/2023	BMO	Stop Payment Charge	35.00
11/30/2023	ADP	Payroll Taxes - 12/01/2023	43,106.64
11/30/2023	ADP	Employee Payroll - Check Date: 12/01/2023	130,480.67
Bank Wires			1,462,976.14

Date	Payee	Purpose	Amount
11/1/2023	WBSD Checking	Internal Transfers	750,000.00
11/8/2023	WBSD Checking	Internal Transfers	64,837.59
11/15/2023	WBSD Checking	Internal Transfers	40,008.45
Internal Bank Transfers			854,846.04

Summaries:

Withdrawal Summary

Total Checks	1,027,012.94
Total Corp Card	13,959.81
Total Bank Wires / ACHs	1,462,976.14
Total Internal Bank Transfers	854,846.04
Total Withdrawals	3,358,794.93

West Bay Sanitary District
Expenditures By Vendor
7/01/2023 to 11/30/2023

Withdrawals	Total by Vendor YTD FY 2023-24	Withdrawals November 2023
AAA Rentals	6,880.64	380.00
A-A Lock & Alarm	2,263.95	1,844.22
Action Towing	337.00	-
Abila	652.67	-
ADP Fees	2,768.20	921.35
Airgas Usa, LLC	229.61	59.38
The Almanac	420.00	-
Alpha Analytical Laboratories	19,262.50	1,170.00
Angel Ambriz	125.00	-
Aqua Natural Solutions	2,422.08	-
AT&T	4,809.78	1,298.61
Atchison, Barisone & Condotti	20,319.31	9,334.65
BAGG Engineers	21,095.00	2,650.00
Bank of the West	392.02	-
BMO	472.27	286.46
Battery Junction Wholesale	1,756.79	-
Bay Alarm	3,808.32	1,144.29
Bay Area Air Quality Mgmt Dist	18,491.00	-
Bay Area Paving Co.	997.00	-
Bayside Equipment Company	11,121.16	-
Annette Bergeron	340.74	-
Jed M. Beyer	91.54	-
Brilliant Homes, Inc.	8,050.00	-
CPS HR Consulting	1,395.00	-
California Water Service	8,220.98	1,828.02
CalPERS - Retirement	255,785.90	58,970.93
CalPERS - Health Premiums	261,755.11	67,224.40
CalPERS - 1959 Survivor Billing	878.40	-
CalPERS Longterm Care Program	470.89	134.54
California Car Sounds	2,039.80	2,039.80
CDW Government	84.44	84.44
Center For Hearing Health	680.00	-
Central Square Technologies	54,180.88	-
Cintas	17,373.14	5,973.46
City of Menlo Park	630.00	-
City Of Menlo Park - Fuel	28,480.88	7,630.03
City Of Menlo Park - Water Svc	3,725.01	1,220.08
Cleanserv Universal Services	4,431.98	1,206.98
Comcast	2,497.24	286.44
The Concept Genie	1,351.25	-
Core & Main	13,034.33	2,985.99
CSDA	9,275.00	9,275.00
CSRMA c/o Alliant Insurance	183,454.86	323.00
CUES	4,709.69	4,709.69
CWEA	5,652.00	1,559.00
D&J Gardening	1,600.00	400.00
D & L Supply	3,899.02	3,899.02
Detection Instruments Corp.	2,200.08	-
Dell Marketing	19,403.82	-
Dolphin Graphics	4,254.00	2,223.00
Downtown Ford Sales	129,285.38	-
Du-All Safety, LLC	23,503.05	11,848.05
FedEx	918.02	323.91
Freyer & Laureta	773,788.49	141,475.15
Frisch Engineering, Inc.	1,470.00	-
Victor Garcia	246.04	-
Golden Gate Truck Center	461.38	-
GoldStreet Design Agency	4,000.00	-
Governmentjobs.Com	4,871.92	-
Grainger	11,315.97	945.06
Granite Rock Company	2,788.61	2,788.61
John Green	775.00	-
Grundfos CBS Inc.	1,880.00	-
HF&H Consultants	15,816.25	15,816.25
H & R Plumbing & Drain	26,600.00	-
Hach Company	17,005.79	-
Hadronex	41,496.00	-
Harben California	6,688.51	6,402.27
Helix Laboratories	2,764.03	-

West Bay Sanitary District
Expenditures By Vendor
7/01/2023 to 11/30/2023

Withdrawals	Total by Vendor YTD FY 2023-24	Withdrawals November 2023
Gabriel Hernandez	1,200.00	300.00
Hillyard/San Francisco	944.89	-
Home Depot Credit Services	6,813.43	1,911.38
Bob Hulsmann	389.45	-
IEDA	3,256.00	814.00
Instrument Technology Corp.	60.16	60.16
Interstate Traffic Control	45.94	45.94
Kaz & Associates	3,000.00	-
Kimball Midwest	2,795.60	-
Kone Pasadena	1,278.40	639.20
Las Lomas Elementary Sd	49,000.00	-
Leaf Capital Funding	1,851.96	462.99
Mallory Co.	30,362.33	7,088.01
Lisandro Marquez	250.00	250.00
Matheson Tri-Gas	340.94	94.03
McCrometer Inc.	38,981.25	12,993.75
Medco Supply Company	1,178.37	37.08
MiscoWater	2,612.24	647.13
Mission Clay Products, LLC	2,769.24	-
MissionSquare	111,388.93	33,925.18
Morse Hydraulics	1,385.41	1,385.41
Municipal Maintenance Equip.	8,310.78	961.92
Napa Auto Parts	733.30	215.08
Navia Benefit Solutions	11,826.31	4,664.17
NeoPost	600.00	300.00
Carrie Nevoli - Petty Cash	108.32	-
NorCal Materials, Inc.	2,456.18	1,205.34
Occasions, Etc.	250.17	250.17
Occupational Health Centers	164.00	-
Omega Industrial Supply	4,968.70	-
Orenco Systems, Inc.	1,948.77	-
Ovivo Usa, LLC	11,171.24	-
Owen Equipment Sales	3,178.73	-
P&F Distributors	245.36	-
PBM	4,258.36	4,212.49
Pacific Gas & Electric	128,201.72	27,106.54
Paytrace	4,322.90	1,637.72
Peninsula Truck Repair	2,145.43	-
Pier 2 Marketing	1,500.00	1,000.00
Ponton Industries	2,450.00	-
Precise Concrete Sawing, Inc.	1,208.40	1,208.40
Precise Printing And Mailing	2,339.64	-
Precision Engineering	933,530.04	-
Preferred Alliance	1,130.04	266.76
Principal Life Insurance	28,873.32	7,434.16
Project Ergonomics	800.41	-
Quadient Leasing USA	536.74	-
Quincy Compressor	671.00	-
R.A. Nosek Investigations	310.00	-
R.D. Kincaide, Inc.	14,588.44	14,588.44
Ranger Pipelines	97,917.76	97,917.76
Readyrefresh By Nestle	1,737.46	342.19
Recology Peninsula Services	997.56	249.39
Red Wing Shoe Store	1,953.67	470.20
Redwood City Health & Wellness	170.50	-
Redwood General Tire Co	6,219.00	273.51
Todd Reese	62.52	-
Rich Voss Trucking	1,245.00	-
Roadsafe Traffic Systems, Inc.	5,644.00	5,644.00
Samuel M. Rose	630.00	360.00
George Sanchez III	300.00	300.00
SVCW - Monthly Operating Contribution	2,384,064.00	596,016.00
SVCW 2018 Bonds	1,249,009.22	-
SVCW 2021 A-B Bonds	2,308,386.67	-
Silicon Valley Clean Water	1,050.00	1,050.00
County of San Mateo	364.00	40.00
San Mateo County Tax Collector	1,013.24	-
San Mateo County Health	1,986.50	481.50
County of San Mateo - LAFCO	21,739.00	-

West Bay Sanitary District
Expenditures By Vendor
7/01/2023 to 11/30/2023

Withdrawals	Total by Vendor YTD FY 2023-24	Withdrawals November 2023
San Mateo Lawn Mower Shop	412.09	-
Secretary Of State	40.00	-
Seekzen Systems	2,375.00	475.00
Sensera Systems	6,295.00	-
Sharp Business Systems	4,972.42	1,279.93
Siemens Industry, Inc.	2,087.97	-
Staples Credit Plan	1,354.53	-
State Board Of Equalization	7,900.00	-
Stevens Creek Quarry	2,037.89	-
Streamline	6,600.00	-
Syneco Systems, Inc.	796.50	796.50
TPX Communications	12,970.27	3,271.94
Teamsters Local No. 350	4,138.00	1,098.00
Teletrac Navman US	1,087.84	543.92
Total Equipment Of Fremont	335.85	-
Towne Ford	16,963.16	10,700.53
Trojan Technologies Group ULC	30,576.68	30,576.68
Uline	1,416.93	-
Underground Republic Water	9,264.28	9,264.28
Underground Service Alert	14,084.29	-
Univar Solutions USA	5,799.89	5,799.89
US Bank - CalCard Payment Cards	39,909.23	13,959.81
V & A Consulting Engineers	24,278.50	-
V.W. Housen & Associates	226,257.03	46,560.50
Valley Heating & Cooling	294.00	-
Valley Power Systems North	566.92	-
Veolia Water North America	266.97	64.55
Verizon Wireless	5,592.46	3,803.26
Vision Communications Co.	6,960.06	4,627.59
Weco Industries	20,904.02	7,866.28
West Yost & Associates	16,507.25	833.75
Woodard & Curran	395,638.53	197,104.53
Young's Auto Supply Center	288.71	288.71
Zoll Medical Corporation	1,895.12	-
Cole Erskine	12,769.01	-
Andrew & Bonnie Sterngold	12,769.01	-
Rebecca Flynn & Alexander Moissis	9,046.24	-
William F. Kelly	9,046.24	-
Tedd Corman	12,769.01	-
Scott Mitic	17,988.30	17,988.30
Elizabeth Holmes	42,718.94	42,718.94
Craig M. Buschbaum	48,845.85	48,845.85
John Ciancutti	52,157.11	52,157.11
Martin & Emiko Kim	52,157.11	52,157.11
George Tidmarsh & Courtney Moulds	48,845.85	48,845.85
Total Vendor Withdrawals	10,528,734.56	1,801,140.89
<u>Wages & Payroll Taxes</u>		
Salaries/Wages - Net Pay	1,335,664.22	537,560.28
Directors Fees - Net Pay	11,233.44	1,680.77
Payroll Taxes	410,398.43	163,566.95
Total Payroll	1,757,296.09	702,808.00
Total External Withdrawals	12,286,030.65	2,503,948.89
<u>WBSD Transfers:</u>		
WBSD LAIF Account	1,700,000.00	-
WBSD Investment Accounts	-	-
Public Agency Retirement Services (PARS)	-	-
Other Transfers	859,946.04	854,846.04
Total Transfers	2,559,946.04	854,846.04
Total Withdrawals	14,845,976.69	3,358,794.93



WEST BAY SANITARY DISTRICT AGENDA ITEM 7C

To: *Board of Directors*

From: *Bob Hulsmann, Operations Superintendent*

Subject: *WBSD Operations and Maintenance Report – November 2023*

Month	Basin PM Pipe Clean- ing	High Freq. PM Pipe Clean-ing	Un-Sche. Pipe Clean- ing	WBSD CCTV Insp.	Pipe Patch Repairs	Open Trench Repairs	Pump Sta. PM	Pump Sta. Unsch. Repairs	SSO	SSO	Service Calls- Unit 208			
	Miles	Miles	Miles	Miles	Qty.	Qty.	Qty.	Qty.	Cat. 1	Cat. 2,3,4	Call Outs	Sch PM	Unsch. PM	USA's
January	7.2	4.5	1.1	3.1	6	7	78	0	0	0	103	0	0	393
February	7.2	5.3	1.4	3.7	2	10	60	0	0	1	75	12	0	324
March	15.7	0.2	0.6	4.7	7	7	67	0	0	0	71	16	0	320
April	12.1	4.4	0.4	2.7	5	9	64	0	0	1	74	4	0	305
May	10.0	7.9	0.6	3.7	5	8	75	0	0	0	64	13	0	293
June	16.1	0.1	0.3	0.7	0	12	69	0	0	0	56	9	0	350
July	9.8	5.4	0.4	5.5	12	12	64	0	0	0	44	15	0	315
August	13.4	5.4	1.2	4.7	5	6	75	0	0	0	55	4	0	351
Sept.	12.9	0.2	1.0	1.2	0	2	69	0	0	0	48	8	10	248
Oct.	11.6	4.2	0.5	1.9	3	8	68	0	0	0	81	4	0	246
Nov.	2.6	9.4	0.5	1.6	2	8	66	0	0	0	82	0	0	54
Dec														
Yr to date	118.6	47.0	8.0	33.5	47.0	89.0	755.0	0.0	0.0	2.0	753.0	85.0	10.0	####
2023 Goals	120.0	50.0	n/a	45-50	50-65	90	n/a	<10	<	4	n/a	n/a	n/a	n/a
2022 Results	120.9	53.6	7.5	**40.3	**92	100	774	0	1	2	858	97	2	3161
2021 Results	*123	*50	8.6	**46	**55	91	834	2	0	4	944	n/a	n/a	2294
2020 Results	134.2	51.0	8.4	29.6	72	85	754	6	0	0	1012	89	5	2362
2019 Results	112.0	48.2	6.9	42.7	60	86	967	6	0	4	1063	75	33	2850
2018 Results	134.2	48.5	7.4	42.1	66	63	1256	6	0	4	1139	134	89	2525
2017 Results	126.4	52	6	25	66	97	1265	8	2	3	700	178	61	3218

**** = Including TOW***

*****= Including LAH and TOW***



WEST BAY SANITARY DISTRICT AGENDA ITEM 7D

To: *Board of Directors*

From: *Bob Hulsmann, Operations Superintendent*

Subject: *Town of Los Altos Hills - Operations and Maintenance Report for Work Performed by WBSD – November 2023*

	Basin PM Pipe Clean- ing	High Freq. PM Pipe Clean- ing	Un- Sche. Pipe Clean- ing	WBSD CCTV Insp.	Pipe Patch Repairs	Pump Sta. PM	Pump Sta. Unsch. Repairs	SSO	SSO
Month								Cat. 1	Cat. 2&3s
	Miles	Miles	Miles	Miles	Qty.	Qty.	Qty.		
January-23	0.8	1.3	0.1	0.9	0	5	0	1	0
February	1.8	0.3	0.3	0.8	0	4	0	0	0
March	0.8	0.9	0.0	1.1	0	4	3	1	0
April	0.0	1.6	0.1	1.0	0	4	0	0	0
May	0.0	1.8	0.2	1.4	0	5	0	1	0
June	0.7	0.5	0.0	1.0	0	4	0	0	0
July	0.0	1.3	0.0	0.1	12	4	0	0	0
*August 23	1.0	0.8	0.0	0.5	0	4	0	0	0
Sept.	0.7	1.0	0.5	0.8	0	4	0	0	0
Oct.	0.0	1.3	0.2	0.9	0	4	0	0	0
Nov.	0.4	1.4	0.0	1.0	0	4	0	0	0
Dec	0.3	1.4	0.0	0.5	0	4	0	0	0
** Yr to date	6.5	13.6	1.4	10.0	12.0	50	3	3	0
FY23/24Goals	10.6	14.4	n/a	8.1	n/a	52	n/a	n/a	n/a

*Start of Contract

	Goal	Total	Remain
Pipe Cleaning	25	21.5	3.5
CCTV Inspection	8.1	10.0	-1.9

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WEST BAY SANITARY DISTRICT AGENDA ITEM 7E

To: *Board of Directors*

From: *Bob Hulsmann, Operations Superintendent*

Subject: *Town of Woodside Operations and Maintenance Report for Work Performed by WBSD – November 2023*



Yearly Summary Report



12/5/2023
9:52 AM

Dates Between 12/1/2022 and 11/30/2023

Month	Basin PM Pipe Cleaning (miles)	High Freq PM Pipe Cleaning (miles)	Unscheduled Pipe Cleaning (miles)	CCTV Inspection (miles)	Pump Stations Preventive Maintenance Qty	Pump Stations Unscheduled Repairs Qty	SSO Cat 1	SSO Cat 2 & 3	Service Calls Call Outs
January	0.0	0.0	0.0	0.0	8	0.0	0.0	0.0	0.0
February	0.00	0.0	0.0	0.0	8	0.0	0.0	0.0	0.0
March	0.00	0.3	0.0	0.0	8	0.0	0.0	0.0	0.0
April	0.00	0.0	0.0	1.1	8	0.0	0.0	0.0	0.0
May	0.00	0.0	0.0	0.0	8	0.0	0.0	0.0	0.0
June	0.00	0.3	0.0	0.0	8	0.0	0.0	0.0	0.0
July	0.00	0.0	0.0	0.0	8	0.0	0.0	0.0	0.0
August	0.00	0.0	0.0	0.0	8	0.0	0.0	0.0	0.0
September	0.00	0.3	0.0	0.0	8	0.0	0.0	0.0	0.0
October	0.00	0.0	0.0	0.0	8	0.0	0.0	0.0	0.0
November	0.00	0.0	0.0	0.0	8	1	0.0	0.0	0.0
December	4.42	0.0	0.0	0.0	8	0.0	1	0.0	0.0
Totals	4.42	0.8	0.0	1.1	96	1	1	0.0	0.0

Report to the District Board for the Regular Meeting of December 13, 2023

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WEST BAY SANITARY DISTRICT AGENDA ITEM 7G

To: *Board of Directors*

From: *Debra Fisher, Finance Manager*

Subject: *Monthly Investment Portfolio Statements*

Background

In October 2010 the District named Bank of the West (BMO Financial Group, effective September 5, 2023) as the District's Investment advisor and approved an investment of \$5 million in available funds to establish the Emergency Capital Reserve. Subsequently, the Board has established several additional reserves to provide financial stability for the District. Since that time, the board has revised reserve balances to align with District goals and inflation, including moving Operating Reserve to Local Agency Investment Fund (LAIF), in order to have the funds more accessible. The Operating Reserve changes each year, based on six months of Operating Expenditures from the current approved budget.

Excess funds over the current monthly expenditures are held in Local Agency Investment Fund (LAIF), which are equivalent to cash and may earn higher yields without a long-term commitment. Operating Reserves, customer deposits, current capital projects, and Solid Waste Funds are held in LAIF.

Restricted funds for Sharon Heights Golf & Country Club (SHGCC), as required for the Clean Water State Revolving Fund (SRF) loan are held in a separate restricted account.

There are currently five separate investment reserves maintained to support the goals of the District, along with reserves held in LAIF, the Vehicle & Equipment Reserve held in a money market account, and the restricted Pension Trust and Recycled Water State Revolving Fund (SRF) Reserves. Annual contributions are made in accordance with the Board approved budget and periodically evaluated.

<u>Reserve Account</u>	<u>Originated</u>	<u>Target Balance</u>	<u>Target</u>
Operating Reserve	11/26/2014	\$14 million	Achieved
Rate Stabilization Reserve	10/30/2015	\$10 million	Achieved
Treatment Plant Reserve	8/01/2021	\$12 million	Achieved
Capital Project Reserve	11/26/2014	\$8 million	Achieved
Emergency Capital Reserve	10/19/2010	\$6 million	Achieved
Recycled Water Cash Flow	11/18/2016	\$8 million	Unfulfilled
Recycled Water SRF Reserve	3/01/2018	\$1.46 million	Achieved
Vehicle & Equipment Reserve	8/18/2011	\$1 million	Achieved

Fiscal Impact

The District has approximately \$78.3 million in all reserve and bank accounts as of October 31, 2023, including restricted funds. The approved FY 2023-24 Budget includes \$3.3 million in transfers to reserve accounts.

District Funds	10/31/2023
Cash Equivalent Accounts	32,164,397
Investment Accounts - Unrestricted	43,935,377
Public Agency Retirement Services (PARS Trust)	692,132
SHGCC SRF Loan Deposit	1,518,205
Total District Funds	78,310,111

Effective July 1, 2023, the Operating Reserve target increased to \$14 million for six months of operations, based on the approved budget for Fiscal Year 2023-24. As of October 31, 2023 all reserves have reached their target balance, except the Recycled Water Cash Flow Reserve, which is approximately \$212 thousand below the target.

The monthly statement synopsis indicating the amount of each District Reserve Account in BMO Investment Portfolios are attached. Quarterly reports on the Investment Portfolios will include all investment activity details.

Recommendation

The Finance Manager recommends the District Board accept the Investment Portfolio Statements by affirming and approving the items listed in the Consent Calendar.

Attached: 2023-10 Investment Reserve Accounts



Your Account Number 000000252017

October 1, 2023 to October 31, 2023

West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Account Statement

West Bay Sanitary District Rate Stabilization Reserve Investment
Management Account

Statement Prepared by

BMO Bank N.A.

Portfolio Manager

Michael Smith

408-490-2079

Account Administrator

Ying Lee

408-645-3234

It is important for you to review the data reported in this statement. If you have any questions, please contact a member of your Client Strategy Team.

Change in the Value of Your Account_____3

Realized Gain and Loss Summary_____3

Income Summary_____3

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Your Bond Maturity Schedule_____5

Details of Assets in Your Account_____6

Your Account Activity_____11



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- *Change in the Value of Your Account*

	Oct 01, 2023 to Oct 31, 2023
Beginning Market Value	\$10,718,093.90
Bank Fees	-1,398.61
Change in Portfolio Value	
Income	23,918.63
Market Change	24,947.78
Ending Market Value	\$10,765,561.70

- *Realized Gain and Loss Summary*

	Oct 01, 2023 to Oct 31, 2023
Realized Capital Gain/Loss	\$0.00

- *Income Summary*

	Oct 01, 2023 to Oct 31, 2023
Dividends	5,855.13
Interest	18,063.50
Total Income	\$23,918.63
Estimated Annual Income:	\$208,076.27



Your Account Number 000000236010

October 1, 2023 to October 31, 2023

West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Account Statement

West Bay Sanitary District Treatment Plant Reserve Investment
Management Account

Statement Prepared by

BMO Bank N.A.

Portfolio Manager

Michael Smith

408-490-2079

Account Administrator

Ying Lee

408-645-3234

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Change in the Value of Your Account_____3

Realized Gain and Loss Summary_____3

Income Summary_____3

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• *Change in the Value of Your Account*

	Oct 01, 2023 to Oct 31, 2023
Beginning Market Value	\$12,039,192.37
Bank Fees	-1,571.01
Change in Portfolio Value	
Income	44,196.03
Market Change	17,049.60
Ending Market Value	\$12,098,866.99

• *Realized Gain and Loss Summary*

	Oct 01, 2023 to Oct 31, 2023
Realized Capital Gain/Loss	\$0.00

• *Income Summary*

	Oct 01, 2023 to Oct 31, 2023
Dividends	414.78
Interest	43,781.25
Total Income	\$44,196.03
Estimated Annual Income:	\$244,337.23



Your Account Number 000000235012

October 1, 2023 to October 31, 2023

West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Account Statement

West Bay Sanitary District Capital Project Reserve Investment
Management Account

Statement Prepared by

BMO Bank N.A.

Portfolio Manager

Michael Smith

408-490-2079

Account Administrator

Ying Lee

408-645-3234

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Change in the Value of Your Account_____3

Realized Gain and Loss Summary_____3

Income Summary_____3

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- *Change in the Value of Your Account*

	Oct 01, 2023 to Oct 31, 2023
Beginning Market Value	\$8,437,544.72
Bank Fees	-1,101.02
Change in Portfolio Value	
Income	15,726.76
Market Change	17,301.58
Ending Market Value	\$8,469,472.04

- *Realized Gain and Loss Summary*

	Oct 01, 2023 to Oct 31, 2023
Realized Capital Gain/Loss	\$0.00

- *Income Summary*

	Oct 01, 2023 to Oct 31, 2023
Dividends	4,022.18
Interest	11,704.58
Total Income	\$15,726.76
Estimated Annual Income:	\$140,390.14



Your Account Number 000001004012

October 1, 2023 to October 31, 2023

West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Account Statement

West Bay Sanitary District Emergency Capital Reserve Investment
Management Account

Statement Prepared by

BMO Bank N.A.

Portfolio Manager

Michael Smith

408-490-2079

Account Administrator

Ying Lee

408-645-3234

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Change in the Value of Your Account_____3

Realized Gain and Loss Summary_____3

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- *Change in the Value of Your Account*

	Oct 01, 2023 to Oct 31, 2023
Beginning Market Value	\$6,360,982.29
Bank Fees	-830.05
Change in Portfolio Value	
Income	14,684.48
Market Change	15,427.99
Ending Market Value	\$6,390,264.71

- *Realized Gain and Loss Summary*

	Oct 01, 2023 to Oct 31, 2023
Realized Capital Gain/Loss	\$0.00

- *Income Summary*

	Oct 01, 2023 to Oct 31, 2023
Dividends	2,992.48
Interest	11,692.00
Total Income	\$14,684.48
Estimated Annual Income:	\$100,178.28



Your Account Number 000000260010

October 1, 2023 to October 31, 2023

West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Account Statement

West Bay Sanitary District Recycled Water Cash Flow Investment
Management Account

Statement Prepared by

BMO Bank N.A.

Portfolio Manager

Michael Smith

408-490-2079

Account Administrator

Ying Lee

408-645-3234

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Change in the Value of Your Account_____3

Realized Gain and Loss Summary_____3

Income Summary_____3

Summary of Your Assets_____4

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Your Account Activity_____9



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- *Change in the Value of Your Account*

	Oct 01, 2023 to Oct 31, 2023
Beginning Market Value	\$6,172,964.23
Bank Fees	-805.52
Change in Portfolio Value	
Income	23,464.82
Market Change	15,587.78
Ending Market Value	\$6,211,211.31

- *Realized Gain and Loss Summary*

	Oct 01, 2023 to Oct 31, 2023
Realized Capital Gain/Loss	\$0.00

- *Income Summary*

	Oct 01, 2023 to Oct 31, 2023
Dividends	400.07
Interest	23,064.75
Total Income	\$23,464.82
Estimated Annual Income:	\$122,870.11

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WEST BAY SANITARY DISTRICT AGENDA ITEM 7H

To: *Board of Directors*

From: *Debra Fisher, Finance Manager*

Subject: *Monthly Investment Portfolio Statements*

Background

In October 2010 the District named Bank of the West (BMO Financial Group, effective September 5, 2023) as the District's Investment advisor and approved an investment of \$5 million in available funds to establish the Emergency Capital Reserve. Subsequently, the Board has established several additional reserves to provide financial stability for the District. Since that time, the board has revised reserve balances to align with District goals and inflation, including moving Operating Reserve to Local Agency Investment Fund (LAIF), in order to have the funds more accessible. The Operating Reserve changes each year, based on six months of Operating Expenditures from the current approved budget.

Excess funds over the current monthly expenditures are held in Local Agency Investment Fund (LAIF), which are equivalent to cash and may earn higher yields without a long-term commitment. Operating Reserves, customer deposits, current capital projects, and Solid Waste Funds are held in LAIF.

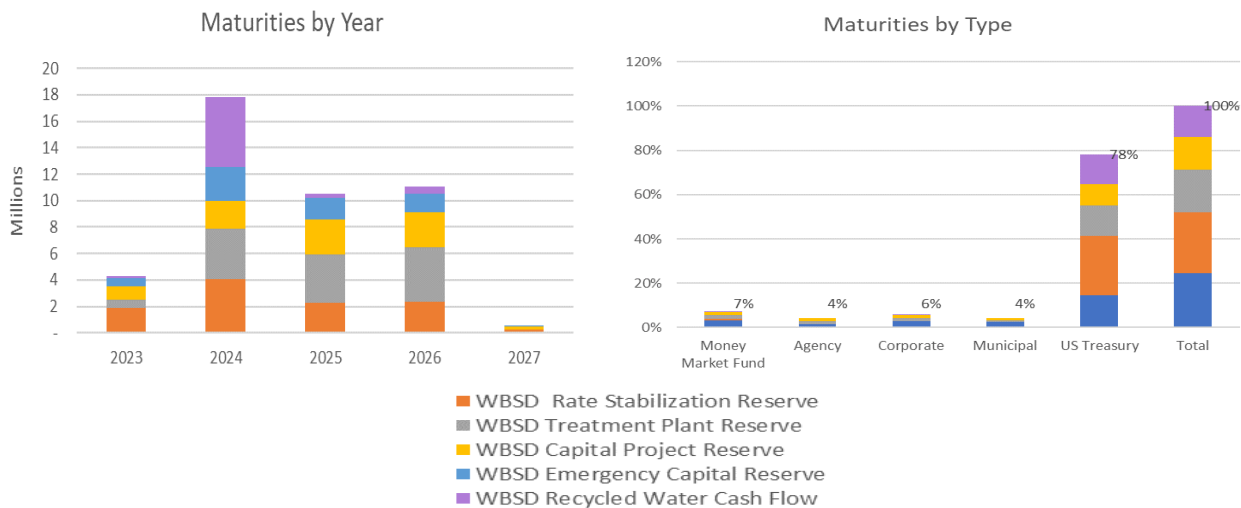
Restricted funds for Sharon Heights Golf & Country Club (SHGCC), as required for the Clean Water State Revolving Fund (SRF) loan are held in a separate restricted account.

There are currently five separate investment reserves maintained to support the goals of the District, along with reserves held in LAIF, the Vehicle & Equipment Reserve held in a money market account, and the restricted Pension Trust and Recycled Water State Revolving Fund (SRF) Reserves. Annual contributions are made in accordance with the Board approved budget and periodically evaluated.

<u>Reserve Account</u>	<u>Originated</u>	<u>Target Balance</u>	<u>Target</u>
Operating Reserve	11/26/2014	\$14 million	Achieved
Rate Stabilization Reserve	10/30/2015	\$10 million	Achieved
Treatment Plant Reserve	8/01/2021	\$12 million	Achieved
Capital Project Reserve	11/26/2014	\$8 million	Achieved
Emergency Capital Reserve	10/19/2010	\$6 million	Achieved
Recycled Water Cash Flow	11/18/2016	\$8 million	Unfulfilled
Recycled Water SRF Reserve	3/01/2018	\$1.46 million	Achieved
Vehicle & Equipment Reserve	8/18/2011	\$1 million	Achieved

Analysis

The District invests from one to five years, with 40% currently due in 2024. The majority of investments are in U.S. Treasury Notes and Bonds, accounting for 78% of all investments.



Fiscal Impact

The District has approximately \$77 million in all reserve and bank accounts as of November 30, 2023, including restricted funds. The approved FY 2023-24 Budget includes \$3.3 million in transfers to reserve accounts.

District Funds	11/30/2023
Cash Equivalent Accounts	30,463,987
Investment Accounts - Unrestricted	44,319,312
Public Agency Retirement Services (PARS Trust)	692,132
SHGCC SRF Loan Deposit	1,518,343
Total District Funds	76,993,774

Effective July 1, 2023, the Operating Reserve target increased to \$14 million for six months of operations, based on the approved budget for Fiscal Year 2023-24. As of November 30, 2023 all reserves have reached their target balance, except the Recycled Water Cash Flow Reserve, which is approximately \$165 thousand below the target.

The monthly statement synopsis indicating the amount of each District Reserve Account in BMO Investment Portfolios are attached. Quarterly reports on the Investment Portfolios will include all investment activity details.

Recommendation

The Finance Manager recommends the District Board accept the Investment Portfolio Statements by affirming and approving the items listed in the Consent Calendar.

Attached: 2023-11 Investment Reserve Accounts



West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Your Account Number 000000252017
November 1, 2023 to November 30, 2023

Account Statement

West Bay Sanitary District Rate Stabilization Reserve Investment
Management Account

Statement Prepared by	BMO Bank N.A.	
Portfolio Manager	Michael Smith	408-490-2079
Account Administrator	Ying Lee	408-645-3234

It is important for you to review the data reported in this statement. If you have any questions, please contact a member of your Client Strategy Team.

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- *Change in the Value of Your Account*

	Nov 01, 2023 to Nov 30, 2023
Beginning Market Value	\$10,765,561.70
Bank Fees	-1,403.26
Change in Portfolio Value	
Income	12,439.66
Market Change	73,368.45
Ending Market Value	\$10,849,966.55

- *Realized Gain and Loss Summary*

	Nov 01, 2023 to Nov 30, 2023
Realized Capital Gain/Loss	\$0.00

- *Income Summary*

	Nov 01, 2023 to Nov 30, 2023
Dividends	813.66
Interest	11,626.00
Total Income	\$12,439.66
Estimated Annual Income:	\$230,106.96



West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Your Account Number 000000236010
November 1, 2023 to November 30, 2023

Account Statement

West Bay Sanitary District Treatment Plant Reserve Investment
Management Account

Statement Prepared by	BMO Bank N.A.	
Portfolio Manager	Michael Smith	408-490-2079
Account Administrator	Ying Lee	408-645-3234

It is important for you to review the data reported in this statement. If you have any questions, please contact a member of your Client Strategy Team.

Change in the Value of Your Account	3
Realized Gain and Loss Summary	3
Income Summary	3
Summary of Your Assets	4
Your Bond Maturity Schedule	5
Details of Assets in Your Account	6
Your Account Activity	9



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To find the latest market and economic updates



"BMO Wealth Management" is a brand name that refers to BMO Bank N.A. and certain of its affiliates that provide certain investment, investment advisory, trust, banking, and securities products and services. Investment products and services: **ARE NOT A DEPOSIT - NOT INSURED BY THE FDIC OR ANY FEDERAL GOVERNMENT AGENCY - NOT GUARANTEED BY ANY BANK - MAY LOSE VALUE.**



- *Change in the Value of Your Account*

	Nov 01, 2023 to Nov 30, 2023
Beginning Market Value	\$12,098,866.99
Bank Fees	-1,577.05
Change in Portfolio Value	
Income	13,544.42
Market Change	100,938.30
Ending Market Value	\$12,211,772.66

- *Realized Gain and Loss Summary*

	Nov 01, 2023 to Nov 30, 2023
Realized Capital Gain/Loss	\$0.00

- *Income Summary*

	Nov 01, 2023 to Nov 30, 2023
Dividends	169.42
Interest	13,375.00
Total Income	\$13,544.42
Estimated Annual Income:	\$254,818.51



West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Your Account Number 000000235012
November 1, 2023 to November 30, 2023

Account Statement

West Bay Sanitary District Capital Project Reserve Investment
Management Account

Statement Prepared by	BMO Bank N.A.	
Portfolio Manager	Michael Smith	408-490-2079
Account Administrator	Ying Lee	408-645-3234

It is important for you to review the data reported in this statement. If you have any questions, please contact a member of your Client Strategy Team.

Change in the Value of Your Account	3
Realized Gain and Loss Summary	3
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- *Change in the Value of Your Account*

	Nov 01, 2023 to Nov 30, 2023
Beginning Market Value	\$8,469,472.04
Bank Fees	-1,103.98
Change in Portfolio Value	
Income	10,188.61
Market Change	75,377.80
Ending Market Value	\$8,553,934.47

- *Realized Gain and Loss Summary*

	Nov 01, 2023 to Nov 30, 2023
Realized Capital Gain/Loss	-\$9,670.45

- *Income Summary*

	Nov 01, 2023 to Nov 30, 2023
Dividends	1,240.00
Interest	8,948.61
Total Income	\$10,188.61
Estimated Annual Income:	\$147,288.30



West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Your Account Number 000001004012
November 1, 2023 to November 30, 2023

Account Statement

West Bay Sanitary District Emergency Capital Reserve Investment
Management Account

Statement Prepared by	BMO Bank N.A.	
Portfolio Manager	Michael Smith	408-490-2079
Account Administrator	Ying Lee	408-645-3234

It is important for you to review the data reported in this statement. If you have any questions, please contact a member of your Client Strategy Team.

Change in the Value of Your Account	3
Realized Gain and Loss Summary	3
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- *Change in the Value of Your Account*

	Nov 01, 2023 to Nov 30, 2023
Beginning Market Value	\$6,390,264.71
Bank Fees	-832.96
Change in Portfolio Value	
Income	7,057.57
Market Change	48,682.55
Ending Market Value	\$6,445,171.87

- *Realized Gain and Loss Summary*

	Nov 01, 2023 to Nov 30, 2023
Realized Capital Gain/Loss	\$0.00

- *Income Summary*

	Nov 01, 2023 to Nov 30, 2023
Dividends	995.07
Interest	6,062.50
Total Income	\$7,057.57
Estimated Annual Income:	\$104,079.78



West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Your Account Number 000000260010
November 1, 2023 to November 30, 2023

Account Statement

West Bay Sanitary District Recycled Water Cash Flow Investment
Management Account

Statement Prepared by	BMO Bank N.A.	
Portfolio Manager	Michael Smith	408-490-2079
Account Administrator	Ying Lee	408-645-3234

It is important for you to review the data reported in this statement. If you have any questions, please contact a member of your Client Strategy Team.

Change in the Value of Your Account	3
Realized Gain and Loss Summary	3
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- *Change in the Value of Your Account*

	Nov 01, 2023 to Nov 30, 2023
Beginning Market Value	\$6,211,211.31
Bank Fees	-809.62
Change in Portfolio Value	
Income	20,708.57
Market Change	27,356.58
Ending Market Value	\$6,258,466.84

- *Realized Gain and Loss Summary*

	Nov 01, 2023 to Nov 30, 2023
Realized Capital Gain/Loss	\$0.00

- *Income Summary*

	Nov 01, 2023 to Nov 30, 2023
Dividends	243.57
Interest	20,465.00
Total Income	\$20,708.57
Estimated Annual Income:	\$124,139.81

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WEST BAY SANITARY DISTRICT AGENDA ITEM 7I

To: *Board of Directors*

From: *Fariborz Heydari, P.E., Project Manager*

Subject: *Consider Resolution Consenting to Annexation of Territory to the West Bay Sanitary District by the San Mateo County Local Agency Formation Commission- 315 Grove Drive, Portola Valley (079-020-030), Land of Michael William Poutre and Janeen Michelle Poutre*

Background

The owners of the property located at 315 Grove Drive, Portola Valley, Land of Michael William Poutre and Janeen Michelle Poutre have requested the Local Agency Formation Commission (LAFCo) annex their property to the West Bay Sanitary District for the purposes of obtaining sanitary sewer service. The parcel will be using a Grinder Pump system that will need to connect to a WBSD force main (FM) located on Grove Drive.

Analysis

Attached for the Board's review is the Geographic/Legal Description (Exhibit A) of the property to be annexed, and the LAFCo Resolution No. 1291 (Exhibit B) approving the annexation.

Fiscal Impact

Property owners have paid all annexation fees, and the fiscal impact would be additional sewer service charge revenue to the District once the parcel is connected.

Recommendation

The Project Manager recommends that the District Board approve the Resolution as presented.

Attachments: Resolution _____ (2023)
Exhibit A – Geographical/Legal Description
Exhibit B – LAFCo Resolution No. 1291

RESOLUTION NO. ____ (2023)

IN THE DISTRICT BOARD OF THE WEST BAY SANITARY DISTRICT

COUNTY OF SAN MATEO, STATE OF CALIFORNIA

**A Resolution Consenting to the Annexation of Lands of Michael William Poutre and
Janeen Michelle Poutre
(APN 079-020-030) to the West Bay Sanitary District**

WHEREAS:

1. A petition for annexation of the property described herein to this District was initiated by the property owners.
2. The Local Agency Formation Commission (LAFCo) of San Mateo County assigned the following distinctive short form designation: Annexation of 315 Grove Drive, Portola Valley to the West Bay Sanitary District.
3. The property to be annexed is described as follows:
See Exhibit "A" attached hereto and by this reference made a part hereof.
5. The conditions of annexation are:
 - a. In the event that, pursuant to rules, regulations or ordinances of the District, as now or hereafter amended, the District shall require any payment of a fixed or determinable amount of money either as a lump sum or installments, for the acquisition, transfer, use or right of use of all or any part of the existing property, real or personal, of the District, such payment will be made to the District in the manner and at the time as provided by rules, regulations or ordinances of the District, as now or hereafter amended.
 - b. Upon and after the effective date of said annexation, the territory, and all persons entitled to vote by reason of residing or owning land within the territory, shall be subject to the jurisdiction of the District; shall have the same rights and duties as if the territory had been a part of the District upon its original formation; shall be liable for the payment of principal, interest and any other amounts which shall become due on account of any outstanding or then-authorized but thereafter issued bonds, including revenue bonds, or other contracts or obligations of the District; shall be subject to the levying or fixing and collection of any and all taxes, assessments, service charges, rentals or rates as may be necessary to provide for such payment; and shall be subject to all of the rates, rules, regulations and ordinances of the District, as now or hereafter amended.
6. The proposed annexation is for the interest of the landowners and present and future inhabitants within the District and within the said property to be annexed.

7. The LAFCo of San Mateo County has adopted Resolution 1291 (Exhibit “B”) ordering annexation of the referenced territory to the West Bay Sanitary District.

NOW, THEREFORE, BE IT RESOLVED that:

- a. The above described property, pursuant to the order of the San Mateo County LAFCo, is hereby annexed to the West Bay Sanitary District, and the General Manager is directed to make such distribution of this Resolution as is required by law or is desirable.
- b. Pursuant to Government Code Section 56837, the District consents to waiver conducting authority proceedings.
- c. The regular San Mateo County Assessment Roll will be used to collect sewer service charges.
- d. The territory will not be taxed for bonded indebtedness.

Passed and adopted by the District Board of the West Bay Sanitary District at a regular meeting thereof held on the 13th day of December, 2023 by the following vote:

Ayes:

Noes:

Abstain:

Absent:

President of the District Board of the West Bay
Sanitary District of San Mateo County, State of
California

Attest:

Secretary of the District Board of the West
Bay Sanitary District of San Mateo County,
State of California

"EXHIBIT A"

DATE: 2-9-2022

ANNEXED TO: WEST BAY SANITARY DISTRICT

NAME OF ANNEXATION: WEST BAY SANITARY DISTRICT

**GEOGRAPHIC DESCRIPTION
LANDS OF POUTRE
AND A PORTION OF GROVE DRIVE
PROPOSED WEST BAY SANITARY DISTRICT ANNEXATION
1.52 ACRE +/- PARCEL**

ALL THAT REAL PROPERTY IN THE TOWN OF PORTOLA VALLEY, COUNTY OF SAN MATEO, STATE OF CALIFORNIA DESCRIBED AS FOLLOWS:

BEING ALL OF LOT 2, AND PORTIONS OF GROVE DRIVE, AS DESIGNATED ON THE MAP ENTITLED "STONEGATE MEADOWS", SAN MATEO COUNTY, CALIFORNIA, FILED IN THE OFFICE OF THE RECORDER OF THE COUNTY OF SAN MATEO, STATE OF CALIFORNIA ON JUNE 21, 1966 IN BOOK 65 OF MAPS AT PAGES 4 AND 5, AS SHOWN ON EXHIBIT 'B' ATTACHED HERETO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHWESTERLY CORNER OF LOT 3 AS SHOWN ON SAID MAP, THENCE SOUTH 38°17'39" WEST 121.40 FEET (1);
THENCE SOUTH 25°29'42" WEST 185.06 FEET (2) TO A POINT IN THE CENTERLINE OF GROVE DRIVE, 50 FEET IN WIDTH;
THENCE ALONG THE CENTERLINE OF SAID GROVE DRIVE, NORTH 65°50'00" WEST 41.82 FEET (3) TO THE BEGINNING OF A CURVE TO THE RIGHT WITH A RADIUS OF 1000.00 FEET;
THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 2°34'00", AN ARC LENGTH OF 44.80 FEET (4);
THENCE SOUTH 63°16'00" EAST 30.89 FEET (5);
THENCE LEAVING SAID CENTERLINE, NORTH 21°16'29" EAST 339.65 FEET (6);
THENCE NORTH 03°39'00" EAST 73.04 FEET (7);
THENCE NORTH 40°02'00" EAST 48.20 FEET (8);
THENCE SOUTH 72°29'00" EAST 91.52 FEET (9);
THENCE SOUTH 45°13'30" EAST 124.41 FEET (10);
THENCE SOUTH 69°59'00" WEST 106.61 FEET (11);
THENCE SOUTH 23°09'00" EAST 68.07 FEET (12) TO **POINT OF BEGINNING**.

CONTAINING 1.52 ACRES +/-

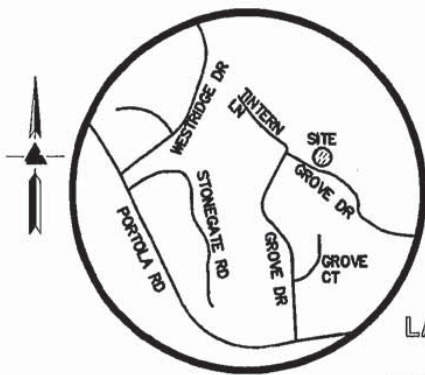
FOR ASSESSMENT PURPOSES ONLY. THIS DESCRIPTION OF LAND IS NOT A LEGAL PROPERTY DESCRIPTION AS DEFINED IN THE SUBDIVISION MAP ACT AND MAY NOT BE USED AS THE BASIS FOR AN OFFER FOR SALE OF THE LAND DESCRIBED.

APPROVED
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063
EXHIBIT A PAGE 1 OF 2



**WEST BAY SANITARY DISTRICT
(315 GROVE DRIVE)**

DISCLAIMER: FOR ASSESSMENT PURPOSES ONLY. THIS DESCRIPTION OF LAND IS NOT A LEGAL PROPERTY DESCRIPTION AS DEFINED IN THE SUBDIVISION MAP ACT AND MAY NOT BE USED AS THE BASIS FOR AN OFFER FOR SALE OF THE LAND DESCRIBED.



VICINITY MAP
NO SCALE



SCALE: 1" = 80'

EXHIBIT A PAGE 3 OF 2

**APPROVED
GROVE DRIVE (50')**
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063

LANDS OF
PORTOLA VALLEY
SCHOOL DISTRICT
APN
077-240-320

LANDS OF
PORTOLA VALLEY
SCHOOL DISTRICT
APN
077-240-320

LOT 2
65 MAPS 4
1.52± ACRES
APN 079-020-030

LOT 3
65 MAPS 4
APN
077-020-040

LOT 1
65 MAPS 4
APN 077-020-020

RESOLUTION
#1166

GROVE DRIVE (50')

S63°16'00"E
30.89' (5)

R=1000.00' (4)
L=44.80'
D=2°34'00"

N65°50'00"W
41.82' (3)

POINT OF
BEGINNING

S25°29'42"W
185.06' (2)

S45°13'30"E
124.41' (10)

S69°59'00"W
106.61' (11)

S23°09'00"E
68.07' (12)

S72°29'00"E
91.52' (9)

N40°02'00"E
48.20' (8)

N03°39'00"E
73.04' (7)

N21°16'29"E
339.65' (6)

S38°17'39"W
121.40' (1)

EXHIBIT 'B'

PLAT TO ACCOMPANY LEGAL DESCRIPTION
FOR PROPOSED SEWER ANNEXATION,
LANDS OF POUTRE AND PORTIONS OF
GROVE DRIVE, TOWN OF PORTOLA VALLEY,
SAN MATEO COUNTY, CALIFORNIA

JOB NO 2212080

SCALE: 1" = 80'

BAY AREA REGION
2495 INDUSTRIAL PKWY WEST
HAYWARD, CALIFORNIA 94545
(P) (510) 887-4086
(F) (510) 887-3019

SACRAMENTO REGION
3017 DOUGLAS BLVD, # 300
ROSEVILLE, CA 95661
(P) (916) 966-1338
(F) (916) 797-7363

WWW.LEABRAZE.COM

2022-065239 CONF

9:35 am 09/06/2022 CCL Fee: NO FEE

Count of Pages 7

Recorded in Official Records

County of San Mateo

Mark Church

Assessor-County Clerk-Recorder



(This space for recorder's use only)

RECORDING REQUESTED BY:

SAN MATEO LAFCO
LOCAL AGENCY FORMATION COMMISSION

WHEN RECORDED, PLEASE SEND TO:

San Mateo LAFCo

LAF 124

SHORT-FORM DESIGNATION OF DOCUMENT:

Annexation of 315 Grove Drive, Portola Valley to the West Bay Sanitary District

RECORDER'S CODE: CCL

(Exempt from filing fees per Government Code 6103)



LOCAL AGENCY FORMATION COMMISSION

455 COUNTY CENTER, 2ND FLOOR • REDWOOD CITY, CA 94063-1663 • PHONE (650) 363-4224 • FAX (650) 363-4849

CERTIFICATE OF COMPLETION

Pursuant to Government Code Section 57200, this Certificate is issued by the Executive Officer of the Local Agency Formation Commission of San Mateo County, California.

1. The short-form designation, as determined by LAFCo, is Annexation of 315 Grove Drive, Portola Valley to the West Bay Sanitary District.
2. The name of each district or city involved in this change of organization or reorganization and the kind or type of change of organization ordered for each city or district are as follows:

City or District

Type of Change of Organization

West Bay Sanitary District

Annexation

3. The above-listed cities and/or districts are located within the following counties: San Mateo County and Santa Clara County.
4. A description of the boundaries of the above-cited change of organization or reorganization is shown on the attached map, marked Exhibit A and by reference incorporated herein.
5. The territory involved in this change of organization or reorganization is uninhabited.
6. This change of organization has been approved subject to the following terms and conditions, if any: None.
7. The resolution confirming this change of organization was adopted on June 15, 2022 by LAFCo, is marked Exhibit B, and by reference incorporated herein.

I hereby certify that I have examined the above-cited resolution, including any terms and conditions, and the map description and have found these documents to be in compliance with Resolution 1291, adopted on June 15, 2022.

Dated: September 6, 2022

A handwritten signature in black ink that reads "Roberto Bartoli".

Roberto Bartoli
Executive Officer

COMMISSIONERS: MIKE O'NEILL, CHAIR, CITY • ANN DRAPER, VICE CHAIR, PUBLIC • HARVEY RARBACK, CITY • DON HORSLEY, COUNTY
• WARREN SLOCUM, COUNTY • KATI MARTIN, SPECIAL DISTRICT • RIC LOHMAN, SPECIAL DISTRICT

ALTERNATES: VACANT, SPECIAL DISTRICT • DIANA REDDY, CITY • JAMES O'NEILL, PUBLIC • DAVE PINE, COUNTY

STAFF: ROB BARTOLI, EXECUTIVE OFFICER • TIM FOX, LEGAL COUNSEL • ANGELA MONTES, CLERK

"EXHIBIT A"

DATE: 2-9-2022

ANNEXED TO: WEST BAY SANITARY DISTRICT

NAME OF ANNEXATION: WEST BAY SANITARY DISTRICT

**GEOGRAPHIC DESCRIPTION
LANDS OF POUTRE
AND A PORTION OF GROVE DRIVE
PROPOSED WEST BAY SANITARY DISTRICT ANNEXATION
1.52 ACRE +/- PARCEL**

ALL THAT REAL PROPERTY IN THE TOWN OF PORTOLA VALLEY, COUNTY OF SAN MATEO, STATE OF CALIFORNIA DESCRIBED AS FOLLOWS:

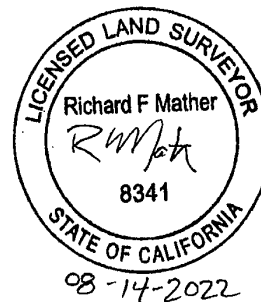
BEING ALL OF LOT 2, AND PORTIONS OF GROVE DRIVE, AS DESIGNATED ON THE MAP ENTITLED "STONEGATE MEADOWS", SAN MATEO COUNTY, CALIFORNIA, FILED IN THE OFFICE OF THE RECORDER OF THE COUNTY OF SAN MATEO, STATE OF CALIFORNIA ON JUNE 21, 1966 IN BOOK 65 OF MAPS AT PAGES 4 AND 5, AS SHOWN ON EXHIBIT 'B' ATTACHED HERETO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST NORTHWESTERLY CORNER OF LOT 3 AS SHOWN ON SAID MAP, THENCE SOUTH 38°17'39" WEST 121.40 FEET (1);
THENCE SOUTH 25°29'42" WEST 185.06 FEET (2) TO A POINT IN THE CENTERLINE OF GROVE DRIVE, 50 FEET IN WIDTH;
THENCE ALONG THE CENTERLINE OF SAID GROVE DRIVE, NORTH 65°50'00" WEST 41.82 FEET (3) TO THE BEGINNING OF A CURVE TO THE RIGHT WITH A RADIUS OF 1000.00 FEET;
THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 2°34'00", AN ARC LENGTH OF 44.80 FEET (4);
THENCE SOUTH 63°16'00" EAST 30.89 FEET (5);
THENCE LEAVING SAID CENTERLINE, NORTH 21°16'29" EAST 339.65 FEET (6);
THENCE NORTH 03°39'00" EAST 73.04 FEET (7);
THENCE NORTH 40°02'00" EAST 48.20 FEET (8);
THENCE SOUTH 72°29'00" EAST 91.52 FEET (9);
THENCE SOUTH 45°13'30" EAST 124.41 FEET (10);
THENCE SOUTH 69°59'00" WEST 106.61 FEET (11);
THENCE SOUTH 23°09'00" EAST 68.07 FEET (12) TO **POINT OF BEGINNING**.

CONTAINING 1.52 ACRES +/-

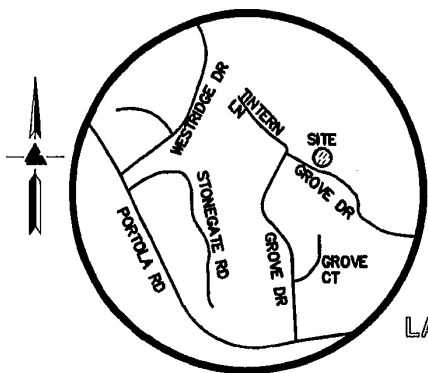
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APPROVED
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063
EXHIBIT A PAGE 1 OF 2

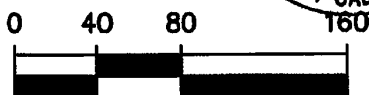


**WEST BAY SANITARY DISTRICT
(315 GROVE DRIVE)**

DISCLAIMER: FOR ASSESSMENT PURPOSES ONLY. THIS DESCRIPTION OF LAND IS NOT A LEGAL PROPERTY DESCRIPTION AS DEFINED IN THE SUBDIVISION MAP ACT AND MAY NOT BE USED AS THE BASIS FOR AN OFFER FOR SALE OF THE LAND DESCRIBED.



VICINITY MAP
NO SCALE



SCALE: 1" = 80'

EXHIBIT A PAGE 3 OF 2

APPROVED
REDWOOD DRIVE (50')
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063

LANDS OF
PORTOLA VALLEY
SCHOOL DISTRICT
APN
077-240-320

LANDS OF
PORTOLA VALLEY
SCHOOL DISTRICT
APN
077-240-320

LOT 2
65 MAPS 4
1.52± ACRES
APN 079-020-030

LOT 3
65 MAPS 4
APN
077-020-040

LOT 1
65 MAPS 4
APN 077-020-020

RESOLUTION
#1166

GROVE DRIVE (50')

S63°16'00"E
30.89' (5)

R=1000.00' (4)
L=44.80'
D=2°34'00"

N65°50'00"W
41.82' (3)

S25°29'42"W
185.06' (2)

S45°13'30"E
124.41' (10)

S69°59'00"W
106.61' (11)

S23°09'00"E
68.07' (12)

POINT OF
BEGINNING

S72°29'00"E
91.52' (9)
N40°02'00"E
48.20' (8)
N03°33'00"E
44.30' (7)
N21°16'29"E
339.65' (6)

EXHIBIT 'B'

PLAT TO ACCOMPANY LEGAL DESCRIPTION
FOR PROPOSED SEWER ANNEXATION,
LANDS OF POUTRE AND PORTIONS OF
GROVE DRIVE, TOWN OF PORTOLA VALLEY,
SAN MATEO COUNTY, CALIFORNIA

JOB NO 2212080

SCALE: 1" = 80'

BAY AREA REGION
2495 INDUSTRIAL PKWY WEST
HAYWARD, CALIFORNIA 94545
(P) (510) 887-4086
(F) (510) 887-3019

SACRAMENTO REGION
3017 DOUGLAS BLVD, # 300
ROSEVILLE, CA 95661
(P) (916) 966-1338
(F) (916) 797-7363

WWW.LEABRAZE.COM

APPROVED
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063

LAFCo File No. 22-04

EXHIBIT B PAGE 1 OF 3

RESOLUTION NO. 1291

**RESOLUTION OF THE LOCAL AGENCY FORMATION COMMISSION
OF THE COUNTY OF SAN MATEO
MAKING DETERMINATIONS, APPROVING LAFCO FILE 22-04 -
ANNEXATION OF 315 GROVE DRIVE, PORTOLA VALLEY, (APN 079-020-030)
TO THE WEST BAY SANITARY DISTRICT AND THE ON-SITE WASTEWATER DISPOSAL ZONE, AND
WAIVING CONDUCTING AUTHORITY PROCEEDINGS**

RESOLVED, by the Local Agency Formation Commission of the County of San Mateo, State of California, that

WHEREAS, a proposal for the annexation of certain territory to the West Bay Sanitary District in the County of San Mateo was heretofore filed with the Executive Officer of this Local Agency Formation Commission pursuant to Title 5, Division 3, commencing with Section 56000 of the Government Code; and

WHEREAS, the Executive Officer has reviewed the proposal and prepared a report, including the recommendations thereon, the proposal and report having been presented to and considered by this Commission; and

WHEREAS, it appears to the satisfaction of this Commission that all owners of the land included in the proposal consent to the proceeding; and

WHEREAS, a public hearing by this Commission was held on the proposal and at the hearing this Commission heard and received all oral and written protests, objections and evidence which were made, presented or filed, and all persons present were given an opportunity to hear and be heard with respect to the proposal and the Executive Officer's report; and

WHEREAS, the landowners and District have requested that the Commission waive conducting authority proceedings pursuant to government code Section 56837(c); and

WHEREAS, the proposal is categorically exempt from the environmental review requirements of the California Environmental Quality Act (CEQA) under State CEQA Guidelines Section 15319(a) & (b) (Annexations of Existing Facilities and Lots for Exempt Facilities); and

NOW, THEREFORE, the Local Agency Formation Commission of the County of San Mateo DOES HEREBY RESOLVE, DETERMINE AND ORDER as follows:

Section 1. This proposal is approved, subject to the following conditions: None.

Section 2. The boundaries as set forth in the application are hereby approved as submitted and are as described in Exhibit "A" attached hereto and by this reference incorporated herein.

Section 3. The territory consists of 1.52 acres, is found to be uninhabited, and is assigned the following distinctive short form designation: Annexation of 315 Grove Drive, Portola Valley to the West Bay Sanitary District.

Section 4. Conducting authority proceedings are hereby waived in accordance with Government Code Section 56663 and this annexation is hereby ordered.

Section 5. Subsequent annexation to the On-Site Wastewater Disposal Zone is hereby approved.

APPROVED
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063

EXHIBIT B PAGE 2 OF 3

Regularly passed and adopted this 15th day of June 2022.

Ayes and in favor of said resolution:

APPROVED
SAN MATEO LOCAL AGENCY
FORMATION COMMISSION
455 COUNTY CENTER
REDWOOD CITY, CA 94063

EXHIBIT B PAGE 3 OF 3

Commissioners:

Don Horsley

Ric Lohman

Kati Martin

Harvey Rarback

Warren Slocum

Ann Draper, Vice Chair

Mike O'Neill, Chair

Noes and against said resolution:

None

Commissioners Absent and/or Abstentions:

Commissioners:

None

Michael O'Neil

Chair
Local Agency Formation Commission
County of San Mateo
State of California

ATTEST:

Roberto J. Bartolif

Executive Officer
Local Agency Formation Commission

Date: 6/15/2022

I certify that this is a true and correct copy of the resolution above set forth.

Date: _____

Clerk to the Commission
Local Agency Formation Commission



WEST BAY SANITARY DISTRICT AGENDA ITEM 7J

To: *Board of Directors*

From: *Debra Fisher, Finance Manager*

Subject: *Consider Approving Closing of Tidmarsh Reimbursement Agreement*

Background

On August 26, 2009 the District entered into a reimbursement agreement with George Tidmarsh, Coutney Moulds, Craig Buchsbaum, and Tamara Barr for the sewer main extension to 45 Tintern and 31 Tintern Lane, which was completed December 12, 2007. The District reviewed the costs and determined that \$238,900 was eligible for reimbursement.

The original terms of the agreement were fulfilled by the District on November 21, 2023 after final payments were issued for 214, 155, and 299 Grove Drive, connections 5.65, 7.8, and 8.8, respectively.

The District notified all parties that, with final payments, it has fulfilled its full obligation under the Agreement and the Agreement will be closed.

Fiscal Impact

The District has issued \$238,900 between 2012 and 2023 to the original contract parties for a total of \$429,363, including subsequent connections.

Recommendation

The Finance Manager recommends the District Board approve the closing of the reimbursement agreement with George Tidmarsh, Coutney Moulds, Craig Buchsbaum, and Tamara Barr.

Attached: Tidmarsh Reimbursement Agreement

**REIMBURSEMENT AGREEMENT
LANDS OF TIDMARSH/MOULDS
AND BUCHSBAUM/BARR
45 AND 31 TINTERN LANE,
PORTOLA VALLEY**

Received

AUG 12 2009

West Bay
Sanitary District

This Agreement is entered into this 26th day of August, 2009, by and between the WEST BAY SANITARY DISTRICT, a public agency, hereinafter referred to as "District" and GEORGE TIDMARSH AND COURTNEY MOULDS (collectively "Tidmarsh/Moulds") and CRAIG BUCHSBAUM AND TAMARA BARR (collectively "Buchsbaum/Barr"), the other persons executing this Agreement, hereinafter referred to as "Developer."

RECITALS

A. Developer pursued and completed development activities on certain real property located in the territory of District and more particularly described in Exhibit "A" attached hereto ("the Real Property") for which it has been necessary for Developer to construct and install, at Developer's expense, certain wastewater collection and transmission facilities (the "Wastewater Facilities") to serve the development. The Wastewater Facilities are more particularly described in Exhibit "B" attached hereto.

B. The Wastewater Facilities are complete and on December 12, 2007, they were accepted by District and are now public property of District. The Wastewater Facilities have the potential to serve and benefit persons in the District in addition to those persons who may occupy the Real Property.

C. Because persons other than those who may occupy the Real Property may be served and benefited by the Wastewater Facilities, the parties agree that such persons should be required to reimburse Developer for their proportionate share of Developer's cost to construct and install the Wastewater Facilities.

D. District has reviewed the costs incurred by Developer and has determined that the total sum of Two Hundred Thirty Eight Thousand Nine Hundred Dollars and No Cents (\$ 238,900.00) is eligible for reimbursement pursuant to the following Terms and Conditions of this Agreement.

In consideration of the foregoing Recitals and the following Terms and Conditions, District and Developer agree as follows:

TERMS AND CONDITIONS

1. Supplemental Connection Charge

a. In addition to the usual connection charges imposed by the District upon connection to the District's wastewater system, the District shall also impose a "Supplemental Connection Charge" for each connection to the Wastewater Facilities by any of the following persons (referred to in this Agreement as "Connectors"):

- (1) Any person, other than Developer, who makes an initial connection to the Wastewater Facilities;
- (2) Any person, other than Developer, who makes one or more additional connections to the Wastewater Facilities;
- (3) Any person, other than Developer, who increases the discharge of wastewater through an existing connection to the Wastewater Facilities if that discharge exceeds the person's authorized discharge entitlement; and
- (4) Developer (as allocated in provisions of subparagraph 1.e. below), if Developer either (a) makes one or more additional connections to the Wastewater Facilities, or (b) increases the discharge of wastewater through an existing connection to the Wastewater Facilities so that the resulting discharge exceeds the Developer's authorized discharge entitlement; provided, however, that in either of the foregoing cases, the Supplemental Connection Charge otherwise payable by Developer will be waived if (a) there have been no prior connections to the Wastewater Facilities other than connections made by Developer (as allocated in provisions of subparagraph 1.e. below), and (b) Developer executes an amendment to this Agreement in form and content acceptable to District which makes an appropriate adjustment in the "Cp" factor attributable to Developer.

For purposes of this Agreement, a connection includes both a connection of a building sewer to the Wastewater Facilities and a connection of an upstream sewer extension to the Wastewater Facilities.

b. Subject to the provisions of subparagraph 1.c. below, the amount of the Supplemental Connection Charge payable by each Connector shall be computed in accordance with the following formula:

$$SCC = \frac{ERC \times C_n \times (ENRC/ENRI)}{C_p + C_n}$$

Where:

SCC = The Supplemental Connection Charge to be paid by the new Connector.

ERC = The total eligible reimbursable cost specified in Recital D of this Agreement.

Cp = A factor representing the total wastewater contribution of all previous Connectors to the Wastewater Facilities measured in SFDE pursuant to subparagraph 1.d. below.

Cn = A factor representing the wastewater contribution of the new Connector to the Wastewater Facilities measured in SFDE pursuant to subparagraph 1.d. below.

ENRC = The ENR Construction Cost Index, rounded to the nearest whole number, for the month in which payment of the supplemental connection charge is made by the new connector.

ENRI = The ENR Construction Cost Index for the month in which the Wastewater Facilities were accepted by the District. ENRI shall be 8089.

c. Under no circumstances shall the amount of the Supplemental Connection Charge payable by a Connector exceed the estimated cost of constructing wastewater facilities from the Connector's property to the point where the Wastewater Facilities constructed by Developer connect to District's system. For this purpose, the estimated cost shall be determined by District.

d. Prior to the approval of a new connection to the Wastewater Facilities, the District Manager shall determine and establish the contribution of wastewater expected to be generated by the new Connector, measured in terms of single family dwelling equivalents ("SFDE"). Each single family dwelling unit shall be assigned a factor of 1 SFDE. All other uses shall be assigned an equivalency factor which is representative of the contribution of wastewater expected to be generated by the particular use. The equivalency factor shall take into account the volume of wastewater flows expected to be produced by the Connector and any other characteristics of the Connector's wastewater which may have an impact on the Wastewater Facilities. However, in no event shall any Connector be assigned an equivalency factor of less than 1 SFDE.

e. For purposes of this Agreement the amount of Cp attributable to Developer's wastewater contribution shall be 2 SFDE. The allocated wastewater contributions shall be as follows:

Party	APN	Location	Allocation
Tidmarsh/Moulds	079-011-160	45 Tintern Lane	1.0 SFDE
Buchsbaum/Barr	079-011-020	31 Tintern Lane	1.0 SFDE

Additional supplemental connection charges shall be the responsibility of the individual party who increases the discharge of wastewater to the Wastewater Facilities if that discharge exceeds the person's authorized discharge allocation as noted above.

2. Collection of Supplemental Connection Charges

a. District shall use its best efforts to collect Supplemental Connection charges from all persons who become obligated to pay them. However, District may postpone or waive, in whole or in part, collection of any such charges if, after reasonable notice and hearing, the District Board, in the exercise of reasonable discretion, makes one of the following determinations:

- (1) Acting pursuant to Health and Safety Code Section 6520.6, the District Board determines the amount is too small to justify the cost of collection; or
- (2) The District Board determines that in the interest of the public health, safety and welfare, collection of the amount is not justified; or
- (3) The District Board determines that collection of the amount would pose an undue financial hardship on the new Connector.

If such a determination is made by the District Board, the determination shall be binding, and neither Developer, Connectors or any other person shall have a claim against District by reason of District's failure to collect any amount which is the subject of such a determination.

b. District's obligation to collect Supplemental Connection Charges shall cease upon the first of the following events to occur:

- (1) The lapse of twenty-five (25) years from the date of District's approval and acceptance of the Wastewater Facilities; or
- (2) At any time District no longer has the legal authority to collect these charges.

c. Nothing in this Agreement shall be interpreted to require District to allow connections to be made to the Wastewater Facilities. Connections may be denied by District under any circumstances including, but not limited to the following:

- (1) District does not have sufficient capacity to serve the proposed connection(s); or
- (2) District is precluded by law from allowing the connection(s); or
- (3) The proposed connection(s) are not in compliance with established policies and regulations of District.

3. **Reimbursement**

a. For purposes of this paragraph 3, the persons to whom reimbursement shall be made by District are referred to as "Reimbursees."

b. The following persons are Reimbursees and shall be entitled to reimbursement as provided in this paragraph 3:

- (1) Developer (as allocated in provisions of subparagraph 1.e. above); and
- (2) Prior Connectors who have paid Supplemental Connection Charges.

c. Except as provided in subparagraph 3.d. below, as Supplemental Connection Charges are collected from each new Connector for each new connection, District shall credit the account of each Reimbursees with a proportionate share of the charges collected based upon the ratio which each Reimbursees's discharge entitlement, measured in SFDEs, bears to the total of all wastewater discharge entitlements, measured in SFDEs, for all Reimbursees, less District's reasonable administrative cost to make the collection and reimbursement of the Supplemental Connection Charge.

d. In the case of any prior Connector who is a Reimbursees pursuant to subparagraph 3.b. above but who, pursuant to the provisions of subparagraph 2.a. of this Agreement, has not been required by the District to pay the full Supplemental Connection Charge which otherwise should have been imposed, such a connector shall be entitled to

reimbursement, but only to the extent provided in this subparagraph. In calculating such a Connector's reimbursement amount pursuant to subparagraph 3.c. above, the Connector's wastewater discharge entitlement shall be discounted in the same ratio as the amount of the Supplemental Connection Charge actually paid by the Connector bears to the Supplemental Connection Charge which the connector should have paid except for the effect of the provisions of subparagraph 2.a.

e. Payment of amounts credited will be made by District within a reasonable time after Supplemental Connection Charges are collected.

f. In the absence of written instructions in form and substance acceptable to District, District's reimbursement obligations to any Reimbursee shall be deemed fully satisfied upon sending the reimbursement payment(s) to the Developer (as allocated in provisions of subparagraph 1.e. above) and, if applicable, to prior Connectors, who paid the Supplemental Connection Charge to the addresses shown for such persons in District's records. Each Reimbursee shall be responsible to inform the District of any changes. If District becomes aware that a dispute exists regarding the identity of the person to whom the payment is due, District may withhold the payment until the dispute is resolved to District's satisfaction.

A Reimbursee may assign the Reimbursee's reimbursement rights under this Agreement; provided, however, that insofar as District's rights and obligations are concerned, any such assignment shall be effective only if (1) District is provided with evidence, satisfactory to District, of the regularity and authenticity of the assignment and (2) the parties to the assignment have executed and delivered to District instruments in form and substance satisfactory to District which relieve District from any liability or obligation by reason of District's reliance upon and performance of its duties in conformity with the provisions of the assignment.

g. Interest shall not accrue on any funds collected and held for the account of persons pursuant to the provisions of this Agreement, and no person shall have a claim against District for interest on such funds; provided, however, that the provisions of this subparagraph do not preclude application of the interest factor provided for in subparagraph 1.b. above.

4. Connectors' Approval of Agreement

As a condition of the District's approval of any connection to the Wastewater Facilities, the District may require a Connector to execute an instrument, in form and substance acceptable to District, which evidences Connector's acknowledgment of the Terms and Conditions of this Agreement and consent to be bound thereby.

5. Miscellaneous Provisions

a. This Agreement constitutes the entire understanding and agreement between the parties.

b. This Agreement may not be modified or amended except by a further written agreement executed by all parties who are signatories hereto.

c. This Agreement shall be binding upon and inure to the benefit of the parties, their

assigns, personal representatives and successors in interest.

d. At the option of District, the signatures of the persons executing this Agreement on behalf of the parties shall be acknowledged and the Agreement shall be recorded in the Official Records of San Mateo County.

District:

WEST BAY SANITARY DISTRICT

By: 

President

Attest: 

Secretary

Developer:

George Tidmarsh and Courtney Moulds
45 Tintern Lane

By: 

George Tidmarsh

By: 

Courtney Moulds

Craig Buchsbaum and Tamara Barr
31 Tintern Lane

By: 

Craig Buchsbaum

By: 

Tamara Barr

N:\BILLK\reimburs\tintern_agreement-agreenoclause.DOC



A portion of that real property situated in the Town of Portola Valley, County of San Mateo, State of California, as shown in Instrument No. 98-129234, San Mateo County Official Records, recorded on August 14, 1998; and Instrument No. 98-169569, San Mateo County Official Records, recorded on October 20, 1998. Both parcels being portion of Lot 21, as shown on that certain map entitled "Tract No. 608 - Stonegate Subdivision of a Portion of Corte Madera Rancho" filed in the office of the County Recorder of San Mateo County, State of California, on September 29, 1948, in Volume 29 of maps at pages 31-33.

WEST BAY SANITARY DISTRICT

45 AND 31 TINTERN LANE
GRINDER PUMP FORCEMAIN EXTENSION

EXHIBIT "A"

WBSD1



Approximately 1,800 feet of two-inch (2") grinder pump force main starting from the District's Manhole designated as N11-067, said manhole being located along Grove Drive approximately 300 feet from the intersection of Grove Drive and Portola Road; and located near the driveway of 22 Grove Drive; then approximately 1,500 feet northeasterly along Grove Drive to Tintern Lane, then northwesterly to the end of the two-inch grinder pump force main extension at the end of Tintern Lane and the southeasterly corner of said parcel being that real property situated in the Town of Portola Valley, County of San Mateo, State of California, as shown in Instrument No. 98-129234, San Mateo County Official Records, recorded on August 14, 1998 and being portion of Lot 21, as shown on that certain map entitled "Tract No. 608 - Stonegate Subdivision of a Portion of Corte Madera Rancho" filed in the office of the County Recorder of San Mateo County, State of California, on September 29, 1948, in Volume 29 of maps at pages 31-33.

WEST BAY SANITARY DISTRICT

45 AND 31 TINTERN LANE
GRINDER PUMP FORCEMAIN EXTENSION

EXHIBIT "B"

WBSD1

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WEST BAY SANITARY DISTRICT AGENDA ITEM 7K

To: *Board of Directors*

From: *Fariborz Heydari, P.E., Project Manager*

Subject: *Consider Resolution Accepting Deed of Easement Pursuant to Class 3 Sewer Permit No. 1624 for the Sewer Realignment required for 358 Walsh Road, Town of Atherton, California*

Background

The District has an 8-inch public sewer main within a sanitary sewer easement along the West side of the property line of the original subdivision at 358 Walsh Road. Due to the proximity of the new Single Family Home and Accessory Dwelling Unit near the public sewer main and encroachment of the sanitary sewer easement by the new dwellings, a portion of the existing easement is being vacated and a new sanitary sewer easement is being dedicated to the District.

Analysis

The developer/contractor for the project agreed to replace the 8-inch public sewer main at their own expense since it had damaged the public sewer main and encroached onto the easement. They also agreed to award the District a new sanitary sewer easement.

Recommendation

The Project Manager recommends that the District Board adopt the attached Resolution accepting the Deed of Easement.

Attachments: Resolution _____ (2023), Grand Deed of Easement
Exhibit A & B, Legal Description and Plat

RESOLUTION NO. _____ (2023)

IN THE DISTRICT BOARD OF THE WEST BAY SANITARY DISTRICT

COUNTY OF SAN MATEO, STATE OF CALIFORNIA

BE IT RESOLVED that the President and Secretary of the West Bay Sanitary District be and are hereby authorized to accept the attached Grant Deed of Easement by and between the following parties:

Pacific Peninsula Group, a California corporation

BE IT FURTHER RESOLVED that the General Manager is hereby directed to place the same on record.

Passed and adopted by the District Board of the West Bay Sanitary District at a regular meeting thereof held on the 13th day of December, 2023, by the following vote:

Ayes:

Noes:

Abstain:

Absent:

President of the District Board of the West
Bay Sanitary District of San Mateo County,
State of California

Attest:

Secretary of the District Board of the
West Bay Sanitary District of San Mateo
County, State of California

RECORDING REQUESTED BY:
WEST BAY SANITARY DISTRICT

WHEN RECORDED MAIL TO:
WEST BAY SANITARY DISTRICT
500 LAUREL STREET
MENLO PARK, CA 94025

Title Order No. N/A
Escrow No. N/A
Parcel No. 073-202-100

GRANT DEED OF EASEMENT

THE UNDERSIGNED GRANTOR(S) DECLARE(S):

- DOCUMENTARY TRANSFER TAX is \$0 CITY TAX is \$0 DEED TO PUBLIC AGENCY
- ☐ computed on the full value of the property conveyed, or
- ☐ computed on full value less value of liens or encumbrances remaining at the time of sale,
- ☒ this is a conveyance of an easement and the consideration and value is less than \$100, R & T 11911 & R&T 11922.
- ☐ Unincorporated area of San Mateo County X City/Town of Atherton

FOR NO CONSIDERATION, receipt of which is hereby acknowledged, I (we)

Pacific Peninsula Group, a California corporation

Hereby GRANT(S) to:

West Bay Sanitary District, a Public Agency organized and existing under the laws of the State of California,

A perpetual easement to construct, install, maintain, use, repair, remove, replace any and all pipeline, fittings, and related facilities necessary for the operation of a wastewater conveyance system in the area described as follows over the following described real property in the Town of Portola Valley, County of San Mateo, State of California; more particularly described in Exhibit "A" and "B", attached hereto, and by this reference incorporated herein.

West Bay Sanitary District, its employees and agents shall have the right to enter upon the herein described real property at any and all times with such tools and equipment as may be necessary or convenient for the exercise of the rights herein granted to West Bay Sanitary District.

No building or structure of any kind shall be constructed upon the herein described easement, and should a building or structure be erected in violation of this provision, West Bay and its successors and assigns may still exercise all rights herein granted and shall have the right to remove, or cause grantor to remove, at Grantors expense, any building or structure that may be erected upon or over the said parcel of real property. West Bay Sanitary District shall not be held liable in any manner whatsoever for any damages thereby incurred, nor shall West Bay have any obligation to replace any structure that may be removed from said property.

This grant of easement shall be binding upon and shall inure to the benefit of the respective administrators, executors, personal representatives, successors and assigns of the parties hereto.

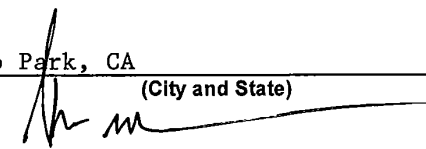
LEGAL DESCRIPTION ATTACHED HERETO AS EXHIBITS "A" AND "B" MADE A PART HEREOF

Also Known As: 358 Walsh Road, Atherton, CA 94027

Assessor's Parcel Number: 073-202-100

Executed on November 7, 2023, at Menlo Park, CA
(City and State)

Stephen M. Ackley
Printed Name


Stephen M. Ackley, Signature
President

Executed on _____, _____, at _____
(City and State)

Printed Name

Signature(s)

(ATTACH NOTARY CERTIFICATE)

ACKNOWLEDGMENT PAGE TO BE ATTACHED TO THE FOLLOWING DOCUMENT:
Grant Deed Of Easement

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

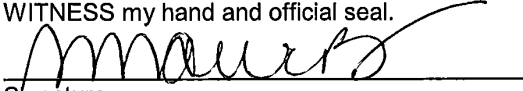
State of California

County of San Mateo

On November 7, 2023 before me, Susan E. Burnett, Notary Public, personally appeared Stephen M. Ackley, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.


Signature



October 6, 2023

EXHIBIT "A"

**LEGAL DESCRIPTION
PROPOSED SANITARY SEWER EASEMENT
358 WALSH ROAD, ATHERTON, CA**

All that certain real property situate in the Town of Atherton, County of San Mateo, State of California, being a portion of Lot 6 as shown on that certain Subdivision Map entitled "Hillview Heights", filed for record in the Office of the Recorder of said County on July 30, 1953, in Volume 37 of Maps at Page 20, and being more particularly described as follows:

A ten foot (10.00') wide easement for sanitary sewer purposes lying five feet (5.00') on each side of the following described centerline;

Beginning at the intersection of the northerly line of said Lot 6 with the centerline of the 6-foot-wide sanitary sewer easement granted to the Menlo Park Sanitary District, in the Grant Deed recorded April 23, 1952, in Book 2233 of Official Records at Page 615, in the Office of the Recorder of said County; said intersection lying North 52°03'35" East, 50.28 feet from the northwesterly corner of said Lot 6;

Thence South 28°21'40" East, 9.86 feet;

Thence South 11°52'52" East, 269.67 feet to the centerline of said 6-foot-wide sanitary sewer easement;

Thence along said centerline South 9°32'40" East, 6.00 feet to the Point of Terminus;

The sidelines of said 10-foot wide strip shall be prolonged or shortened so as to terminate in said northerly line of Lot 6.

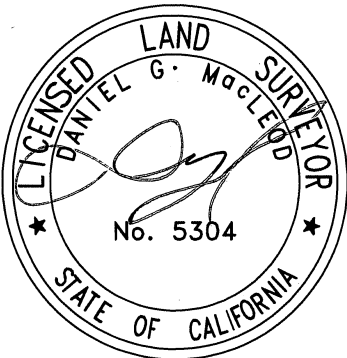
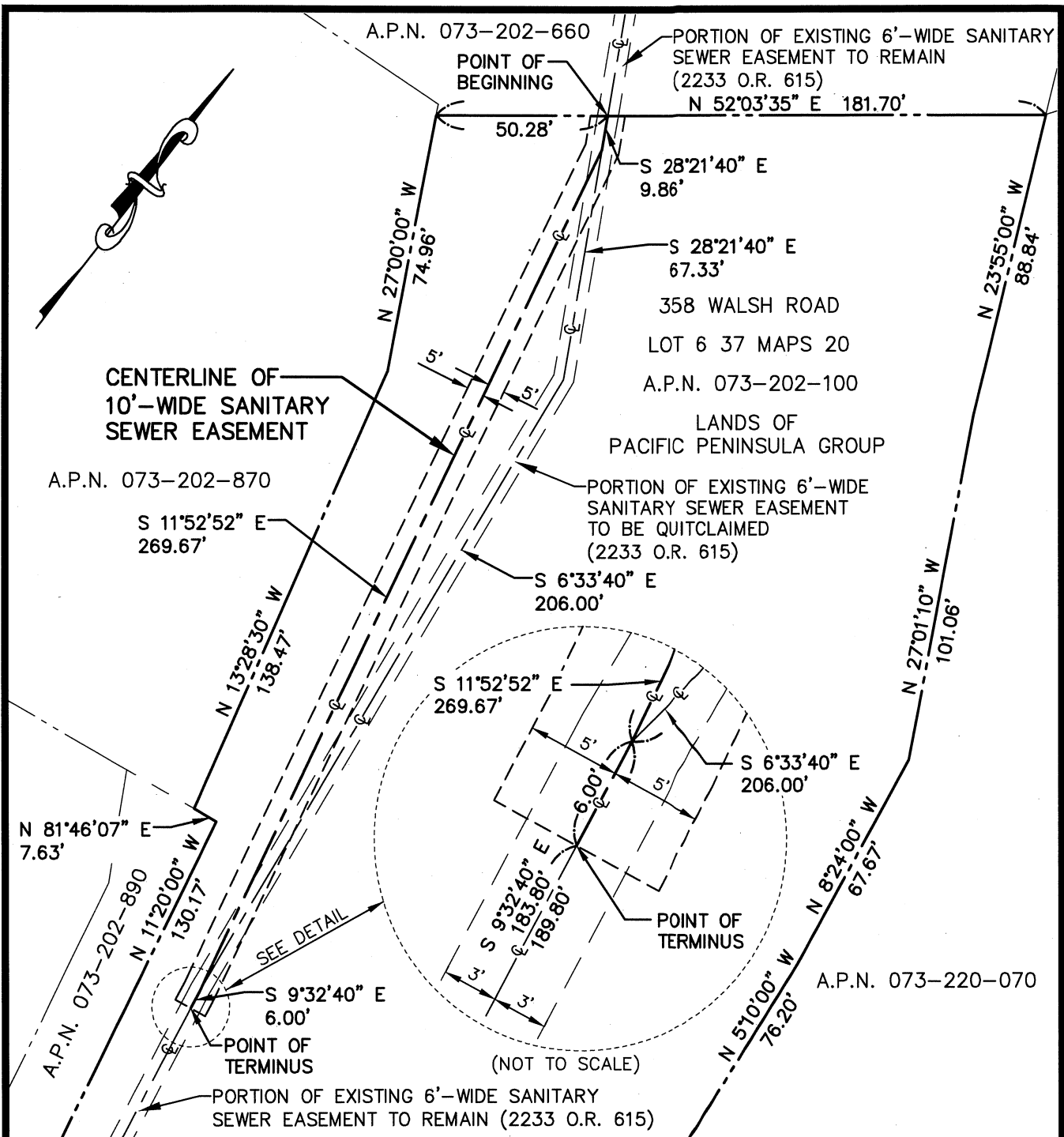
As shown on Exhibit "B", attached hereto and made a part hereof.

Description prepared by MacLeod and Associates, Inc.


Daniel G. MacLeod L.S. 5304

OCTOBER 6, 2023
Date:





**TITLE: EXHIBIT "B" - PLAT TO ACCOMPANY LEGAL DESCRIPTION
SANITARY SEWER EASEMENT**

ATHERTON

SAN MATEO COUNTY

CALIFORNIA

PREPARED FOR:
PACIFIC PENINSULA GROUP

PLAT:
DJK

SCALE:
1" = 40'

DATE:
10/06/23

JOB #:
4981-21

MacLEOD AND ASSOCIATES

CIVIL ENGINEERING • LAND SURVEYING

965 CENTER STREET SAN CARLOS CA 94070 (650) 593-8580



County of San Mateo
TRANSFER TAX AFFIDAVIT

DTT AFFIDAVIT

Per San Mateo County Ordinance Code 2.93.050

NOTICE: Any material misrepresentation of fact in this affidavit is a misdemeanor under section 2.93.120 of the San Mateo County real property tax code. Any person who makes such a representation is subject to prosecution for such offense.

The Assessor-Clerk-Recorder reserves the right to report potentially fraudulent recordings to the District Attorney's Real Estate Fraud Unit.

This form must accompany any document that requires a Documentary Transfer Tax declaration, including but not limited to; Agreement for Sale; Assignment of Lease; Deed in Lieu of Foreclosure; Easement; Grant Deed; Land Contract; Lease; Memorandum of Lease;

1. LOCATION OF PROPERTY: Assessor's Parcel Number: _____ City: _____

Street Address: _____ Document To Be Recorded: EASEMENT

2. IS THIS A FORECLOSURE OR TRUSTEE SALE? ☐ Yes ☒ No (If yes, complete this section.)

a. Is the transferee the Beneficiary or Mortgagee? ☐ Yes ☐ No

b. Please provide. Name of Trustee: _____

Date of original Deed of Trust: _____

3. IS THIS A LEASE? ☐ Yes ☒ No (If yes or no, complete this section.)

a. Is remaining term of lease, including renewal options, greater than 35 years? ☐ Yes ☒ No

b. If NO, submit a copy of the lease, or summary, or terms.

c. If YES, enter the value of the lease interest on line 9a. (For tax calculations.)

4. IS THIS A GIFT IN WHOLE OR IN PART? ☐ Yes ☒ No (If yes, give a complete explanation.)

Name of the Donor: _____

Name of the Donee: _____

Please be aware that certain gifts in excess of \$13,000 per calendar year may trigger a Federal Gift Tax. In such cases, the Transferor/Donor may be required to fill out a Form 709 (Federal Gift Tax Return) with the Internal Revenue Service. Please also be aware that the information stated on this document may be given to and used by governmental agencies, including the Internal Revenue Service.

I, as the Transferor/Donor declare under penalty of perjury that I have read the above paragraph and acknowledge that a Federal Gift Tax may be triggered.



Signature of Donor: _____
SIGNATURE ON REVERSE STILL REQUIRED.

Print Donor Name: _____

()

Donor Phone: _____

5. ARE YOU ADDING OR REMOVING A CO-OWNER FOR REFINANCING PURPOSES? ☐ Yes ☒ No
If yes, initial to the right to indicate your agreement with the statement below and sign on reverse.

Initial here: _____

The proportional ownership interest will revert back to its original holding within one (1) month from the date of recording; otherwise I will pay the applicable transfer tax.

Continued on Reverse

THIS DOCUMENT IS NOT SUBJECT TO PUBLIC INSPECTION.

Page 1 of 2

7K-7




TRANSFER TAX AFFIDAVIT, pg. 2

6. ARE YOU MOVING TITLE INTO OR OUT OF A TRUST? ☐ Yes ☒ No / ☐ Into ☐ Out of / ☐ Revocable ☐ Irrevocable
- a. Name of Trust: _____ b. Date of Trust: _____
- c. Name of Trustor(s): _____
- d. Name(s) of Currently Active Trustee(s): _____
- e. If this transaction changes who is on title or the proportional interest of how title is held, further explanation is required and may require additional time to review.

Attach additional page(s) if necessary.

7. DO YOU CONTEND THAT NO TRANSFER TAX IS DUE FOR A REASON NOT EXPLAINED IN #1-6? ☒ Yes ☐ No
(If yes, give a complete explanation.)
- a. The nature of the transaction is: DEED OF EASEMENT
- b. The reason (exemption) you claim no tax is due: DEED TO PUBLIC ENTITY
8. IS THIS A TRANSFER BETWEEN LEGAL ENTITIES? ☐ Yes ☒ No
IF YES, TRANSFERS INVOLVING LEGAL ENTITIES MUST PROVIDE, PREFERABLY ONE (1) WEEK IN ADVANCE, APPLICABLE DOCUMENTATION. SOME EXAMPLES ARE LISTED BELOW. THIS TYPE OF TRANSACTION WILL REQUIRE 1-3 BUSINESS DAYS TO REVIEW.

Entity ownership documentation is required if you are a:

-  **Corporation**—A copy of the Articles of Incorporation amendments and any other documents showing the shares issued and share ownership; or
-  **LLC**—A copy of the Operating Agreement, amendments, and any other documentation showing the partners and ownership percentage; or
-  **Partnership**— A copy of the Partner Agreement, amendments and any other documents showing the partners and ownership percentage.

For all legal entities, provide the names of individuals and specific percentages held by each individual prior to and following the transfer.

9. TAXABLE TRANSACTIONS: Complete the following and calculate the tax below. Tax is calculated as \$0.55 per \$500 of line 9D.
Example, \$100,000 value/\$500 increments = 200. 200 increments x \$0.55 = \$110 in tax due. You may also use \$1.10

A) Consideration paid or value. \$ _____

B) ☐ Full cash value. ☐ Less liens. _____

C) If less liens, loan amount assumed. \$ _____

D) Total consideration or value less liens. (Line A minus line C.) \$ _____

E) Tax due. \$ N/A

I DECLARE OR AFFIRM UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT.

Are you the ☐ Transferee, ☐ Transferor, ☐ Both, or ☐ Representative with full knowledge of foregoing. Signature still required.

Signature of Transferee: _____

Print Name: _____

Address of Transferee: _____

Phone Number of Transferee: ()

Signature of Transferor: _____

Print Name: Stephen M. Ackley

Address of Transferor: 718 Oak Grove Ave, Menlo Park CA 94025

Phone Number of Transferor: (650) 323 7900

Place of Execution: (City, County, State where executed.) Menlo Park, San Mateo County, CA

Date of Execution: 11/7/23



WEST BAY SANITARY DISTRICT AGENDA ITEM 7L

To: *Board of Directors*

From: *Fariborz Heydari, P.E., Project Manager*

Subject: *Consider Authorizing the General Manager to Issue Class 3 Sewer Permit No. 18156 for the Construction of Force Main Extension, and Class 5 Sewer Permit No. 18157 for the Construction of Wastewater Facilities for 115 Sausal Drive, Portola Valley, California*

Background

This permit request is for the extension of the existing force main and construction of a Grinder Pump System that will connect to a WBSD new force main (FM) constructed as part of this project located at 115 Sausal Drive on Portola Valley.

Analysis

The plans, profiles, and engineering calculations for the proposed facilities have been reviewed by staff and corrections have been made to conform to District requirements. The owner has paid all associated fees.

Recommendation

The Project Manager recommends that the Board direct and authorize the General Manager to issue Class 3 Sewer Permit No. 18156 and Class 5 Sewer Permit No. 18157.

Attachments: Resolution ____ (2023)
 Notice of Exemption
 Class 3 Permit (18156)
 Class 5 Permit (18157)
 Site Map

RESOLUTION NO. _____ (2023)

IN THE DISTRICT BOARD OF THE WEST BAY SANITARY DISTRICT
COUNTY OF SAN MATEO, STATE OF CALIFORNIA

BE IT RESOLVED, by the District Board of West Bay Sanitary District, County of San Mateo, State of California, as follows:

ENVIRONMENTAL IMPACT REVIEW

Name of Project: 115 Sausal Drive, Portola Valley, California –
Force Main Extension and Grinder Pump System

Location: 115 Sausal Drive, Portola Valley, California

Entity or Person Undertaking Project: Ramies & Abedrabbo

Determination of the District Board:

This District Board of West Bay Sanitary District determines, upon Staff recommendation, that another public agency, specifically the San Mateo LAFCo, is the lead agency for this project.

The District Board hereby certifies that it has reviewed the Negative Declaration prepared for this project and has considered the contents thereof. The Board finds that this document is adequate for use by the District in its review of the project.

The District Board finds that the following feasible alternatives and/or mitigation measures within its powers, would substantially lessen any significant effects which the project would have on the environment:

N/A

The Board certifies that the Negative Declaration has been prepared and completed in compliance with the California Environmental Quality Act and the State Guidelines.

The Board finds that the project Environmental Impact Report identifies the following significant effects:

N/A

The Board further finds that for each of these significant effects.

N/A Changes or alterations have been required in, or incorporated, into the project which mitigate or avoid the significant environmental effects thereof as identified in the Environmental Impact Report.

N/A Such changes or alterations are within the responsibility and jurisdiction of a public agency other than the District. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

N/A Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the Environmental Impact Report.

Based upon the foregoing, and upon compliance with District regulations and requirements, as applicable, the project is hereby:

_____ Approved

_____ Disapproved

The General Manager of West Bay Sanitary District is directed to prepare a Notice of Determination pursuant to the provisions of the State Guidelines Implementing the California Environmental Quality Act adopted by Resolution No. IIO5 of this District Board. The General Manager is ~~(further)~~ (not) directed to prepare and file a Statement of Overriding Consideration pertaining to the approval of this project pursuant to the provisions of the same Guidelines.

Passed and adopted by the District Board of West Bay Sanitary District at a regular meeting thereof held on the 13th day of December, 2023, by the following vote:

Ayes:

Noes:

Abstain:

Absent:

President of the District Board of the
West Bay Sanitary District of San Mateo
County, State of California

Attest:

Secretary of the District Board of the
West Bay Sanitary District of San Mateo
County, State of California

Notice of Exemption

To: County Clerk
County of San Mateo

From: West Bay Sanitary District

Project Title: 115 Sausal Drive, Portola Valley, California – Grinder pump system

Project Location – Specific: 115 Sausal Drive, Portola Valley, California 94028

Project Location – Town: Town of Portola Valley

Project Location – County: San Mateo

Description of Project: Abandonment of Existing Onsite Wastewater Treatment System, Extension of Existing Offsite Force Main, and Installation of New Onsite Grinder Pump System

Name of Public Agency Approving Project: West Bay Sanitary District

Name of Person or Agency Carrying Out Project: Ramies & Abedrabbo

Exempt Status:

CEQA Guidelines Section 15601(b)(3), General Rule;

Categorical Exemption. Class 3 – Section 15303 (a) (d) of the State CEQA Guidelines.

(a) Single-family residences not in conjunction with the building of two or more units.

(d) Water main, sewage, electrical, gas and other utility extensions of reasonable length to serve such construction.

Reasons why project is exempt:

This project is exempt from CEQA because it can be “seen with certainty that there is no possibility that the activity in question may have a significant impact on the environment.” This certainty is based on the District’s past experience with numerous sewer construction projects of this nature, and the mitigated measures included in all such projects to alleviate any impacts. Most project elements also are exempt as extension of utilities of a reasonable length to serve such construction.

Lead Agency: West Bay Sanitary District

Lead Agency Contact Person: Sergio Ramirez

(650) 321-0384

Signature

Date: _____ Title: General Manager

“PRELIMINARY REVIEW”

115 Sausal Drive, Portola Valley, California – Grinder Pump System and Force Main
Extension
December 13, 2023

INTRODUCTION. At the December 13, 2023, District Board Meeting, the Board will consider the approval of the Class 3 sewer permit for the construction of a Force Main Extension, and the Class 5 sewer permit for the Grinder pump system for 115 Sausal Drive, Portola Valley; and the authorization for the filing of a California Environmental Quality Act (CEQA) “Notice of Exemption” for the project. This project is proposed by the property owner, Ramies & Abedrabbo.

EXEMPTION REVIEW. In compliance with CEQA Guidelines, this “preliminary review” of the Grinder System Project at 115 Sausal Drive, Portola Valley, California was conducted to determine whether the project is exempt from CEQA. Based on this review, staff has concluded that the project is exempt from CEQA under several sections of the guidelines. In summary, the project would not have any significant impacts on the environment because it includes little or no expansion of capacity, and will employ mitigation measures to alleviate any impacts.

This preliminary review presents and elaborates upon the rationale for the conclusions reached by staff.

Staff has concluded that all project elements are exempt under CEQA Guidelines section 15061(b)(3) (known as the “General Rule”), since it can be “seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment.”

This certainty is based on the District’s past experience with numerous sewer construction projects of this nature, and the mitigation measures included in all such projects to alleviate any impacts.

Past Experience. The District has completed many miles of sewer construction projects and pump station rehabilitation projects in residential areas throughout Menlo Park, Atherton, the County of San Mateo, and the Portola Valley area. While construction-related impacts on land use, traffic, noise, air quality, erosion, drainage, public safety, and cultural resources can occur, no significant environmental impacts have resulted from this work.

The reasons these have been “less-than-significant” include the short-term nature of construction activities, application of the District’s standard construction mitigation measures, good community relations outreach programs to inform project area residents of construction activities, and active coordination with local jurisdictions.

Construction Mitigation Measures. Specific impact mitigation measures will be included in the proposed project to avoid, minimize, reduce, or rectify for construction-related impacts. These measures are used on all sewer construction projects. The measures address dust control; erosion control; noise control; protection of soils; provision for

adequate drainage; protection and restoration of structures; precautions for working near sensitive and unique vegetation, protection and restoration of vegetation, landscaping, and improvements; public health and safety precautions; community notifications; traffic control; and preservation of cultural resources.

Most project elements also are exempt as extension of utilities of a reasonable length to serve such construction.

Staff has concluded that most project elements are “categorically exempt” under CEQA Guidelines Section 15303 (a) (Single-family residences not in conjunction with the building of two or more units) and Section 15303 (d) (Water main, sewage, electrical, gas and other utility extensions of reasonable length to serve such construction).

This project is being implemented to provide sanitary sewer service to this parcel and remove the on-site septic system.

CONCLUSION. Based on the information presented herein, staff has concluded that all of the installation of the Grinder Pump System and force main extension is exempt from CEQA under the CEQA Guidelines Section 15061(b)(3) (the General Rule), and that most project elements are also exempt under CEQA Guideline Section 15303(a) and (d).



WEST BAY SANITARY DISTRICT

500 Laurel Street, Menlo Park, CA 94025
Telephone: (650) 321-0384 Fax (650) 321-4265

Connection Record:
18156

Status:

Connection Record

CONNECTION RECORD FOR A CLASS 3 SEWER PERMIT

LEGAL DESCRIPTION		TYPE OF WORK TO BE DONE	
115	SAUSAL DR	Connection Type: Other	
Portola Valley		Permit Type: New - Open Trench	
APN: 079-091-060	Permit : 3 Class 3 Construction	Bld Permit No:	Jurisdiction: Portola Valley
OWNER	Name: Ron Ramies	SEWER CONTRACTOR	Contact:
	C/O : ron@ronramiesinc.com		E-Mail:
	E-Mail		Company:
	Address: 115 Sausal Dr.		Address:
	City: Portola Valley CA 94028-		City:
	Phone/Cell: (650) 400-2116		Phone/Cell:
GENERAL CON.	Contact:	E-Mail:	
	Company		
	Address:	City:	
	Phone/Cell:	Fax:	

Comments:

Sewer main extention.

For Non-residential Calculations Only	Fees Due:	
Commercial = 0.00 gpd	Connection Fee: \$0.00	Subtotal (Conn. Fee) \$0.00
Code:	Less Conn. Fee Credit: \$0.00	Reimbursement Fee: \$0.00
Rate: \$0.00	Agreement Name:	Permit Fee: \$2,660.00
I/I Fee \$0.00		TV Inspection Fee: \$0.00
Subtotal (Non-residential) \$0.00		Misc: \$0.00
		Total Fees Due \$2,660.00



WEST BAY SANITARY DISTRICT

500 Laurel Street, Menlo Park, CA 94025
Telephone: (650) 321-0384 Fax (650) 321-4265

Connection Record:
18157

Status:

Connection Record

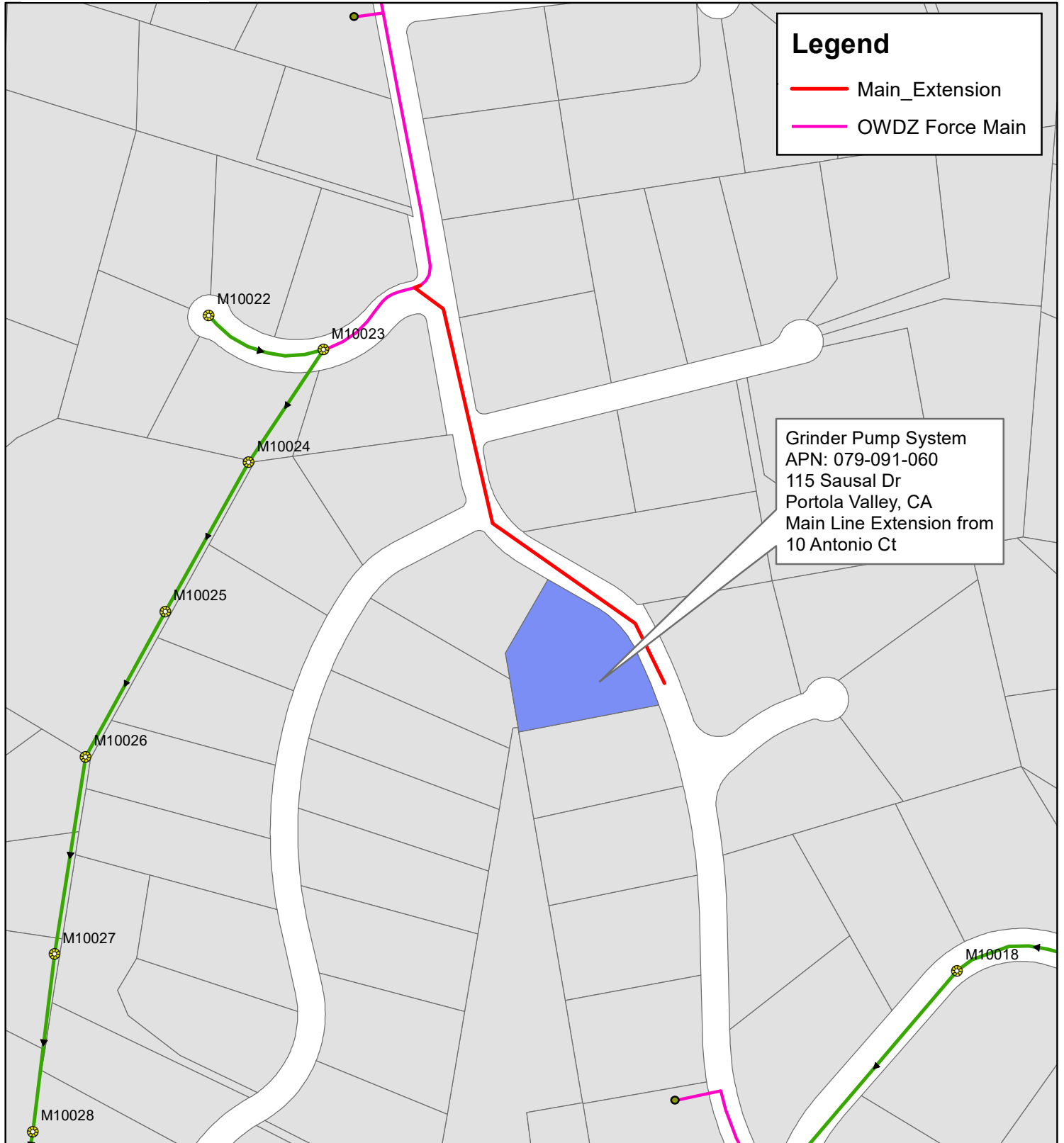
CONNECTION RECORD FOR A CLASS 5 SEWER PERMIT

LEGAL DESCRIPTION		TYPE OF WORK TO BE DONE	
115	SAUSAL DR	Connection Type: Other	
Portola Valley		Permit Type: New - Open Trench	
APN: 079-091-060	Permit : 5 STEP & GRINDER	Bld Permit No:	Jurisdiction: Portola Valley
OWNER	Name: Ron Ramies	SEWER CONTRACTOR	Contact:
	C/O : ron@ronramiesinc.com		E-Mail:
	E-Mail		Company:
	Address: 115 Sausal Dr.		Address:
	City: Portola Valley CA 94028-		City:
Phone/Cell: (650) 400-2116		Phone/Cell:	
GENERAL CON.	Contact:	E-Mail:	
	Company		
	Address:	City:	
	Phone/Cell:	Fax:	
Comments: Grinder Pump			

For Non-residential Calculations Only	Fees Due:	
Commercial = 0.00 gpd	Connection Fee: \$8,608.00	Subtotal (Conn. Fee) \$8,608.00
Code:	Less Conn. Fee Credit: \$0.00	Reimbursement Fee: \$0.00
Rate: \$0.00	Agreement Name:	Permit Fee: \$5,600.00
I/I Fee \$0.00		TV Inspection Fee: \$0.00
Subtotal (Non-residential) \$0.00		Misc: \$0.00
		Total Fees Due \$14,208.00



WEST BAY SANITARY DISTRICT
EXHIBIT "B"
SITE LOCATION
115 SAUSAL DRIVE
PORTOLA VALLEY, CA
GRINDER PUMP SYSTEM



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WEST BAY SANITARY DISTRICT AGENDA ITEM 8

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*

Subject: *General Manager's Report*

1) Administrative:

- a. The District received a public records request following the San Mateo County LAFCo vote to make the East Palo Alto Sanitary District a subsidiary District of the City of East Palo Alto. Legal Counsel prepared the initial response and is reviewing records which will be sent to all parties involved.
- b. Staff has worked with Bidnet Direct to implement the online bidding platform. The new bidding platform will be linked to the new website. The new website will go live on January 1, 2024.

2) Finance:

- a. The District has formally submitted for a Title XVI WIIN Act Water Reclamation and Reuse Project Grant from the United States Bureau of Reclamation with the help of West Yost and the leadership of the Water Quality Manager. The grant application is for \$10 million, and the funds could be used to expand reclaimed water to the City of East Palo Alto, East Menlo Park, and the Fair Oaks Area, including Flood Park.
- b. State Revolving Fund (SRF) staff continues to work on the Bayfront Recycled Water Facility's SRF loan. The SRF loan application is in the Contracting Department at the State. A funding agreement is expected in the next two months.
- c. The District received the first reimbursement from Meta for the Bayfront Recycled Water Project design work in the amount of \$38,512.55.
- d. The District received \$54,300.00 from Paymac: Public Surplus Auction for the sale of the retired Combo Unit 205.

3) CIP Projects:

a. Construction Capital Improvement Program (CIP):

- i. The contractor has removed the three large trees as part of the Bayfront Park Improvements project. The contractor submitted a revised construction schedule. The bulk of the work will be conducted following the rainy season.

b. Levee Improvement Project:

- i. Anderson Pacific began the installation of the levee sheet piles and will begin backfilling for the ecotone levee soon.

4) Information Technology (IT):

- a. Staff will provide an update on migrating to the Cloud and on the status of the new website which is scheduled to go live on January 1, 2024.

5) Operations and Maintenance:

a. Collection System:

- i. The crew replaced thirty-two feet of 6-inch sewer main by open trench on Chester Street off of Willow Road in Menlo Park.

- b. **Pump Facilities:**
 - i. The pump station crew replaced 28 out of 95 of the antiquated ISAC boards with lights and buzzards to the Private STEP/Grider Systems.
 - c. **Training:**
 - i. Staff received annual training on Harassment Prevention on December 6th.
- 6) **Water Quality:**
- a. **Sharon Heights Golf and Country Club (SHGCC):**
 - i. Casey Construction has completed a substantial portion of the Avy Altschul Pump Station project. A portion of the electrical panel was installed. The contractor is coordinating inspections with PG&E.
 - ii. The Sharon Heights landscape contractor struck the PG&E line that feeds the recycled water facility's transformer. The plant went down at approximately 3pm on December 6, 2023. PG&E managed to restore power the evening of December 7, 2023. Most systems were restored; however, several components were not. The Chief Plant Operator is monitoring the biology of the plant as he works to restore the overloaded components.
 - b. **Bayfront Recycled Water Facility (BRWF):**
 - i. The Request for Qualifications was advertised and only one proposal was submitted. The Board will discuss more during the Bayfront Recycled Water Facility agenda item on moving forward with the RFP process.
 - c. **Woodside Recycled Water Facility (WRWF):**
 - i. The Woodside Recycled Water Facility feasibility study draft was submitted to the state and will be brought to the Board. Woodard and Curran has requested an additional approximately \$12 thousand to conclude the study. Menlo Country Club has agreed to pay for the additional costs.
- 7) **Fleet and Facilities:**
- a. **Vehicle Maintenance:**
 - i. The new Dump Truck has been ordered.
- 8) **Personnel:**
- i. The District is currently fully staffed.
- 9) **Upcoming Events:**
- a. **Holiday Lunch:** December 12th
 - b. **Next Regular Board Meetings:** Wednesdays December 13th and December 27th
- 10) **Misc. Items:**
- a. **West Bay:** The General Manager will update the Board on miscellaneous items related to District operations.
 - b. **Town of Los Altos Hills:** Staff continues to provide maintenance and support to the Town.
 - c. **Town of Woodside:** Staff continues to provide maintenance and support to the Town.



WEST BAY SANITARY DISTRICT AGENDA ITEM 9

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*

Subject: *Discussion and Direction by the Finance Advisory Committee*

The Finance Advisory Committee will report on their recent meeting.

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WEST BAY SANITARY DISTRICT AGENDA ITEM 10

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*
Debra Fisher, Finance Manager

Subject: *Consider Adopting the District's Audited Financial Statements
for the Year Ended June 30, 2023*

Background

The District contracted with Chavan & Associates, LLP to conduct financial audits from FY 2021-22 through FY 2025-26, including optional years. The draft of the FY 2022-23 Audited Financial Statements prepared by Chavan & Associates, LLP is presented.

On December 6, 2023 the Finance Committee, Staff, and Chavan & Associates met to review and discuss the annual audit.

Analysis

The result of the audit, as stated in the report, indicated there were no deficiencies identified in internal control over financial reporting that were considered to be material weaknesses. The auditors express that the financial statements present fairly the financial statements of the District.

Fiscal Impact

The Change in Net Position from the prior year's audited financial statements is a net increase of \$11,044,578, including the prior period adjustments of \$6,005,723, and an ending Net Position of \$170,984,354, from the prior year Net Position of \$159,939,775.

Recommendation

The General Manager and the Finance Manager recommend the District Board adopt the audited financial statements for the year ended June 30, 2023.

Attachments: 2022-23 WBSD Financial Audit Report
2022-23 WBSD Management Letter
2022-23 WBSD Board Audit Letter

WEST BAY SANITARY DISTRICT

**FINANCIAL STATEMENTS AND
INDEPENDENT AUDITOR'S REPORT
JUNE 30, 2023**

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INDEPENDENT AUDITOR'S REPORT

To the Board of Directors
West Bay Sanitary District
Menlo Park, California

Report on the Financial Statements

Opinion

We have audited the accompanying financial statements of the West Bay Sanitary District (the "District"), as of and for the year ended June 30, 2023, and the related notes to the financial statements, which collectively comprise District's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the West Bay Sanitary District, as of June 30, 2023, and the respective changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the District and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Emphasis of a Matter Change in Application of an Accounting Policy

As discussed in Note 15 to the financial statements, the District changed the measurement period for its CalPERS miscellaneous pension plan from June 30, 2023 to June 30, 2022, in order to align with industry practices and other retirement plan measurement periods. Our opinion is not modified with respect to these matters.

Responsibilities of Management for the Financial Statements

District management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the District's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and GAGAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the District's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the District's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of pension contributions - CalPERS, schedule of proportionate share of net pension liability, and schedule of OPEB contributions, and schedule of changes in net OPEB liability, as listed in the table of contents, be presented to supplement the basic

financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the District's financial statements as a whole. The supplementary information listed in the table of contents is presented for purposes of additional analysis and is not a required part of the financial statements. These schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the financial statements. This information has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

Report on Summarized Comparative Information

We have previously audited the District's June 30, 2022 financial statements, and we expressed unmodified audit opinions on the respective financial statements in our report dated November 22, 2022. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2022, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated November 28, 2023 on our consideration of the District's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the District's internal control over financial reporting and compliance.

C & A UP

November 28, 2023
Morgan Hill, California

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MANAGEMENT'S DISCUSSION AND ANALYSIS

West Bay Sanitary District
Management's Discussion and Analysis
June 30, 2023

Management's Discussion & Analysis

The West Bay Sanitary District (District) is a Special District for the State of California providing wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and areas of East Palo Alto, Woodside and unincorporated San Mateo and Santa Clara counties. In October 1902, a petition signed by 35 residents was presented to the Board of Supervisors of San Mateo County requesting that an election be called for the formation of a sanitary district. The Menlo Park Sanitary District was created with the election held on December 10, 1902. In 1981, the name was changed to West Bay Sanitary District, to better represent the expanding service area. In 1975, the District joined with the Cities of Belmont, Redwood City, and San Carlos in a Joint Powers Agreement establishing the South Bay Area System Authority (now Silicon Valley Clean Water), for a regional wastewater treatment plant, replacing the District's local plant.

The District has been serving the community for 121 years, expanding over the years to operate and maintain 210 miles of pipeline and 11 pump stations. The District also maintains 95 private step/grinder pumps for customers in the Portola Valley area and 60 miles of pipeline and four pump stations for the Towns of Los Altos Hills and Woodside. Since 2020, the District operates the Sharon Heights Recycled Water Facility (SHRWF) with one influent pump station.

Mission Statement

The West Bay Sanitary District is dedicated to protecting the public health and the environment by providing cost effective sanitary sewer service. We are committed to providing our customers with wastewater disposal services utilizing the highest technical, environmental, and safety standards available; to providing the very best customer service; to ensuring the fiscal viability of our District by applying sound business principles and to ensuring the optimum operation of our infrastructure by employing professional maintenance and replacement practices.

Overview of the Financial Statements

The District has issued its financial statements for the fiscal year ended June 30, 2023, in conformity with the format prescribed by the provisions of the Governmental Accounting Standards Board (GASB). For financial reporting purposes, the District operates as a special-purpose government engaged in business type activities, following accrual accounting methods, similar to those of non-profit organizations. The District is governed by five at large elected Board of Directors, serving four year terms.

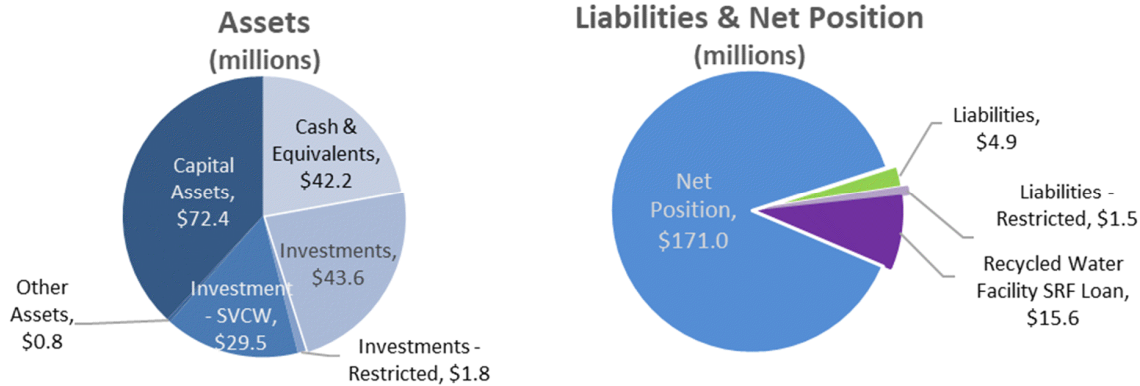
This financial report includes three parts: management's discussion and analysis, the basic financial statements, and supplemental information.

- The basic financial statements include the Statement of Net Position; Statement of Revenues, Expenses, and Change in Net Position; and Statement of Cash Flows, for the combined operations of the District for the fiscal years ended June 30, 2023 and 2022. The notes to the basic financial statements are an integral part of the basic financial statements and provide details on accounting policies, assets, and other information in the statements.
- Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the required supplementary information, as presented in the table of contents, be presented to supplement the basic financial statements.

West Bay Sanitary District
Management's Discussion and Analysis
June 30, 2023

Financial Analysis of the District

Net Position



The Statement of Net Position summary is provided in Table 1 to highlight the changes from June 30, 2022 to June 30, 2023. The District's total net position increased by \$11 million, or 7%. \$5 million is the current change in Net Position and \$6 million was a prior period adjustment for the current pension valuation by the California Public Employees' Retirement System (PERS). Subsequent to the payoff of the Unfunded Accrued Liability (UAL) in FY 2020-21, the District retained an outside valuation each year to update the PERS actuary report, which is a year in arrears. As the current PERS actuary report, valued as of June 30, 2022 now reflects the District's payoff of the UAL, a separate updated valuation is no longer necessary.

Current assets increased as investments terms shortened. The District transferred \$15.2 million to fund investment reserves to target levels, which have been invested in short-term securities as long-term yields are unattractive. The District holds restricted funds for Sharon Heights Golf & Country Club's (SHGCC) deposit for the California Clean Water State Revolving Fund (SRF) Loan in a money market account, as requested by SHGCC representatives.

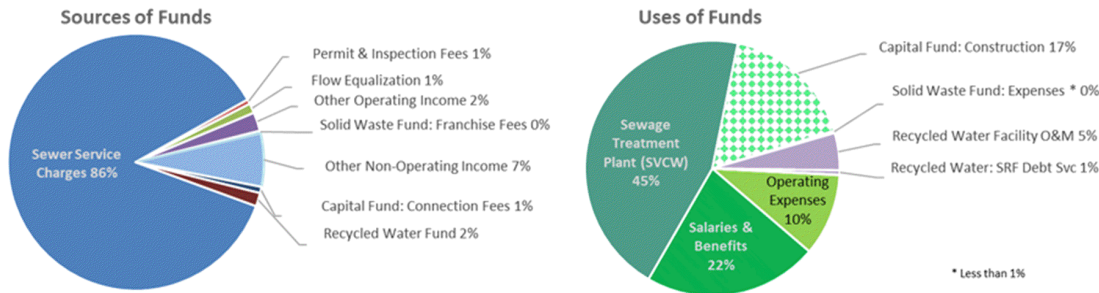
The position in the Silicon Valley Clean Water (SVCW) is based on the unaudited Analysis of Net Position [by member] for year ended June 30, 2023. Capital Assets, net of depreciation, increased by \$1.3 million with capital additions of net \$4.7 million and depreciation of \$3.5 million. Total liabilities increased by \$2.35 million due to \$1.7 million in capital expenditures after yearend.

Table 1
Statement of Net Position

	FY 2022-23	FY 2021-22	Change	Percentage
Assets				
Current Assets	67,220,746	59,079,334	8,141,412	14%
Non-Current Assets	123,014,253	122,957,418	56,835	0%
Total Assets	190,234,999	182,036,752	8,198,247	5%
Deferred Outflows of Resources	5,659,380	242,338	5,417,042	2235%
Current Liabilities	4,777,983	2,534,633	2,243,350	89%
Non-Current Liabilities	17,189,692	17,082,437	107,255	1%
Total Liabilities	21,967,675	19,617,070	2,350,605	12%
Deferred Inflows of Resources	2,942,351	2,722,245	220,106	8%
Net Position	170,984,354	159,939,775	11,044,578	7%

West Bay Sanitary District
Management's Discussion and Analysis
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Changes in Net Position



The Statement of Revenue, Expense, & Changes in Net Position by Fund in Table 2 compares the Operating and other activities in Fiscal Year 2022-23 and 2021-22. Operating revenues increased by 3%, as non-residential customers returned to normal operations and rates increased 2%. Total General Fund operating expenses, which include collection and general administration, increased \$1.27 million or 16% from the prior year. The District's salary and benefits increased 8%, including the union negotiated wage increase of 4%, as vacant positions were filled.

Sewage Treatment Plant is the wastewater transmission, treatment, and effluent disposal services provided by Silicon Valley Clean Water (SVCW), formerly South Bayside System Authority, which was created in 1975 under a Joint Exercise of Powers Agreement to construct and operate a sewage treatment facility at Redwood Shores for the District and the cities of Belmont, San Carlos, and Redwood City. As a member of SVCW, the District is liable for its share of the operating expenses and debt, which increased 5% from prior year. As of the year ending June 30, 2023, the District's share was 22.99%.

The Capital Fund received connection fees of \$277 thousand. The Solid Waste Fund represents the net solid waste collection franchise fees from Recology and direct expenses. The Recycled Water Fund represents the net activity for the Sharon Heights Recycled Water Facility (SHRWF), which is a partnership with Sharon Heights Golf & Country Club (SHGCC) to provide recycled water for irrigation and a proposed Bayfront Recycled Water Facility (BFRWF).

Table 2
Statement of Revenue, Expense, & Change in Net Position

	FY 2022-23	FY 2021-22	Change	Percentage
Operating Revenues	32,096,441	31,049,135	1,047,306	3%
Operating Expenses	(13,507,324)	(12,246,437)	(1,260,888)	10%
Sewage Treatment Plant (SVCW)	(12,846,366)	(12,233,027)	(613,339)	5%
Operating Income (Loss)	5,742,751	6,569,671	(826,920)	-13%
Non-Operating Rev / Exp	2,784,843	(979,520)	3,764,363	-384%
Income Before Contributions & Special Items	8,527,594	5,590,152	2,937,443	53%
Pension Adjustment (GASB 68)	(4,912,677)	937,667	(5,850,344)	
Recycled Water Fund: Capital Contribution	1,146,513	662,911	483,602	73%
Capital Fund: Connection Fees	277,426	7,444,686	(7,167,260)	-96%
Change in Net Position	5,038,855	14,635,416	(9,596,560)	-66%
Prior Period Adjustment	6,005,723	1,303,206	4,702,517	361%
Change in Net Position - Adjusted	11,044,578	15,938,622	(4,894,044)	-31%

West Bay Sanitary District
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Budgetary Highlights

The District adopted the annual budget for fiscal year 2022-23 on June 8, 2022, after reviewing at a Budget Workshop with the Board of Directors on May 9, 2022. The budget is prepared on the accrual basis of accounting by Fund for operations and includes planned capital expenditures for the year and capital carry-overs from prior years. The District maintains separate long-term financial plans for vehicle and equipment replacement and multi-year capital projects, in the ten-year Master Plan. Table 3 shows a comparison of combined actual to budget for the year ended June 30, 2023.

District operating revenue was 4% over budget. Total operating expenses were 8% under budget. Sewage treatment expenses was 5% over budget, due to a new Debt Reserve instigated to achieve required debt to equity ratios required for SRF loans.

The Recycled Water Fund receives a flat contribution from SHGCC each year of \$662.9 thousand to cover the annual SRF loan payment. An accounting change to recognize contributions as received instead of when the loan is paid, resulted in recognizing four prepayments for the 2024 installment. An additional \$218 thousand was recognized for SHGCC contributions for the Avy-Altschul Pump Station, which will feed into the SHRWF. Connection fees to the Capital Fund were flat.

Table 3
Actual vs. Budget Report

	FY 2022-23	Budget	Variance	Percentage
Operating Revenues	32,096,441	30,887,959	1,208,482	4%
Operating Expenses	(13,507,324)	(14,674,382)	1,167,058	-8%
Sewage Treatment Plant (SVCW)	(12,846,366)	(12,177,351)	(669,015)	5%
Operating Income (Loss)	5,742,751	4,036,227	1,706,525	42%
Non-Operating Rev / Exp	2,784,843	853,468	1,931,375	226%
Income Before Contributions & Special Items	8,527,594	4,889,694	3,637,900	74%
Pension Adjustment (GASB 68)	(4,912,677)	-	(4,912,677)	
Recycled Water Fund: Capital Contribution	1,146,513	662,911	483,602	73%
Capital Fund: Connection Fees	277,426	250,000	27,426	11%
Change in Net Position	5,038,855	5,802,605	(763,750)	-13%
Prior Period Adjustment	6,005,723	-	6,005,723	
Change in Net Position - Adjusted	11,044,578	5,802,605	5,241,973	90%

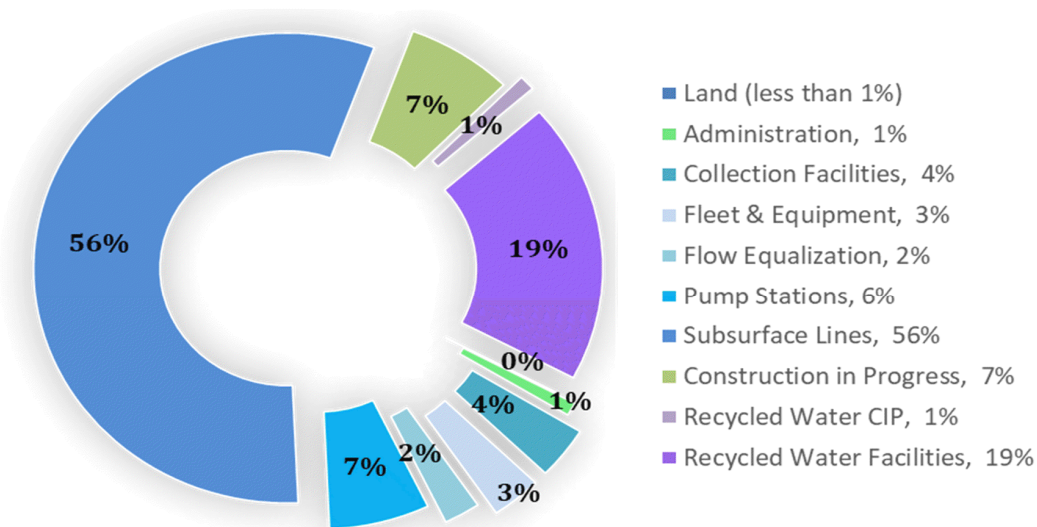
The District has \$44.2 million in Capital Budget balance, including \$41 million in carryover from fiscal year 2021-22 and \$3 million increase from fiscal year 2022-23. The Capital Budget is comprised of the net increase in Collections, less current capital expenditures, plus interest, and funds contributed or transferred to fund capital projects. Table 4 summarizes the capital budget for the fiscal year ended June 30, 2023. Current capital expenditures were \$4.4 million, \$9.9 million under budget, the result of permitting issues and project awards delays.

Table 4
Capital Budget
Actual vs. Budget Report

	FY 2022-23	Budget	Variance	Percentage
Transfer from Operations	7,114,572	5,580,264	(1,534,308)	-22%
Capital Expenditures	(4,381,234)	(14,292,500)	(9,911,266)	226%
State Revolving Fund	-	-	-	
Connection Charges	277,426	250,000	(27,426)	-10%
Interest Income	141,173	500,000	358,827	254%
Change in Capital Budget	3,151,937	(7,962,236)	(11,114,173)	-353%
Beginning Capital Budget Balance	41,066,633	41,066,633	-	0%
Ending Capital Budget Balance	44,218,570	33,104,398	(11,114,173)	-25%

West Bay Sanitary District
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Capital Assets



Capital Assets increased 4% before depreciation and were flat net of accumulated depreciation. The District had capital expenditures of \$4.4 million for administration, collection facilities, vehicles and equipment, and replacement and rehabilitation of sewer infrastructure. The SHRWF was completed and accepted on July 27, 2020, with the District assuming management on January 27, 2021. SHRWF was funded by a State of California, Clean Water State Revolving Fund (CWSRF) loan of \$17.3 million and Water Recycling Funding Program (WRFP) \$5.26 million grant. Additionally, the District expended \$326 thousand on the Bayfront Recycled Water Facility Project, which is still in the planning phase. Table 5 shows a summary of capital assets owned by the District as of June 30, 2022.

Table 5
Capital Assets

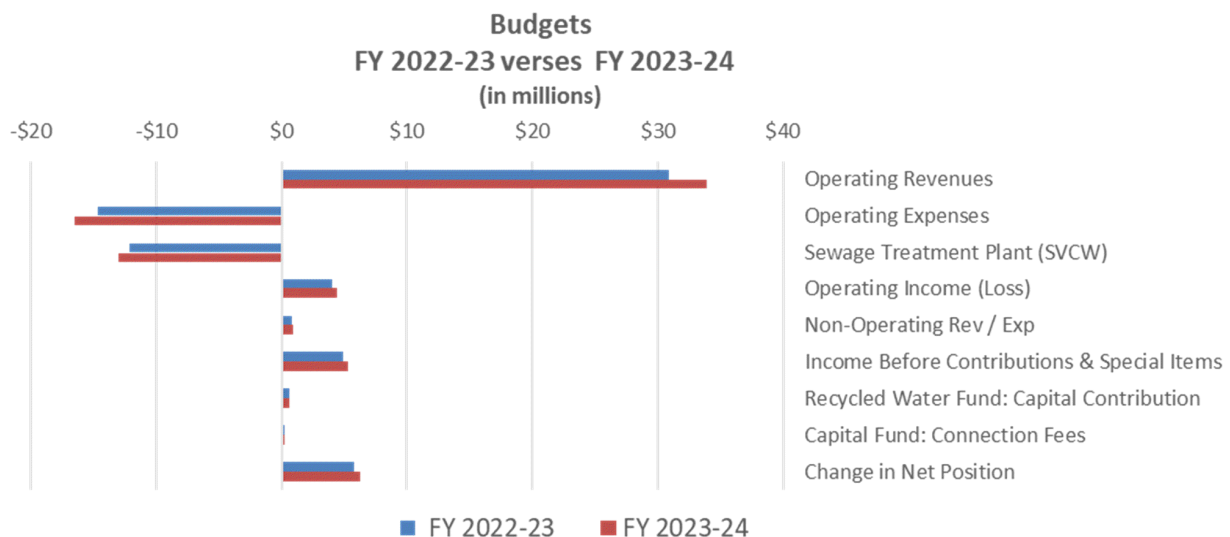
Assets	FY 2022-23	FY 2021-22	Change	Percentage
Land	44,467	44,467	-	0%
Construction in Progress	7,993,046	5,903,910	2,089,136	35%
Pump Stations	7,523,855	7,413,864	109,991	1%
Fleet & Equipment	3,786,671	2,814,646	972,025	35%
Administration	1,054,906	1,127,140	(72,235)	-6%
Flow Equalization	2,738,197	2,930,433	(192,236)	-7%
Collection Facilities	4,196,507	2,776,288	1,420,220	51%
Subsurface Lines	66,032,450	66,097,994	(65,544)	0%
Subtotal Capital Fund Assets	93,370,100	89,108,742	4,261,358	5%
Accumulated Depreciation	(44,812,224)	(41,340,145)	(3,472,079)	8%
Net Capital Fund Assets	48,557,876	47,768,597	789,280	2%
Sharon Heights Recycled Water Facilities	22,647,052	22,647,052	-	0%
Avy Pump Station (CIP)	316,121	-	316,121	
Bayfront Recycled Water Facilities (CIP)	896,821	727,296	169,525	23%
Recycled Water Assets	23,859,994	23,374,347	485,647	2%
Accumulated Depreciation	(2,203,894)	(1,451,089)	(752,805)	52%
Net Recycled Water Assets	21,656,100	21,923,258	(267,158)	-1.2%

West Bay Sanitary District
Management's Discussion and Analysis
June 30, 2023

Future Budget

The District is governed in part by provisions of the California Constitution that require the District to set rates that cover only the costs of operation and maintenance (O&M) and capital. General economic conditions have a limited effect on the District for sewer service charges. Accordingly, the District sets the sewer rates to its users to cover the costs of O&M and strives to stabilize capital costs with a ten year Master Plan and reserves for Rate Stabilization and Capital.

The District provides an essential government function, therefore essential sanitary and sewer services continue regardless of other social or economic conditions, with minimal disruption in O&M, completing 100% of internal maintenance and performance goals for 2020, 98% in 2021, 98% in 2022, and 95.5% in 2023. Goals are reviewed and revised annually to ensure the District strives to improve and provide exceptional service to our customers.



Revenue is expected to increase with 6% sewer service rate increases on residential homes and 2% increase on non-residential rates in FY 2023-24. Residential customers represented 97% of all customers and 82% of revenue, while non-residential customers represented the remaining 3% of customers and 18% of revenue in FY 2022-23. Other revenues are expected to have nominal increases.

Operating expenses are increasing 11%, with required salary and benefit increases and inflation. Along with employee step increases throughout the year, salaries increase 4%, due to labor negotiated Memorandum of Understanding effective July 1, 2023 and cafeteria benefits increase 7% effective January 1, through 2024. The consumer price index for all urban consumers (CPI-U) for San Francisco-Oakland-Hayward was 4.2 in April 2023, when the budget was developed and 2.9 in June 2023. The CPI-U was 3.5 for the West Region in June 2023.

Sewage Treatment Plant (SVCW) expenses are increasing due to additional debt reserves and cash-funded capital projects. Table 6 shows a budget comparison from fiscal year 2022-23 to fiscal year 2023-24.

West Bay Sanitary District
Management's Discussion and Analysis
June 30, 2023

Table 6
Approved Budgets

	FY 2022-23	FY 2023-24	Change	Percentage
Operating Revenues	30,887,959	33,914,468	3,026,508	9%
Operating Expenses	(14,674,382)	(16,479,263)	(1,804,881)	11%
Sewage Treatment Plant (SVCW)	(12,177,351)	(12,990,848)	(813,497)	6%
Operating Income (Loss)	4,036,227	4,444,356	408,130	9%
Non-Operating Rev / Exp	853,468	877,896	24,428	3%
Income Before Contributions & Special Items	4,889,694	5,322,252	432,558	8%
Recycled Water Fund: Capital Contribution	662,911	662,911	-	0%
Capital Fund: Connection Fees	250,000	250,000	-	0%
Change in Net Position	5,802,605	6,235,163	432,558	7%

Factors Bearing on the Future

The District is committed to its mission of protecting public health and the environment. As part of that mission, the District has worked with local partners to build and operate recycled water facilities. Beyond the benefits of providing recycled water for landscaping and other uses, recycling water from the District system reduces future processing costs to all sewer service customers, by reducing flows and ultimately discharges destined to the San Francisco Bay.

The Sharon Heights Recycled Water Facility (SHRWF) project, completed in FY 2020-21, is designed to produce 0.5 million gallons per day (MGD) of recycled water with one influent pump station. The SHRWF is a public-private partnership with SHGCC, who reimburses O&M expense and makes capital contributions to cover the annual SRF loan payments. The first SRF loan payment was made in March 2021, with a current balance of \$15,617,920, as of June 30, 2023. In 2022-23, 83 million gallons (MG) were treated and 37.58 MG of recycled water were delivered to the SHGCC pond for irrigation. The golf course was shut down in 2023 for construction, resulting in the low delivery amount, as the recycled water was used for dust control only.

In FY 2022-23, the District approved and began construction on a second influent pump station, adding 60 thousand GPD of wastewater to the basin feeding into the facility. This second pump station will be completed in FY 2023-24, with funding from SHGCC. SHGCC has paid \$218 thousand to date and will be paying construction costs through a second SRF loan. The District has also secured a grant for \$332,500 or 35% of the \$950,000 estimated project cost.



West Bay Sanitary District
Management's Discussion and Analysis
June 30, 2023

The District is currently designing a new 0.6 MGD recycled water treatment and distribution facility, with the ability to expand up to 1 MGD, on the Flow Equalization and Resource Recovery Facility (FERRF) site. The District was awarded a \$15 million grant from the California State Water Recycling Funding Program (WRFP). The grant may increase, based on final construction costs. The construction cost projection is \$56.6 million. Construction costs will be partially funded through a \$41.6 million California Clean Water State Revolving Fund (SRF) loan. Approval is currently pending from the state. The District has identified interested developers for 56% of the capacity, with 44% remaining for existing and new customers, with an estimated \$10 from the District for the value of the land.

In December 2018, the District Board provided direction to include a “Living Shoreline” to levee improvement plans to enhance the shoreline, while providing flood and sea level rise protection at FERRF. As part of a regional effort to extend resilient living shoreline around San Francisco Bay, the District has worked with experts to design an Ecotone Levee with 3.5 acres of living shoreline on the north side of the project site. This will protect the site from 100-year floods, protect the bay from contamination of raw sewage occurring if storm surge and sea level rise breach the flow equalization ponds, while mitigating loss of wetlands and conserving and creating marsh and upland habitat. Construction began in October 2023. The District was awarded a \$4,884,112 million grant to fund a portion of the Ecotone Levee Project by the National Fish and Wildlife Foundation (NFWF). The funds are matching, requiring a 112% contribution by the District of \$5.5 million.



Above you can see the District's old treatment plant and flow equalization pond, located at the Flow Equalization and Resource Recovery Facility (FERRF) site, where the Bayfront Recycled Water Facility will be constructed. The living shoreline will replace the north levee and will be viewable by the public from Bedwell Bayfront Park in Menlo Park.

Contacting the District

This financial report is designed to provide a general overview of the District's finances and demonstrate the District's accountability for the funds it receives. If you have any questions related to the District, please contact the District's main office at 500 Laurel Street, Menlo Park, CA 94025 or call (650) 321-0384.

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BASIC FINANCIAL STATEMENTS

West Bay Sanitary District
Statement of Net Position
June 30, 2023
(With Comparative Totals as of June 30, 2022)

Assets	2023	2022
Current Assets:		
Cash and cash equivalents	\$ 42,165,110	\$ 47,532,929
Investments	23,638,054	8,879,384
Restricted cash and investments	1,517,643	1,515,974
Accounts receivable	240,231	831,578
Interest receivable	442,682	238,586
Prepaid expenses and other current assets	77,978	80,883
Total Current Assets	68,081,698	59,079,334
Noncurrent Assets:		
Investments	19,942,535	19,684,019
Investment in Silicon Valley Clean Water	29,484,894	28,430,708
Restricted cash and investments	273,634	209,699
Net OPEB asset	34,366	-
Net Pension asset	-	3,490,048
Capital assets:		
Non-depreciable	8,934,334	6,675,673
Depreciable net of accumulated depreciation	63,483,535	64,467,272
Total Capital Assets - Net	72,417,869	71,142,945
Total Noncurrent Assets - Net	122,153,298	122,957,419
Total Assets	\$ 190,234,996	\$ 182,036,753
Deferred Outflows of Resources		
OPEB adjustments	\$ 91,669	\$ 101,067
Pension adjustments	5,567,712	141,271
Total Deferred Outflows of Resources	\$ 5,659,381	\$ 242,338
Liabilities		
Current Liabilities:		
Accounts payable	\$ 2,407,596	\$ 291,571
Payroll and related liabilities	466,569	536,887
Unearned revenue	447,538	12,433
Other liabilities	58,253	-
Construction deposits	-	119
Customer deposits	891,292	1,191,909
State Revolving Fund Loan	506,732	501,715
Total Current Liabilities	4,777,980	2,534,634
Noncurrent Liabilities:		
Net OPEB liability	-	6,113
Customer deposits	1,458,404	1,458,404
Net pension liability	620,100	-
State Revolving Fund Loan	15,111,188	15,617,920
Total Noncurrent Liabilities	17,189,692	17,082,437
Total Liabilities	\$ 21,967,672	\$ 19,617,071
Deferred Inflows of Resources		
OPEB adjustments	\$ 25,452	\$ 28,593
Pension adjustments	2,916,899	2,693,652
Total Deferred Inflows of Resources	\$ 2,942,351	\$ 2,722,245
Net Position		
Net Investment in Capital Assets	\$ 56,799,949	\$ 55,023,310
Unrestricted:		
Capital fund budget	44,218,570	41,066,633
Invested in Silicon Valley Clean Water	29,484,894	28,430,708
Operations	11,111,437	10,749,600
Unreserved	29,369,504	24,669,524
Total Net Position	\$ 170,984,354	\$ 159,939,775

The notes to the financial statements are an integral part of this statement.

West Bay Sanitary District
Statement of Revenues, Expenses and Changes in Net Position
For the Fiscal Year Ended June 30, 2023
(With Comparative Totals for the Fiscal Year Ended June 30, 2022)

	2023	2022
Operating Revenues:		
Service charges	\$ 30,508,147	\$ 29,637,018
Flow equalization uses	436,915	368,490
Permit and inspection fees and other services	203,036	210,666
Other operating revenues	948,343	832,961
Total operating revenues	<u>32,096,441</u>	<u>31,049,135</u>
Operating Expenses:		
Sewage treatment plant (SVCW)	12,846,365	12,233,027
Sewage collection and general administration:		
Salaries and benefits	6,330,472	5,885,910
Materials and supplies	657,069	573,943
Insurance	331,063	229,776
Contract services	763,708	611,993
Professional services	824,390	433,014
Repairs and maintenance	389,909	291,398
Utilities	405,452	329,988
Other operating expenses	286,728	241,980
Total sewage collection and general administration	<u>9,988,791</u>	<u>8,598,002</u>
Depreciation	3,518,536	3,648,434
Total operating expenses	<u>26,353,692</u>	<u>24,479,463</u>
Operating Income (Loss)	<u>5,742,749</u>	<u>6,569,672</u>
Nonoperating Revenues (Expenses):		
Investment income	1,367,580	(410,875)
Interest expense	(161,196)	(166,164)
Increase (decrease) of equity in Silicon Valley Clean Water	1,054,186	(1,088,923)
Other nonoperating expenses	(10,951)	(9,601)
Other nonoperating revenues	535,226	696,043
Total nonoperating revenues (expenses)	<u>2,784,845</u>	<u>(979,520)</u>
Income before contributions	<u>8,527,594</u>	<u>5,590,152</u>
Capital Contributions:		
Capital Fund: Connection Fees	277,426	7,444,686
Recycled Water Fund: Capital Contributions	1,146,513	662,911
Total capital contributions	<u>1,423,939</u>	<u>8,107,597</u>
Special Item: Pension (Expense) Credit	<u>(4,912,677)</u>	<u>937,667</u>
Change in Net Position	<u>5,038,856</u>	<u>14,635,416</u>
Beginning Net Position	159,939,775	144,001,153
Prior Period Adjustments	6,005,723	1,303,206
Beginning Net Position - As Adjusted	<u>165,945,498</u>	<u>145,304,359</u>
Ending Net Position	<u>\$ 170,984,354</u>	<u>\$ 159,939,775</u>

The notes to the financial statements are an integral part of this statement.

West Bay Sanitary District
Statement of Cash Flows
For the Fiscal Year Ended June 30, 2023
(With Comparative Totals for the Fiscal Year Ended June 30, 2022)

	2023	2022
Cash Flows from Operating Activities:		
Cash received from customers	\$ 32,822,157	\$ 32,119,464
Cash payments to suppliers for goods and services	(14,361,867)	(16,472,527)
Cash payments to employees for services	(4,782,938)	(4,483,601)
Cash payments of benefits on behalf of employees	(1,617,708)	(1,516,841)
Net Cash Provided (Used) by Operating Activities	<u>12,059,644</u>	<u>9,646,495</u>
Cash Flows from Capital and Related Financing Activities:		
Cash received from connection fees	277,426	7,444,686
Principal paid for the State Revolving Fund loan	(501,715)	(496,747)
Cash received from other financing activities	535,226	204,901
Cash received from capital contributions	1,146,513	662,911
Interest payments	(161,196)	(166,164)
Cash received on the sale of capital assets	-	602
Purchases and construction of capital assets	(4,877,832)	(4,329,486)
Net Cash Provided (Used) by Capital and Related Financing Activities	<u>(3,581,578)</u>	<u>3,320,703</u>
Cash Flows from Investing Activities:		
Transfers to investment accounts	(15,202,111)	(8,137,346)
Transfers from investment accounts	670,000	1,103,111
Investment income	686,226	597,467
Net Cash Provided (Used) by Investing Activities	<u>(13,845,885)</u>	<u>(6,436,768)</u>
Net Increase (Decrease) in Cash and Cash Equivalents	(5,367,819)	6,530,430
Cash and Cash Equivalents Beginning	<u>47,532,929</u>	<u>41,002,499</u>
Cash and Cash Equivalents Ending	<u><u>\$ 42,165,110</u></u>	<u><u>\$ 47,532,929</u></u>
Reconciliation of Operating Income to Cash Flows Provided by Operating Activities:		
Operating Income (Loss)	\$ 5,742,749	\$ 6,569,672
Adjustments to reconcile operating income (loss) to net cash provided (used) by operating activities:		
Depreciation	3,518,536	3,648,434
Pension credit	(4,912,677)	937,667
Prior period adjustments	6,005,723	1,303,206
Net change in:		
Accounts receivable	591,347	(160,034)
Prepaid expenses and other current assets	2,905	3,211
Deferred outflows of resources	(5,417,043)	(109,500)
Accounts payable	2,116,025	(1,080,166)
Payroll and related liabilities	(70,318)	(58,538)
Unearned revenue	435,105	-
Other liabilities	58,253	-
Construction deposits	(119)	-
Customer deposits	(300,617)	(523,296)
Net OPEB asset/liability	(40,479)	(112,570)
Net pension asset/liability	4,110,148	(3,490,048)
Deferred inflows of resources	220,106	2,718,457
Net Cash Provided (Used) by Operating Activities	<u><u>\$ 12,059,644</u></u>	<u><u>\$ 9,646,495</u></u>

The notes to the financial statements are an integral part of this statement.

NOTE 1 - NATURE OF ORGANIZATION

West Bay Sanitary District (District) is a State of California Special District and was formed for the purpose of protecting water quality and the associated public health. The District is responsible for wastewater collections, treatment, reclamation and disposal. The District performs the services of wastewater collection, and together with three other public entities is part of a Joint Powers District for the treatment, disposal and reclamation of wastewater. The District is also responsible for refuse (solid waste) collection, treatment, disposal and reclamation. It franchises with a solid waste organization to perform these refuse services.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Accounting

The District's Basic Financial Statements are prepared in accordance with the policies and procedures for California special districts. The accounting policies of the District conform to accounting principles generally accepted in the United States of America, and as prescribed by the Governmental Accounting Standards Board and Audits of State and Local Governmental Units, issued by the American Institute of Certified Public Accountants.

The District is accounted for as an enterprise fund because the intent of the governing body is that the cost (including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges.

An enterprise fund is used to account for activities similar to those in the private sector, where the proper matching of revenues and costs is emphasized and the full accrual basis of accounting is required. With this measurement focus, all assets, deferred outflows of resources, liabilities, and deferred inflows of resources of the enterprise are recorded on its statement of net position, and under the full accrual basis of accounting, all revenues are recognized when earned and all expenses, including depreciation, are recognized when incurred.

Enterprise funds are accounted for on a cost of services or economic resources measurement focus, which means that all assets, deferred outflows of resources, liabilities, and deferred inflows of resources associated with their activity are included on their balance sheets. Enterprise fund type operating statements present increases (revenues) and decreases (expenses) in total net position.

In addition to assets, the Statement of Net Position includes a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to a future period(s), and as such will not be recognized as an outflow of resources (expense/expenditures) until then. The District has recognized a deferred outflow of resources related to the recognition of the net pension liability and net OPEB liability reported in the Statement of Net Position.

In addition to liabilities, the Statement of Net Position reports a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position that applies to a future period(s) and as such, will not be recognized as an inflow of resources (revenue) until that time. The District has recognized a deferred inflow of

resources related to the recognition of the District's benefit plans liability reported in the Statement of Net Position.

Unearned revenue arises when assets are received before revenue recognition criteria have been satisfied. Grants and entitlements received before eligibility requirements are met are recorded as deferred inflows from unearned revenue.

The District applies all applicable Governmental Accounting Standards Board (GASB) pronouncements for certain accounting and financial reporting guidance. In December of 2010, GASB issued Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*. GASB 62 incorporates pronouncements issued on or before November 30, 1989 into GASB authoritative literature. In June of 2015, GASB issued Statement No. 76, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. GASB 76 supersedes Statement No. 55, *The Hierarchy of Generally Accepted Accounting Principles for State and Local Governments*. GASB 76 also amends GASB 62 and AICPA Pronouncements paragraphs 64, 74, and 82. The Generally Accepted Accounting Principles (GAAP) hierarchy sets forth what constitutes GAAP for all state and local governmental entities. It establishes the order of priority of pronouncements and other sources of accounting and financial reporting guidance that a governmental entity should apply. The sources of authoritative GAAP are categorized in descending order of authority as follows:

- a. Officially established accounting principles—GASB Statements (Category A)
- b. GASB Technical Bulletins; GASB Implementation Guides; and literature of the AICPA cleared by the GASB (Category B).

If the accounting treatment for a transaction or other event is not specified by a pronouncement in Category A, a governmental entity should consider whether the accounting treatment is specified by a source in Category B.

Statement of Net Position

The statement of net position is designed to display the financial position of the District. The District's net position is classified into three categories as follows:

- Net Investment in Capital Assets - This component of net position consists of capital assets, including restricted capital assets, net of accumulated depreciation and reduced by the outstanding balances of any bonds, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component of net position, as applicable.
- Restricted - This component of net position consists of constraints placed on an assets use through external constraints imposed by creditors (such as through debt covenants), grantors, contributors, or law and regulations of other governments, and reduced by liabilities and deferred inflows of resources related to those assets. It also pertains to constraints imposed by law or constitutional provisions or enabling legislation. The District applies restricted resources when an

expense is incurred for purposes for which both restricted and unrestricted net position is available.

- Unrestricted - This component of net position consists of the net amount of the assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted component of net position. The District first applies restricted resources when an expense is incurred for purposes for which both restricted and unrestricted net position are available.

Statement of Revenues, Expenses, and Changes in Net Position

The statement of revenues, expenses, and changes in net position is the operating statement for proprietary funds. This statement distinguishes between operating and non-operating revenues and expenses and presents a separate subtotal for operating revenues, operating expenses, and operating income. Operating revenues and expenses generally result from providing services in connection with the District's principal ongoing operations. The principal operating revenues of the District are charges to customers for services. Operating expenses for the District include the cost of services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

Service Charges

Service Charges are collected for providing sewer services within the District's territory. The majority of revenues are collected by the County of San Mateo through annual property tax billings. Customers not included in tax roll are manually billed by District.

Connection Fees

Connection fees are reported as revenue only to the extent the amount equals the costs of the physical connection to the system.

Budgets and Budgetary Accounting

Budgets are prepared on a basis consistent with generally accepted accounting principles. Annual appropriated budgets are adopted by the Board of Directors. Project-length financial plans are adopted for all capital projects funds.

Cash and Cash Equivalents

For the purposes of the statement of cash flows, cash represents balances that can be readily withdrawn without substantial notice or penalty. Cash equivalents are defined as short-term, highly liquid investments that are both readily convertible to known amounts of cash or so near their maturity that they present insignificant risk of changes in value because of changes in interest rates and have an original maturity date of three months or less.

Investments

In accordance with GASB Statement No. 40, *Deposit and Investment Disclosures (Amendment of GASB No.3)*, certain disclosure requirements for Deposits and Investment Risks were made in the areas of interest rate risk and credit risk. The credit risk disclosures include the following components; overall credit risk, custodial credit risk and concentrations of credit risk. In addition, other disclosures are specified including use of certain methods to present deposits and investments, highly sensitive investments, credit quality at year-end and other disclosures.

The District participates in the Local Agency Investment Fund (LAIF) that is regulated by California Government Code section 16429 under the oversight of the Treasurer of the State of California. The balance available for withdrawal is based on the accounting records maintained by LAIF, which are recorded on an amortized cost basis. The value of the underlying securities within LAIF does not affect the value of the money that LAIF participants deposit in the fund. LAIF, in essence, acts as an “interest-bearing checking account. Deposits are available to the District daily and earn an equal share of interest based on the average daily balance within LAIF during each quarter.

Investments are recorded at fair value in accordance with GASB Statement No. 72, *Fair Value Measurement and Application*. Accordingly, the change in fair value of investments is recognized as an increase or decrease to investment assets and investment income.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction. In determining this amount, three valuation techniques are available:

- Market approach - This approach uses prices generated for identical or similar assets or liabilities. The most common example is an investment in a public security traded in an active exchange such as the NYSE.
- Cost approach - This technique determines the amount required to replace the current asset. This approach may be ideal for valuing donations of capital assets or historical treasures.
- Income approach - This approach converts future amounts (such as cash flows) into a current discounted amount.

Each of these valuation techniques requires inputs to calculate a fair value. Observable inputs have been maximized in fair value measures, and unobservable inputs have been minimized.

Accounts Receivables

Receivables include amounts due from collection services and other assessments or resources. All receivables are current and reported net of an allowance for uncollectible accounts as applicable. The allowance for uncollectible accounts was zero as of June 30, 2023.

Capital Assets

Property, plant and equipment are recorded at cost or, if contributed, at estimated value at the time of acquisition to the District are stated at estimated fair value at the time of contribution. District policy

has set the capitalization threshold for reporting capital assets at \$20,000 if an asset has an estimated useful life in excess of one year. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. The purpose of depreciation is to spread the cost of plant and equipment equitably among all customers over the life of these assets, so that each customer's bill includes a pro rata share of the cost of these assets. The amount charged to depreciation expense each year represents that year's pro rata share of plant and equipment cost.

Depreciation of all plant and equipment in service is charged as an expense against operations each year and the total amount of depreciation taken over the years, called accumulated depreciation, is reported on the statement of net position as a reduction in the book value of the capital assets.

The District has assigned the useful lives listed below to plant and equipment:

Pump Stations	5-30 years
Fleet	5-10 years
Plant and administration facilities	3-30 years
Buildings	5-30 years
Flow equalization facilities	10-30 years
Subsurface lines	5-50 years

Long-Term Liabilities

Long-term debt and other long-term obligations are reported as liabilities in the Statement of Net Position.

Compensated Absences

Compensated absences include vacation leave, floating holidays and comp time. Vested or accumulated vacation leave is recorded as an expense and liability as the benefits accrue to the employees. The following summarizes the changes in compensated absences during the year:

Description	Balance July 01, 2022	Additions	Deletions	Balance June 30, 2023	Due Within One Year
Compensated Absences	387,761	-	17,620	370,141	370,141

Pensions

For purposes of measuring the net pension liability and deferred outflows/inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the District's California Public Employees' Retirement System (CalPERS) plan (the Plan) and additions to/deductions from the Plan's fiduciary net position have been determined on the same basis as they are reported by CalPERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

GASB Statement No. 68, *accounting and financial reporting for Pensions – an amendment of GASB Statement No. 27* requires that the reported results must pertain to liability and asset information within certain defined time frames. During the fiscal year ended June 30, 2023, the District obtained an actuarial valuation for its pension plan in order determine the amount required to fully fund its unfunded pension liability. As of June 30, 2023 the District had a net pension asset. For the period, the following time frames were used.

Valuation Date	June 30, 2021
Measurement Date	June 30, 2022
Measurement Period	July 1, 2021 to June 30, 2022

Other Postemployment Benefits Other Than Pensions (OPEB)

For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense information about the fiduciary net position of the District's Retiree Benefits Plan (the OPEB Plan) and additions to/deductions are based on when they are due and payable in accordance with the benefit terms for the measurement period included in the OPEB plan's actuarial reports. Investments are reported at fair value, except for money market investments and participating interest-earning investment contracts that have a maturity at the time of purchase of one year or less, which are reported at cost.

Valuation Date	June 30, 2022
Measurement Date	June 30, 2022
Measurement Period	July 1, 2021 to June 30, 2022

Accounting Estimates

The preparation of the financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes.

New Accounting Pronouncements

GASB Statement No. 96, *Subscription-Based Information Technology Arrangements*

GASB 96 provides guidance on accounting for Subscription-Based Information Technology Arrangements (SBITA) where the government contracts for the right to use another party's software. The standards for SBITAs are based on the standards established in GASB Statement No. 87, *Leases*. *GASB 96 is effective for fiscal years beginning after June 15, 2022.* As of June 30, 2023, the District did not have any material contracts required to be reported under GASB 96.

Upcoming New Accounting Pronouncements

The District is currently analyzing its accounting practices to determine the potential impact on the financial statements of the following recent GASB Statements:

GASB Statement No. 100, *Accounting Changes and Error Corrections—an amendment of GASB Statement No. 62*

This Statement defines *accounting changes* as changes in accounting principles, changes in accounting estimates, and changes to or within the financial reporting entity and describes the transactions or other events that constitute those changes. This Statement also prescribes the accounting and financial reporting for (1) each type of accounting change and (2) error corrections in previously issued financial statements. The requirements of this Statement are effective for accounting changes and error corrections made in fiscal years beginning after June 15, 2023, and all reporting periods thereafter. Earlier application is encouraged.

GASB Statement No. 101, *Compensated Absences*

This Statement requires that liabilities for compensated absences be recognized for (1) leave that has not been used and (2) leave that has been used but not yet paid in cash or settled through noncash means. A liability should be recognized for leave that has not been used if (a) the leave is attributable to services already rendered, (b) the leave accumulates, and (c) the leave is more likely than not to be used for time off or otherwise paid in cash or settled through noncash means. Leave is attributable to services already rendered when an employee has performed the services required to earn the leave. Leave that accumulates is carried forward from the reporting period in which it is earned to a future reporting period during which it may be used for time off or otherwise paid or settled. In estimating the leave that is more likely than not to be used or otherwise paid or settled, a government should consider relevant factors such as employment policies related to compensated absences and historical information about the use or payment of compensated absences. However, leave that is more likely than not to be settled through conversion to defined benefit postemployment benefits should not be included in a liability for compensated absences.

This Statement requires that a liability for certain types of compensated absences—including parental leave, military leave, and jury duty leave—not be recognized until the leave commences. This Statement also requires that a liability for specific types of compensated absences not be recognized until the leave is used.

This Statement also establishes guidance for measuring a liability for leave that has not been used, generally using an employee's pay rate as of the date of the financial statements. A liability for leave that has been used but not yet paid or settled should be measured at the amount of the cash payment or noncash settlement to be made. Certain salary-related payments that are directly and incrementally associated with payments for leave also should be included in the measurement of the liabilities.

With respect to financial statements prepared using the current financial resources measurement focus, this Statement requires that expenditures be recognized for the amount that normally would be liquidated with expendable available financial resources. The requirements of this Statement are effective for fiscal years beginning after December 15, 2023, and all reporting periods thereafter.

NOTE 3 - CASH AND INVESTMENTS

The District's cash and investments consisted of the following as of June 30, 2023 and 2022:

Description	Rating	Fair Value June 30, 2023	Maturities			Concen- trations
			12 Months or Less	13 - 24 Months	25 - 60 Months	
Bank of the West Investments:						
Fixed Income	AA+/BBB	\$41,134,769	\$ 21,192,234	\$ 3,815,177	\$ 16,127,358	46.99%
Cash	N/A	2,445,820	2,445,820	-	-	2.79%
Total Bank of West Investments	AAA	43,580,589	23,638,054	3,815,177	16,127,358	49.79%
Restricted Investments:						
Cash with fiscal agents - PARS	N/A	273,634	273,634	-	-	0.31%
Total Restricted Investments		273,634	273,634	-	-	0.31%
Cash and Cash Equivalents:						
Cash on hand and in banks	N/A	1,390,891	1,390,891	-	-	1.59%
Money Market	N/A	2,709,008	2,709,008	-	-	3.09%
LAIF	N/A	39,582,054	39,582,054	-	-	45.22%
OPEB Trust	N/A	-	-	-	-	
Petty Cash	N/A	800	800	-	-	0.00%
Total Cash and Cash Equivalents		43,682,753	43,682,753	-	-	49.90%
Total Cash and Investments		\$87,536,976	\$ 67,594,441	\$ 3,815,177	\$ 16,127,358	100.00%

Cash Deposits

Interest bearing bank balances are insured up to \$250,000 per bank by the Federal Deposit Insurance Corporation ("FDIC"). The bank balance of the District's cash in bank, which was \$4,298,595, exceeded the insured limit by \$4,048,595 as of June 30, 2023. None of the District's deposits with financial institutions in excess of FDIC limits were held in uncollateralized accounts. All of the District's accounts met the collateral and categorization requirements as noted in the following paragraphs.

Collateral and Categorization Requirements

The California Government Code requires California banks and savings and loan associations to secure an agency's deposits by pledging government securities as collateral. The market value of pledged securities must equal at least 110% of an agency's deposits. California law also allows financial institutions to secure an agency's deposits by pledging first trust deed mortgage notes having a value of at least 150% of an agency's total deposits.

Investment Policy

The District's investment guidelines as defined by its written investment policy were approved by the Board of Directors. Implementation and direction is established by an internal finance committee. Monthly, the Board reviews the investment balances. Investments are ratified quarterly by the Board.

The District's investment policy follows the California Government Code which authorizes the District to invest in the following:

Authorized Investment Type	Maximum Remaining Maturity	Maximum Percentage of Portfolio	Maximum Investment In One Issuer
U.S. Treasury Obligations	5 years	None	None
Federal Agency Securities	5 years	None	None
Registered State Bonds, Notes, Warrants	5 years	None	None
Local Agency Bonds, Notes, Warrants	5 years	None	None
Banker's Acceptance	180 days	40%	30%
Commercial Paper	270 days	25%	10%
Medium Term Notes	5 years	30%	None
Negotiable Certificates of Deposit	5 years	30%	None
FDIC/Fully Collateralized Certificates of Deposit	N/A	N/A	\$500,000
Repurchase Agreements	1 year	None	None
Reverse Repurchase Agreements	92 days	20% of base	None
Local Agency Investment Fund (LAIF)	N/A	No Limit	No Limit
Passbook Savings Account Demand Deposits	N/A	None	None
California Asset Management Program (CAMP)	N/A	None	None
Money Market funds	N/A	20%	None
Mortgage Pass-Through Securities	5 years	20%	None
U.S. Senior Unsecured Unsubordinated Obligations	5 years	30%	None

Fair Value Measurements

GASB 72 established a hierarchy of inputs to the valuation techniques above. This hierarchy has three levels:

- Level 1 inputs are quoted prices in active markets for identical assets or liabilities.
- Level 2 inputs are quoted market prices for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in markets that are not active, or other than quoted prices that are not observable
- Level 3 inputs are unobservable inputs, such as a property valuation or an appraisal.

All of the Districts investments were valued using Level 2 inputs as noted above.

California Local Agency Investment Fund

The District participates in an investment pool managed by the State of California known as the Local Agency Investment Fund (LAIF), which has invested a portion of the pooled funds in structured notes and asset-backed securities, defined as follows:

- Structured Notes are debt securities (other than asset-backed securities) whose cash flow characteristics (coupon rate, redemption amount, or stated maturity) depend upon one or more indices and/or that have embedded forwards or options.

- Asset-Backed Securities, the bulk of which are mortgage-backed securities, entitle their purchasers to receive a share of the cash flows from a pool of assets such as principal and interest repayments from a pool of mortgages (such as Collateralized Mortgage Obligations) or credit card receivables.

LAIF's investments are subject to credit risk with the full faith and credit of the State of California collateralizing these investments. In addition, the structured notes and asset-backed securities are subject to market risk as to change in interest rates.

LAIF allows local agencies such as the District to participate in the Pooled Money Investment Account (PMIA) managed by the State Treasurers Office and overseen by the Pooled Money Investment Board and State Treasurer investment committee. A Local Agency Investment Advisory Board oversees LAIF. The investments with LAIF are not classified for credit risk due to their diverse nature and are stated at cost, which approximates fair value. One hundred percent of the pooled funds are invested in non-derivative financial products. The balance in LAIF is available for withdrawal on demand. The PMIA fair value balance, as of June 30, 2023, was approximately \$177 billion.

Risk Disclosures

Limitations as they relate to interest rate risk, credit risk, and concentration of credit risk are described below:

- *Interest Rate Risk* - Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Generally, the longer the maturity of an investment, the greater the sensitivity of its fair value to the changes in market interest rates. In order to limit loss exposure due to Interest Rate Risk, the investment policy limits the length of maturity of investments
- *Credit Risk* - Credit risk is the risk of loss due to the failure of the security issuer. This is measured by the assignment of a rating by a nationally recognized statistical rating organization. In order to limit loss exposure due to Credit Risk, the investment policy limits purchases of investments to those rated A-1 by Standard & Poor's or P-1 by Moody's Investors Service.
- *Custodial Credit Risk* - Custodial credit risk is the risk that in the event of a bank failure, the District's deposits may not be returned to it. Or, in the case of investments, the risk of loss of the investment due to failure, impairment or malfeasance of the third party whose name in which the investment is held and who has physical possession of the instrument. In order to limit loss exposure due to Custodial Credit Risk, the investment policy requires all securities be received and delivered using the standard delivery versus payment (DVP) procedure, and all securities be held by a third-party bank or trust department under the terms of a custody or trustee agreement. None of the District's investments were subject to custodial credit risk.
- *Concentration of Credit Risk* - See the chart above for the District's limitations on the amount that can be invested in any one issuer.

NOTE 4 - INVESTMENT IN SILICON VALLEY CLEAN WATER

Silicon Valley Clean Water (SVCW), formerly South Bayside System Authority, was founded in 1975 as the successor to the Strategic Consolidation Sewerage Plan, from which SVCW took title to property including sanitary sewerage pumping stations, as well as transmission and outfall facilities originally constructed by that plan. SVCW is a joint exercise of powers agency between the District, the Cities of Belmont, Redwood City, and San Carlos. The Agency's wastewater treatment plant is in Redwood City and serves more than 220,000 people and businesses in service areas. SVCW provides wastewater transmission, treatment, and effluent disposal services member agencies. At June 30, 2023 and 2022, the District had approximately 22.99% and 23.06%, respectively, in equity interest in SVCW, which is reported using the equity method of accounting. The District's investment in SVCW at June 30, 2023 and 2022 was \$29,484,894 and \$28,430,708, respectively, as reflected on the statement of net position. The change in the investment for the years ended June 30, 2023 and 2022 was an increase of \$1,054,186 and a decrease of \$1,088,923, respectively, as reflected in the statement of revenues, expenses and changes in net position. During the year ended June 30, 2023, the District contributed \$7,768,684 toward the cost of operating and maintaining the facility, including capital and reserve contributions of \$1,740,748, and paid debt principal and interest of \$5,077,681 that included the State revolving fund loan and the financing agreements to finance the construction and rehabilitation of the SVCW's wastewater system.

The 2023 changes in the District's equity share was mostly attributed to ongoing operating and capital needs of the JPA. Overall, the District's equity share has been impacted by the fact that not all members share in prior issuances of long-term debt, only the net position, or equity, of the participating members decreases upon the issuance of new debt, while the "non-debt" member's net position increases. In addition, the non-debt members contribute more cash into the JPA than other members to cover their share of capital improvements, which increases the equity share of non-debt members and decreases the share of other participating agencies. SVCW's governing commission consists of four members, one appointed from each of the four participating agencies. SVCW's condensed audited financial information is presented below for the year ended June 30, 2023, (most recent information available):

	June 30, 2023
Total Assets	\$ 944,391,349
Deferred Outflows of Resources	30,346,975
Total Liabilities	844,336,921
Deferred Inflows of Resources	2,168,364
Total Net Position	128,233,039
Total Revenues	65,374,803
Total Expenses	60,441,641

Financial statements may be obtained by mailing a request to Silicon Valley Clean Water, 1400 Radio Road, Redwood City, CA 94065.

The District entered into financing agreements with SVCW for repayment of the District's allocated share of bonds and State Water Resource Control Board loans with an outstanding balance of \$298,233,964 as of June 30, 2023, including principal and interest. The financing agreements are secured by a pledge of the District's sewer revenue as defined under the financing agreements. For

fiscal year 2023, gross Sewer Fund revenues, including operating revenues and non-operating interest earnings, amounted to \$30,508,147. The annual debt service commitments are summarized as follows:

Fiscal year ending:	Principal	Interest	Total
2024	\$ 2,919,764	\$ 2,156,270	\$ 5,076,034
2025	4,300,086	2,470,547	6,770,633
2026	4,510,773	2,448,188	6,958,961
2027	4,563,684	2,389,049	6,952,732
2028	6,341,549	3,597,392	9,938,941
2029-2033	33,105,208	17,690,089	50,795,297
2034-2038	39,670,849	14,660,172	54,331,021
2039-2043	40,668,795	10,570,812	51,239,607
2044-2048	37,818,970	6,492,993	44,311,963
2049-2053	31,202,324	3,369,131	34,571,454
2054-2058	23,912,079	1,306,141	25,218,219
2059-2062	2,010,705	58,395	2,069,100
Total debt service	\$ 231,024,785	\$ 67,209,179	\$ 298,233,964

NOTE 5 - CAPITAL ASSETS (PROPERTY, PLANT AND EQUIPMENT)

The District's capital assets consisted of the following as of June 30, 2023:

Description	Balance June 30, 2022	Additions	Adjustments/ Transfers	Deletions	Balance June 30, 2023
Non-depreciable Capital Assets:					
Land	\$ 44,467	\$ -	\$ -	\$ -	\$ 44,467
Construction in progress	6,631,206	3,440,546	(852,239)	(13,525)	9,205,988
Total non-depreciable capital assets	6,675,673	3,440,546	(852,239)	(13,525)	9,250,455
Depreciable Capital Assets:					
Pump stations	7,413,864	109,991	-	-	7,523,855
Fleet	2,814,646	978,603	51,307	(57,885)	3,786,671
Plant and administration facilities	1,127,140	-	(48,471)	(23,763)	1,054,906
Buildings	2,930,433	-	1,266,074	-	4,196,507
Flow equalization facilities	2,776,288	-	(38,091)	-	2,738,197
Subsurface lines	66,097,994	337,741	(378,580)	(24,705)	66,032,450
SHGCC Recycled Water Facility	22,647,052	-	-	-	22,647,052
Total depreciable capital assets	105,807,417	1,426,335	852,239	(106,353)	107,979,638
Less accumulated depreciation for:					
Pump stations	(3,696,302)	(225,296)	-	-	(3,921,598)
Fleet	(2,046,252)	(176,360)	-	(28,615)	(2,251,227)
Plant and administration facilities	(867,652)	(65,426)	-	72,234	(860,844)
Buildings	(1,503,041)	(84,982)	-	(35,251)	(1,623,274)
Flow equalization facilities	(2,686,304)	(89,485)	-	38,089	(2,737,700)
Subsurface lines	(29,089,505)	(2,124,182)	-	-	(31,213,687)
SHGCC Recycled Water Facility	(1,451,089)	(752,805)	-	-	(2,203,894)
Total accumulated depreciation	(41,340,145)	(3,518,536)	-	46,457	(44,812,224)
Total depreciable capital assets - net	64,467,272	(2,092,201)	852,239	(59,896)	63,167,414
Total capital assets - net	\$ 71,142,945	\$ 1,348,345	\$ -	\$ (73,421)	\$ 72,417,869

Depreciation expense for the year ended June 30, 2023 and 2022 was \$3,518,536 and \$3,648,434, respectively.

The following details construction in progress as of June 30, 2023:

Project	Balance
Avy PS	\$ 316,121
Levee	1,792,276
North Bay-Ringwood, Bayfront Canal, & CIP Point Repair	6,200,770
Bayfront RWF	896,821
Total Construction in Progress	<u>\$ 9,205,988</u>

NOTE 6 - NONCURRENT LIABILITIES

The District's noncurrent liabilities consisted of the following as of June 30, 2023:

Description	Balance July 01, 2022	Additions	Deletions	Balance June 30, 2023	Due Within One Year
Net OPEB Liability	\$ 6,113	\$ -	\$ 6,113	\$ -	\$ -
Net Pension Liability	-	5,776,067	5,155,967	620,100	-
State Revolving Fund Loan	16,119,635	-	501,715	15,617,920	506,732
Total Noncurrent Liabilities	<u>\$ 16,125,748</u>	<u>\$ 5,776,067</u>	<u>\$ 5,663,795</u>	<u>\$ 16,238,020</u>	<u>\$ 506,732</u>

State Revolving Fund Loan

The District has entered into a \$22,595,000 agreement with the State Water Resources Control Board (SWRCB or State Revolving Fund Loan) to finance the Sharon Heights Recycled Water project. The final funding includes a grant of \$5,259,800, federal loan of \$987,014, and state loan of \$16,020,443. Through June 30, 2023, the SRF loan balance was \$15,617,920. The loan funds and accrued interest annual installments commenced on March 31, 2021, one year after the state recognized the project completion on March 31, 2020. Sharon Heights Golf & Country Club pre-funds the annual SRF loan payments. The District accepted project completion July 27, 2020. The following summarizes the total debt service to be repaid by June 30, 2050:

Fiscal Year Ending June 30:	Principal	Interest	Total
2024	\$ 506,732	\$ 156,179	\$ 662,911
2025	511,799	151,112	662,911
2026	516,917	145,994	662,911
2027	522,086	140,825	662,911
2028	527,307	135,604	662,911
2029-33	2,716,694	597,861	3,314,554
2034-38	2,855,272	459,282	3,314,554
2039-43	3,000,920	313,634	3,314,554
2044-48	3,153,997	160,557	3,314,554
2049-50	1,306,196	19,625	1,325,822
Total Debt Service	<u>\$ 15,617,920</u>	<u>\$ 2,280,673</u>	<u>\$ 17,898,594</u>

West Bay Sanitary District
Notes to Financial Statements
June 30, 2023

NOTE 7 - BOARD COMMITMENTS OF NET POSITION

Commitments are imposed by the District's Board to reflect future spending plans or concerns about the availability of future resources. Commitments may be modified, amended or removed by Board action. Commitments for future capital assets replacement is the portion of net position to be used for new equipment and for emergency and scheduled replacement of capital facilities paid from connection fees. Commitments for operations have been set aside to reserve approximately five months of operating expenses. The Board committed the following unrestricted net position as of June 30, 2023:

Description	Balance
Capital fund budget	\$ 44,218,570
Invested in Silicon Valley Clean Water	29,484,894
Operations	11,111,437
Total Committed Unrestricted Net Position	<u>\$ 84,814,901</u>

NOTE 8 - DEFERRED COMPENSATION PLAN

District employees may defer a portion of their compensation under a District-sponsored Deferred Compensation Plan created in accordance with Internal Revenue Code Section 457. Under this Plan, participants are not taxed on the deferred portion of their compensation until distributed to them; distributions may be made only at termination, retirement, death or in an emergency defined by the Plan. The laws governing deferred compensation plan assets require plan assets to be held by a Trust for the exclusive benefits of plan participants and their beneficiaries. Since the assets held under these plans are not the District's property and are not subject to District control, they are not included in these financial statements.

NOTE 9 - RISK MANAGEMENT

The District participates in a joint powers agreement (JPA) with other sanitary districts in the State to form California Sanitation Risk Management Authority (CSRMA). The purpose of CSRMA is to spread the adverse effects of losses among the member entities and to purchase excess insurance as a group, thereby reducing its cost. The District is insured for the costs of claims through CSRMA and commercial insurance carriers for the following:

Type of Coverage	Annual Limits	Deductibles
General Liability	\$25,750,000	\$100,000
Worker's Compensation	1,000,000	None
Excess Worker's Compensation Liability	Statutory Limits	None
Mobile Equipment	2,416,397	10,000
Special Form Property	49,852,950	5,000
Public Entity Pollution Liability	25,000,000	None
Cyber Liability	2,000,000	None
Identification Fraud	25,000	None
Deadly Weapons Response	2,500,000	10,000
Public Official Bond	100,000	None

The District has incurred two claims that have not exceeded its insurance coverage limits in the last three years. Audited condensed financial information for CSRMA is presented below for the year ended June 30, 2022 (most recent information available):

	June 30, 2022
Total Assets	\$ 32,261,331
Total Liabilities	25,220,675
Total Equity	7,040,656
Total Revenues	17,745,882
Total Expenditures	17,127,478

NOTE 10 - DEFINED BENEFIT PENSION PLAN

General Information about the Pension Plans

Plan Description - All qualified permanent and probationary employees are eligible to participate in the District's Miscellaneous Employee Pension Plan (the Plan); cost-sharing multiple employer defined benefit pension plan administered by the California Public Employees' Retirement System (CalPERS). Benefit provisions under the Plan are established by State statute and District resolution. CalPERS issues publicly available reports that include a full description of the pension Plan regarding benefit provisions, assumptions and membership information that can be found on the CalPERS website.

Benefits Provided - CalPERS provides service retirement and disability benefits, annual cost of living adjustments and death benefits to plan members, who must be public employees and beneficiaries. Benefits are based on years of credited service, equal to one year of full time employment. Tier 2 and PEPRA members with five years of total service are eligible to retire at age 55 with statutorily reduced benefits until the age of 60 and 62 respectfully. All members are eligible for non-duty disability benefits after 5 years of service. The death benefit is one of the following: the Basic Death Benefit, the 1957 Survivor Benefit, or the Optional Settlement 2W Death Benefit. The cost of living adjustments for the Plan are applied as specified by the Public Employees' Retirement Law.

The Plans' provisions and benefits in effect at June 30, 2023, are summarized as follows:

	Miscellaneous		
	Tier 1	Tier 2	PEPRA
Benefit formula	2.5% @ 55	2% @ 60	2% @ 62
Benefit vesting schedule	5 Years	5 Years	5 Years
Benefit payments	Monthly for Life	Monthly for Life	Monthly for Life
Retirement age	55	60	62
Monthly benefits as a % of eligible compensation	2.50%	2.00%	2.00%
Required employee contribution rates	8.00%	7.00%	6.75%
Required employer contribution rates	11.59%	8.63%	7.47%

Employees Covered - At June 30, 2023, the following employees were covered by the benefit terms for the Plan:

	Miscellaneous
Active	31
Transferred	11
Separated	11
Retired	24
Total	77

Contributions - Section 20814(c) of the California Public Employees' Retirement Law requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. Funding contributions for the Plan are determined annually on an actuarial basis as of June 30 by CalPERS. The actuarially determined rates are the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The District is required to contribute the difference between the actuarially determined rate and the contribution rate of employees.

For the year ended June 30, 2023, the District made the following pension contributions:

	Miscellaneous
Contributions - employer	\$ 355,455

Pension Liabilities, Pension Expenses and Deferred Outflows/Inflows of Resources Related to Pensions

As of June 30, 2023, the District's net pension liability was as follows:

	Proportionate Share of Net Pension Liability/(Asset)
Miscellaneous	\$ 620,100

The District's net pension asset/liability for the Plan is measured as the proportionate share of the net pension liability. The net pension liability of the Plan are measured as of June 30, 2022, and the total pension liability for the Plan used to calculate the net pension liability was determined by an actuarial valuation as of June 30, 2021 rolled forward to June 30, 2022 using standard update procedures. The District's proportion of the net pension liability was based on a projection of the District's long-term share of contributions to the pension Plan relative to the projected contributions of all participating employers, actuarially determined.

The District's proportionate share of the net pension liability for the Plan as of June 30, 2022 and 2023 was as follows:

	<u>Miscellaneous</u>
Proportion - June 30, 2022	-0.18376%
Proportion - June 30, 2023	0.01325%
Change - Increase/(Decrease)	<u>0.19702%</u>

For the year ended June 30, 2023, the District recognized a pension expense of \$5,268,132.

At June 30, 2023, the District reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Changes of Assumptions	\$ 63,542	\$ -
Differences between Expected and Actual Experience	12,453	8,340
Differences between Projected and Actual Investment Earnings	113,586	-
Differences between Employer's Contributions and Proportionate Share of Contributions	2,552,723	751,853
Change in Employer's Proportion	2,469,953	2,156,706
Pension Contributions Made Subsequent to Measurement Date	355,455	-
Total	<u>\$ 5,567,712</u>	<u>\$ 2,916,899</u>

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized as pension expense as follows:

<u>Fiscal Year Ending June 30:</u>	<u>Deferred Outflows/ (Inflows) of Resources</u>
2024	\$ 879,664
2025	862,517
2026	483,705
2027	69,473
2028	-
Thereafter	-
Total	<u>\$ 2,295,359</u>

Actuarial Assumptions - The total pension liabilities in the June 30, 2022, actuarial valuations were determined using the following actuarial assumptions:

Valuation Date	June 30, 2021
Measurement Date	June 30, 2022
Actuarial Cost Method	Entry-Age Normal Cost Method
Actuarial Assumptions:	
Discount Rate	6.80%
Inflation	2.30%
Payroll Growth	2.80%
Projected Salary Increase	(1)
Investment Rate of Return	6.8% (2)
Mortality	(3)

(1) Varies by entry age and service

(2) Net of pension plan investment expenses, including inflation

(3) Derived using CalPERS' membership data for all funds

Discount Rate - The discount rate used to measure the total pension liability was 6.9 percent for the Plan. To determine whether the municipal bond rate should be used in the calculation of a discount rate for the Plan, CalPERS stress tested plans that would most likely result in a discount rate that would be different from the actuarially assumed discount rate. Based on the testing, none of the tested plans run out of assets. Therefore, the current 6.9 percent discount rate is adequate and the use of the municipal bond rate calculation is not necessary. The long-term expected discount rate of 6.9 percent will be applied to all plans in the Public Employees Retirement Fund (PERF). The stress test results are presented in a detailed report that can be obtained from the CalPERS website. The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

In determining the long-term expected rate of return, CalPERS took into account both short-term and long-term market return expectations as well as the expected pension fund cash flows. Using historical returns of all the funds' asset classes, expected compound returns were calculated over the short-term (first 10 years) and the long-term (11-60 years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each fund. The expected rate of return was set by calculating the single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns.

The expected rate of return was then set equivalent to the single equivalent rate calculated above and rounded down to the nearest one quarter of one percent.

Asset Class (a)	Assumed Asset Allocation	Long-Term Expected Real Return (1)(2)
Global Equity Cap Weighted	30.00%	4.54%
Global Equity NonCap Weighted	12.00%	3.84%
Private Equity	13.00%	7.28%
Treasury	5.00%	0.27%
Mortgage-backed Securities	5.00%	0.50%
Investment Grade Corporates	10.00%	1.56%
High Yield	5.00%	2.27%
Emerging Market Debt	5.00%	2.48%
Private Debt	5.00%	3.57%
Real Assets	15.00%	3.21%
Leverage	-5.00%	-0.59%
Total	100.00%	

(1) An expected inflation of 2.3% used for this period.

(2) Figures are based on the 2021-22 Asset Liability Study.

The table below reflects the long-term expected real rate of return by asset class. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation. These rates of return are net of administrative expenses.

Sensitivity of the Proportionate Share of the Net Pension Liability to Changes in the Discount Rate

The following presents the Town's proportionate share of the net pension liability for the Plans, calculated using the discount rate for the Plans, as well as what the Town's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate:

	<u>Miscellaneous</u>
1% Decrease	5.90%
Net Pension Liability	\$ 4,021,598
Current	6.90%
Net Pension Liability	\$ 620,100
1% Increase	7.90%
Net Pension Liability	\$ (2,178,489)

Pension Plan Fiduciary Net Position - Detailed information about each pension plan's fiduciary net position is available in the separately issued CalPERS financial reports.

NOTE 11 - OTHER POST EMPLOYMENT BENEFITS

Plan Description

The District's single employer defined benefit postemployment healthcare plan provides health care benefits to eligible retirees in accordance with a Board resolution.

Benefits Provided

The District contributes toward post-retirement benefits for employees who retire under PERS after age 50 and choose coverage under CalPERS medical plans. The District pays the amount of the PEMHCA minimum contribution. Payments are made for the lifetime of the retired employee and covered dependent spouse (or domestic partner), provided that they remain covered under CalPERS medical plans. Retirees are required to pay the balance of the monthly medical premiums. The District does not provide any other post-retirement health and welfare benefits.

The District contracts with CalPERS to administer its retiree health benefit plan. A menu of benefit provisions as well as other requirements is established by State statute within the Public Employees' Retirement Law. The District chooses among the menu of benefit provisions and adopts certain benefit provisions by Board resolution.

Employees Covered by Benefit Terms

The benefit terms covered the following employees:

Active employees	27
Inactive employees	<u>7</u>
Total employees	<u>34</u>

Contributions

The District makes contributions based on an actuarially determined rate and are approved by the authority of the District's Board. Total contributions during the year were \$50,358. Total contributions included in the measurement period were \$62,264. The actuarially determined contribution for the measurement period was \$2,689. The District's contributions were 1.16% of covered employee payroll during the fiscal year ended June 30, 2023. Employees are not required to contribute to the plan.

Actuarial Assumptions

The following summarized the actuarial assumptions for the OPEB plan included in this fiscal year:

Valuation Date:	June 30, 2022
Measurement Date:	June 30, 2022
Actuarial Cost Method:	Entry-Age Normal Cost Method
Amortization Period:	20 years
Asset Valuation Method:	Level percentage of payroll,
Actuarial Assumptions:	
Discount Rate	6.00%
Inflation	2.50%
Payroll Increases	3.00%
Healthcare Trend Rate	4.50%
Investment Rate of Return	6.00%
Mortality	CalPERS experience study
Retirement	CalPERS experience study

Discount Rate

The projection of cash flows used to determine the discount rate assumed that the District contribution will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the OPEB plan's fiduciary net position was projected to cover all future OPEB payments. Therefore, the discount rate was set to be equal to the long-term expected rate of return which was applied to all periods of projected benefit payments to determine the total OPEB liability.

Long-Term Expected Rate of Return

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Long-Term	
	Percentage of Portfolio	Expected Rate of Return
US Large Cap	43.00%	7.795%
US Small Cap	23.00%	7.795%
Long-Term Corporate Bonds	12.00%	5.290%
Long-Term Government Bonds	6.00%	4.500%
Treasury Inflation-Protected Securities (TIPS)	5.00%	7.795%
US Real Estate	8.00%	7.795%
All Commodities	3.00%	7.795%
Total	100.00%	

Net OPEB Liability

The District's net OPEB liability was measured as of June 30, 2019 (measurement date), and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of June 30, 2019 (valuation date) for the fiscal year ended June 30, 2023 (reporting date). The following summarizes the changes in the net OPEB liability during the year ended June 30, 2023:

Fiscal Year Ended June 30, 2023 (Measurement Date June 30, 2022)	Total OPEB		Net OPEB	
	Liability	Plan Fiduciary Net Position	Liability (Asset)	
Balance at June 30, 2022	\$ 419,816	\$ 413,703	\$ 6,113	
Service cost	4,538	-	4,538	
Interest in Total OPEB Liability	25,099	-	25,099	
Employer contributions	-	62,264	(62,264)	
Balance of diff between actual and exp experience	(59,838)	-	(59,838)	
Balance of changes in assumptions	(1,379)	-	(1,379)	
Actual investment income	-	(50,877)	50,877	
Administrative expenses	-	(2,488)	2,488	
Benefit payments	(12,264)	(12,264)	-	
Net changes	(43,844)	(3,365)	(40,479)	
Balance at June 30, 2023	\$ 375,972	\$ 410,338	\$ (34,366)	
Covered Employee Payroll	\$ 4,357,169			
Total OPEB Liability as a % of Covered Employee Payroll	8.63%			
Plan Fid. Net Position as a % of Total OPEB Liability	109.14%			
Service Cost as a % of Covered Employee Payroll	0.10%			
Net OPEB Liability as a % of Covered Employee Payroll	-0.79%			

Deferred Inflows and Outflows of Resources

At June 30, 2023, the District reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between actual and expected experience	\$ -	\$ 22,747
Difference between actual and expected earnings	41,311	-
Change in assumptions	-	2,705
OPEB contribution subsequent to measurement date	50,358	-
Totals	\$ 91,669	\$ 25,452

Of the total amount reported as deferred outflows of resources related to OPEB, \$50,358 resulting from District contributions subsequent to the measurement date and before the end of the fiscal year will be included as a reduction of the net OPEB liability in the year ended June 30, 2024.

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

Year Ended June 30,	
2024	\$ 9,820
2025	9,996
2026	9,996
2027	16,724
2028	678
Thereafter	(31,355)
Total	\$ 15,859

OPEB Expense

The following summarizes the OPEB expense by source during the year ended June 30, 2023:

Service cost	\$ 4,538
Interest in TOL	25,099
Expected investment income	(26,214)
Difference between actual and expected experience	1,712
Difference between actual and expected earnings	8,919
Change in assumptions	(406)
Administrative expenses	2,488
OPEB Expense	\$ 16,136

The following summarizes changes in the net OPEB liability as reconciled to OPEB expense during the year ended June 30, 2023:

Net OPEB liability ending	\$ (34,366)
Net OPEB liability beginning	(6,113)
Change in net OPEB liability	<u>(40,479)</u>
Changes in deferred outflows	(2,508)
Changes in deferred inflows	(3,141)
Employer contributions and implicit subsidy	<u>62,264</u>
OPEB Expense	<u>\$ 16,136</u>

Sensitivity to Changes in the Discount Rate

The net OPEB liability of the District, as well as what the District's net OPEB liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher, is as follows:

	Discount Rate		
	(1% Decrease)	6.00%	(1% Increase)
Net OPEB Liability (Asset)	\$ 12,516	\$ (34,366)	\$ (73,399)

Sensitivity to Changes in the Healthcare Cost Trend Rates

The net OPEB liability of the District, as well as what the District's net OPEB liability would be if it were calculated using healthcare cost trend rates that are one percentage point lower or one percentage point higher than current healthcare cost trend rates, is as follows:

	Trend Rate		
	(1% Decrease)	4.50%	(1% Increase)
Net OPEB Liability (Asset)	\$ (75,661)	\$ (34,366)	\$ 15,719

NOTE 12 - SHARON HEIGHTS GOLF AND COUNTRY CLUB COST SHARING PLAN

West Bay Sanitary District has a long-term agreement with Sharon Heights Golf and Country Club (SHGCC) to contribute toward the cost of a recycled water treatment facility. The agreement included the facilities planning, design, environmental review, permitting, construction and full cost incurred thereafter for operations and maintenance. The District received a grant easement in perpetuity for the location of the recycled water treatment facility and the District has ownership of the treatment facility and all the recycled water. SHGCC has the right to receive the first 400 gallons per day of recycled water.

The District received a California Clean Water State Revolving Fund (SRF) loan to build the recycled water treatment facility. The long-term agreement between the District and SHGCC establishes the terms and conditions of pre-payments each year by SHGCC to the District for the full

annual SRF loan payment over the life of the loan, with 2.2 times the annual payment held as a deposit.

Through June 30, 2023, total costs for the designed-build phase were as follows:

Description	Design/Build Phase
Procurement	\$ 18,882
Project Management	1,460,876
Legal	58,903
Water Sampling	63,744
Audit Fees	9,750
Civil Engineers	195,309
Inspection	20,230
General Construction	20,744,677
PG&E	74,681
Total	<u>\$ 22,647,052</u>

NOTE 13 - COMMITMENTS AND CONTINGENCIES

Litigation

The District may be at risk of becoming a defendant in certain lawsuits which arise in the normal course of business. District management is of the opinion that the ultimate outcome of such matters will not have a significant effect on the financial position of the District.

Construction Related Contracts

The District had outstanding contracts, including purchase orders, with balances totaling \$8,447,961 as of June 30, 2023.

NOTE 14 - SOUTH BAYSIDE WASTE MANAGEMENT AUTHORITY JPA

The District is a member of the South Bayside Waste Management Authority, a Joint Powers Authority that facilitates the financing, administration, management, review, monitoring and enforcement of solid waste, recyclable material and plant material collection activities within SBWMA's service area.

The following summarizes the most recent available financial information of SBWMA:

Total Assets	\$ 87,341,515
Total Liabilities	61,937,228
Total Equity	25,404,287
Total Revenues	54,014,675
Total Expenditures	52,726,565

NOTE 15 - ADJUSTMENT TO BEGINNING NET POSITION

During the year, the management increased the District's beginning net position by \$6,005,723 to reflect a change in the application of GASB 68 for pensions. Management changed the measurement period for its CalPERS miscellaneous pension plan from June 30, 2023 to June 30, 2022, in order to align with industry practices and other retirement plan measurement periods, such as the District's other postemployment benefit plan.

REQUIRED SUPPLEMENTARY INFORMATION

West Bay Sanitary District
Schedule of Pension Contributions - CalPERS
June 30, 2023

Miscellaneous Plan									
Plan Measurement Date	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiscal Year Ended	2015	2016	2017	2018	2019	2020	2021	2022	2022
Contractually Required Contrib.	\$ 368,713	\$ 399,280	\$ 387,500	\$ 413,896	\$ 297,313	\$ 295,459	\$ 398,336	\$ 348,274	\$ 355,455
Contrib. in Relation to Contractually Required Contributions	368,713	399,280	387,500	413,896	297,313	295,459	6,592,343	348,274	355,455
Contribution Deficiency (Excess)	-	-	-	\$ -	\$ -	\$ -	\$ (6,194,007)	\$ -	\$ -
Covered Payroll	\$ 2,411,343	\$ 2,544,628	\$ 2,799,216	\$ 2,795,654	\$ 2,806,611	\$ 3,264,521	\$ 3,436,890	\$ 3,765,114	\$ 3,467,099
Contrib. as % of Covered Payroll	15.29%	15.69%	13.84%	14.80%	10.59%	9.05%	191.81%	9.25%	10.25%

Notes to Schedule:

Valuation Date: June 30, 2021

Assumptions Used: Entry Age Method used for Actuarial Cost Method
Level Percentage of Payroll and Direct Rate Smoothing
Remaining Amortization Period no more than 29 years
Inflation Assumed at 2.30%
Investment Rate of Returns set at 6.9%

The mortality table was developed based on CalPERS-specific data. The rates incorporate Generational Mortality to capture ongoing mortality improvement using 80% of Scale MP 2020 published by the Society of Actuaries. For more details, please refer to the 2021 experience study report that can be found on the CalPERS website.

Fiscal year 2015 was the first year of implementation, therefore only none years are shown.

The CalPERS discount rate was increased from 7.50% to 7.65% in FY2016, to 7.15% in FY2018 and then decreased to 6.9% in FY2023.

The CalPERS mortality assumptions was adjusted in fiscal year 2023.

West Bay Sanitary District
Schedule of Proportionate Share of Net Pension Liability
June 30, 2023

Miscellaneous and Safety Plan									
Plan Measurement Date	2014	2015	2016	2017	2018	2019	2020	2021	2022
Fiscal Year Ended	2015	2016	2017	2018	2019	2020	2021	2022	2023
Proportion of NPL	0.10822%	0.12849%	0.12750%	0.12991%	0.12991%	0.13721%	0.00000%	-0.06453%	0.00537%
Proportionate Share of NPL	\$ 2,674,755	\$ 3,524,991	\$ 4,429,092	\$ 5,120,961	\$ 5,054,719	\$ 5,494,504	\$ -	\$ (3,490,048)	\$ 620,100
Covered Payroll	\$ 2,339,003	\$ 2,411,343	\$ 2,544,628	\$ 2,799,216	\$ 2,795,654	\$ 2,806,611	\$ 3,264,521	\$ 3,436,890	\$ 3,765,114
Proportionate Share of NPL									
as a % of Covered Payroll	114.35%	146.18%	174.06%	182.94%	180.81%	195.77%	0.00%	-101.55%	16.47%
Plan's Fid Net Position as % of TPL									
	81.15%	78.29%	73.58%	72.32%	73.42%	73.03%	72.52%	115.26%	97.51%

Fiscal year 2015 was the first year of implementation, therefore only none years are shown.

The CalPERS discount rate was increased from 7.50% to 7.65% in FY2016, to 7.15% in FY2018 and then decreased to 6.9% in FY2023.

The CalPERS mortality assumptions was adjusted in fiscal year 2023.

West Bay Sanitary District
Schedule of OPEB Contributions
June 30, 2023

	2018	2019	2020	2021	2022	2023
Actuarially determined contribution (ADC)	\$ 11,604	\$ 11,579	\$ 16,607	\$ 17,602	\$ 9,832	\$ 2,689
Less: actual contribution in relation to ADC	(9,418)	(5,120)	(5,120)	(87,458)	(62,264)	(50,358)
Contribution deficiency (excess)	<u>\$ 2,186</u>	<u>\$ 6,459</u>	<u>\$ 11,487</u>	<u>\$ (69,856)</u>	<u>\$ (52,432)</u>	<u>\$ (47,669)</u>
Covered employee payroll	\$ 2,795,654	\$ 2,806,611	\$ 3,697,419	\$ 3,808,342	\$ 3,922,592	\$ 4,357,169
Contributions as a percentage of covered employee payroll	0.34%	0.18%	0.14%	2.30%	1.59%	1.16%

Notes to Schedule:

Assumptions and Methods

Valuation Date:	June 30, 2022
Measurement Date:	June 30, 2022
Actuarial Cost Method	Entry-Age Normal
Amortization Period	20 years
Asset Valuation Method	Level percentage of payroll,
Actuarial Assumptions:	
Discount Rate	6.00%
Inflation	2.50%
Payroll Increases	3.00%
Investment Rate of Return	6.00%
Mortality	CalPERS experience study
Service Requirement	CalPERS experience study

Other Notes

GASB 75 requires a schedule of contributions for the last ten fiscal years, or for as many years as are available if less than ten years are available. GASB 75 was adopted as of June 30, 2018.

No change in benefit terms and discount rates.

Actuarially determined contribution rates are calculated as of June 30, two years prior to the end of the fiscal year in which contributions are reported.

Contributions were not based on a measure of pay.

West Bay Sanitary District
Schedule of Net OPEB Liability
June 30, 2023

Total OPEB liability	2018	2019	2020	2021	2022	2022
Service cost	\$ 6,513	\$ 6,708	\$ 6,909	\$ 7,254	\$ 7,544	\$ 4,538
Interest	16,476	17,188	17,672	18,732	19,857	25,099
Differences between expected and actual experience	-	-	66,449	-	-	(59,838)
Changes of assumptions	-	-	(2,612)	-	-	(1,379)
Benefit payments	(7,909)	(14,335)	(17,333)	(7,850)	-	(12,264)
Net change in Total OPEB Liability	15,080	9,561	71,085	18,136	27,401	(43,844)
Total OPEB Liability - beginning	278,553	293,633	303,194	374,279	392,415	419,816
Total OPEB Liability - ending	<u>\$ 293,633</u>	<u>\$ 303,194</u>	<u>\$ 374,279</u>	<u>\$ 392,415</u>	<u>\$ 419,816</u>	<u>\$ 375,972</u>
Plan fiduciary net position						
Employer contributions	\$ 232,909	\$ 14,335	\$ 17,333	\$ 5,120	\$ 87,458	\$ 62,264
Net investment income	10,234	12,089	15,717	13,423	54,267	(50,877)
Benefit payments	(7,909)	(14,335)	(17,333)	(7,850)	-	(12,264)
Administrative expense	-	-	-	-	(1,755)	(2,488)
Net change in plan fiduciary net position	235,234	12,089	15,717	10,693	139,970	(3,365)
Plan fiduciary net position - beginning	-	235,234	247,323	263,040	273,733	413,703
Plan fiduciary net position - ending	<u>\$ 235,234</u>	<u>\$ 247,323</u>	<u>\$ 263,040</u>	<u>\$ 273,733</u>	<u>\$ 413,703</u>	<u>\$ 410,338</u>
Net OPEB liability	\$ 58,399	\$ 55,871	\$ 111,239	\$ 118,682	\$ 6,113	\$ (34,366)
Plan fiduciary net position as a percentage of the total OPEB liability	80.11%	81.57%	70.28%	69.76%	98.54%	109.14%
Covered employee payroll	\$ 2,799,216	\$ 2,795,654	\$ 2,806,611	\$ 3,697,419	\$ 3,808,342	\$ 3,922,592
Net OPEB Liability as a percentage of covered payroll	2.09%	2.00%	3.96%	3.21%	0.16%	-0.88%
Total OPEB Liability as a percentage of covered payroll	10.49%	10.85%	13.34%	10.61%	11.02%	9.58%

Other Notes

GASB 75 requires a schedule of contributions for the last ten fiscal years, or for as many years as are available if less than ten years are available. GASB 75 was adopted as of June 30, 2018.

No change in benefit terms and discount rates.

Actuarially determined contribution rates are calculated as of June 30, two years prior to Contributions were not based on a measure of pay.

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SUPPLEMENTARY INFORMATION

West Bay Sanitary District
 Budgetary Comparison Schedule
 For the Fiscal Year Ended June 30, 2023

	Budget Amounts	Actual (GAAP Basis)	Variance
Operating Revenues:			
Service charges	\$ 29,524,654	\$ 30,508,147	\$ 983,493
Flow equalization uses	386,915	436,915	50,000
Permit and inspection fees and other services	200,000	203,036	3,036
Other operating revenues	776,390	948,343	171,953
Total operating revenues	30,887,959	32,096,441	1,208,482
Operating Expenses:			
Sewage treatment plant (SVCW)	12,177,351	12,846,365	(669,014)
Sewage collection and general administration:			
Salaries and benefits	6,773,845	6,330,472	443,373
Materials and supplies	694,169	657,069	37,100
Insurance	283,663	331,063	(47,400)
Contract services	887,572	763,708	123,864
Professional services	698,754	824,390	(125,636)
Repairs and maintenance	398,068	389,909	8,159
Utilities	443,371	405,452	37,919
Other operating expenses	542,135	286,728	255,407
Total sewage collection and general administration	10,721,577	9,988,791	732,786
Depreciation	3,952,805	3,518,536	434,269
Total operating expenses	26,851,733	26,353,692	498,041
Operating Income (Loss)	4,036,226	5,742,749	1,706,523
Nonoperating Revenues (Expenses):			
Investment income	501,600	1,367,580	865,980
Interest expense	(161,196)	(161,196)	-
Increase (decrease) of equity in Silicon Valley Clean Water	-	1,054,186	1,054,186
Other nonoperating expenses	(6,000)	(10,951)	(4,951)
Other nonoperating revenues	519,064	535,226	16,162
Total nonoperating revenues (expenses)	853,468	2,784,845	1,931,377
Income before contributions	4,889,694	8,527,594	3,637,900
Capital Contributions	912,911	1,423,939	511,028
Special Item: Pension (Expense) Credit	-	(4,912,677)	(4,912,677)
Change in Net Position	5,802,605	5,038,856	4,148,928
Prior Period Adjustments	-	6,005,723	6,005,723
Beginning Net Position	159,939,775	159,939,775	-
Ending Net Position	\$ 165,742,380	\$ 170,984,354	\$ 10,154,651

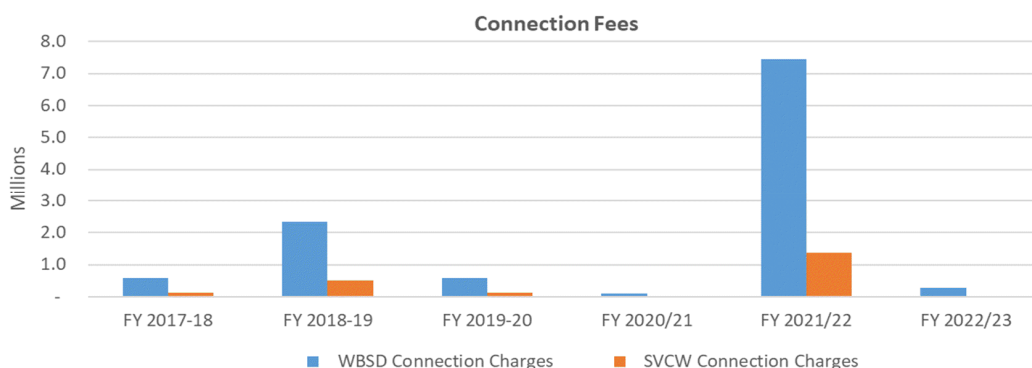
West Bay Sanitary District
Schedule of Combining Revenues, Expenses and Changes in Net Position
For the Fiscal Year Ended June 30, 2023

	General Fund	Capital Fund	Solid Waste Fund	Recycled Water Fund	Treatment Plant Fund	Total
Operating Revenues:						
Service charges	\$ 30,508,147	\$ -	\$ -	\$ -	\$ -	\$ 30,508,147
Flow equalization uses	436,915	-	-	-	-	436,915
Permit and inspection fees and other services	203,036	-	-	-	-	203,036
Other operating revenues	829,759	-	118,584	-	-	948,343
Total operating revenues	31,977,857	-	118,584	-	-	32,096,441
Operating Expenses:						
Sewage treatment plant (SVCW)	-	-	-	-	12,846,365	12,846,365
Sewage collection and general admin.:						
Salaries and benefits	6,106,952	-	-	223,520	-	6,330,472
Materials and supplies	631,769	-	-	25,300	-	657,069
Insurance	297,822	-	-	33,241	-	331,063
Contract services	757,808	-	-	5,900	-	763,708
Professional services	742,070	-	20,891	61,429	-	824,390
Repairs and maintenance	355,516	-	-	34,393	-	389,909
Utilities	233,645	-	-	171,807	-	405,452
Other operating expenses	184,030	-	61,566	41,132	-	286,728
Total sewage collection and gen. admin.	9,309,612	-	82,457	596,722	-	9,988,791
Depreciation	-	2,765,731	-	752,805	-	3,518,536
Total operating expenses	9,309,612	2,765,731	82,457	1,349,527	12,846,365	26,353,692
Operating Income (Loss)	22,668,245	(2,765,731)	36,127	(1,349,527)	(12,846,365)	5,742,749
Nonoperating Revenues (Expenses):						
Investment income	1,148,460	152,125	-	66,995	-	1,367,580
Interest expense	-	-	-	(161,196)	-	(161,196)
Increase (decrease) of equity in SVCW	-	-	-	-	1,054,186	1,054,186
Other nonoperating revenues (expenses)	2,721	(10,951)	-	532,505	-	524,275
Transfers in (out)	(12,846,365)	-	-	-	12,846,365	-
Total nonoperating revenues (expen.)	(11,695,184)	141,174	-	438,304	13,900,551	2,784,845
Income before contributions	10,973,061	(2,624,557)	36,127	(911,223)	1,054,186	8,527,594
Capital Contributions:						
Capital Fund: Connection Fees	-	277,426	-	-	-	277,426
Recycled Water Fund: Capital Contributions	-	-	-	1,146,513	-	1,146,513
Total capital contributions	-	277,426	-	1,146,513	-	1,423,939
Special Item: Pension Credit	(4,912,677)	-	-	-	-	(4,912,677)
Change in Net Position	6,060,384	(2,347,131)	36,127	235,290	1,054,186	5,038,856
Beginning Net Position	39,413,062	78,546,037	519,319	13,030,649	28,430,708	159,939,775
Prior Period Adjustments	6,005,723	-	-	-	-	6,005,723
Beginning Net Position - As Adjusted	45,418,785	78,546,037	519,319	13,030,649	28,430,708	165,945,498
Ending Net Position	\$ 51,479,169	\$ 76,198,906	\$ 555,446	\$ 13,265,939	\$ 29,484,894	\$ 170,984,354

West Bay Sanitary District Annual Capacity Fee Report AB1600

West Bay Sanitary District (District) charges connection fees to developers or home owners to connect to the District's public wastewater service. The purpose of the sewer connection fee is to equalize the cost of acquisition, construction, and installation of the District's facilities so that each resident or property owner pays their proportionate share of such costs.

The District has recognized an average of \$1.9 million in Connection Fees over the past six years. Connections fees can vary widely, fluctuating from year to year, as can be seen on the chart below. The connection fees received show the growth of the District by year. Connection fees of \$43.04 per GPD are collected to fund District capital and treatment plant construction at Silicon Valley Clean Water (SVCW), which the District has a 22.99% share, as of June 30, 2023. Prior to FY 2022-23, connection fees were collected separately for the District and SVCW.



In 1987, the State Legislature passed Assembly Bill 1600 (AB1600) which added Section 66000, et seq., to the California Government Code, known collectively as the Mitigation Fee Act. Section 66013 provides guidance on fees imposed for sewer connections to a public sewer system or capacity charges that such fees shall not exceed the estimated reasonable cost of providing the service for which the fee is imposed. Capacity charges include a charge for public facilities in existence at the time imposed or for new public facilities to be acquired or constructed in the future that are of proportional benefit to the person or property being charged.

In compliance with AB1600, the District accounts for all connection fees in a Capital Fund, separate from the General Fund for sewer service operations. In fiscal year 2022-23, the District received \$277,426 in connection fees, for approximately 34 thousand gallons per day (GPD) of additional capacity, mainly for Accessory Dwelling Units for existing customers. The District expended \$4.26 million on all construction, with \$2.8 million specifically for wastewater infrastructure. Table 1 shows the revenues and expenditures applied to capacity increases. Additional connections to the District's system and construction were low in FY 2022-23, after several large projects in FY 2021-22. The District does not carry negative balances, therefore the beginning and ending balance of Connection Fees is zero, due to several years of net negative balances. District construction consistently exceeds connection fees with the balance funded from other Capital Fund sources.

**Table 1
Connection Fee and Capacity Charges**

<u>Summary of Connection Fees</u>	<u>FY 2022-23</u>	<u>GPD</u>	<u>FY 2021-22</u>	<u>GPD</u>
Connection Fees	\$ 277,426	34	\$ 7,444,686	138,120
Allocated Interest	277		7,445	
Total Connection Fee Revenue	\$ 277,703		\$ 7,452,131	
Capacity Project Expenditures	(2,821,470)		(2,572,978)	
Net Connection Fees (Deficit)	\$ (2,543,767)		\$ 4,879,152	
Beginning Balance Available	\$ -		\$ -	
Ending Balance Available	\$ -		\$ -	

West Bay Sanitary District
Annual Capacity Fee Report
AB1600

Connection fees fund 100% of wastewater infrastructure projects, with any deficit funded by the Capital Fund. Table 2 details the wastewater infrastructure projects with actual expenditures recognized and the approved budget for FY 2022-23 and FY 2023-24 to show future planned infrastructure improvements to the system. Incomplete or delayed project budgets are carried over and included in the subsequent budget.

Table 2
Wastewater Infrastructure Projects

<u>Projects</u>	<u>Actual FY 2022-23</u>	<u>Budget FY 2022-23</u>	<u>Budget FY 2023-24</u>
Pump Stations	109,991	200,000	440,000
Other Subsurface Line Projects	337,741	100,000	100,000
Isabella, Gilbert & Bay North - Phase 2			
Lower Ringwood/ North Bay	1,860,970	-	
Stowe Lane		200,000	3,000,000
Willow Pump Station Rehabilitation		700,000	1,700,000
Bayfront Park Sanitary Sewer Improvements	144,709	1,250,000	1,600,000
Misc Point Repairs (High Freq. List Repairs)	352,337	2,000,000	4,325,000
Total Wastewater Infrastructure Projects	2,805,748	4,450,000	11,165,000

In addition to the \$2.8 million in construction, in FY 2022-23, the District expended \$581 thousand on the levee project in CIP. The District transferred \$15.2 million to Reserve accounts, with \$14 million to the Treatment Plant, Capital Project, and Emergency Capital Reserves. The District paid \$6.8 million for SVCW debt, including bonds, SRF loans, and capital reserves. Table 3 shows all expenditures and transfers for the Capital Fund and capital contributions for SVCW, excluding operating expenses.

Table 3
Construction Expenditures

<u>Capital Fund - Construction</u>	<u>Actual FY 2022-23</u>	<u>Budget FY 2022-23</u>	<u>Budget FY 2023-24</u>
Administration	-	350,000	173,000
Collection Facilities	15,722	600,000	600,000
Vehicles & Equipment	920,718	762,500	445,000
Pump Stations	109,991	200,000	440,000
Subsurface Lines	337,741	100,000	100,000
Construction Projects	2,877,186	12,280,000	22,155,000
Total Capital Fund Construction	4,261,358	14,292,500	23,913,000
Capital Reserve Transfers	3,860,100	789,881	401,577
SVCW - Capital & Debt Contributions	6,795,522	5,455,503	6,824,624
Total Construction, Transfers, & Contributions	14,916,980	20,537,884	31,139,201
 <u>Recycled Water Fund - Construction</u>	 <u>Actual FY 2022-23</u>	 <u>Budget FY 2022-23</u>	 <u>Budget FY 2023-24</u>
Recycled Water - Sharon Heights	316,121	2,000,000	2,450,000
Recycled Water - Bayfront	169,525	2,250,000	17,299,485
Total Recycled Water Fund Construction	485,647	4,250,000	19,749,485

The District has a ten-year master plan to facilitate timely maintenance and rehabilitation of the wastewater infrastructure and add capacity for current and future users. The District has estimated average construction of \$6.5 million each year for a total of approximately 32.55 miles of pipeline projects in the current master plan. An update to the master plan is underway, including the new Bayfront Recycled Water Facility (BRWF) at the District's Flow Equalization and Resource Recovery Facility (FERRF) site. Originally approved on May 12, 2021 for 0.6 million gallons per day (MGD), the District is considering expanding reclaimed water facility to as much as 1 MGD.

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**INDEPENDENT AUDITOR'S REPORT IN ACCORDANCE WITH
*GOVERNMENT AUDITING STANDARDS***

**INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL
REPORTING AND ON COMPLIANCE AND OTHER MATTERS
BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE
WITH *GOVERNMENT AUDITING STANDARDS***

To the Board of Directors
West Bay Sanitary District
Menlo Park, California

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the West Bay Sanitary District (the "District") as of and for the year ended June 30, 2023, and the related notes to the financial statements, which collectively comprise the District's basic financial statements, and have issued our report thereon dated November 28, 2023.

Internal Control over Financial Reporting

Management is responsible for establishing and maintaining effective internal control over financial reporting. In planning and performing our audit of the financial statements, we considered the District's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the District's internal control. Accordingly, we do not express an opinion on the effectiveness of the District's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over financial reporting that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the District's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and

material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

C & A LLP

November 28, 2023
Morgan Hill, California



To the Board of Directors and management of the
West Bay Sanitary District
Menlo Park, California

In planning and performing our audit of the financial statements of West Bay Sanitary District as of and for the year ended June 30, 2023, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, we considered West Bay Sanitary District's internal control over financial reporting (internal control) as a basis for designing our auditing procedures for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of West Bay Sanitary District's internal control. Accordingly, we do not express an opinion on the effectiveness of West Bay Sanitary District's internal control over financial reporting.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented or detected and corrected on a timely basis. A reasonable possibility exists when the likelihood of an event occurring is either reasonably possible or probable as defined as follows:

- *Reasonably possible*: The chance of the future event or events occurring is more than remote but less than likely.
- *Probable*: The future event or events are likely to occur.

Our consideration of internal control was for the limited purpose described in the first paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses. Given these limitations, during our audit we did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The following is a summary of new accounting pronouncements from the Governmental Accounting Standards Board:

GASB Statement No. 100, *Accounting Changes and Error Corrections—an amendment of GASB Statement No. 62, effective fiscal 2024.*

This statement enhances accounting and financial reporting requirements for accounting changes and error corrections to provide more understandable, reliable, relevant, consistent, and comparable information for making decisions or assessing accountability. GASB 100 also requires disclosure in notes to financial statements of descriptive information about accounting changes and error corrections, such as their nature. And GASB 100 addresses how information that is affected by a change in accounting principle or error correction should be presented in required supplementary information (RSI) and supplementary information (SI).



GASB Statement No. 101, *Compensated Absences*, effective fiscal 2025.

Updates the recognition and measurement guidance for compensated absences by:

1. Aligning the recognition and measurement guidance under a unified model
2. Amending certain previously required disclosures
3. Amends the existing requirement to disclose the gross increases and decreases in a liability for compensated absences to allow governments to disclose only the net change in the liability
4. Supersedes GASB 16

The purpose of this communication, which is an integral part of our audit, is to describe, for management and those charged with governance, the scope of our testing of internal control and the results of that testing. Accordingly, this communication is not intended to be and should not be used for any other purpose.

Respectfully,

November 28, 2023
Morgan Hill, California

To the Board of Directors of the
West Bay Sanitary District

We have audited the basic financial statements of the West Bay Sanitary District as of and for the year ended June 30, 2023, and have issued our report thereon dated November 28, 2023. Professional standards require that we advise you of the following matters relating to our audit.

Our Responsibility under Generally Accepted Auditing Standards and Government Auditing Standards

As communicated in our engagement letter, our responsibility, as described by professional standards, is to form and express an opinion(s) about whether the financial statements that have been prepared by management with your oversight are presented fairly, in all material respects, in conformity with accounting principles generally accepted in the United States of America. Our audit of the financial statements does not relieve you or management of your respective responsibilities.

Our responsibility, as prescribed by professional standards, is to plan and perform our audit to obtain reasonable, rather than absolute, assurance about whether the financial statements are free of material misstatement. An audit of financial statements includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control over financial reporting. Accordingly, as part of our audit, we considered the internal control of the West Bay Sanitary District solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

We are also responsible for communicating significant matters related to the audit that are, in our professional judgment, relevant to your responsibilities in overseeing the financial reporting process. However, we are not required to design procedures for the purpose of identifying other matters to communicate to you.

Other Information in Documents Containing Audited Financial Statements

Pursuant to professional standards, our responsibility as auditors for other information in documents containing West Bay Sanitary District's audited financial statements does not extend beyond the financial information identified in the audit report, and we are not required to perform any procedures to corroborate such other information.

Our responsibility also includes communicating to you any information which we believe is a material misstatement of fact. Nothing came to our attention that caused us to believe that such information, or its manner of presentation, is materially inconsistent with the information, or manner of its presentation, appearing in the financial statements.



Planned Scope and Timing of the Audit

We conducted our audit consistent with the planned scope and timing we previously communicated with management.

Compliance with All Ethics Requirements Regarding Independence

The engagement team, others in our firm, as appropriate, and our firm have complied with all relevant ethical requirements regarding independence.

Significant Risks Identified

We did not identify any significant risks that required special audit consideration.

Qualitative Aspects of the Authority's Significant Accounting Practices

Significant Accounting Policies

Management has the responsibility to select and use appropriate accounting policies. A summary of the significant accounting policies adopted by the West Bay Sanitary District is included in Note 1 to the financial statements. There have been no initial selection of accounting policies and no changes in significant accounting policies or their application during June 30, 2023 other than the adoption of GASB 96, *Subscription-Based Information Technology Arrangements*. No matters have come to our attention that would require us, under professional standards, to inform you about (1) the methods used to account for significant unusual transactions and (2) the effect of significant accounting policies in controversial or emerging areas for which there is a lack of authoritative guidance or consensus.

Significant Accounting Estimates

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's current judgments. Those judgments are normally based on knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ markedly from management's current judgments.

The most sensitive accounting estimates affecting the financial statements include actuarial assumptions included in employee retirement plans that impact pension and other postemployment balances reported in the financial statements.

We evaluated the key factors and assumptions used to develop the identified estimates and determined that it is reasonable in relation to the basic financial statements taken as a whole and in relation to the applicable opinion units.



Financial Statement Disclosures

Certain financial statement disclosures involve significant judgment and are particularly sensitive because of their significance to financial statement users. The most sensitive disclosures affecting West Bay Sanitary District's financial statements relate to cash and investments, pensions, capital assets, and long-term liabilities.

Significant Unusual Transactions

For purposes of this communication, professional standards require us to communicate to you significant unusual transactions identified during our audit. No significant unusual transactions were identified as a result of our audit procedures that required the attention of management.

Identified or Suspected Fraud

We did not identify nor obtain information that indicates that fraud may have occurred.

Significant Difficulties Encountered during the Audit

We encountered no significant difficulties in dealing with management relating to the performance of the audit.

Uncorrected and Corrected Misstatements

For purposes of this communication, professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that we believe are trivial, and communicate them to the appropriate level of management. Further, professional standards require us to also communicate the effect of uncorrected misstatements related to prior periods on the relevant classes of transactions, account balances or disclosures, and the financial statements as a whole and each applicable opinion unit. There were no uncorrected financial statement misstatements identified.

In addition, professional standards require us to communicate to you all material, corrected misstatements that were brought to the attention of management as a result of our audit procedures. There were no material, corrected misstatements noted during the audit.

Disagreements with Management

For purposes of this letter, professional standards define a disagreement with management as a matter, whether or not resolved to our satisfaction, concerning a financial accounting, reporting, or auditing matter, which could be significant to the West Bay Sanitary District's financial statements or the auditor's report. No such disagreements arose during the course of the audit.



Circumstances that Affect the Form and Content of the Auditor's Report

For purposes of this letter, professional standards require that we communicate any circumstances that affect the form and content of our auditor's report. There were no circumstances that affect the form and content of our auditor's report.

Representations Requested from Management

We have requested certain written representations from management, which are included in the attached letter dated November 28, 2023.

Management's Consultations with Other Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters. Management informed us that, and to our knowledge, there were no consultations with other accountants regarding auditing and accounting matters.

Other Significant Matters, Findings, or Issues

In the normal course of our professional association with the West Bay Sanitary District, we generally discuss a variety of matters, including the application of accounting principles and auditing standards, operating and regulatory conditions affecting the District, and operational plans and strategies that may affect the risks of material misstatement. None of the matters discussed resulted in a condition to our retention as the West Bay Sanitary District's auditors.

This report is intended solely for the information and use of the Board and management of the West Bay Sanitary District and is not intended to be and should not be used by anyone other than these specified parties.

C & A LLP

November 28, 2023
Morgan Hill, California



WEST BAY SANITARY DISTRICT AGENDA ITEM 11

To: *Board of Directors*

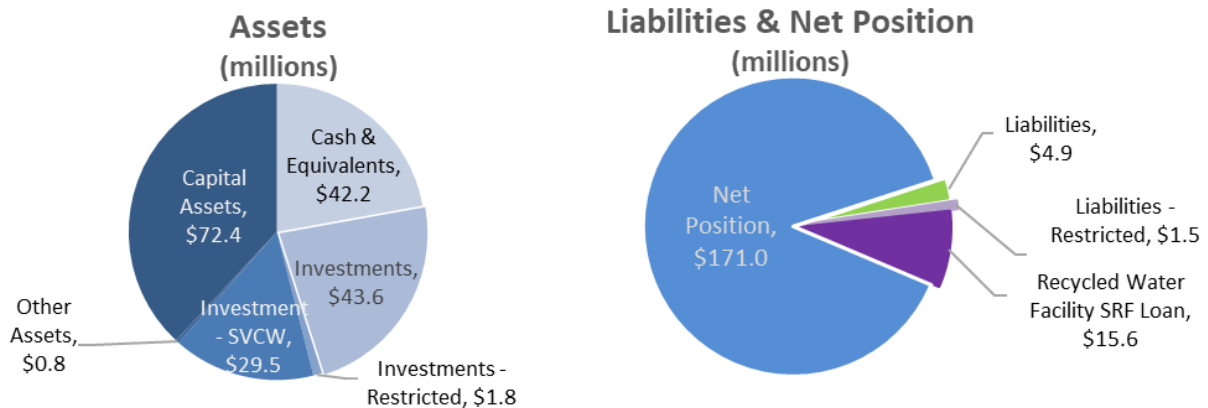
From: *Debra Fisher, Finance Manager*

Subject: *Consider Approving FY 2022-23 Financial Statements,
Year Ending June 30, 2023*

Background

Attached for the Board's review are the District's Unaudited Fiscal Year 2022-23 Financial Statements, year ending June 30, 2023. The Statement of Revenue, Expenses, and Changes in Net Position is reported by fund to better view the primary operations and other activities in; General, Capital, Solid Waste, and Recycled Water Funds.

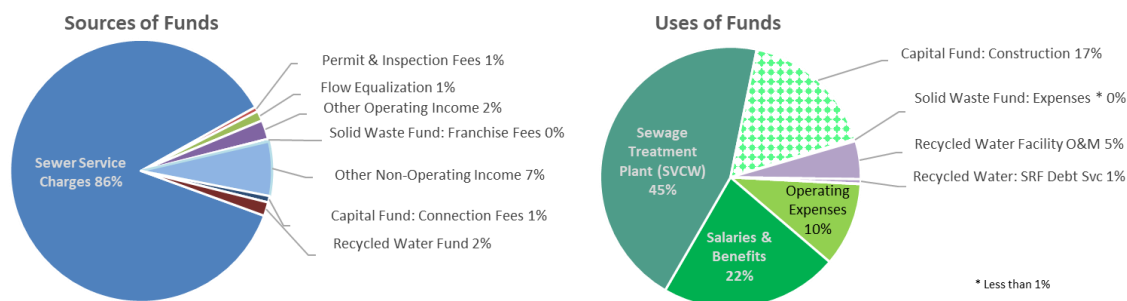
Fiscal Impact



The District had \$190 million in total assets as of June 30, 2023, with total liabilities of \$22 million, for a Net Position of \$171 million.

The District had gross Revenue of \$36.5 million and gross Expenditures of \$25.4 million, for a combined \$5 million current Change in Net Position in all Funds. Additionally, there was a \$6 million prior period adjustment to align pension with current CalPERS actuarial report, valued at June 30, 2022.

The District expended \$4.86 million on capital projects.



Collections; General, Capital, & Treatment Plant Funds:

General, Capital, and Treatment Plant Funds are combined to show total collection system operations. Operating Revenue was \$32 million, 104% of the annual budget. Operating Expense was \$24.9 million, 98% of the annual budget. This includes direct Operating Expenses of \$9.3 million, 93% of the annual budget, Capital Depreciation of \$2.8 million, and Sewer Treatment Plant expense and debt, managed by Silicon Valley Clean Water (SVCW) of \$12.8 million, 105% of the annual budget. SVCW accounts for 58% of total operating expenses, excluding depreciation. The Net Operating Income was \$7 million for the fiscal year.

Non-Operating Revenues and Expenses of \$2.35 million net increase, from Interest Income, Gains, and Losses on Investments, less investment fees; almost five times the approved budget. Collections has a \$9.4 million increase in Net Position for the fiscal year. \$277 thousand in Connection fees are recognized as Capital Contributions.

Solid Waste Fund:

The Solid Waste Fund recognized \$118.6 thousand in Franchise Fees, 108% of the annual budget, from Recology, which manages solid waste collection for the District.

Solid Waste Expenditures of \$82 thousand, 76% of the annual budget, was recognized for rate studies, annual notification mailing, and overhead allocation.

The Solid Waste Fund increased \$36 thousand, to a Net Position of \$555 thousand, as of June 30, 2023.

Recycled Water Fund:

The Recycled Water Fund includes the Sharon Heights Recycled Water Facility (SHRWF) and the Bayfront Recycled Water Project. All income in this fund is recognized as Non-Operating. The District recognized \$1.35 million in total expenses and a net \$438 thousand in Non-Operating Income and Expense. The District recognized \$1.15 million in Capital Contributions.

SHRWF had Operating Expenditures of \$1.34 million, including \$753 thousand in depreciation. Non-Operating Revenue from Sharon Heights Golf & Country Club (SHGCC) of \$532 thousand was recognized. Interest expense of \$161,196 was for the California Clean Water State Revolving Fund loan.

The Bayfront Project had \$14 thousand in uncanceled expenditures.

The District earned \$68 thousand in interest, net of gains, loss, and fees on the Recycled Water Cash Flow Reserve.

Financial Statements Summary:

The following is a summary of the Statement of Changes in Revenue, Expenses, and Net Position, for the years ending June 30, 2023 and June 30, 2022, compared to the approved budget for fiscal year 2022-23.

Statement of Revenue, Expenses and Changes in Net Position				
	Prior Year	Actual	Approved Budget	Annual Budget
	FY 2021-22	FY 2022-23	FY 2022-23	v Actual
Operating Revenues	31,049,135	32,096,441	30,887,959	104%
Operating Expenses	(12,246,437)	(13,507,324)	(14,674,382)	92%
SVCW	(12,233,027)	(12,846,366)	(12,177,351)	105%
Operating Income (Loss)	6,569,671	5,742,751	4,036,227	142%
Non-Operating Rev/Exp	(979,520)	2,784,843	853,468	326%
Income Before Contributions & Special Items	5,590,152	8,527,594	4,889,694	174%
Pension Adjustment (GASB 68)	937,667	(4,912,677)		
Recycled Water Fund: Capital Contribution	662,911	1,146,513	662,911	173%
Capital Fund: Connection Fees	7,444,686	277,426	250,000	111%
Change in Net Position	14,635,416	5,038,855	5,802,605	87%
Beginning Balance	158,636,569	159,939,775	159,939,775	
Prior Period Adjustment	1,303,206	6,005,723		
Change in Net Position - Adjusted	159,939,775	170,984,354	165,742,381	103%

Recommendation

The Finance Manager recommends the Board approve the Unaudited Financial Statement for Fiscal Year 2022-23, for the year ending June 30, 2023.

Attached: Financial Report FY 2022-23, Year ending June 30, 2023

West Bay Sanitary District



Unaudited Financial Statements

Fiscal Year 2022-2023

Year Ending

June 30, 2023

Financial Report Fiscal Year 2022-2023 Year Ending June 30, 2023

The West Bay Sanitary District (District) provides wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and areas of East Palo Alto, Woodside and unincorporated San Mateo and Santa Clara counties. The District conveys raw wastewater, via the Menlo Park Pump Station and force main, to Silicon Valley Clean Water (SVCW) for treatment and discharge to the San Francisco Bay. The District was originally formed in December 1902 as the Menlo Park Sanitary District under the Sanitary Sewer Act of 1891. The District operated as the Menlo Park Sanitary District from 1902 until 1981 when its name was changed to the West Bay Sanitary District to reflect the service area more accurately. The powers of the District are established by the State of California Health and Safety Code. The District serves a population of 20,612 households and commercial establishments. The District additionally participates, as a member of the South Bayside Waste Management Authority (SBWMA), in the collection and processing of solid waste, recyclable material, and organic material. The District owns and operates the Sharon Heights Recycled Water Facility (SHRWF), through a 2017 long term agreement with Sharon Heights Golf & Country Club (SHGCC) to deliver recycled water.

The District issues its unaudited financial statements for the fiscal year ended June 30, 2023 in conformity with the format prescribed by the provisions of Governmental Accounting Standards. This report is an overview of the District's financial activities for the period. Detailed statement by Fund is included in the Combining Statements and included as supplemental data in the annual financial audit report.

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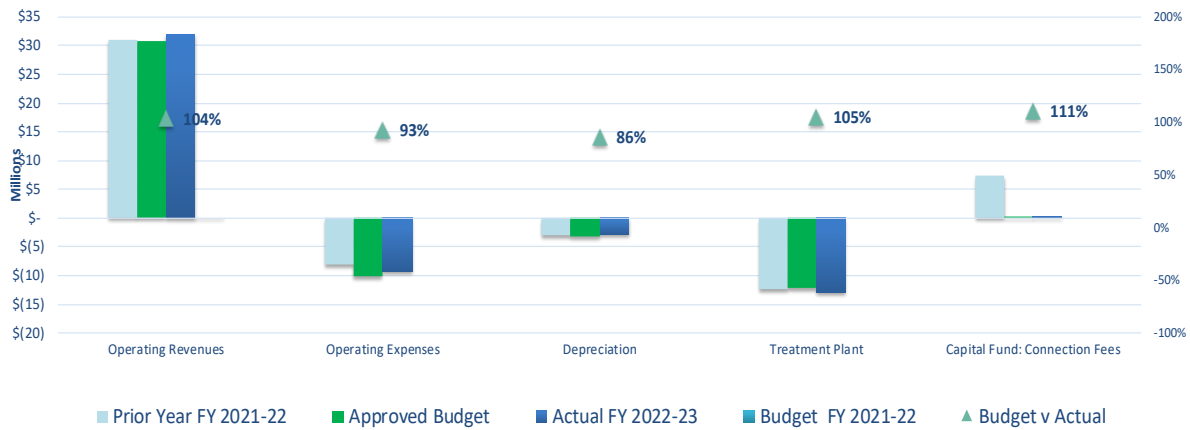
**West Bay Sanitary District
Statement of Net Position
Fiscal Year 2022-23
June 30, 2023**

	Prior Year FY 2021-22	Unaudited FY 2022-23
Assets		
Current Assets		
Cash & Equivalents	47,532,928	42,165,110
Investments	8,879,384	23,638,054
Cash & Investments - Restricted	1,515,974	1,517,643
Accounts Receivable	450,160	240,232
Accrued Revenue	381,418	
Interest Receivable	238,586	442,682
Prepaid Expenses	80,883	77,979
Total Current Assets	59,079,334	68,081,700
Non-Current Assets		
Investments	19,684,019	19,942,535
Restricted Investments	209,699	273,634
Investment in SVCW	28,430,708	29,484,894
Net Pension Asset	3,490,048	
Net OPEB Asset		34,366
Capital Assets:		
Property, Plant & Equipment	112,483,090	117,230,095
Accumulated Depreciation	(41,340,145)	(44,812,224)
Total Capital Assets	71,142,944	72,417,871
Total Non-Current Assets	122,957,418	122,153,300
Total Assets	182,036,752	190,234,999
Deferred Outflows of Resources	242,338	5,659,380
Liabilities		
Current Liabilities		
Accounts Payable	304,122	2,913,390
Accrued Payroll & Taxes	536,887	466,570
Customer Deposits	1,191,910	891,291
SRF Note Payable	501,715	506,732
Total Current Liabilities	2,534,633	4,777,983
Non-Current Liabilities		
OPEB Liability	6,113	
Net Pension Liability		620,100
SRF Deposit - SHGCC	1,458,404	1,458,404
SRF Note Payable	15,617,920	15,111,188
Total Liabilities	19,617,070	21,967,675
Deferred Inflows of Resources	2,722,245	2,942,351
Net Position		
Net Investment in Capital Assets	55,023,310	56,799,950
Investment In SVCW	28,430,708	29,484,894
Capital Fund Budget	41,066,633	44,218,570
Operation Reserve	10,749,600	11,111,437
Unrestricted Fund Balance	23,366,318	23,363,779
Total Net Position	158,636,569	164,978,631
Prior Period Adjustment	1,303,206	6,005,723
Total Net Position	159,939,775	170,984,354

West Bay Sanitary District
Statement of Revenues, Expenses & Changes in Net Position
Fiscal Year 2022-23
June 30, 2023

	Prior Year FY 2021-22	Unaudited Actual FY 2022-23	Approved Budget FY 2022-23	Budget v Actual FY 2022-23	Budget v Actual FY 2022-23
Operating Revenues					
Sewer Service Charges	29,637,018	30,508,147	29,524,654	(983,493)	103%
Permit & Inspection Fees	210,666	203,036	386,915	183,879	52%
Flow Equalization	368,490	436,915	200,000	(236,915)	218%
Other Operating Revenue	832,960	948,343	776,390	(171,953)	122%
Operating Revenues	31,049,135	32,096,441	30,887,959	(1,208,482)	104%
Operating Expenses					
Salaries & Benefits	5,885,910	6,330,473	6,773,845	443,372	93%
Materials & Supplies	573,943	657,069	694,169	37,100	95%
Insurance	229,776	331,064	283,663	(47,401)	117%
Contract Services	611,993	763,708	887,572	123,864	86%
Professional Services	433,014	824,391	698,754	(125,637)	118%
Repairs & Maintenance	291,398	389,911	398,068	8,157	98%
Utilities	329,988	405,452	443,371	37,919	91%
Other Operating Expenses	241,980	286,721	542,135	255,414	53%
Depreciation	3,648,434	3,518,536	3,952,805	434,269	89%
Total WBSD Operating Expenses	12,246,437	13,507,324	14,674,382	1,167,058	92%
Sewage Treatment Plant (SVCW)	12,233,027	12,846,366	12,177,351	(669,015)	105%
Total Operating Expenses	24,479,464	26,353,690	26,851,733	498,043	98%
Operating Income (Loss)	6,569,671	5,742,751	4,036,227	(1,706,525)	142%
Non-Operating Revenues (Expenses)					
Investment Income	(410,875)	1,367,580	501,600	(865,980)	273%
Other Non-Operating Income	686,442	1,589,411	519,064	(1,070,347)	306%
Interest Expense	(166,164)	(161,196)	(161,196)	-	100%
Other Non-Operating Expenses	-	(10,951)	(6,000)	4,951	183%
Total Non-Operating Revenues (Expenses)	(979,520)	2,784,843	853,468	(1,931,375)	326%
Change in Net Position before Contributions & Special Items	5,590,152	8,527,594	4,889,694	(3,637,900)	174%
Increase (Decrease) in Pension (GASB 68)	937,667	(4,912,677)	-	4,912,677	
Capital Contributions			-	-	
Capital Fund: Connection Fees	7,444,686	277,426	250,000	(27,426)	111%
Recycled Water Fund	662,911	1,146,513	662,911	(483,602)	173%
Change in Net Position	14,635,416	5,038,855	5,802,605	763,750	87%
Beginning Net Position	144,001,153	159,939,775	159,939,775		
Prior Period Adjustment	1,303,206	6,005,723	-		
Ending Net Position	159,939,775	170,984,354	165,742,381		

**West Bay Sanitary District
Collections
Statement of Revenues, Expenses & Changes in Net Position
Fiscal Year 2022-23
June 30, 2023**



	Prior Year FY 2021-22	Unaudited Actual FY 2022-23	Approved Budget FY 2022-23	Budget v Actual FY 2022-23	YTD % Budget
Operating Revenues	30,937,733	31,977,857	30,777,959	1,199,899	104%
Operating Expenses					
General Fund Expense	8,040,511	9,309,608	10,045,523	(735,915)	93%
Sewage Treatment Plant (SVCW)	12,233,027	12,846,366	12,177,351	669,015	105%
Depreciation	2,895,629	2,765,731	3,200,000	(434,269)	86%
Total Operating Expenses	23,169,167	24,921,706	25,422,874	(501,168)	98%
Operating Income (Loss)	7,768,566	7,056,152	5,355,085	1,701,067	132%
Non-Operating Revenues (Expenses)					
Non-Operating Revenues	(408,523)	2,357,491	501,000	1,856,491	471%
Non-Operating Expenses	(1,088,923)	(10,951)	(6,000)	(4,951)	
Total Non-Operating Revenues (Expenses)	(1,497,446)	2,346,540	495,000	1,851,540	474%
Change in Net Position					
Collections: General, Capital, SVCW Funds	6,271,120	9,402,691	5,850,085	3,552,606	161%
Solid Waste Fund	256,114	36,127	2,010	34,117	1797%
Recycled Water Fund	(937,082)	(911,224)	(962,401)	51,177	95%
Change in Net Position, before Capital Contributions	5,590,152	8,527,594	4,889,694	3,637,901	174%
Other Adjustment					
Pension Adjustment (GASB 68)	937,667	(4,912,677)	-	-	
Capital Contributions					
Capital Contribution - Connection Fees	7,444,686	277,426	250,000	27,426	111%
Capital Contribution - SHGCC	662,911	1,146,513	662,911	483,602	
Change in Net Position	14,635,416	5,038,855	5,802,605	4,148,928	87%

Collections includes the General, Capital, and Treatment Plant Funds, representing the District's wastewater services.

Revenues:

For the year ending June 30, 2023, total combined revenues are \$36,478,023 including Operating & Non-Operating Income for the General, Treatment Plant, Capital, Solid Waste, and Recycled Water Funds.

General Fund:**Revenues:**

The General Fund had \$31.98 million in Operating Revenue and \$1.15 million in Non-Operating Revenue, for a combined \$33.13 million, 106% of the annual budget.

- **Sewer Service Charges.** Total revenue of \$30.5 million for 103% of the annual budget; \$25 million for residential customers and \$5.5 million for non-residential customers. 99.8% of all charges are made through the County of San Mateo tax roll, with the remaining billed manually.
- **Permit Fees.** Permit & Inspection Fees of \$203 thousand, 102% of the annual budget.
- **Flow Equalization.** The District received \$437 thousand on the contract with Silicon Valley Clean Water (SVCW) for use of the Flow Equalization Facility Pond in fiscal year 2022-23, a flat fee of \$386,915, plus an additional \$50,000 for emergency storage on January 1, 2023.
- **Other Operating Income.** A total of \$830 thousand was recognized through yearend, 125% of the annual budget.
 - Revenue for Los Altos Hills' maintenance service agreement was \$498,345.
 - Revenue for Town of Woodside's maintenance service agreement was \$95,710.
 - Revenue from HACH Contract for private pump station maintenance is billed through the SMC tax roll and accrued monthly; \$155,250 is recognized. This is a pass-through expense, charged to customers in arrears of coverage.
 - Revenue of \$41,909 was for billed emergency line repairs.
 - Revenue from Mandatory Wastewater Discharge Compliance of \$33,744.
 - An additional \$4,801 was from other sources; late fees, bid fees, and other misc. charges and reimbursements.
- **Other Non-Operating Revenues:** The District recognized total non-operating revenue of \$1.15 million.

Capital Fund:**Revenues:**

The Capital Fund recognized \$152 thousand in Non-Operating Revenue for interest income, net of gains, losses, and investments fees.

Connection fees of \$277 thousand are recognized as a capital contribution.

West Bay Sanitary District
General Fund
Fiscal Year 2022-23
June 30, 2023

General Fund	Prior Year FY 2021-22	Unaudited Actual FY 2022-23	Budget FY 2022-23	Budget v Actual FY 2022-23	YTD % Annual Budget
Revenue					
Sewer Service Charges					
Residential	24,443,597	25,027,200	24,331,233	695,967	103%
Non-Residential	5,193,421	5,481,600	5,193,421	288,179	106%
Total Sewer Service Charges	29,637,018	30,508,800	29,524,654	984,146	103%
Permit & Inspection Fees	210,666	203,036	200,000	3,036	102%
Flow Equalization	368,490	436,915	386,915	50,001	113%
Other Operating Income	721,559	829,759	666,390	163,369	125%
Total Operating Revenues	30,937,733	31,978,510	30,777,959	1,200,552	104%
Non-Operating Revenues					
Interest Income	563,114	1,230,231	500,000	730,231	246%
Gain/Loss on Securities	(935,427)	(121,064)	-	(121,064)	
Gain/Loss on PARS Trust	(27,753)	39,294	-	39,294	
Gain/Loss on Equity in SVCW					
Other Non-Op. Inc.	(9,061)	2,720	1,000	1,720	
Total Non-Operating Revenues	(409,125)	1,151,180	501,000	1,151,180	230%
Revenue Prior Years	930,709	-		-	
Total General Fund Revenue	31,459,317	33,129,691	31,278,959	2,351,732	106%

Expenditures:

For the year ending June 30, 2023, total expenditures are \$25.4 million including the General, Capital, Treatment Plant, Solid Waste, and Recycled Water Funds.

Collections: General, Capital, & Treatment Funds:

Expenditures:

For the year ending June 30, 2023, total Collection expenditures were \$24.9 million, 98% of the annual budget. Sewer Treatment Plant expense and debt, managed by Silicon Valley Clean Water (SVCW), accounts for 58% of all wastewater operating expenditures, excluding depreciation.

- **WBSD Operating Expenses.** General Fund Expenses were \$9.3 million, 93% of the annual budget. Expenses are shown on the Expense Analysis on the following page, with overhead allocations to the Solid Waste and Recycled Water Fund deducted.
 - Salaries and Benefits account for 64% of the annual expenses, while coming in at 8% under budget.
 - Fuel costs were \$129.6 thousand, 26% over the annual budget, as fuel costs have continued to rise and the District incurred additional commuter fuel costs, before train schedules returned to normal.

- Professional Services were \$742 thousand, 40% over the annual budget, due to \$264 thousand in staff augmentation for Project department and \$106 thousand for Master Plan, included in Capital budget.
- The other expenditures average 71% of the annual budget.
- Depreciation was \$2.77 million, 86% of the annual budget. The District has \$8 million in Construction In Progress (CIP) that will start depreciating once completed.
- **External Operating Expenses.** These include \$12.8 million paid for the SVCW treatment plant, which is 5% over the annual budget and 54% of total Operating Expenses, excluding depreciation. The District paid \$670 thousand for an unexpected Debt Reserve, which was not in SVCW's budget. The District's 22.99% share of SVCW's Net Position as of June 30, 2023 Unaudited Analysis of Net Position, valued at \$29.5 million. Expenses are recognized as Sewage Treatment Plant under Operating Expenses on the audited financial statements. The District tracks internally in a separate Treatment Plant Fund.
 - SVCW Operating Contributions were \$6,027,936, 100% of the annual budget.
 - SVCW Capital & Reserve Contributions were \$1,740,748, 163% of the annual budget.
 - SVCW Debt payments were \$5,077,682, 100% of the annual budget.
- **Non-Operating Income (Expenses).** The District recognized a \$2.3 million in non-operating revenue and expenses.
 - Net revenue on investments was \$1.3 million.
 - Interest Income of \$1,464,189.
 - \$163,604 Loss in Fair Market Value of Investments and fees, which District plans to hold until maturity.
 - The District received \$2,720 in miscellaneous non-operating income.
 - The District recorded an \$11 thousand loss on a truck destroyed by a fallen tree.

Change in Net Position:

Collection: General, Capital, and Treatment Plant Funds combined had an increase Change in Net Position of \$9.4 million for fiscal yearend June 30, 2023, including \$7 million Operating Income.

The District reports separately the Solid Waste Fund and Recycled Water Fund. The total Change in Net Position for the District is a \$5 million increase, with a \$6 million increase for a prior period adjustment of the net pension with CalPERS. The total Net Position was \$171 million as of June 30, 2023. Details of all Funds are included on the Combining Statement on page 18.

West Bay Sanitary District
General Fund
Fiscal Year 2022-23
June 30, 2023

	Prior Year FY 2021-22	Unaudited Actual FY 2022-23	Budget FY 2022-23	Budget v Actual FY 2022-23	YTD % Annual Budget
Salaries & Wages	4,150,340	4,372,141	4,661,639	289,498	94%
Employee Benefits	1,504,198	1,620,422	1,881,317	260,895	86%
Directors- Fees	38,690	39,390	44,013	4,623	89%
Election Expense	-	2,524	70,000	67,476	4%
Gasoline, Oil & Fuel	117,370	129,566	102,500	(27,066)	126%
Insurance	178,566	236,993	248,663	11,670	95%
Memberships	69,912	64,666	80,345	15,679	80%
Office Expense	30,457	37,113	44,157	7,044	84%
Operating Supplies	352,451	386,759	434,562	47,803	89%
Contract Services	573,867	713,937	777,480	63,543	92%
Professional Services	368,254	742,071	530,979	(211,092)	140%
Printing & Publications	41,156	28,247	66,835	38,588	42%
Rents & Leases	38,126	43,871	60,092	16,221	73%
Repairs & Maintenance	270,583	355,518	385,660	30,142	92%
Research & Monitoring	7,014	-	20,000	20,000	
Training, Meetings & Travel	23,013	69,301	111,057	41,756	62%
Utilities	179,576	233,645	237,851	4,206	98%
LAFCo	32,610	22,323	35,280	12,957	63%
Other Operating Expenses	76,813	136,732	156,390	19,658	87%
Equipment Expense	55,923	78,331	96,750	18,419	81%
Pension Contributions	-	50,000	50,000	-	100%
OPEB Expense	6,270	25,000	25,000	-	100%
Admin: Solid Waste	(57,090)	(59,490)	(59,490)	-	100%
Admin: Recycled Water	(17,589)	(19,452)	(15,557)	3,895	125%
Total WBSD Operating Expenses	8,040,511	9,309,608	10,045,523	735,915	93%

West Bay Sanitary District
Treatment Plant Fund
Fiscal Year 2022-23
June 30, 2023

	Unaudited Actual FY 2021-22	Unaudited Actual FY 2022-23	Budget FY 2022-23	Budget v Actual FY 2022-23	YTD % Annual Budget
Treatment Plant Fund					
SVCW - Operating Fund	6,406,764	6,027,936	6,027,944	8	100%
SVCW - Operating Reserve	6,672	22,908	693,904	670,996	3%
SVCW - Capital Contributions	750,312	1,047,840	376,834	(671,006)	278%
SVCW - 2018 Bond	1,838,028	1,833,999	1,834,338	339	100%
SVCW - 2021 Bonds (\$55.6m)	2,724,486	2,736,917	2,737,566	649	100%
SVCW - SRF WWTP Debt C-06-5216-120	506,765	506,765	506,765	(0)	100%
SVCW: Debt Reserves		670,000			
Total External Operating Expenses (SVCW)	12,233,027	12,846,366	12,177,351	985	105%

Capital Assets:

For year ending June 30, 2023, total Capital Expenditures were \$4.87 million, 26% of the \$18.5 million annual budget. A detailed schedule of Capital Fund Expenditures is included on page 11. The Recycled Water Fund is separate, beginning on page 13.

West Bay Sanitary District
Capital Projects
Fiscal Year 2022-23

	Actual FY 2021-22	Actual 6/30/2023	Budget FY 2022-23	Variance Budget Balance	YTD % Annual Budget
<u>Capital Fund - Construction</u>					
Administration	-	-	350,000.00	411,991	-18%
Collection Facilities	-	15,722	600,000.00	584,278	3%
Fleet & Equipment	-	978,603	762,500.00	(216,103)	128%
Pump Stations	21,592.81	109,991	200,000.00	90,009	55%
Subsurface Lines	43,884	337,741	100,000	(237,741)	338%
Construction In Progress	3,938,242	2,939,177	12,280,000	9,340,823	24%
Total Capital Fund Construction	4,003,719	4,381,234	14,292,500	9,911,266	31%
Disposal: Vehicles & Equipment	(45,686)	(57,885)	-		
Write-Off: Assets	(450,452)	(61,991)	-		
Total Construction, Transfers, & Contributions	3,507,581	4,261,358	14,292,500	10,031,142	30%
<u>Recycled Water Fund - Construction</u>					
Recycled Water - Sharon Heights RWF	-	316,121	2,000,000		16%
Recycled Water - Bayfront RWF	325,765	169,525	2,250,000		8%
Total Recycled Water Fund Construction	325,765	485,647	4,250,000	-	11%

Capital Fund Assets:

Capital spending was \$4.4 million, 31% of the \$14.3 million annual capital budget.

- **Vehicle & Equipment.**
 - A mainline CCTV camera was purchased for \$20,575.
 - A Jet Truck, Ford Superduty F550 with ½ inch Jetter for a total \$139,838.
 - A 2022 Ford Mach E was purchased for General Manager for \$55,706.
 - Three Ford Lightning EVs were purchased for a total of \$199,764.
- **Subsurface Lines and Other.**
 - **Pump Stations.** \$109,991 for pump and valve replacement program expenses.
 - **Subsurface Lines.** \$337,741 was credited to Meta for the Menlo Park Community Center Upsize for recycled water service line.
- **Construction in Progress (CIP).** These are new or continuing constructions projects that are recorded separately and capitalized when completed. CIP is not depreciated until completed
 - **Metal Storage Building.** \$15,722 was expended to complete the project and moved to Collection Facilities.
 - **Levee Project.** \$581,162 was expended for levee design.
 - **Pipeline Replacement & Rehab Construction.** \$2,358,016 was expended.

The District was awarded a \$4,884,112 million grant to fund a portion of the Ecotone Levee Project, for a living shoreline to protect the site from flooding and sea level rise by the National Fish and Wildlife Foundation (NFWF). The funds are matching, requiring a 112% contribution by the District of \$5.5 million. No funds have been received on either grant.

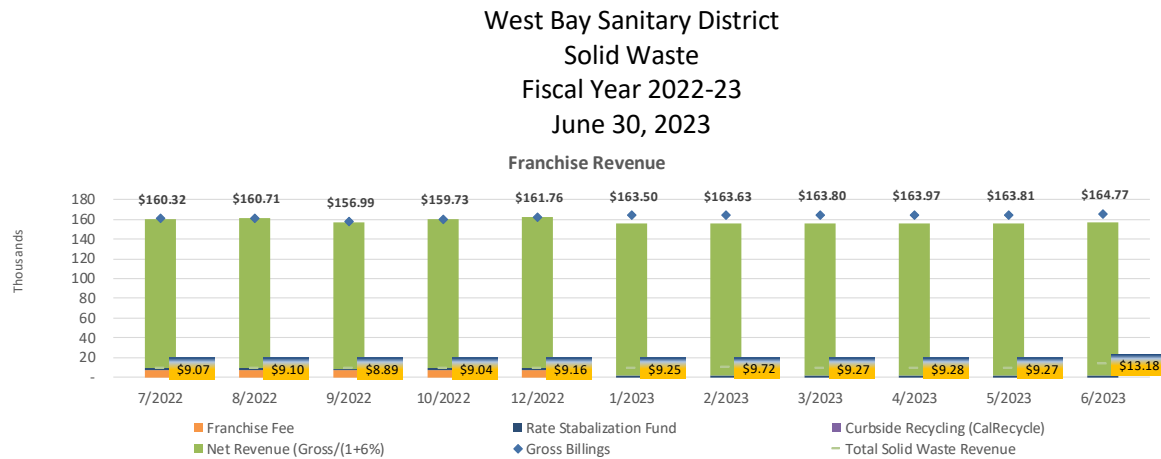
West Bay Sanitary District
Capital Expenditures
Fiscal Year 2022-23
June 30, 2023

	Actual 6/30/2022	Actual 6/30/2023	Budget FY 2022-23	Variance Budget Balance	YTD % Annual Budget
<u>Plant & Administration</u>					
10 Year Master Plan (charged to expense)			350,000	350,000	0%
Write-Off: Assets		(23,763)			
Total Administration	-	(23,763)	350,000	373,763	-7%
<u>Collection Facilities - FERRF/Buildings</u>					
FERRF Improvements		-	500,000	500,000	0%
Metal Storage Building - Phase 1 & 2	1,075,998	15,722	-	(15,722)	
Allowance For Unanticipated Capital Expenditures		-	100,000	100,000	0%
Total Collection Facilities	-	15,722	600,000	584,278	3%
<u>Equipment Replacement - Funded From The Equipment Replacement Fund</u>					
<u>Equipment</u>					
CCTV Transporter & Track Module		20,575	22,500	1,925	91%
<u>Vehicles</u>					
Source Control - Ford F250 Lightning EV (Replace Unit 214)		64,643	75,000	10,357	86%
Replace Unit 211: F150 Lightning EV		70,509			
F150 Lightning EV		64,643			
Jet Truck, Superduty F550 4x4, 1/2in Jetter - Unit 228		139,838	165,000		
Combo Vacuum/Jetter Truck - Unit 229 (Replace Unit 205)		562,690	500,000		
2022 Ford Mach E - GM Vehicle Unit 230	500	55,706	-		
Destroyed Vehicle		(34,635)			
Sales of Vehicles	(45,686)	-		-	
Write-Off Prior Period Disposable Parts		(23,250)			
Total Vehicle & Equipment	(45,186)	920,718	762,500	12,283	121%
<u>Subsurface Lines and Other</u>					
<u>Pump Stations</u>					
Pump & Valve Replacement Program	21,593	109,991	200,000		25%
Total Pump Stations	21,593	109,991	200,000	90,009	55%
<u>Other Subsurface Lines</u>					
Manhole Raising (Paving Projects)	43,884		100,000	100,000	0%
Meta: MP Community Center Upsize RW Svc Line		337,741			
Total Subsurface Lines	43,884	337,741	100,000	100,000	338%
<u>Construction In Progress</u>					
Levee Survey & GPS Update		-	60,000	60,000	0%
Levee Improvement	354,742	581,162	7,000,000	6,418,838	8%
<u>Pipeline Replacement & Rehab Engineering</u>					
Corporate Yard Renovation Design			350,000	350,000	0%
Construction Projects Environmental Review			20,000	20,000	0%
Spot Repair Design (High Frequency List)			350,000	350,000	0%
Pipeline Replacement Design			350,000	350,000	0%
Stowe Lane Design			200,000	200,000	0%
<u>Pipeline Replacement & Rehab Construction</u>					
Lower Ringwood/ North Bay	2,506,710	1,860,970	-	(1,860,970)	
Willow Pump Station Rehabilitation			700,000	700,000	0%
Bayfront Park Sanitary Sewer Improvements	792	144,709	1,250,000	1,105,291	12%
Misc Point Repairs (High Freq. List Repairs)		352,337	2,000,000	1,647,663	18%
Write-off CIP		(38,228)			
Total Construction In Progress	2,862,244	2,900,950	12,280,000	9,340,823	24%
Total Capital Expenditures	2,928,220	4,261,358	14,292,500	10,501,155	30%

Solid Waste Fund:

The District is a member of South Bayside Waste Management Authority (SBWMA), a joint powers authority which contracts with Recology to provide recycling, compost, and garbage collection services. The Solid Waste Fund had a net increase of \$36 thousand, to a Net Position of \$555 thousand, as of June 30, 2023.

- **Solid Waste Fund Revenue.** Franchise fees were \$118.6 thousand, 8% over the annual budget. This represents 6% of the Net Revenue of Recology; 5% in Franchise Fees and 1% from Rate Stabilization Fund.
- **Solid Waste Fund Expense.** Allocated expenses for the Solid Waste program of \$82.5 thousand was recognized for a rate study, annual notification mailing, and overhead allocation, 63% of the annual budget.



	Prior Year FY 2021-22	Actual FY 2022-23	Budget FY 2022-23	Variance Budget v Actual	YTD % Annual Budget
Income					
Operating Income					
Franchise Fees	111,402	91,711	110,000	(18,289)	83%
Rate Stabilization Fund		18,342			
Curbside Supplemental		4,310			
Total Income	111,402	118,584	110,000	(18,289)	108%
Expenditures					
Allocated Operating Expense					
Rate Studies	0	20,891	42,000	(21,109)	50%
Mailings	1,911	2,076	5,000	(2,924)	42%
Public Relations	1,188	0	1,500	(1,500)	0%
Overhead Expense Allocation	57,090	59,490	59,490	0	100%
Total Allocated Operating Expense	60,189	82,457	107,990	(25,533)	76%
Non-Operating Income & Expenditures					
Surplus	204,901	0	0	0	
Total Non-Operating Income & Expenditure	204,901	0	0	0	
Change in Net Position	256,114	36,127	2,010	34,117	1797%
Beginning Balance	263,205	519,319	519,319		
Ending Balance	519,319	555,446	521,329		

Recycled Water:

The Recycled Water Fund includes the Sharon Heights Recycled Water Facility (SHRWF) and the Bayfront Recycled Water Facility (BFRWF) Project. SHRWF is a public/private partnership with Sharon Heights Golf & Country Club (SHGCC) to deliver recycled water. Details follow on page 14-16.

There are two recycled water facilities projects in the Recycled Water Fund detailed on page 14.

- **Sharon Heights Recycled Water Facility.** The final project was capitalized for \$22,780,298 in fiscal year 2020-21. In FY 2022-23, two supporting projects were started.
- **Bayfront Recycled Water Facility.** The District completed an initial BFRWF Plan in February 2019, with Board approval on May 12, 2021, completion is scheduled for early 2026. Details follow on page 16.

**Recycled Water Fund
Capital Expenditures**

	Actual 6/30/2022	Actual 6/30/2023	Budget FY 2022-23	Variance Budget Balance	YTD % Annual Budget
<u>Recycled Water Fund</u>					
Recycled Water Facility - SHGCC	-	-	-	-	
Sharon Heights RWF - Avy Pump Station		316,121	500,000	183,879	63%
Sharon Heights RWF - Solar Project Lease		-	1,500,000	1,500,000	0%
Bayfront Recycled Water Facility - Project Mgmt		88,312	1,000,000	911,688	9%
Bayfront - Reclaimed Water Pipelines	325,765	81,214	1,250,000	1,168,786	6%
Total Recycled Water	325,765	485,647	4,250,000	3,764,353	11%

The District maintains separate reporting for each recycled water project, including any expenses or income not associated with an individual project. This allows for accountability and transparency to all District stakeholders. WBSD are unallocated income and expenses. In FY 2022-23 the BFRWF project had \$14 thousand in expenditures for professional services working towards receiving grant funding.

West Bay Sanitary District
Recycled Water Fund
Fiscal Year 2022-23
June 30, 2023

Recycled Water Fund	WBSD	SHRWF	BFRWF	Total
Salaries & Benefits	-	(223,520)	-	(223,520)
Other Operating Expense	-	(359,175)	(14,027)	(373,202)
Depreciation	-	(752,805)	-	(752,805)
Operating Income (Expense)	-	(1,335,500)	(14,027)	(1,349,527)
Non-Operating Income	67,792	531,708	-	599,500
Non-Operating Expense	-	(161,196)	-	(161,196)
Capital Contributions	-	1,146,513	-	1,146,513
Net Change in Position	67,792	181,524	(14,027)	235,289

Sharon Heights Recycled Water Facility

The Sharon Heights Recycled Water Facility (SHRWF) project was completed in FY 2020-21 and accepted effective July 27, 2020, for a total of \$22,647,052 to build the 0.5 MGD plant. \$22,267,257 was received from the California Clean Water State Revolving Fund (SRF), including a \$5,259,800 Water Recycling Funding Program Construction Grant and a net SRF Loan of \$17,117,420. The first SRF loan payment was made in March 2021, with annual payments thereafter. The SRF loan balance is \$15,617,920, as of March 31, 2023.

The District was working with SHGCC on a Solar Project, to install solar panels for the SHRWF, to reduce energy costs. SHGCC was working with a leasing company, who would retain ownership. All costs incurred by the District are passed along to SHGCC. This project is active.

The District is working with SHGCC and other stakeholders on installation of another pump station to feed the SHRWF. The Avy Altschul Pump Station (Avy PS) will be funded by SHGCC through a combination of SRF loan and grant funds. SHGCC will reimburse the District for all costs, including SRF loan payments.

The District assumed full management of the SHRWF beginning January 27, 2021. Operation & Maintenance (O&M) expenses are paid by the District. Sharon Heights Golf & Country Club (SHGCC) pays an estimated calendar year budget amount monthly. Summary Recycled Water Fund statements are listed below, with detailed expenditure schedule on page 15.

- **Expense.** Total expenditures were \$1.3 million, including depreciation of the facility.
 - Operating Expenses were \$583 thousand, 103% of the annual budget.
 - Depreciation Expense was \$753 thousand, 100% of the annual budget.
- **Non-Operating Income & Expenses.**
 - Non-Operating Income of \$530 thousand was recognized from SHGCC. This represents billing for O&M, including the reconciliation of calendar year 2022 O&M.
 - Non-Operating Income & Loss was a net increase of \$370.5 thousand.
 - \$1,668 was received in Interest Income.
 - \$161,196 in Interest Expense was paid on March 30, 2023, included in the SRF Loan payment of \$662,911.
- **Capital Contributions**
 - SHGCC makes ten equal payments each year to prepay the SRF loan. The payments begin each April for the March SRF loan payment, in the following year. The payments were carried as a liability and recorded as Capital Contributions, when the loan is paid. Beginning FY 2022-23, they will be recorded as contributions as received, therefore the four additional payments received after the March 2023 SRF payment show as additional contributions this year.
 - The District paid \$316,121, passing through \$218,437 to SHGCC for initial costs for the Avy Altschul Pump Station, which are recognized as additional contributions and are included as capital.

West Bay Sanitary District
Recycled Water Fund
Sharron Heights Recycled Water Facility
Fiscal Year 2022-23
June 30, 2023

Fund Expenditures - Detail	Prior Year FY 2021-22	Actual FY 2022-23	Budget FY 2022-23	Budget v Actual FY 2022-23	YTD % Annual Budget
<u>Operating Expense</u>					
District Wages					
Plant Operator	79,554	122,305	90,037	(32,268)	135.8%
Indirect Labor	29,411	13,544	19,992	6,448	67.7%
Overtime	23,232	26,317	30,000	3,683	87.7%
Standby	18,620	20,170	19,764	(406)	102.1%
Total District Wages	150,818	182,336	159,793	(22,543)	114.1%
Employee Benefits	35,594	41,184	27,083	(14,101)	152.1%
Total Salaries, Wages & Benefits	186,411	223,520	186,876	(36,644)	119.6%
<u>Other Operating Expense</u>					
Gasoline, Oil & Fuel	0	347	0	(347)	
Insurance	34,747	33,241	35,000	1,759	95.0%
Memberships	0	0	0	0	
Office Expense	33	0	0	0	
Operating Supplies	17,709	24,626	16,200	(8,426)	152.0%
Contractual Services	0	5,900	50,000	44,100	11.8%
Professional Services	28,613	25,064	10,000	(15,064)	250.6%
Printing & Publications	0	0	0	0	
Rents & Leases	0	0	0	0	
Repairs & Maintenance	20,814	34,393	12,408	(21,985)	277.2%
Research & Monitoring	19,060	22,664	22,440	(224)	101.0%
Training, Meetings & Travel	0	0	0	0	
Utilities	150,412	171,807	205,520	33,713	0.0%
Licenses & Permits	6,150	21,681	10,000	(11,681)	0.0%
Other Operating Expenses	0	0	0	0	
Operations & Maintenance (Contract)	0	0	0	0	
Administrative Expense	17,589	19,452	19,620	168	3836.9%
Subtotal Operation & Maintenance	481,539	582,695	568,064	(14,631)	235.1%
Depreciation	752,805	752,805	752,805	0	100.0%
Total Operating Expense	1,234,344	1,335,500	1,320,869	(14,631)	101.1%
<u>Non-Operating Income & Expense</u>					
<u>Non-Operating Income</u>					
Sharon Heights Golf & County Club	488,991	530,040	518,064	(11,976)	0.0%
Interest Income	1,668	1,668	1,600	(68)	104.3%
Gain/Loss on Reserves	(3,512)	0	0	0	
Other Non-Operating Income	0	0	0	0	
Total Non-Operating Income	487,147	531,708	519,664	(12,044)	102.3%
<u>Non-Operating Expense</u>					
Interest Expense (SRF Loan)	(166,164)	(161,196)	(161,196)	0	100.0%
Total Non-Operating Expense	(166,164)	(161,196)	(161,196)	0	100.0%
Total Non-Operating Income & Expense	320,983	370,512	358,468	(12,044)	103.4%
<u>Capital Contributions</u>					
SRF Loan Payment	662,911	662,911	662,911	(0)	100.0%
SRF Loan Payment Advances		265,164		(265,164)	
Avy Pump Station Contributions		218,437		(218,437)	
Total Capital Contributions	662,911	1,146,513	662,911	(483,602)	173.0%
Net Change in Position	(250,450)	181,524	(299,490)	(481,015)	-60.6%

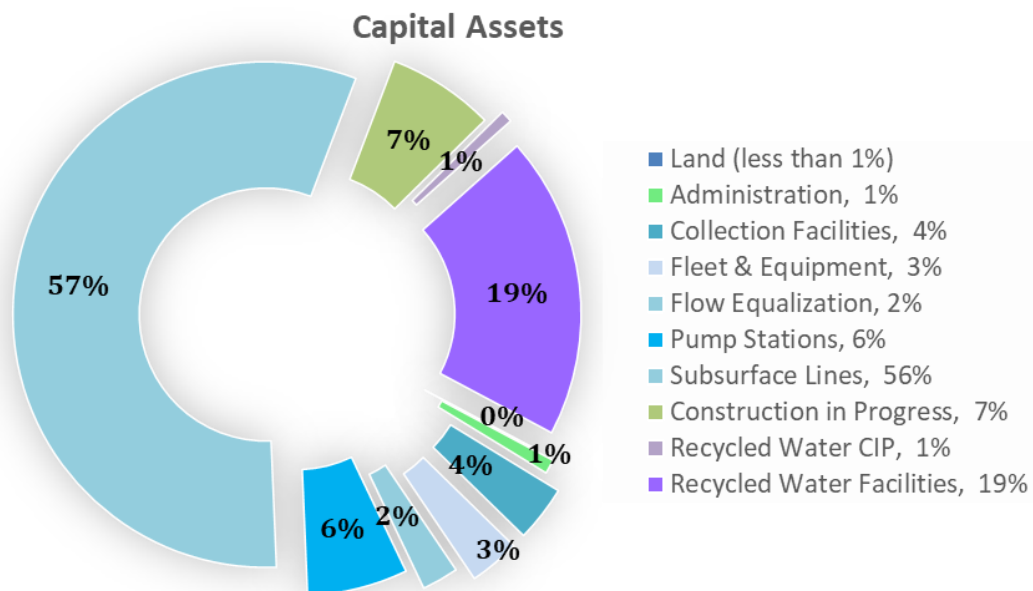
Recycled Water:***Bayfront Recycled Water Facility (BFRWF)***

The District completed an initial BFRWF Plan in February 2019. After completing required Environmental Impact Report (EIR) and other regulatory requirements, on May 12, 2021, the District Board approved the project to build a 0.6 million gallons per day (MGD) recycled water facility at the District's Flow Equalization and Resource Recovery Facility (FERRF) site. The District is exploring expanding the facility from 0.6MGD to as much as 1MGD. Construction completion is scheduled for early 2026. BFRWF will be a public project with contributions in aid of construction from several developers, for a guaranteed share of capacity, with the District maintaining extra capacity to offer to prospective customers.

BFRWF had \$169,525 in capital expenditures in FY 2022-23, for total project Construction in Progress (CIP) expenditures of \$896,821.

The District was awarded a \$15 million grant from the California State Water Recycling Funding Program (WRFP), representing 35% of projected construction costs of \$56.6 million and an initial \$37 million SRF loan. The grant may increase, based on final construction costs.

Recycled Water Fund represents 20% of all District assets, including CIP for Bayfront.



Reserves:

The District budgeted \$4,282,856 in total transfers for FY 2022-23. On December 2, 2022, the Finance Committee met and reviewed the District's financial position and investments. Based on the District's cash balance and market conditions, it was recommended that the District move an additional \$10 million from LAIF to reserve accounts with Bank of the West, to realize higher yields until funds were needed. On December 14, 2022 at the regular Board meeting, the additional contribution to reserves was approved. On December 20, the \$10 million transfer was allocated across reserves to achieve all targets.

- **Reserves.** The District originally budgeted \$4,149,218 for unrestricted reserve contributions.
 - **Operating Reserve:** The Operating Reserve, which is held in Local Agency Investment Fund (LAIF), is budgeted for six months of operations to provide cash flow from the beginning of the year until funds are received from San Mateo County for the tax roll.
 - **Rate Stabilization Reserve:** Was created in 2015 to provide relief if large rate increases were necessary.
 - **Treatment Plant Reserve:** Was created in 2021 to set aside funds for future large debt requirements from SVCW. In FY 2022-23, it was used to pay \$670 thousand to SVCW for their new Debt Reserve, which was initiated in June 2023.
 - **Capital Reserves:** The Emergency Capital Reserve was created in 2010, with the Capital Project Reserve following in 2014.
 - **Recycled Water Reserves:** The Recycled Water Cash Flow Reserve, which was initially created for the SHRWF in 2018 to cover expenditures which were reimbursed through a State of California State Revolving Fund (SRF) loan, is continuing to serve for the BFRWF Project. Some funds are held in LAIF to fund the Bayfront project, until its SRF loan is approved and other funding is received.
- **Restricted Reserves.**
 - The Recycled Water SRF Reserve are funds deposited by SHGCC, as required by the SRF loan agreement.
 - The District has two accounts with Public Agency Retirement Services (PARS) for post-employment benefits trusts.

Reserve Transfers	Reserve Target	Actual 6/30/2023	Approved Budget FY 2022-23	Variance Budget Balance	YTD % Annual
<u>Contributions To Reserves</u>					
Operating Reserves Transfers (Target 6mo/Ops)	11,111,437	359,337	359,337	-	100%
Rate Stabilization	10,000,000	767,700	300,000	(467,700)	256%
Treatment Plant Reserve	12,000,000	10,118,211	2,500,000	(7,618,211)	405%
<u>Capital Reserves</u>					
Capital Project Reserves Transfers	8,000,000	2,479,000	200,000	(2,279,000)	1240%
Emergency Capital Reserves Transfer	6,000,000	1,381,100	200,000	(1,181,100)	691%
Vehicle & Equip Replacement Reserve	1,000,000		389,881	389,881	0%
<u>Recycled Water Reserves</u>					
Recycled Water Facility Cash Flow Reserve	8,000,000	456,100	200,000	(256,100)	228%
Recycled Water SRF Reserve - Restricted			-	-	
Reserve Transfers	56,111,437	15,561,448	4,149,218	(11,412,230)	375%
<u>Other Reserve Contributions</u>					
PARS Irrevocable Trust - Retirement		50,000	50,000	-	100%
PARS Irrevocable Trust - OPEB		25,000	25,000	-	100%
Self-Insurance Reserve		58,638	58,638	-	100%
Total Contributions To Reserves		15,695,086	4,282,856	(11,412,230)	366%

West Bay Sanitary District
Statement of Revenues, Expenses & Changes in Net Position
Combining Statements by Fund
Fiscal Year 2022-23
June 30, 2023

	General Fund FY 2022-23	Capital Fund FY 2022-23	Treatment Plant Fund FY 2022-23	Solid Waste Fund FY 2022-23	Recycled Water Fund FY 2022-23	Unaudited Actual FY 2022-23
Operating Revenues						
Sewer Service Charges	30,508,147	-	-	-	-	30,508,147
Flow Equalization	436,915	-	-	-	-	436,915
Permit & Inspection Fees	203,036	-	-	-	-	203,036
Other Operating Revenue	829,759	-	-	118,584	-	948,343
Operating Revenues	31,977,857	-	-	118,584	-	32,096,441
Operating Expenses						
Salaries & Benefits	6,106,953	-	-	-	223,520	6,330,473
Materials & Supplies	631,769	-	-	-	25,300	657,069
Insurance	297,822	-	-	-	33,241	331,064
Contract Services	757,808	-	-	-	5,900	763,708
Professional Services	742,071	-	-	20,891	61,429	824,391
Repairs & Maintenance	355,518	-	-	-	34,393	389,911
Utilities	233,645	-	-	-	171,807	405,452
Other Operating Expenses	184,022	-	-	61,566	41,132	286,721
Depreciation	-	2,765,731	-	-	752,805	3,518,536
Total WBSD Operating Expenses	9,309,608	2,765,731	-	82,457	1,349,527	13,507,324
Sewage Treatment Plant (SVCW)			12,846,366			12,846,366
Total Operating Expenses	9,309,608	2,765,731	12,846,366	82,457	1,349,527	26,353,690
Operating Income (Loss)	22,668,249	(2,765,731)	(12,846,366)	36,127	(1,349,527)	5,742,751
Non-Operating Revenues (Expenses)						
Investment Income	1,148,460	152,125			66,995	1,367,580
Other Non-Operating Income	2,720		1,054,186	-	532,505	1,589,411
Interest Expense					(161,196)	(161,196)
Other Non-Operating Expenses		(10,951)			-	(10,951)
Total Non-Operating Revenues (Expenses)	1,151,180	141,173	1,054,186	-	438,303	2,784,843
Change in Net Position by Fund	23,819,429	(2,624,558)	(11,792,180)	36,127	(911,224)	8,527,594
Pension Adjustment (GASB 68)	(4,912,677)					(4,912,677)
Capital Contributions						
Interfund Contributions	(12,846,366)	-	12,846,366	-	-	-
Capital Fund: Connection Fees	-	277,426				277,426
Recycled Water Fund	-	-	-	-	1,146,513	1,146,513
Change in Net Position	6,060,386	(2,347,133)	1,054,186	36,127	235,289	5,038,855
Beginning Net Position	39,413,062	78,546,037	28,430,708	519,319	13,030,649	159,939,775
Prior Period Adjustment	6,005,723	-				6,005,723
Ending Net Position	51,479,171	76,198,905	29,484,894	555,446	13,265,938	170,984,354

West Bay Sanitary District



Unaudited Financial Statements

Fiscal Year 2022-2023

Year Ending

June 30, 2023

Financial Report Fiscal Year 2022-2023 Year Ending June 30, 2023

The West Bay Sanitary District (District) provides wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and areas of East Palo Alto, Woodside and unincorporated San Mateo and Santa Clara counties. The District conveys raw wastewater, via the Menlo Park Pump Station and force main, to Silicon Valley Clean Water (SVCW) for treatment and discharge to the San Francisco Bay. The District was originally formed in December 1902 as the Menlo Park Sanitary District under the Sanitary Sewer Act of 1891. The District operated as the Menlo Park Sanitary District from 1902 until 1981 when its name was changed to the West Bay Sanitary District to reflect the service area more accurately. The powers of the District are established by the State of California Health and Safety Code. The District serves a population of 20,612 households and commercial establishments. The District additionally participates, as a member of the South Bayside Waste Management Authority (SBWMA), in the collection and processing of solid waste, recyclable material, and organic material. The District owns and operates the Sharon Heights Recycled Water Facility (SHRWF), through a 2017 long term agreement with Sharon Heights Golf & Country Club (SHGCC) to deliver recycled water.

The District issues its unaudited financial statements for the fiscal year ended June 30, 2023 in conformity with the format prescribed by the provisions of Governmental Accounting Standards. This report is an overview of the District's financial activities for the period. Detailed statement by Fund is included in the Combining Statements and included as supplemental data in the annual financial audit report.

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**West Bay Sanitary District
Statement of Net Position
Fiscal Year 2022-23
June 30, 2023**

	Prior Year FY 2021-22	Unaudited FY 2022-23
Assets		
Current Assets		
Cash & Equivalents	47,532,928	42,165,110
Investments	8,879,384	23,638,054
Cash & Investments - Restricted	1,515,974	1,517,643
Accounts Receivable	450,160	240,232
Accrued Revenue	381,418	
Interest Receivable	238,586	442,682
Prepaid Expenses	80,883	77,979
Total Current Assets	59,079,334	68,081,700
Non-Current Assets		
Investments	19,684,019	19,942,535
Restricted Investments	209,699	273,634
Investment in SVCW	28,430,708	29,484,894
Net Pension Asset	3,490,048	
Net OPEB Asset		34,366
Capital Assets:		
Property, Plant & Equipment	112,483,090	117,230,095
Accumulated Depreciation	(41,340,145)	(44,812,224)
Total Capital Assets	71,142,944	72,417,871
Total Non-Current Assets	122,957,418	122,153,300
Total Assets	182,036,752	190,234,999
Deferred Outflows of Resources	242,338	5,659,380
Liabilities		
Current Liabilities		
Accounts Payable	304,122	2,913,390
Accrued Payroll & Taxes	536,887	466,570
Customer Deposits	1,191,910	891,291
SRF Note Payable	501,715	506,732
Total Current Liabilities	2,534,633	4,777,983
Non-Current Liabilities		
OPEB Liability	6,113	
Net Pension Liability		620,100
SRF Deposit - SHGCC	1,458,404	1,458,404
SRF Note Payable	15,617,920	15,111,188
Total Liabilities	19,617,070	21,967,675
Deferred Inflows of Resources	2,722,245	2,942,351
Net Position		
Net Investment in Capital Assets	55,023,310	56,799,950
Investment In SVCW	28,430,708	29,484,894
Capital Fund Budget	41,066,633	44,218,570
Operation Reserve	10,749,600	11,111,437
Unrestricted Fund Balance	23,366,318	23,363,779
Total Net Position	158,636,569	164,978,631
Prior Period Adjustment	1,303,206	6,005,723
Total Net Position	159,939,775	170,984,354

West Bay Sanitary District
Statement of Revenues, Expenses & Changes in Net Position
Fiscal Year 2022-23
June 30, 2023

	Prior Year FY 2021-22	Unaudited Actual FY 2022-23	Approved Budget FY 2022-23	Budget v Actual FY 2022-23	Budget v Actual FY 2022-23
Operating Revenues					
Sewer Service Charges	29,637,018	30,508,147	29,524,654	(983,493)	103%
Permit & Inspection Fees	210,666	203,036	386,915	183,879	52%
Flow Equalization	368,490	436,915	200,000	(236,915)	218%
Other Operating Revenue	832,960	948,343	776,390	(171,953)	122%
Operating Revenues	31,049,135	32,096,441	30,887,959	(1,208,482)	104%
Operating Expenses					
Salaries & Benefits	5,885,910	6,330,473	6,773,845	443,372	93%
Materials & Supplies	573,943	657,069	694,169	37,100	95%
Insurance	229,776	331,064	283,663	(47,401)	117%
Contract Services	611,993	763,708	887,572	123,864	86%
Professional Services	433,014	824,391	698,754	(125,637)	118%
Repairs & Maintenance	291,398	389,911	398,068	8,157	98%
Utilities	329,988	405,452	443,371	37,919	91%
Other Operating Expenses	241,980	286,721	542,135	255,414	53%
Depreciation	3,648,434	3,518,536	3,952,805	434,269	89%
Total WBSD Operating Expenses	12,246,437	13,507,324	14,674,382	1,167,058	92%
Sewage Treatment Plant (SVCW)	12,233,027	12,846,366	12,177,351	(669,015)	105%
Total Operating Expenses	24,479,464	26,353,690	26,851,733	498,043	98%
Operating Income (Loss)	6,569,671	5,742,751	4,036,227	(1,706,525)	142%
Non-Operating Revenues (Expenses)					
Investment Income	(410,875)	1,367,580	501,600	(865,980)	273%
Other Non-Operating Income	686,442	1,589,411	519,064	(1,070,347)	306%
Interest Expense	(166,164)	(161,196)	(161,196)	-	100%
Other Non-Operating Expenses	-	(10,951)	(6,000)	4,951	183%
Total Non-Operating Revenues (Expenses)	(979,520)	2,784,843	853,468	(1,931,375)	326%
Change in Net Position before Contributions & Special Items	5,590,152	8,527,594	4,889,694	(3,637,900)	174%
Increase (Decrease) in Pension (GASB 68)	937,667	(4,912,677)	-	4,912,677	
Capital Contributions			-	-	
Capital Fund: Connection Fees	7,444,686	277,426	250,000	(27,426)	111%
Recycled Water Fund	662,911	1,146,513	662,911	(483,602)	173%
Change in Net Position	14,635,416	5,038,855	5,802,605	763,750	87%
Beginning Net Position	144,001,153	159,939,775	159,939,775		
Prior Period Adjustment	1,303,206	6,005,723	-		
Ending Net Position	159,939,775	170,984,354	165,742,381		

**West Bay Sanitary District
Collections
Statement of Revenues, Expenses & Changes in Net Position
Fiscal Year 2022-23
June 30, 2023**



	Prior Year FY 2021-22	Unaudited Actual FY 2022-23	Approved Budget FY 2022-23	Budget v Actual FY 2022-23	YTD % Budget
Operating Revenues	30,937,733	31,977,857	30,777,959	1,199,899	104%
Operating Expenses					
General Fund Expense	8,040,511	9,309,608	10,045,523	(735,915)	93%
Sewage Treatment Plant (SVCW)	12,233,027	12,846,366	12,177,351	669,015	105%
Depreciation	2,895,629	2,765,731	3,200,000	(434,269)	86%
Total Operating Expenses	23,169,167	24,921,706	25,422,874	(501,168)	98%
Operating Income (Loss)	7,768,566	7,056,152	5,355,085	1,701,067	132%
Non-Operating Revenues (Expenses)					
Non-Operating Revenues	(408,523)	2,357,491	501,000	1,856,491	471%
Non-Operating Expenses	(1,088,923)	(10,951)	(6,000)	(4,951)	
Total Non-Operating Revenues (Expenses)	(1,497,446)	2,346,540	495,000	1,851,540	474%
Change in Net Position					
Collections: General, Capital, SVCW Funds	6,271,120	9,402,691	5,850,085	3,552,606	161%
Solid Waste Fund	256,114	36,127	2,010	34,117	1797%
Recycled Water Fund	(937,082)	(911,224)	(962,401)	51,177	95%
Change in Net Position, before Capital Contributions	5,590,152	8,527,594	4,889,694	3,637,901	174%
Other Adjustment					
Pension Adjustment (GASB 68)	937,667	(4,912,677)	-	-	
Capital Contributions					
Capital Contribution - Connection Fees	7,444,686	277,426	250,000	27,426	111%
Capital Contribution - SHGCC	662,911	1,146,513	662,911	483,602	
Change in Net Position	14,635,416	5,038,855	5,802,605	4,148,928	87%

Collections includes the General, Capital, and Treatment Plant Funds, representing the District's wastewater services.

Revenues:

For the year ending June 30, 2023, total combined revenues are \$36,478,023 including Operating & Non-Operating Income for the General, Treatment Plant, Capital, Solid Waste, and Recycled Water Funds.

General Fund:**Revenues:**

The General Fund had \$31.98 million in Operating Revenue and \$1.15 million in Non-Operating Revenue, for a combined \$33.13 million, 106% of the annual budget.

- **Sewer Service Charges.** Total revenue of \$30.5 million for 103% of the annual budget; \$25 million for residential customers and \$5.5 million for non-residential customers. 99.8% of all charges are made through the County of San Mateo tax roll, with the remaining billed manually.
- **Permit Fees.** Permit & Inspection Fees of \$203 thousand, 102% of the annual budget.
- **Flow Equalization.** The District received \$437 thousand on the contract with Silicon Valley Clean Water (SVCW) for use of the Flow Equalization Facility Pond in fiscal year 2022-23, a flat fee of \$386,915, plus an additional \$50,000 for emergency storage on January 1, 2023.
- **Other Operating Income.** A total of \$830 thousand was recognized through yearend, 125% of the annual budget.
 - Revenue for Los Altos Hills' maintenance service agreement was \$498,345.
 - Revenue for Town of Woodside's maintenance service agreement was \$95,710.
 - Revenue from HACH Contract for private pump station maintenance is billed through the SMC tax roll and accrued monthly; \$155,250 is recognized. This is a pass-through expense, charged to customers in arrears of coverage.
 - Revenue of \$41,909 was for billed emergency line repairs.
 - Revenue from Mandatory Wastewater Discharge Compliance of \$33,744.
 - An additional \$4,801 was from other sources; late fees, bid fees, and other misc. charges and reimbursements.
- **Other Non-Operating Revenues:** The District recognized total non-operating revenue of \$1.15 million.

Capital Fund:**Revenues:**

The Capital Fund recognized \$152 thousand in Non-Operating Revenue for interest income, net of gains, losses, and investments fees.

Connection fees of \$277 thousand are recognized as a capital contribution.

West Bay Sanitary District
General Fund
Fiscal Year 2022-23
June 30, 2023

General Fund	Prior Year FY 2021-22	Unaudited Actual FY 2022-23	Budget FY 2022-23	Budget v Actual FY 2022-23	YTD % Annual Budget
Revenue					
Sewer Service Charges					
Residential	24,443,597	25,027,200	24,331,233	695,967	103%
Non-Residential	5,193,421	5,481,600	5,193,421	288,179	106%
Total Sewer Service Charges	29,637,018	30,508,800	29,524,654	984,146	103%
Permit & Inspection Fees	210,666	203,036	200,000	3,036	102%
Flow Equalization	368,490	436,915	386,915	50,001	113%
Other Operating Income	721,559	829,759	666,390	163,369	125%
Total Operating Revenues	30,937,733	31,978,510	30,777,959	1,200,552	104%
Non-Operating Revenues					
Interest Income	563,114	1,230,231	500,000	730,231	246%
Gain/Loss on Securities	(935,427)	(121,064)	-	(121,064)	
Gain/Loss on PARS Trust	(27,753)	39,294	-	39,294	
Gain/Loss on Equity in SVCW					
Other Non-Op. Inc.	(9,061)	2,720	1,000	1,720	
Total Non-Operating Revenues	(409,125)	1,151,180	501,000	1,151,180	230%
Revenue Prior Years	930,709	-		-	
Total General Fund Revenue	31,459,317	33,129,691	31,278,959	2,351,732	106%

Expenditures:

For the year ending June 30, 2023, total expenditures are \$25.4 million including the General, Capital, Treatment Plant, Solid Waste, and Recycled Water Funds.

Collections: General, Capital, & Treatment Funds:

Expenditures:

For the year ending June 30, 2023, total Collection expenditures were \$24.9 million, 98% of the annual budget. Sewer Treatment Plant expense and debt, managed by Silicon Valley Clean Water (SVCW), accounts for 58% of all wastewater operating expenditures, excluding depreciation.

- **WBSD Operating Expenses.** General Fund Expenses were \$9.3 million, 93% of the annual budget. Expenses are shown on the Expense Analysis on the following page, with overhead allocations to the Solid Waste and Recycled Water Fund deducted.
 - Salaries and Benefits account for 64% of the annual expenses, while coming in at 8% under budget.
 - Fuel costs were \$129.6 thousand, 26% over the annual budget, as fuel costs have continued to rise and the District incurred additional commuter fuel costs, before train schedules returned to normal.

- Professional Services were \$742 thousand, 40% over the annual budget, due to \$264 thousand in staff augmentation for Project department and \$106 thousand for Master Plan, included in Capital budget.
- The other expenditures average 71% of the annual budget.
- Depreciation was \$2.77 million, 86% of the annual budget. The District has \$8 million in Construction In Progress (CIP) that will start depreciating once completed.
- **External Operating Expenses.** These include \$12.8 million paid for the SVCW treatment plant, which is 5% over the annual budget and 54% of total Operating Expenses, excluding depreciation. The District paid \$670 thousand for an unexpected Debt Reserve, which was not in SVCW's budget. The District's 22.99% share of SVCW's Net Position as of June 30, 2023 Unaudited Analysis of Net Position, valued at \$29.5 million. Expenses are recognized as Sewage Treatment Plant under Operating Expenses on the audited financial statements. The District tracks internally in a separate Treatment Plant Fund.
 - SVCW Operating Contributions were \$6,027,936, 100% of the annual budget.
 - SVCW Capital & Reserve Contributions were \$1,740,748, 163% of the annual budget.
 - SVCW Debt payments were \$5,077,682, 100% of the annual budget.
- **Non-Operating Income (Expenses).** The District recognized a \$2.3 million in non-operating revenue and expenses.
 - Net revenue on investments was \$1.3 million.
 - Interest Income of \$1,464,189.
 - \$163,604 Loss in Fair Market Value of Investments and fees, which District plans to hold until maturity.
 - The District received \$2,720 in miscellaneous non-operating income.
 - The District recorded an \$11 thousand loss on a truck destroyed by a fallen tree.

Change in Net Position:

Collection: General, Capital, and Treatment Plant Funds combined had an increase Change in Net Position of \$9.4 million for fiscal yearend June 30, 2023, including \$7 million Operating Income.

The District reports separately the Solid Waste Fund and Recycled Water Fund. The total Change in Net Position for the District is a \$5 million increase, with a \$6 million increase for a prior period adjustment of the net pension with CalPERS. The total Net Position was \$171 million as of June 30, 2023. Details of all Funds are included on the Combining Statement on page 18.

West Bay Sanitary District
General Fund
Fiscal Year 2022-23
June 30, 2023

	Prior Year FY 2021-22	Unaudited Actual FY 2022-23	Budget FY 2022-23	Budget v Actual FY 2022-23	YTD % Annual Budget
Salaries & Wages	4,150,340	4,372,141	4,661,639	289,498	94%
Employee Benefits	1,504,198	1,620,422	1,881,317	260,895	86%
Directors- Fees	38,690	39,390	44,013	4,623	89%
Election Expense	-	2,524	70,000	67,476	4%
Gasoline, Oil & Fuel	117,370	129,566	102,500	(27,066)	126%
Insurance	178,566	236,993	248,663	11,670	95%
Memberships	69,912	64,666	80,345	15,679	80%
Office Expense	30,457	37,113	44,157	7,044	84%
Operating Supplies	352,451	386,759	434,562	47,803	89%
Contract Services	573,867	713,937	777,480	63,543	92%
Professional Services	368,254	742,071	530,979	(211,092)	140%
Printing & Publications	41,156	28,247	66,835	38,588	42%
Rents & Leases	38,126	43,871	60,092	16,221	73%
Repairs & Maintenance	270,583	355,518	385,660	30,142	92%
Research & Monitoring	7,014	-	20,000	20,000	
Training, Meetings & Travel	23,013	69,301	111,057	41,756	62%
Utilities	179,576	233,645	237,851	4,206	98%
LAFCo	32,610	22,323	35,280	12,957	63%
Other Operating Expenses	76,813	136,732	156,390	19,658	87%
Equipment Expense	55,923	78,331	96,750	18,419	81%
Pension Contributions	-	50,000	50,000	-	100%
OPEB Expense	6,270	25,000	25,000	-	100%
Admin: Solid Waste	(57,090)	(59,490)	(59,490)	-	100%
Admin: Recycled Water	(17,589)	(19,452)	(15,557)	3,895	125%
Total WBSD Operating Expenses	8,040,511	9,309,608	10,045,523	735,915	93%

West Bay Sanitary District
Treatment Plant Fund
Fiscal Year 2022-23
June 30, 2023

	Unaudited Actual FY 2021-22	Unaudited Actual FY 2022-23	Budget FY 2022-23	Budget v Actual FY 2022-23	YTD % Annual Budget
Treatment Plant Fund					
SVCW - Operating Fund	6,406,764	6,027,936	6,027,944	8	100%
SVCW - Operating Reserve	6,672	22,908	693,904	670,996	3%
SVCW - Capital Contributions	750,312	1,047,840	376,834	(671,006)	278%
SVCW - 2018 Bond	1,838,028	1,833,999	1,834,338	339	100%
SVCW - 2021 Bonds (\$55.6m)	2,724,486	2,736,917	2,737,566	649	100%
SVCW - SRF WWTP Debt C-06-5216-120	506,765	506,765	506,765	(0)	100%
SVCW: Debt Reserves		670,000			
Total External Operating Expenses (SVCW)	12,233,027	12,846,366	12,177,351	985	105%

Capital Assets:

For year ending June 30, 2023, total Capital Expenditures were \$4.87 million, 26% of the \$18.5 million annual budget. A detailed schedule of Capital Fund Expenditures is included on page 11. The Recycled Water Fund is separate, beginning on page 13.

West Bay Sanitary District
Capital Projects
Fiscal Year 2022-23

	Actual FY 2021-22	Actual 6/30/2023	Budget FY 2022-23	Variance Budget Balance	YTD % Annual Budget
<u>Capital Fund - Construction</u>					
Administration	-	-	350,000.00	411,991	-18%
Collection Facilities	-	15,722	600,000.00	584,278	3%
Fleet & Equipment	-	978,603	762,500.00	(216,103)	128%
Pump Stations	21,592.81	109,991	200,000.00	90,009	55%
Subsurface Lines	43,884	337,741	100,000	(237,741)	338%
Construction In Progress	3,938,242	2,939,177	12,280,000	9,340,823	24%
Total Capital Fund Construction	4,003,719	4,381,234	14,292,500	9,911,266	31%
Disposal: Vehicles & Equipment	(45,686)	(57,885)	-		
Write-Off: Assets	(450,452)	(61,991)	-		
Total Construction, Transfers, & Contributions	3,507,581	4,261,358	14,292,500	10,031,142	30%
<u>Recycled Water Fund - Construction</u>					
Recycled Water - Sharon Heights RWF	-	316,121	2,000,000		16%
Recycled Water - Bayfront RWF	325,765	169,525	2,250,000		8%
Total Recycled Water Fund Construction	325,765	485,647	4,250,000	-	11%

Capital Fund Assets:

Capital spending was \$4.4 million, 31% of the \$14.3 million annual capital budget.

- **Vehicle & Equipment.**
 - A mainline CCTV camera was purchased for \$20,575.
 - A Jet Truck, Ford Superduty F550 with ½ inch Jetter for a total \$139,838.
 - A 2022 Ford Mach E was purchased for General Manager for \$55,706.
 - Three Ford Lightning EVs were purchased for a total of \$199,764.
- **Subsurface Lines and Other.**
 - **Pump Stations.** \$109,991 for pump and valve replacement program expenses.
 - **Subsurface Lines.** \$337,741 was credited to Meta for the Menlo Park Community Center Upsize for recycled water service line.
- **Construction in Progress (CIP).** These are new or continuing constructions projects that are recorded separately and capitalized when completed. CIP is not depreciated until completed
 - **Metal Storage Building.** \$15,722 was expended to complete the project and moved to Collection Facilities.
 - **Levee Project.** \$581,162 was expended for levee design.
 - **Pipeline Replacement & Rehab Construction.** \$2,358,016 was expended.

The District was awarded a \$4,884,112 million grant to fund a portion of the Ecotone Levee Project, for a living shoreline to protect the site from flooding and sea level rise by the National Fish and Wildlife Foundation (NFWF). The funds are matching, requiring a 112% contribution by the District of \$5.5 million. No funds have been received.

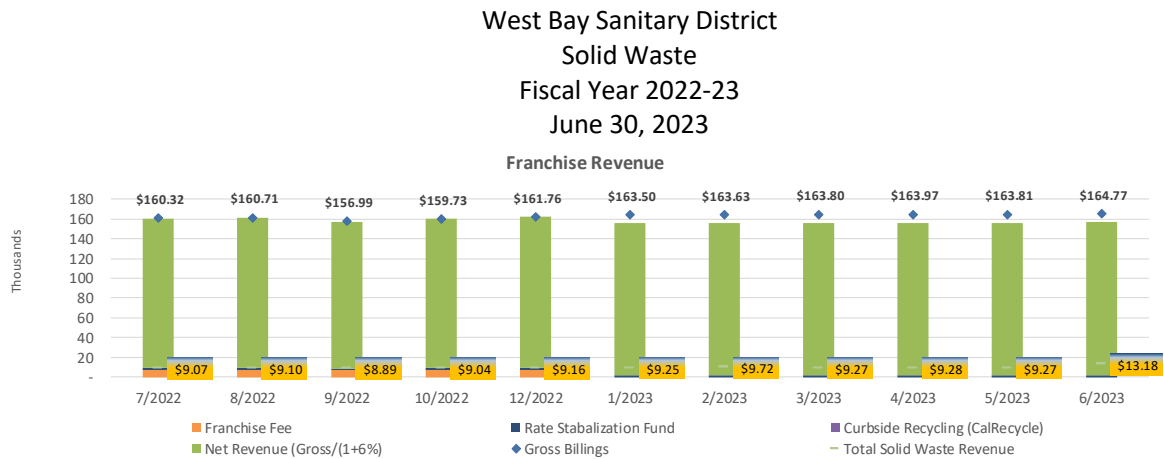
West Bay Sanitary District
Capital Expenditures
Fiscal Year 2022-23
June 30, 2023

	Actual 6/30/2022	Actual 6/30/2023	Budget FY 2022-23	Variance Budget Balance	YTD % Annual Budget
<u>Plant & Administration</u>					
10 Year Master Plan (charged to expense)			350,000	350,000	0%
Write-Off: Assets		(23,763)			
Total Administration	-	(23,763)	350,000	373,763	-7%
<u>Collection Facilities - FERRF/Buildings</u>					
FERRF Improvements		-	500,000	500,000	0%
Metal Storage Building - Phase 1 & 2	1,075,998	15,722	-	(15,722)	
Allowance For Unanticipated Capital Expenditures		-	100,000	100,000	0%
Total Collection Facilities	-	15,722	600,000	584,278	3%
<u>Equipment Replacement - Funded From The Equipment Replacement Fund</u>					
<u>Equipment</u>					
CCTV Transporter & Track Module		20,575	22,500	1,925	91%
<u>Vehicles</u>					
Source Control - Ford F250 Lightning EV (Replace Unit 214)		64,643	75,000	10,357	86%
Replace Unit 211: F150 Lightning EV		70,509			
F150 Lightning EV		64,643			
Jet Truck, Superduty F550 4x4, 1/2in Jetter - Unit 228		139,838	165,000		
Combo Vacuum/Jetter Truck - Unit 229 (Replace Unit 205)		562,690	500,000		
2022 Ford Mach E - GM Vehicle Unit 230	500	55,706	-		
Destroyed Vehicle		(34,635)			
Sales of Vehicles	(45,686)	-		-	
Write-Off Prior Period Disposable Parts		(23,250)			
Total Vehicle & Equipment	(45,186)	920,718	762,500	12,283	121%
<u>Subsurface Lines and Other</u>					
<u>Pump Stations</u>					
Pump & Valve Replacement Program	21,593	109,991	200,000		25%
Total Pump Stations	21,593	109,991	200,000	90,009	55%
<u>Other Subsurface Lines</u>					
Manhole Raising (Paving Projects)	43,884		100,000	100,000	0%
Meta: MP Community Center Upsize RW Svc Line		337,741			
Total Subsurface Lines	43,884	337,741	100,000	100,000	338%
<u>Construction In Progress</u>					
Levee Survey & GPS Update		-	60,000	60,000	0%
Levee Improvement	354,742	581,162	7,000,000	6,418,838	8%
<u>Pipeline Replacement & Rehab Engineering</u>					
Corporate Yard Renovation Design			350,000	350,000	0%
Construction Projects Environmental Review			20,000	20,000	0%
Spot Repair Design (High Frequency List)			350,000	350,000	0%
Pipeline Replacement Design			350,000	350,000	0%
Stowe Lane Design			200,000	200,000	0%
<u>Pipeline Replacement & Rehab Construction</u>					
Lower Ringwood/ North Bay	2,506,710	1,860,970	-	(1,860,970)	
Willow Pump Station Rehabilitation			700,000	700,000	0%
Bayfront Park Sanitary Sewer Improvements	792	144,709	1,250,000	1,105,291	12%
Misc Point Repairs (High Freq. List Repairs)		352,337	2,000,000	1,647,663	18%
Write-off CIP		(38,228)			
Total Construction In Progress	2,862,244	2,900,950	12,280,000	9,340,823	24%
Total Capital Expenditures	2,928,220	4,261,358	14,292,500	10,501,155	30%

Solid Waste Fund:

The District is a member of South Bayside Waste Management Authority (SBWMA), a joint powers authority which contracts with Recology to provide recycling, compost, and garbage collection services. The Solid Waste Fund had a net increase of \$36 thousand, to a Net Position of \$555 thousand, as of June 30, 2023.

- **Solid Waste Fund Revenue.** Franchise fees were \$118.6 thousand, 8% over the annual budget. This represents 6% of the Net Revenue of Recology; 5% in Franchise Fees and 1% from Rate Stabilization Fund.
- **Solid Waste Fund Expense.** Allocated expenses for the Solid Waste program of \$82.5 thousand was recognized for a rate study, annual notification mailing, and overhead allocation, 63% of the annual budget.



	Prior Year FY 2021-22	Actual FY 2022-23	Budget FY 2022-23	Variance Budget v Actual	YTD % Annual Budget
Income					
Operating Income					
Franchise Fees	111,402	91,711	110,000	(18,289)	83%
Rate Stabilization Fund		18,342			
Curbside Supplemental		4,310			
Total Income	111,402	118,584	110,000	(18,289)	108%
Expenditures					
Allocated Operating Expense					
Rate Studies	0	20,891	42,000	(21,109)	50%
Mailings	1,911	2,076	5,000	(2,924)	42%
Public Relations	1,188	0	1,500	(1,500)	0%
Overhead Expense Allocation	57,090	59,490	59,490	0	100%
Total Allocated Operating Expense	60,189	82,457	107,990	(25,533)	76%
Non-Operating Income & Expenditures					
Surplus	204,901	0	0	0	
Total Non-Operating Income & Expenditu	204,901	0	0	0	
Change in Net Position	256,114	36,127	2,010	34,117	1797%
Beginning Balance	263,205	519,319	519,319		
Ending Balance	519,319	555,446	521,329		

Recycled Water:

The Recycled Water Fund includes the Sharon Heights Recycled Water Facility (SHRWF) and the Bayfront Recycled Water Facility (BFRWF) Project. SHRWF is a public/private partnership with Sharon Heights Golf & Country Club (SHGCC) to deliver recycled water. Details follow on page 14-16.

There are two recycled water facilities projects in the Recycled Water Fund detailed on page 14.

- **Sharon Heights Recycled Water Facility.** The final project was capitalized for \$22,780,298 in fiscal year 2020-21. In FY 2022-23, two supporting projects were started.
- **Bayfront Recycled Water Facility.** The District completed an initial BFRWF Plan in February 2019, with Board approval on May 12, 2021, completion is scheduled for early 2026. Details follow on page 16.

**Recycled Water Fund
Capital Expenditures**

	Actual 6/30/2022	Actual 6/30/2023	Budget FY 2022-23	Variance Budget Balance	YTD % Annual Budget
Recycled Water Fund					
Recycled Water Facility - SHGCC	-	-	-	-	
Sharon Heights RWF - Avy Pump Station		316,121	500,000	183,879	63%
Sharon Heights RWF - Solar Project Lease		-	1,500,000	1,500,000	0%
Bayfront Recycled Water Facility - Project Mgmt		88,312	1,000,000	911,688	9%
Bayfront - Reclaimed Water Pipelines	325,765	81,214	1,250,000	1,168,786	6%
Total Recycled Water	325,765	485,647	4,250,000	3,764,353	11%

The District maintains separate reporting for each recycled water project, including any expenses or income not associated with an individual project. This allows for accountability and transparency to all District stakeholders. WBSD are unallocated income and expenses. In FY 2022-23 the BFRWF project had \$14 thousand in expenditures for professional services working towards receiving grant funding.

West Bay Sanitary District
Recycled Water Fund
Fiscal Year 2022-23
June 30, 2023

Recycled Water Fund	WBSD	SHRWF	BFRWF	Total
Salaries & Benefits	-	(223,520)	-	(223,520)
Other Operating Expense	-	(359,175)	(14,027)	(373,202)
Depreciation	-	(752,805)	-	(752,805)
Operating Income (Expense)	-	(1,335,500)	(14,027)	(1,349,527)
Non-Operating Income	67,792	531,708	-	599,500
Non-Operating Expense	-	(161,196)	-	(161,196)
Capital Contributions	-	1,146,513	-	1,146,513
Net Change in Position	67,792	181,524	(14,027)	235,289

Sharon Heights Recycled Water Facility

The Sharon Heights Recycled Water Facility (SHRWF) project was completed in FY 2020-21 and accepted effective July 27, 2020, for a total of \$22,647,052 to build the 0.5 MGD plant. \$22,267,257 was received from the California Clean Water State Revolving Fund (SRF), including a \$5,259,800 Water Recycling Funding Program Construction Grant and a net SRF Loan of \$17,117,420. The first SRF loan payment was made in March 2021, with annual payments thereafter. The SRF loan balance is \$15,617,920, as of March 31, 2023.

The District was working with SHGCC on a Solar Project, to install solar panels for the SHRWF, to reduce energy costs. SHGCC was working with a leasing company, who would retain ownership. All costs incurred by the District are passed along to SHGCC. This project is no longer active.

The District is working with SHGCC and other stakeholders on installation of another pump station to feed the SHRWF. The Avy Altschul Pump Station (Avy PS) will be funded by SHGCC through a combination of SRF loan and grant funds. SHGCC will reimburse the District for all costs, including SRF loan payments.

The District assumed full management of the SHRWF beginning January 27, 2021. Operation & Maintenance (O&M) expenses are paid by the District. Sharon Heights Golf & Country Club (SHGCC) pays an estimated calendar year budget amount monthly. Summary Recycled Water Fund statements is below, with detailed expenditure schedule on page 15.

- **Expense.** Total expenditures were \$1.3 million, including depreciation of the facility.
 - Operating Expenses were \$583 thousand, 103% of the annual budget.
 - Depreciation Expense was \$753 thousand, 100% of the annual budget.
- **Non-Operating Income & Expenses.**
 - Non-Operation Income of \$530 thousand was recognized from SHGCC. This represents billing for O&M, including the reconciliation of calendar year 2022 O&M.
 - Non-Operating Income & Loss was a net increase of \$370.5 thousand.
 - \$1,668 was received in Interest Income.
 - \$161,196 in Interest Expense was paid on March 30, 2023, included in the SRF Loan payment of \$662,911.
- **Capital Contributions**
 - SHGCC makes ten equal payments each year to prepay the SRF loan. The payments begin each April for the March SRF loan payment, in the following year. The payments were carried as a liability and recorded as Capital Contributions, when the loan is paid. Beginning FY 2022-23, they will be recorded as contributions as received, therefore the four additional payments received after the March 2023 SRF payment show as additional contributions this year.
 - The District paid \$316,121, passing through \$218,437 to SHGCC for initial costs for the Avy Altschul Pump Station, which are recognized as additional contributions and are included as capital.

West Bay Sanitary District
Recycled Water Fund
Sharron Heights Recycled Water Facility
Fiscal Year 2022-23
June 30, 2023

Fund Expenditures - Detail	Prior Year FY 2021-22	Actual FY 2022-23	Budget FY 2022-23	Budget v Actual FY 2022-23	YTD % Annual Budget
<u>Operating Expense</u>					
District Wages					
Plant Operator	79,554	122,305	90,037	(32,268)	135.8%
Indirect Labor	29,411	13,544	19,992	6,448	67.7%
Overtime	23,232	26,317	30,000	3,683	87.7%
Standby	18,620	20,170	19,764	(406)	102.1%
Total District Wages	150,818	182,336	159,793	(22,543)	114.1%
Employee Benefits	35,594	41,184	27,083	(14,101)	152.1%
Total Salaries, Wages & Benefits	186,411	223,520	186,876	(36,644)	119.6%
<u>Other Operating Expense</u>					
Gasoline, Oil & Fuel	0	347	0	(347)	
Insurance	34,747	33,241	35,000	1,759	95.0%
Memberships	0	0	0	0	
Office Expense	33	0	0	0	
Operating Supplies	17,709	24,626	16,200	(8,426)	152.0%
Contractual Services	0	5,900	50,000	44,100	11.8%
Professional Services	28,613	25,064	10,000	(15,064)	250.6%
Printing & Publications	0	0	0	0	
Rents & Leases	0	0	0	0	
Repairs & Maintenance	20,814	34,393	12,408	(21,985)	277.2%
Research & Monitoring	19,060	22,664	22,440	(224)	101.0%
Training, Meetings & Travel	0	0	0	0	
Utilities	150,412	171,807	205,520	33,713	0.0%
Licenses & Permits	6,150	21,681	10,000	(11,681)	0.0%
Other Operating Expenses	0	0	0	0	
Operations & Maintenance (Contract)	0	0	0	0	
Administrative Expense	17,589	19,452	19,620	168	3836.9%
Subtotal Operation & Maintenance	481,539	582,695	568,064	(14,631)	235.1%
Depreciation	752,805	752,805	752,805	0	100.0%
Total Operating Expense	1,234,344	1,335,500	1,320,869	(14,631)	101.1%
<u>Non-Operating Income & Expense</u>					
<u>Non-Operating Income</u>					
Sharon Heights Golf & County Club	488,991	530,040	518,064	(11,976)	0.0%
Interest Income	1,668	1,668	1,600	(68)	104.3%
Gain/Loss on Reserves	(3,512)	0	0	0	
Other Non-Operating Income	0	0	0	0	
Total Non-Operating Income	487,147	531,708	519,664	(12,044)	102.3%
<u>Non-Operating Expense</u>					
Interest Expense (SRF Loan)	(166,164)	(161,196)	(161,196)	0	100.0%
Total Non-Operating Expense	(166,164)	(161,196)	(161,196)	0	100.0%
Total Non-Operating Income & Expense	320,983	370,512	358,468	(12,044)	103.4%
<u>Capital Contributions</u>					
SRF Loan Payment	662,911	662,911	662,911	(0)	100.0%
SRF Loan Payment Advances		265,164		(265,164)	
Avy Pump Station Contributions		218,437		(218,437)	
Total Capital Contributions	662,911	1,146,513	662,911	(483,602)	173.0%
Net Change in Position	(250,450)	181,524	(299,490)	(481,015)	-60.6%

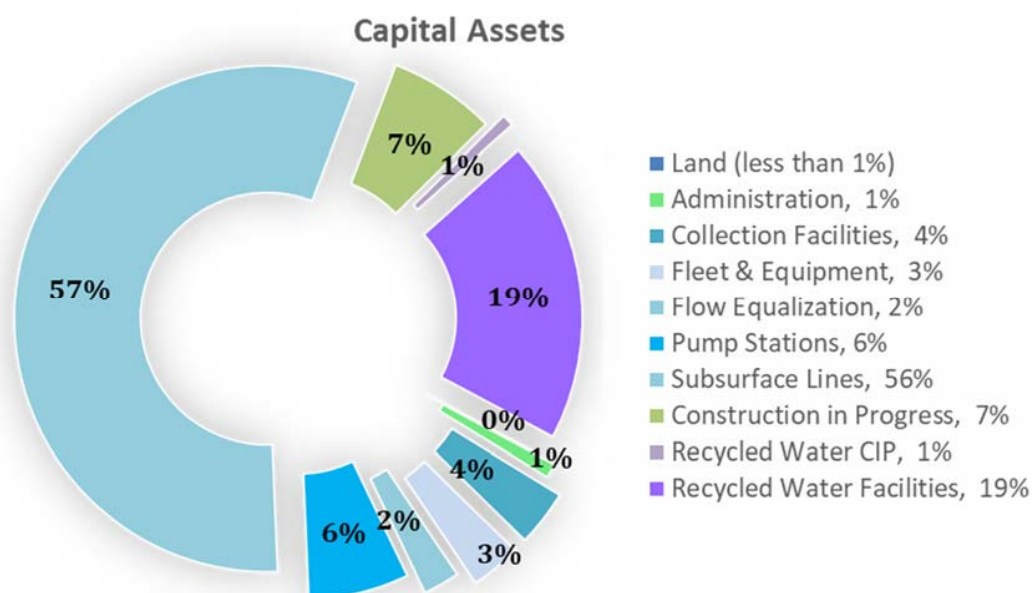
Recycled Water:***Bayfront Recycled Water Facility (BFRWF)***

The District completed an initial BFRWF Plan in February 2019. After completing required Environmental Impact Report (EIR) and other regulatory requirements, on May 12, 2021, the District Board approved the project to build a 0.6 million gallons per day (MGD) recycled water facility at the District's Flow Equalization and Resource Recovery Facility (FERRF) site. The District is exploring expanding the facility from 0.6MGD to as much as 1MGD. Construction completion is scheduled for early 2026. BFRWF will be a public project with contributions in aid of construction from several developers, for a guaranteed share of capacity, with the District maintaining extra capacity to offer to prospective customers.

BFRWF had \$169,525 in capital expenditures in FY 2022-23, for total project Construction in Progress (CIP) expenditures of \$896,821.

The District was awarded a \$15 million grant from the California State Water Recycling Funding Program (WRFP), representing 35% of projected construction costs of \$56.6 million and an initial \$37 million SRF loan. The grant may increase, based on final construction costs.

Recycled Water Fund represents 20% of all District assets, including CIP for Bayfront.



Reserves:

The District budgeted \$4,282,856 in total transfers for FY 2022-23. On December 2, 2022, the Finance Committee met and reviewed the District's financial position and investments. Based on the District's cash balance and market conditions, it was recommended that the District move an additional \$10 million from LAIF to reserve accounts with Bank of the West, to realize higher yields until funds were needed. On December 14, 2022 at the regular Board meeting, the additional contribution to reserves was approved. On December 20, the \$10 million transfer was allocated across reserves to achieve all targets.

- **Reserves.** The District originally budgeted \$4,149,218 for unrestricted reserve contributions.
 - **Operating Reserve:** The Operating Reserve, which is held in Local Agency Investment Fund (LAIF), is budgeted for six months of operations to provide cash flow from the beginning of the year until funds are received from San Mateo County for the tax roll.
 - **Rate Stabilization Reserve:** Was created in 2015 to provide relief if large rate increases were necessary.
 - **Treatment Plant Reserve:** Was created in 2021 to set aside funds for future large debt requirements from SVCW. In FY 2022-23, it was used to pay \$670 thousand to SVCW for their new Debt Reserve, which was initiated in June 2023.
 - **Capital Reserves:** The Emergency Capital Reserve was created in 2010, with the Capital Project Reserve following in 2014.
 - **Recycled Water Reserves:** The Recycled Water Cash Flow Reserve, which was initially created for the SHRWF in 2018 to cover expenditures which were reimbursed through a State of California State Revolving Fund (SRF) loan, is continuing to serve for the BFRWF Project. Some funds are held in LAIF to fund the Bayfront project, until its SRF loan is approved and other funding is received.
- **Restricted Reserves.**
 - The Recycled Water SRF Reserve are funds deposited by SHGCC, as required by the SRF loan agreement.
 - The District has two accounts with Public Agency Retirement Services (PARS) for post-employment benefits trusts.

Reserve Transfers	Reserve Target	Actual 6/30/2023	Approved Budget FY 2022-23	Variance Budget Balance	YTD % Annual
<u>Contributions To Reserves</u>					
Operating Reserves Transfers (Target 6mo/Ops)	11,111,437	359,337	359,337	-	100%
Rate Stabilization	10,000,000	767,700	300,000	(467,700)	256%
Treatment Plant Reserve	12,000,000	10,118,211	2,500,000	(7,618,211)	405%
<u>Capital Reserves</u>					
Capital Project Reserves Transfers	8,000,000	2,479,000	200,000	(2,279,000)	1240%
Emergency Capital Reserves Transfer	6,000,000	1,381,100	200,000	(1,181,100)	691%
Vehicle & Equip Replacement Reserve	1,000,000		389,881	389,881	0%
<u>Recycled Water Reserves</u>					
Recycled Water Facility Cash Flow Reserve	8,000,000	456,100	200,000	(256,100)	228%
Recycled Water SRF Reserve - Restricted			-	-	
Reserve Transfers	56,111,437	15,561,448	4,149,218	(11,412,230)	375%
<u>Other Reserve Contributions</u>					
PARS Irrevocable Trust - Retirement		50,000	50,000	-	100%
PARS Irrevocable Trust - OPEB		25,000	25,000	-	100%
Self-Insurance Reserve		58,638	58,638	-	100%
Total Contributions To Reserves		15,695,086	4,282,856	(11,412,230)	366%

West Bay Sanitary District
Statement of Revenues, Expenses & Changes in Net Position
Combining Statements by Fund
Fiscal Year 2022-23
June 30, 2023

	General Fund FY 2022-23	Capital Fund FY 2022-23	Treatment Plant Fund FY 2022-23	Solid Waste Fund FY 2022-23	Recycled Water Fund FY 2022-23	Unaudited Actual FY 2022-23
Operating Revenues						
Sewer Service Charges	30,508,147	-	-	-	-	30,508,147
Flow Equalization	436,915	-	-	-	-	436,915
Permit & Inspection Fees	203,036	-	-	-	-	203,036
Other Operating Revenue	829,759	-	-	118,584	-	948,343
Operating Revenues	31,977,857	-	-	118,584	-	32,096,441
Operating Expenses						
Salaries & Benefits	6,106,953	-	-	-	223,520	6,330,473
Materials & Supplies	631,769	-	-	-	25,300	657,069
Insurance	297,822	-	-	-	33,241	331,064
Contract Services	757,808	-	-	-	5,900	763,708
Professional Services	742,071	-	-	20,891	61,429	824,391
Repairs & Maintenance	355,518	-	-	-	34,393	389,911
Utilities	233,645	-	-	-	171,807	405,452
Other Operating Expenses	184,022	-	-	61,566	41,132	286,721
Depreciation	-	2,765,731	-	-	752,805	3,518,536
Total WBSD Operating Expenses	9,309,608	2,765,731	-	82,457	1,349,527	13,507,324
Sewage Treatment Plant (SVCW)			12,846,366			12,846,366
Total Operating Expenses	9,309,608	2,765,731	12,846,366	82,457	1,349,527	26,353,690
Operating Income (Loss)	22,668,249	(2,765,731)	(12,846,366)	36,127	(1,349,527)	5,742,751
Non-Operating Revenues (Expenses)						
Investment Income	1,148,460	152,125			66,995	1,367,580
Other Non-Operating Income	2,720		1,054,186	-	532,505	1,589,411
Interest Expense					(161,196)	(161,196)
Other Non-Operating Expenses		(10,951)			-	(10,951)
Total Non-Operating Revenues (Expenses)	1,151,180	141,173	1,054,186	-	438,303	2,784,843
Change in Net Position by Fund	23,819,429	(2,624,558)	(11,792,180)	36,127	(911,224)	8,527,594
Pension Adjustment (GASB 68)	(4,912,677)					(4,912,677)
Capital Contributions						
Interfund Contributions	(12,846,366)	-	12,846,366	-	-	-
Capital Fund: Connection Fees	-	277,426				277,426
Recycled Water Fund	-	-	-	-	1,146,513	1,146,513
Change in Net Position	6,060,386	(2,347,133)	1,054,186	36,127	235,289	5,038,855
Beginning Net Position	39,413,062	78,546,037	28,430,708	519,319	13,030,649	159,939,775
Prior Period Adjustment	6,005,723	-				6,005,723
Ending Net Position	51,479,171	76,198,905	29,484,894	555,446	13,265,938	170,984,354



**WEST BAY SANITARY DISTRICT
AGENDA ITEM 12**

To: *Board of Directors*

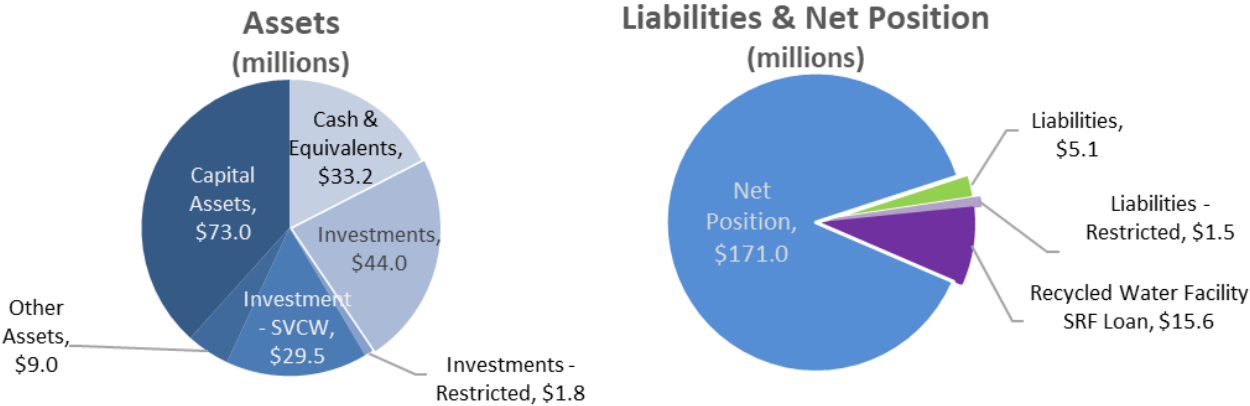
From: *Debra Fisher, Finance Manager*

Subject: *Consider Approving FY 2022-23 Financial Statements,
First Quarter Ending September 30, 2023*

Background

Attached for the Board’s review is the District’s First Quarter, Fiscal Year 2023-24 Unaudited Financial Statements, ending September 30, 2023. The Statement of Revenue, Expenses, and Changes in Net Position is reported by fund to better view the primary operations and other activities; General, Capital, Treatment Plan, Solid Waste, and Recycled Water Funds.

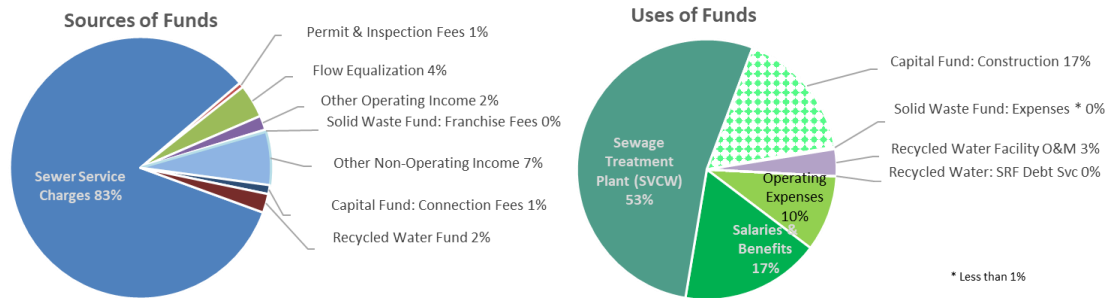
Fiscal Impact



The District had \$190 million in total assets as of September 30, 2023, with total liabilities of \$22 million, for a Net Position of \$171 million.

The District recognized gross Revenue of \$9.9 million and gross Expenditures of \$9.9 million, for a combined \$19.5 thousand decreased Change in Net Position in all Funds.

The District expended \$1.8 million on capital projects in the first quarter FY 2023-24.



Collections; General, Capital, & Treatment Plant Funds:

General, Capital, and Treatment Plant Funds are combined to show total collection system operations. Operating Revenue was \$8.7 million, 26% of the annual budget, including \$8 million in accrued revenue for sewer service charges due from San Mateo County. Operating Expense was \$9.5 million, 34% of the annual budget. This includes direct Operating Expenses of \$2.9 million, 25% of the annual budget, Capital Depreciation of \$740 thousand, and Sewer Treatment Plant expense and debt, managed by Silicon Valley Clean Water (SVCW) of \$5.8 million, 45% of the annual budget. SVCW accounts for 66% of total operating expenses, excluding depreciation. The Net Operating Income was a net decrease of \$792 thousand for the period.

Non-Operating Revenues and Expenses of \$639 thousand net increase, from Interest Income, Gains, and Losses on Investments, less investment fees; 128% of the approved budget. Collections has a \$153 thousand decrease in Net Position for the period. \$107.6 thousand in Connection fees are recognized as Capital Contributions.

Solid Waste Fund:

The Solid Waste Fund recognized \$28 thousand in Franchise Fees, 20% of the annual budget, from Recology, which manages solid waste collection for the District.

Solid Waste Expenditures of \$15.65 thousand, 14% of the annual budget, was recognized. The budget includes rate studies, annual notification mailing, and overhead allocation. The Solid Waste Fund increased \$12.3 thousand, to a Net Position of \$568 thousand.

Recycled Water Fund:

The Recycled Water Fund includes the Sharon Heights Recycled Water Facility (SHRWF) and the Bayfront Recycled Water Project. All income in this fund is recognized as Non-Operating. The District recognized \$370 thousand in total expenses and a net \$228 thousand in Non-Operating Income and Expense. The District recognized \$132.6 thousand in Capital Contributions.

SHRWF had Operating Expenditures of \$353 thousand, including \$189 thousand in depreciation. Non-Operating Revenue from Sharon Heights Golf & Country Club (SHGCC) of \$133.5 thousand was recognized.

The Bayfront Project had \$16.5 thousand in uncapitalized expenditures.

The District earned \$94 thousand in interest, net of gains, loss, and fees on the Recycled Water Cash Flow Reserve.

Financial Statements Summary:

The following is a summary of the Statement of Changes in Revenue, Expenses, and Net Position, for the years ending September 30, 2023 and June 30, 2023, compared to the approved budget for fiscal year 2023-24.

Statement of Revenue, Expenses and Changes in Net Position				
	Prior Year	Actual	Approved Budget	Annual Budget
	FY 2022-23	1st Qtr FY2023-24	FY 2023-24	v Actual
Operating Revenues	32,096,441	8,781,115	33,914,468	26%
Operating Expenses	(13,507,324)	(4,093,800)	(16,479,263)	25%
SVCW	(12,846,366)	(5,852,209)	(12,990,848)	45%
Operating Income (Loss)	5,742,751	(1,164,895)	4,444,356	-26%
Non-Operating Rev/Exp	2,784,843	866,647	877,896	99%
Income Before Contributions & Special Items	8,527,594	(298,248)	5,322,252	-6%
Pension Adjustment (GASB 68)	(4,912,677)	-	-	-
Recycled Water Fund: Capital Contribution	1,146,513	171,095	662,900	26%
Capital Fund: Connection Fees	277,426	107,600	250,000	43%
Change in Net Position	5,038,855	(19,553)	6,235,152	0%
Beginning Balance	159,939,775	170,984,354	170,984,354	
Prior Period Adjustment	6,005,723	-	-	
Change in Net Position - Adjusted	170,984,354	170,964,801	177,219,506	

Recommendation

The Finance Manager recommends the Board approve the First Quarter, Fiscal Year 2023-24 Unaudited Financial Statements, ending September 30, 2023.

Attached: FY 2023-24 Financial Report 1st Quarter

West Bay Sanitary District



Unaudited Financial Statements

Fiscal Year 2023-2024

First Quarter Ending

September 30, 2023

Financial Report

Fiscal Year 2023-2024

First Quarter Ending September 30, 2023

The West Bay Sanitary District (District) provides wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and areas of East Palo Alto, Woodside and unincorporated San Mateo and Santa Clara counties. The District conveys raw wastewater, via the Menlo Park Pump Station and force main, to Silicon Valley Clean Water (SVCW) for treatment and discharge to the San Francisco Bay. The District was originally formed in December 1902 as the Menlo Park Sanitary District under the Sanitary Sewer Act of 1891. The District operated as the Menlo Park Sanitary District from 1902 until 1981 when its name was changed to the West Bay Sanitary District to reflect the service area more accurately. The powers of the District are established by the State of California Health and Safety Code. The District serves a population of 20,673 households and commercial establishments. The District additionally participates, as a member of the South Bayside Waste Management Authority (SBWMA), in the collection and processing of solid waste, recyclable material, and organic material. The District owns and operates the Sharon Heights Recycled Water Facility (SHRWF), through a 2017 long term agreement with Sharon Heights Golf & Country Club (SHGCC) to deliver recycled water.

The District issues unaudited financial statements for the first quarter fiscal year 2023-24, ended September 30, 2023 in conformity with the format prescribed by the provisions of Governmental Accounting Standards. This report is an overview of the District's financial activities for the period. Detailed statement by Fund is included in the Combining Statements and included as supplemental data. Separate statements of revenues and expenditures, which do not conform with generally accepted accounting principles (GAAP) reporting, are also included to providing a concise statement of operating and non-operating transactions.

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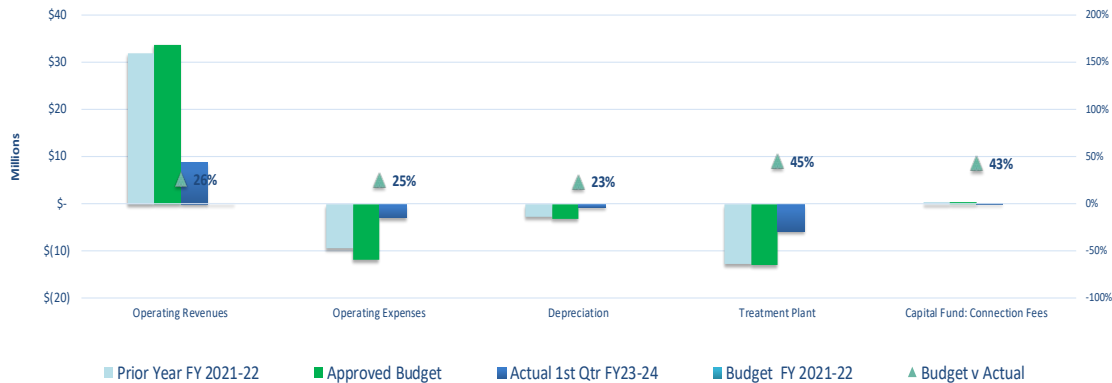
**West Bay Sanitary District
Statement of Net Position
Fiscal Year 2023-24
September 30, 2023**

	Prior Year FY 2022-23	Unaudited September 30, 2023
Assets		
Current Assets		
Cash & Equivalents	42,165,110	33,225,448
Investments	23,638,054	23,638,054
Cash & Investments - Restricted	1,517,643	1,518,063
Accounts Receivable	240,232	164,543
Accrued Revenue		8,165,979
Interest Receivable	442,682	535,663
Prepaid Expenses	77,979	99,836
Total Current Assets	68,081,700	67,347,586
Non-Current Assets		
Investments	19,942,535	20,312,634
Restricted Investments	273,634	264,376
Investment in SVCW	29,484,894	29,484,894
Net Pension Asset	-	
Net OPEB Asset	34,366.0000	34,366
Capital Assets:		
Property, Plant & Equipment	117,230,095	118,716,026
Accumulated Depreciation	(44,812,224)	(45,740,619)
Total Capital Assets	72,417,871	72,975,407
Total Non-Current Assets	122,153,300	123,071,676
Total Assets	190,234,999	190,419,263
Deferred Outflows of Resources	5,659,380	5,643,793
Liabilities		
Current Liabilities		
Accounts Payable	2,913,390	2,642,492
Accrued Payroll & Taxes	466,570	797,930
Customer Deposits	891,291	1,019,057
SRF Note Payable	506,732	506,732
Total Current Liabilities	4,777,983	4,966,211
Non-Current Liabilities		
OPEB Liability		
Net Pension Liability	620,100	620,100
SRF Deposit - SHGCC	1,458,404	1,458,404
SRF Note Payable	15,111,188	15,111,188
Total Liabilities	21,967,675	22,155,904
Deferred Inflows of Resources	2,942,351	2,942,351
Net Position		
Net Investment in Capital Assets	56,799,950	56,799,950
Capital Fund Budget	44,218,570	40,640,411
Investment In SVCW	29,484,894	29,484,894
Operation Reserve	11,111,437	11,111,437
Unrestricted Fund Balance	23,363,779	32,928,108
Total Net Position	164,978,631	170,964,801
Prior Period Adjustment	6,005,723	
Total Net Position	170,984,354	170,964,801

West Bay Sanitary District
Statement of Revenues, Expenses & Changes in Net Position
Fiscal Year 2023-24
First Quarter

	Prior Year FY 2022-23	Unaudited Actual 1st Qtr FY23-24	Approved Budget FY 2023-24	Budget v Actual FY 2023-24	Budget v Actual FY 2023-24
Operating Revenues					
Sewer Service Charges	30,508,147	8,119,404	32,477,617	24,358,213	25%
Flow Equalization	436,915	403,165	403,165	-	100%
Permit & Inspection Fees	203,036	58,227	200,000	141,773	29%
Other Operating Revenue	948,343	200,319	833,686	633,367	24%
Operating Revenues	32,096,441	8,781,115	33,914,468	25,133,353	26%
Operating Expenses					
Salaries & Benefits	6,330,473	1,910,100	7,247,613	5,337,514	26%
Materials & Supplies	657,069	169,681	790,000	620,319	21%
Insurance	331,064	72,735	327,900	255,165	22%
Contract Services	763,708	367,841	916,400	548,559	40%
Professional Services	824,391	296,073	1,546,800	1,250,727	19%
Repairs & Maintenance	389,911	154,501	671,100	516,599	23%
Utilities	405,452	124,930	497,250	372,320	25%
Other Operating Expenses	286,721	69,545	527,200	457,655	13%
Depreciation	3,518,536	928,395	3,955,000	3,026,605	23%
Total WBSD Operating Expenses	13,507,324	4,093,800	16,479,263	12,385,463	25%
Sewage Treatment Plant (SVCW)	12,846,366	5,852,209	12,990,848	7,138,639	45%
Total Operating Expenses	26,353,690	9,946,009	29,470,111	19,524,102	34%
Operating Income (Loss)	5,742,751	(1,164,895)	4,444,356	5,609,251	-26%
Non-Operating Revenues (Expenses)					
Investment Income	1,367,580	729,305	501,600	(227,705)	145%
Other Non-Operating Income	1,589,411	137,342	(156,179)	(293,522)	-88%
Interest Expense	(161,196)	-	532,475	532,475	
Other Non-Operating Expenses	(10,951)	-	-	-	#DIV/0!
Total Non-Operating Revenues (Expenses)	2,784,843	866,647	877,896	11,249	99%
Change in Net Position before Contributions & Special Items	8,527,594	(298,248)	5,322,252	5,620,500	-6%
Increase (Decrease) in Pension (GASB 68)	(4,912,677)	-	-	-	
Capital Contributions			-	-	
Capital Fund: Connection Fees	277,426	107,600	250,000	142,400	43%
Recycled Water Fund	1,146,513	171,095	662,900	491,805	26%
Change in Net Position	5,038,855	(19,553)	6,235,152	6,254,705	0%
Beginning Net Position	159,939,775	170,984,354	170,984,354		
Prior Period Adjustment	6,005,723	-	-		
Ending Net Position	170,984,354	170,964,801	177,219,506		

**West Bay Sanitary District
Collection
Statement of Revenues, Expenses & Changes in Net Position
Fiscal Year 2023-24
First Quarter**



	Prior Year FY 2022-23	Unaudited Actual 1st Qtr FY23-24	Approved Budget 1st Qtr FY23-24	Budget v Actual 1st Qtr FY23-24	Approved Budget FY 2023-24	YTD % Budget
Operating Revenues	31,977,857	8,753,164	8,705,466	47,699	33,612,368	26%
Operating Expenses						
General Fund Expense	9,309,608	2,952,947	3,105,072	(152,125)	11,858,088	25%
Sewage Treatment Plant (SVCW)	12,846,366	5,852,209	2,842,773	3,009,437	12,990,848	45%
Depreciation	2,765,731	739,670	800,000	(60,331)	3,200,000	23%
Total Operating Expenses	24,921,706	9,544,826	6,747,845	2,796,981	28,048,936	34%
Operating Income (Loss)	7,056,152	(791,661)	1,957,621	(2,749,282)	5,563,432	-14%
Non-Operating Revenues (Expenses)						
Non-Operating Revenues	2,357,491	639,024	125,000	514,024	500,000	128%
Non-Operating Expenses	(10,951)	-	-	-	-	-
Total Non-Operating Revenues (Expenses)	2,346,540	639,024	125,000	514,024	500,000	128%
Change in Net Position						
Collections: General, Capital, SVCW Funds	9,402,691	(152,637)	2,082,621	(2,235,258)	6,063,432	-3%
Solid Waste Fund	36,127	(3,516)	525	(4,041)	2,100	-167%
Recycled Water Fund	(911,224)	(142,095)	(909,579)	767,484	(909,579)	16%
Change in Net Position, before Capital Contributions	8,527,594	(298,248)	1,173,567	(1,471,815)	5,155,953	-6%
Other Adjustment						
Pension Adjustment (GASB 68)	(4,912,677)	-	-	-	-	-
Capital Contributions						
Capital Contribution - Connection Fees	277,426	107,600	62,500	45,100	250,000	43%
Capital Contribution - Recycled Water	1,146,513	171,095	662,911	(491,816)	662,911	-
Change in Net Position	5,038,855	(19,553)	1,898,978	(1,918,531)	6,068,863	0%
Beginning Net Position	159,939,775	170,984,354	170,984,354		170,984,354	
Prior Period Adjustment	6,005,723	-				
Ending Net Position	170,984,354	170,964,801	172,883,332		177,053,217	

Collection includes the General, Capital, and Treatment Plant Funds, representing the District's wastewater services.

Revenues:

For the quarter ending September 30, 2023, total combined revenues are \$9.9 million including Operating & Non-Operating Income for the General, Capital, Treatment Plant, Solid Waste, and Recycled Water Funds.

Collection: General, Capital, & Treatment Funds:**General Fund Revenues:**

The General Fund had \$8.75 thousand in Operating Revenue and \$512 thousand million in Non-Operating Revenue, for a combined \$9.3 million, 27% of the annual budget.

- **Sewer Service Charges.** Total accrued revenue of \$8.1 million for 25% of the annual budget; \$6.55 million for residential customers and \$1.6 million for non-residential customers. 99.8% of all charges are made through the County of San Mateo (SMC) tax roll, with the remaining billed manually. The District accrues revenue monthly, while SMC collects in two installments annually and remits approximately 50% in December.
- **Permit Fees.** Permit & Inspection Fees of \$58 thousand, 29% of the annual budget.
- **Flow Equalization.** The District received \$403 thousand on the contract with Silicon Valley Clean Water (SVCW) for use of the Flow Equalization Facility Pond in fiscal year 2023-24, a flat fee.
- **Other Operating Income.** A total of \$172 thousand was recognized through quarter end, 32% of the annual budget.
 - Revenue for Los Altos Hills' maintenance service agreement was \$106.6 thousand.
 - Revenue for Town of Woodside's maintenance service agreement was \$15.5 thousand.
 - Revenue from HACH Contract for private pump station maintenance is billed through the SMC tax roll and accrued monthly; \$46.6 thousand is recognized. This is a pass-through expense, charged to customers in arrears of coverage.
 - An additional \$723 was from other sources; late fees, bid fees, and other misc. charges and reimbursements.
- **Other Non-Operating Revenues:** The District recognized total non-operating revenue of \$512 thousand.

Capital Fund Revenues:

The Capital Fund recognized \$127 thousand in Non-Operating Revenue for interest income, net of gains, losses, and investments fees.

Connection fees of \$107.6 thousand are recognized as a capital contribution.

West Bay Sanitary District
General Fund
Fiscal Year 2022-23
September 30, 2023

General Fund	Prior Year FY 2022-23	Unaudited Actual 9/30/2023	Budget 9/30/2023	Budget v Actual 9/30/2023	Approved Budget FY 2022-23	YTD % Annual Budget
Revenue						
Sewer Service Charges						
Residential	25,026,547	6,550,217	6,821,049	(270,831)	27,284,196	24%
Non-Residential	5,481,600	1,569,187	1,298,355	270,831	5,193,421	30%
Total Sewer Service Charges	30,508,147	8,119,404	8,119,404	(0)	32,477,617	25%
Permit & Inspection Fees	203,036	58,227	50,000	8,227	200,000	29%
Flow Equalization	436,915	403,165	403,165	-	403,165	100%
Other Operating Income	829,759	172,368	132,896	39,472	531,586	32%
Total Operating Revenues	31,977,857	8,753,164	8,705,466	47,699	33,612,368	26%
Non-Operating Revenues						
Interest Income	1,230,231	432,719	125,000	307,719	500,000	87%
Gain/Loss on Securities	(121,064)	104,261	-	104,261		
Gain/Loss on PARS Trust	39,294	(24,846)	-	(24,846)		
Gain/Loss on Equity in SVCW						
Other Non-Op. Inc.	2,720	-	-	-		
Total Non-Operating Revenues	1,151,180	512,135	125,000	887,135	500,000	102%
Revenue Prior Years	-	-	-	-		
Total General Fund Revenue	33,129,038	9,265,299	8,830,466	934,834	34,112,368	27%

Expenditures:

For the first quarter ending September 30, 2023, total expenditures are \$9.95 million including the General, Capital, Treatment Plant, Solid Waste, and Recycled Water Funds.

Collection: General, Capital, & Treatment Funds:

Expenditures:

For the first quarter ending September 30, 2023, total Collection expenditures were \$9.5 million, 34% of the annual budget. Sewer Treatment Plant expense and debt, managed by Silicon Valley Clean Water (SVCW), accounts for 66% of all wastewater operating expenditures, excluding depreciation.

General Fund Operating Expenses:

General Fund Operating Expenses were \$2.95 million, 25% of the annual budget. Expenses are shown on the Expense Analysis on the following page, with overhead allocations to the Solid Waste and Recycled Water Fund deducted.

- Salaries and Benefits account for 60% of expenses, 25% of the annual budget.
- Professional Services were \$272 thousand, 20% of the annual budget.
- The other expenditures average 14% of the annual budget.

Capital Fund Operating Expenses:

- Depreciation was \$740 thousand, 23% of the annual budget. The District has \$3.4 million in Construction In Progress (CIP) that will start depreciating once completed.

Treatment Plant Fund Operating Expenses:

These include \$5.85 million paid for the SVCW treatment plant, which is 45% of the annual budget and 61% of total Operating Expenses. The District's 22.99% share of SVCW's Net Position as of June 30, 2023 Unaudited Analysis of Net Position, valued at \$29.5 million. Expenses are recognized as Sewage Treatment Plant under Operating Expenses on the audited financial statements. The District tracks internally in a separate Treatment Plant Fund.

- SVCW Operating Contributions were \$1.52 million, 25% of the annual budget.
- SVCW Capital & Reserve Contributions were \$268 thousand, 15% of the annual budget.
- SVCW Debt payments were \$4 million, 79% of the annual budget.

Non-Operating Income (Expenses):

The District recognized a \$873.5 thousand in Collection non-operating revenue and expenses.

- Net revenue on investments was \$766 thousand.
 - Interest Income of \$499 thousand.
 - \$140 thousand Gain in Fair Market Value of Investments and fees, which District plans to hold until maturity.

Change in Net Position:

Collection: General, Capital, and Treatment Plant Funds combined had an decrease Change in Net Position of \$153 thousand through the first quarter end September 30, 2023, including \$792 thousand Operating Loss.

The District reports separately the Solid Waste Fund and Recycled Water Fund. The total Change in Net Position for the District is a \$19.5 thousand decrease. The total Net Position was \$171 million as of September 30, 2023. Details of all Funds are included on the Combining Statement on page 18.

West Bay Sanitary District
General Fund
Fiscal Year 2023-24
September 30, 2023

	Prior Year	Unaudited Actual	Budget	Budget v Actual	Approved Budget	YTD %
	FY 2022-23	1st Qtr FY23-24	1st Qtr FY23-24	1st Qtr FY23-24	FY 2023-24	Annual Budget
Salaries & Wages	4,372,141	1,341,848	1,229,431	(112,418)	4,917,723	27%
Employee Benefits	1,620,422	417,050	507,273	90,222	2,029,090	21%
Directors- Fees	39,390	11,180	11,450	270	45,800	24%
Election Expense	2,524	-	-	-	-	-
Gasoline, Oil & Fuel	129,566	21,367	32,000	10,633	128,000	17%
Insurance	236,993	60,574	71,975	11,401	287,900	21%
Memberships	64,666	13,567	22,000	8,433	88,000	15%
Office Expense	37,113	8,480	12,175	3,695	48,700	17%
Operating Supplies	386,759	91,593	115,675	24,082	462,700	20%
Contract Services	713,937	342,875	212,325	(130,550)	849,300	40%
Professional Services	742,071	271,895	341,225	69,330	1,364,900	20%
Printing & Publications	28,247	4,660	19,300	14,640	77,200	6%
Rents & Leases	43,871	9,150	16,775	7,625	67,100	14%
Repairs & Maintenance	355,518	146,159	161,525	15,366	646,100	23%
Research & Monitoring	-	-	6,900	6,900	27,600	-
Training, Meetings & Travel	69,301	18,218	36,325	18,107	145,300	13%
Utilities	233,645	62,839	72,000	9,161	288,000	22%
LAFCo	22,323	21,739	9,275	(12,464)	37,100	59%
Other Operating Expenses	136,732	10,635	61,075	50,440	244,300	4%
Equipment Expense	78,331	46,268	112,400	66,132	112,400	41%
Pension Contributions	50,000	50,000	50,000	-	50,000	100%
OPEB Expense	25,000	25,000	25,000	-	25,000	100%
Admin: Solid Waste	(59,490)	(15,650)	(15,650)	0	(62,600)	25%
Admin: Recycled Water	(19,452)	(6,502)	(5,381)	1,121	(21,525)	30%
General Fund Operating Expenses	9,309,608	2,952,947	3,105,072	152,125	11,858,088	25%

Treatment Plant Fund
Fiscal Year 2023-24
September 30, 2023

	Unaudited Actual	Unaudited Actual	Budget	Budget v Actual	Approved Budget	YTD %
Treatment Plant Fund	FY 2022-23	1st Qtr FY23-24	1st Qtr FY23-24	1st Qtr FY23-24	FY 2023-24	Annual Budget
SVCW - Operating Fund	6,027,936	1,520,361	1,529,412	9,051	6,117,648	25%
SVCW - Operating Reserve	22,908	5,727	12,144	6,417	48,576	12%
SVCW - Capital Contributions	1,047,840	261,960	32,208	(229,752)	128,832	203%
SVCW - 2018 Bond	1,833,999	1,249,009	459,491	(789,518)	1,837,963	68%
SVCW - 2021 Bonds (\$55.6m)	2,736,917	2,308,387	682,827	(1,625,560)	2,731,306	85%
SVCW - SRF WWTP Debt C-06-5216-120	506,765	506,765	126,691	(380,074)	506,765	100%
SVCW: Line of Credit	-	-	-	-	51,936	-
SVCW: Capital Reserves	-	-	201,300	201,300	805,200	-
SVCW: Debt Reserves	670,000	-	190,656	190,656	762,622	-
Total Treatment Plant Fund Expenses	12,846,366	5,852,209	3,234,728	(2,617,481)	12,990,848	45%

Capital Assets:

For first quarter ending September 30, 2023, total Capital Fund Expenditures were \$1.1 million, 5% of the \$23.9 million annual budget. A detailed schedule of Capital Fund Expenditures is included on page 11. The Recycled Water Fund is separate, beginning on page 13.

West Bay Sanitary District
Capital Projects
Fiscal Year 2023-24
September 30, 2023

	Prior Year FY 2022-23	Actual 1st Qtr FY23-24	Budget FY 2023-24	Variance Budget Balance	YTD % Annual Budget
Capital Fund - Construction					
Administration	-	-	173,000	173,000	0%
Collection Facilities	15,722	-	600,000	600,000	0%
Fleet & Equipment	978,603	-	445,000	445,000	0%
Pump Stations	109,991	2,200	440,000	437,800	1%
Subsurface Lines	337,741	-	100,000	100,000	0%
Construction In Progress	2,939,177	1,118,655	22,155,000	21,036,345	5%
Total Capital Fund Construction	4,381,234	1,120,855	23,913,000	22,792,145	5%
Disposal: Vehicles & Equipment	(57,885)	-	-	-	-
Write-Off: Assets	(61,991)	-	-	-	-
Total Construction, Transfers, & Contributions	4,261,358	1,120,855	23,913,000	22,792,145	5%
Recycled Water Fund - Construction					
Recycled Water - Sharon Heights RWF	316,121	546,030	2,450,000	1,903,970	22%
Recycled Water - Bayfront RWF	169,525	145,411	17,299,485	17,154,074	1%
O'Brian Reclaimed Water Pipelines	-	-	2,500,000	2,500,000	0%
Total Recycled Water Fund Construction	485,647	691,441	22,249,485	21,558,044	3%
Total Capital Expenditures	4,866,881	1,812,296	46,162,485	44,350,189	4%

Capital Fund Assets:

Capital spending was \$1.2 million, 5% of the \$23.9 million annual budget.

- **Vehicle & Equipment.**
 - None
- **Subsurface Lines and Other.**
 - None
- **Construction in Progress (CIP).** These are new or continuing constructions projects that are recorded separately and capitalized when completed. CIP is not depreciated until completed
 - **Levee Project.** \$169 thousand was expended for levee design, 2% of budget.
 - **Pipeline Replacement & Rehab Design.** \$56.5 thousand was expended, 4% of budget.
 - **Pipeline Replacement & Rehab Construction.** \$893 thousand was expended, 8% of budget.

The District was awarded a \$4,884,112 million grant to fund a portion of the Ecotone Levee Project, for a living shoreline to protect the site from flooding and sea level rise by the National Fish and Wildlife Foundation (NFWF). The funds are matching, requiring a 112% contribution by the District of \$5.5 million. No funds have been received.

West Bay Sanitary District
Capital Expenditures
Fiscal Year 2023-24
September 30, 2023

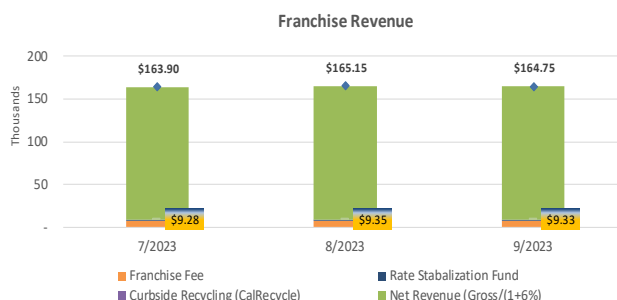
	Actual FY 2022-23	Actual 1st Qtr FY23-24	Budget FY 2023-24	Variance Budget Balance	YTD % Annual Budget
<u>Plant & Administration</u>					
10 Year Master Plan (charged to expense)			-	-	
Server Replacement Program			23,000	23,000	0%
Software Purchases			150,000	150,000	0%
Write-Off: Assets	(23,763)	-			
Total Administration	(23,763)	-	173,000	173,000	0%
<u>Collection Facilities - FERRF/Buildings</u>					
FERRF Improvements	-	-	500,000	500,000	0%
Metal Storage Building - Phase 1 & 2	15,722	-	-	-	
Allowance For Unanticipated Capital Expenditures	-	-	100,000	100,000	0%
Total Collection Facilities	15,722	-	600,000	600,000	0%
<u>Equipment Replacement - Funded From The Equipment Replacement Fund</u>					
<u>Equipment</u>					
CCTV Transporter & Track Module	20,575		-	-	
<u>Vehicles</u>					
Dump Truck (Deferred since 2020 to 2023-24)			250,000	250,000	0%
Source Control - Ford F250 Lightning EV (Replace Unit	64,643		-	-	
Replace Unit 211: F150 Lightning EV	70,509				
F150 Lightning EV	64,643		135,000	135,000	0%
Jet Truck, Superduty F550 4x4, 1/2in Jetter - Unit 228	139,838		-	-	
Combo Vacuum/Jetter Truck - Unit 229 (Replace Unit	562,690		-	-	
2022 Ford Mach E - GM Vehicle Unit 230	55,706		-	-	
Mini Excavator			60,000	60,000	0%
Destroyed Vehicle	(34,635)		-	-	
Sales of Vehicles	-		-	-	
Write-Off Prior Period Disposable Parts	(23,250)				
Total Vehicle & Equipment	920,718	-	445,000	445,000	0%
<u>Subsurface Lines and Other</u>					
<u>Pump Stations</u>					
Pump & Valve Replacement Program	109,991	2,200	40,000		125%
Pump Station Telemetry			400,000		
Total Pump Stations	109,991	2,200	440,000	437,800	1%
<u>Other Subsurface Lines</u>					
Manhole Raising (Paving Projects)			100,000	100,000	0%
Meta: MP Community Center Upsize RW Svc Line	337,741				
Total Subsurface Lines	337,741	-	100,000	100,000	0%
<u>Construction In Progress</u>					
Levee Survey & GPS Update	-		60,000	60,000	0%
Sheet Piling Project			-	-	
Levee Improvement	581,162	-	3,000,000	3,000,000	0%
Levee Improvement Project (Carryover)		169,000	7,000,000	6,831,000	2%
<u>Pipeline Replacement & Rehab Engineering</u>					
Corporate Yard Renovation Design (Carryover)			350,000	350,000	0%
Construction Projects Environmental Review			20,000	20,000	0%
Spot Repair Design-High Frequency List			-	-	
Spot Repair Design-High Frequency List (Carryover)			350,000	350,000	0%
Pipeline Replacement Design			-	-	
Pipeline Replacement Design (Carryover)			350,000	350,000	0%
Stowe Lane Design (Carryover)		56,545	200,000	143,455	28%
Willow Pump Station Rehabilitation Design			200,000	200,000	0%
<u>Pipeline Replacement & Rehab Construction</u>					
Stowe Lane			3,000,000	3,000,000	0%
Willow Pump Station Rehabilitation			1,000,000	1,000,000	0%
Willow Pump Station Rehabilitation (Carryover)		57,230	700,000	642,770	8%
Misc Point Repairs-High Freq. List Repairs	352,337	-	2,703,200	2,703,200	0%
Misc Point Repairs-High Freq. List Repairs (Carryover)		737,962	1,621,800	883,838	46%
Bayfront Park Sanitary Sewer Improvements	144,709		549,485	549,485	0%
Bayfront Park Sanitary Sewer Improvements (Carryover)		97,918	1,050,515	952,597	9%
Total Construction In Progress	2,900,950	1,118,655	22,155,000	21,036,345	5%
Total Capital Expenditures	4,261,358	1,120,855	23,913,000	22,792,145	5%

Solid Waste Fund:

The District is a member of South Bayside Waste Management Authority (SBWMA), a joint powers authority which contracts with Recology to provide recycling, compost, and garbage collection services. The Solid Waste Fund had a net increase of \$12.3 thousand, to a Net Position of \$568 thousand, as of September 30, 2023.

- **Solid Waste Fund Revenue.** Franchise fees were \$27.95 thousand, 24% of the annual budget. This represents 6% of the Net Revenue of Recology; 5% in Franchise Fees and 1% from Rate Stabilization Fund.
- **Solid Waste Fund Expense.** Allocated expenses for the Solid Waste program of \$15.65 thousand was recognized for overhead allocation, 14% of the annual budget. There was no rate study, annual notification mailing, or other expenses through the September 30, 2023.

West Bay Sanitary District
Solid Waste
Fiscal Year 2023-24
September 30, 2023



	Prior Year FY 2022-23	Actual 1st Qtr FY23-24	Budget 1st Qtr FY23-24	Variance Budget v Actual	Approved Budget FY 2023-24	YTD % Annual Budget
Income						
Operating Income						
Franchise Fees	91,729	23,292	28,950	(5,658)	115,800	20%
Rate Stabilization Fund	18,346	4,658				
Curbside Supplemental	4,310	0				
Total Income	118,584	27,950	28,950	(5,658)	115,800	24%
Expenditures						
Allocated Operating Expense						
Rate Studies	20,891	0	11,050	(11,050)	44,200	0%
Mailings	2,076	0	1,325	(1,325)	5,300	0%
Public Relations	0	0	400	(400)	1,600	0%
Overhead Expense Allocation	59,490	15,650	15,650	0	62,600	25%
Total Allocated Operating Expense	82,457	15,650	28,425	(12,775)	113,700	14%
Non-Operating Income & Expenditures						
Surplus	0	0	0	0	0	
Total Non-Operating Income & Expenditures	0	0	0	0	0	
Change in Net Position	36,127	12,300	525	11,775	2,100	586%
Beginning Balance	519,319	555,446	555,446		555,446	
Ending Balance	555,446	567,746	555,971		557,546	

Recycled Water:

The Recycled Water Fund includes the Sharon Heights Recycled Water Facility (SHRWF) and the Bayfront Recycled Water Facility (BFRWF) Project. SHRWF is a public/private partnership with Sharon Heights Golf & Country Club (SHGCC) to deliver recycled water. Details follow on page 14-16.

There are two recycled water facilities projects in the Recycled Water Fund detailed on page 14.

- **Sharon Heights Recycled Water Facility.** The final project was capitalized for \$22,780,298 in fiscal year 2020-21. In FY 2022-23, two supporting projects were started, with the solar project cancelled in FY 2022-23 and Avy Altschul Pump Station scheduled for completion in FY 2023-24.
- **Bayfront Recycled Water Facility.** The District completed an initial BFRWF Plan in February 2019, with Board approval on May 12, 2021, completion is scheduled for early 2026. Details follow on page 16.

**Recycled Water Fund
Capital Expenditures**

	Actual FY 2022-23	Actual 1st Qtr FY23-24	Budget FY 2023-24	Variance Budget Balance	YTD % Annual Budget
Recycled Water Fund					
Recycled Water Facility - SHGCC	-	-	-	-	
Sharon Heights RWF - Avy Pump Station	316,121	544,730	950,000	405,270	57%
Sharon Heights RWF - Solar Project Lease	-	-	1,500,000	1,500,000	0%
Bayfront Recycled Water Facility - Project Mgmt	88,312	-	1,000,000	1,000,000	0%
Bayfront Recycled Water Facility		14,160	15,750,000	15,735,840	0%
Bayfront - Reclaimed Water Pipelines	81,214	-	549,485	549,485	0%
O'Brian Reclaimed Water Pipelines			2,500,000	2,500,000	0%
Total Recycled Water	485,647	558,890	22,249,485	19,190,595	3%

The District maintains separate reporting for each recycled water project, including any expenses or income not associated with an individual project. This allows for accountability and transparency to all District stakeholders. WBSD column accounts for unallocated income and expenses. In FY 2023-24 the BFRWF project had \$16.5 thousand in expenditures for allocated costs and professional services working towards receiving grant funding, permits, and other implementation.

West Bay Sanitary District
Recycled Water Fund
Fiscal Year 2023-24
September 30, 2023

Recycled Water Fund	WBSD	SHRWF	BFRWF	Total
Salaries & Benefits	-	(63,654)	(1,367)	(65,021)
Other Operating Expense	-	(100,828)	(15,143)	(115,971)
Depreciation	-	(188,725)	-	(188,725)
Operating Income (Expense)	-	(353,207)	(16,510)	(369,718)
Non-Operating Income	94,083	133,540	-	227,623
Non-Operating Expense	-	-	-	-
Capital Contributions	-	132,582	-	132,582
Net Change in Position	94,083	(87,085)	(16,510)	(9,512)

Sharon Heights Recycled Water Facility

The Sharon Heights Recycled Water Facility (SHRWF) project was completed in FY 2020-21 and accepted effective July 27, 2020, for a total of \$22,647,052 to build the 0.5 MGD plant. \$22,267,257 was received from the California Clean Water State Revolving Fund (SRF), including a \$5,259,800 Water Recycling Funding Program Construction Grant and a net SRF Loan of \$17,117,420. The first SRF loan payment was made in March 2021, with annual payments thereafter. The SRF loan balance is \$15,617,920, as of March 31, 2023.

The District was working with SHGCC on a Solar Project, to install solar panels for the SHRWF, to reduce energy costs. SHGCC was working with a leasing company, who would retain ownership. All costs incurred by the District are passed along to SHGCC. This project is no longer active.

The District is working with SHGCC and other stakeholders on installation of another pump station to feed the SHRWF. The Avy Altschul Pump Station (Avy PS) will be funded by SHGCC through a combination of SRF loan, grant funds, and direct contributions. SHGCC will reimburse the District for all costs, including SRF loan payments.

The District assumed full management of the SHRWF beginning January 27, 2021. Operation & Maintenance (O&M) expenses are paid by the District. Sharon Heights Golf & Country Club (SHGCC) pays an estimated calendar year budget amount monthly. Summary Recycled Water Fund statements is below, with detailed expenditure schedule on page 15.

- **Expense.** Total expenditures were \$353 thousand, including depreciation of the facility.
 - Operating Expenses were \$164 thousand, 31% of the annual budget.
 - Depreciation Expense was \$189 thousand, 25% of the annual budget.
- **Non-Operating Income & Expenses.**
 - Non-Operation Income of \$1333 thousand was recognized from SHGCC. This represents estimated billing for O&M.
 - Non-Operating Income & Loss was a net increase of \$421.
 - \$421 was received in Interest Income.
 - Interest Expense will be paid on March 30, 2024, included in the annual SRF Loan payment of \$662,911.
- **Capital Contributions**
 - SHGCC makes ten equal payments each year to prepay the SRF loan. The payments begin each April for the March SRF loan payment in the following year. The payments are considered contributions as received.

West Bay Sanitary District
Recycled Water Fund
Sharron Heights Recycled Water Facility
Fiscal Year 2023-24
September 30, 2023

Fund Expenditures - Detail	Actual FY 2022-23	Actual 1st Qtr FY23-24	Budget 1st Qtr FY23-24	Budget v Actual 1st Qtr FY23-24	Approved Budget FY 2023-24	YTD % Annual Budget
<u>Operating Expense</u>						
District Wages						
Plant Operator	122,305	29,821	85,000	55,179	85,000	35.1%
Indirect Labor	13,544	3,966	0	(3,966)	-	
Overtime	26,317	6,522	20,000	13,478	20,000	32.6%
Standby	20,170	4,940	20,000	15,060	20,000	24.7%
Total District Wages	182,336	45,250	125,000	79,750	125,000	36.2%
Employee Benefits	41,184	18,404	35,000	16,596	35,000	52.6%
Total Salaries, Wages & Benefits	223,520	63,654	160,000	96,346	160,000	39.8%
<u>Other Operating Expense</u>						
Gasoline, Oil & Fuel	347	0	0	0	-	
Insurance	33,241	12,161	40,000	27,839	40,000	30.4%
Memberships	0	0	0	0	-	
Office Expense	0	0	0	0	-	
Operating Supplies	24,626	1,972	38,200	36,228	38,200	5.2%
Contractual Services	5,900	0	0	0	-	
Professional Services	25,064	2,546	11,000	8,454	11,000	23.1%
Printing & Publications	0	0	0	0	-	
Rents & Leases	0	0	0	0	-	
Repairs & Maintenance	34,393	8,343	25,000	16,657	25,000	33.4%
Research & Monitoring	22,664	6,489	15,000	8,511	15,000	43.3%
Training, Meetings & Travel	0	0	0	0	-	
Utilities	171,807	62,090	209,250	147,160	209,250	0.0%
Licenses & Permits	21,681	725	12,500	11,775	12,500	0.0%
Other Operating Expenses	0	0	0	0	-	
Operations & Maintenance (Contract)	0	0	0	0	-	
Administrative Expense	19,452	6,502	21,525	15,023	21,525	876.8%
Subtotal Operation & Maintenance	582,695	164,482	532,475	367,993	532,475	66.3%
Depreciation	752,805	188,725	755,000	566,275	755,000	25.0%
Total Operating Expense	1,335,500	353,207	1,287,475	934,268	1,287,475	27.4%
<u>Non-Operating Income & Expense</u>						
Non-Operating Income						
Sharon Heights Golf & County Club	530,040	133,119	532,475	399,356	532,475	0.0%
Interest Income	1,668	421	1,600	1,179	1,600	26.3%
Gain/Loss on Reserves	0	0	0	0	0	
Other Non-Operating Income	0	0	0			
Total Non-Operating Income	531,708	133,540	534,075	400,535	534,075	25.0%
Non-Operating Expense						
Interest Expense (SRF Loan)	(161,196)	-	(156,179)	(156,179)	(156,179)	0.0%
Total Non-Operating Expense	(161,196)	-	(156,179)	(156,179)	(156,179)	0.0%
Total Non-Operating Income & Expense	370,512	133,540	377,896	244,356	377,896	35.3%
Capital Contributions						
SRF Loan Payment	662,911	132,582	662,900	530,318	662,900	20.0%
SRF Loan Payment Advances	265,164	-		0	0	
Avy Pump Station Contributions	218,437	-		0	0	
Total Capital Contributions	1,146,513	132,582	662,900	530,318	662,900	20.0%
Net Change in Position	181,524	(87,085)	(246,679)	(159,594)	(246,679)	35.3%

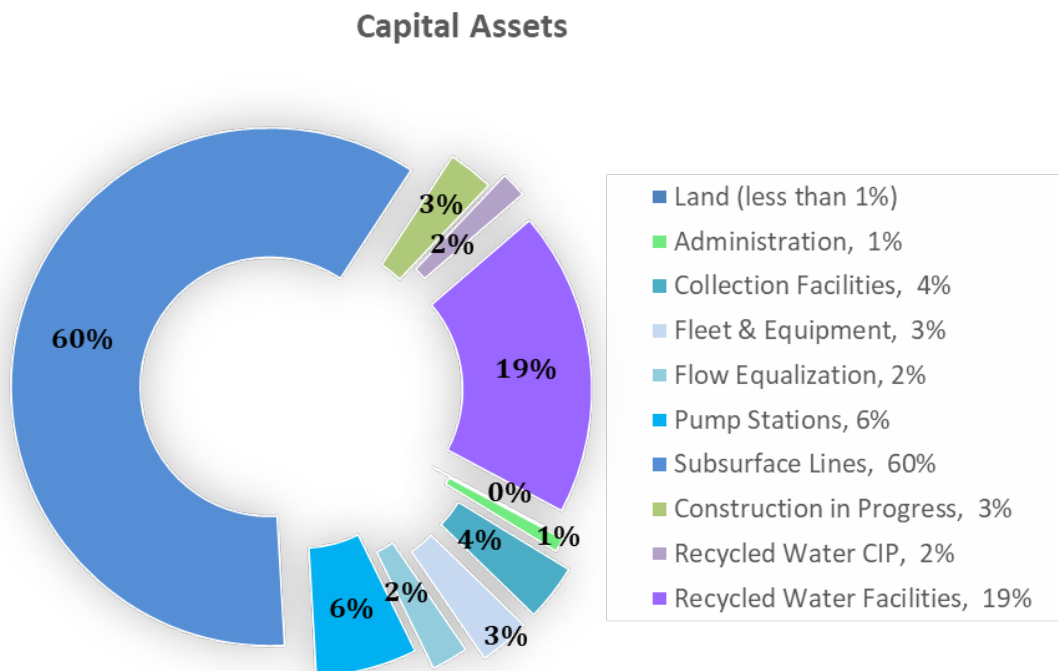
Recycled Water:***Bayfront Recycled Water Facility (BFRWF)***

The District completed an initial BFRWF Plan in February 2019. After completing required Environmental Impact Report (EIR) and other regulatory requirements, on May 12, 2021, the District Board approved the project to build a 0.6 million gallons per day (MGD) recycled water facility at the District's Flow Equalization and Resource Recovery Facility (FERRF) site. The District is exploring expanding the facility from 0.6MGD to as much as 1MGD. Construction completion is scheduled for early 2026. BFRWF will be a public project with contributions in aid of construction from several developers, for a guaranteed share of capacity, with the District maintaining extra capacity to offer to prospective customers.

BFRWF had \$14 thousand in capital expenditures in FY 2023-24, for total project Construction in Progress (CIP) expenditures of \$1 million.

The District was awarded a \$15 million grant from the California State Water Recycling Funding Program (WRFP), representing 35% of projected construction costs of \$56.6 million and an initial \$37 million SRF loan. The grant may increase, based on final construction costs.

Recycled Water Fund represents 21% of all District assets, including SHRWF and Bayfront CIP.



Reserves:

The District budgeted \$3.3 million in total transfers for FY 2023-24. An additional \$2.9 million is allocated to the Operating Reserve and \$401.6 thousand for the Vehicle & Equipment Reserve.

Reserves. The District originally budgeted \$3.3 million for unrestricted reserve contributions.

- **Operating Reserve:** The Operating Reserve, which is held in Local Agency Investment Fund (LAIF), is budgeted for six months of operations to provide cash flow from the beginning of the year until funds are received from San Mateo County for the tax roll.
 - **Rate Stabilization Reserve:** Was created in 2015 to provide relief if large rate increases were necessary.
 - **Treatment Plant Reserve:** Was created in 2021 to set aside funds for future large debt requirements from SVCW.
 - **Capital Reserves:** The Emergency Capital Reserve was created in 2010, with the Capital Project Reserve following in 2014.
 - **Recycled Water Reserves:** The Recycled Water Cash Flow Reserve, which was initially created for the SHRWF in 2018 to cover expenditures which were reimbursed through a State of California State Revolving Fund (SRF) loan, is continuing to serve for the BFRWF Project. Some funds are held in LAIF to fund the Bayfront project, until its SRF loan is approved and other funding is received.
- **Restricted Reserves.**
 - The Recycled Water SRF Reserve are funds deposited by SHGCC, as required by the SRF loan agreement.
 - The District has two accounts with Public Agency Retirement Services (PARS) for post-employment benefits trusts.

Reserve Transfers	Reserve Target	Actual 1st Qtr FY23-24	Approved Budget FY 2023-24	Variance Budget Balance	YTD % Annual
<u>Contributions To Reserves</u>					
Operating Reserves Transfers (Target 6mo/Ops)	14,024,468	2,913,031	2,913,031	-	100%
Rate Stabilization	10,000,000	-	-	-	
Treatment Plant Reserve	12,000,000	-	-	-	
<u>Capital Reserves</u>					
Capital Project Reserves Transfers	8,000,000	-	-	-	
Emergency Capital Reserves Transfer	6,000,000	-	-	-	
Vehicle & Equip Replacement Reserve	1,000,000	401,577	401,577	-	100%
<u>Recycled Water Reserves</u>					
Recycled Water Facility Cash Flow Reserve	8,000,000	-	-	-	
Recycled Water SRF Reserve - Restricted			-	-	
Reserve Transfers	59,024,468	3,314,608	3,314,608	-	100%
<u>Other Reserve Contributions</u>					
PARS Irrevocable Trust - Retirement		-	50,000	50,000	0%
PARS Irrevocable Trust - OPEB		-	25,000	25,000	0%
Self-Insurance Reserve		-	73,300	73,300	0%
Total Contributions To Reserves		3,314,608	3,462,908	148,300	96%

West Bay Sanitary District
Statement of Revenues, Expenses & Changes in Net Position
Combining Statements by Fund
Fiscal Year 2023-24
September 30, 2023

	General Fund	Capital Fund	Treatment Plant Fund	Solid Waste Fund	Recycled Water Fund	Unaudited Actual
	1st Qtr FY23-24	1st Qtr FY23-24	1st Qtr FY23-24	1st Qtr FY23-24	1st Qtr FY23-24	1st Qtr FY23-24
Operating Revenues						
Sewer Service Charges	8,119,404	-	-	-	-	8,119,404
Flow Equalization	403,165	-	-	-	-	403,165
Permit & Inspection Fees	58,227	-	-	-	-	58,227
Other Operating Revenue	172,368	-	-	27,950	-	200,319
Operating Revenues	8,753,164	-	-	27,950	-	8,781,115
Operating Expenses						
Salaries & Benefits	1,845,079	-	-	-	65,021	1,910,100
Materials & Supplies	167,709	-	-	-	1,972	169,681
Insurance	60,574	-	-	-	12,161	72,735
Contract Services	352,025	-	-	15,816	-	367,841
Professional Services	271,895	-	-	-	24,178	296,073
Repairs & Maintenance	146,159	-	-	-	8,343	154,501
Utilities	62,839	-	-	-	62,090	124,930
Other Operating Expenses	46,667	-	-	15,650	7,227	69,545
Depreciation	-	739,670	-	-	188,725	928,395
Total WBSD Operating Expenses	2,952,947	739,670	-	31,466	369,718	4,093,800
Sewage Treatment Plant (SVCW)			5,852,209			5,852,209
Total Operating Expenses	2,952,947	739,670	5,852,209	31,466	369,718	9,946,009
Operating Income (Loss)	5,800,217	(739,670)	(5,852,209)	(3,516)	(369,718)	(1,164,895)
Non-Operating Revenues (Expenses)						
Investment Income	512,135	126,889			90,281	729,305
Other Non-Operating Income	-		-	-	137,342	137,342
Interest Expense					-	-
Other Non-Operating Expenses		-			-	-
Total Non-Operating Revenues (Expenses)	512,135	126,889	-	-	227,623	866,647
Change in Net Position by Fund	6,312,353	(612,780)	(5,852,209)	(3,516)	(142,095)	(298,248)
Pension Adjustment (GASB 68)	-					-
Capital Contributions						
Interfund Contributions	-	-	-	-	-	-
Capital Fund: Connection Fees	-	107,600				107,600
Recycled Water Fund	-	-	-	-	171,095	171,095
Change in Net Position	6,312,353	(505,180)	(5,852,209)	(3,516)	29,000	(19,553)
Beginning Net Position	51,479,171	76,198,905	29,484,894	555,446	13,265,938	170,984,354
Prior Period Adjustment	-	-	-	-	-	-
Ending Net Position	57,791,524	75,693,724	23,632,685	551,930	13,294,938	170,964,801

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WEST BAY SANITARY DISTRICT AGENDA ITEM 13

To: *Board of Directors*

From: *Debra Fisher, Finance Manager*

Subject: *Consider Approval of the Revised Purchasing Policy and Resolution*

Background

The District's Purchasing Policy was written and approved in 2010. The Purchasing Policy was last updated on April 14, 2021, after the District began using an electronic Purchase Order system in July 2020. On December 6, 2023 the Finance Advisory Committee met and reviewed the proposed changes to the existing Purchasing Policy.

Analysis

The revised Purchasing Policy has been revised to update District staff titles, clarify practices, and correct minor grammatical and typing errors.

Requirements for purchase orders has been clarified, including providing details for attachments, to help staff navigate essential documents in Section 1.2.e.

Additional details have been added to Section 2.D.6-8 to clarify Finance responsibilities and add evident generally accepted accounting practices regarding the distribution of payments to vendors. This is to document the process for other staff and vendors and provide additional fraud protection for District distributions.

Fiscal Impact

No Fiscal Impact; however, additional fraud protection reduces the risk of lost funds and staff time.

Recommendation

The Finance Manager requests the Board approve the resolution adopting the revised Purchasing Policy.

Attachment:

Purchasing Policy Rev.20231213
Resolution ____ (2023)
2023 Purchasing Policy Redline Version

WEST BAY SANITARY DISTRICT
PURCHASING POLICY
APPROVED April 14, 2021
Revised December 13, 2023

Purpose

These procedures have been prepared to establish and clearly define the responsibilities of each employee and department of the West Bay Sanitary District ("District") related to purchasing to maintain centralized control over the purchase of goods or services, create efficiencies to pay invoices timely, and ensure goods and services are procured fairly at the "best value" based on competitive prices, quality, suitability, timeliness, and/or related considerations. This Purchasing Policy is intended to comply with Government Code section 54201 et seq., applicable state and federal laws and rules, and the terms and conditions of any grant or gift that is consistent with the law.

Section 1. Purchasing Procedure

An employee ("Requester") who needs to obtain goods or services to conduct the District's business shall adhere to the following procedure:

1. Determine exactly what is needed. Prudent purchasing requires requests be made only for those goods or services that are necessary.
2. Prepare an electronic purchase requisition in the District's purchase order (PO) system prior to obtaining goods or services. The requisition must include:
 - a. Detailed description of the purchase or service
 - Goods or services to be purchased.
 - b. Vendor information
 - All vendors must be pre-authorized by the Finance Department.
 - Vendor name, address, and telephone number.
 - A Request for Taxpayer ID, federal form W-9 is required for new vendors, prior to input.
 - c. Reason and Justification for purchase.
 - Purpose of goods or services to be purchased.
 - d. Transaction details, including price, sales tax, when applicable, budget coding, including general ledger account, department, and other sub-codes as required.
 - e. Attachments
 - All backup supporting documents must be attached, including:
 - Quote(s), including details of goods and/or services,
 - Authorization and contracts, with all signatures,
 - Resolutions, signed by board, when required,
 - Staff Report, when presented to board,
 - Additional information may be required by this Purchasing Policy or the General Manager.

- Quote(s), three (3) quotes for items over \$5,000.

Formal bid packet, when required.

- f. Submit requisition. The requisition will automatically go to Supervisor, Department Manager, and/or General Manager, as required by the Policy.

3. All purchases, other than with a petty cash or credit card, must be initiated by a purchase requisition, in PO system.

Section 2. Division of Responsibility

A. No orders may be placed for goods or services, and no purchase order shall be valid without prior approval of the Supervisor, Department Manager, General Manager, or their respective designated agent as specified herein.

For the purposes of this section, the responsibilities of Department Manager may be assumed and carried out by employees in the designated positions within the operating departments, as follows:

- | | |
|----------------------------------|---------------------------------|
| 1. Administrative and General: | Office & Communications Manager |
| 2. Collection System: | Operations Superintendent |
| 3. Flow Equalization Facilities: | Operations Superintendent |
| 4. Water Quality: | Water Quality Manager |
| 5. Capital: | Projects Manager |

The responsibilities of Supervisor may be assumed and carried out by employees in the designated positions within the operating departments, as follows:

- | | |
|----------------------------------|---------------------------------|
| 1. Collection System: | Asst. Operations Superintendent |
| 2. Flow Equalization Facilities: | Asst. Operations Superintendent |
| 3. Water Quality: | Water Quality Supervisor |

B. Supervisor and/or Department Manager

The Supervisor and/or Department Manager authorizing the purchase requisition shall adhere to all the following procedures:

1. Maintain list of qualified vendors acceptable to the District.
2. Determine the goods or services requested are appropriate and will accomplish the proposed purpose and meet specifications when required.
3. Determine if the requirements of this policy have been met.
4. Determine the goods or services requested do not exceed the District's inventory requirements.
5. Authorize purchase requisition.
 - a. Requisition will automatically be sent to Department Manager and/or General Manager, if required for approval.
6. When the invoice is received, determine whether the goods or services have been received or completed in good order and in accordance with specifications.
7. Stamp invoice approved, sign, indicate PO number, and submit invoice and packing slip, if applicable, signed by the receiver of goods, in the PO system and to Finance Department. A completed purchasing transaction for goods and services is defined as an authorized purchase requisition, an

approved purchase order, and a signed invoice with the words “okay to pay”. The Finance Department will verify all purchasing packages are complete prior to issuing payments.

8. Requester, Supervisor, or Department Manager will notify Finance Department of any shortages or damages.
9. Approve any invoices up to approved limits.
 - a. Supervisors may approve purchases up to \$999.99.
 - b. Department Managers may approve purchases up to \$4,999.99.

C. General Manager

The General Manager authorizing the purchase requisition shall adhere to the following procedures:

1. Determine the goods or services requested are necessary to conduct the District’s business.
2. Determine the purchasing procedures set forth in this policy have been adhered to.
3. Approve all purchases of \$5,000 or greater, with \$15,000.00 or greater, subject to authorization of the Board of Directors consistent with this policy.

D. Finance Department

The Finance Department shall adhere to the following procedures:

1. Determine availability of funds.
2. Verify vendor has submitted signed Request for Taxpayer Identification Number and Certification, IRS Form W-9.
3. Determine purchase requisitions and purchase orders have been prepared and authorized in accordance with this policy.
4. Audit for a complete purchasing transaction and pay all authorized and approved invoices once the full transaction has been completed.
5. Advise the General Manager of any discrepancies between purchase orders and invoices prior to payment.
6. Verify correct general ledger coding.
7. Issue payment to vendor listed on approved purchase order(s).
8. Verify vendor payments are mailed to the address on IRS Form W-9 or remit address stated on the approved vendor submitted invoice, in a timely manner.
 - If vendor does not have an invoice, payments are sent to the vendor’s name and address listed on the approved contract.
 - If special circumstances require a vendor to pickup a check from the District office, an official representative of the vendor must inform the District in writing, in the approved contract, stating who is authorized to pickup the check.
 - Authorized representative must present California or Federal Identification verifying their identity and sign a receipt releasing the District from liability on the payments received.

Purchase Orders issued by the District for goods or services must be approved by the Supervisor, Department Manager, and/or the General Manager, depending on the approval dollar limits, prior to ordering of goods and/or services in order to be valid, unless purchased through a pre-approved Open Purchase Order, pre-approved account (e.g. Home Depot or District Credit Card) or during extremely urgent or emergency conditions. Any purchase which does not meet this requirement, shall not be processed (nor any related invoice paid) and brought to the attention of the District Board at the next regularly scheduled meeting.

Section 3. Purchasing Cycle

Purchase of goods or services shall be made only after a purchase order is authorized according to this policy or an agreement is entered into by an authorized District representative (the General Manager or assignee).

- A. If not budgeted, the General Manager shall request Board authorization to purchase any capital item, including tools, equipment, furniture, or fixtures costing in excess of \$15,000.00 or having an estimated life of three years or more and be capitalized according to the Capitalization Policy.
- B. The purchase value shall include all costs pursuant to their utilization of an item for its intended purpose, including taxes, freight, modification, interest, and any other relevant costs. **No Contract or purchase shall be subdivided to avoid the requirements of these purchasing procedures.**

Section 4. Purchasing Approval Limits for Materials/Supplies/Equipment/Goods.

1. Small Purchases to \$199.99:

- a. Small Purchases may be made with petty cash, requiring a Petty Cash Receipt, in lieu of a purchase requisition or purchase order.
- b. The petty cash receipt must be signed by the employee receiving the petty cash and the employee's immediate supervisor or manager.
- c. The petty cash must be balanced periodically, at least annually, and shall be maintained by the Petty Cash Custodian and the Finance Manager.

PURCHASES MADE UNDER SECTION 4 (2)(3)(4)(5)(6) MUST MEET THE REQUIREMENTS OF SECTION 1, 2 AND 3 OF THIS POLICY.

2. Purchases of \$00.01 to \$4,999.99:

- a. Must be placed with a qualified vendor.
- b. Purchases must have the appropriate approval by Department Manager, before purchase:
 - Petty cash must have an approved Petty Cash Receipt.
 - District Credit Card purchases require prior approval, per the Purchasing Card Policy and purchasing limits of this policy.
 - All other purchases and services require an approved purchase requisition and purchase order, unless for a routine service approved by the General Manager, such as utilities, or via an Open Purchase Order.

3. Purchases of \$5,000.00 to \$14,999.99:

- a. At least three informal prices will be obtained from qualified vendors. Written

or electronic quotes shall be secured and attached to the purchase requisition.

- b. Availability of funds is required.
- c. Simple, concise specifications may be furnished to the Administration Office for obtaining quotes.
- d. Purchases require General Manager approval prior to issuance of the purchase order.
- e. Purchases or payments in this price category can be made by District Credit Card if approved and deemed beneficial to the District by the General Manager.
- f. These purchases/payments must be specifically reported to the District Board in the first instance or coded as paid by District Credit Card in the Board packet's monthly Financial Activity Report.

4. Purchases of \$15,000.00 to \$24,999.99:

- a. Purchase must be approved through adoption of the budget or directly in advance by the District Board.
- b. Written specifications shall be required prior to purchase.
- c. Written quotes shall be solicited from three or more qualified vendors whenever possible.
- d. Availability of funds is required.
- e. The General Manager, prior to issuance of a purchase order, shall approve purchase to the qualified vendor with the lowest quote.
- f. Purchase shall be reported to the District Board via the subsequent monthly Financial Activity Report.
- g. Should the General Manager determine the lowest quote(s) is (are) unresponsive, the General Manager shall ask the District Board to ratify the General Manager's determination prior to purchase.
- h. The General Manager shall report to the District Board all purchases made pursuant to this subsection (Section 4 (4)) at the first regular Board Meeting following the purchase.

5. Purchases of \$25,000.00 or more:

- a. Purchase must go through the competitive bid process and be approved by the District Board to go to bid, unless purchased through a Cooperative Purchase Agreement, or Piggyback purchase as outlined in Section 7.
- b. Written specifications shall be required prior to obtaining bids (except sole

source items such as: Flygt Pumps and parts, Ultrasonic Hydro Rangers, ISAC systems and components).

- c. Formal Invitation to Bid, Request for Proposal, or Request for Quotes shall be solicited from multiple qualified vendors.
- d. Availability of funds is required.
- e. The General Manager shall evaluate all bids, proposals, or quotes received and recommend the Best Value. Best Value shall mean the bidder who meets the best interests of the District as determined by the General Manager. The District Board, in their sole and absolute discretion pursuant to the criteria outlined by the District in its Request for Quotes, Request for Proposal or Invitation for Bid, shall authorize General Manager to award the bid to the best value vendor.

Materials Supplies Equipment or Goods - Contract Summary Table

Amount	Contract Requirement	Authorization
<\$5,000	Quotes not required	General Manager
>\$5,000 - <\$15,000 budgeted	Informal Quotes*	General Manager
>\$5,000 - <\$15,000 unbudgeted	Informal Quotes*	General Manager with Board of Directors' Prior Approval
>\$15,000 - <\$25,000 budgeted	Formal Written Quotes*	General Manager with report to Board of Directors
>\$15,000 - <\$25,000 unbudgeted	Formal Written Quotes*	General Manager with Board of Directors' Prior Approval
≥\$25,000	Competitive Bid Process	Board of Directors' Prior Approval

* After appropriate price comparisons

Section 5. Receipt of Purchases

1. When products are received, attach packing slip to Purchase order:
 - a. All goods received must be listed on the invoice. A packing list may be used for this purpose.
 - b. All shortages must be noted on the invoice or packing slip, which is attached to the original approved Purchase Order.
 - c. The invoice must be provided to the District's Finance Department for payment.
 - d. The District employee receiving the goods must clearly print their name on the invoice and/or packing slip.
 - e. For receipt of services delineated as Repairs and Maintenance in the District Budget, the Supervisor, Department Manager, or General Manager

shall provide the Finance Department with a signed "Services Receipt" indicating that the work has been completed to their satisfaction.

- f. All receipts, packing slips (when applicable), approved invoices, and "Service Receipts" must be uploaded to the District PO System prior to the payments being made.

Section 6. District's Construction Related Contracts

- A. For purposes of this policy, the District's construction related contracts are defined as involving the construction, reconstruction, alteration, enlargement, renewal, or replacement of any District owned, leased, or operated facility under Public Contract Code §§ 22002, 20800 et seq. Contracts for maintenance work to keep, operate, and maintain District's property or facilities are governed by Public Contract Code section 22002(d).
 - 1. Construction Contracts of less than \$15,000: General manager may approve the contract unless it is not an approved budgeted item, in which case, prior approval by the District Board is required.
 - 2. Construction Contracts of \$15,000.00 or more:
 - a. Contract requires a formal bid process in compliance with the public contract laws.
 - b. Contract must be approved and bid awarded by the District Board.
 - c. Applicable provisions of the Health and Safety Code and the Government Code of the State of California must be followed.
 - d. Availability of funds is required prior to the "award of bid" to be recommended to the District Board and purchase order issued.
 - e. Should the General Manager determine that the lowest bid(s) is (are) unresponsive, the General Manager shall ask the District Board to ratify the General Manager's determination prior to purchase.
- B. Maintenance contracts:
 - 1. Under \$25,000 - General Manager may approve the contract unless it is not an approved budgeted item, in which case, prior approval by the District Board is required.
 - 2. If more than \$25,000 – Contract is subject to a competitive bidding process and must be approved and bid awarded by the District Board.

Public Works Construction Contract - Contract Summary Table

Amount	Contract Requirement	Authorization
<\$15,000 budgeted	Informal Quotes*	General Manager
<\$15,000 unbudgeted	Informal Quotes*	General Manager with Board of Directors' Prior Approval
>\$15,000	Competitive Bid Process	Board of Directors' Prior Approval
>\$15,000 emergency	Public Contract Code §22050 and Board Resolution process	General Manager with Board of Director approval at next regular meeting
≤\$25,000 budgeted Maintenance	Informal Quotes*	General Manager
>\$25,000 budgeted or unbudgeted Maintenance	Competitive Bid Process	Board of Directors' Prior Approval

* After appropriate price comparisons

Section 7. Exceptions to Competitive Procurement Process.

In the event any of the following exceptions to the competitive procurement process are used, the recommendation will be documented in writing and approved by the General Manager if required for the purchase, and by the Board of Directors for purchases requiring Board approval.

A. Sole Source Procurement

1. This policy grants authority to the General Manager to enter into non-competitive contract, also known as sole source procurement, when one or more of the following conditions exist:
 - a. The item is available only from a single source: a preferred brand, like material, etc., to be procured; or
 - b. The commodity is unique, including, but not limited to, acquisition of data processing, telecommunications and word processing equipment, goods and services; or
 - c. The purchase of a specific brand name, make or model is necessary to match existing District equipment or facilitate effective maintenance and support; or
 - d. When it is in the best interest of the District to extend or renew a contract from a previous contract period, based on satisfactory service, reasonable prices, avoidance of start-up costs, avoidance of interruptions to District business, or good business practices.
2. The District must document why a particular item is unique, or why the individual or firm it has selected has the unique capability required, and the consequences if the sole source procurement is not made. Documentation must be retained for audit purposes.

B. Emergency Purchases

1. The General Manager shall make all emergency purchases in accordance with Public Contract Code Section 22050 et seq., and District Board Resolution 1253 (95):

The General Manager may deem an emergency exists which requires an immediate and serious need for materials, supplies, equipment, goods, services, or construction that cannot be met through normal procurement methods, the lack of which would seriously threaten any of the following:

- a. Essential services or operation of the District;
- b. The preservation or protection of property;
- c. The public health, safety, or welfare; or
- d. Economic health of the District.

- 2. All emergency purchases which would otherwise require formal solicitation must consult with the Board President and be submitted to the Board of Directors for ratification by resolution at the next regular Board meeting after the emergency procurement has been made. Such resolution shall state the facts constituting the emergency.

C. Cooperative and Piggyback Contracts

When the services or supplies are obtained by cooperative procurements or “piggyback” on the competitive procurement process of another agency, the District shall have the authority to join with other public jurisdictions in cooperative purchasing plans, programs, or pricing agreements. The District may also contract for services and supplies at a price established by competitive procurement by another public jurisdiction in substantial compliance with that public agency’s competitive procurement process. The District may also contract with any federal, state, municipality, or other public agency.

Prices quoted through a competitive bidding process by another public agency, may be used for purchasing equipment, services, and supplies for use in the District when it is recommended by the General Manager and approved by District Board that it is the Best Value and in the District’s best interest. Sections 4 and 6 do not apply to this subsection.

Cooperative Purchase Agreements can be utilized to provide financial benefits to the District when purchasing equipment, furniture, vehicles etc. Recognized cooperative purchase agreements such as Sourcewell cooperative, California Multiple Award Schedules (CMAS), General Services Administration (GSA), California State Bids, or other multi-government agency agreements can be used in place of the formal invitation to bid process when it is advantageous to the District.

D. State/Federal Funding Rules.

In the event grant, state, or federal funding is utilized, the grant, state, or federal awarding agency or pass-through entity expressly authorizes noncompetitive proposals in response to a written request from the District.

- E. Impractical/Impossible.** When competitive procurement would fail to produce an advantage or when the procurement process is undesirable, impractical, or impossible. Examples include situations when the services or supplies are to be performed in partnership with other public agencies or nonprofit organizations; or are to be paid for with private funds.

Section 8. Professional Services.

The General Manager may enter into a contract for professional services under the following guidelines:

- A. Expert and professional services are provided by independent consultants which involve extended analysis, personal expertise, the exercise of discretion and independent judgment in their performance, which are of an advisory nature, such as financial advisors, auditors, grant writers, program specialists, labor consultants and negotiators, investigators, certified laboratories, attorneys, environmental consultants, appraisers, architects, landscape architects, surveyors, engineers, design professionals, and construction management firms.
- B. Except as provided in subparagraph (C), when selecting professional or consulting consultants, the District representatives evaluating the proposals will consider the consultant's demonstrated experience and competence, insurability, understanding of the scope of work, financial ability, resources to perform the work, willingness to cooperate with District representatives and other consultants, and proposed methods to ensure timely and acceptable performance and management of the work. An award of a contract will be made to a qualified consultant whose proposal will be most advantageous to the District, with price and other factors considered.
- C. The selection for professional services of private architectural, landscape architectural, engineering, environmental, land surveying, or construction project management firms will be on the basis of demonstrated competence and on the professional qualifications necessary for the satisfactory performance of the services required, pursuant to Government Code Section 4526.
- D. Authorization Limits.
 1. If the amount is less than \$25,000, then the General Manager may contract with a qualified consultant based on the General Manager's discretion.
 2. If the amount or cumulative amount in a fiscal year is \$25,000 or more, prior approval of District Board of Directors is required.

Professional Services - Contract Summary Table

Amount	Authorization
<\$25,000	General Manager
≥\$25,000	General Manager with Board of Directors' Prior Approval

RESOLUTION NO. _____ (2023)
IN THE DISTRICT BOARD OF THE WEST BAY SANITARY DISTRICT
COUNTY OF SAN MATEO, STATE OF CALIFORNIA

A Resolution of the District Board of the West Bay Sanitary District Approving the Revised Purchasing Policy

WHEREAS, the West Bay Sanitary District is a special independent district, organized and existing under the Sanitary District Act of 1923 (Cal. Health & Safety Code §6400, et seq.), and provides wastewater collection, recycled water and conveyance services to the Cities of Menlo Park, Atherton and Portola Valley, and portions of East Palo Alto, Woodside and unincorporated areas of San Mateo and Santa Clara counties, and

WHEREAS, the West Bay Sanitary District approved a Purchasing Policy in May of 2010, and

WHEREAS, revisions to the purchasing policies are necessary over time to reflect, changes in monetary values, personnel, titles, responsibilities and purchasing options, and

WHEREAS, revisions to the purchasing policy are intended to increase efficiency in operations, provide for better security, and protect the District against fraud, and transition to paperless transactions where feasible, and

WHEREAS, the General Manager has been appointed as the Chief Fiscal Officer of the West Bay Sanitary District and has been granted authority by the District Board per Resolution No. 1720(2010) to Open Accounts and Invest Funds to ensure continuity of the District's operations, processes and procedures.

NOW, THEREFORE, BE IT RESOLVED that the West Bay Sanitary District Board hereby approves the District's Purchasing Policy 2010, as the Revised Purchasing Policy 2023 this 13th day of December 2023, as attached in Exhibit A.

PASSED AND ADOPTED by the District Board of the West Bay Sanitary District at a regular meeting thereof held on 13th day of December 2023, by the following votes:

Ayes:

Noes:

Absent:

Abstain:

President of the District Board of the
West Bay Sanitary District of San
Mateo County, State of California

Attest:

Secretary of the District Board of the
West Bay Sanitary District of San Mateo
County, State of California

**WEST BAY SANITARY DISTRICT
PURCHASING POLICY
APPROVED April 14, 2021
Revised December 13, 2023**

Purpose

These procedures have been prepared to establish and clearly define the responsibilities of each employee and department of the West Bay Sanitary District ("District") related to purchasing to maintain centralized control over the purchase of goods or services, ~~create efficiencies to pay invoices timely~~, and ensure goods and services are procured fairly at the "best value" ~~on the basis of~~ based on competitive prices, quality, suitability, timeliness, and/or related considerations. This Purchasing Policy is intended to comply with Government Code section 54201 et seq., applicable state and federal laws and rules, and the terms and conditions of any grant or gift that is consistent with the law.

Section 1. Purchasing Procedure ~~for Purchase of Goods/Services~~

An employee ("Requester") who needs to obtain goods or services ~~in order to~~ to conduct the District's business shall adhere to the following procedure:

1. Determine exactly what is needed. Prudent purchasing requires requests be made only for those goods or services that are necessary.

2. Prepare an electronic purchase requisition in the District's purchase order (PO) system ~~MicroIX Workflow Module (Workflow) System prior~~ to obtaining goods or services. The requisition must include:

- a. Detailed description of the purchase or service
 - Goods or services to be purchased.
- b. Vendor information
 - All vendors must be pre-authorized by the Finance Department.
 - Vendor name, address, and telephone number.
 - A Request for Taxpayer ID, federal form W-9 is required for new vendors, prior to input.
- c. Reason and Justification for purchase, ~~:-~~
 - Purpose of goods or services to be purchased.
- d. Transaction details, including price, sales tax, when applicable, budget coding, including general ledger account, ~~and~~ department, and other sub-codes as required.

e. Attachments

- All backup supporting documents must be attached, including:

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- Quote(s), including details of goods and/or services,
- Authorization and contracts, with all signatures,
- Resolutions, signed by board, when required,
- Staff Report, when presented to board,
- Additional information may be required by this
Purchasing Policy or the General Manager.
- Quote(s), three (3) quotes for items over \$5,000.
- Formal bid packet, when required.
- Additional information as may be required by this Purchasing
Policy, or by the District Manager, Department Purchasing Supervisor
or Department Manager.

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- f. Submit requisition. The requisition will automatically go to Supervisor, Department Manager, and/or DistrictGeneral Manager, as required by the Policy.

3. All purchases, other than with a petty cash or credit card, ~~purchases~~ must be initiated by a purchase requisition, in PO system, unless the Department Purchasing Supervisor requests the purchase, in which case a purchasing requisition is not required through the Workflow software.

Section 2. Division of Responsibility

A. No orders may be placed for goods or services, and no purchase order shall be valid without prior approval of the Supervisor, Department Manager, DistrictGeneral Manager, or their respective designated agent as specified herein.

For the purposes of this section, the responsibilities of ~~Supervisor or~~ Department Manager may be assumed and carried out by employees in the designated positions within the operating departments, as follows:

- | | |
|----------------------------------|--------------------------------------|
| 1. Administrative and General: | Office & Communications Manager |
| 2. Collection System: | Operations Superintendent |
| 3. Flow Equalization Facilities: | Operations Superintendent |
| 4. Water Quality: | Water Quality Manager |
| 5. Capital and IT : | Projects & IT Manager |

The responsibilities of Supervisor may be assumed and carried out by employees in the designated positions within the operating departments, as follows:

- | | |
|----------------------------------|---------------------------------|
| 1. Collection System: | Asst. Operations Superintendent |
| 2. Flow Equalization Facilities: | Asst. Operations Superintendent |
| 3. Water Quality: | Water Quality Supervisor |

B. Supervisor and/or Department Manager

The Supervisor and/or Department Manager authorizing the purchase requisition shall adhere to all ~~of~~ the following procedures:

1. Maintain list of qualified vendors acceptable to the District.
2. Determine ~~the goods or~~ goods or ~~services requested are appropriate and will~~ accomplish the proposed purpose and meet specifications when required.
3. Determine if the requirements of this policy have been met.
4. Determine the goods or services requested do not exceed the District's inventory requirements.
5. Authorize purchase requisition.
 - a. Requisition will automatically be sent to Department Manager and/or General Manager, if required for approval.
6. When the invoice is received, determine whether the goods or services have been received or completed in good order and in accordance with specifications.
7. Stamp invoice approved, sign, indicate PO number, and submit invoice ~~under a~~ packing slip, if applicable, signed by the receiver of goods, ~~to in the Work-Flow module~~ PO system and to Finance Department. A completed purchasing transaction for goods and services is defined as an authorized purchase requisition, an approved purchase order, and a signed invoice with the words "okay to pay". The Finance Department will verify all purchasing packages are complete prior to issuing payments.
8. Requester, Supervisor, ~~and~~ or Department Manager will notify Finance Department of any shortages or damages.
9. Approve any invoices up to approved limits.
 - a. Supervisors may approve purchases up to \$999.99.
 - b. Department Managers may approve purchases up to \$4,999.99.

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C. ~~District~~General Manager

The ~~District~~General Manager authorizing the purchase requisition shall adhere to ~~all of~~ the following procedures:

1. Determine the goods or services requested are necessary to conduct the District's business.
2. Determine the purchasing procedures set forth in this policy have been adhered to.
3. Approve all purchases of \$5,000 or greater, with \$15,000.00 or greater, subject to authorization of the Board of Directors consistent with this policy.

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D. Finance Department

The Finance Department shall adhere to the following procedures:

1. Determine availability of funds.
- ~~2.~~ 2. Verify vendor has submitted signed Request for Taxpayer Identification Number and Certification, IRS Form W-9.

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3. Determine ~~that~~ purchase requisitions and purchase orders have been prepared and authorized in accordance with this policy.
4. Audit for a complete purchasing transaction and pay all authorized and approved invoices once the full transaction has been completed.
5. Advise the ~~District~~General Manager of any discrepancies between purchase orders and invoices prior to payment.

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~~5-6.~~ Verify correct general ledger coding.

~~6-7.~~ Issue payment to vendor listed on approved purchase order(s).

~~7-8.~~ Verify vendor payments are mailed to the address on IRS Form W-9 or remit address stated on the approved vendor submitted invoice, in a timely manner.

- If vendor does not have an invoice, payments are sent to the vendor's name and address listed on the approved contract.
- If special circumstances require a vendor to pickup a check from the District office, an official representative of the vendor must inform the District in writing, in the approved contract, stating who is authorized to pickup the check.
 - Authorized representative must present California or Federal Identification verifying their identity and sign a receipt releasing the District from liability on the payments received.

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Purchase Orders issued by the District for goods or services must be approved by the Supervisor, Department Manager, and/or the ~~District~~General Manager, depending on the approval dollar limits, prior to ordering of goods and/or services in order to be valid, unless purchased through a pre-approved Open Purchase Order, pre-approved account (e.g. Home Depot, ~~Chevron~~, or District Credit Card) or during extremely urgent or emergency conditions. Any purchase ~~order~~, which does not meet this requirement, shall not be processed (nor any related invoice paid) and brought to the attention of the District Board at the next regularly scheduled meeting.

Section 3. Purchasing Cycle

Purchase ~~of~~ goods ~~or~~ services ~~shall be made only after a purchase order is authorized~~ according to this policy or an agreement is entered into by an authorized District representative (the ~~District~~General Manager or assignee).

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~~A.~~ If not budgeted, the ~~District~~General Manager shall request Board authorization to purchase any capital ~~item~~, ~~including tools, equipment, furniture or fixtures costing in excess of~~

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~~A.~~ \$15,000.00 or having an estimated life of three years or more and be capitalized according to the Capitalization Policy ~~standard accounting practices~~.

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~~B.~~ The purchase value shall include all costs pursuant to their utilization of an item for its intended purpose, including taxes, freight, modification, interest, and any other relevant costs. No Contract or purchase shall be subdivided to avoid the requirements of these purchasing procedures.

Section 4. Purchasing Approval Limits for Materials/Supplies/Equipment/Goods.

1. Small Purchases to \$199.99:

- a. Small Purchases ~~may~~will usually be made with petty cash, requiring a Petty Cash Receipt, in lieu of a purchase requisition or purchase order.
- b. The petty cash receipt must be signed by the employee receiving the petty cash and the employee's immediate supervisor or manager.
- c. The petty cash must be balanced periodically at least annually, and shall be maintained by the Petty Cash Custodian and the Finance Manager.

***** PURCHASES MADE UNDER SECTION 4 (2)(3)(4)(5)(6) MUST MEET THE REQUIREMENTS OF SECTION 1, 2 AND 3 OF THIS POLICY.*****

2. Purchases of \$00.01 to \$4,999.99:

- a. Must be placed with a qualified vendor.
- b. Purchases must have the appropriate approval by Department Manager, before purchase:
 - Petty cash must have an approved Petty Cash Receipt.
 - District Credit Card purchases ~~do not~~ require prior approval per the Purchasing Card Policy and but are limited to purchasing limits of this policy.
 - All other purchases and services require an approved purchase requisition and purchase order, unless for a routine services approved by the ~~District~~General Manager, such as utilities, or via an Open Purchase Order.

3. Purchases of \$5,000.00 to \$14,999.99:

- a. At least three informal prices will be obtained from qualified vendors. Written or electronic quotes shall be secured and attached to the purchase requisition.
- b. Availability of funds is required.
- c. Simple, concise specifications may be furnished to the Administration Office for obtaining quotes.

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- d. Purchases require ~~District~~General Manager approval prior to issuance of the purchase order.
 - e. Purchases or payments in this price category can be made by District Credit Card if approved and deemed beneficial to the District by the ~~District~~General Manager.
 - f. These purchases/payments must be specifically reported to the District Board in the first instance or coded as paid by District Credit Card in the Board packet's monthly Financial Activity Report.
4. Purchases of \$15,000.00 to \$24,999.99:
- a. Purchase must be approved through adoption of the budget or directly in advance by the District Board.
 - b. Written specifications shall be required prior to purchase.
 - c. Written quotes shall be solicited from three or more qualified vendors whenever possible.
 - d. Availability of funds is required.
 - e. The ~~District~~General Manager, prior to issuance of a purchase order, shall approve purchase to the qualified vendor with the lowest quote.
 - f. Purchase shall be reported to the District Board ~~at~~ via the subsequent monthly Financial Activity Report.
 - g. Should the ~~District~~General Manager determine the lowest quote(s) is (are) unresponsive, the ~~District~~General Manager shall ask the District Board to ratify the ~~District~~General Manager's determination prior to purchase.
 - h. The ~~District~~General Manager shall report to the District Board all purchases made pursuant to this subsection (Section 4 (4)) at the first regular Board Meeting following the purchase.
5. Purchases of \$25,000.00 or more:
- a. Purchase must go through the competitive bid process and be approved by the District Board to go to bid, unless purchased through a Cooperative Purchase Agreement, or Piggyback purchase as outlined in Section 7.
 - b. Written specifications shall be required prior to obtaining bids (except

sole source items such as: Flygt Pumps and parts, Ultrasonic Hydro Rangers, ISAC systems and components).

- c. Formal Invitation to Bid, Request for Proposal, or Request for Quotes shall be solicited from multiple qualified vendors.
- d. Availability of funds is required.
- e. The ~~District~~General Manager shall evaluate all bids, proposals, or quotes received and recommend the Best Value. Best Value shall mean the bidder who meets the best interests of the District as determined by the ~~District~~General Manager. The District Board, in their sole and absolute discretion pursuant to the criteria outlined by the District in its Request for Quotes, Request for Proposal or Invitation for Bid, shall authorize ~~District~~General Manager to award the bid to the best value vendor.

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Materials Supplies Equipment or Goods - Contract Summary Table

Amount	Contract Requirement	Authorization
<\$5,000	Quotes not required	General Manager
>\$5,000 - <\$15,000 budgeted	Informal Quotes*	General Manager
>\$5,000 - <\$15,000 unbudgeted	Informal Quotes*	General Manager with Board of Directors' Prior Approval
>\$15,000 - <\$25,000 budgeted	Formal Written Quotes*	General Manager with report to Board of Directors
>\$15,000 - <\$25,000 unbudgeted	Formal Written Quotes*	General Manager with Board of Directors' Prior Approval
≥\$25,000	Competitive Bid Process	Board of Directors' Prior Approval

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* After appropriate price comparisons

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Section 5. Receipt of Purchases

1. When products are received, attach packing slip to Purchase order:

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- a. All goods received must be listed on the -invoice. A packing list may be used for this purpose.
- b. All shortages must be noted on the invoice or packing slip, which is attached to the original approved Purchase Order.

- c. The invoice must be provided to the District's Finance Department for payment.
- d. The District employee receiving the goods must clearly print their name on the invoice and/or packing slip.
- e. For receipt of services delineated as Repairs and Maintenance in the District Budget, the -Supervisor, Department Manager, or ~~District General~~ Manager shall provide the Finance Department with a signed "Services Receipt" indicating that the work has been completed to their satisfaction.
- f. All receipts, packing slips (when applicable), approved invoices, and "Service Receipts" must be uploaded to the District PO System ~~Work Flow module~~ prior to the payments being made.

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Section 6. District's Construction Related Contracts

- A. For purposes of this policy, the District's construction related contracts are defined as involving the construction, reconstruction, alteration, enlargement, ~~renewal~~ renewal, or replacement of any District owned, leased, or operated facility under Public Contract Code §§ 22002, 20800 et seq. Contracts for maintenance work to keep, operate, and maintain District's property or facilities are governed by Public Contract Code section 22002(d).
 - 1. Construction Contracts of less than \$15,000: General manager may approve the contract unless it is not an approved budgeted item, in which case, prior approval by the District Board is required.
 - 2. Construction Contracts of \$15,000.00 or more:
 - a. Contract requires a formal bid process in compliance with the public contract laws.
 - b. Contract must be approved and bid awarded by the District Board.
 - c. Applicable provisions of the Health and Safety Code and the Government Code of the State of California must be followed.
 - d. Availability of funds is required ~~for~~ prior to the "award of bid" to be recommended ~~recommendation is made~~ to the District Board and purchase order issued.
 - e. Should the ~~District General~~ Manager determine that the lowest

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bid(s) is (are) unresponsive, the ~~District~~General Manager shall ask the District Board to ratify the ~~District~~General Manager's determination prior to purchase.

B. Maintenance contracts:

1. Under \$25,000 - General Manager may approve the contract unless it is not an approved budgeted item, in which case, prior approval by the District Board is required.
2. If more than \$25,000 – Contract is subject to a competitive bidding process and must be approved and bid awarded by the District Board.

Public Works Construction Contract - Contract Summary Table

Amount	Contract Requirement	Authorization
<\$15,000 budgeted	Informal Quotes*	General Manager
<\$15,000 unbudgeted	Informal Quotes*	General Manager with Board of Directors' Prior Approval
>\$15,000	Competitive Bid Process	Board of Directors' Prior Approval
>\$15,000 emergency	Public Contract Code \$22050 and Board Resolution process	General Manager with Board of Director approval at next regular meeting
≤\$25,000 budgeted Maintenance	Informal Quotes*	General Manager
>\$25,000 budgeted or unbudgeted Maintenance	Competitive Bid Process	Board of Directors' Prior Approval

* After appropriate price comparisons

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Section 7. Exceptions to Competitive Procurement Process.

In the event any of the following exceptions to the competitive procurement process are used, the recommendation will be documented in writing and approved by the General Manager if required for the purchase, and by the Board of Directors for purchases requiring Board approval.

A. Sole Source Procurement

1. This policy grants authority to the General Manager to enter into non-competitive contract, also known as sole source procurement, when one or more of the following conditions exist:
 - a. The item is available only from a single source: a preferred brand, like material, etc., to be procured; or
 - b. The commodity is unique, including, but not limited to, acquisition of data processing, telecommunications and word processing equipment, goods and services; or
 - c. The purchase of a specific brand name, make or model is necessary to match existing District equipment or facilitate effective maintenance and support; or
 - d. When it is in the best interest of the District to extend or renew a contract from a previous contract period, based on satisfactory service, reasonable prices, avoidance of start-up costs, avoidance of interruptions to ~~District~~District business, or good business practices.
2. The District must document why a particular item is unique, or why the individual or firm it has selected has the unique capability required, and the consequences if the sole source procurement is not made. Documentation must be retained for audit purposes.

B. Emergency Purchases

1. The ~~District~~General Manager shall make all emergency purchases in accordance with Public Contract Code Section 22050 et seq., and District Board Resolution 1253 (95):

The General Manager may deem an emergency exists which requires an immediate and serious need for materials, supplies, equipment, goods, services, or construction that cannot be met through normal procurement methods, the lack of which would seriously threaten any of the following:

- a. Essential services or operation of the District;
- b. The preservation or protection of property;
- c. The public health, safety, or welfare; or
- d. Economic health of the District.

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2. All emergency purchases which would otherwise require formal solicitation must consult with the Board President and be submitted to the Board of Directors for ratification by resolution at the next regular Board meeting after the emergency procurement has been made. Such resolution shall state the facts constituting the emergency.

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C. Cooperative and Piggyback Contracts

When the services or supplies are obtained by cooperative procurements or “piggyback” on the competitive procurement process of another agency, the District shall have the authority to join with other public jurisdictions in cooperative purchasing plans, programs, or pricing agreements. The District may also contract for services and supplies at a price established by competitive procurement by another public jurisdiction in substantial compliance with that public agency’s competitive procurement process. The District may also contract with any federal, state, municipality, or other public agency.

Prices quoted through a competitive bidding process by another public agency, may be used for purchasing equipment, services, and supplies for use in the District when it is recommended by the ~~District~~General Manager and approved by District Board that it is the Best Value and in the District’s best interest. Sections 4 and 6 do not apply to this subsection.

Cooperative Purchase Agreements can be utilized to provide financial benefits to the District when purchasing equipment, furniture, vehicles etc. Recognized cooperative purchase agreements such as Sourcewell cooperative, California Multiple Award Schedules (CMAS), General Services Administration (GSA), California State Bids, or other multi-government agency agreements can be used in place of the formal invitation to bid process when it is advantageous to the District.

D. State/Federal Funding Rules.

In the event grant, ~~or~~ state, or federal funding is utilized, the grant, ~~or~~ state, or federal awarding agency or pass-through entity expressly authorizes noncompetitive proposals in response to a written request from the District.

E. Impractical/Impossible. When competitive procurement would fail to produce an advantage or when the procurement process is undesirable, impractical, or impossible. Examples include situations when the services or supplies are to be performed in partnership with other public agencies or nonprofit organizations; or are to be paid for with private funds.

Section 8. Professional Services.

The General Manager may enter into a contract for professional services under the following guidelines:

A. Expert and professional services are provided by independent consultants which involve extended analysis, personal expertise, the exercise of discretion and independent judgment in their performance, which are of an advisory nature, such as financial

advisors, auditors, grant writers, program specialists, labor consultants and negotiators, investigators, certified laboratories, attorneys, environmental consultants, appraisers, architects, landscape architects, surveyors, engineers, design professionals, and construction management firms.

- B. Except as provided in subparagraph (C), when selecting professional or consulting consultants, the District representatives evaluating the proposals will consider the consultant's demonstrated experience and competence, insurability, understanding of the scope of work, financial ability, resources to perform the work, willingness to cooperate with District representatives and other consultants, and proposed methods to ensure timely and acceptable performance and management of the work. An award of a contract will be made to a qualified consultant whose proposal will be most advantageous to the District, with price and other factors considered.
- C. The selection for professional services of private architectural, landscape architectural, engineering, environmental, land surveying, or construction project management firms will be on the basis of demonstrated competence and on the professional qualifications necessary for the satisfactory performance of the services required, pursuant to Government Code Section 4526.
- D. Authorization Limits.
1. If the amount is less than \$25,000, then the General Manager may contract with a qualified consultant based on the General Manager's discretion.
 2. If the amount or cumulative amount in a fiscal year is \$25,000 or more, prior approval of District's Board of Directors is required.

Professional Services - Contract Summary Table

Amount	Authorization
<\$25,000	General Manager
≥\$25,000	General Manager with Board of Directors' Prior Approval

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WEST BAY SANITARY DISTRICT AGENDA ITEM 14

To: *Board of Directors*

From: *Sergio Ramirez, General Manager
Fariborz Heydari, P.E., Project Manager*

Subject: *Consider Accepting the 2023 Wastewater Collection System
Master Plan by V. W. Housen & Associates*

Background

The District previously adopted a Wastewater Collection System Master Plan in 2011 and updated the plan in 2013 based on updated flow monitoring results.

Wastewater Collection System- The District provides wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and portions of East Palo Alto, Woodside and unincorporated San Mateo County and Santa Clara Counties. Wastewater is conveyed from south to north through approximately 220 miles of gravity sewers ranging in diameter from 4 to 54 inches and 11 pump stations. The District owns several emergency storage basins located within the District's Flow Equalization and Resource Recovery Facility ("FERRF"), located within Bedwell Bayfront Park. The FERRF storage ponds include an existing pump station that is used to return flows to the Menlo Park Pump Station.

Recycled Water System- In 2014, the District completed a Recycled Water Market Survey which led to construction of a satellite treatment plant at the SHGCC. In 2019, the District completed the Bayfront Recycled Water Facilities Plan ("RWFP") which evaluated projects identified in the 2014 Market Survey in the Bayfront Area. This plan updated and refined the market assessment and analyze various recycled water project alternatives.

On January 11, 2023, the Board authorized the General Manager to enter into an agreement for the District's 2023 Wastewater Collection System Master Plan with V. W. Housen & Associates in partnership with Woodard & Curran.

The 2011 and 2013 Master Plans will be replaced with this update which evaluates the current system that has been improved since 2011, prioritizes the capital improvement program, minimizes inflow and infiltration, ensures compliance with regulatory requirements, includes recycled water planning, and increases efficiencies in operations and maintenance.

Analysis

Wastewater Collection System- The 2023 Wastewater Collection System Master Plan ("Master Plan") recommends short term and long-term capital improvement projects that will improve system reliability, resiliency, functionality, and flexibility. The Master Plan will also guide the management and implementation of the sanitary sewer facility improvement projects within the District's collection system.

The attached 2023 Master Plan represents results and recommendations from four separate but related studies that were completed for the West Bay Sanitary District's ("District") wastewater collection and recycled water systems. These studies include: 1) Hydraulic Model and Capacity Assessment; 2) Linear Asset Management Plan; 3) Pump Station Assessments; and 4) Recycled Water Plan. Together, the four studies provide recommended projects, priorities, and costs for input into the District's capital improvement program ("CIP"). The District's previous Wastewater Collection System Master Plan was completed in 2011 and partially updated in 2013 to reflect changes near Marsh Road. Since this time, the District has experienced significant development north of Highway 101, conducted system-wide sewer inspection, completed significant repairs and replacements, and expanded the services provided to include recycled water treatment and distribution. In addition to providing information for use in developing the District's CIP, the Master Plan addresses topics that are discussed in the 2023 State Water Resources Control Board Order No. WQ 2022-0103-DWQ (Statewide Waste Discharge Requirements) as related to system capacity.

The 2023 Master Plan provides more details on the work done thus far and the updated changes in the Sewer Master Plan update. This update also includes revisions to the sample 10-year capital improvement program schedule and allows the District to move from focusing on basin by basin capital improvement projects to focusing on projects addressing structural defects. Replacing or rehabilitating these pipelines reduces Inflow and Infiltration (I&I), reduces sanitary sewer overflows (SSO) and reduces the required maintenance for pipelines.

Recycled Water System- A preliminary recycled water market assessment was conducted as part of the 2014 Market Survey. The 2019 RWFP refined the preliminary recycled water market assessment to consider additional potential potable water customers (existing and future) that were not originally evaluated during the 2014 Market Survey. Figure ES.16 shows the recycled water study area and the location of the various customers described.

The potential recycled water customers were categorized into four service regions for the purpose of pipe and pump sizing: Phase 1, East of Chilco St., Phase 1, West of Chilco St., Phase 2, and Phase 3. Table ES.7 summarizes the total demand per pipeline service region. Customers that were more than 1,000 feet away from the pipelines were not included in this demand estimate.

The Phase 1 (Bayfront Project) involves construction of an influent pump station and approximately 4,900-LF of influent pipeline, a satellite MBR/UV treatment facility to treat

and ultimately produce a maximum daily flow of 0.6 MGD (for Bayfront Project only). The Phase 2 Project would involve construction of a booster pump station at the intersection of Terminal Ave. and Del Norte Ave. where the Phase 2 pipeline begins to divert recycled water from the Phase 1 to the Phase 2 system via distribution pipelines to various customers, and a 0.5 MG storage tank. A list of recycled water customers for the Recommended Project and their respective average annual demands is presented in Table ES.8.

Fiscal Impact

The Capacity Assessment, Linear Asset Management Plan, Pump Station Assessment, and Recycled Water Plan each evaluated infrastructure needs for the next 10 years and developed proposed recommendations, priorities, and costs. These projects, priorities, and cost are summarized in Table ES.10. The Basis behind each of the projects is discussed in further detail within the respective section in this Master Plan.

Acceptance of this technical memorandum results in no impact to the budget, but simply updates the Districts Collection System Master Plan updated in 2013.

Recommendation

The General Manager recommends the Board of Directors accept the 2023 Wastewater Collection System Master Plan by V. W. Housen & Associates dated November 29, 2023.

Attachments: The 2023 Wastewater Collection System Master Plan by V. W. Housen & Associates dated November 29, 2023.



2023

Wastewater Collection System Master Plan



FINAL DRAFT
December 8, 2023



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West Bay Sanitary District
2023 Wastewater Collection System
Master Plan

Final Draft
December 2023



12/08/23

Prepared by



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ACRONYMS & TERMS

AAD	Average annual demand
ADWF	Average Dry Weather flow
BWF	See ADWF
CCTV	Closed Circuit Television
CEQA	California Environmental Quality Act
CIP	Capital Improvement Program
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
d/D	Depth over Diameter
District	West Bay Sanitary District
Diurnal	Daily Variation in base wastewater flow
ENR CCI	Engineering News Record Construction Cost Index
FERRF	Flow Equalization and Resource Recovery Facility
GIS`	Geographic Information System
GPCPD	Gallons per Capita per Day
GW	Groundwater Infiltration
HDR	High Density Residential
I&I	Inflow and Infiltration
LAMP	Linear Asset Management Plan
LDR	Low-density Residential
MDD	Maximum Day Demand. Average daily demand during the peak demand month.
MDR	Medium-density Residential
MGD	Million Gallons per Day
PHD	Peak Hour Demand. Maximum flow rate during MDD conditions
MPMW	Menlo Park Municipal Water District
MPS	Menlo Pump Station
NASSCO	National Association of Sewer Service Companies
NEPA	National Environmental Policy Act
NOAA	National Oceanographic and Atmospheric Administration
PACP	Pipeline Assessment and Certification Program
PDWF	Peak Dry Weather Flow
PWWF	Peak Wet Weather Flow
RDII	Rainfall-Dependent Inflow and Infiltration
RWFP	Bayfront Recycled Water Facilities Plan
RWQCB	Regional Water Quality Control Board
SFPUC	San Francisco Public Utilities Commission
SHGCC	Sharon Heights Golf and Country Club
SRF	State Revolving Fund (Loan)
SVCW	Silicon Valley Clean Water
SWRCB	State Water Resources Control Board
TM	Technical Memorandum
V&A	V&A Consulting Engineers
VLDR	Very Low-density Residential
W&C	Woodard & Curran

WBSD	West Bay Sanitary District
WDR	2023 Statewide WDR or Order 2022-0103-DWQ
WEF	Water Environment Federation
WWPF	Wet Weather Peaking Factor

ACKNOWLEDGEMENTS

We would like to extend our sincere appreciation to the many project team members, including the key project participants listed below, who contributed knowledge, information, and time to assure the success of this Master Plan.

West Bay Sanitary District

Fariborz Heydari P.E., Senior Civil Engineer, WBSD Project Manager
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Tony Valdivia, Pump Station Assessments, Woodard & Curran
Angel Mejia and Jim Fisher, V&A Engineering

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EXECUTIVE SUMMARY

The 2023 Wastewater Master Plan presents results and recommendations from four separate but related studies that were completed for the West Bay Sanitary District's ("District") wastewater collection and recycled water systems. These studies include: 1) Hydraulic Model and Capacity Assessment; 2) Linear Asset Management Plan; 3) Pump Station Assessments; and 4) Recycled Water Plan. Together, the four studies provide recommended projects, priorities, and costs for input into the District's capital improvement program ("CIP"). The District's previous Wastewater Collection System Master Plan was completed in 2011 and partially updated in 2013 to reflect changes near Marsh Road. Since this time, the District has experienced significant development north of Highway 101, conducted system-wide sewer inspection, completed significant repairs and replacements, and expanded the services provided to include recycled water treatment and distribution. In addition to providing information for use in developing the District's CIP, the Master Plan addresses topics that are discussed in the 2023 State Water Resources Control Board Order No. WQ 2022-0103-DWQ (Statewide Waste Discharge Requirements) as related to system capacity.

ES-1 EXISTING SERVICE AREA

The District provides wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and portions of East Palo Alto, Woodside and unincorporated San Mateo and Santa Clara counties as shown on Figures ES.1 and ES.2 on the following pages. Wastewater is conveyed from south to north through approximately 220 miles of gravity sewers and 11 pump stations¹.

During dry weather months, the District diverts system flows in varying quantities from a location near Sand Hill Road and Oak Avenue in Menlo Park and treats this flow to recycled water standards to serve the Sharon Heights Golf and Country Club ("SHGCC"). During the non-irrigation months, a smaller volume of water must still be diverted from the system and treated by the SHGCC recycled water plant in order to maintain plant operations. These flows are then discharged back into a different part of the wastewater collection system on the north side of the SHGCC.

¹ Asset information from California Integrated Water Quality System ("CIWQS") public reports (Interactive SSO Report. <https://www.waterboards.ca.gov/ciwqs/publicreports.html>)

Figure ES.1 West Bay Sanitary District Service Area and Pipeline Assets

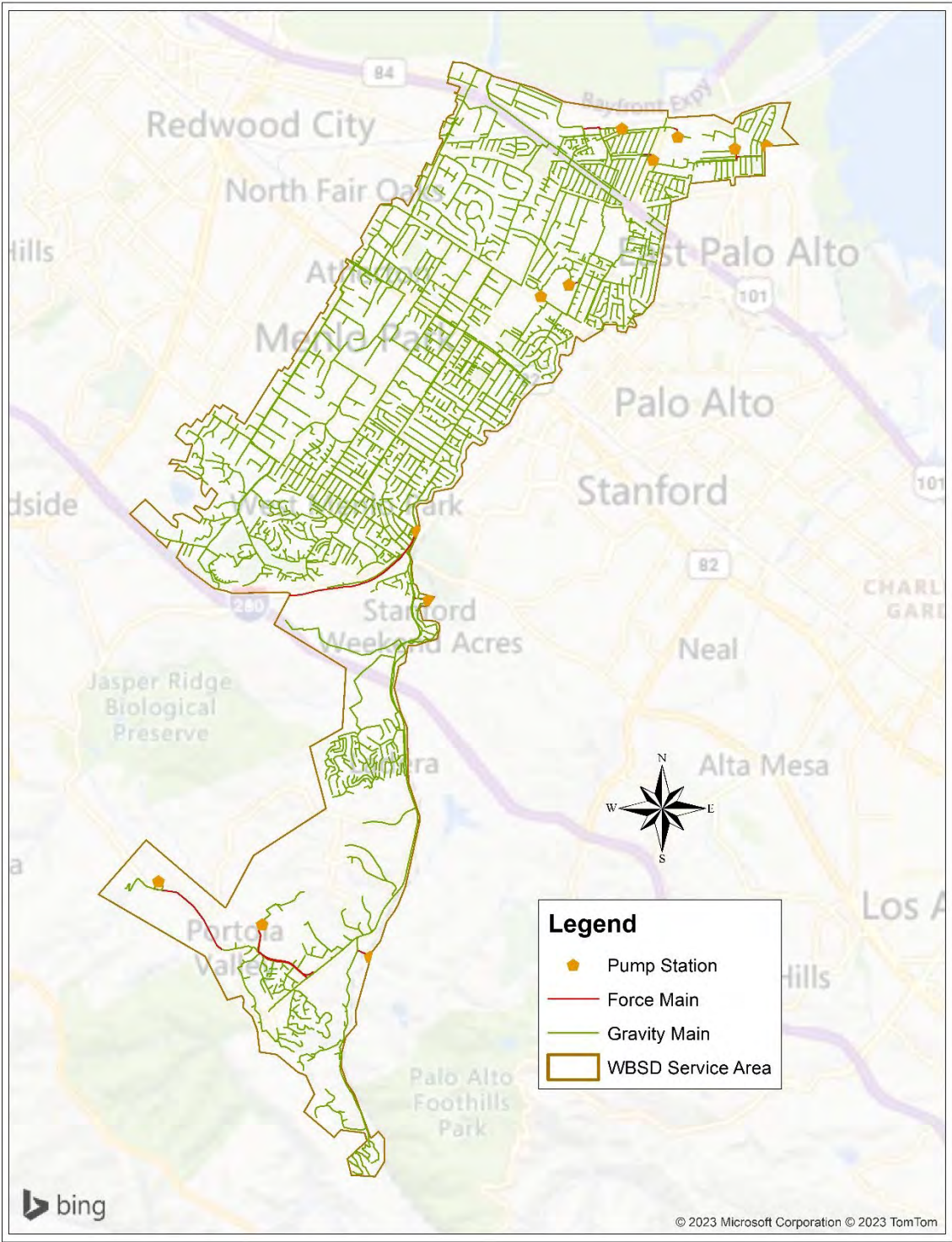
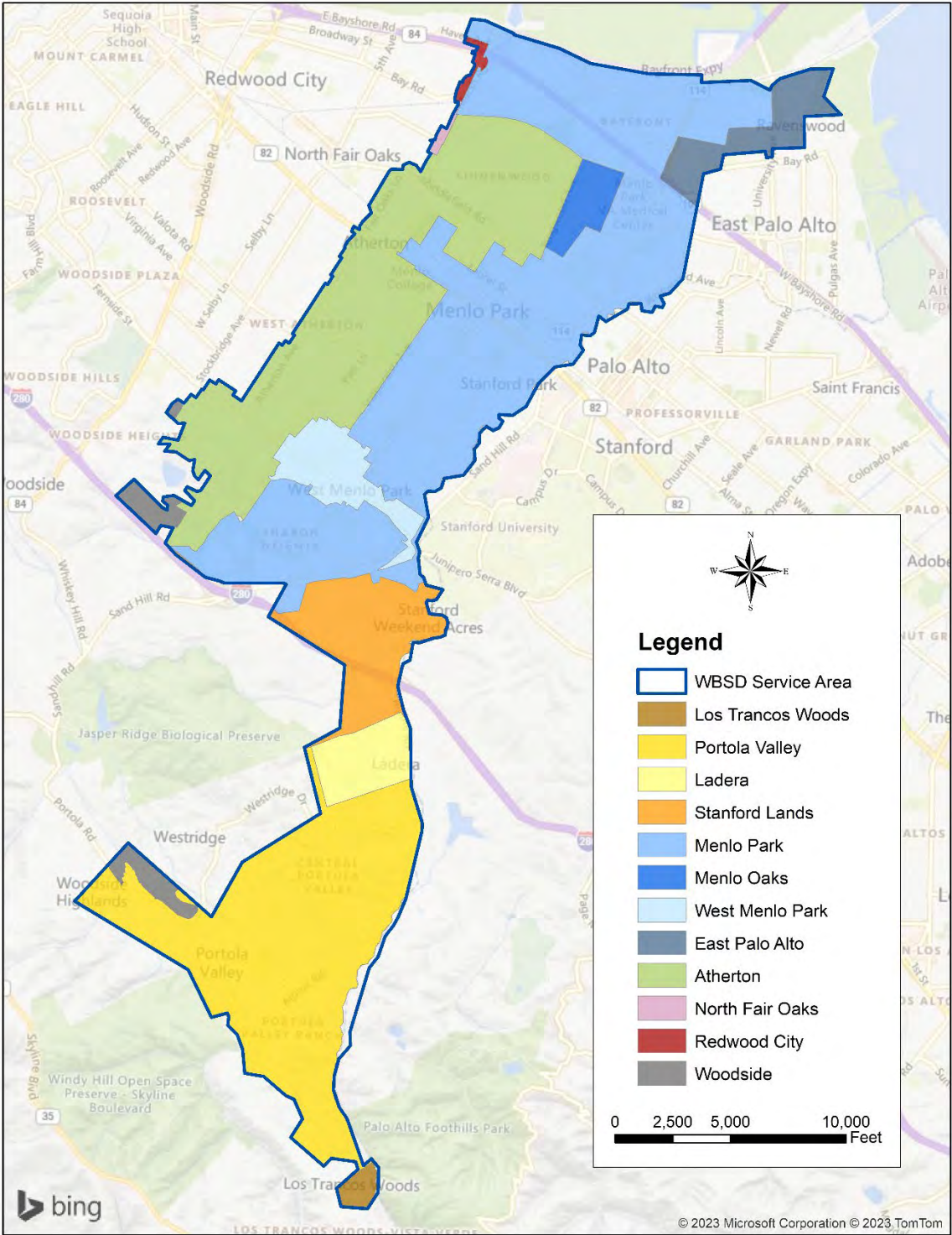


Figure ES.2 Jurisdictions Receiving Wastewater Collection Service from West Bay Sanitary District



Flow terminates at the Menlo Pump Station (“MPS”) near Bayshore Expressway and Marsh Avenue, where it is pumped to the Silicon Valley Clean Water (“SVCW”) wastewater treatment plant for treatment and discharge to the San Francisco Bay.

The District’s gravity pipes range in diameter from 4 to 54 inches. Land use in the District’s service area is primarily residential, with dense business corridors located along El Camino Real and on Santa Cruz Avenue in Menlo Park, and a rapidly-developing commercial area near Highway 101 and the Bayshore Expressway. Figure ES.3 shows the current pipeline inventory sorted by material and Figure ES.4 shows the distribution of land uses.

The District owns several emergency storage basins located within the District’s Flow Equalization and Resource Recovery Facility (“FERRF”), located within Bedwell Bayfront Park, northeast of the Bayshore Expressway. The FERRF storage ponds include an existing pump station that is used to return flows to the MPS.

The District’s average dry weather flow as measured on December 7, 2022 is approximately 3 million gallons per day (mgd). This flow translates to approximately 55 gallons per capita per day.

Figure ES.3 Gravity Sewer Pipeline Inventory and Material of Construction

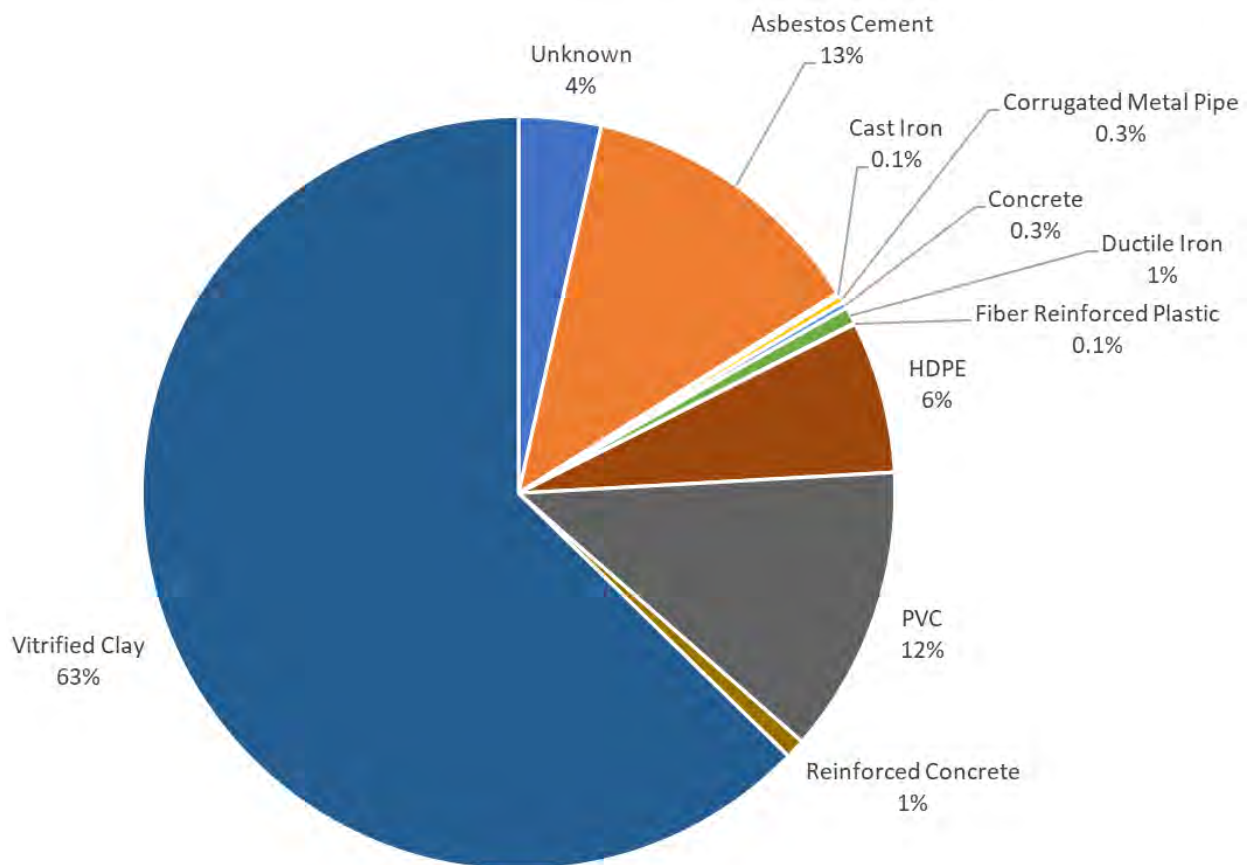
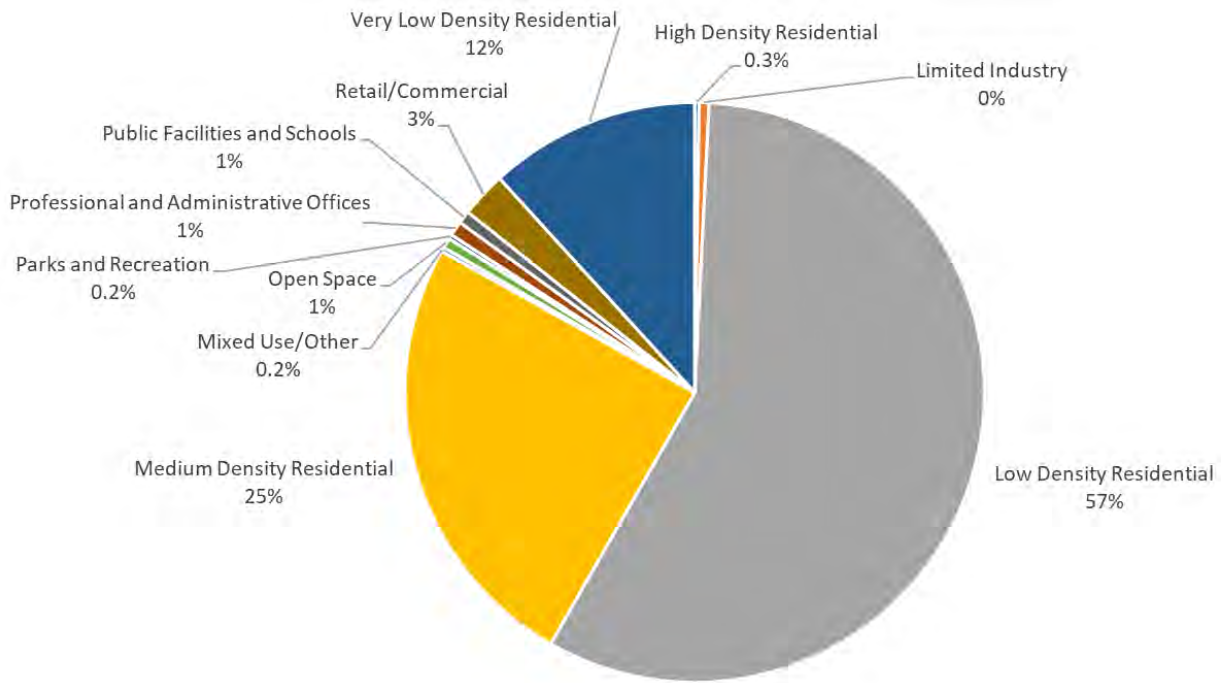


Figure ES.4 Distribution of Land Uses



ES-2 HYDRAULIC MODEL AND CAPACITY ASSESSMENT

The District's hydraulic model is a tool for assessing the flows and capacities of the District's trunk sewers, and for identifying solutions to sewer capacity issues. The hydraulic model is also a tool for performing "what if" scenarios to assess the impacts of future developments, land use changes, and system configuration changes.

ES-2.1 Hydraulic Model Components

The hydraulic model includes the District's trunk sewers and associated facilities. The model also includes some smaller diameter sewers as needed to provide system connectivity or to represent available relief sewers. The hydraulic model applies a sewer flow from each of the District's parcels to the pipe network, simulating dry weather flow. The model then applies wet weather parameters that represent rainfall-dependent inflow and infiltration ("RDII"), thereby introducing the impacts of wet weather flow. Different rainfall events can be applied to the calibrated model to simulate flows in different wet weather conditions.

RDII is the collective description for stormwater and groundwater that enters the sewer system through pipe defects and unpermitted direct connections. Inflow describes water that enters through structures such as roof leaders and private drains, or from holes in manhole covers. Infiltration describes water that enters through defects in pipes, joints, and manhole walls such as cracks, open joints, or breaks.

Figure ES.5, also included as Figure 2.4 in the V&A Flow Monitoring Report (Appendix A), shows common sources of infiltration and inflow.

Figure ES.5 Typical Sources of Infiltration and Inflow

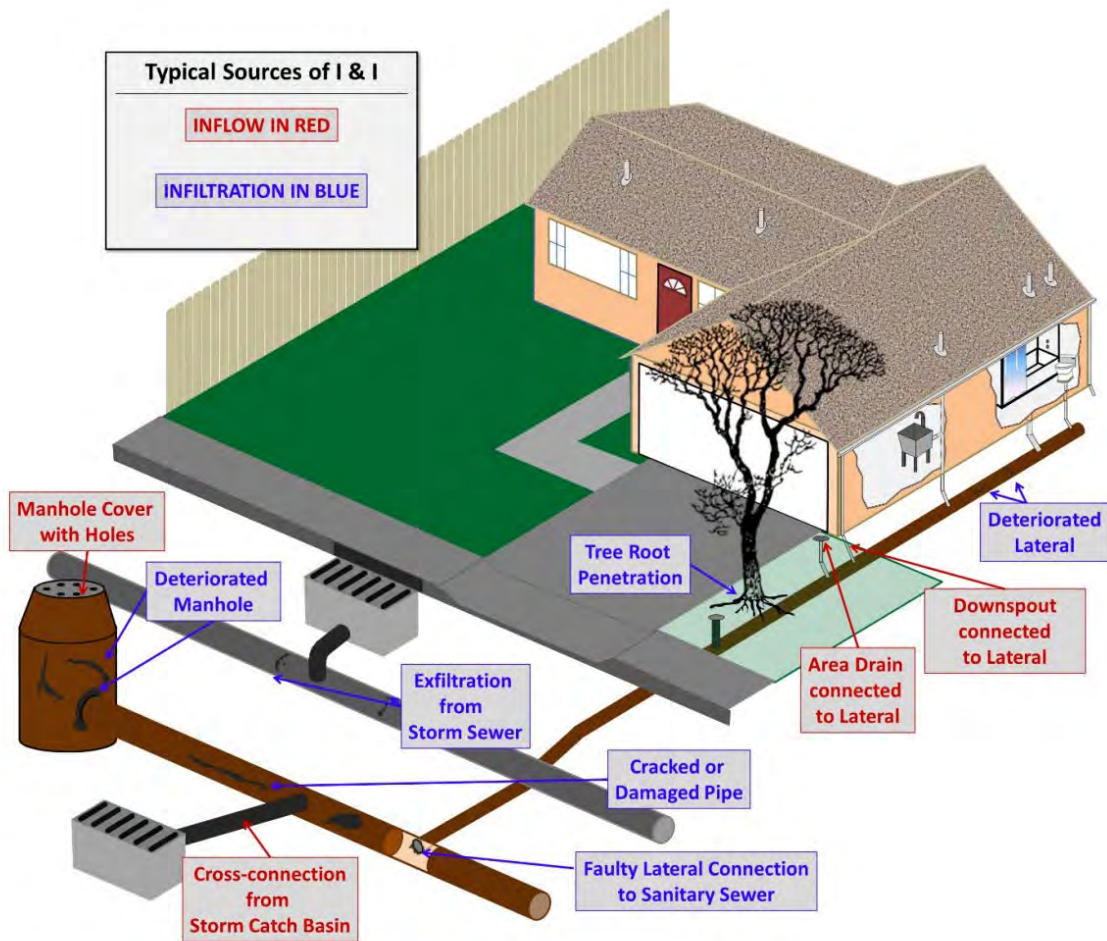


Figure 2-4. Typical Sources of Infiltration and Inflow

ES-2.2 Flow Monitoring Program

From December 15, 2022 through February 12, 2023, the District, through V&A Consulting Engineers, conducted a system-wide flow monitoring program. This program collected flow data using 25 permanent and temporary flowmeters. Figure ES.6 shows the rainfall that was received during the flow monitoring period. Notable rainfall was received on December 10, December 27, and December 31, 2022 and January 9 and 14, 2023. Additional rainfall fell on other dates within this timeframe.

Figure ES.6 - Rainfall Received during 2022-23 Flow Monitoring Period

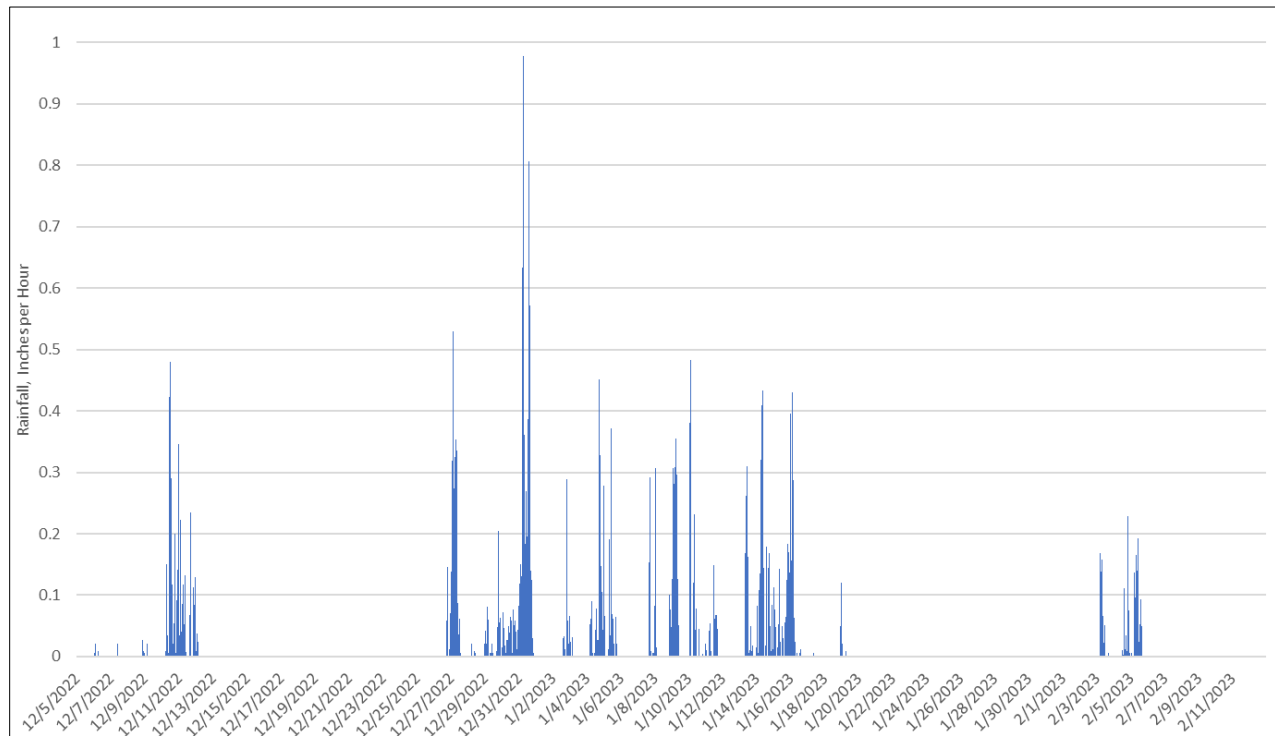


Figure ES.7 on the following page shows the locations of the meters and their associated sewer basins. Dry and wet weather flows for the meters closest to the terminus of the system are shown on Table ES.1. The wet weather peaking factor (“WWPF”) was calculated for each of the five distinct rainfall events by adding measured flows at these locations. WWPF is determined by dividing the peak wet weather flow (“PWWF”) by the average dry weather flow (“ADWF”).

ES-2.3 Capacity Assessment – Gravity Pipelines

The hydraulic model evaluates the predicted capacity of the District’s wastewater collection system under flow loading from a hypothetical design storm. The selected design storm has a recurrence interval of 10 years (*i.e.*, 10 percent probability of occurring in any given year) and duration of 24 hours. Flow characteristics for the 10-year, 24-hour design storm were derived from data that is published by the National Oceanographic Atmospheric Administration (“NOAA”). For comparison, a 10-year, 6-hour design storm was also reviewed.

Figure ES.7 Metered Sewer Basins

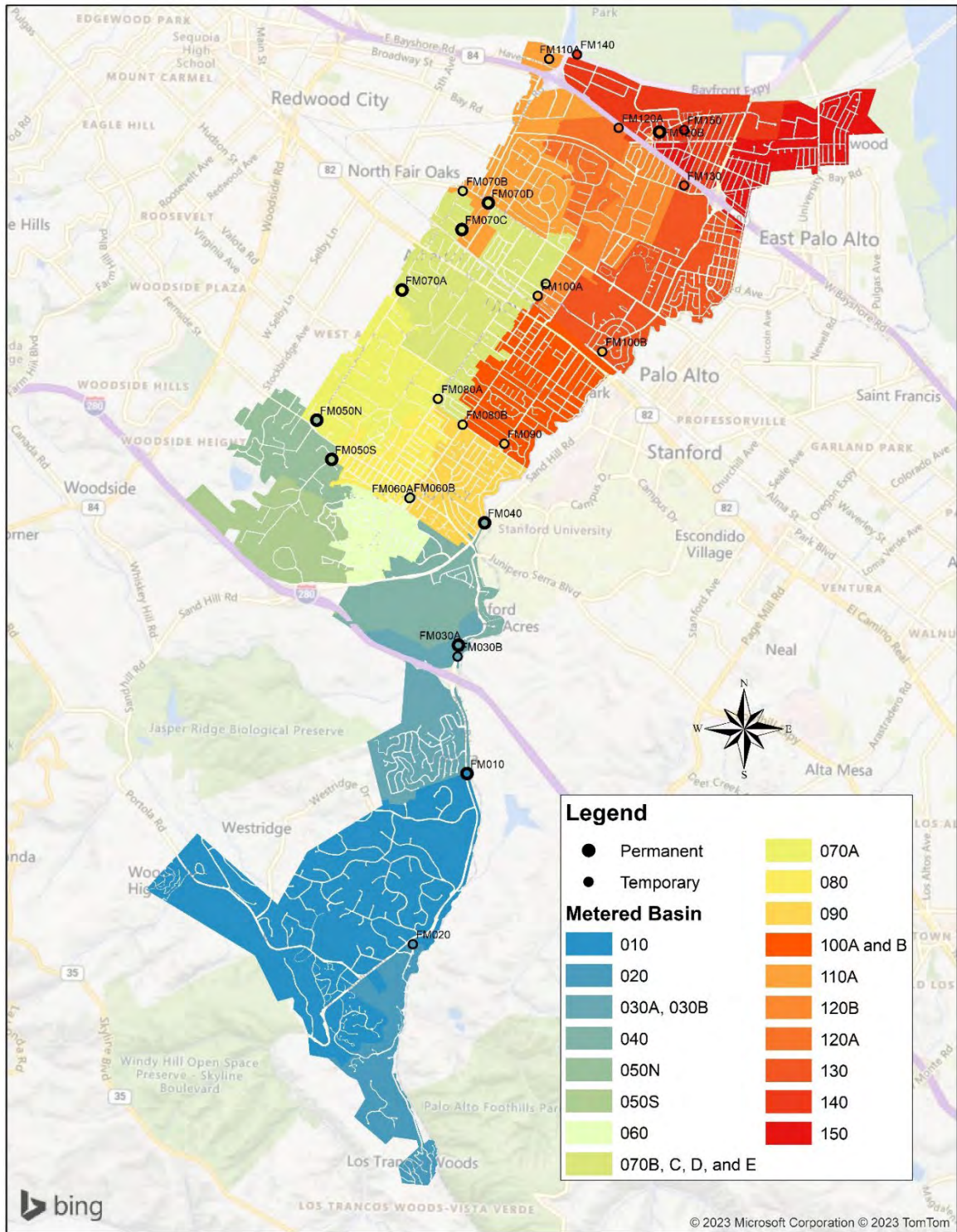


Table ES.1 Rainfall and Measured Flows at Meters 110, 120A, and 140

Monitoring Period ^(Notes 1,2)	Rainfall at FM110 (inches)	FM110 (mgd)	FM140 (mgd)	FM120A (mgd)	Total Flow (mgd)	WWPF
12/07/2022 (ADWF)	0.005	1.01	0.77	0.06	1.8	N/A
12/27/2022 (PWPF)	1.7	2.6	3.1	0.15	5.8	3.2
12/31/2022 (PWPF)	4.4	5.9	6.6	0.43	12.9	7.2
01/09/2023 (PWPF)	1.5	3.3	6.2	0.18	9.7	5.4
01/14/2023 (PWPF)	1.6	3.5	6.1	0.17	9.8	5.4

Note 1: Peak flows may not have occurred during the same timestep for all meters. Therefore, Total Flow may be slightly higher than actual.

Note 2: The WWPF of 7.2 for the 12/31/2022 rainfall event is higher than the District's systemwide WWPF, because the 12/31/2022 event was more severe than the District's design storm.

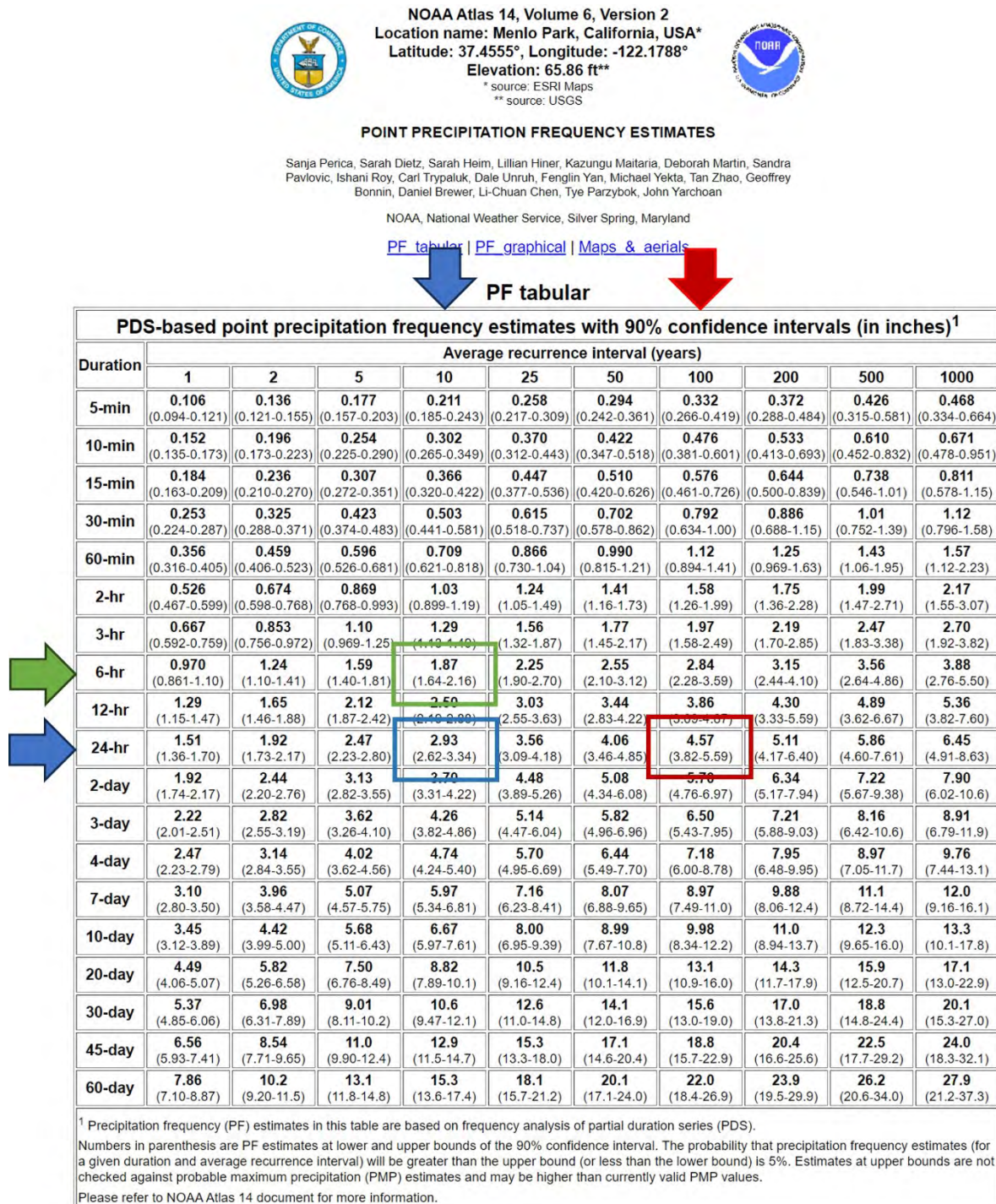
NOAA publishes statistically-derived rainfall depths and distribution profiles for use in assigning a rainfall recurrence event^{2,3}. The NOAA rainfall depth table for the City of Menlo Park is included as Figure ES.8 on the following page. As shown on the table, the most likely rainfall depth for a 10-year, 24 hour rainfall event is 2.93 inches. Similarly, the most likely rainfall depth for a 10-year, 6-hour rainfall event is 1.87 inches. The hydraulic analysis reviewed system performance under both scenarios. After comparing hydraulic model results, the two storms produce similar results, with the 10-year, 24-hour storm being more conservative (i.e., severe). Therefore, the 10-year, 24-hour rainfall event was selected as the District's design storm.

Figure ES.8 also shows the recurrence interval for the rainfall event that occurred on December 31, 2022. This storm, which deposited over 4.5 inches of rain over a 24-hour period, is categorized by NOAA as having a recurrence period of 100-years.

² https://hdsc.nws.noaa.gov/pfds/pfds_map_cont.html?bkmrk=ca

³ https://hdsc.nws.noaa.gov/pfds/pfds_temporal.html

Figure ES.8 NOAA Rainfall Depths for Various Storm Frequencies and Durations



The hydraulic model identified two locations with predicted spills during the design storm. Overall, the design storm did not cause widespread overflow issues within the District's system. The locations with predicted spills during the design storm event are shown on Figures ES.9 and ES.10 on the following

pages and described below.

Location 1 - Downstream of Willow Pump Station (Ivy Drive)

The Willow Pump Station has sufficient capacity to convey incoming flows. However, the hydraulic model predicts a spill at the discharge manhole on Ivy Drive (B12029). This shallow manhole has a depth of approximately 2.5 feet. During the December 31, 2022 rainfall event, the pipes beginning from the MPS and back through Chilco Street and the Ivy Drive easement became surcharged. As a result, the flow that is normally discharged to a gravity pipeline within Ivy Drive could not enter this pipe and was released from the shallow manhole B12029. After the December 31, 2022 rainfall event ended, a locking manhole was installed on structure B12029 to prevent future spills from this location.

The locking manhole is sufficient to prevent spills from this location. However, a long-term solution involves extending the existing force main through Ivy Drive to a termination point on Chilco Street. The existing pipeline on Ivy Drive is located with a San Francisco Public Utilities Commission easement, making replacement of this pipeline difficult or possibly infeasible. The proposed project installs 2,456 lineal feet of 12-inch force main pipe within the existing 15-inch gravity line on Ivy Drive. Larger pumps would be required at Willow Pump Station to convey this flow. Therefore, alternative lining methods and/or a shorter force main extension should be reviewed during preliminary design to lower friction losses and reduce the added load on the pumps.

This is a long-term project, as the issues have been addressed in the near-term through the installation of three sealed manhole covers on structures B12029, B12141, and B12147. The hydraulic profile for the Ivy Drive capacity constraint and predicted spill location are shown on Figure ES.9 on the following page.

Location 2 - Elena Avenue near Park Lane

The District has an existing 8-inch diameter pipe that begins where Camino al Lago turns into Park Lane in Atherton and continues north to Elena Avenue. The pipe continues west on Elena Avenue to Atherton Avenue. This pipe is on the high-frequency cleaning schedule to minimize the potential for surcharging during wet weather events. This pipeline did not have any spills during the December 31, 2022 wet weather event.

The hydraulic model predicts spills from two manholes on this alignment during the design storm. The first spill occurs on Elena Avenue and the second spill occurs on Park Lane. Although these predicted spills have not been observed during heavy rainfall events, they indicate locations where spills are more likely to occur in the future. Therefore, a future project to address the predicted surcharge is recommended for consideration in the long-term CIP.

The recommended project upsizes 4,833 lineal feet of existing pipe on Park Lane and Elena Avenue from 8-inches to 10-inches in diameter. An existing siphon that goes under a creek near Atherton Avenue has a diameter of 10 inches and will not need to be replaced.

Prior to finalizing the scope of work for the Elena Avenue Capacity Improvement Project, it is recommended that District use one or more SmartCovers or other methods to monitor water levels within the alignment during future wet weather events. If the District receives a rainfall event that is similar to the rainfall that was captured during the 2022/23 wet weather season and water levels within the project alignment do not rise as predicted by the hydraulic model, then the project scope can be reviewed and reduced as needed to address field conditions. The hydraulic profile and predicted spill locations are shown on Figure ES.10.

Figure ES.9 Capacity Constraint Downstream of Willow Pump Station

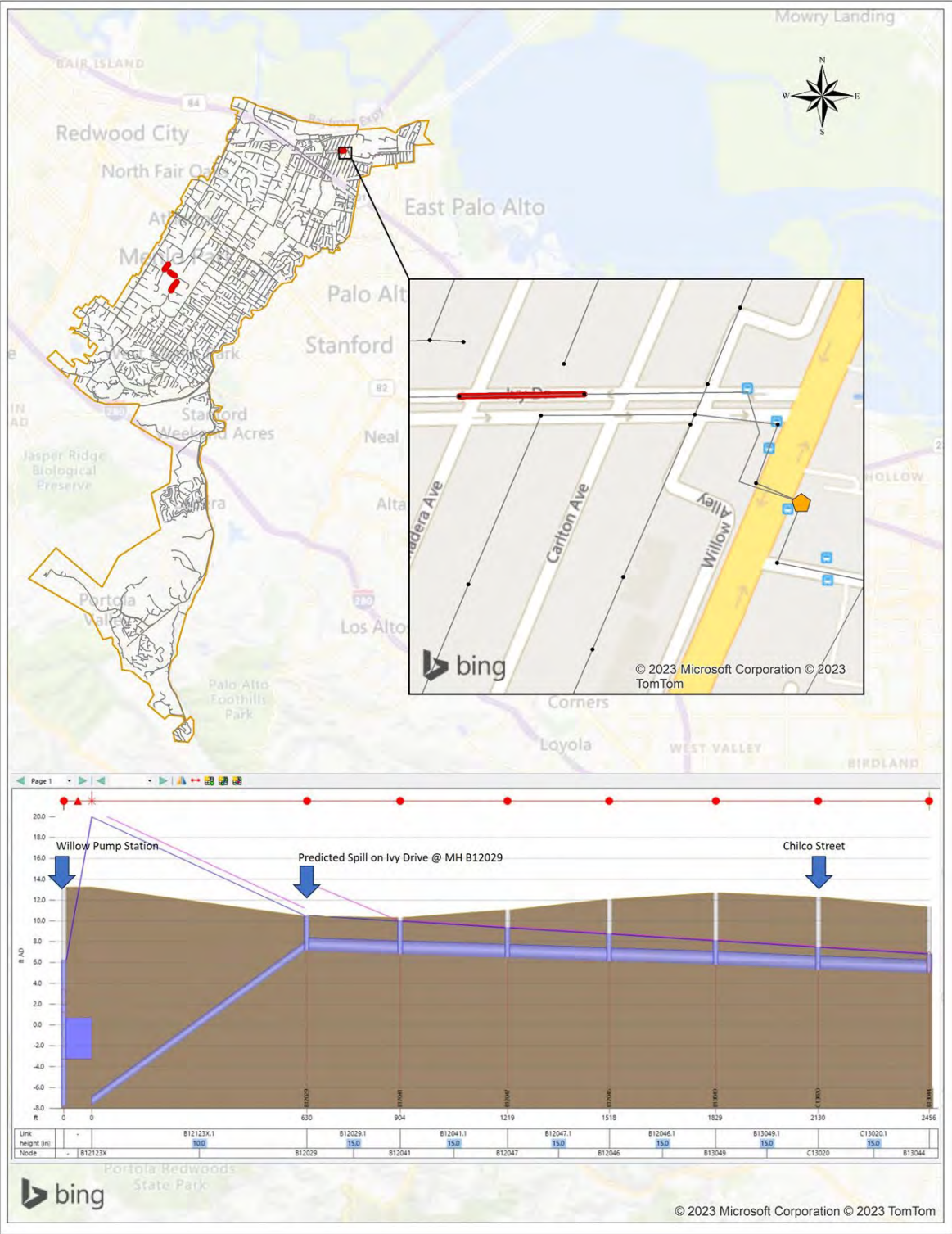


Figure ES.10 Capacity Constraint on Elena Avenue and Park Lane

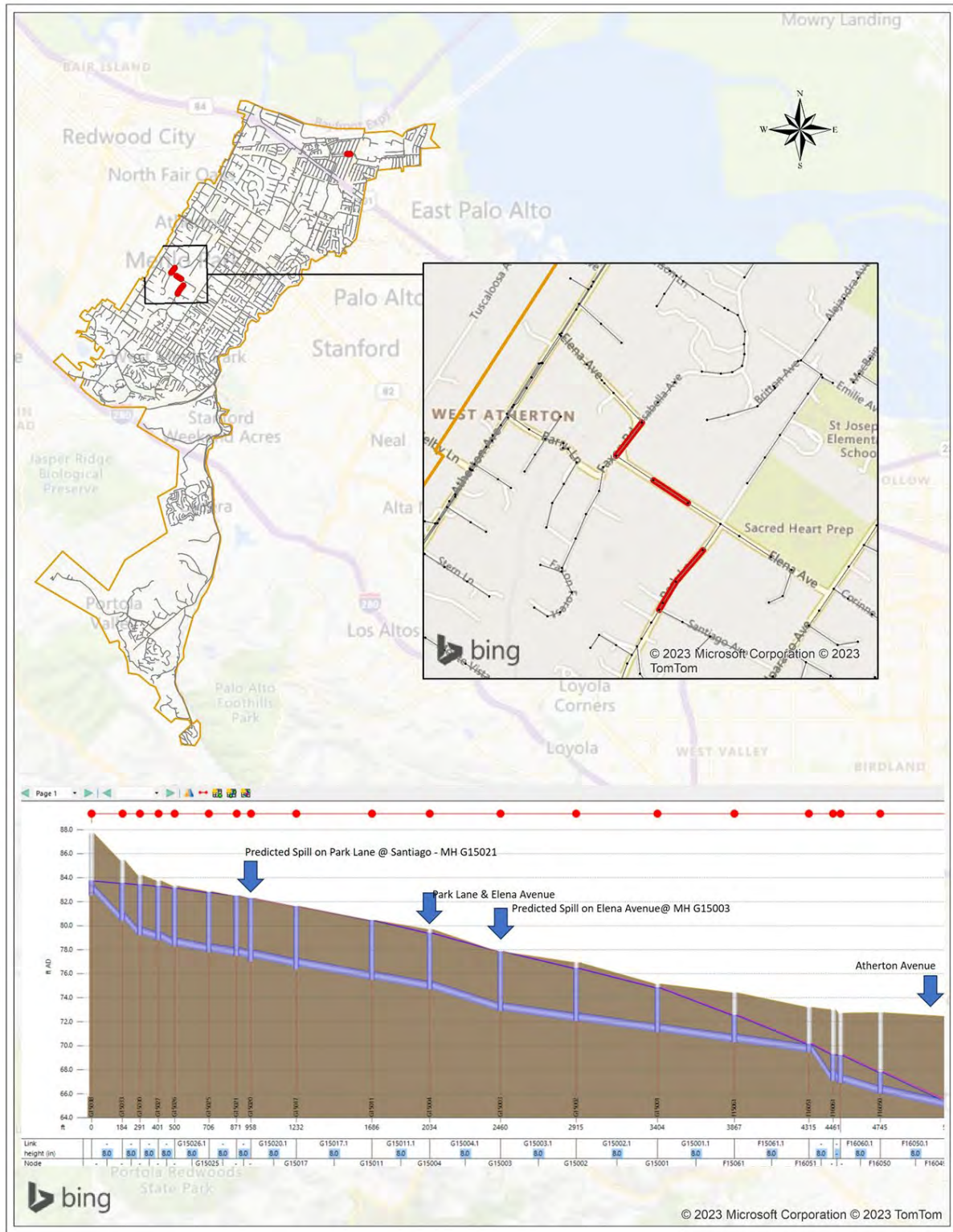


Table ES.2 lists the proposed capacity improvement projects and associated costs.

Table ES.2 Estimated Costs for Capacity Projects

Project Name	Pipe Length (ft)	New Diameter (in)	Construction Cost	Total Project Cost
Willow Pump Station Discharge (Ivy Drive) Capacity Improvement Project	2,456	12	\$1,034,467 +\$50,000 for pump upgrades TBD	\$1,409,807
Elena Avenue Capacity Improvement Project	4,833	10	\$2,827,305	\$3,675,496

Notes:

1. Willow pump sizing will depend on the final length, diameter, and material selected for the extended force main. Costs shown are a placeholder, assuming the force main is extended to Chilco Street.

ES-2.4 Capacity Assessment – Pump Stations

Model-generated flows from the design storm event were compared to firm pump station capacity (i.e., capacity with the largest pump out of service) as provided by the District during model development. Ten of the District’s eleven pump stations were included in the hydraulic model.

All of the District’s pump stations are sufficiently sized to convey design storm flows. However, as discussed above, the gravity sewer directly downstream of the discharge manhole for the Willow Pump Station is not able to convey design storm peak flows without predicted spills and requires a capacity upgrade.

ES-2.5 Review of Statewide Waste Discharge Requirements for Capacity Analysis

The new State Water Resources Control Board Order WQ 2022-103-DWQ (Statewide WDR) became effective as of June 5, 2023. The hydraulic analysis and capacity assessment address most of the requirements of the Statewide WDR without the need for supplemental analysis. However, two items from the Statewide WDR require additional discussion:

- 1) Capacity of systems subject to increased inflow and infiltration (“I&I”) due to larger and/or higher-intensity storm events as a result of climate change; and
- 2) increase of erosive forces in canyons and streams near underground and aboveground system components due to larger and/or higher intensity storm events.

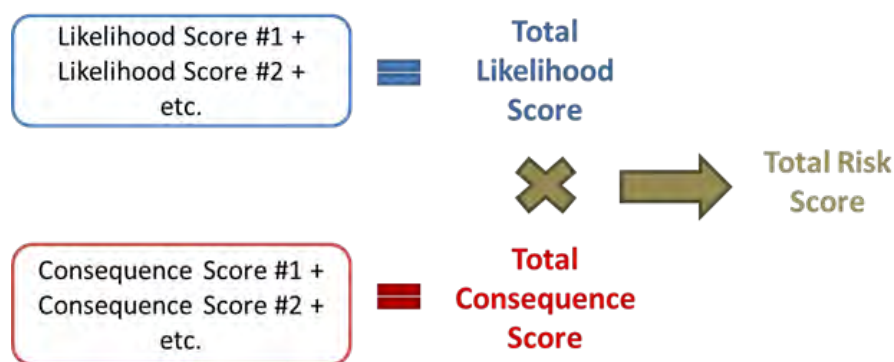
Chapter 5, Capacity Analysis, provides information to address these two topics from the Statewide WDR.

ES-3 LINEAR ASSET MANAGEMENT PLAN

The Linear Asset Management Plan (“LAMP”) identifies gravity sewer pipelines with the highest risk of failure, develops rehabilitation recommendations for these pipelines, estimates costs, and prioritize repairs to assist in capital project planning. The LAMP uses a numerical risk model to assign a Risk Score to every gravity pipe segment. The risk model calculates Risk as a product of Likelihood and Consequence of Failure as shown on Figure ES.11. The LAMP focuses on the District’s linear gravity assets, which include all gravity collector sewers and trunk lines.

Likelihood and Consequence of Failure factors were collected from the District’s asset database, computerized maintenance management system (“CMMS”), publicly available information obtained through the San Mateo County geographic information system (“GIS”) portal, results from the District’s sewer hydraulic model, and sanitary sewer spill data from the California Integrated Water Quality System (“CIWQS”) database.

Figure ES.11 Total Risk Score Calculation



The results from the risk model were analyzed, high risk pipes mapped and grouped, and near- and long-term rehabilitation needs identified. The resulting projects were grouped and prioritized by drainage basin. Conceptual costs were then developed for each of these projects based on the expected repair method. The replacement strategy integrates the District’s current repairs and replacement projects and provides a systematic repair program for the next ten years.

ES-3.1 Likelihood and Consequence of Failure

Likelihood of Failure parameters were selected to most effectively utilize the District’s stored data, and include the following:

- Sanitary sewer spill history (5 years)
- Structural and Operation & Maintenance defects
- Pipe material
- Liquefaction potential and seismic risk
- Pipeline capacity for interceptor pipelines

- Pipe size (i.e., less than 6 inches in diameter)

The Consequence of Failure score is based on parameters that, when adjacent to a failed pipeline, would result an increased impact to the community. Consequence of Failure parameters include the following:

- Proximity to a waterway
- Proximity to a primary or secondary transportation corridor
- Proximity to public facilities, including schools, parks, and hospitals
- Area served, as indicated by pipe size (i.e., greater than 12 inches in diameter)

ES-3.2 Risk Model Results

The Total Risk Scores that were generated by the LAMP model were linked back to their respective pipe segment by the Pipe ID. Risk Scores were grouped by priority, as noted below.

- **Priority 1:** 10 Pipes with structural Grade 5 defects and proximity to a waterway.
- **Priority 2:** Remaining pipes with known Grade 5 defects.
- **Priority 3:** 35 pipes with structural Grade 4 defects and proximity to a waterway.
- **Priority 4:** 261 pipes with at least one structural Grade 4 defect and lower risk profiles.

The District may decide to extend the service life of pipes that have lower-priority Grade 4 defects in parallel with the Capital Improvement Program using pipe patching or other interim repairs.

Table ES.3 lists pipes with NASSCO PACP structural Grade 4 and 5 defects in each basin. The estimated costs for repair and replacement are as follows:

- Priority 1 and Priority 2 Grade 5 Pipes: 101 lines with 25,398 lineal feet of combined length. 10 manholes are also assumed to be replaced. Total estimated cost is \$6,295,000.
- Priority 3 Grade 4 Pipes: 250 lines with 54,193 lineal feet of combined length. 16 manholes are also assumed to be replaced. Total estimated cost is \$9,843,200.
- Priority 4 Grade 4 Pipes: 261 lines with 60,812 lineal feet of combined length. 12 manholes are also assumed to be replaced. Total estimated cost is \$10,128,277.

Table ES.3 CIP Pipes with Structural Grade 4 and 5 Defects by Basin

Basin	Structural Grade 5		High Priority Structural Grade 4		Structural Grade 4 Watch List	
	# of Pipes	Length (ft)	# of Pipes	Length (ft)	# of Pipes	Length (ft)
010	1	185	0	0	4	456
020	0	0	1	217	3	772
030A	7	1446	12	2700	59	11929
040	4	782	4	498	6	1912
050NS	20	5440	6	1142	32	6053
060AB	7	1592	0	0	16	2904
070AB	21	5,037	8	1835	78	19238
070CDE	5	1649	4	1001	33	6440
080AB	4	1182	0	0	30	6820
090	4	961	0	0	42	9956
100AB	10	2590	0	0	47	11498
110A	1	307	0	0	38	9146
120AB	4	1235	0	0	5	6275
130	3	771	0	0	18	4923
140	6	1222	0	0	20	3402
150	4	999	0	0	15	5888
Total	101	25,398	35	7,393	476	107,612
Note: Blue shaded rows are the basins with the Highest Priority pipes having structural Grade 5 defects.						

ES-4 PUMP STATION ASSESSMENTS

The District's pump stations were assessed to review the current condition of the 11 existing pump stations and force mains. District operations staff assisted with the field evaluation. The assessment findings were used to determine the potential for large-scale rehabilitations that may fall outside the scope of the District's proactive pump replacement program. The site assessment included a review of the pump station wet wells and valve vaults, open cabinets, generators, and other above-grade facilities. In addition to the 11 lift stations, the team provided a visual assessment of the FERRF pump station. Table ES.4 summarizes the results from the pump station assessments.

Table ES.4 Pump Station Assessment Summary

Pump Station	Observed Conditions to be Addressed	CIP Project Required?	Existing CIP Projects?
Willow PS	<ul style="list-style-type: none"> - Safety Grates absent - Hatches do not conform to current District Standards - Force mains in need of replacement - Flow meter required - Wet Well Coating required - Odor control required 	Yes	Yes
University PS	<ul style="list-style-type: none"> - Safety Grates absent under wet well hatch - Hatches do not conform to current District Standards 	No	No
Illinois PS	<ul style="list-style-type: none"> - Safety Grates absent under wet well hatch 	No	No
Menlo Industrial PS	<ul style="list-style-type: none"> - No Deficiencies Observed - PS may be replaced for Willow Village Development 	No	No
Hamilton-Henderson PS	<ul style="list-style-type: none"> - Exposed aggregate above water line indicative of hydrogen sulfide corrosion 	Yes	No
FERRF PS	<ul style="list-style-type: none"> - Electrical equipment at end of life - Pumps at end of life - Communications equipment at end of life - Valves and piping show signs of corrosion and may not be routinely exercised 	Yes	No
Vintage Oaks 1 PS	<ul style="list-style-type: none"> - No deficiencies observed 	No	No
Vintage Oaks 2 PS	<ul style="list-style-type: none"> - No deficiencies observed 	No	No
Stowe Lane PS	<ul style="list-style-type: none"> - Dry pit pump configuration - Pumps are in confined space - Aging electrical equipment 	Yes	Yes
Los Trancos PS	<ul style="list-style-type: none"> - No deficiencies observed 	No	No
Sausal Vista PS	<ul style="list-style-type: none"> - No deficiencies observed 	No	No
Village Square PS	<ul style="list-style-type: none"> - No deficiencies observed 	No	No

ES-4.1 Pump Station Recommendations

The District is preparing design documents for improvements to the Willow Pump Station, including a new generator, new piping from the wet well through the valve box, new valves, and wet well coating. The District is also preparing design documents for improvements to the Stowe Lane pump station, including conversion to a submersible pump station and adding a new generator. The costs for these projects are \$1.7M and \$3M for the Willow Pump Station upgrades and Stowe Lane pump station upgrades, respectively.

In addition to these projects, the Master Plan includes a project to install a new wet well lining to the Hamilton-Henderson wet well. The total cost for this improvement is \$77,000.

Budget is also allocated to perform a complete upgrade to the FERRF pump station including replacing existing pump drives and electrical equipment, replacing existing submersible pumps and wet well piping, replacing discharge piping valves, recoating existing piping, lining the existing concrete wet well, and cleaning/recoating the existing metal building. The total cost for an upgraded FERRF pump station is \$1,420,000.

To supplement the pump station improvements, replacement force mains for the oldest force mains at the Willow, University, and Illinois pump stations are recommended for a total combined cost of \$2.1M.

The CIP also includes current facility projects that are planned for completion in the CIP timeframe, such as telemetry upgrades and upgrades to the District's maintenance building.

ES-5 RECYCLED WATER PLAN

In 2014, the District completed a Recycled Water Market Survey and evaluated three conceptual alternatives to serve potential recycled water customers. This effort led to construction of a satellite treatment plant at the SHGCC and recycled water use at the golf course and other potential customers near the golf course. In 2019, the District completed the Bayfront Recycled Water Facilities Plan ("RWFP"), which evaluated projects identified in the Market Survey in the Bayfront area. This plan updated and refined the market assessment and analyze various recycled water project alternatives.

The Bayfront facilities have been planned and are in the 30% design phase. The 2023 Recycled Water Plan that was prepared for this 2023 Master Plan focuses on additional distribution facilities that extend down to the central and southwest portions of the study area to serve new customers including Flood Park, Parkline (SRI International), Menlo-Atherton High School, and Veteran's Administration.

Figure ES.12 on the following page summarizes findings and recommendations from the 2023 Recycled Water Plan.

Recycled Water Overview Map

West Bay Sanitary District (WBSD)
Menlo Park Municipal Water District

Legend

RW Average Annual Demand (MG)

- 0 - 1
- 1 - 5
- 5 - 10
- 10 - 25
- 25 - 85

Legend

- Recycled Water Facility
- Influent Sanitary Sewer Pump Station (IPS)
- Phase 1 Recycled Water Storage Tank (1 MG Total)
- Phase 2 Recycled Water Storage Tank (0.50 MG Total)
- Phase 2 Booster Pump
- Phase 1 Distribution Pipeline
- Existing Distribution Pipeline
- Influent Sanitary Sewer Force Main (SSFM)
- Phase 2 Distribution Pipeline
- Phase 3 Distribution Pipeline
- Potential Phase 3 Looping Pipeline
- Existing Railroad
- HH SFPUC ROW
- City Boundary
- Menlo Park Municipal Water
- California Water Service Company

0 0.5 1 Miles

ES-5.1 Water Demand and Supply

Based on the 2020 Urban Water Management Plan for the Menlo Park Municipal Water District (“MPMW”), the population of the City of Menlo Park served by the MPMW is expected to increase by 65% by 2040. Concurrently, employment in the service area is expected to expand, increasing both overall and nonpotable recycled water demand. MPMW purchases all its water from the San Francisco Public Utilities Commission (“SFPUC”). Demand in the adjacent Cal Water service area is also expected to increase during this time, but not as significantly.

ES-5.2 Potential Recycled Water Customers and Demands

A preliminary recycled water market assessment was conducted as part of the 2014 Market Survey. The 2019 RWFP refined the preliminary recycled water market assessment to consider additional potential potable water customers (existing and future) that were not originally evaluated during the 2014 Market Survey. To supplement the information from the prior studies, a list of approved and pending development projects (Development Projects List) in the study area was provided by the District in May 2023. Figure ES.12 shows the recycled water study area and the location of the various customers described.

The seven largest customer demands and all Phase 2 customers are labeled by name and estimated recycled water average annual demand. Figure ES.12 also shows existing, planned, and proposed recycled water distribution pipeline alignments to service customers in the study area.

Phase 1 includes all planned purple pipe in the Bayfront area, which is currently being designed; Phase 2 includes the proposed orange pipelines that would service Flood Park, Veteran’s Administration, Menlo-Atherton High School, and Parkline (SRI International); and Phase 3 includes additional potential pipe in the Southwest and Eastern portions of the study area. This infrastructure is included for discussion purposes. The purple dashed line is existing recycled water pipe.

The total non-potable demand for each customer is comprised of up to three demand types: irrigation, flushing, and cooling tower demands. Facilities for treating and conveying recycled water are sized based on peak demand periods. Two peak flow situations were defined as criteria for development of the recycled water distribution system in the market assessment: maximum day demand (“MDD”) and peak hour demand (“PHD”).

The potential recycled water customers were categorized into four service regions for the purposes of pipe and pump sizing: Phase 1 - East of Chilco St.; Phase 1 - West of Chilco St.; Phase 2; and Phase 3. Table ES.5 on the following page summarizes the total demand per pipeline service region. Customers that were more than 1,000 feet away from the pipelines were not included in this demand estimate.

Table ES.5 Customer Demands by Pipeline Service Region

Pipeline Service Region	RW Average Annual Demand (AFY)	RW Average Annual Demand (MG)	RW Average Daily Demand (MGD)
Phase 1, Northwest Area (Bayfront), West of Chilco Street ¹	81.40	26.53	0.07
Phase 1, Northeast Area (Bayfront), East of Chilco Street ¹	466.93	152.15	0.42
Total Phase 1	548.33	178.64⁴	0.49
Phase 2, Central Area ²	182.55	59.48	0.16
Total Phase 1 and 2	730.89	238.16	0.65
Phase 3, Southwest and Eastern Area ³	199.71	65.08	0.18
Total Phase 1, 2, and 3	930.60	303.24	0.83

Notes:

1. Area north of Highway 101.
2. Extending south of Highway 101 down Ringwood Ave. to connect to Parkline (SRI International).
3. Extending farther south and west to customers surrounding Downtown Menlo Park and east along Middlefield Road and Willow Road.
4. The recycled water demand for Phase 1 in this table is larger than the demand listed in the 2021 update, because the amount in this table includes two customers from the 2019 RWFP and some additional customers from the 2023 Development Projects List.

ES-5.3 Recycled Water Quality Requirements

Potential irrigation customers have different water quality needs according to their intended use. Water quality guidelines for landscape use are well established, with different degrees of restriction for various water quality constituents for the use of recycled water in landscaped irrigation. Except for nitrogen, the constituents that impact landscaping are not removed by conventional wastewater or tertiary treatment processes. Therefore, recycled water constituent levels are likely to be similar to the source wastewater constituent levels.

The satellite treatment project requires diversion of wastewater flow from the existing collection system to the new treatment facilities. The two main conduits for wastewater to the potential plant location at the FERRF are the 24-inch sewer on Haven and the 54-inch sewer on Kelly Park. Water quality sampling and flow monitoring at these two locations were used to develop conceptual treatment options for the future recycled water plant. Based on the results, recycled water treatment technologies were evaluated, including use of a filter bed, microfiltration, and ultrafiltration for the filtration method, combined with UV disinfection. In summary, the water supply from the Haven supply provided higher quality influent than the water supply from the Kelly Park supply.

ES-5.4 Recycled Water Project Components

Using the information described above, conceptual production and distribution facilities for the Phase 2 recycled water project were developed as follows:

- Influent conveyance system: Influent pump station, force main, and equalization. Raw wastewater would be pumped from a new manhole at Marsh Road and Bayfront Expressway, diverting flow from the existing 36-inch sewer to the satellite treatment plant.
- Water recycling facility (WRF): Grit removal, screening, MBR, UV, chlorination, de-colorization. The WRF would be sized to meet the max day demand and would operate as a dry weather satellite plant – operating at a constant flow rate over 24 hours a day for 8 months of the year and at half capacity for 4 months of wet weather to maintain the biological processes.
- Waste return pump station and force main. Grit and screenings produced at the facility would be washed, compacted, and hauled offsite for disposal. Waste sludge and the de-colorization waste product would be discharged by force main to an existing 30-inch sewer and conveyed to SVCW.
- Recycled water distribution system: storage, pump station, and pipelines. The recycled water distribution system would be sized to meet peak hour demand. Recycled water storage would be provided to collect excess supply during periods of low demand so that sufficient supply is available on demand.

The Phase 1 Project (Bayfront Project, Currently in Design Phase) involves the construction of an influent pump station to divert wastewater from the District's collection system, approximately 4,900-LF of influent pipeline, a satellite MBR/UV treatment facility to treat and ultimately produce a maximum daily flow of 0.6 MGD (for Bayfront Project only), and recycled water distribution system including a recycled water storage tank, recycled water pump station, and approximately 30,800-LF of distribution pipeline (approximately 27,400-LF planned and 3,400-LF existing) to various customers.

The Phase 2 Project described in this Master Plan would involve the construction of a booster pump station at the intersection of Terminal Ave and Del Norte Ave, where the Phase 2 pipeline begins, to divert recycled water from the Phase 1 system to the Phase 2 system, approximately 18,800-LF of distribution pipeline (approximately 15,700-LF proposed and 3,100-LF existing) to various customers, and a 0.5 MG storage tank. This project would deliver an estimated total of 930 AFY (Average Annual Demand) for irrigation, cooling towers, and other indoor uses.

The Phase 2 Project would divert wastewater from the 36-in sewer pipeline near the intersection of Bayfront Expressway and Marsh Road and pump the wastewater to the Bayfront satellite treatment facility. The treatment facility includes grit removal and fine screening, biological reactor tanks, MBR treatment system, UV disinfection, de-colorization and all appurtenances required for a fully functional treatment system. The product water would be stored in a recycled water tank and a distribution pump station would be used to deliver recycled water to customers. Distribution from the satellite treatment facility to customers would be through an 8-inch pipeline.

The possible future Phase 3 Project, would likely involve construction of approximately 38,500 lineal feet of additional distribution pipeline to various customers, 18,800 lineal feet of additional pipeline for possible looping purposes, and two additional pumps.

ES-5.5 Potential Recycled Water Project Cost Estimate

Table ES.6 on the following page summarizes the estimated cost for the Phase 2 facilities. Costs for Phase 3 are included for reference only. The Phase 1 facilities (the Bayfront Project) are not included in this estimate because, while not yet built, they have already been financed and are currently in the 30% design phase.

Table ES.6 Estimated Recycled Water Project Costs

Description	Phase 2 ¹	Phase 2 and 3 ¹
Influent Facilities (Pump Station and Pipeline) ²	\$-	\$-
Treatment Facilities ²	\$-	\$-
Distribution Facilities (Pump Station, Storage Tank, and Pipeline)	\$9,720,000	\$28,211,000
Raw Construction Cost	\$9,720,000	\$28,211,000
Construction Contingency (30% of Raw Construction Cost)	\$2,916,000	\$8,464,000
Total Construction Cost	\$12,636,000	\$36,675,000
Implementation Cost	\$3,664,000	\$10,636,000
Total Capital Cost	\$16,300,000	\$47,300,000
Annual Cost of Distribution Facilities	\$64,000	\$163,000
Annual Treatment Cost	\$500,000	\$1,000,000
Annual Cost of Power	\$16,000	\$33,000
Annual Labor Costs	\$18,000	\$18,000
Total Annual O&M	\$598,000	\$1,214,000
Annualized Total Project Cost ³	\$887,000	\$2,572,000
Annual O&M Costs	\$598,000	\$1,214,000
Annual Recycled Water Cost	\$7,000	\$9,000
Total Annualized Cost	\$1,492,000	\$3,795,000
Estimated Recycled Water Yield (AFY)	183	382
Unit Cost, Annualized (\$/AF)	\$8,200	\$9,900

Notes:

1. Planning level estimate; costs are in September 2023 dollars.
2. These costs are not included because they are considered part of Phase 1 (the Bayfront Project).
3. Annualized at 30 years, 3.5%.

ES-5.6 Schedule and Critical Path for Implementation

Full implementation of the Phase 2 project is anticipated to take approximately 10 years and implementation of the Phase 2 pipe will occur simultaneously with the sewer improvements associated with new development. In summary, all the preliminary studies required to further refine the project need to be completed in order to: 1) prepare the Engineering Report for DDW; 2) initiate environmental documentation; and 3) refine project cost estimates. The environmental documentation should be completed in parallel with the Engineering Report.

Several permits are necessary for the implementation of the Phase 2 project. Foremost, the District would need to obtain an individual Water Reclamation Requirement permit from the San Francisco Bay Regional Water Quality Control Board to cover the production of recycled water. A Title 22 Engineering Report would also be needed to satisfy SWRCB Division of Drinking Water requirements. In addition, standard construction permits including encroachment and air quality permits would be required. Depending on whether MPMW or the District decides to be the recycled water purveyor, that agency would need to enroll under the State Water Resources Control Board General Order WQ 2016-0068-DDW for permit coverage of the distribution and use of recycled water.

All public projects in California must comply with the California Environmental Quality Act (“CEQA”). Based on a preliminary review, it is likely that the District can prepare a Mitigated Negative Declaration for the project to meet CEQA requirements. A Mitigated Negative Declaration is allowed if an Initial Study determines that impacts can be reduced to less than significant levels with implementation of mitigation measures.

In addition to CEQA, a project is subject to the National Environmental Policy Act (“NEPA”) if it is jointly carried out by a federal agency, requires a federal permit, entitlement, or authorization, requires federal funding, and/or occurs on federal land. The State Water Resources Control Board (“SWRCB”) State Revolving Fund (“SRF”) loan program is partially funded by the U.S. Environmental Protection Agency and, as a result, requires additional environmental documentation beyond CEQA – but not as extensive as NEPA – that is referred to as “CEQA-Plus.”

From a project funding and financing perspective, CEQA certification is the critical path for gaining preliminary approval for grant funding and low-interest loans from the SWRCB. From a project start-up perspective, the Engineering Report approval is the critical path for acquiring a recycled water permit from the San Francisco Bay Regional Water Quality Control Board (“RWQCB”), which is needed prior to start of operations. CEQA certification is also needed before the RWQCB can issue the tentative permit.

Design of the infrastructure improvements would continue after completion of the relevant preliminary studies in coordination with CEQA and permitting efforts. Applications for funding and stakeholder/public outreach efforts would occur over the lifetime of the project.

ES-5.7 Financing Plan

This section discusses potential funding sources for the Recommended Project, the construction financing plan, and associated cash flow over the implementation period. Typically, recycled water projects are financed through a combination of grants, partnerships relative to project benefits, and the SWRCB SRF. There are also several bond measures currently in development in the California State Legislature that

may provide additional funding streams.

Other potential funding opportunities are possible for this project, including the following:

- US Bureau of Reclamation (USBR) WaterSMART: Title XVI Water Reclamation and Reuse Program. The Bureau of Reclamation offers three categories of WaterSMART Grants through separate funding opportunities. Water and Energy Efficiency Grants, the primary category of funding under WaterSMART Grants, provide funding of up to \$500,000 for projects to be completed within two years, up to \$2 million for projects to be completed within three years; and up to \$5 million for projects to be completed within three years, with a non-Federal cost share of 50% or more of the total project cost.
- SWRCB CWSRF / Water Recycling Funding Program (WRFP). The SWRCB administers the Water Recycling Funding Program and CWSRF loans. The Water Recycling Funding Program (WRFP) has approximately \$231.4 million in state-sourced grant funds and approximately \$21.7 million available in state-sourced loans for construction projects. In addition, the SWRCB administers the CWSRF Loan Program, which offers low-interest loans to eligible applicants. CWSRF loans typically have a lower interest rate than bonds loans are paid back over 20 or 30 years. Annually, the CWSRF program disburses \$200 million to \$300 million to agencies in California. Finally, the SWRCB administers a grant program to cover construction of recycled water facilities. A construction grant can cover 35% of eligible construction costs up to \$15 million, including construction allowances. To be eligible to receive grant funds, at least a 50% local cost share match must be provided.
- California Infrastructure and Economic Development Bank (I-Bank) Infrastructure State Revolving Fund (ISRF) Program. The ISRF Program provides low-interest loan financing to public agencies for a wide variety of infrastructure projects. Funding is available in amounts up to \$25 million with loan terms up to 30 years. The interest rate is set at the time the loan is approved. Applicants must demonstrate project readiness and feasibility to complete construction within two years after I-Bank loan approval. Additionally, eligible projects must promote economic development and attract, create, and sustain long-term employment opportunities. There is no required match; however, there is a one-time origination fee of 1% of the ISRF financing amount or \$10,000, whichever is greater.

ES-5.8 Additional Considerations

Nonpotable reuse, as envisioned in the Bayfront area and beyond allows for the highest and best use of the District's water resource. Centralized treatment for IPR and DPR is being investigated now by SVCW for advanced treatment associated with the SVCW Regional Wastewater Treatment Plant in Redwood City. In partnership with the City of San Mateo, the SFPUC, the water wholesaler for much of the region, and with Cal Water, a retailer in much of the SVCW and San Mateo Service areas, the Crystal Springs Purified Water project is being developed and may bring the opportunity for District to receive some of those regional benefits. These future opportunities will allow the District to potentially repurpose some of its nonpotable recycling treatment and distribution assets. In the meantime, investment in nonpotable reuse treatment and distribution in the District's service area provides for the best short-term, and potentially long-term, utilization of this precious wastewater resource.

ES-6.0 CAPITAL IMPROVEMENT PLAN

The Capacity Assessment (Chapter 5), Linear Asset Management Plan (Chapter 6), Pump Station Assessment (Chapter 7), and Recycled Water Program (Chapter 8) each evaluated infrastructure needs for the next 10 years and developed proposed recommendations, priorities, and costs. These projects, priorities, and costs are summarized in Table ES.7. The basis behind each of the projects is discussed in further detail within each respective chapters in this Master Plan.

All costs are presented in current dollars and indexed to Engineering News Record (“ENR”) Construction Cost Index (“CCI”), San Francisco, October 2023, 15473.38.

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Table ES.7 Capital Improvement Plan

	Project	Project Cost		2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	Future
LAMP Projects	L.1. Near-term Pipe Repair Projects	\$8,000,000		\$4,000,000	\$4,000,000									
	L.2. Grade 5 Priority Basins 010, 030, 040, 050, 070AB													
	L.2.1. Priority 1 Grade 5 Defects	\$284,300		\$284,300										
	L.2.2. Priority 2 Grade 5 Defects	\$3,651,000		\$730,200	\$2,190,600	\$730,200								
	L.2.3. Contiguous Grade 4 Defects	\$2,175,200		\$435,000	\$1,305,100	\$435,000								
	L.3. Grade 5 Basins 020, 060, 070CD, and 080 through 150													
	L.3.1. Priority 2 Grade 5 Defects	\$2,229,700				\$2,229,700								
	L.3.2. Contiguous Grade 4 Defects	\$672,900				\$672,900								
	L.4. Grade 4 Basins 020, 030, 040, 050, 070													
	L.4.1. Priority 3 Grade 4 Defects	\$1,340,000					\$1,340,000							
	L.4.2. Other Grade 4 Defects	\$5,925,900						\$5,925,900						
	L.5. Grade 4 Basins 010, 060, 080, 090 through 150													
	L.5.1. Other Grade 4 Defects	\$9,493,400						\$3,164,500	\$6,328,900					
	L.6. Future Repairs and Replacements (1.5% per year)	\$40,282,900							\$3,021,200	\$10,070,700	\$10,070,700	\$10,070,700	\$10,070,700	
	L.7 Middle Undercrossing	\$500,000			\$500,000									
Capacity Improvements	C.1. Willow PS Discharge (Ivy Drive) Capacity Improvements													
	C.1.1. Interim Solution	Completed												
	C.1.2. Convert Gravity Main to Extended Forcemain	\$1,409,800			\$704,900	\$704,900								
	C.2. Elena Ave and Park Lane Capacity Improvements													
	C.2.1. Flow/Level Monitoring	\$15,000		\$15,000										
	C.2.2. Upsize Pipe to 10" on Elena Avenue and Park Lane	\$3,675,500					\$3,675,500							
Pump Station Improvements	P.0 Pump Station Telemetry Project	\$600,000		\$600,000										
	P.1 Willow Pump Station Near-Term Improvements	\$1,700,000		\$1,700,000										
	P.2 Stowe Lane Pump Station Improvements	\$3,000,000		\$3,000,000										
	P.3 Hamilton Henderson Wetwell Lining	\$77,000			\$77,000									
	P.4 FERRF Pump Station Improvements	\$1,420,000			\$142,000	\$1,278,000								
	P.5 Willow, University, and Illinois Forceman Replacements	\$2,078,000			\$1,039,000	\$1,039,000								
Other	Maintenance Building Upgrades	\$7,000,000				\$3,000,000	\$4,000,000							
	Total without Recycled Water	\$47,647,700	Prior Allocation	\$10,164,500	\$9,958,600	\$10,089,700	\$9,015,500	\$9,090,400	\$9,350,100	\$10,070,700	\$10,070,700	\$10,070,700	\$10,070,700	
Recycled Water Projects	Bayfront Phase 1 Treatment	\$66,700,000	\$66,700,000											
	Recycled Water Phase 2	\$16,300,000					\$2,328,600	\$2,328,600	\$2,328,600	\$2,328,600	\$2,328,600	\$2,328,600	\$2,328,600	
	Recycled Water Phase 3	\$31,000,000												\$31,000,000
	Total with Recycled Water	\$94,947,700		\$10,164,500	\$9,958,600	\$10,089,700	\$11,344,100	\$11,419,000	\$11,678,700	\$12,399,300	\$12,399,300	\$12,399,300	\$12,399,300	\$31,000,000

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CHAPTER 1 EXISTING INFORMATION

The West Bay Sanitary District (“District”) owns, operates, and maintains a wastewater collection system and a recycled water treatment facility and distribution system. The District has compiled a comprehensive library of documents that describe these assets, including a computerized maintenance management system (“CMMS”), a computerized hydraulic model of the wastewater collection system, geographical information system (“GIS”) maps, and paper and/or electronic records documenting system evaluations, repairs, replacements, new construction, operations, and maintenance. To supplement the District’s information, other agencies within the District’s service area maintain related information including but not limited to development plans, land use, potential recycled water customers, paving projects, and water usage. The purpose of this Technical Memorandum (“TM”) is to document the reports and other documents and data that were used to prepare the 2023 Master Plan update.

This Chapter is organized as follows.

1.1 Description of Existing Service Area

1.2 Summary of Existing Information

1.1 EXISTING SERVICE AREA

West Bay Sanitary District provides wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and portions of East Palo Alto, Woodside, and unincorporated San Mateo and Santa Clara counties as shown on Figures 1.1 and 1.2 on the following pages. Wastewater is conveyed from wooded, hilly, residential areas in the south to a relatively flat and industrial area that borders the San Francisco Bay on the north. The District has approximately 220 miles of gravity sewers and 11 pump stations that pump flow through approximately 10 miles of force main or pressurized pipes⁴.

During dry weather months, the District diverts system flows in varying quantities from a location near Sand Hill Road and Oak Avenue in Menlo Park and treats this flow to recycled water standards to serve the Sharon Heights Golf and Country Club (“SHGCC”). During the non-irrigation months, a smaller volume of water must still be diverted from the system and treated by the SHGCC recycled water plant in order to maintain plant operations. These flows are then discharged back into a different part of the wastewater collection system on the north side of the SHGCC.

⁴ Asset information from California Integrated Water Quality System (“CIWQS”) public reports (Interactive SSO Report). <https://www.waterboards.ca.gov/ciwqs/publicreports.html>

Figure 1.1 West Bay Sanitary District Service Area and Pipeline Assets

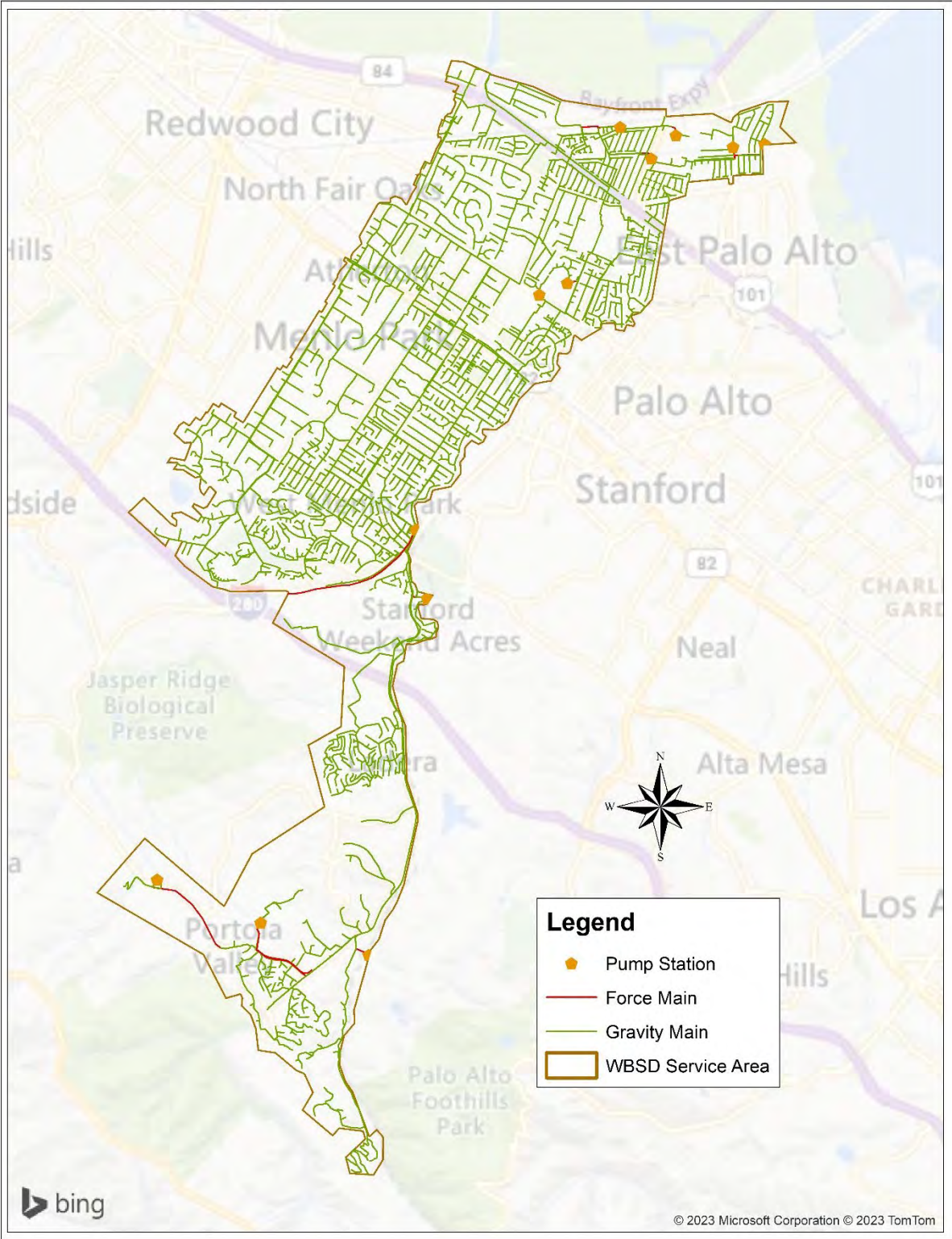
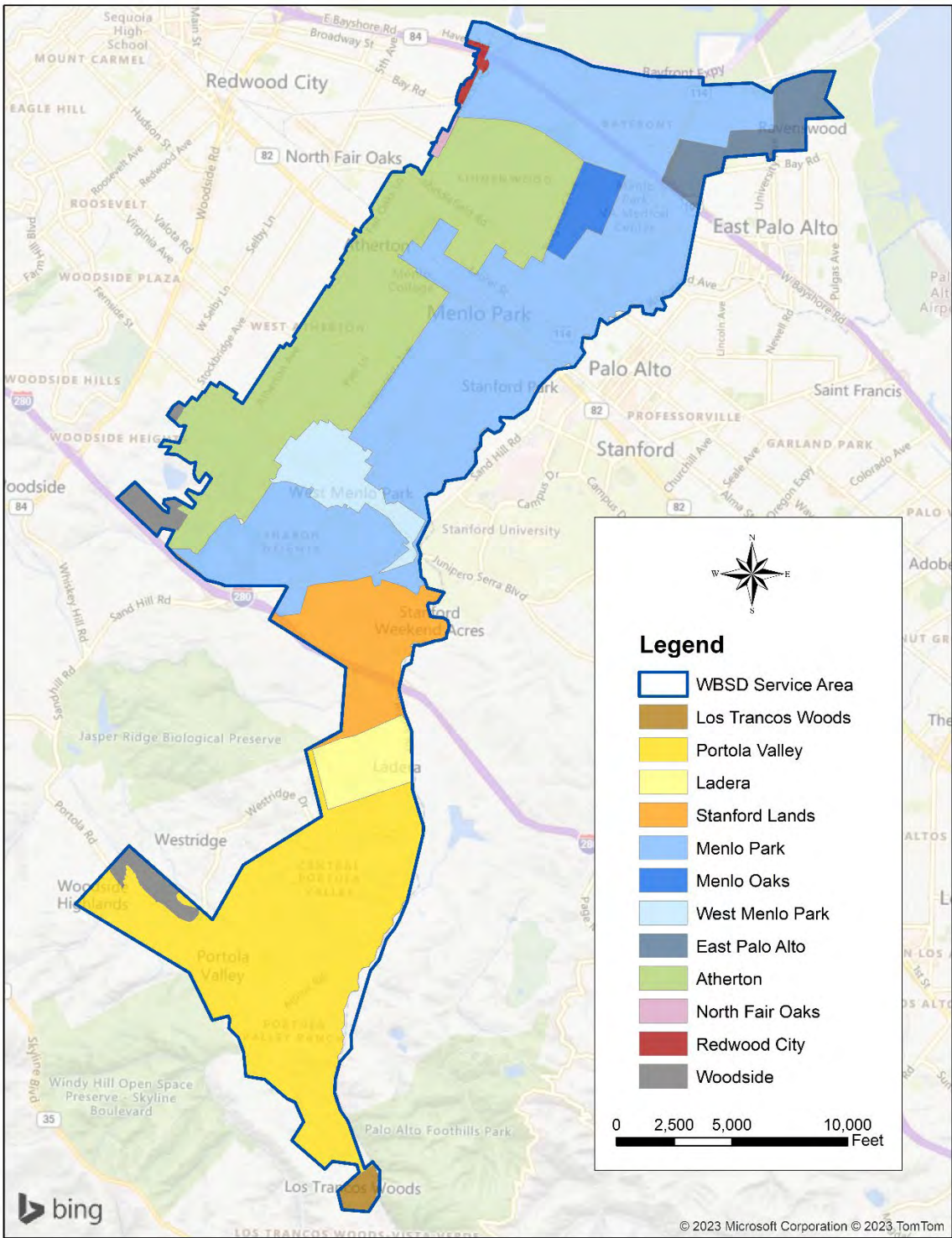


Figure 1.2 Jurisdictions Receiving Wastewater Collection Service from West Bay Sanitary District



Wastewater flow terminates at the Menlo Pump Station (“MPS”) near Bayshore Expressway and Marsh Avenue, where it is pumped to the Silicon Valley Clean Water (“SVCW”) wastewater treatment plant for treatment and discharge to the San Francisco Bay. SVCW owns and maintains the MPS.

The District owns several emergency storage basins located within the District’s Flow Equalization and Resource Recovery Facility (“FERRF”), located within Bedwell Bayfront Park, northeast of the Bayshore Expressway. The FERRF storage ponds include an existing pump station that is used to return flows to the MPS. The District has the ability to divert flow from the MPS to the emergency storage basins during peak flow periods, or during maintenance of the MPS and its associated force main. Currently, the FERRF pump station is operated and maintained by SVCW. After SVCW completes construction of the SVCW plant expansion, responsibility for operation and maintenance of the FERRF pump station will revert to the District.

The District’s average dry weather flow as measured on December 7, 2022 is approximately 3 million gallons per day (mgd). On December 7, 2022, 218,120 gallons of flow was pumped from the system for treatment at the SHGCC recycled water plant. 184,810 gallons of flow was returned to the system from the recycled water plant on the same day.

1.2 SUMMARY OF EXISTING INFORMATION

This section describes existing information that was reviewed and utilized in the development of the 2023 Master Plan.

1.2.1 Prior District Studies, Documents, and Data

The following information was provided by the District and/or the District’s consultants for the 2023 Master Plan update.

Prior District Studies and Documents

- WBSD Collection System Master Plan (2011 with 2013 Update)
- WBSD Linear Asset Management Plan (2015)
- WBSD Recycled Water Project – Sharon Heights (November 2015)
- Bayfront Recycled Water Facilities Plan (May 2019)
- FERRF Levee Improvements and Bayfront Recycled Water Facility Project (May 2021)
- EPA Waterfront Development Application (December 2021)
- Sewer System Management Plan (2022)
- WBSD Strategic Plan 2022 (April 2022)
- Plans and Profiles for Completed Rehabilitation Projects
 - Relocation of Willow Road Pump Station Drawings (October 1980)
 - University Lift Station Mechanical Drawings (November 1981 and November 1983)
 - Stowe Lane Lift Station Drawings (June 1983)
 - Illinois-Purdue Force Main Drawing Excerpts (August 1985)

- Village Square Step Sewer System Drawings (November 1989)
- Henderson Pump Station Replacement As-Built Drawings (May 1990)
- Henderson Pump Station Influent Sewer and Force Main As-Built Drawings (January 1991)
- Vintage Oaks Pump Station Drawing Sheets (December 1996)
- Los Trancos Sanitary Sewer and Pump Station Drawings (May 2000)
- Stowe Lane Force Main Project Drawings (March 2002)
- Menlo Industrial Pump Station Drawings (April 2002)
- Illinois Pump Station Reconstruction Drawings (March 2008)
- CIP 2010-2011 Drawings (April 2011)
- CIP 2010-2011 Phase 2 Drawings (July 2011)
- Frederick and Suburban Park Project Drawings (March 2012)
- 30-inch Sanitary Sewer Rehabilitation Project Drawings (April 2012)
- North Palo Alto and Burns Easement Project Drawings (October 2013)
- Belle Haven Sewer Project Drawings (May 2014)
- Sausal Vista Pump Station Phase 1 Drawings (March 2015)
- Belle Haven Sewer Project Phase 2 Drawings (June 2015)
- Sausal Vista Pump Station Phase 2 Drawings (September 2015)
- Marsh Road Trunkline Rehabilitation Project Drawings (May 2016)
- Sharon Road Sewer Replacement Project Drawings (March 2017)
- Belle Haven Sewer Project Phase 3 Drawings (February 2018)
- Alpine Road Sanitary Sewer Replacement Project Drawings (September 2018)
- North Bay Road and Ringwood Avenue Drawings (October 2020)
- Bayfront Park Sanitary Sewer Improvement Project Drawings (September 2022)
- Avy/Atschul Sanitary Sewer Pump Station Drawings (May 2022)

Available System Data

- WBSD Manhole and Sewer Main shapefiles (March 15, 2023 download)
- Manhole Depth Measurements (February 2023)
- List of Upcoming Point Repair Projects (March 2023)
- Pump Station Characteristics and Setpoints (2 documents - April 2023)
- Approved and Pending Recycled Water Project List (May 2023)
- Closed Circuit Inspection Data
 - GNET_WestBay (March 13, 2023 download)

- GranitNet_WBSD_DB (March 15, 2023 download)
- GranitNet_WBSD_DB_historical (April 2023 download)
- Inspection Videos (April 27, 2023 download)
- Water and Flow Data
 - Water Usage Data for Menlo Park and Cal Water for 2018-2022
 - SLAC Water Balance 2011 to Present
 - Draft Raw Flow Data from V&A Engineering Consultants dated 4/28/2023 (V&A meters) and 6/20/2023 (WBSD meters)

1.2.2 Other Resources

The following information is available to the public from the agencies within the District's service area, and was downloaded for use during this project.

- GIS Layers
- San Mateo County GIS Layers including: Parcels; City Boundaries; Water District Boundaries; Natural Features; Landmark Features; and County Streets
- Land Use Documentation
- Menlo Park General Plan (November 2016)
- Menlo Park Zoning Ordinance + Interactive Land Use and Zoning Map (September 2022)
- El Camino Real and Downtown Specific Plan (September 2022)
- City of Menlo Park 6th Cycle Housing Element 2023-2031 (June 30, 2023)
- Ravenswood Business District /4 Corners Specific Plan Update including EPA Waterfront and others (February 2013)
- Vista 2035 East Palo Alto General Plan (October 2017)
- City of East Palo Alto 2023-2031 Housing Element (February 2023)
- Portola Valley General Plan (Not Dated)
- Town of Portola Valley 2023-2031 Draft Housing Element Update (August 2022)
- Redwood City General Plan (Last update January 2020)
- Redwood City Housing Element (February 2023)
- San Mateo County General Plan (November 1986)
- San Mateo County 2023-2031 Housing Element (January 2023)
- Town of Atherton General Plan (January 2020)
- Town of Atherton 2023-2031 Housing Element (January 2023)
- Town of Woodside General Plan (2012)
- Town of Woodside 2023-2031 Housing Element Draft 2 (March 2023)

CHAPTER 2 LAND USES

The purpose of this Chapter is to summarize the District's existing system, including current and projected average dry weather flows ("ADWF").

This Chapter is organized as follows.

- 1.1 Existing Wastewater System
- 1.2 Land Use Characteristics
- 1.3 Initial Estimate of System Flows Using District Criteria

2.1 EXISTING WASTEWATER SYSTEM

The District's wastewater collection system is represented in the District's geographic information system ("GIS") map as having approximately 203 miles of gravity sewer pipe and 7 miles of force mains. The District's gravity pipes range in diameter from 4 to 54 inches. In addition, the District's customers own and maintain approximately 360 miles of private service laterals.

The predominant pipeline materials are vitrified clay, polyvinyl chloride (plastic), and asbestos cement pipe, with isolated occurrences of reinforced and unreinforced concrete and ductile iron pipe. Figure 2.1 on the following page shows the current pipeline inventory sorted by material.

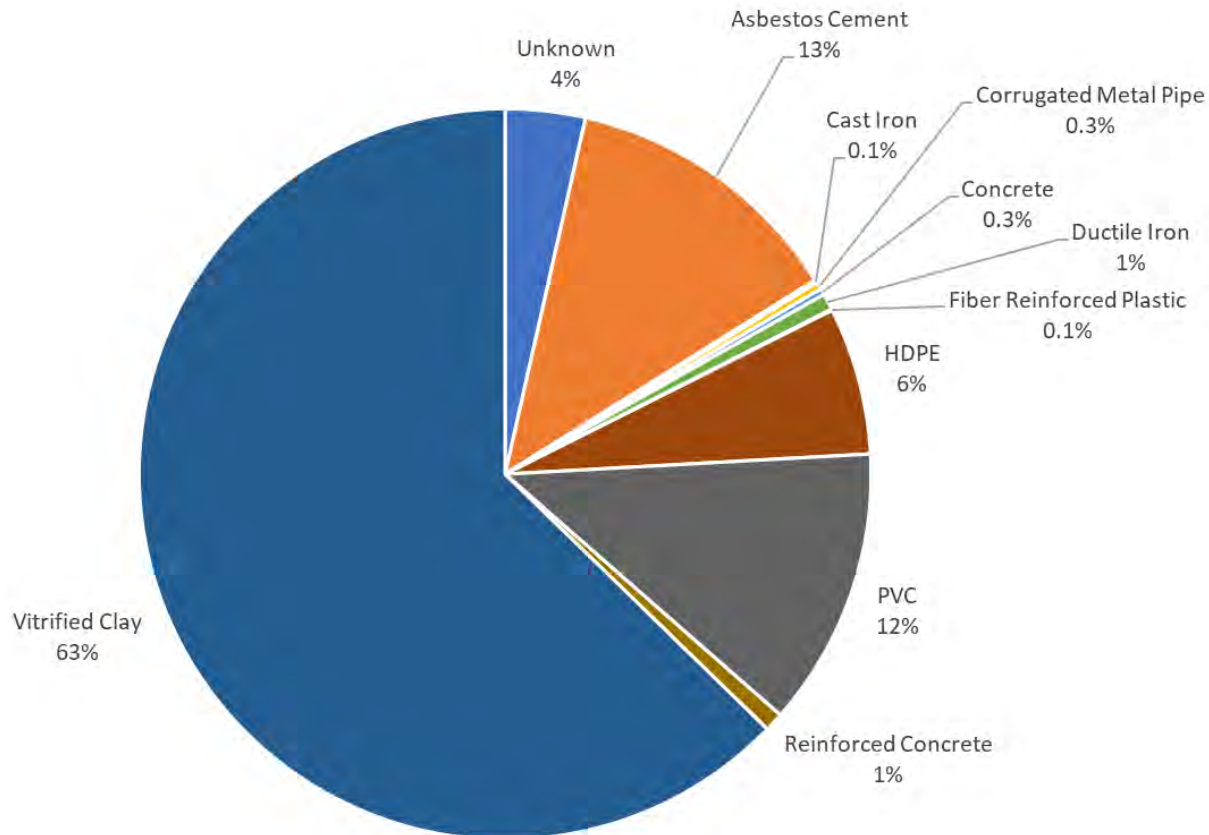
The District's service area includes four major sewer basins. Several known interconnections allow flow to travel between basins. In addition, flows of varying amounts are transferred between basins on a year-round basis in order to operate the District's SHGCC recycled water facility. The four major sewer basins are described below and are shown on Figure 2.2 on the following page.

- 1) Portola Valley to Highway 101 (Basin 20-10-30-40-90-100-130-150-140-MPPS)
- 2) Downtown Core to Highway 101 (120-MPPS)
- 3) Atherton to Highway 101 (50-70-110-MPPS)
- 4) North of Highway 101 (150-140-MPS)

The Menlo Pump Station ("MPS") is located at terminus of the system, at the intersection of Marsh Road and the Bayfront Expressway in Menlo Park. This station conveys all of the District's flows northwest to the SVCW wastewater treatment plant. The District also owns a return pump station at the District's FERRF Facility, located at the northernmost end of Marsh Road.

The District owns and operates eleven wastewater pump stations that are listed in Table 2.1, which follows Figure 2.2. In addition to the eleven pump stations, the District also owns and operates the Phil Scott pump station, which is used to divert flow to the Sharon Heights Golf and Country Club for recycled water treatment. The District currently owns but does not operate the FERRF return pump station which is discussed above.

Figure 2.1 Gravity Sewer Pipeline Inventory and Material of Construction



The District owns approximately 20 acres of land at the northern terminus of Marsh Road in Menlo Park. This land was the site of the District's original wastewater treatment facility, prior to the forming of SVCW in 1980. The prior treatment ponds now serve as emergency storage basins. This land and the four associated basins are collectively referred to as the FERRF. The two basins closest to the Menlo Pump Station are maintained and used for wet weather storage by the District. The estimated capacity of Pond 1, which is the District's primary wet weather storage facility, is under 10 million gallons.

The District has the capability to bypass the Menlo Pump Station and flow directly to the FERRF during extreme wet weather events. The District also owns a transfer pump station that returns stored flow back to the Menlo Pump Station after wet weather events. Figure 2.4 provides an aerial view of the District's FERRF and its location as related to the gravity sewer system and MPS.

Figure 2.2 Wastewater Collection System Sewer Basins and Flow Paths

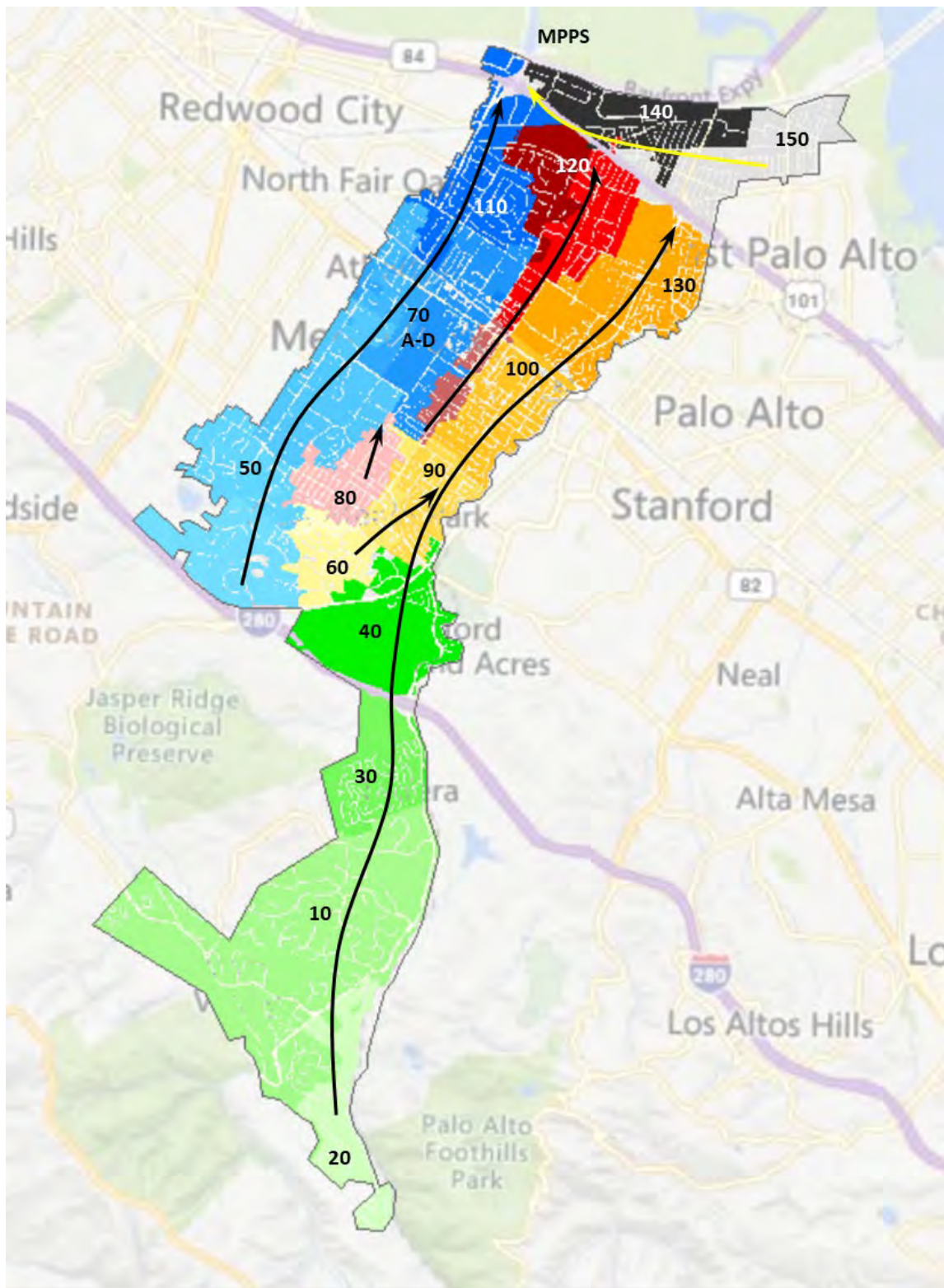


Table 2.1 District's Pump Station Inventory

Pump Station	Type	Location
Hamilton Henderson	Submersible	North end of Henderson Avenue
Willow	Submersible	Willow Road north of O'Brien Drive
Menlo Industrial	Submersible	Hamilton Avenue and Hamilton Court
University	Submersible	University Avenue north of O'Brien Drive
Illinois	Submersible	North end of Demeter Street
Vintage Oaks 1	Submersible	Near St. Patrick's Seminary
Vintage Oaks 2	Submersible	Near St. Patrick's Seminary
Stowe Lane	Dry Pit	East end of Stowe Lane
Los Trancos	Submersible	East end of Meadow Creek Court
Sausal Vista	Submersible	North end of Georgia Lane
Village Square	Submersible	North of Portola Road and east of Ann Road
Flow Equalization	Submersible	Flow Equalization & Resource Recovery Facility Return Pump Station
Phil Scott PS	Submersible	Diverts flow to the SHGCC Recycled Water Treatment Plant from cul-de-sac near Oak Avenue and Sand Hill Road

Figure 2.3 Aerial View of District Flow Equalization and Resource Recovery Facility



2.2 LAND USE CHARACTERISTICS

Land use in the District’s service area is primarily residential, with dense business corridors located along El Camino Real and on Santa Cruz Avenue in Menlo Park, and a rapidly-developing commercial area near Highway 101 and the Bayshore Expressway.

Land use information is available through the following sources:

- Land Use Database – General Plan land use information in pdf format (2016) was acquired from the City of Menlo Park (“Menlo Park”) website document database. Specific Plans adopted for various developments including the Downtown Specific Plan and Ravenswood Business District 4 Corners Specific Plan were also obtained. This information has been compared and updated using the 2023-2031 Housing Element and available land use data in GIS format.
- Town of Atherton. The Town of Atherton publishes a General Plan in pdf format. The prior General Plan, most recently adopted in January 2020, provided anticipated land uses through buildout. This

information has been updated further using relevant information from the 2023-2031 Housing Element.

- Town of Portola Valley. The Town of Portola Valley is a unique contributor to sanitary sewer flow as this community is transferring from septic to sewer systems over time. The Town provided its General Plan in pdf format. The General Plan, which also includes the unincorporated community of Ladera, has been recently supplemented with the 2023-2031 draft Housing Element.
- County of San Mateo, City of Redwood City, and Town of Woodside. General Plan documents for the County of San Mateo, City of Redwood City, and Town of Woodside include maps in pdf format that include the small portions of these agencies that are located in the District’s service area. The General Plans are also supplemented by recent information from the individual 2023-2031 Housing Elements.
- City of East Palo Alto. The District serves a small portion of the City of East Palo Alto. The City’s Vista 2035 General Plan was developed in 2017 and is available through the City’s website in pdf format. To supplement this document, the City has completed a 2023-2031 Housing Element.
- Aerial Imagery. In addition to land use information, aerial imagery was reviewed for the District’s service area to identify parcels that are currently vacant, or where actual uses may vary significantly from the designated land use.

Figure 2.4 shows the land use designations that were assigned to parcels within the District’s service area, using the references described above. Different land use naming conventions were used in the different General Plan documents. To create consistency across the entire service area, land use titles were reviewed and consolidated into the following nine land use designations for use in the District’s hydraulic model:

- | | |
|---|------------------------|
| • Very Low Density Residential | • Retail/Commercial |
| • Low Density Residential | • Limited Industry |
| • Medium Density Residential | • Public Facilities |
| • High Density Residential | • Parks And Recreation |
| • Professional And Administrative Offices | • Open Space |

Table 2.2 shows how land use designations were consolidated. 93 percent of the service area is comprised of residential land uses, with the predominant land use being low density residential. Seven percent of the service area is comprised of non-residential land uses, with the most of the non-residential uses assigned to retail and commercial. Figure 2.5 shows the distribution of land uses.

A notable amount of development and densification is planned for areas within the service area. For example, the lands closer to the San Francisco Bay are in the process of being developed for commercial, research, and residential uses. Most of this development is underway or planned for near-term implementation. For this reason, all of the planned flows are treated as “existing” in the hydraulic model.

Figure 2.4 Land Uses in the West Bay Sanitary District Service Area

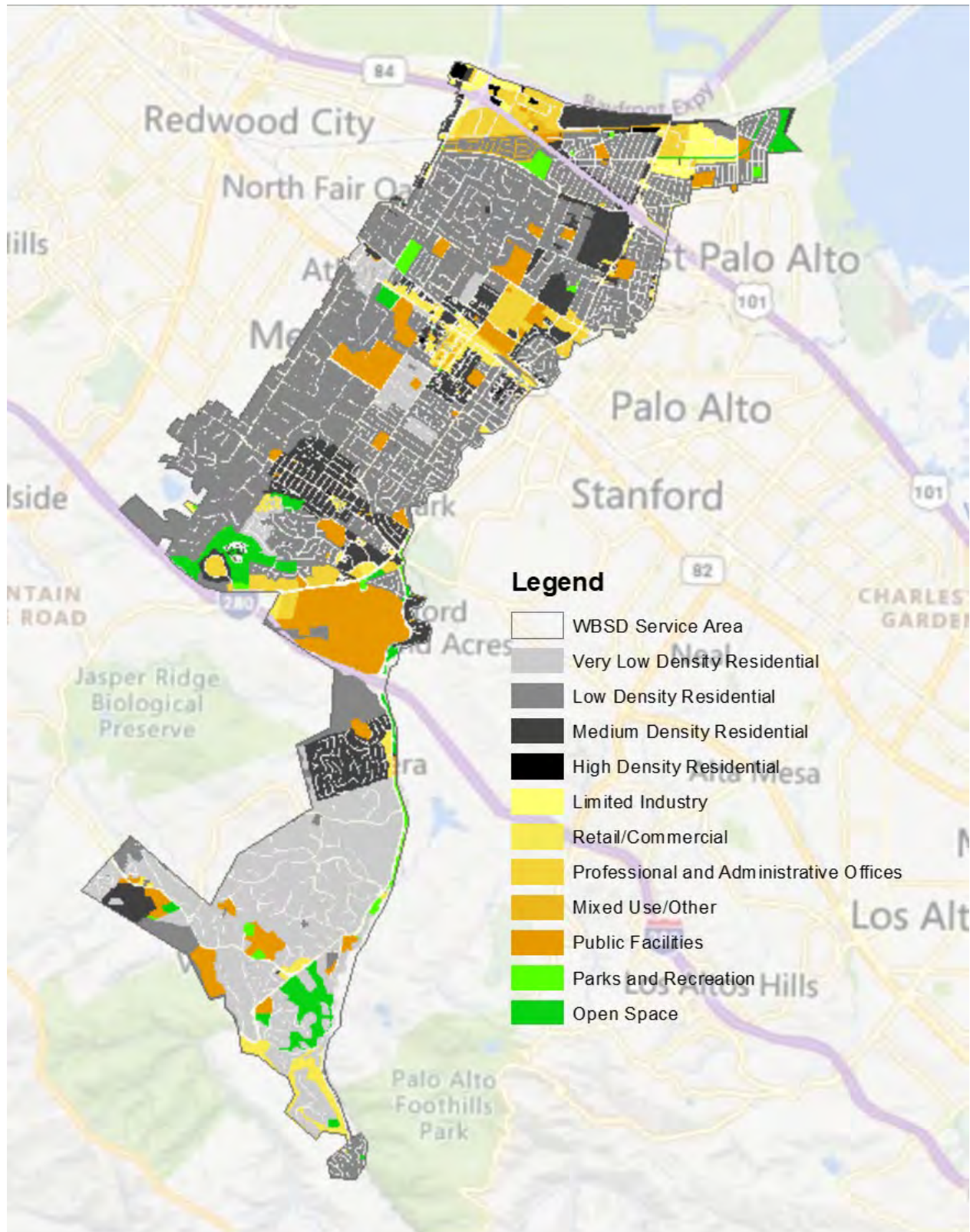
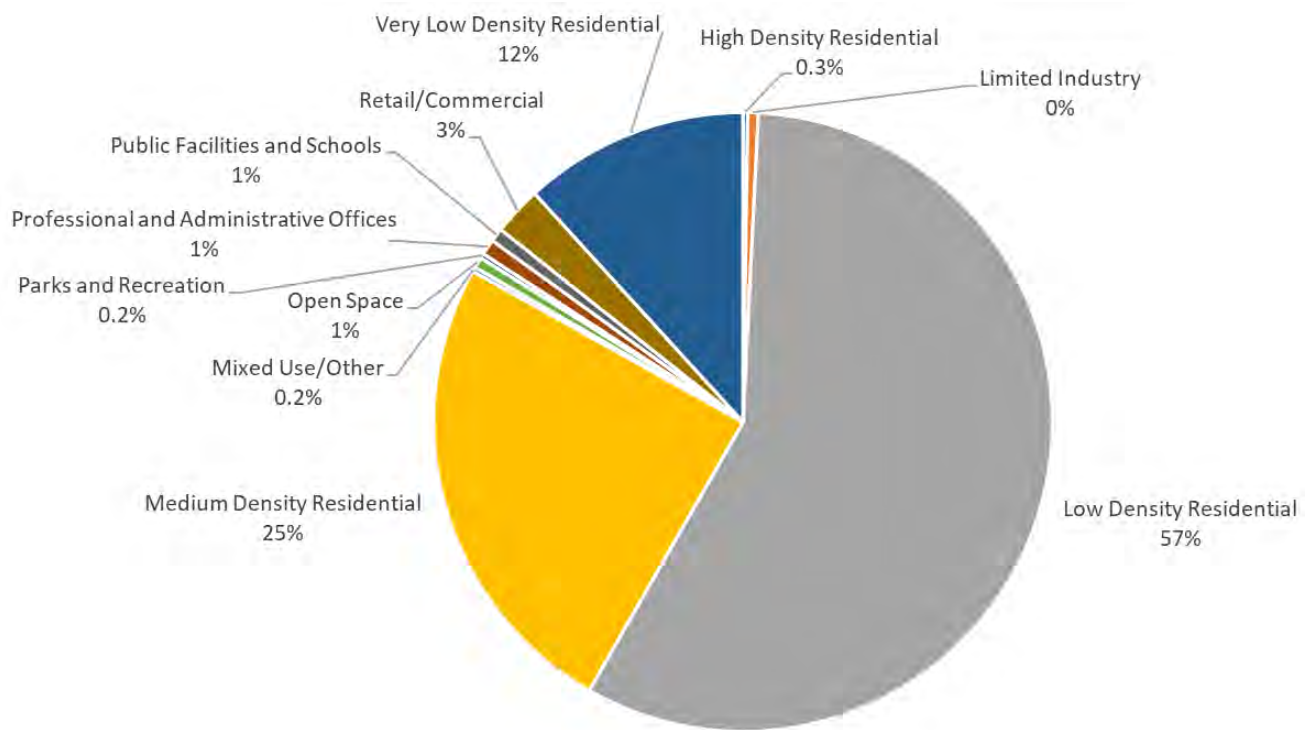


Table 2.2 Consolidated Land Use Designations

Land Use	Generalized Land Use
R-1B	Very Low Density Residential
Very Low Density Residential	
Low Density Single-Family Residential	Low Density Residential
Low Density Residential	
Residential - Medium (20 DU/AC Max.)	Medium Density Residential
Residential Medium Density	
Medium Low Density Residential	
Medium High Density Residential	
High Density Residential	High Density Residential
Light Industrial, Limited Industry, General Industrial, Industrial Buffer	Limited Industry
Parks & Recreation	Parks and Recreation
Parks and Open Space	
Parks/Recreation/Conservation	
Commercial Offices	Professional and Administrative Offices
Public Facilities and Schools	Public Facilities
Institutional	
Public/Institutional	
Institutional/OpenStudy/FutureStudy	
Commercial Neighborhood	Retail/Commercial
Commercial Business Park	
Commercial Retail	
Commercial - Neighborhood (0.60 FAR Max.)	
Neighborhood Commercial	
Mixed Use Low	
Mixed Use High	
Office Commercial	
Commercial	
El Camino Real Mixed Use	
El Camino Real Mixed Use/Residential	
El Camino Real Mixed Use/Retail	
Note: Some areas of the general plan had mixed designations. For these areas, aerial photography was used for assigning parcels or groups of parcels with the appropriate land use designations.	

Figure 2.5. Distribution of Land Uses in District Service Area



2.3 INITIAL ESTIMATE OF SYSTEM FLOWS USING DISTRICT CRITERIA

The District publishes standard design criteria for the sizing of new sewers, which includes theoretical unit flow factors to be applied to individual customer classes. These factors are shown in Table 2.3. The criteria are intended for new developers, homeowners, or businesses that request to connect to the existing system, and are intended to be conservative.

These sewer sizing factors were used to define initial base wastewater flow factors for use in defining average dry weather flow. During model development dry weather calibration process, model-generated flows per basin were reviewed and adjusted to correlate with measured flow. As a result, the final unit flows that were assigned to each customer class in the model are lower than the theoretical values shown in Table 2.3. Additional information on unit flows is presented in Chapter 4, Hydraulic Model Development and Calibration.

Table 2.3 District's Design Criteria for New Developments

Customer Class	Unit Flow from Design Standard
Commercial	90 gallons per day per 1,000 square feet or 2,500 gallons per acre per day
Office	300 square feet per employee and 15 gallons per day per employee or 2,000 gallons per acre per day
Restaurant	1 gallon per day per square foot
Industrial	3,000 gallons per acre per day
Average Dry Weather Flow Per Capita	85 gallons per day
Average Dry Weather per Single Family Dwelling	220 gallons per day

CHAPTER 3 FLOW MONITORING PROGRAM

The purpose of this Chapter is to summarize key components and findings from the District's 2023-24 flow monitoring program that was conducted by V&A Consulting Engineers. The full report from V&A Consulting Engineers is included in Appendix A.

This Chapter is organized as follows.

- 3.1 Introduction
- 3.2 Flowmeter Locations
- 3.3 Flow Integrity
- 3.4 System Flows

3.1 INTRODUCTION

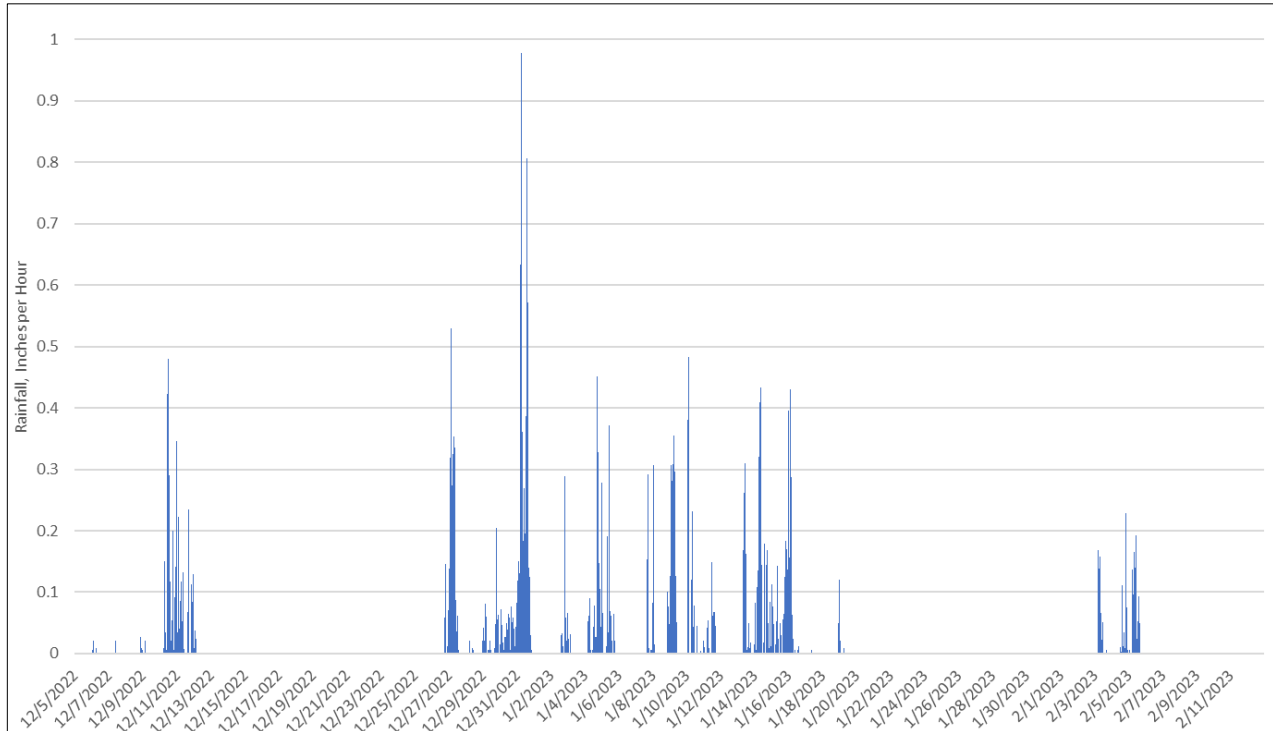
From December 15, 2022 through February 12, 2023, V&A Consulting Engineers conducted a system-wide flow monitoring program. This program collected flow data using 10 temporary flowmeters, 15 District-owned permanent flow meters, and rainfall data from six privately-owned rain gauges. Depth and velocity readings were collected at each flow meter in 15-minute increments.

Numerous rainfall events occurred during the flow monitoring period. On December 31, 2022, the District received 4.48 inches of rain as measured near Basin 70A (Atherton Avenue). The National Association and Atmospheric Administration ("NOAA") characterizes this rainfall depth as a 100-year, 24-hour rainfall event.⁵ This rainfall event was more severe than the District's design storm. Figure 3.1 shows the rainfall that was received during the flow monitoring period. In addition to the December 31, 2022 rainfall event, notable rainfall occurred on the following dates:

- | | | |
|---------------------|------------|---|
| • December 10, 2022 | 1.6 inches | 1 year, 24-hour |
| • December 27, 2022 | 1.8 inches | All rainfall fell before noon. 2-year, 12-hour |
| • January 9, 2023 | 1.5 inches | < 1 year, 24-hour |
| • January 14, 2023 | 1.6 inches | All rainfall fell before noon. 1-year, 12-hour. |

⁵ Point precipitation frequency (pf) estimates from the National Oceanographic and Atmospheric Administration ("NOAA") Atlas 14, Volume 6, Version 2. See https://hdsc.nws.noaa.gov/pfds/pfds_map_cont.html?bkmrk=ca

Figure 3.1 - Rainfall Received during 2022-23 Flow Monitoring Period



As shown on Figure 3.1, on January 4, 15, and 16, 2023, peak rainfall rates were high, but 24-hour volumes were lower than the four storms listed.

December 7, 2022 was selected as the representative dry weather flow day, as this day preceded the series of rainfall events that began on December 11. The District's average dry weather flow or base wastewater flow ("ADWF" or "BWF") as measured on December 7, 2022 was approximately 3 million gallons per day ("mgd"). The flow was calculated by summing up flows at four V&A meters capturing the northernmost basins prior to their connection points to the Menlo Pump Station. The three meters included: FM140 adjacent to Bayfront Parkway, FM110A on Marsh Avenue, and FMs 120A and 130 and on Commonwealth Drive. This flow was confirmed by SVCW, using the metered flow at the MPPS.

The flow that was measured on December 7, 2022 translates to approximately 55 gallons per capita per day ("gpcpd").

3.2 FLOWMETER LOCATIONS

The 2022-23 flow monitoring program included 10 temporary meters and 15 permanent District meters. The District meters were calibrated by V&A before the beginning of the flow monitoring period. Figure 3.2 on the following pages shows the metered sewer basins. Each meter uses the same name as the contributing basin.

Figure 3.2 Metered Sewer Basins

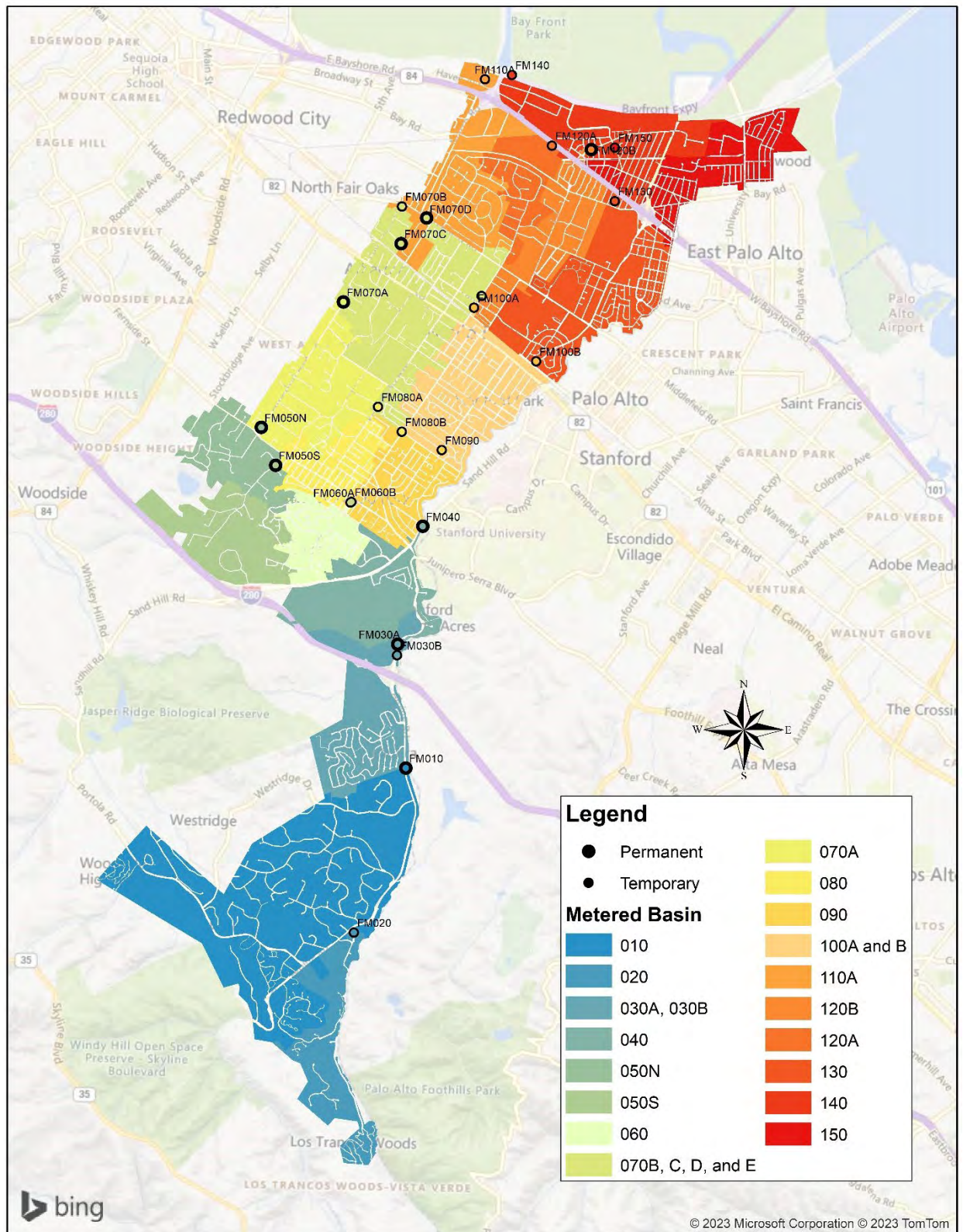


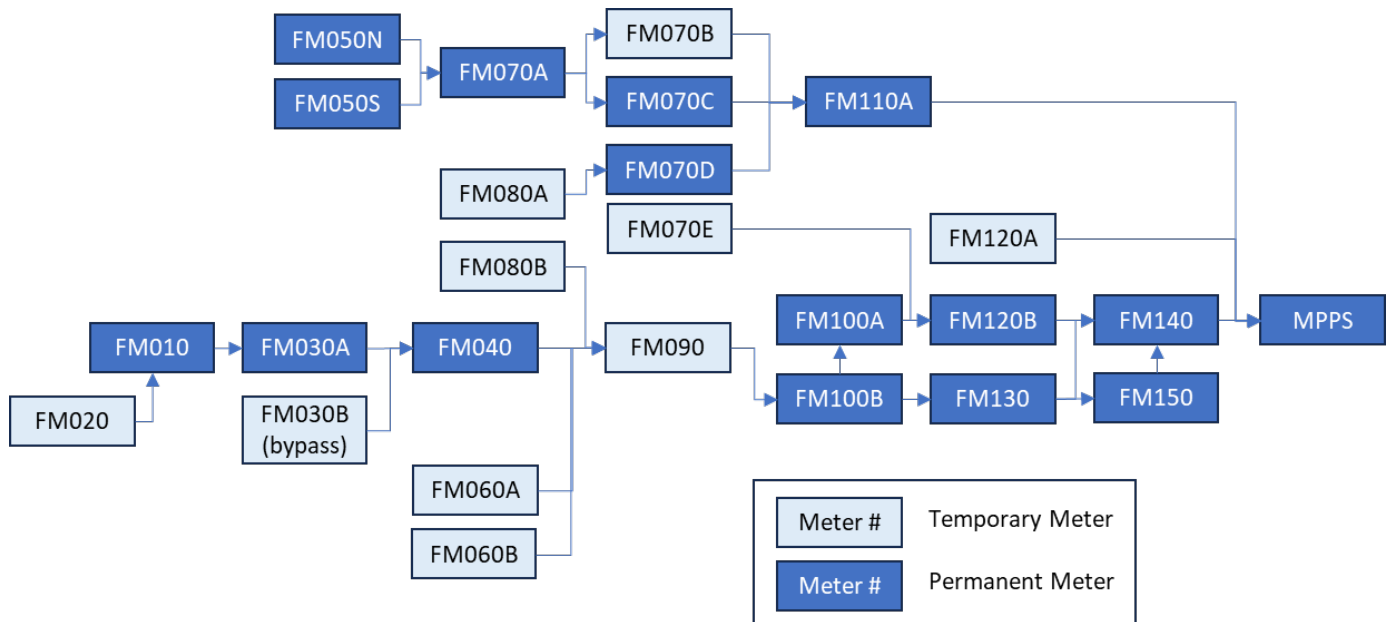
Table 3.1 lists the meters, their associated manhole ID, pipe diameter, and meter location. Each meter was installed in the pipe directly upstream of the named manhole.

Table 3.1 Meter Names, Locations, and Whether Temporary or Permanent

2022 Meter Name	Manhole ID	Pipe Diameter	Location
FM020 (T)	M09014	10"	Los Trancos Road @ Alpine Road. Flows to FM010.
FM010 (P)	K10023	30"	Alpine Road near La Mesa Drive. Flows to FM030A
FM030A (P)	I12085	21"	Alpine Road north of Hwy 280. Flows to FM040.
FM030B (T)	J11006	10"	Abandoned pipe. Meter registered flow – District is reviewing.
FM040 (P)	H12067	36"	Sand Hill Road, downstream of SHGCC diversion. Flows to FM090.
FM090 (T)	G13222	24"	Middle Avenue at Olive Street. Flows to FM100B.
FM100A (T)	E14053	12"	Oak Grove at Laurel Street. Flows to FM120B.
FM100B (T)	E12158	24"	Willow Road at Alma Street. Some flow appears to split to FM100A. Also flows to FM130.
FM130 (T)	C12089	24"	Hollyburne Avenue at Bay Road. Flows to FM150 or FM140 depending on flow split.
FM150 (T)	B13043	24"	Chilco Street near Hamilton Avenue. Flows to FM140.
FM140 (T)	B15047	30"	Bayshore Expressway near Marsh Road. Flows to MPPS.
FM050N (P)	H16023	10"	Atherton Avenue (west side) near Mulberry Lane. Flows to FM070A.
FM050S (P)	H15134	15"	Walsh Road (east side) at Broadacres Road. Flows to FM070A.
FM070A (P)	F16032	18"	Atherton Avenue (west side) at Inglewood Lane. Splits to FM070B and FM070C.
FM070B (T)	D16027	10"	Fair Oaks Lane at Middlefield Road. Flows to FM110.
FM070C (P)	E15047	18"	Burns Easement north of Dinkelspiel Station Lane. Flows to FM110.
FM070D (P)	D15128	21"	Middlefield Road east of Marsh Road. Flows to FM110.
FM070E (T)	E14034	10"	Oak Grove (east side) north of Laurel Street. Flows to FM120B.
FM110A (T)	B16004	24"	Haven Avenue and Haven Court. Flows to MPPS.
FM060A (T)	H14109	6"	Avy Avenue (west side) and Alameda de las Pulgas. This meter is combined with FM060B in the hydraulic analysis. Flows to FM090.
FM060B (T)	H14175	12"	Avy Avenue (east side) at Atschul Avenue. Flows to FM090.
FM080A (T)	G14189	15"	Valparaiso Avenue at Santiago Avenue. Flows to FM070D.
FM080B (T)	G14071	15"	Hillview Middle School at Olive Street, west of Santa Cruz Avenue. Flows to FM090.
FM120A (T)	C14036	10"	End of Sheridan Drive. Flows to Commonwealth Drive and then to MPPS.
FM120B (P)	C13029	16"	Hamilton Avenue at Hill Avenue. Flows to FM140.

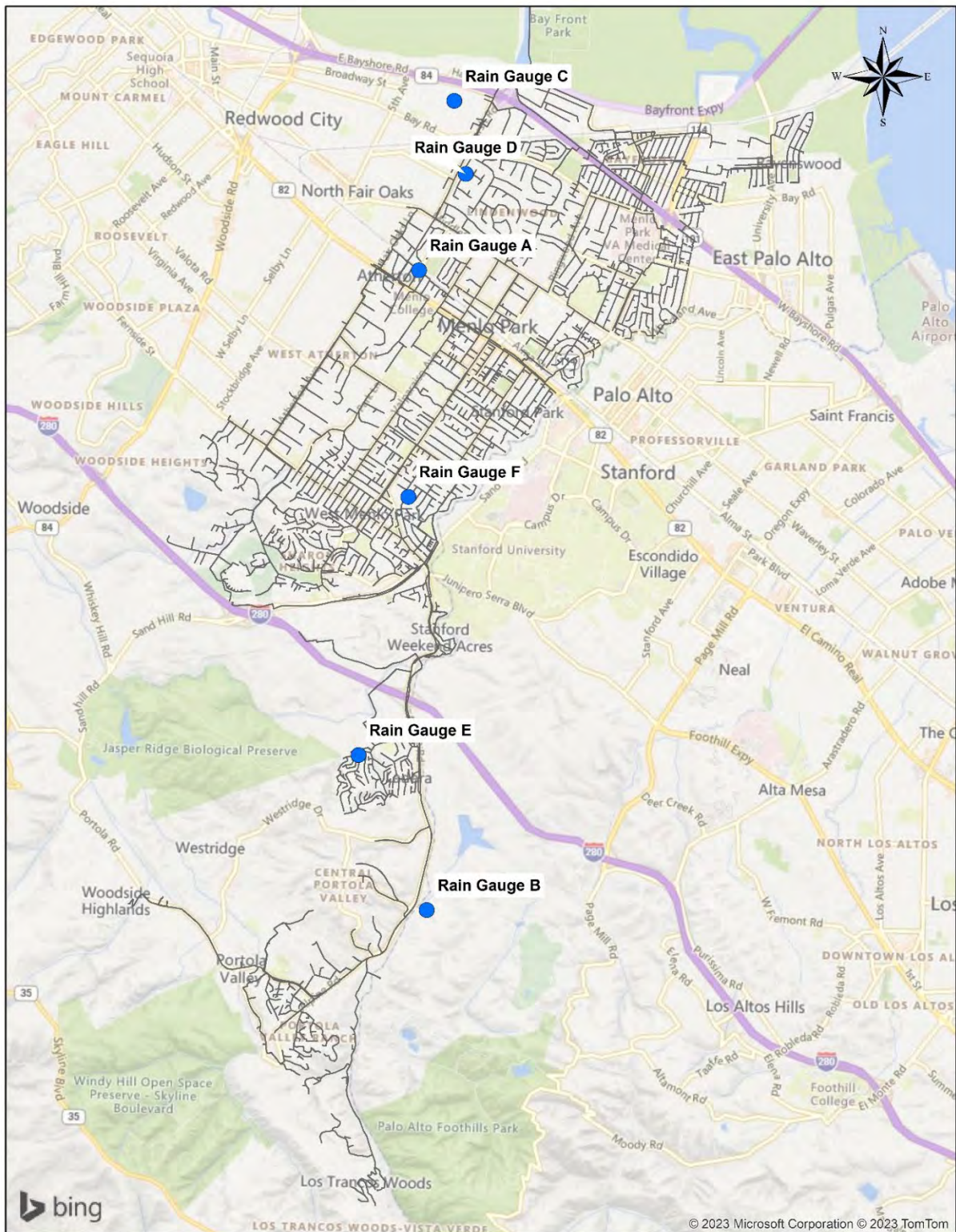
The connectivity of the metered basins is shown in Figure 3.3.

Figure 3.3 Meter Connectivity



The flow monitoring study included six publicly-owned rain gauges located throughout the service area. The gauges captured rainfall from locations spanning from the San Francisco Bay to Portola Valley. V&A used a mathematical equation to triangulate and assign rainfall to each of the flowmeter locations. Figure 3.4 on the following page shows the locations of the six public rain gauges. The gauges were located using the latitude and longitude coordinates presented in the V&A report.

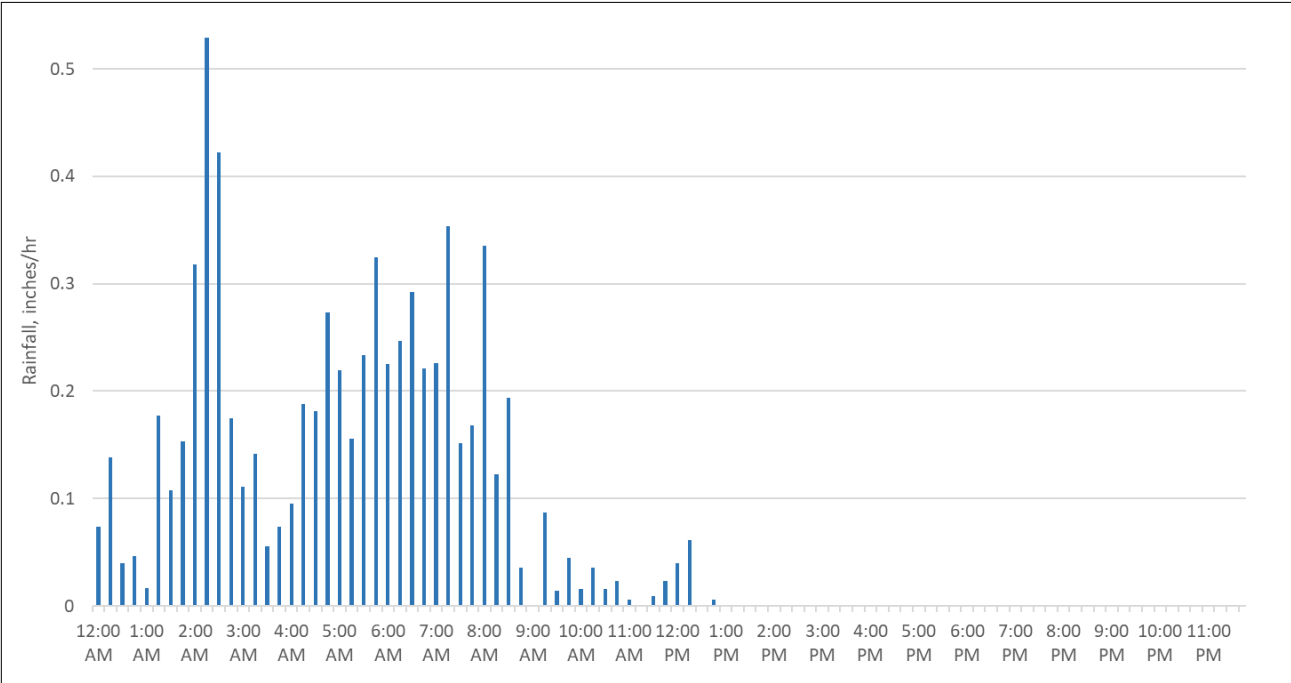
Figure 3.4 Rain Gauge Locations (from V&A Flow Monitoring Report)



As discussed above, multiple rainfall events occurred during the flow monitoring period. The December 27, 2022 rainfall event was selected as the calibration storm for three reasons: 1) preceding rainfall events created favorable antecedent conditions (i.e., groundwater saturation), 2) this was the largest event that occurred other than the rainfall event on December 31, 2022, 3) the system exhibited distinct response characteristics, and 4) the system had no known spills during this period. The larger December 31, 2022 event was not used for calibration because the District experienced surcharging to the extent that flow data was not available from FM140. In addition, during the latter part of the storm, the District lost flow from the system downstream of the Willow Pump Station.

Figure 3.5 shows the rainfall that occurred during the selected calibration date of December 27, 2022.

Figure 3.5 Calibration Rainfall Event (December 27, 2022)



3.3 FLOW INTEGRITY

Data from specific meters were not used in the hydraulic analysis due to missing information or questionable data quality. This section discusses the flow data that was not used, and steps that were taken to account for the missing data.

Table 3.2 on the following page lists the meters and provides observations based on the data provided. In summary:

- FM030 reports flows that are lower than the flow measured at the upstream meter FM010. It appears that Basin 010 flows are bypassing Meter FM030 and reappearing in Meter FM040. As a result, FM030 was not used for calibration. Basins 030 and 040 were calibrated together, using FM040.
- Flows measured by FM100A and FM100B show that the basins are connected at an unknown location upstream of both meters. For this reason, FM100A and FM100B were calibrated together.
- FM050N, FM070B, and FM140 did not record flows during some or all wet weather events. FM050N and FM070B appeared to be out of service during the calibration event. Flows were calibrated at FM110, which is located downstream of the 070 basins. FM140 was operational during the calibration event but became surcharged during the December 31 rainfall event and did not return flow readings for long periods of time as a result.
- FM060B, FM080A, and FM070D were installed to measure or confirm flow splits. These meters capture intermittent flows and were not used during calibration.

Table 3.2 Observations from Dry and Wet Weather Meter Data

2022 Meter Name	Manhole ID	Discussion	Additional Comments
FM010	K10023	No issues	Water usage records were used to help assign sewer vs. septic parcels.
FM020	M09014	No issues	
FM030A	I12086	This meter reads flows that are lower than the upstream basin and is not reliable.	Downstream FM040 was used for calibration.
FM030B	J11006	This pipe is abandoned.	
FM040	H12067	No issues	SHGCC diversion occurs upstream of this meter.
FM050N	H16023	This meter stopped recording flow. Not reliable.	Downstream FM070A was used for wet weather calibration.
FM050S	H15134	No issues	
FM060A	H14109	No issues. Low flow.	Combined with FM060B.
FM060B	H14165	No issues	
FM070A	F16032	No issues	
FM070B	D16027	This meter stopped recording flow. Not reliable.	Downstream FM110A was used for wet weather calibration.
FM070C	E15047	This meter had numerous periods with no flow. Not reliable.	See above
FM070D	D15128	No issues	See above
FM070E	E14134	No issues	
FM080A	G14189	No issues	
FM080B	G14071	No issues	
FM090	G13222	No issues	
FM100A	E14053	Flow appears to be shared between FM100A and FM100B.	Basin 100A/B calibrated as a single basin.
FM100B	E12158	See above	See above.
FM110A	B16004	No issues	
FM120A	C14036	No issues	
FM120B	C13029	No issues	
FM130	C12089	No issues	
FM140	B15047	Meter stopped registering flow during December 31 storm	Judgment was used to “fill in” missing data during peak periods.
FM150	B13043	No issues	

3.4 SYSTEM FLOWS

This section summarizes wastewater system dry and wet weather flow characteristics as measured during the 2022-23 flow monitoring program.

3.4.1 Base Wastewater Flows

Table 3.3 lists average dry weather flows that were measured at the 25 metered locations on December 7, 2023. Flows from FM110, FM120A, FM130, and FM140, when combined, represent system-wide flow on this day. The sum of flows measured at these four meters was 2.96 mgd. By comparison, the flowmeter at the MPPS measured 3.1 mgd on this day. The difference of less than five percent in flow measurements is within the expected tolerance of flowmeter accuracy.

3.4.2 Dry and Wet Weather Groundwater Infiltration

The V&A report discusses expected minimum-to-average flow ratios and associated indicators of groundwater infiltration. The report references Water Environment Foundation (“WEF”) minimum-to-average flow ratios that were used to evaluate potential groundwater infiltration during weather flow as discussed further below. The V&A analysis concludes that some basins, such as Basin 070A, have potential groundwater contributions using this calculation. However, if the V&A assessment is adjusted to account for the transfer of SHGCC flows from FM040 to FM050S (and consequently to FM070A, B, and C and FM110A), the indicators for groundwater infiltration change.

The following findings related to dry and wet groundwater infiltration supplement the information provided in the V&A report.

Dry Weather Groundwater Infiltration

The dry weather flow patterns from December 7, 2022 were evaluated further to identify basins that may have a dry weather groundwater infiltration (“GWI”) component.

Table 3.4 lists the minimum flow for each metered basin, and the ratio of minimum flow to measured average flow on December 7, 2022. Basins with a minimum flow greater than 20 percent of the average flow were reviewed for indications of dry weather groundwater. If low flows were consistently high over the dry weather period of December 6 through 8, 2022, then dry weather GWI was added to the model as a constant flow as discussed in the comments field of the table.

When reviewing flow patterns, it is important to know that on December 7, 2022, 218,120 gallons of flow was diverted from FM040 (and downstream basins 90, 100A/B, and 130) to the SHGCC plant and 184,810 gallons of this flow was returned to Basin FM50S and its downstream basins (70A, B, C, D, and 110A).

Table 3.3 Average Dry Weather Flows (December 7, 2022)

2022 Meter Name	Manhole ID	Average Dry Weather Flow (gpd)	Comments
FM010	K10023	168,000	
FM020	M09014	19,000	
FM030A	I12086	128,000	This flow should have been at least 168,000 gpd (from FM010).
FM030B	J11006	0 (abandoned line)	
FM040	H12067	225,000	218,120 gallons were diverted to SHGCC upstream of FM040.
FM050N	H16023	64,000	
FM050S	H15134	216,000	Includes 184,810 gallons from SHGCC.
FM060A	H14109	5,000	
FM060B	H14165	46,000	
FM070A	F16032	362,000	Includes 184,810 gallons from SHGCC.
FM070B	D16027	28,000	FM070B, C, and D share flows from FM070A. Includes 184,810 gallons from SHGCC.
FM070C	E15047	294,000	
FM070D	D15128	564,000	
FM070E	E14134	69,280	Flows to FM120B.
FM080A	G14189	84,000	
FM080B	G14071	67,000	
FM090	G13222	489,000	218,120 gallons were diverted to SHGCC upstream of FM090.
FM100A	E14053	157,000	Basins 100A and 100B share flow.
FM100B	E12158	413,000	
FM110A	B16004	1,014,000	Includes 184,810 gallons from SHGCC.
FM120A	C14036	65,000	
FM120B	C13029	119,000	
FM130	C12089	1,110,000	218,120 gallons were diverted to SHGCC upstream of FM130.
FM140	B15047	772,000	
FM150	B13043	232,000	

Table 3.4 Ratio of Minimum Flow to Average Flow per Basin (December 7, 2022)

2022 Meter Name	Manhole ID	Average Dry Weather Flow (gpd)	Minimum Flow (gpd)	Ratio	Comments
FM010	K10023	168,000	32,000	0.19	
FM020	M09014	19,000	5,700	0.3	Small basin. OK.
FM030A	I12086	128,000	9,600	0.08	
FM030B	J11006	0	0		
FM040	H12067	225,000	20,000	0.04	
FM050N	H16023	64,000	33,400	0.52	20,000 gal of GWI
FM050S	H15134	216,000	122,400	0.57	Ratio is skewed due to SHGCC flows
FM060A	H14109	5,000	3,800	0.76	Small basin. OK.
FM060B	H14165	46,000	9,900	0.22	
FM070A	F16032	362,000	217,000	0.60	0.18 after SHGCC flows are considered. OK.
FM070B	D16027	28,000	4,100	0.15	
FM070C	E15047	294,000	Not Reliable		
FM070D	D15128	564,000	160,300	0.28	Impacted by SHGCC flows. OK.
FM070E	E14134	69,280	13,500	0.19	
FM080A	G14189	84,000	14,500	0.17	
FM080B	G14071	67,000	1,700	0.03	
FM090	G13222	489,000	73,900	0.15	
FM100A	E14053	157,000	39,400	0.25	< 10,000 gal of GWI. Don't add.
FM100B	E12158	413,000	62,100	0.15	
FM110A	B16004	1,014,000	496,400	0.49	0.49 after SHGCC are considered. Add 90,000 gal. to 70B,C,D and 110A
FM120A	C14036	65,000	16,800	0.26	< 10,000 gal of GWI. Don't add.
FM120B	C13029	119,000	31,200	0.26	10,000 gal of GWI
FM130	C12089	1,110,000	251,400	0.23	30,000 gal of GWI
FM140	B15047	772,000	199,200	0.26	35,000 gal of GWI
FM150	B13043	232,000	9,200	0.04	

Wet Weather Groundwater Infiltration

To be consistent with the GWI evaluation that was completed by V&A for the flow monitoring study, WEF guidelines were utilized to assess the potential for wet weather GWI on December 27, 2022. Table 3.5 lists the minimum flow for each metered basin, and the ratio of minimum flow to measured average flow on December 27, 2022. Basins with a minimum-to-average flow ratio greater than WEF-expected values as shown on Figure 3-14 of the V&A report (repeated in this report as Figure 3.6) were assumed to include wet weather groundwater.

On December 27, 2022, 172,000 gallons of flow was diverted from FM040 to the SHGCC plant and 33,000 gallons of this flow was returned to Basin FM50S and its downstream basins (70A, B, C, D, and 110A).

Although Figure 3.6 shows eight meters as exceeding the WEF threshold, Table 3.5 indicates that only one meter, FM120B, exceeded the threshold on December 27, 2022. For many of the meters shown in Figure 3.6 (FM070A, FM070B, FM070C, FM070E, and FM110A), the GWI assessment changed after the minimum and average flows were adjusted to account for the SHGCC flows.

Figure 3.6 Groundwater Infiltration Evaluation from Figure 3-14 of V&A Report

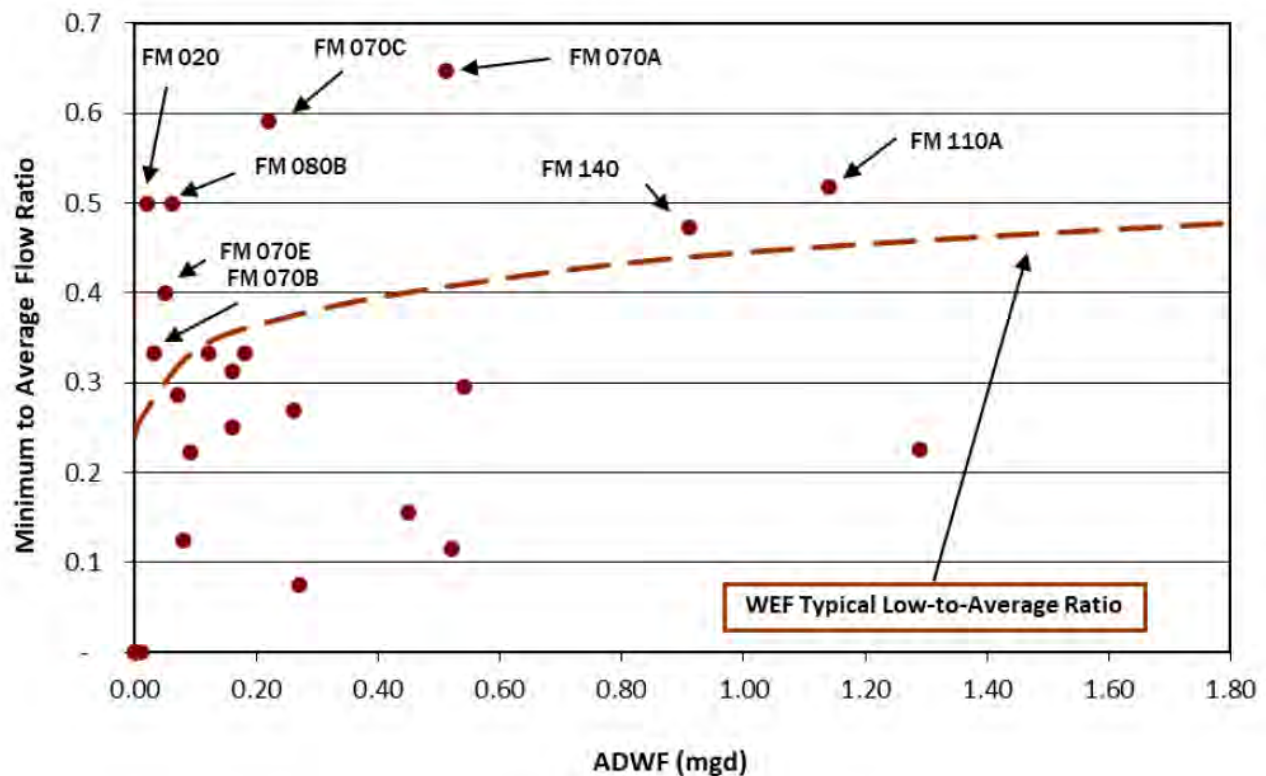


Table 3.5 Ratio of Minimum Flow to Average Flow per Basin (December 27, 2022)

2022 Meter Name	Manhole ID	Average Wet Weather Flow (gpd)	Minimum Wet Weather Flow (gpd)	Ratio	Comments
FM010	K10023	448,000	68,200	0.15	
FM020	M09014	39,300	9,114	0.23	
FM030A	I12086	391,000	43,400	0.11	
FM030B	J11006	0	0		
FM040	H12067	771,000	11,500	0.01	
FM050N	H16023	0	0	0	
FM050S	H15134	256,500 (223,500 w/o SHGCC flows)	113,000 (80,000 w/o SHGCC flows)	0.44 (0.36 w/o SHGCC flows)	Ratio is skewed due to SHGCC flows. OK.
FM060A	H14109	11,300	5,300	0.47	Small basin. OK.
FM060B	H14165	137,000	29,700	0.22	
FM070A	F16032	673,000	220,000	0.33	0.29 after SHGCC flows are considered.
FM070B	D16027	51,000	22,600	0.44	Data is not reliable. Flow is shared between the FM070 basins and FM070C was out of service.
FM070C	E15047	0	0	0	
FM070D	D15128	935,000	350,000	0.37	
FM070E	E14134	116,900	30,900	0.26	
FM080A	G14189	197,000	55,600	0.28	
FM080B	G14071	214,900	0	N/A	Bypass Line
FM090	G13222	1,228,000	120,800	0.10	
FM100A	E14053	264,000	85,100	0.32	
FM100B	E12158	1,209,000	197,000	0.16	
FM110A	B16004	1,552,000	738,000	0.48	0.46 after SHGCC flows are considered. OK given large average flow.
FM120A	C14036	75,000	28,400	0.38	
FM120B	C13029	153,000	71,800	0.47	18,000 gal of GWI
FM130	C12089	2,183,000	656,000	0.30	
FM140	B15047	1,524,000	654,000	0.43	
FM150	B13043	396,000	65,200	0.16	

Rainfall-Dependent Inflow and Infiltration

In addition to reviewing dry weather flows and groundwater infiltration, the flow data was used to assess basin-specific inflow and infiltration. The V&A report provides an assessment of I&I for the flow monitoring period. Table 3.6 provides an I&I snapshot for the calibration date of December 27, 2022.

Rainfall-dependent I&I (“RDII”) is the collective description for stormwater and groundwater that enters the sewer system through pipe defects and unpermitted direct connections. Inflow describes water that enters through structures such as roof leaders and private drains, or from holes in manhole covers. Infiltration describes water that enters through defects in pipes, joints, and manhole walls such as cracks, open joints, or breaks.

Figure 3.7 shows sources of infiltration and inflow, as presented in Figure 2-4 of the V&A report.

Figure 3.7 Typical Sources of Infiltration and Inflow from Figure 2-4 of V&A Report

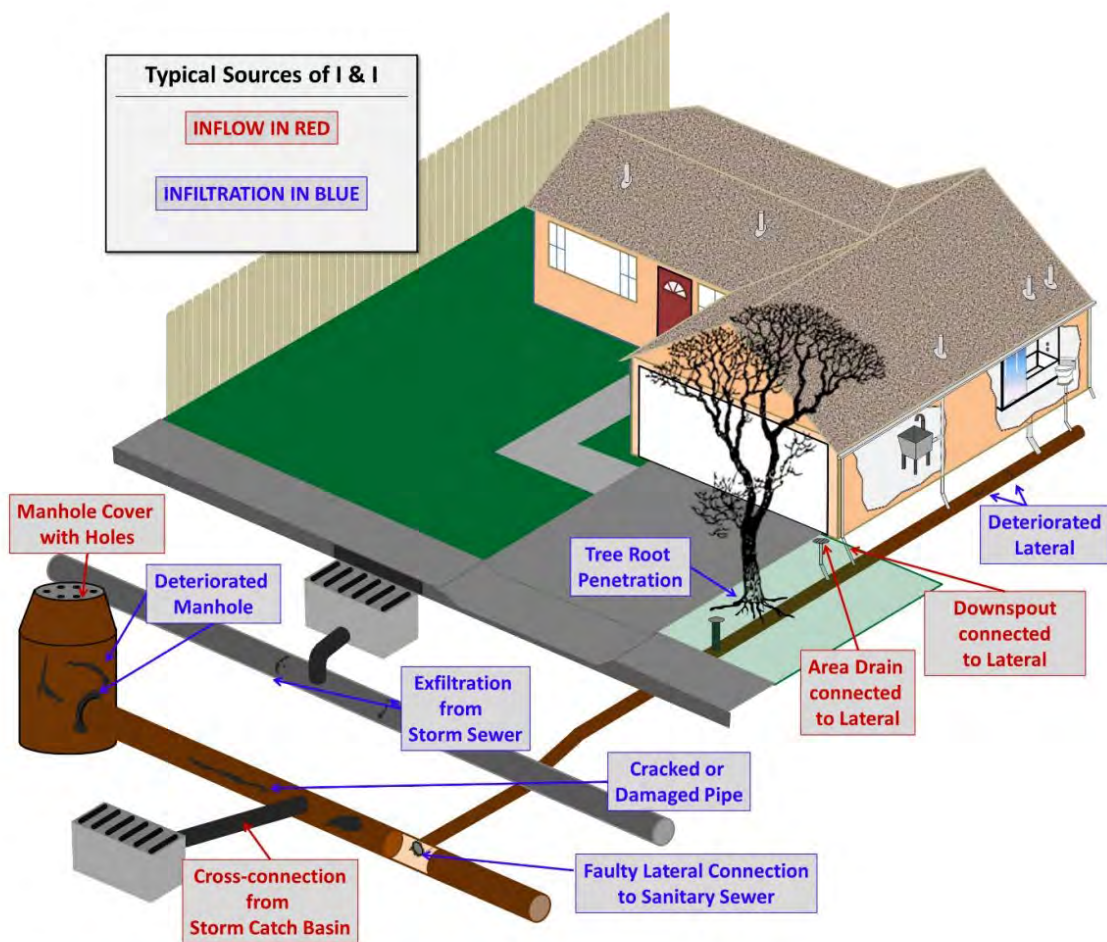


Figure 2-4. Typical Sources of Infiltration and Inflow

Wet weather peaking factors are calculated as peak flow divided by average flow. Smaller basins usually have higher peaking factors. Therefore, peaking factor alone cannot be used to assess whether a basin has high I&I. For the purposes of comparison, the basin I&I rankings shown in Table 3.6 are based on the ratio of I&I in gallons as compared to average dry weather flow.

FM070A registers the most I&I. This result may be related in part to the transfer of flow that occurred on this day from Basin 040 to Basin 050 (and downstream to Basin 070A). FM070A is located east of Atherton Avenue from Fernside Street to Middlefield Road.

FM100A/B has the second highest I&I. This basin is located south of El Camino Real and west of Sand Hill Road.

FM010, FM020 (both in Portola Valley), FM060 (Sharon Heights), and FM080 (Upper Valparaiso) also show elevated values for I&I.

Table 3.6 Wet Weather Peaking Factor, I&I, and Ranking (December 27, 2022)

2022 Meter Name	Manhole ID	Basin-Specific ADWF from Dec 7, 2022 (gpd) <small>Note 1</small>	Basin-Specific PWWF from Dec 27, 2022 (gpd) <small>Note 2</small>	Peaking Factor	I&I Ranking
FM010	K10023	149,000	1,178,000	7.9	3
FM020	M09014	19,000	104,000	5.5	6
FM030A	I12086	0	232,000		DWF Not Reliable
FM040	H12067	97,000	419,000	4.4	9
FM050N	H16023	64,000	0	0	No Flow
FM050S	H15134	216,000	506,628	2.3	13
FM060A	H14109	5,000	16,200	3.2	11
FM060B	H14165	46,000	326,000	7.1	4
FM070A	F16032	82,000	905,472	11.0	1
FM070B	D16027	593,280	1,050,900	1.8	16
FM070C	E15047				
FM070D	D15128				
FM070E	E14134				
FM080A	G14189	84,000	424,700	5.1	7
FM090	G13222	151,000	761,800	5.0	8
FM100A	E14053	81,000	877,200	10.8	2
FM100B	E12158				
FM110A	B16004	128,000	725,100	5.7	5
FM120A	C14036	65,000	150,500	2.3	13
FM120B	C13029	49,720	0		WWF Not Reliable
FM130	C12089	697,000	1,576,100	2.3	13
FM140	B15047	540,000	2,372,300	4.4	9
FM150	B13043	232,000	742,300	3.2	11

Notes:

1. On December 7, 2022, 218,120 gallons were diverted from FM040 (and FM090, FM100A/B, FM130) and 184,810 gallons were returned to FM050N (and FM070A/B/C/D, FM110A).
2. On December 27, 2022, 172,000 gallons were diverted from FM040 and 33,000 gallons were returned to FM050N.

3.4.3 Systemwide Wet Weather Peaking Factors

The four flowmeters that are closest to the MPPS are FM110A (Marsh Road), FM120A (Commonwealth Drive), FM130 (Commonwealth Drive), and FM140 (Bayfront Expressway). Some FM130 flows appear to also flow to FM140 during high flow events. Dry and wet weather flows for these meters are listed in Table 3.7. The wet weather peaking factor (“WWPF”) was calculated for each of the five distinct rainfall events by adding measured flows at these locations. WWPF is determined by dividing the peak wet weather flow (“PWWF”) by the ADFW.

Table 3.7 Rainfall and Measured Flows at Terminal Meters

Monitoring Period ^(Notes 1,2)	Rainfall at FM110 (inches)	FM110 (mgd)	FM140 (mgd)	FM120A (mgd)	Total Flow (mgd)	WWPF
12/07/2022 (ADWF)	0.005	1.01	0.77	0.06	1.8	N/A
12/27/2022 (PWWF)	1.7	2.6	3.1	0.15	5.8	3.2
12/31/2022 (PWWF)	4.4	5.9	6.6	0.43	12.9	7.2
01/09/2023 (PWWF)	1.5	3.3	6.2	0.18	9.7	5.4
01/14/2023 (PWWF)	1.6	3.5	6.1	0.17	9.8	5.4

Note 1: Peak flows may not have occurred during the same timestep for all meters. Therefore, Total Flow may be slightly higher than actual.

Note 2: The WWPF of 7.2 for the 12/31/2022 rainfall event is higher than the District’s systemwide WWPF, because the 12/31/2022 event was more severe than the District’s design storm. See Chapter 4, Hydraulic Model Development and calibration, for additional information.

As observed in Table 3.7, on the days following the December 31, 2022 rainfall event, the effects of this storm were still apparent in flows measured on January 9 and 14. As discussed in Chapter 4, Hydraulic Model Development and Calibration, inflow and infiltration enters the system over time and specific parameters are used to model the time for inflow and infiltration to peak and recede. The flow measured on January 9 and 14 includes residual I&I contributions from rainfall that occurred between December 31 and these dates. For example, minimum (nighttime) flows measured at FM140 prior to the start of the January 9 rainfall event included over 700,000 gallons of I&I that had entered the system from prior wet weather periods. The hydraulic analysis assumes that the design storm will occur during a period in which system flows have recovered from any prior rainfall events.

CHAPTER 4 HYDRAULIC MODEL DEVELOPMENT

The purpose of this Chapter is to summarize assumptions, items considered during model development and calibration, and key components of the completed hydraulic model.

This Chapter is organized as follows.

4.1 Model Components

4.2 Wastewater Loads

4.3 Model Calibration

The 2023 hydraulic model is an updated version of the District's existing wastewater collection system hydraulic model, which was developed using Innowyze InfoWorks ICM software. The model can be used as a tool for assessing the flows and capacities of the District's trunk sewers and for identifying solutions to sewer capacity issues. The hydraulic model is also a tool for performing "what if" scenarios to assess the impacts of future developments, land use changes, and system configuration changes.

The hydraulic model includes the District's trunk sewers (typically 10-inch diameter and larger) and associated facilities, and is a skeletonized representation of the wastewater collection system in its configuration and operation. The model also includes some smaller diameter sewers as needed to provide system connectivity, to include pump station facilities, or to represent available relief sewers. In 2018, VWHA reviewed the District's hydraulic model to assess whether there would be benefit to converting this model to a "full pipe" model. At that time, invert data was not available for many of the smaller diameter collector sewers. Further, the District has very few predicted spills from the system during the design storm. Therefore, assessing the capacity of the collector sewers is not required and adding these pipes would add unnecessary complexity to the hydraulic model.

4.1 MODEL COMPONENTS

The hydraulic model transforms information about the physical and operational characteristics of the sewer system into a mathematical model. The model solves a series of differential equations for continuity and momentum (Saint-Venant equations) to simulate various flow conditions for specified sets of flow loads. The modeling results provide information on flows, flow depth, velocity, surcharging, and backwater conditions that are used to analyze system performance and identify system deficiencies. The model is also used to verify the adequacy of recommended or proposed system improvements.

4.1.1 General

The hydraulic model comprises a skeletonized network of nodes (*e.g.*, manholes) and conduits (*e.g.*, pipelines). The following descriptions provide additional information on elements used in the hydraulic model.

- Nodes represent manholes, split manholes, and lift station wet wells. The MPS wet well is modeled as an open outfall. All flows loaded into the model are attached to node structures. The data required for node structures include elevation data (pipe invert and manhole rim), manhole diameter, and whether the system is open or sealed.

- Conduits represent facilities that convey wastewater from one point in the system to another. Conduits include gravity pipes, force mains, and pumps. The physical data for gravity pipes and force mains include invert elevation, size, length, and friction factor. The physical data for pumps include type of pump, elevation, pump capacity, and operational parameters such as on/off setpoint elevations and sequencing.
- Subcatchments represent a tributary area that flows to an individual node in the model. Each parcel in the system is assigned a subcatchment and this subcatchment is then connected to the nearest trunk sewer manhole. The subcatchment layer serves several purposes, including defining land use, assigning diurnal curves, and assigning dry and wet weather flow inputs. The data required for subcatchments are node connection, land use, flow factors, total and contributing area, diurnal curve profile, rainfall profile, I&I parameters, and groundwater parameters.

Pipelines and Manholes

The initial model network was developed using the District's *WBSD MH* and *WBSD SM* shapefiles. Model development and validation involved the following steps.

- All pipes 10-inches and diameter were isolated from the GIS layers. These pipes were inspected to find locations where pipes were discontinuous or otherwise ambiguous. The GIS file was then reviewed further to identify smaller diameter pipes, force mains, or other infrastructure needed to assure connectivity and these lines were added to the trunkline network. The resulting network has upstream and downstream manhole IDs, pipe sizes, and lengths for each pipe segment. Each reach of pipe is continuous from top to bottom.
- At the same time, node structures associated with the pipes discussed above were added to the network.
- Known manhole rim and invert elevations were added to the network (i.e., using as-built records and available spreadsheet data). In cases where a single invert elevation was provided for a manhole that had multiple pipes attached, the invert was assumed to be the elevation of the center of the manhole base.
- Rim elevations for the remaining inverts were interpolated from publicly-available digital elevation model data as provided via Google Earth.
- Invert elevations for the remaining inverts were established as follows:
 - Inverts were first set at six feet below the rim elevation
 - Where gravity flow could not be maintained using these elevations, inverts were adjusted using engineering judgment to first provide minimum allowable slopes, and then provide continuous slopes relative to adjacent manhole and pipe structures. Slopes, inverts, and pipe diameters were compared to previous hydraulic model files as needed to complete or confirm missing information.
 - Flow splits were brought forward from previous hydraulic model networks. Where two pipes leave an manhole in a potential flow split, the largest downstream pipe was assumed to convey primary flows. The invert for smaller downstream pipe was raised to

match the crown of the primary downstream pipe to avoid dry weather flow splitting at this intersection.

- All gravity pipelines were assigned a Manning's friction factor ("n") of 0.013.
- Force main pipelines were conservatively assigned a Hazen-Williams Coefficient of 130.

The hydraulic model consists of 992 gravity pipe segments comprising approximately 42.3 miles of pipe. Modeled gravity pipelines range from 6 to 54 inches in diameter. The model includes all 10-inch diameter and larger trunk lines, and associated manholes plus additional smaller diameter pipelines. The 42.3 miles of pipeline represent approximately 21 percent of the District's gravity collection system.

The hydraulic model includes ten of the District's pump stations and associated force main pipes with a combined modeled length of 3.2 miles. Force mains vary in diameter from 6 to 10 inches.

The modeled collection system pipelines are shown on Figure 4.1 on the following page.

Pump Stations

Table 4.1, which follows Figure 4.1, lists information used to model the District's pump stations. Each station includes fixed pumps with specific pumping capacities and on and off elevations to define pump setpoints.

Subcatchments

The District's service area includes 15,822 parcels. Each parcel is represented in the model as a subcatchment with an assigned land use. Loads were developed and assigned to each subcatchment based on the assigned land use, as follows:

- Residential land uses (VLDR, LDR, MDR, HDR) were assigned a flow per parcel based on the assigned land use
- Schools were assigned a flow of 7 gallons per student
- All other land uses (commercial, industrial, office/administrative, recreational, public facility) were assigned a flow per acre based on the assigned land use. The applicable acreage for buildings on large parcels with substantial undeveloped land was reduced on a parcel by parcel basis.

Unit flows and land uses are discussed in more detail later in this Chapter, as part of the discussion on dry weather calibration.

Figure 4.1 Modeled Gravity Sewer and Force Main Pipelines

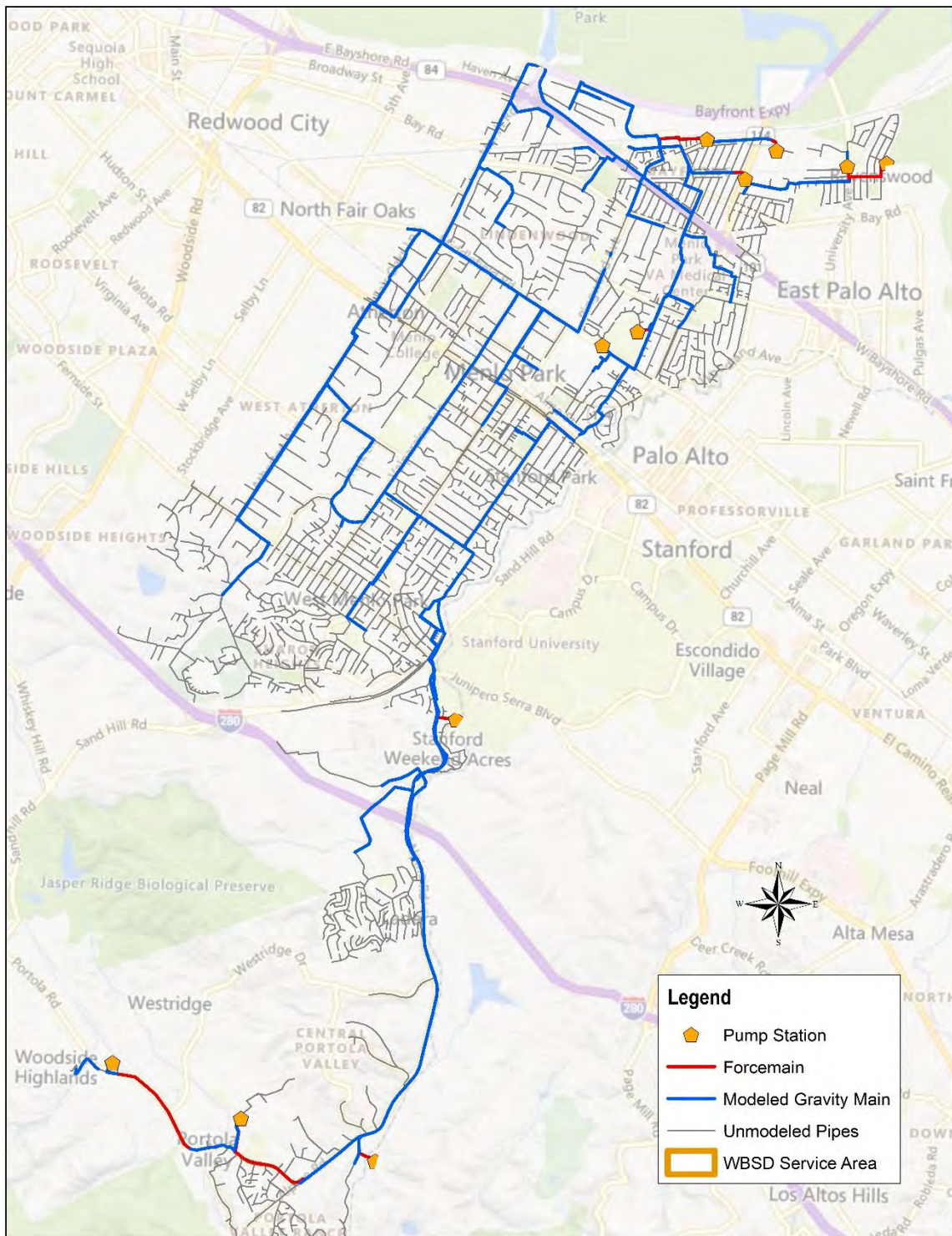


Table 4.1 Pump Station Parameters

Pump Station Name	Node ID	Wet Well Size	Modeled Ground Elevation (ft)	Modeled Wet Well Floor Elevation (ft)	No of Pumps	Pumping Capacity (gpm) (Note 1)	Pump On Level from Bottom (ft)	Pump Off Level from Bottom (ft)
Hamilton Henderson	B13079	12' diameter x 21' deep	7.34	-13.66	2	2100	8' 9" / 9' 9"	4' 7"
Willow	B12123	10' x 10' x 21' deep	13.23	-7.77	2	1650	8' 5" / 9' 5"	4' 5"
Menlo Industrial	B12121	8' diameter x 15' deep	9.34	-5.66	2	310	5' / 6'	2'
University	B11117	8' diameter x 23' deep	10.04	-12.96	3	640	8' / 8' 5" / 9'	4'
Illinois	A10029	12' diameter x 24' deep	12.86	-11.14	2	580	7' / 8' 5"	3'
Vintage Oaks 1	D12171	8' diameter x 24' deep	47.44	23.44	2	330	6' / 6' 3"	3' 2"
Vintage Oaks 2	E12139	8' diameter x 24' deep	56.67	32.67	2	330	5' / 6' 5"	3' 5"
Stowe Lane	I11062	8' x 8' dry well and 4' x 8' wet well X 25' deep	147.16	122.16	2	340	6' / 7'	3'
Los Trancos (not modeled)	M09031	8' diameter x 14' deep	452.14	438.14	2	100	5' / 5' 5"	2' 5"
Sausal Vista	M11016	12' diameter x 27' deep	495.61	468.60	2	715	7' 5" / 8' 5"	4'
Village Square	M13003	10' diameter x 17' deep	435.19	418.19	2	160	6' 5" / 7' 5"	4' 5"

Note 1. Pumping capacity assumes the largest pump is out of service.

4.2 WASTEWATER LOADS

Wastewater loads or flows are divided into three categories. All of these flows are discussed further in this section.

- ADWF or base wastewater flow (“BWF”) includes the average daily dry weather sanitary flow contribution from permitted connections to the collection system
- Groundwater infiltration (“GWI”) includes a constant flow that is found in the flow monitoring in addition to BWF. Different dry weather and wet weather GWI values were assigned.
- Rainfall-dependent inflow and infiltration (“RDII”) results when flows from wet weather events infiltrate the system through defects in existing wastewater collection system assets

4.2.1 Dry Weather Flow Generation

This section describes the tasks completed to calculate dry weather flows.

Dry Weather Sewer Flows

Dry weather flows were calculated using land uses and unit flow factors. The key elements of dry weather flow generation in the hydraulic model include ADWF, Peak Dry Weather Flow (“PDWF”), and dry weather GWI.

The initial step in assigning ADWF or BWF in the hydraulic model was to assign a unit flow to each assigned land use designation. Following is the process that was followed to assigned BWF.

1. Land use categories from the City of Menlo park GIS database were grouped into a shortlist of land use descriptions as discussed in Chapter 2.
2. A unique land use designation was assigned to each modeled parcel within the service area.
3. Large non-wastewater generating parcels were identified through a review of aerial imagery and water billing records.
4. The District’s designated unit flows for new construction established in the District’s design criteria were assigned to each parcel based on the land use designation. Initial unit flow factors were assigned per parcel to residential classifications, and per acre to other classifications, as shown in Table 4.2.
5. The hydraulic model was used to generate flows for the service area. Model-generated flows were compared to the measured systemwide base wastewater flow of 3.0 mgd on December 7, 2022.
6. The initial land use factors yielded flows that were nearly double the measured flows on December 7, 2023. The unit flow factors were adjusted globally for each land use category until general consistency was found between the model-generated and metered flows. Table 4.2 lists the final initial unit flow factors. These flow factors received further refinement during dry weather calibration.

Table 4.2 Initial Unit Factors for Base Wastewater Flow

Land Use	Unit flow factor (gpd/parcel or gal/acre)
Very Low Density Residential	125 gpd/parcel
Low Density Residential	125 gpd/parcel
Medium Density Residential	180 gpd/parcel
High Density Residential	350 gpd/parcel
Professional and Administrative Offices	1000 gal/acre
Retail/Commercial	1000 gal/acre
Limited Industry	1000 gal/acre
Public Facilities	250 gal/acre
Parks and Recreation	50 gal/acre
Schools	7 gal/student

In addition to the flow factors shown in Table 4.2, specific parcels with high point loadings were assigned a unique load per parcel that represents either General Plan estimates for wastewater discharge (for unbuilt structures) or estimated discharge calculated as 80% of average winter water use (for existing structures). Point flows were assigned to the following developments:

- Facebook (300 Constitution Avenue)
- Facebook (1 Hacker Way)
- Menlo Gateway
- Rosewood Sandhill
- Stanford Linear Accelerator Center (12 separate parcels)
- Sequoias Retirement Home
- Sequoia Bell Haven

Twenty one schools throughout the service area were assigned a unit flow per student as noted in Table 4.3.

Table 4.3 Schools with Unit Flows in Hydraulic Model

School and City/Town	Number of Students
Corte Madera School/Portola Valley	356
Woodside Priory School/Portola Valley	375
Ormondale Elementary School/Portola Valley	271
Woodland School/Portola Valley	292
La Entrada Middle School/Menlo Park	803
Phillips Brooks School/Menlo Park	292
Oak Knoll Elementary School/Menlo Park	738
Las Lomitas Elementary School/Atherton	579
Hillview Middle School/Menlo Park	972
Sacred Hearts Catholic School/Atherton	615
Menlo School/Atherton	700
Menlo College/Atherton	700
Menlo-Atherton High School/Atherton	2275
Encinal Elementary School	700
Laurel School/Atherton	706
Peninsula School/Menlo Park	218
Alto International School/Menlo Park & Willow Oaks Elementary School/Menlo Park	948
Cesar Chavez Elementary School/East Palo Alto	168
Costano Elementary School/East Palo Alto	558
Belle Haven Elementary School/Menlo Park	577
St. Raymond Catholic Elementary School	300

Diurnal (24-Hour) Flows

24-hour diurnal patterns were developed for each monitored basin from the V&A 2022-23 flow monitoring data. Four example diurnal curves are presented in Figures 4.2 and 4.3. The top set of curves were taken from the three large basins that discharge to the MPS. In the grey plot for M130, the peaks and valleys created by the diversion of flows far upstream at the SHGCC are still apparent. Flows in residential areas tend to peak mid-morning and again in the evening as residents utilize water for showers, laundry, and cooking. Flows in more commercial or industrial basins, such as FM140, exhibit less of a diurnal pattern.

The lower set of curves were taken from two basins near the “top” or upstream end of the system. M10 captures Portola Valley flows. The pumping that occurs in order to lift flows to the main system is visible through the multiple short flow peaks. A diurnal pattern can still be observed in this flow. M50B is located within the upper reaches of Santa Cruz Avenue. This basin receives return flow from the SHGCC. As seen in the FM050S graph, the return flow is constant and occurs over the entire 24-hour period.

Figure 4.2 Example Diurnal Patterns Upstream of the MPS
FM130 (Constitution Avenue), FM110A (Marsh Road), and FM140 (Bayfront Expressway)

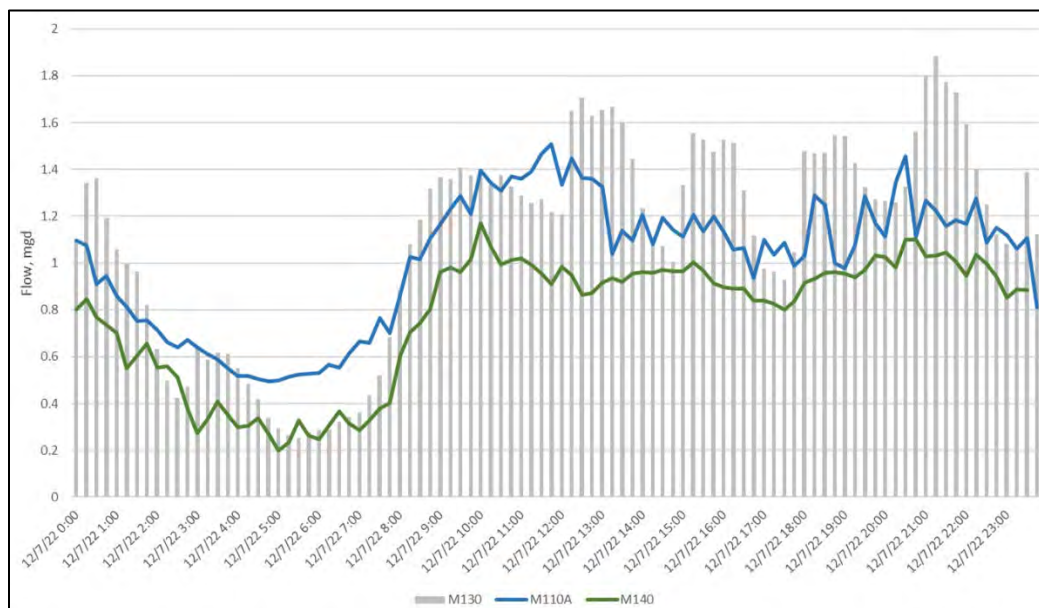
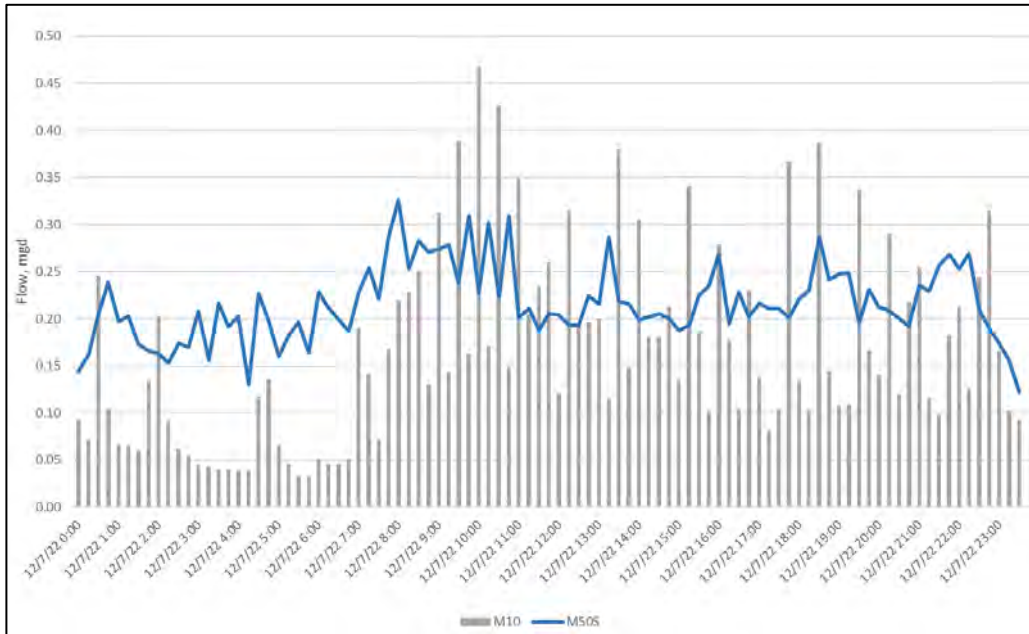


Figure 4.3 Example Diurnal Patterns Near Top (Upstream Portion) of System
FM20 (Portola Valley), FM50S (Alameda de las Pulgas)



4.3 MODEL CALIBRATION

The hydraulic model was calibrated for the dry and wet weather conditions. This section provides more information on the calibration effort and presents results.

4.3.1 Dry Weather Flow Calibration

The initial dry weather flow values discussed in Table 4.2 were assigned to each subcatchment in the hydraulic model. Subcatchments were grouped into larger sewer basins that were defined by 23 (of 25) temporary and permanent flowmeters that were monitored from December 2022 through February 2023. Figure 4.4 on the following page shows the sewer basins and their associated flowmeter. Table 4.4 provides a description of each sewer basin.

Modeled dry weather flows were then compared to average metered dry weather flows from December 7, 2022. Although some rainfall had occurred prior to this time, flow data indicates that the system flows on this day were not elevated as a result. The total system ADWF measured by V&A Engineering on December 7, 2022 was 3 mgd.

Dry weather flow components were adjusted beginning with the metering basins that are the furthest upstream (FM010 and FM020), and ending with the metering basins closest to the MPPS (FM110A, FM120A, FM130, and FM140). Flows were adjusted as follows, until average modeled flows were, for most basins, within five to ten percent of measured flows:

- If modeled flows were different than measured flows, the land use distribution within the basin was reviewed and unit flow factors increased or decreased as needed to adjust generated flows.
- A constant dry weather groundwater infiltration component was considered for the basins measured by FM050N, FM070B, C, & D, FM110A, FM130, and FM140. Groundwater was added only if the unit flow factors in these basins also needed to be increased.
- Calculated flows for upstream basins were allowed to vary more than five to ten percent from measured flows if, by the time these flows were aggregated further downstream, the accuracy remained within this tolerance.

A completed dry weather calibration was achieved when minimum, maximum, and average modeled flows, as well as the temporal distribution of flow over a 24-hour period, were within ten percent of measured flows. Exceptions were made for very small basins, for which a minor increment in flow may constitute a large percentage change.

The final adjusted unit flow factors for each basin and shown on Table 4.5. Dry weather calibration results are presented in Table 4.6. The basins in Table 4.6 are grouped by color to represent the general direction of flow from upstream to downstream. Some flows split between basins – these splits are not defined in Table 4.6.

Appendix B presents dry weather flow calibration plots for meters that measured flow on December 7, 2022.

Figure 4.4 Sewer Basins and Associated Flowmeters

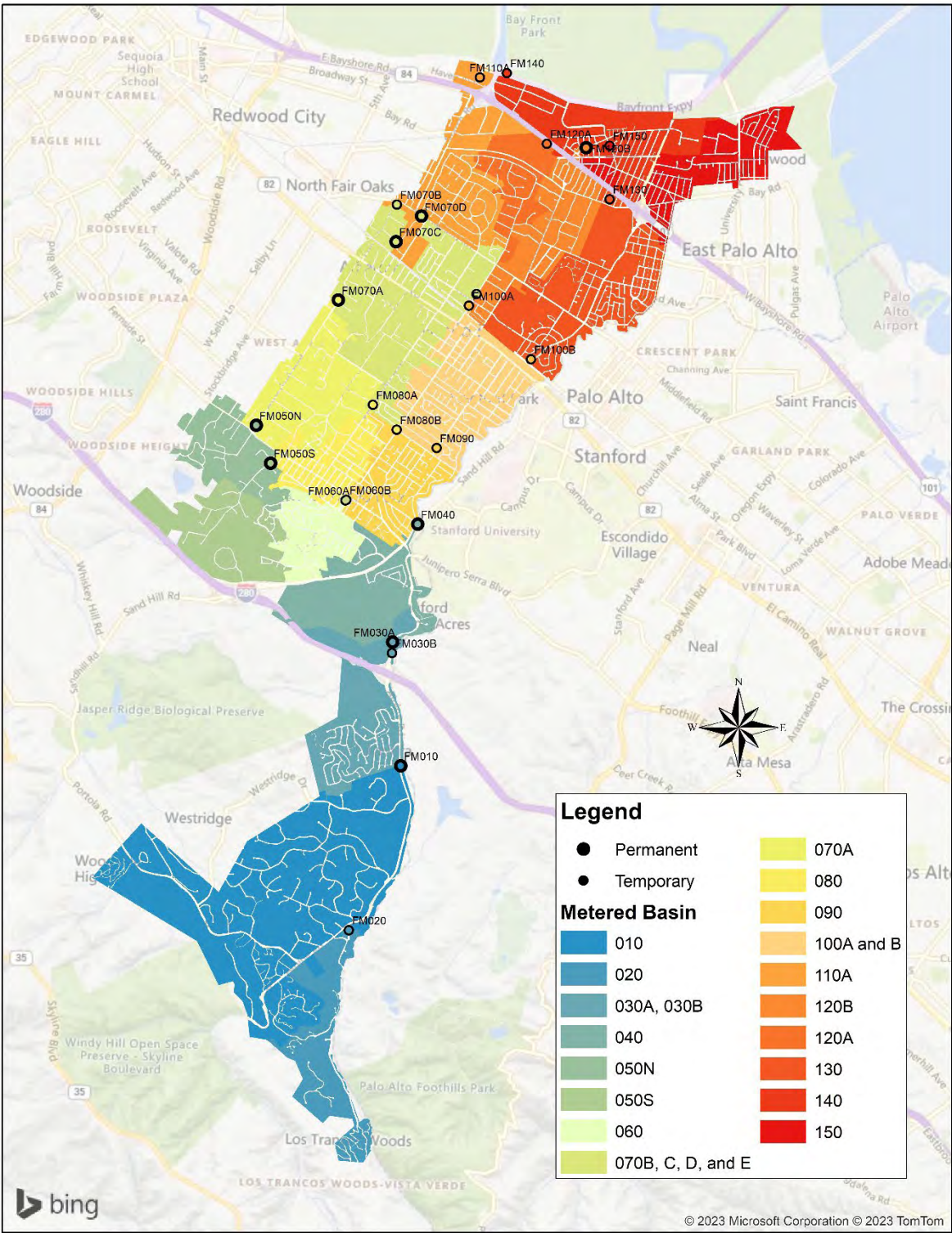


Table 4.3 Description of Sewer Basins

Basin	Location
010	Portola Valley neighborhoods
020	Los Trancos neighborhoods
030	Ladera. This basin includes numerous Grade 4 defects. Further, a 10-inch pipe with known surcharge has Grade 4 and 5 defects; upsizing may be beneficial. A basin-wide strategy is recommended prior to scheduling repairs.
040	SLAC and Stanford Hills
050NS	Between Alameda de las Pulgas, Sharon Heights, Alta Vista Drive and Stockbridge.
060AB	Sharon Heights
070AB	Southeast of Atherton Avenue between Alameda de las Pulgas and El Camino Real. This basin includes numerous Grade 4 defects. Further, the pipeline on Elena Avenue is recommended for upsizing. A basin-wide strategy is recommended prior to scheduling repairs.
70CD	Southeast of Atherton Avenue between El Camino Real and Middlefield Avenue
080AB	Between Alameda de las Pulgas, Santa Cruz, Olive Avenue, and Camino al Lago
090	Between Alameda de las Pulgas, Santa Cruz Avenue, Olive St., and Bay Laurel Dr.
100AB	Between El Camino Real, Valparaiso, Olive Street, and Bay Laurel Drive
110	Between Middlefield and Highway 101, adjacent to Marsh Rd, incl. Flood Circle
120AB	South of Highway 101 including Menlo Oaks and Oak Grove Avenue
130	Between El Camino Real and Highway 101 including the communities to the north and south of Willow Road (Linfield Oaks, Vintage Oaks, and the Willows)
140	Between Bayfront Expressway, Highway 101, Belle Haven, and Willow Road
150	Between Menalto Ave., Bay Rd., Bayfront Expwy, Willow Rd., and Belle Haven

Table 4.4 Wastewater Adjusted Unit Flow Factors

2022 Meter Name	Model Profile	VLD	LDR	MDR	HDR	Park & Rec	Public Facility	Retail and Comm (gal/acre)	Public and Admin Ofc (gpd)	Light Ind	Schools (gal/student)
FM010	7	175	175	175	350	50	250	1000	--	--	7
FM020	7	175	175	175	350	50	250	1000	--	--	7
FM030A/B	8	125	175	175	225	--	250	1000	--	--	7
FM040	8	125	175	175	225	--	250	1000	--	--	7
FM050N	13	75	75	75	75	--	--	--	--	--	--
FM050S	14	75	75	75	75	50	--	--	1000	1000	--
FM060A/B	15	75	75	75	75	--	1200	--	--	--	7
FM070A/B/C	10	65	65	65	65	--	150	500	--	--	7
FM070D	13	75	75	75	75	--	--	--	--	--	--
FM070E	9	80	80	90	225	--	250	1000	1000	--	--
FM080A/B	6	75	75	75	75	50	250	1000	1000	--	7
FM090	9	80	80	90	225	--	250	1000	1000	--	7
FM100A	12	75	75	75	350	50	250	1000	--	--	7
FM100B	9	80	80	90	225	--	250	1000	1000	--	--
FM110A	1	75	75	75	75	--	--	--	--	--	--
FM120A	11	125	125	125	350	50	250	--	1000	--	7
FM120B	3	75	75	75	75	50	250	--	1000	--	7
FM130	5	125	125	150	350	50	250	--	1000	1000	7
FM140	2	75	75	75	75	50	250	1000	1000	1000	--
FM150	4	125	100	125	350	50	250	1000	1000	1000	7

Table 4.5 Dry Weather Calibration Results (December 7, 2022)

2022 Meter Name	Manhole ID	ADWF from Dec 7, 2022 (gpd)	ADWF from Model	Model Accuracy	Comments
FM020	M09014	19,000	25,633	34.9%	Small basin
FM010	K10023	168,000	181,673	8.1%	
FM030A/B	I12086	128,000*	--	--	*FM030A is missing flow. Skip to FM040
FM060A/B	H14165	51,000	67,281	31.9%	Note 1
FM080A/B	G14189/G14071	151,000	167,694	11.0%	
FM040	H12067	225,000	197,470*	(12.2%)	Note 2
FM090	G13222	489,000	548,457*	12.2%	
FM100A/B	E14053/E12158	570,000	764,981*	34.2%	Note 3
FM130	C12089	1,110,000	1,083,605*	(2.4%)	
FM120B	C13029	119,000	116,098	(2.4%)	
FM050N	H16023	64,000	23,212	(64%)	Note 4
FM050S	H15134	216,000	286,666*	32.7%	
FM070A	F16032	362,000	670,484*	85.2%	
FM070B/C/D	Various	955,280	1,032,386*	8.1%	
FM110A	B16004	1,014,000	1,154,983*	13.9%	
FM120A	C14036	65,000	63,015	(3.0%)	OK
FM140	B15047	772,000	1,004,234	30.1%	Note 5
FM150	B13043	232,000	238,240	2.7%	OK

Note 1. Basins 060 and 080 include low residential unit flows of 75 gpd/EDU. These basins flow into Basin 090 which calibrates within 10%.

Note 2. Basin 040 flows to Basin 090 which has modeled flow that is more than 110% of measured flow.

Note 3. Basins 100A and 100B share flow and were calibrated together using residential unit flows of 75 gpd/EDU. Although flows are high, their downstream basins, 120B and 130, respectively, calibrate within 10%.

Note 4. Basins 050S through 070 and 110A include return flow from the SHGCC. FM70B/C/D and FM110A are acceptable. Attribute flows in FM050S and 070A to influences from SHGCC return flows.

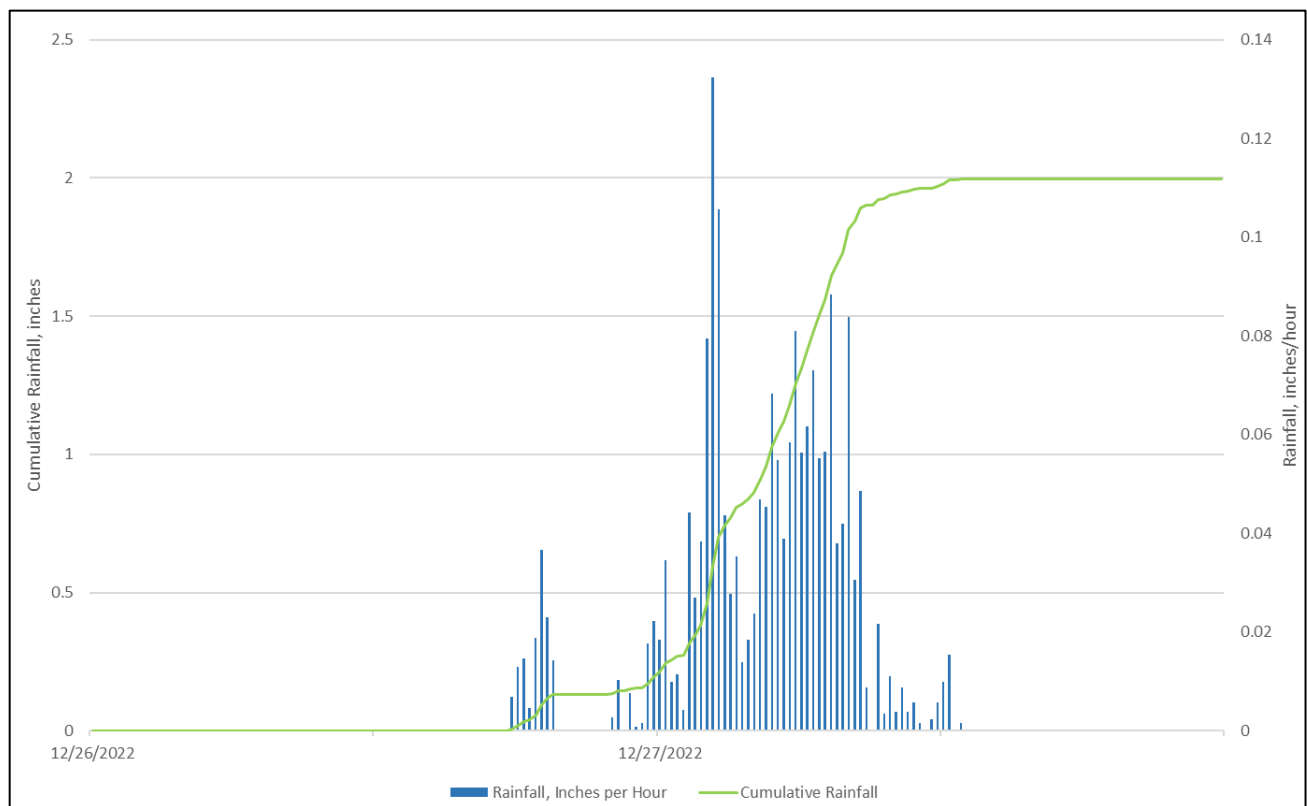
Note 5. This basin includes 226,000 of expected flows from Facebook. The difference between metered and measured flows might be attributable to currently unoccupied office space.

* 218,120 gallons of flow was diverted upstream of FM040; 184,810 gallons of flow was returned upstream of FM050S. These flows were accounted for arithmetically, and resulting flows are calculated, not measured.

4.3.2 Wet Weather Calibration

After the hydraulic model was calibrated to dry weather flows, the system was evaluated under the selected calibration storm, which was measured on December 27, 2022. Figure 4.5 shows the rainfall depth, duration, and distribution that occurred on December 27, 2022.

Figure 4.5 Calibration Storm Parameters



Wet Weather Flow Generation

The wet weather calibration process assigns parameters that represent the amount of inflow and infiltration that enters the gravity sewer pipeline during a wet weather event.

The RTK method was used to model rainfall-dependent inflow and infiltration “RDII”. The RTK method generates three hydrographs for each metered basin that represent the three different patterns of I&I that can enter the system during a wet weather event.

The three triangular hydrographs represent short-term, medium-term, and long-term RDII. RTK parameters include:

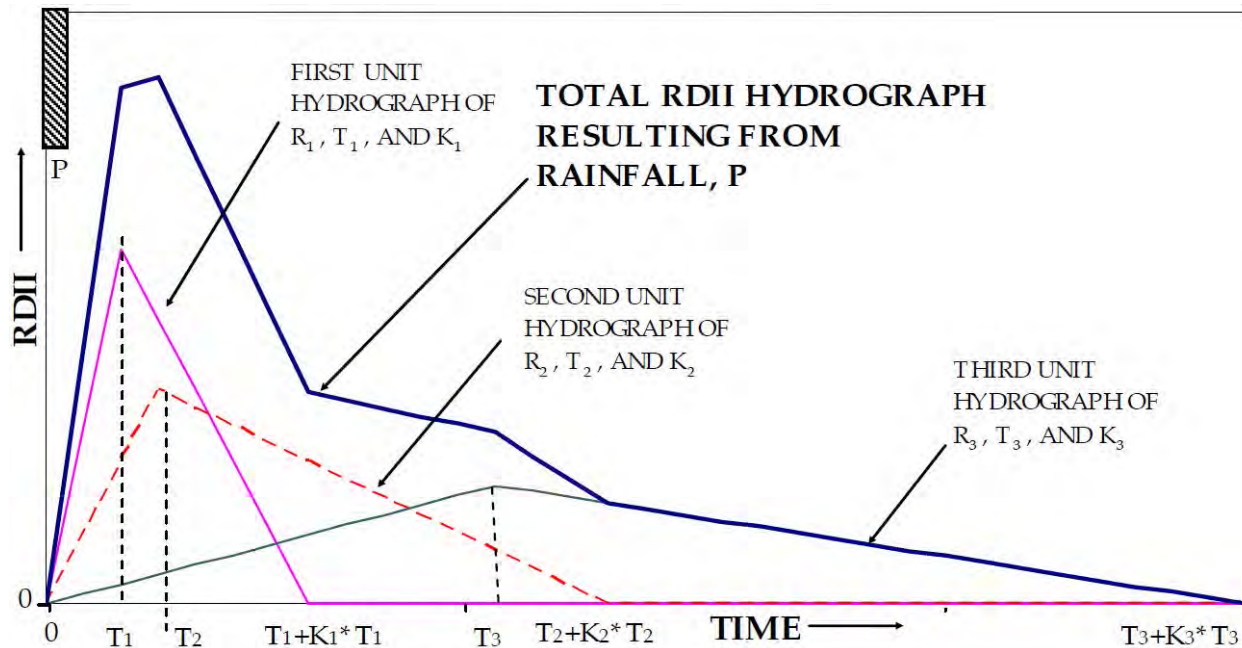
R = the area of the graph representing the portion of rainfall falling on a subcatchment that enters the sewer collection system.

T = the time from the onset of rainfall to the peak of the triangle.

K = the ratio of the “time to recession” to the “time to peak” of the hydrograph.

Components of the RTK hydrograph are provided courtesy of the United States Environmental Protection Agency (EPA) Office of Research and Development, and are presented in Figure 4.6.

Figure 4.6 Components of RTK Hydrograph



The hydraulic model includes fifteen separate profiles, each with an independent set of RTK hydrographs. The model adds RDII to the dry weather values that were obtained through the dry weather calibration to obtain predicted wet weather flows.

Wet Weather Flow Calibration

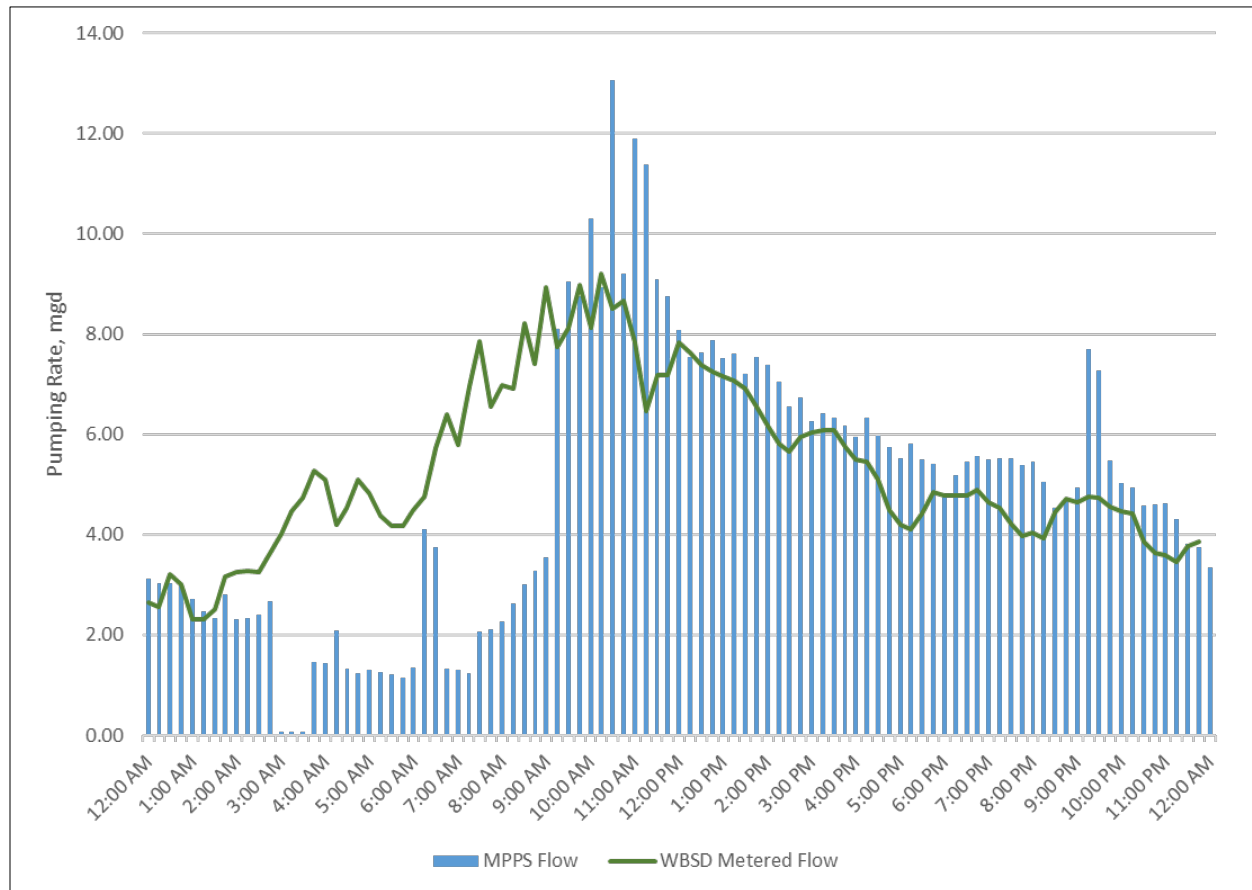
Wet weather flow calibration consisted of the following steps:

- Identify a wet weather calibration event with heavy rainfall, visible collection system response (increased flows), and without any spills. The selected rainfall event occurred on December 27, 2022.
- Assign and adjust R, T, and K parameters for the three wet weather hydrographs and assigned to the appropriate metering basins.
- Complete a hydraulic model run using the initial wet weather scenario and compare metered data with model simulation results.
- Adjust RTK parameters and conduct subsequent runs to maximize agreement for the calibration event, beginning with upstream and proceeding through all downstream metered basins.

A completed calibration was achieved when minimum, maximum, and average modeled flows, as well as the temporal distribution of flow over the calibration period were within ten percent of measured flows. The District's system has a number of known and some unknown wet weather flow diversions. In addition, during dry and wet weather periods, the District diverts flow in varying amounts from Basin FM040 and returns a portion of this flow to Basin FM050S. Due to this complex movement of flow, in some cases, variances from this calibration targets were accepted using engineering judgment.

The peak combined instantaneous (i.e., 15-minute duration) flow measured by FM110A, FM120A, FM130, and FM140 meters was 9.2 mgd on December 27, 2023. Average metered flow was 5.33 mgd. This flow compares to the total reported MPS average flow of 4.87 mgd and peak pumped flow of 13.05 mgd. Figure 4.7 shows MPS metered flow vs. WBSD metered flow. When the 24-hour flow patterns are compared, it is apparent that the MPPS stored flow in the morning and pumped this flow beginning at approximately 10 am, thus explaining the difference in reported peak flow rates.

Figure 4.7 MPPS Flows vs. WBSD Metered Flows on December 27, 2022



Appendix C includes graphs showing wet weather calibration results for all meters that were operational during the calibration storm. These results are also summarized in Table 4.6.

Validation of Wet Weather Model Results

After the hydraulic model was calibrated for wet and dry weather conditions, the model was validated by conducting a long-term simulation for the December 7 through January 31 flow monitoring period. The two-month timeframe includes the calibration storm and several additional storms. The purpose of the validation was to provide a level of confidence in model performance in predicting flow under a range of wet weather events. Appendix D includes modeled vs. metered flows for the validation period for selected upstream meters and the three major meters that discharge to the MPPS.

Table 4.6 Wet Weather Calibration Results

2022 Meter Name	Meter Avg (gpd)	Meter PWWF (gpd)	Model Average	Model Peak	Model Accuracy (Average)	Model Accuracy (Peak)	Comments
FM020	39,300	104,000	58,345	112,220	48.5%	7.9%	
FM010	448,000	1,282,000	439,256	1,274,020	(1.9%)	(0.6%)	
FM030A	391,000	1,514,000					Missing data. See FM040.
FM060A/B	158,300	342,200	122,609	253,120	(22.5%)	(26.0%)	Note 1
FM080A/B	197,000	424,700	218,562	430,490	10.9%	1.4%	
FM040*	771,000	1,933,000	814,856	2,210,431	5.7%	*	
FM090*	1,228,000	3,020,300	1,233,389	2,273,380	0.4%	*	
FM100A/B*	1,473,000	3,897,500	1,514,983	Combined	2.8%	*	
FM130*	2,183,000	4,593,300	1,992,513	3,477,790	(8.7%)	*	
FM120B*	153,000	307,250	137,869	192,630	(9.9%)	*	
FM050N							Out of service
FM050S*	256,500	506,628	190,707	361,910	(25.6%)	N/A	Note 2
FM070A*	673,000	1,412,100	662,433	1,193,510	(1.6%)	*	
FM070B/C/D*	1,102,900 + FM070C	Varies	1,220,969				FM070C is missing data. See FM110A
FM110A*	1,552,000	2,643,400	1,394,367	2,317,260	(10.1%)	*	
FM120A	75,000	150,500	72,603	96,110	(3.2%)	(36.1%)	Note 3
FM140	1,524,000	3,114,600	1,031,410	1,802,510	(32.3%)	(47.6%)	Note 4
FM150	396,000	742,300	373,299	749,440	(5.7%)	1.0%	

Note 1. Basin 060A/B has high R. Downstream FM040 calibrates well. Leave as is.

Note 2. Basin 050S has high R. SHGCC return flow is discharged to this basin and may be skewing results. FM070A downstream is acceptable. Leave as is.

Note 3. This is a relatively small basin with a low peaking factor. The average is within acceptable tolerances. Leave as is.

Note 4. FM140 has significant R. This basin appears to receives wet weather flow from FM130. Leave as is.

*On December 27, 2022, 172,000 gallons of flow was diverted from FM040 to the SHGCC plant and 33,000 gallons of this flow was returned to Basin FM50S and its downstream basins (70A, B, C, D, and 110A). Modeled vs. metered peak flows on this date are not directly comparable and provided for information only

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CHAPTER 5 CAPACITY ANALYSIS

In 2023, the District updated its hydraulic model as a component of the 2023 Wastewater Master Plan. Chapter 4, Hydraulic Model Development and Calibration, provides information on the model network, sewer loads, and wet weather calibration factors. The calibrated hydraulic model was used to evaluate the District's wastewater collection system for capacity constraints resulting from flow conditions that are predicted to occur during the District's design storm. The purpose of this Chapter is to summarize planning and capacity criteria, to discuss predicted capacity constraints, and present recommended solutions and strategies to address the identified issues. This Chapter also discussed specific capacity-related considerations that are required by Statewide Order 2022-0103-DWQ ("Statewide WDR").

This Chapter is organized as follows.

5.1 Planning and System Deficiency Criteria

5.2 Capacity Analysis

5.3 Project Costs

5.4 Review of Statewide Waste Discharge Requirements for Capacity Analysis

5.1 PLANNING AND SYSTEM DEFICIENCY CRITERIA

This section includes information on the selected design storm and also presents criteria that was used to evaluate system deficiencies that are predicted to occur during the design storm wet weather event.

5.1.1 Design Storm

The hydraulic model evaluates the predicted capacity of the District's wastewater collection system under flow loading from a hypothetical design storm. The selected design storm has a recurrence interval of 10 years (*i.e.*, 10 percent probability of occurring in any given year) and duration of 24 hours. Flow characteristics for the 10-year, 24-hour design storm were derived from data that is published by the National Oceanographic Atmospheric Administration ("NOAA"). For comparison, a 10-year, 6-hour design storm was also reviewed.

NOAA publishes statistically-derived rainfall depths for use in assigning a rainfall recurrence event⁶. The NOAA rainfall depth table for the City of Menlo Park is included as Figure 5.3 on the following pages. As shown on the table, the most likely rainfall depth for a 10-year, 24 hour rainfall event is 2.93 inches. Similarly, the most likely rainfall depth for a 10-year, 6-hour rainfall event is 1.87 inches.

In addition to providing rainfall depths, NOAA provides statistically probable distribution profiles for the rainfall over the defined period⁷. Rainfall temporal distributions were taken from Volume 6 (California); Temporal Distribution System 8, as shown in Figure 5.1 on the following page.

⁶ https://hdsc.nws.noaa.gov/pfds/pfds_map_cont.html?bkmrk=ca

⁷ https://hdsc.nws.noaa.gov/pfds/pfds_temporal.html

NOAA provides 36 temporal distributions for rainfall that could occur during each of the four quartiles of the storm duration, with zero to 90 percent chance of occurring within each quartile.

For the purposes of evaluating capacity needs, the temporal distribution that resulted in the highest hourly peak flow was selected for the hydraulic model analysis. This distribution has a 10 percent chance of occurring during the first quartile, and is shown in Figure 5.3 for both storms.

As shown on Figure 5.2, below, although the volume of rainfall is greater for the 10-year, 24-hour storm, the distribution of this volume is also over a longer period, leading to a lower peak hourly rate. The rainfall distribution was shifted to 9:30 a.m. in each case so the peak rainfall would occur at approximately the same time as the peak diurnal flow.

Figure 5.1 NOAA Rainfall Temporal Distribution Systems for Volume 6: California



Figure 5.2 NOAA Temporal 6-Hour and 24-Hour Rainfall Distributions for the City of Menlo Park (10% Probability of Occurring in the First Quartile)

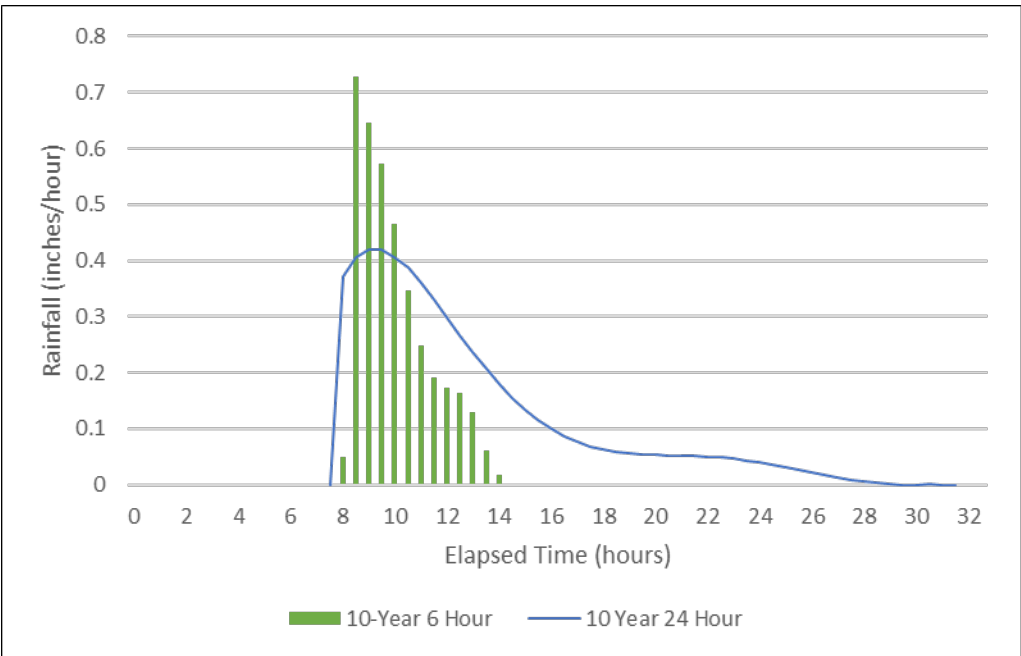
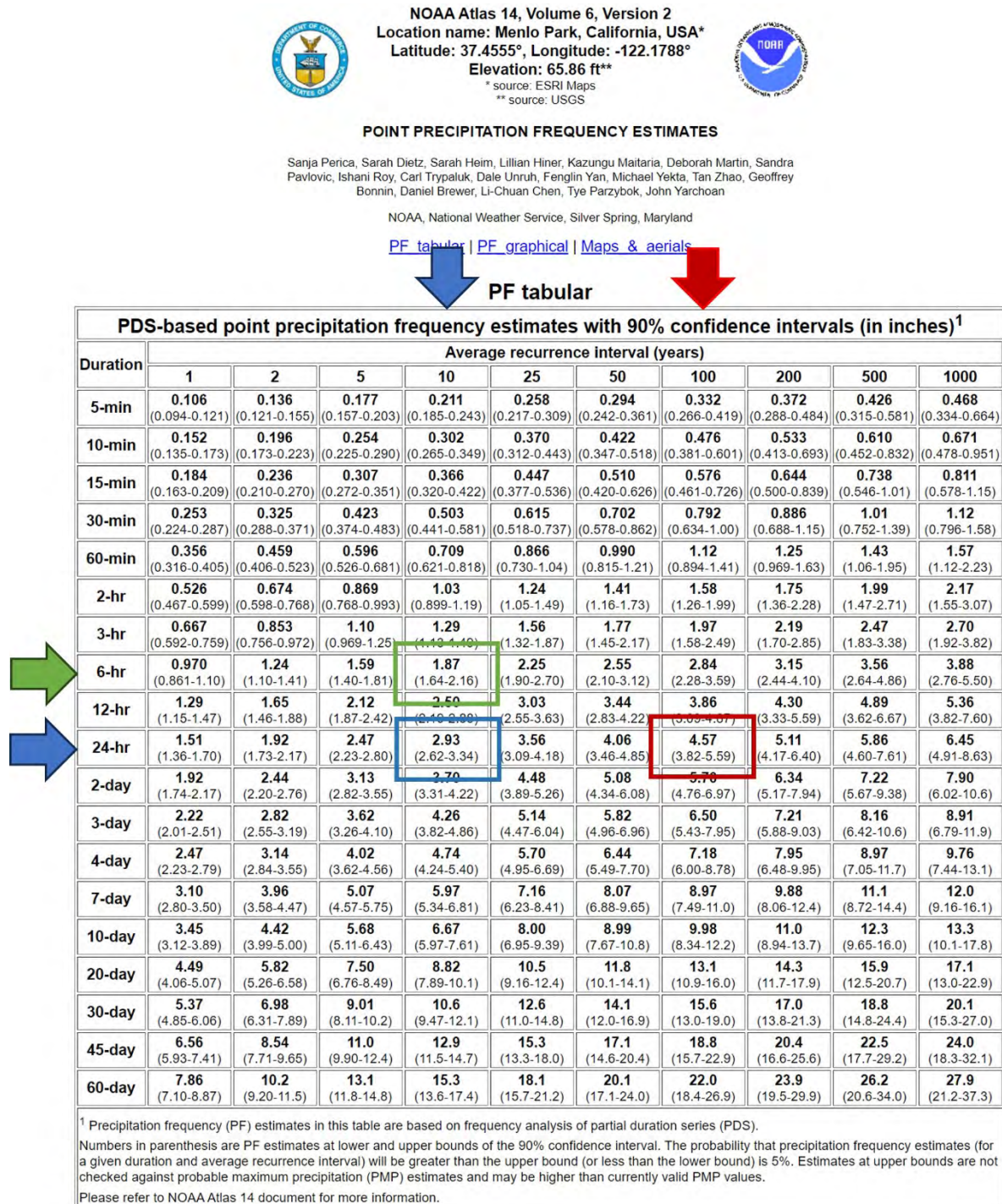


Figure 5.3 NOAA Rainfall Depths for Various Storm Frequencies and Durations



The District’s hydraulic analysis reviewed system performance under both wet weather scenarios. After comparing hydraulic model results, the two storms produce similar results, with the 10-year, 24-hour storm being more conservative (i.e., severe). Therefore, the 10-year, 24-hour rainfall event was selected as the District’s design storm.

5.1.2 Hydraulic Deficiency and Pipeline Design Criteria

The Master Plan addresses capacity deficiencies by upsizing, replacing, or otherwise addressing existing pipelines and increasing the pumping capacity at lift stations as needed. The primary purpose of developing each capacity recommendation is to establish a budget for planning future capital improvement projects. During the design phase for each project, alternative solutions may be identified. In addition, if the District is able to sufficiently reduce I&I through collector sewer rehabilitation and replacement, and can thereby avoid or reduce the scope of a proposed capacity upgrade for a comparable cost, then the District should consider completing the I&I reduction project in lieu of upsizing undersized infrastructure.

On December 31, 2022, the District received a rainfall event with approximately 4.5 inches of rainfall depth over a 24-hour period in sewer basin 070A (Atherton). Using the NOAA precipitation depth tables from Figure 5.2, the December 31, 2022 storm had a recurrence interval of 50 to 100 years (for a 24-hour event) and exceeded the District's design storm. During this rainfall event, the District had one spill at the Willow Pump Station point of discharge. This spill is predicted by the hydraulic model and was addressed through the installation of a bolt-down cover immediately after this rainfall event. On December 31, 2022, the District also conducted preventive bypassing to avoid potential spills in the Alberni easement, which is an area that is directly upstream of the Willow Pump Station and shows predicted surcharging during the design storm. No other spills were identified on this day.

The following capacity criteria were developed with the understanding that the system was able to convey flows with limited spills during the December 31, 2022 rainfall event. If the hydraulic model predicts a spill during the design storm, which is less severe than the December 31 event, this predicted spill is likely due to conservatism in the model. With this in mind, it does not seem reasonable to introduce further conservatism into the capacity criteria.

Existing Pipelines

- For existing pipelines, the pipe is considered to have a capacity deficiency when, under peak wet weather flow conditions for the design storm, the water level or hydraulic grade line is higher than the rim elevation and is predicted to spill from a manhole. Surcharged pipes that are not predicted to have a sewer spill are reviewed but do not automatically result in a capacity project.
- A force main is considered capacity-deficient if the maximum velocity exceeds 8 feet per second during peak hourly flows.
- A lift station is determined to require capacity upgrades if the tributary (i.e., upstream) system experiences a spill because the existing pump or pumps are undersized. This evaluation is completed with the largest pump at each pump station out of service.

New Pipelines

- Under peak dry weather flow conditions and where feasible, velocity should remain above 2.5 feet per second to facilitate self-cleaning
- Under PWWF conditions, maximum depth of flow divided by diameter ("d/D") should be equal to or less than the following where practical:
 - 10-inch diameter and smaller: $\text{Max } d/D = 0.67$

- 12-inch diameter and above: $\text{Max } d/D = 0.80$
- Under all conditions, maximum allowable velocity should be 10 feet per second. Under sustained operations, maximum velocity of 6 feet per second is recommended.

5.1.3 Emergency Storage at the Flow Equalization and Resource Recovery Facility

The District's FERRF is available to store peak flows that are conveyed to the Menlo Park Pump Station in excess of the pump station pumping capacity during a design storm. Further, during some wet weather periods when downstream SVCW member flows exceed their allocated SVCW capacity, SVCW has requested that the District divert its flows to the FERRF to make the District's SVCW capacity available for the downstream agencies.

The hydraulic model and master plan analysis does not include an evaluation of FERRF operations. However, the master plan recognizes that if flows at the MPPS exceed capacity, FERRF storage is available for use by the District.

5.2 CAPACITY ANALYSIS

The District's modeled collection system network was evaluated for its capacity to convey flows that are predicted to occur during the design storm event, taking into consideration the existing system capacity criteria discussed above. The hydraulic model identified two locations with predicted spills during the design storm. At each location, predicted overflows were limited to one or several manholes along the alignment. One of these locations, downstream of the Willow Pump Station, had a spill during the December 31, 2022 rainfall event. The second location, on Elena Avenue near Park Lane, surcharged but did not have any spills during this event. The second location is directly upstream of a siphon, which is on the District's high frequency cleaning list. Overall, the design storm did not cause widespread wastewater spills within the District's service area.

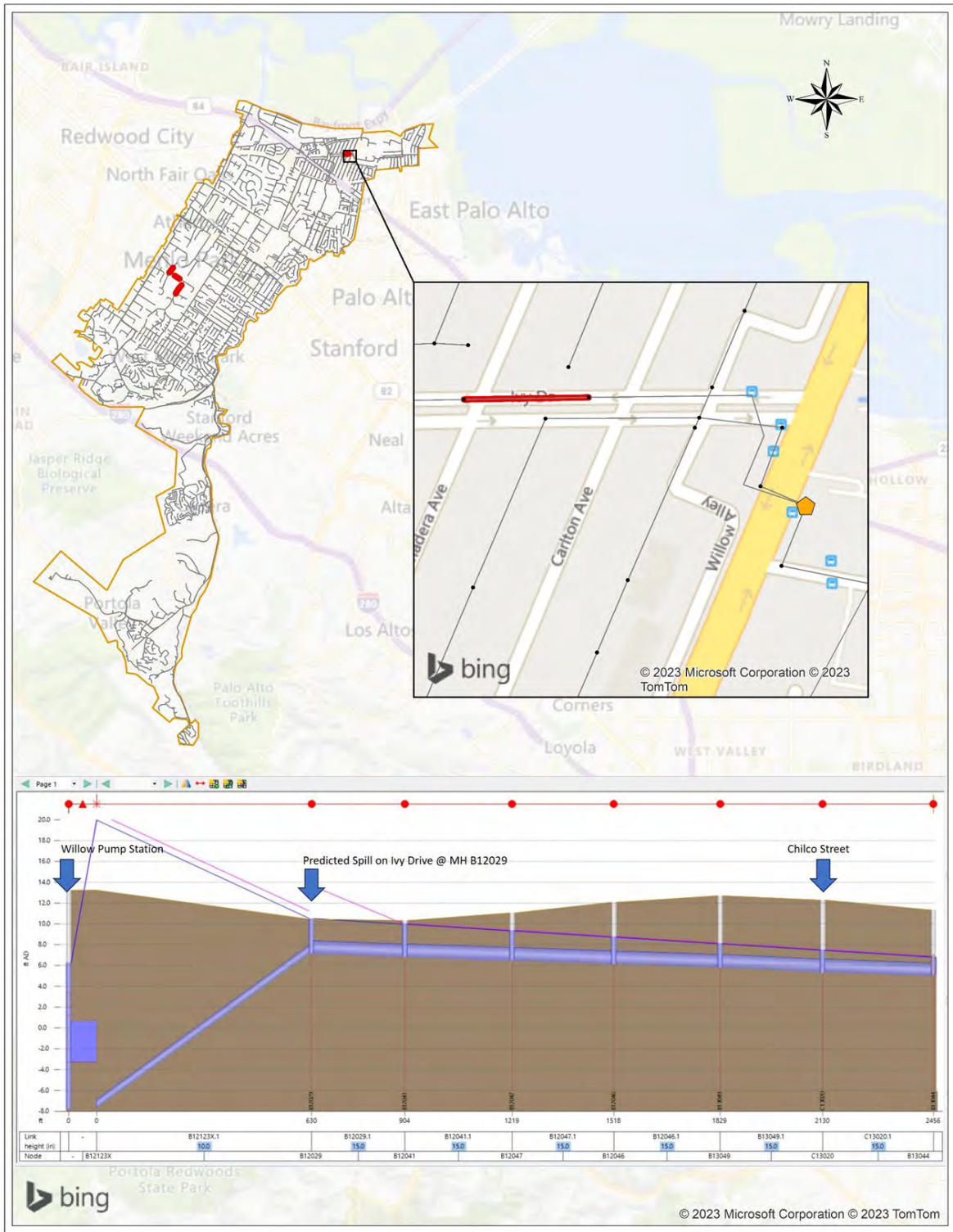
The locations with predicted spills during the design storm event are shown on Figures 5.4 and 5.5 on the following pages and described below.

5.2.1 Location 1 - Downstream of Willow Pump Station (Ivy Drive)

The Willow Pump Station has sufficient capacity to convey incoming flows. However, the hydraulic model predicts a spill at the discharge manhole on Ivy Drive (B12029). This shallow manhole has a depth of approximately 2.5 feet. During the December 31, 2022 rainfall event, the Menlo Pump Station did not keep pace with incoming flows. As a result, the system backed up and the gravity pipe on Chilco Street back up to and through Ivy Drive became surcharged. The Willow Pump Station discharged flow to the Ivy Drive gravity sewer. However, because this sewer was full, the flow could not enter and spilled from the discharge manhole. After the December 31, 2022 rainfall event ended, a locking manhole was installed on structure B12029 to prevent future spills from this location.

The hydraulic model predicts surcharge but no additional spills from the pipeline downstream of B12029. If the District implements a future project to alleviate the surcharge condition, upsizing this line may not be feasible due to permitting constraints. The pipeline on Ivy Drive from the Willow Pump Station to Chilco Street is located with a San Francisco Public Utilities Commission easement. Any construction that is planned for this line must consider and attempt to avoid the difficult longitudinal permitting process that would be involved related to construction within this easement. The hydraulic profile for the Ivy Drive capacity constraint and predicted spill location are shown on Figure 5.4 on the following page.

Figure 5.4 Capacity Constraint Downstream of Willow Pump Station



5.2.2 Location 2 - Elena Avenue near Park Lane

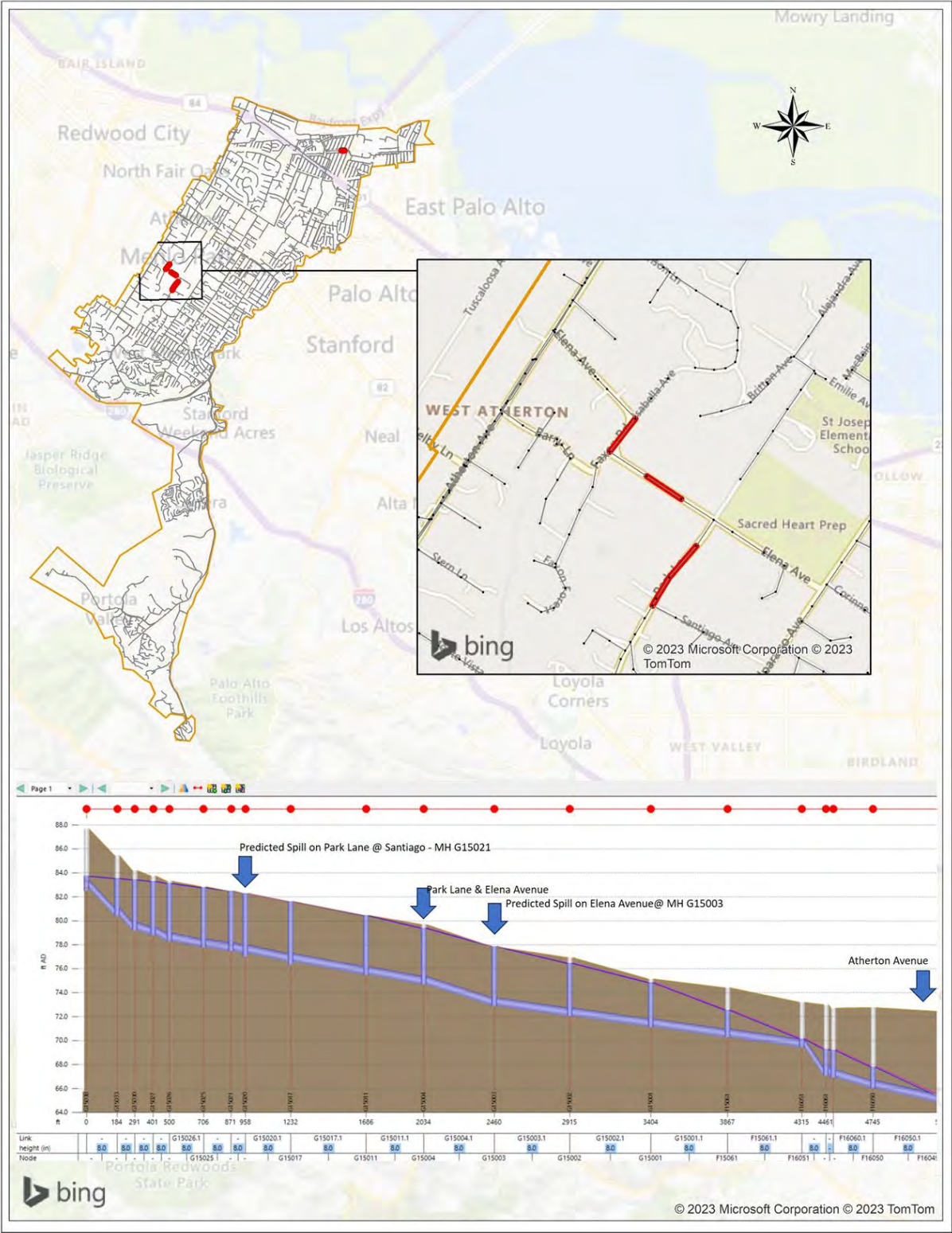
The District has an existing 8-inch pipe that begins where Camino al Lago turns into Park Lane in Atherton. This line continues north to Elena Avenue, then west on Elena Avenue to Atherton Avenue. The entire line has a diameter of 8 inches other than the siphon upstream of Atherton Avenue, which has a diameter of 10 inches. This pipe has experienced surcharging during prior wet weather events. The siphon is on a high frequency cleaning schedule to make sure that debris within this structure does not exacerbate surcharge conditions on Elena Avenue. This pipeline has not had recent spills and did not have any spills during the December 31, 2022 wet weather event.

The hydraulic model predicts spills from two manholes along this stretch during the design storm. The first spill occurs at structure G15003 on Elena Avenue. The second spill occurs at structure G15021 on Park Lane. Although these predicted spills have not been observed during heavy rainfall events, they indicate locations where spills are more likely to occur in the future. Therefore, a future project to address the predicted surcharge is included for consideration in the long-term capital improvement plan.

Prior to finalizing the scope of work for the Elena Avenue Capacity Improvement Project, it is recommended that District use one or more smart covers or other methods to monitor water levels within the alignment between G15030 and F16051 during future wet weather events. If the District receives a rainfall event that is similar to the rainfall that was captured during the 2022/23 wet weather season and water levels within the project alignment do not rise as predicted by the hydraulic model, then the project scope should be reviewed and adjusted as needed to address field conditions.

The hydraulic profile and predicted spill locations are shown on Figure 5.5 on the following page.

Figure 5.5 Capacity Constraint on Elena Avenue and Park Lane



5.2.3 Recommended Interceptor Capacity Improvement Projects

Two pipeline capacity improvement projects are recommended to address the hydraulic capacity constraints that are discussed in Sections 5.2.1 and 5.2.2. These projects are summarized in Table 5.1.

Table 5.1 Recommended Capacity Improvement Projects

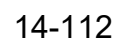
Project Name	Project Description
Elena Avenue Capacity Improvement Project	This project upsizes 4,833 lineal feet of existing pipe on Park Lane and Elena Avenue from manhole G15030 to F16049 from 8-inches to 10-inches in diameter. The existing siphon between F16051 to F16060 has a diameter of 10 inches and will not need to be replaced.
Willow Pump Station Discharge Capacity Improvement Project	This project installs 2,456 lineal feet of 12-inch DR-18 force main pipe within the 15-inch gravity line on Avy Drive, converting this pipe to an extended force main from the Willow Pump Station discharge manhole B12029 to Manhole B13044 on Chilco Street. Larger pumps will be required at Willow Pump Station based on available pump curves. This is a long-term project that is being addressed in the near-term through the installation of three sealed manhole covers on structures B12029 (completed), B12141 (planned), and B12147 (planned). Alternative lining methods should be reviewed during preliminary design to minimize the reduction in pipe diameter and reduce headloss through the extended force main.

A confirmation hydraulic run was conducted assuming completion of the capacity improvements discussed in Table 5.1. Figures 5.6 and 5.7 show the post-construction hydraulic profile for each location.

Figure 5.6 Hydraulic Profile after Conversion of the Willow Pump Station Discharge (Ivy Drive) Gravity Sewer to an Extended Force Main



5.2.4 Pump Station Capacity Analysis



Model-generated flows from the design storm event were compared to firm pump station capacity as provided by the District during model development. Ten of the District's eleven pump stations were included in the hydraulic model, as discussed in Chapter 4, Hydraulic Model Development and Calibration and listed in Table 5.2. The pumping capacities shown are taken from data provided by District staff, and not the original pump curves.

Table 5.2 Pump Station Parameters

Pump Station Name	Node ID	No of Pumps	Pumping Capacity (gpm) ^(Note 1)
Hamilton Henderson	B13079	2	2100
Willow	B12123	2	1650
Menlo Industrial	B12121	2	310
University	B11117	3	640
Illinois	A10029	2	580
Vintage Oaks 1	D12171	2	330
Vintage Oaks 2	E12139	2	330
Stowe Lane	I11062	2	340
Los Trancos	M09031	2	100 (not modeled)
Sausal Vista	M11016	2	715 (see Note 2)
Village Square	M13003	2	160

Notes:

1. Pumping capacity assumes the largest pump is out of service.
2. Data provided shows the Sausal Vista as having 650 gpm capacity. This station conveyed flows without issues during the December 31, 2022 rainfall event. Therefore, the predicted flow of 715 appears conservative and does not trigger the need for a capacity improvement project.

Table 5.3 on the following page lists pump station inflows that are predicted by the hydraulic model during the design storm.

Table 5.3 Pump Station Influent Flow During Design Storm

Pump Station Name	Node ID	Pumping Capacity (gpm) (Note 1)	Model Inflow During Design Storm (gpm)
Hamilton Henderson	B13079	2100	1848
Willow	B12123	1650	1597 (Note 3)
Menlo Industrial	B12121	310	310
University	B11117	640	558
Illinois	A10029	580	428
Vintage Oaks 1	D12171	330	142
Vintage Oaks 2	E12139	330	212
Stowe Lane	I11062	340	161
Los Trancos	M09031	100	Not Modeled
Sausal Vista	M11016	650	715 (Note 2)
Village Square	M13003	160	72

Notes:

1. Pumping capacity assumes the largest pump is out of service.
2. Data provided shows the Sausal Vista as having 650 gpm capacity. The model predicts influent flow of 715 gpm during the design storm. However, this station conveyed flows without issues during the December 31, 2022 rainfall event. Therefore, the modeled flows are conservatively high and do not trigger the need for capacity improvements at this station.
2. Although Willow Pump Station is sufficiently sized to convey design storm flows, as discussed above, the gravity sewer directly downstream of the discharge manhole for the Willow Pump Station is not able to convey design storm peak flows without predicted spills and requires a capacity upgrade.

5.3 PROJECT COSTS

Planning level costs were developed for the proposed pipeline improvements using the following unit cost and contingency data. Since project needs and construction details will be site-specific, actual project configurations and associated costs should be refined during project design.

Cost Assumptions:

- Pipe replacement unit cost: \$30 per inch-diameter-foot of pipe. Cost estimates for 18- and 24-inch lines requiring repair should use a reduced unit cost of \$24 per inch-diameter-foot of pipe.
- Appurtenances, laterals, mobilization, and shoring: 50% of pipe installation unit cost
- Force main through existing conduit: 60% of pipeline installation cost
- Construction contingency: 30%
- Engineering and Administration: 30% of construction cost, including contingencies.

The cost estimate assumed open cut construction for the Elena Avenue and Park Lane pipeline replacements. However, an evaluation will need to be completed in order to determine which

construction method represents the most viable alternative for each asset in terms of both cost and construction feasibility.

All costs are indexed to Engineering News Record Construction Cost Index, San Francisco, October 2023, 15473.38.

Table 5.4 shows the estimated conceptual costs for the recommended capacity improvement projects.

Table 5.4 Estimated Costs for Capacity Projects

Project Name	Pipe Length (ft)	New Diameter (in)	Construction Cost	
Elena Avenue Capacity Improvement Project	4,833	10	\$2,827,305	\$3,675,496
Willow Pump Station Discharge (Ivy Drive) Capacity Improvement Project	2,456	12	\$1,034,467 +\$50,000 for pump upgrades TBD	\$1,409,807

Notes:

1. Willow pump sizing will depend on the final length, diameter, and material selected for the extended force main. Costs shown are a placeholder, assuming the force main is extended to Chilco Street.

5.4 REVIEW OF STATEWIDE WASTE DISCHARGE REQUIREMENTS FOR CAPACITY ANALYSIS

The new State Water Resources Control Board Order WQ 2022-103-DWQ (Statewide WDR) became effective as of June 5, 2023. The Statewide WDR includes specific requirements for capacity analyses that are discussed in this section. The requirements of the Statewide WDR are summarized in Section 5.10 as follows:

The Enrollee shall maintain the system capacity necessary to convey: (1) base flows during dry weather conditions, and (2) wet weather peak flows consistent with designated local historic storms. Design storms must take into account system-specific stormwater contributions via inflow and infiltration, and location-specific depth of groundwater and storm frequencies. The Enrollee shall implement capital improvements to provide adequate hydraulic capacity to:

- *Meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance element of its Sewer System Management Plan; and*
- *Prevent system capacity-related spills, and adverse impacts to the treatment efficiency of downstream wastewater treatment facilities.*

The capacity analysis described in this Chapter addresses all of these requirements. However, Section 8.2 of the WDR further describes the following:

The capacity assessment must consider:

- *Data from existing system condition assessments, system inspections, system audits, spill history, and other available information;*
- *Capacity of flood-prone*

systems subject to increased infiltration and inflow, under normal local and regional storm conditions; • Capacity of systems subject to increased infiltration and inflow due to larger and/or higher-intensity storm events as a result of climate change; • Increases of erosive forces in canyons and streams near underground and aboveground system components due to larger and/or higher-intensity storm events; • Capacity of major system elements to accommodate dry weather peak flow conditions, and updated design storm and wet weather events; and • Necessary redundancy in pumping and storage capacities.

The District's Master Plan addresses data from system condition assessments via the Linear Asset Management Plan evaluation, considers both wet and dry weather peak flow conditions, and reviews the system under a number of wet weather events including the design storm event. Further, the hydraulic analysis reviews and confirms that the District has sufficient pump station capacity. The District has a redundant pump at each station.

This section discusses two areas of the Statewide WDR that are not otherwise addressed and evaluated through the capacity assessment described above: 1) Capacity of systems subject to increased I&I due to larger and/or higher-intensity storm events as a result of climate change; and 2) increase of erosive forces in canyons and streams near underground and aboveground system components due to larger and/or higher intensity storm events.

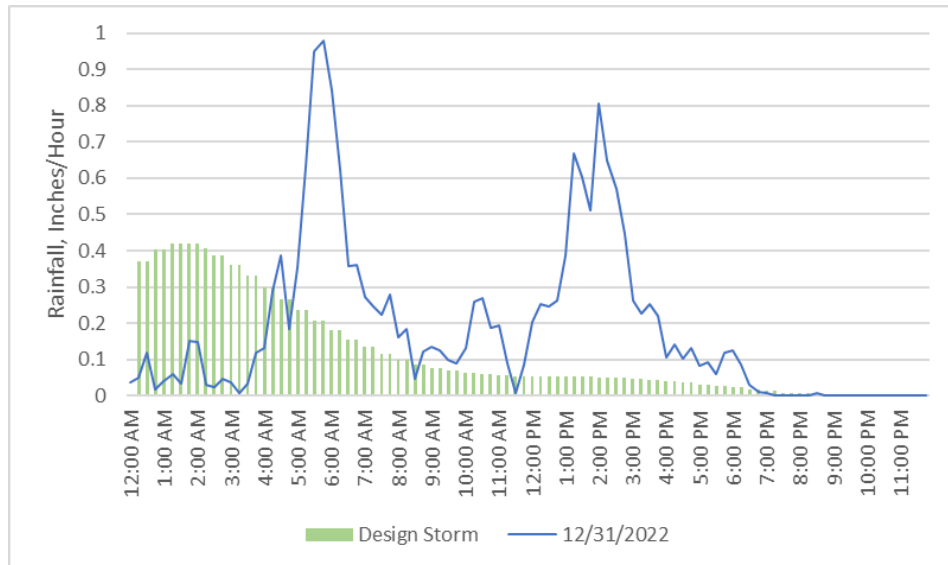
5.4.1 Capacity of Systems Subject to Increased I&I from Larger or Higher-Intensity Storms

During the 2022/2023 flow monitoring period, the District captured flows during the December 31, 2022 wet weather event. Figure 5.8 shows the December 31, 2022 rainfall profile for Basin 070A overlaid onto the profile for the 10-year, 24-hour design storm. The December 31 storm contained 4.48 inches of rain over a 24-hour period as compared to 2.93 inches for the design storm.

During the December 31, 2022 rainfall event, the District had one spill from Manhole B12029, which is the discharge manhole for the Willow Pump Station. This spill is predicted to occur during the design storm by the hydraulic model. The District also manually managed flow near the Alberni easement, which is a tributary basin to the Willow Pump Station.

The December 31, 2022 rainfall event is indicative of system performance during a storm that is larger than the design storm, and potentially indicative of hydraulic conditions that will be observed more frequently in the future as a result of climate change. The proposed capacity improvements address the capacity constraint that was observed during the December 31, 2022 event, and are therefore expected to be sufficient to address other similar rainfall events that are more severe than the design storm event.

Figure 5.8 Comparison of December 31, 2022 Rainfall with Design Storm



As related to climate change, sea level rise along the coastal areas of the District’s service area is predicted to be between three and four feet in a 100-year event as a result of climate change. The District’s gravity sewers are set back from the shoreline and ground surface is approximately eight feet in elevation at Menlo Park Pump Station, which is the terminus of the gravity collection system. Therefore, the District’s gravity system is not expected to be inundated by flooding as a result of sea level rise resulting from climate change.

5.4.2 Increase Of Erosive Forces in Canyons and Streams due to Higher Intensity Storm Events

The District did not observe any new erosion over the existing sewer pipelines in canyons and near streams as a result of the December 31, 2022 rainfall event. However, a closer inspection of the system should be conducted after the 2023-24 wet weather season to identify any areas of concern related to potential future erosion in the vicinity of existing gravity sewers.

CHAPTER 6 LINEAR ASSET MANAGEMENT PLAN

The purpose of this Technical Memorandum No. 5 is to provide background on the District's Linear Asset Management Plan ("LAMP"), including the risk model that forms the basis for the LAMP. This Chapter presents recommended projects and priorities, and describes the cost estimating methodology and estimated budget for proposed projects.

This Chapter is organized as follows.

- 6.1 Introduction and LAMP Approach
- 6.2 LAMP Risk Model
- 6.3 LAMP Model Results and Project Recommendations
- 6.4 Estimated Costs

6.1 INTRODUCTION AND LAMP APPROACH

The purpose of the Linear Asset Management Plan is to identify gravity sewer pipelines with the highest risk of failure, develop rehabilitation recommendations for these pipelines, estimate associated costs, and prioritize repairs to assist in capital project planning. The recommendations from the LAMP are reviewed in parallel with recommendations from the capacity analysis, pump station analysis, and recycled water program.

The Linear Asset Management Plan is a dynamic planning tool that has, as its foundation, a numerical risk model that assigns a Risk Score to every gravity pipe segment. The risk model calculates Risk as a product of Likelihood and Consequence of Failure. The LAMP focuses on the District's linear gravity assets, which include all gravity collector sewers and trunk lines.

The risk model uses the Microsoft® Access platform as a tool to calculate the risk score for every gravity sewer pipe segment through a series of queries. To begin this process, Likelihood and Consequence of Failure factors were collected from the District's asset database, computerized maintenance management system ("CMMS"), publicly available information obtained through the San Mateo County geographic information system ("GIS") website portal, results from the District's sewer hydraulic model, and sanitary sewer spill data from the California Integrated Water Quality System ("CIWQS") database.

The results from the risk model were analyzed, high risk pipes mapped and grouped, and near- and long-term rehabilitation needs identified. The resulting projects were grouped and prioritized by drainage basin. Conceptual costs were then developed for each of these projects, based on the expected repair method. The replacement strategy integrates the District's current repairs and replacement projects and provides a systematic repair program for the next ten years.

6.2 LAMP RISK MODEL

The basis for the development of the LAMP is an asset management tool that is referenced throughout this Chapter as the risk model or LAMP model. The risk model is a numerical tool model that assigns a risk score to every mainline sewer in the District's asset database. Risk is defined as the product of Likelihood and Consequence of Failure. This section provides an overview of the risk model,

summarizes the data used in the model, describes Likelihood and Consequence of Failure parameters, and discusses the final risk score that is generated by the risk model.

6.2.1 LAMP Model Overview

The risk model was developed using Microsoft® Access and utilizes the tables, forms and formulas that are provided within the program's user interface. Through this process, the contents, use and functionality of the risk model are easily understood by a user who is proficient in MS Access. Use of the risk model requires a general understanding of Microsoft® Office tools without specific knowledge of MS Access. Also, viewing and updating the risk model components can be achieved without specialized programming expertise.

The risk model first considers Likelihood of Failure, and then refines priorities based on Consequence of Failure, using assigned factors, weights, and scores. The product of the Likelihood and Consequence of Failure scores is the Risk Score. Likelihood of Failure parameters were selected to most effectively utilize the District's stored data, and include the following:

- Sanitary sewer spill history (5 years)
- Structural and Operation & Maintenance defects, as determined through closed circuit television ("CCTV") inspection
- Pipe material
- Liquefaction potential and seismic risk
- Pipeline capacity for interceptor pipelines
- Pipe size (i.e., less than 6 inches in diameter)

The Consequence of Failure score is based on parameters that, when adjacent to a failed pipeline, would result an increased impact to the community. Consequence of Failure parameters include the following:

- Proximity to a waterway
- Proximity to a primary or secondary transportation corridor
- Proximity to public facilities, including schools, parks, and hospitals
- Area served, as indicated by pipe size (i.e., greater than 12 inches in diameter)

Maps showing the likelihood and consequence of failure parameters are included in Appendix E.

The results from the risk model are sensitive to the assigned weights and scores that are used in the numerical algorithm. Therefore, the numerical model was developed using an iterative process that is shown in Figure 6.1, below.

Figure 6.1 LAMP Model Development Process



6.2.2 LAMP Model Data

LAMP model data was derived from five sources:

- The District's CCTV records, which are stored in the District's computerized maintenance management system and supplemental hard drives
- The District's ESRI GIS database
- County of San Mateo GIS shapefiles obtained through the County's website
- District's InfoWorks ICM hydraulic model
- CIWQS database of sanitary sewer spills

The District's approach toward pipeline repair or replacement is to address structural Grade 5 defects first and to include structural Grade 4 defects on any adjacent, contiguous pipes. After these pipelines are repaired, then the program will expand to address pipes without structural Grade 5 defects. Depending on the nature of the Grade 4 defect, judgment should be used to determine whether the defect warrants repair or should receive continued observation to confirm that it does not degrade into a structural Grade 5

defect. In parallel, the District plans to continue to extend the lives of less critical pipes through the point repair program.

CCTV Data and GIS Database

WBSD provided a download of the District’s CCTV inspection records and logs via hard drive and supplemented these files with additional inspection data that is stored apart from the District’s CMMS. The District also provided GIS shapefiles showing pipes, manholes, pump stations, force mains, and associated asset information.

Data from the District’s sources that were included in the LAMP model are shown in Table 6.1.

Table 6.1. Data Derived from District’s CCTV Inspection and GIS Databases

Data Description	Likelihood of Failure Parameter	Consequence of Failure Parameter
Pipe Size (Diameter)	X	X
Pipe Length	X	
CCTV Defect Codes and Scores	X	
Pipe Material	X	
Pipe Spatial Location		X

The CMMS database reports defects using National Association of Sewer Service Companies (“NASSCO”) Pipeline Assessment and Certification Program (“PACP”) Structural and Operations & Maintenance defect scores and codes for each pipe segment.

The CCTV database included information for 4,484 gravity pipelines. These pipelines represent 85.3 percent of the gravity pipeline inventory listed in GIS. The CCTV data was evaluated and pre-processed to identify and resolve the following occurrences:

1. If multiple CCTV inspection records were available for a single pipe, the most recent inspection record was used.
2. If multiple CCTV inspections are available for a single asset on the same day, the records were reviewed to determine the relevant record and/or combine the scores from what may be forward and reverse inspections.
3. Pipes without a matching ID in GIS were reviewed to attempt to identify the issue (reverse manhole IDs, inspection of two adjacent pipes in one record, misspelled ID, etc.).

County of San Mateo GIS Database

The County of San Mateo maintains a database of publicly-available GIS-based information. The County’s GIS layers were downloaded as shapefiles. These shapefiles were then overlaid onto the District’s sewer system GIS layer to define risk parameters for the risk model. Information from the County GIS library that was used for the risk model is shown in Table 6.2.

Table 6.2 Data Derived from County of San Mateo GIS Database

Data Description	Likelihood of Failure Parameter	Consequence of Failure Parameter
Parks, schools, and hospital polygons from County “Landmark Features” shapefile		X
Roads from the County “SMCO Streets” shapefile		X
Waterways from the County “Natural Features” shapefile		X
Fault crossing or liquefaction potential from the County “Faulting” and “Geology” shapefiles, respectively	X	

CIWQS Sanitary Sewer Spill Data and InfoWorks ICM Capacity Data

The California Integrated Water Quality System (“CIWQS”) sanitary sewer spill database is a publicly available record of reported sanitary sewer spills in California. The CIWQS database is accessible through an interactive link on following website:
<https://www.waterboards.ca.gov/ciwqs/publicreports.html>.

Pipelines associated with spills from January 2018 through December 2022 received an elevated score in the LAMP model. For these lines, the spill was assumed to indicate an increased maintenance requirement or capacity constraint in the system. Spills associated with contractor activities, pump station operations, or other issues not directly related to pipeline configuration or condition were excluded from this analysis.

Spill data was supplemented by a surcharge indicator that was extracted from the District’s sewer hydraulic model results output file. The surcharge indicator identifies pipes that are predicted to have flow levels that exceed the pipe crown during a design storm event.

6.2.3 Likelihood and Consequence of Failure

Likelihood and Consequence of Failure parameters, metrics, and scores are described in this section.

Likelihood of Failure

Likelihood of Failure metrics include the following:

- **Sanitary Sewer Spill.** The risk model assigns higher scores to pipe segments that have had spills caused by maintenance or structural issues.
- **NASSCO PACP Structural CCTV Inspection Rating.** The risk model assigns scores to pipes with Structural PACP ratings of 4 and 5, and differentiates between collapsed pipe, pipes with voids visible, hinged pipe, and other Grade 5 defects.
- **O&M CCTV Inspection Rating.** Similarly, the risk model assigns scores to pipes with O&M PACP defect codes indicating root balls, grease, paper/debris, infiltration, and sags.

- **Pipe Size.** Pipes that are less than 6 inches in diameter are difficult to maintain, and have a higher potential to have issues that lead to spills. Therefore, the model assigns an elevated score to all pipes with diameter less than 6-inches. Of note is that the District has a number of VCP pipes with diameters between 5 and 6 inches.
- **Pipe Material.** Pipes comprised of corrugated metal pipe and concrete (but not reinforced concrete) receive elevated scores in the risk model.
- **Geology/Liquefaction.** The risk model assigns a higher score to pipes situated in Bay Mud⁸ and assigns the highest score to a pipe that crosses a major fault.
- **Capacity.** Pipes that are predicted to surcharge during the design storm receive an elevated score in the LAMP model. Different scores are assigned to pipes that are 80% and 100% full.

The District's Likelihood of Failure metrics and their associated weights and scores are presented in Table 6.3.

⁸ Using GIS, if an asset intersected with a specific polygon, or a defined buffer around a point or line feature, a flag was assigned in the GIS database. Flagged assets received consequence of failure scores in the risk model based on these results.

Table 6.3 Likelihood of Failure Metrics, Weights, and Scores

Likelihood of Failure Metric	Relative Weight	Metric Score	Total Possible Score
Spills	6	Multiple spills: 10	60
		Single spill: 7	
		No spill: 0	
Structural PACP	6	Grade 5 Collapsed: 10	60
		Grade 5 High Risk (_VV, _SV, Hole, Broken): 8	
		Grade 5 Hinge: 4	
		Grade 4: 3	
O&M PACP	2	Root Ball Barrel: 10	20
		Grease: 7	
		Paper or Debris: 5	
		Infiltration: 3	
		Sag greater than 20% of Pipe Depth: 1	
Material	4	Corrugated Metal Pipe: 10	40
		Concrete Pipe: 7	
		Clay > 100 Years Old: 3	
Pipe Size	1	< 6-inches in Diameter: 10	10
Geology	1	San Andreas Fault: 10	10
		Bay Mud: 7	
Capacity	1	Flow Depth / Diameter > 1: 10	10
		Flow Depth / Diameter > 0.8: 7	
Maximum Possible Likelihood of Failure Score			210

Consequence of Failure

Consequence of Failure metrics provide information on how the failure of an asset will impact the ability of the District to meet its Level of Service goals. The relative weight held by the Consequence score varies, and depends on the District's strategic planning objectives. Consequence of Failure metrics that were used in the LAMP risk model are listed below.

- **Proximity to Waterway.** Waterways are shown as line features in the County of San Mateo “Natural Features” shapefile. The pipe segment was assigned an elevated consequence of failure score if it was located within 200 feet of a designated waterway.
- **Proximity to Parks, Schools, and Hospital.** Parks, Schools, and Hospitals are all considered critical facilities in the District’s service area. These facilities were located using information from the County of San Mateo “Landmark Features” shapefile. The landmarks are shown as polygons in the shapefile. Therefore, any pipe crossing a critical facility polygon received an elevated consequence of failure score. Similarly, a pipe that is located within 200 feet of these features was assigned an elevated consequence of failure.
- **Area Impacted.** Failure of a large pipe, which typically serves a larger area, has a higher consequence than failure of a small collector sewer. To model this understanding, pipes greater than 12 inches in diameter received elevated consequence of failure scores.
- **Transportation Impact.** Roadways are designated as a line feature in the San Mateo County “SMCO Streets” shapefile. Any pipes located within 200 feet of a primary or secondary arterial roadway, or a railroad, were assigned a higher consequence of failure in the LAMP model. Primary roadways included Highways 101 and 280, Alameda de las Pulgas, Alpine Road, Atherton Avenue, El Camino Real, Fair Oaks Lane, Middlefield Road, Marsh Road, Portola Road, Ravenswood Avenue, Ringwood Avenue, Willow Avenue, and Sand Hill Road. Secondary roadways included Santa Cruz Avenue, Valparaiso Avenue, Middle Avenue, Bay Road, and Olive Avenue.

Consequence of Failure metrics, weights, and scores are presented in Table 6.4.

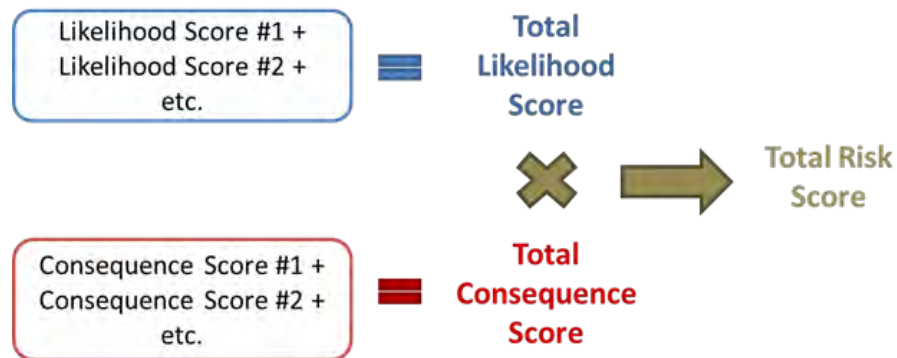
Table 6.4 Consequence of Failure Metrics, Weights, and Scores

Consequence of Failure Metric	LOS Goal	Weight	Metric Score	Total Possible Score
Proximity to Waterway	Preserve Health and the Environment. LOS Weight = 6	9	Within 200 feet of waterway feature: 5	90
Proximity to School, Park, or Hospital		2	Inside park, school, or hospital boundary: 5	60
			Within 200’ of park, school, or hospital boundary: 3	
Area Impacted	Provide Reliable Service. LOS Weight = 4	1	Pipe diameter > 12 inches: 5	20
Transportation Impact		2	Within 200 feet of primary arterial road or railway line: 5	40
			Within 200 feet of secondary road: 3	
Total Possible Consequence of Failure Score				210

6.2.4 Total Risk Score

The LAMP model uses a series of queries to filter or perform calculations on the District's sewer data. The model overlays Likelihood and Consequence metrics and scores, and develops an associated Total Risk Score. The process used to compile these scores is shown in Figure 6.2. The Likelihood and Consequence of Failure components that are shown in Figure 6.2 are discussed further in this Chapter.

Figure 6.2 Total Risk Score Calculation



The Risk Score is a relative number and is intended to be compared to similar scores for other pipes in the same model run. The Risk Score, when considered alone, has no numerical significance. Risk Scores were plotted in GIS to help identify the areas with the highest risk.

Specific to the District's system, the highest risk scores include pipelines that have a Structural Grade 4 or 5 defect and proximity to a waterway.

6.3 LAMP MODEL RESULTS AND PROJECT RECOMMENDATIONS

The Total Risk Scores that were generated by the LAMP model were linked back to their respective pipe segment by the Pipe ID, which was developed by concatenating the upstream and downstream manhole IDs. Risk Scores were grouped by priority, as noted below. The basins listed are shown on Figure 6.3. Basin descriptions are provided in Chapter 4, Hydraulic Model Development.

- **Priority 1:** 10 Pipes with structural Grade 5 defects and proximity to a waterway. This category includes pipes in Basins 010, 030A, 040, 50S, and 070A.
The capital improvement plan prioritizes the ten Priority 1 pipes and all other pipes with Grade 5 defects in these five basins. In total, 53 lines with a combined length of 12,890 lineal feet are repaired or replaced.
- **Priority 2:** Remaining pipes with known Grade 5 defects.
This category includes 48 pipes with a combined length of 12,508 lineal feet. Pipe are prioritized for repair by basin based on the cumulative risk scores divided by acreage.
- **Priority 3:** 35 pipes with structural Grade 4 defects and proximity to a waterway. This category includes pipes in Basins 20, 30, 40, 50, and 70.

The 35 Priority 3 pipes and 211 other pipes with Grade 4 defects in these five basins may continue to degrade and require repair within a 5 to 10-year timeframe. Priority 3 pipes have a combined length of 53,769 lineal feet (10.2 miles). Grade 4 pipes that are located on the same City block as Priority 1 and 2 pipes should be reviewed at the time of project development and grouped with the Grade 5 pipes as needed.

- **Priority 4:** 265 pipes with at least one structural Grade 4 defect and lower risk profiles.

These pipes should be reviewed regularly to assess whether the Grade 4 defects have degraded to Grade 5 status.

The District may extend the service life of pipes with lower priority Grade 4 defects in parallel with the Capital Improvement Program using pipe patching or other interim repairs.

6.3.1 Recommendations for Rehabilitation

After the priority project groupings were defined, the following approach was used to form the CIP project list:

- Step 1: All pipes with structural Grade 4 and 5 defects were categorized as requiring repair or replacement. Each project assumes that when structural Grade 5 defects are repaired on a pipe, all structural Grade 4 defects on the same pipe will also be repaired. Defects will receive point repairs until there is more than one defect, on average, within 40 linear feet of pipe (i.e., more than 2.5 defects per 100 lineal feet of pipe). For approximately every three pipe sections replaced, it is assumed that one manhole will also be replaced.
- Step 2: When a high priority pipeline is addressed, all structural Grade 5 defects in that basin are also assumed to be scheduled for repair or replacement. Pipes with Grade 4 defects and no Grade 5 defects that are adjacent to (i.e., contiguous to) a pipe with Grade 5 defects are also prioritized for repair.
- Step 3: Pipes are scheduled for replacement on a basin-wide basis, forming the priorities listed in Tables 6.5 and 6.6. Basin priority is calculated as the combined risk scores for all pipes in that basin divided by the basin acreage.

Table 6.5 Priority Basins Ranked by Risk (1 is Highest) Containing Pipes with Structural Grade 5 Defects

Ranking	Basin	Location
5	010	Portola Valley
3	030	Ladera. This basin includes numerous Grade 4 defects. Further, a 10-inch pipe with known surcharge has Grade 4 and 5 defects; upsizing may be beneficial. A basin-wide strategy is recommended prior to scheduling repairs.
4	040	SLAC and Stanford Hills
2	050NS	Between Alameda de las Pulgas, Sharon Heights, Alta Vista Drive and Stockbridge.
11	060AB	Sharon Heights
1	070AB	Southeast of Atherton Avenue between Alameda de las Pulgas and El Camino Real. This basin includes numerous Grade 4 defects. Further, the pipeline on Elena Avenue is recommended for upsizing. A basin-wide strategy is recommended prior to scheduling repairs.
13	70CD	Southeast of Atherton Avenue between El Camino Real and Middlefield Avenue
7	080AB	Between Alameda de las Pulgas, Santa Cruz, Olive Avenue, and Camino al Lago
8	090	Between Alameda de las Pulgas, Santa Cruz Avenue, Olive St., and Bay Laurel Dr.
6	100AB	Between El Camino Real, Valparaiso, Olive Street, and Bay Laurel Drive
15	110	Between Middlefield and Highway 101, adjacent to Marsh Rd, incl. Flood Circle
9	120AB	South of Highway 101 including Menlo Oaks and Oak Grove Avenue
14	130	Between El Camino Real and Highway 101 including the communities to the north and south of Willow Road (Linfield Oaks, Vintage Oaks, and the Willows)
12	140	Between Bayfront Expressway, Highway 101, Belle Haven, and Willow Road
10	150	Between Menalto Ave., Bay Rd., Bayfront Expwy, Willow Rd., and Belle Haven
Note: Blue shaded rows include pipes in proximity to a waterway and are the highest priority basins.		

Figure 6.3 Locations of District Sewer Basins

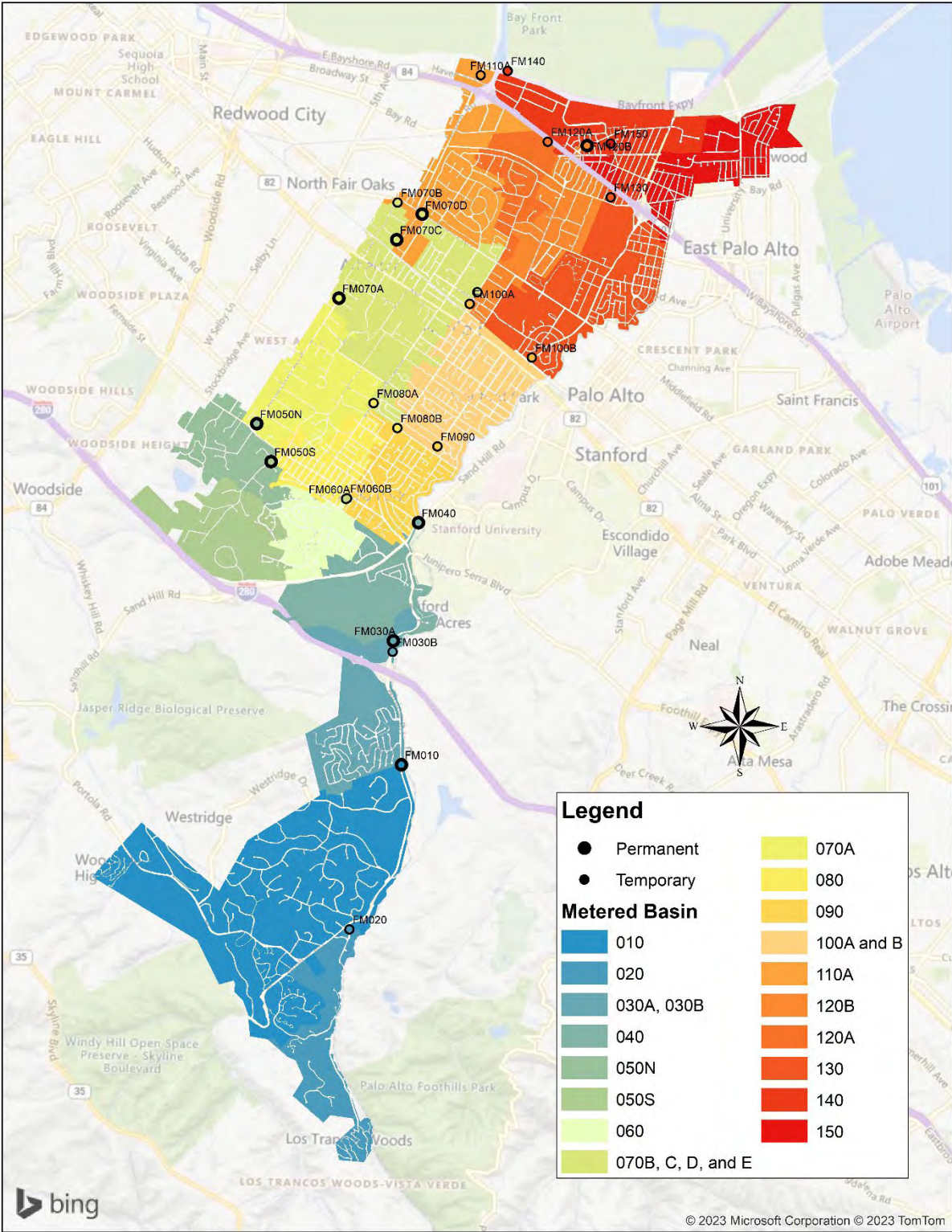


Table 6.6 Priority Basins Ranked by Risk (1 is Highest) Containing Pipes with Structural Grade 4 Defects

Ranking	Basin	Location
16	010	Portola Valley
5	020	Los Trancos
1	030	Ladera
4	040	SLAC and Stanford Hills
3	050NS	Between Alameda de las Pulgas, Sharon Heights, Alta Vista Drive and Stockbridge
15	060AB	Sharon Heights
2	070AB	Southeast of Atherton Avenue between Alameda de las Pulgas and El Camino Real
12	70CD	Southeast of Atherton Avenue between El Camino Real and Middlefield Avenue
7	080AB	Between Alameda de las Pulgas, Santa Cruz, Olive Avenue, and Camino al Lago
6	090	Between Alameda de las Pulgas, Santa Cruz Avenue, Olive Street, and Bay Laurel Drive
8	100AB	Between El Camino Real, Valparaiso, Olive Street, and Bay Laurel Drive
9	110	Between Middlefield and Highway 101, adjacent to Marsh Rd, incl. Flood Circle
11	120AB	South of Highway 101 including Menlo Oaks and Oak Grove Avenue
14	130	Between El Camino Real and Highway 101 including the communities to the north and south of Willow Road (Linfield Oaks, Vintage Oaks, and the Willows)
13	140	Between Bayfront Expressway, Highway 101, Belle Haven, and Willow Road
10	150	Between Menalto Avenue, Bay Road, Bayfront Expressway, Willow Road, and Belle Haven
Note: Blue shaded rows include pipes in proximity to a waterway and are the highest priority basins.		

Table 6.7 lists the number and length of pipe requiring repair in every basin. Tables 6.8 through 6.10 provide additional information on planned repairs vs. replacement.

Additional maps showing the basins by risk, including individual basin maps showing associated projects are included in Appendix F.

Table 6.7 CIP Pipes with Structural Grade 4 and 5 Defects by Basin

Basin	Structural Grade 5		High Priority Structural Grade 4		Structural Grade 4 Watch List	
	# of Pipes	Length (ft)	# of Pipes	Length (ft)	# of Pipes	Length (ft)
010	1	185	0	0	4	456
020	0	0	1	217	3	772
030A	7	1446	12	2700	59	11929
040	4	782	4	498	6	1912
050NS	20	5440	6	1142	32	6053
060AB	7	1592	0	0	16	2904
070AB	21	5,037	8	1835	78	19238
070CDE	5	1649	4	1001	33	6440
080AB	4	1182	0	0	30	6820
090	4	961	0	0	42	9956
100AB	10	2590	0	0	47	11498
110A	1	307	0	0	38	9146
120AB	4	1235	0	0	5	6275
130	3	771	0	0	18	4923
140	6	1222	0	0	20	3402
150	4	999	0	0	15	5888
Total	101	25,398	35	7,393	476	107,612
Note: Blue shaded rows are the basins with the Highest Priority pipes having structural Grade 5 defects.						

Table 6.8 Pipes with Grade 5 Defects Requiring Repair and Replacement (Years 1 through 5)

Basin	Method	No of Pipes	Length	Manholes	Project Cost
010	Repair	1	185	0	\$13,000
	Replace	0	0	0	\$0
030A	Repair	6	1247	0	\$156,000
	Replace	1	199	0	\$121,384
040	Repair	4	782	0	\$52,000
	Replace	0	0	0	\$0
050N/S	Repair	9	2010	0	\$195,000
	Replace	11	3430	4	\$2,138,732
060A/B	Repair	6	1329	0	\$117,000
	Replace	1	263	0	\$159,967
070A/B	Repair	11	3402	0	\$312,000
	Replace	10	1635	3	\$1,038,246
070C/D/E	Repair	3	905	0	\$52,000
	Replace	2	744	1	\$465,479
080A/B	Repair	4	1182	0	\$78,000
	Replace	0	0	0	\$0
090	Repair	2	390	0	\$52,000
	Replace	2	571	1	\$360,714
100A/B	Repair	10	2590	0	\$182,000
	Replace	0	0	0	\$0
110	Repair	1	307	0	\$39,000
	Replace	0	0	0	\$0
120	Repair	3	1011	0	\$52,000
	Replace	1	224	0	\$170,327
130	Repair	3	771	0	\$78,000
	Replace	0	0	0	\$0
140	Repair	3	728	0	\$52,000
	Replace	3	494	1	\$345,191
150	Repair	4	999	0	\$65,000
	Replace	0	0	0	\$0
Total		101	25,398	10	\$6,295,040

Notes:

- 1: Blue shaded rows are the basins with the Highest Priority pipes having structural Grade 5 defects.
2. If adjacent/contiguous pipes with Grade 4 defects are repaired concurrently, the total cost increases by \$2,848,053 and costs in Tables 4.5 and 4.6 decrease accordingly.

Table 6.9 Pipes with Grade 4 Defects in High Priority Basins (Future)

Basin	Method	No of Pipes	Length	Manholes	Project Cost
20	Repair	4	989	0	\$52,000
	Replace	0	0	0	\$0
030A	Repair	56	11436	0	\$1,209,000
	Replace	15	3193	5	\$2,007,907
40	Repair	8	2203	0	\$169,000
	Replace	2	206	1	\$138,599
050N/S	Repair	28	5696	0	\$637,000
	Replace	10	1499	3	\$950,774
070A/B	Repair	73	18528	0	\$1,716,000
	Replace	13	2545	4	\$1,870,809
070CDE	Repair	28	6641	0	\$546,000
	Replace	9	833	3	\$546,072
Total		246	53,769	16	\$9,843,161
Note: Blue shaded rows are the basins with the Highest Priority pipes having structural Grade 4 defects.					

Table 6.10 Pipes with Grade 4 Defects on “Watch” (Future)

Basin	Method	No of Pipes	Length	Manholes	Project Cost
10	Repair	3	368	0	\$39,000
	Replace	1	88	0	\$53,375
60	Repair	16	2904	0	\$286,000
	Replace	0	0	0	\$0
080AB	Repair	29	6572	0	\$546,000
	Replace	1	248	0	\$151,114
90	Repair	36	8831	0	\$780,000
	Replace	6	1125	2	\$710,410
100AB	Repair	42	10882	0	\$689,000
	Replace	5	616	2	\$400,821
110	Repair	34	8056	0	\$546,000
	Replace	4	1090	1	\$676,006
120	Repair	18	4179	0	\$312,000
	Replace	5	2096	3	\$2,983,877
130	Repair	16	3860	0	\$273,000
	Replace	4	1063	1	\$660,093
140	Repair	11	3154	0	\$208,000
	Replace	4	247	1	\$222,106
150	Repair	25	5629	0	\$403,000
	Replace	5	259	2	\$188,475
Total		265	61267	12	\$10,128,277

6.4 ESTIMATED COSTS

Planning level costs were developed for the proposed pipeline improvements using the following unit cost and contingency data. Since project needs and construction details will be site-specific, actual project configurations and associated costs should be refined during project design.

Cost Assumptions:

- Pipe replacement unit cost: \$30 per inch-diameter-foot of pipe. Cost estimates for 18- and 24-inch lines requiring repair used a reduced unit cost of \$24 per inch-diameter-foot of pipe.
- Appurtenances, laterals, mobilization, and shoring: 50% of pipe installation unit cost
- Construction contingency: 30%
- Point repairs: \$10,000/repair, plus 30% contingency
- Engineering and Administration: 30% of construction cost, including contingencies for pipe replacements. No additional Engineering or Administration cost was applied to point repairs.

- Manholes were assigned the same cost as point repairs.

The cost estimate assumed open cut construction for pipeline replacement. However, an evaluation will need to be completed in order to determine which construction method represents the most viable alternative for each asset in terms of both cost and construction feasibility.

All costs are indexed to Engineering News Record Construction Cost Index, San Francisco, October 2023, 15473.38.

Appendix G lists the pipes, repair recommendation, associated drainage basin, and assigned costs. This information was used to develop timelines for the proposed capital improvement plan. Projects timelines were established as follows:

1. Previously-scheduled point repair projects were included in FY2024-25 and FY2025-26. These projects are not included in the LAMP project lists and have a total estimated cost of \$8 million.
2. Priority 1 and 2 projects are scheduled for completion beginning in FY2024-25 through FY2029-30. These projects repair pipes with known structural Grade 5 defects.
3. Priority 3 and 4 projects include placeholder budgets in FY2029-30 through FY2034-39. Priority 3 projects repair pipes with proximity to a waterway with known structural Grade 4 defects that may degrade over time.
4. Priority 3 and 4 projects that are located on the same block as a Priority 1 or 2 project could be implemented ahead of schedule to improve construction efficiency, as budgets allow. Appendix 3 lists pipes with Grade 4 defects that are adjacent to Grade 5 pipes in each risk category.

CHAPTER 7 PUMP STATION ASSESSMENT

On August 3, 2023, Woodard & Curran staff visited and assessed the condition of twelve pump stations within the District's collection system. W&C staff were accompanied by the District's Pump Facility Supervisor, who facilitated the site visits and provided further detail regarding the function and condition of each pump station. The purpose of the assessment was to determine the potential for large-scale rehabilitations that may fall outside the scope of the District's proactive pump replacement program. Where such projects were identified, planning level capital cost estimates and approximate timelines for pump station rehabilitation were developed.

This Chapter summarizes the process and findings of the pump station site assessments. Additional information can be found in Appendix H, Pump Station Assessments TM prepared by Woodard & Curran.

7.1 GENERAL PUMP STATION CHARACTERISTICS

With the exception of Stowe Lane Pump Station, all of the District's wastewater pump stations feature Flygt (Xylem) submersible pumps in circular concrete wet wells. Stowe Lane Pump Station is the only dry pit pump station owned by the District. This aging facility does not match the design standard of the other submersible stations, and features pumps that are housed in a below grade dry pit.

The other atypical station is the District's FERRF Pump Station. The FERRF is located at the District's abandoned wastewater treatment facility just north of the Menlo Park Pump Station, which is owned and operated by SVCW. The FERRF, serves as repository for flows that exceed the capacity of the Menlo Pump Station and the downstream system, storing these peak flows in lined basins until they can be pumped back into the collection system by the FERRF pump station. The FERRF is therefore not in continuous use and serves as a standby facility. The FERRF has not been recently operated by WBSD, but rather has been operated by SVCW in its capacity to relieve excess conveyance and wastewater treatment plant flows. Recent improvements at the SVCW treatment plant are expected to minimize future use of the FERRF Pump Station, however the District would like to maintain this facility in order to manage emergencies, unanticipated flows and planned maintenance within the system.

7.2 SUMMARY OF SITE VISIT OBSERVATIONS / RECOMMENDATIONS

Table 7.1 provides a summary of the observed pump stations, the major aspects or issues, and the potential for CIPs that may not be included in the routine operations and maintenance budget.

Table 7.1 Pump Station Assessment Summary

Pump Station	Observed Conditions to be Addressed	CIP Project Required?	Existing CIP Projects?
Willow PS	Safety Grates absent Hatches do not conform to current District Standards Force mains in need of replacement Flow meter required Wet Well Coating required Odor control required	Yes	Yes
University PS	Safety Grates absent under wet well hatch Hatches do not conform to current District standards	No	No
Illinois PS	Safety Grates absent under wet well hatch	No	No
Menlo Industrial PS	No Deficiencies Observed PS may be replaced for Willow Village Development	No	No
Hamilton – Henderson PS	Exposed aggregate above water line indicative of hydrogen sulfide corrosion	Yes	No
Flow Equalization and Resource Recovery Facility	Electrical equipment at end of life Pumps at end of life Communications equipment at end of life Valves and piping show signs of corrosion and may not be routinely exercised	Yes	No
Vintage Oaks 1 PS	No Deficiencies Observed	No	No
Vintage Oaks 2 PS	No Deficiencies Observed	No	No
Stowe Lane PS	Dry pit pump configuration Pumps are in confined space Aging Electrical Equipment	Yes	Yes
Los Trancos PS	No Deficiencies Observed	No	No
Sausal Vista PS	No Deficiencies Observed	No	No
Village Square PS	No Deficiencies Observed	No	No

As indicated in the Table 7.1, the majority of pump stations did not have observed deficiencies that warrant action through a capital improvement project. With the exception of Willow Pump Station, Stowe Lane Pump Station and the FERFF Pump Station, the District's stations all share common design features and have been well maintained by District staff. One of the more common deficiencies noted – the lack of fall protection safety grates beneath wet well hatches – is relatively minor in nature and, along with wet well grating and covers that do not comply with current District standards, do not require a capital improvement program at this time.

Four pump stations have needs that can be addressed through capital improvement projects, two of which are already included in the District's existing CIP. These stations are:

- Willow Pump Station
- Stowe Lane Pump Station
- Hamilton-Henderson Pump Station
- FERFF Pump Station

7.2.1 Willow Pump Station

The Willow Pump Station is located at the intersection of Willow Rd. and O'Brien St in Menlo Park. This pump station is currently receiving upgrades to the generator, piping, and valves, and is receiving a wet well coating. The established project budget of \$1.7M was included in the capital improvement plan.

Figure 7.1 Willow Pump Station Wet Well Cover and Equipment



7.2.2 Stowe Lane

Stowe Lane Pump Station is the District's only dry pit station. Design documents for replacement of this pump station are in process. A new generator will be included with the new station. The current project budget of \$3.0M was included in the capital improvement plan.

Figure 7.2 – Stowe Lane Pump Station



7.2.3 Hamilton-Henderson Pump Station

Generally, this pump station is in good condition. However, as shown on Figure 7.3 on the following page, during visual inspection of the wet well walls, it was noted that the concrete aggregate is exposed on the surface of the wet well wall. By contrast, the concrete below the water line does not exhibit this condition. This typically indicates hydrogen sulfide corrosion of the concrete, which softens the cement and allows for erosion of the wall aggregate matrix over time. A new epoxy liner over cleaned concrete is recommended. Prior to executing this work, the concrete should be checked for soundness using non-destructive testing (“sounding” of the wall with a special hammer) to ensure that the damage does not extend deeper into the wall, and that reinforcement bars are not impacted.

Figure 7.3 Wet Well Corrosion Above Water Surface at Hamilton-Henderson Wet Well Walls



While the lining of the Hamilton-Henderson Pump Station wet well is straightforward, it requires full access to the wet well for sufficient time to clear and prepare the walls, then coat the walls and allow time for curing. This requires short-term bypassing of the wet well, typically using portable pumps to move water from an upstream manhole to the force main. For this reason, the project is included in the CIP with an estimated project cost of \$77,000.

7.2.4 Flow Equalization and Resource Recovery Facility Pump Station

The FERRF pump station consists of a wet well and valve box with three 60 horsepower (hp) pumps, 14-inch diameter pump discharges, and 30" and 24" isolation valves that determine the direction of flow to and from the station. Additionally, there is an adjacent metal building that houses the electrical and control systems.

The FERRF is nearing the end of useful life. Electrical equipment is showing signs of aging and deterioration. The three pumps, valves, and piping appeared to be corroded and the District informed W&C that the pumps are in need of replacement. Additionally, exposed aggregate was observed on the wet well walls, indicating potential hydrogen sulfide corrosion of the concrete.

Figure 7.4 FERRF Pump Station



Figure 7.5 FERRF Pump Discharge Valves



The District wishes to maintain the operational and emergency flexibility provided by the FERFF. As such, rehabilitation of this aging facility has been established as a CIP project. This project will include the following:

- Replace existing pump drives and electrical equipment
- Replace existing submersible pumps (60 Hp) and wet well piping (14")
- Replace discharge piping valves (gate valve and check valves)
- Recoat existing piping
- Line existing concrete wet well
- Clean and recoat metal building

Due to its intermittent, wet weather use, the FERFF can be improved without operational impacts to the District's collection system or to SVCW conveyance operation. All improvements listed above can be completed within a single dry season, assuming equipment is procured ahead of time. Therefore, bypassing of flows should not be required to complete this project. The estimated cost for this project is \$1.4M.

7.2.5 Force Main Replacements

The District has identified three force main segments that, based on pipeline age and repair history, are in need of replacement. These force mains are downstream of the following pump stations (approximate force main installation date as noted, based on District records)

- Willow Pump Station (circa 1980s)
- University Pump Station (1985)
- Illinois Pump Station (1985)

The force mains above total 3,600 linear feet and can be replaced as part of a combined capital improvement project. Open-cut replacement of these force mains is assumed, for a combined cost of \$2.1. The Willow force main replacement is separate from the Willow discharge force main extension discussed above, and should be scheduled to occur at the same time as the force main extension project.

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CHAPTER 8 RECYCLED WATER PROGRAM

This Chapter summarizes the key topics presented in the Recycled Water Program Technical Memorandum that was prepared by Woodard & Curran for this Master Plan. The Recycled Water Program TM is included in Appendix I.

8.1 BACKGROUND

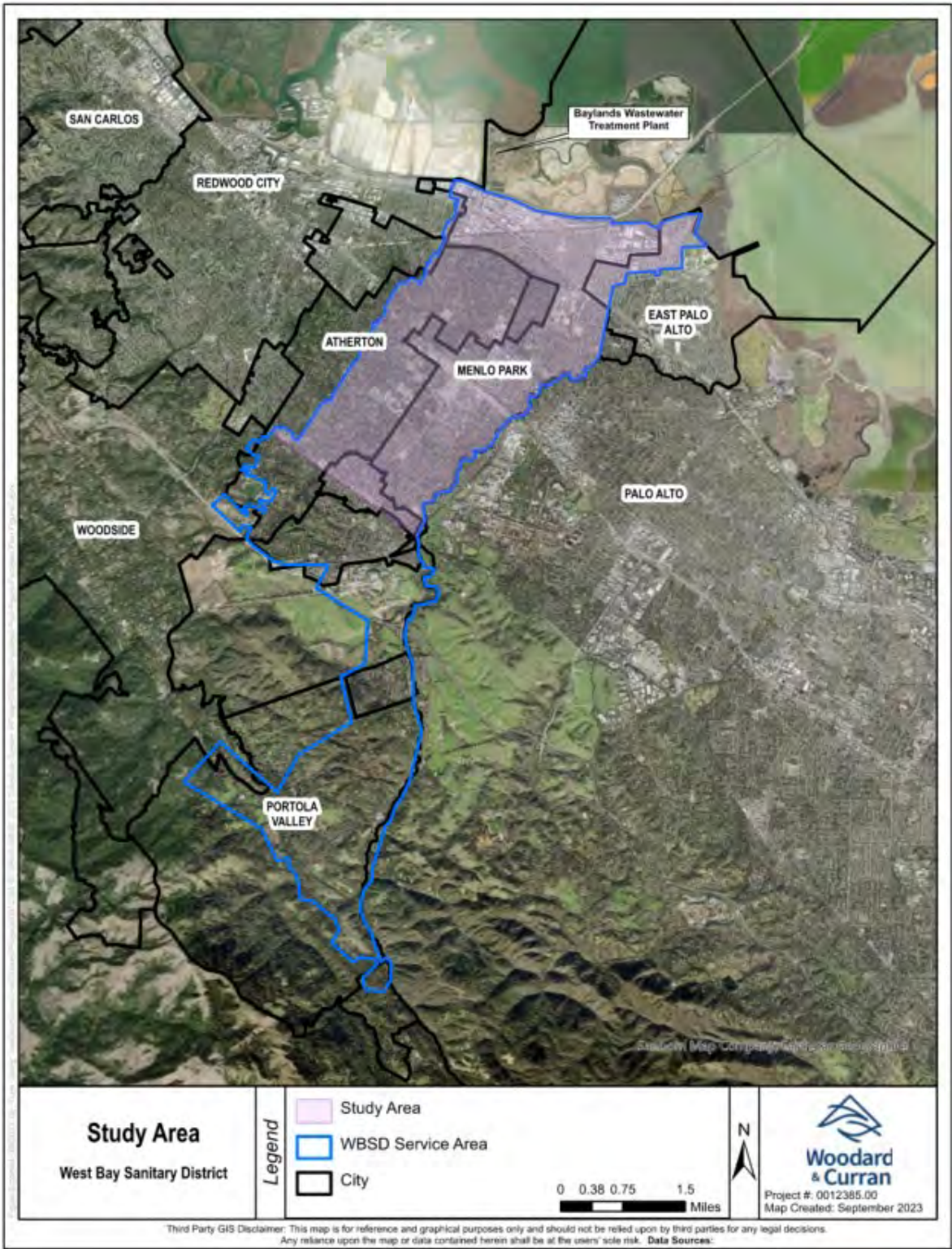
In 2014, the District completed a Recycled Water Market Survey and evaluated three conceptual alternatives to serve potential recycled water customers. This effort led to construction of a satellite treatment plant at the Sharon Heights Golf and Country Club (“SHGCC”) and recycled water use at the golf course and other potential customers near the golf course. In 2019, the District completed the Bayfront Recycled Water Facilities Plan (“RWFP”), which evaluated projects identified in the Market Survey in the Bayfront area. This plan updated and refined the market assessment and analyze various recycled water project alternatives.

The Bayfront facilities, including the influent facilities (pump station and pipeline), treatment facilities, and distribution facilities (pump station and pipeline) have been planned and are in the 30% design phase. The 2023 Recycled Water Plan that was prepared for the 2023 Master Plan focuses on additional distribution facilities that extend down to the central and southwest portions of the study area to serve new customers including Flood Park, Parkline (SRI International), Menlo-Atherton High School, and Veteran’s Administration, as shown on Figure 8.1 on the following page.

The objectives of the 2023 Recycled Water Plan include the following:

1. Review current and future plans for recycled water production throughout the District;
2. Identify a recycled water expansion and production strategy for the Bayfront area to the Government Center, including target customers, planning-level design criteria, and a planning-level cost estimate; and
3. Prepare an implementation plan for the recommended project, including implementation schedule and construction financing plan.

Figure 8.1 Recycled Water Study Area



8.2 WATER DEMAND AND SUPPLY

Based on the 2020 Urban Water Management Plan for the Menlo Park Municipal Water District (“MPMW”), the population of the City of Menlo Park served by the MPMW is expected to increase by 65% by 2040. Concurrently, employment in the service area is expected to expand, increasing both overall and nonpotable recycled water demand. Demand in the adjacent Cal Water service area is also expected to increase during this time, but not as significantly.

MPMW purchases all its water from the San Francisco Public Utilities Commission (“SFPUC”). With increasing water demands forecasted over the next 20 years and the MPMW’s dependence on the SFPUC water supply, adequate water supply for the region is an issue that recycled water could help address. For example, supplying recycled water to non-potable demands would dampen drought impacts on potable water supply. In addition, having a recycled water supply would also provide a local, local, reliable water source for non-potable demands in the event of SFPUC service disruptions.

8.3 POTENTIAL RECYCLED WATER CUSTOMERS AND DEMANDS

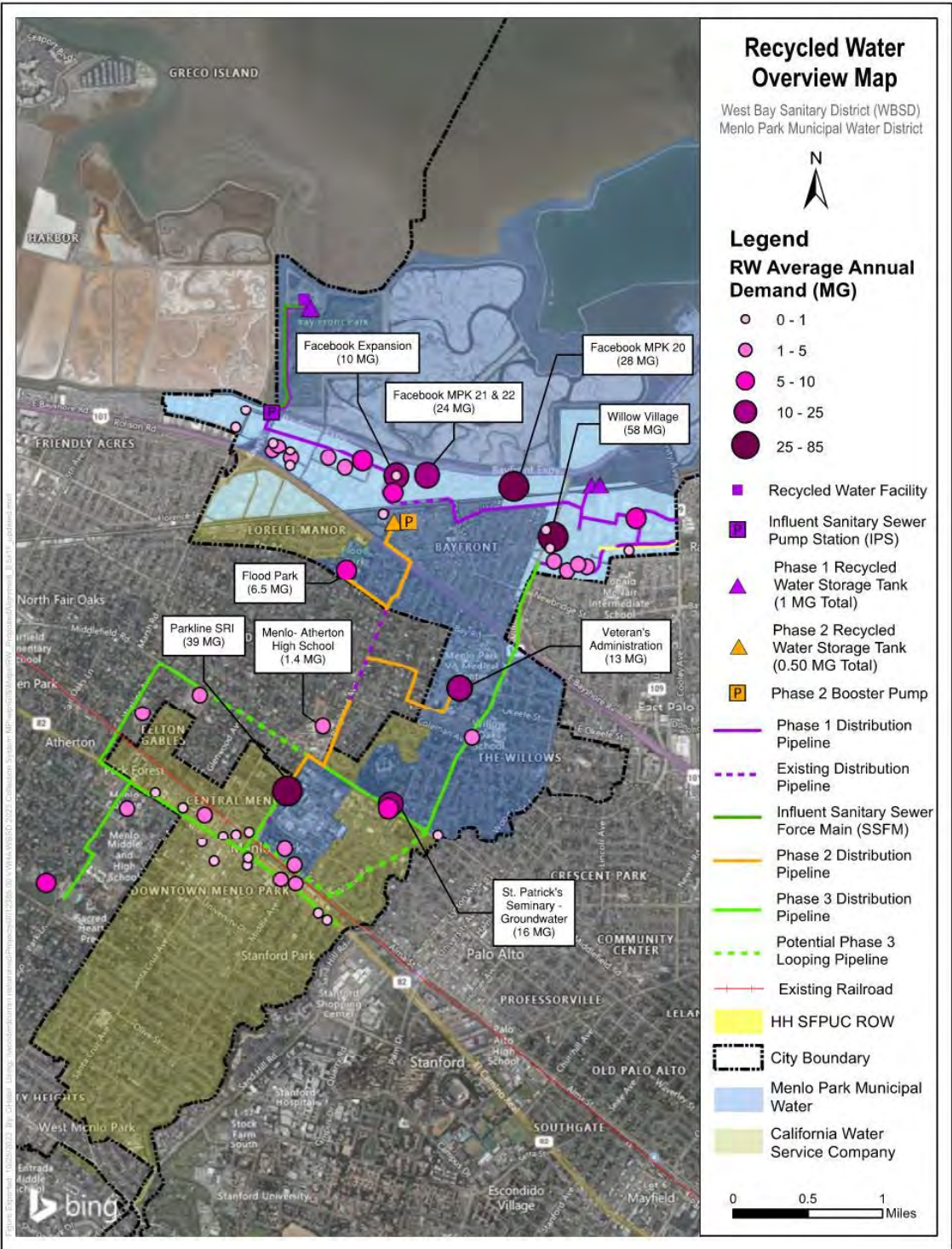
A preliminary recycled water market assessment was conducted as part of the 2014 Market Survey. The 2019 RWFP refined the preliminary recycled water market assessment to consider additional potential potable water customers (existing and future) that were not originally evaluated during the 2014 Market Survey. To supplement the information from the prior studies, a list of approved and pending development projects (Development Projects List) in the study area was provided by the District in May 2023.

Figure 8.2 shows existing, planned, and proposed recycled water distribution pipeline alignments to service customers in the study area. Phase 1 serves the Bayfront area, which is currently being designed; Phase 2 serves Flood Park, Veteran’s Administration, Menlo-Atherton High School, and Parkline (SRI International); and Phase 3 includes additional potential pipe in the Southwest and Eastern portions of the study area. Figure 8.2 also shows existing recycled water pipelines.

The total non-potable demand for each customer is comprised of up to three demand types: irrigation, flushing, and cooling tower demands. Facilities for treating and conveying recycled water are sized based on peak demand periods. Two peak flow situations were defined as criteria for development of the recycled water distribution system in the market assessment: maximum day demand (“MDD”) and peak hour demand (“PHD”). The average daily demand during the peak demand month of the year is the assumed MDD. PHD is defined as the maximum anticipated flow rate delivered to a customer (in gallons per minute) during MDD conditions. MDD and PHD factors were updated from the market assessment based on use type and are discussed as follows. Revised MDD and PHD values are presented and are summarized in Table 8.1.

MDD for irrigation is based on net evapotranspiration data from the Western Regional Climate Center, which shows that July is the peak demand month for the District’s service area for irrigation customers. The MDD peaking factor is 2.0 times the average annual demand (AAD) based on the estimated irrigation demand in July being twice the AAD. Irrigation-only customers without on-site storage typically operate at night for an 8-hour irrigation period. Therefore, the PHD factor was estimated at 3.0 (24-hour/8-hour irrigation = 3.0).

Figure 8.2 Recycled Water Overview Map



The potential recycled water customers were categorized into four service regions for the purposes of pipe and pump sizing. Customers that were more than 1,000 feet away from the pipelines were not included in this demand estimate.

Table 8.1 Recycled Water Customer Demands by Pipeline Service Region

Pipeline Service Region	RW Average Annual Demand (AFY)	RW Average Annual Demand (MG)	RW Average Daily Demand (MGD)
Phase 1, Northwest Area (Bayfront), West of Chilco Street ¹	81.40	26.53	0.07
Phase 1, Northeast Area (Bayfront), East of Chilco Street ¹	466.93	152.15	0.42
Total Phase 1	548.33	178.64⁴	0.49
Phase 2, Central Area ²	182.55	59.48	0.16
Total Phase 1 and 2	730.89	238.16	0.65
Phase 3, Southwest and Eastern Area ³	199.71	65.08	0.18
Total Phase 1, 2, and 3	930.60	303.24	0.83

Notes:

5. Area north of Highway 101.
6. Extending south of Highway 101 down Ringwood Ave. to connect to Parkline (SRI International).
7. Extending farther south and west to customers surrounding Downtown Menlo Park and east along Middlefield Road and Willow Road.
8. The recycled water demand for Phase 1 in this table is larger than the demand listed in the 2021 update, because the amount in this table includes two customers from the 2019 RWFP and some additional customers from the 2023 Development Projects List.

8.4 RECYCLED WATER QUALITY REQUIREMENTS

Potential irrigation customers have different water quality needs according to their intended use. Water quality guidelines for landscape use are well established, with different degrees of restriction for various water quality constituents for the use of recycled water in landscaped irrigation. Except for nitrogen, the constituents that impact landscaping are not removed by conventional wastewater or tertiary treatment processes. Therefore, recycled water constituent levels are likely to be similar to the source wastewater constituent levels.

The satellite treatment project requires diversion of wastewater flow from the existing collection system to the new treatment facilities. The two main conduits for wastewater to the potential plant location at the FERRF are the 24-inch sewer on Haven and the 54-inch sewer on Kelly Park. Water quality sampling and

flow monitoring at these two locations were used to develop conceptual treatment options for the future recycled water plant. The water supply from the Haven supply provided higher quality influent than the water supply from the Kelly Park supply.

8.5 RECYCLED WATER PROJECT COMPONENTS

Using the information described above, conceptual production and distribution facilities for the Phase 2 recycled water project were developed as follows:

Influent conveyance system: Influent pump station, force main, and equalization. These facilities would be sized to provide a constant feed to the new WRF. Raw wastewater would be pumped from a new manhole at Marsh Road and Bayfront Expressway, diverting flow from the existing 36-inch sewer to the satellite treatment plant.

- Water recycling facility (WRF): Grit removal, screening, MBR, UV, chlorination, de-colorization. The WRF would be sized to meet the max day demand. Due to seasonal irrigation demands, the facility would operate as a dry weather satellite plant – operating at a constant flow rate over 24 hours a day for 8 months of the year and operate at half capacity for 4 months of wet weather to maintain the biological processes.
- Waste return pump station and force main. Grit and screenings produced at the facility would be washed, compacted, and hauled offsite for disposal. Waste sludge and the de-colorization waste product would be discharged by force main to an existing 30-inch sewer main running along the north side of the Bayfront Expressway to be conveyed to SVCW.
- Recycled water distribution system: storage, pump station, and pipelines. The recycled water distribution system would be sized to meet peak hour demand, which typically occurs during an 8-hour period overnight between 10 PM and 6 AM. The peak hour demand exceeds the WRF capacity so recycled water storage would be provided to collect excess supply during periods of low demand so that sufficient supply is available on demand.

The Phase 1 (Bayfront Project) involves the construction of an influent pump station to divert wastewater from the District's collection system, approximately 4,900-LF of influent pipeline, a satellite MBR/UV treatment facility to treat and ultimately produce a maximum daily flow of 0.6 MGD (for Bayfront Project only), and recycled water distribution system including a recycled water storage tank, recycled water pump station, and approximately 30,800-LF of distribution pipeline (approximately 27,400-LF planned and 3,400-LF existing) to various customers.

The Phase 2 Project described in this Master Plan would involve the construction of a booster pump station at the intersection of Terminal Ave and Del Norte Ave, where the Phase 2 pipeline begins, to divert recycled water from the Phase 1 system to the Phase 2 system, approximately 18,800-LF of distribution pipeline (approximately 15,700-LF proposed and 3,100-LF existing) to various customers, and a 0.5 MG storage tank.

This project would deliver an estimated total of 930 AFY (Average Annual Demand) for irrigation, cooling towers, and other indoor uses. A list of recycled water customers for the Recommended Project

and their respective estimated average annual demands are presented in more detail in the Recycled Water Program TM.

The Phase 2 Project would divert wastewater from the 36-in sewer pipeline near the intersection of Bayfront Expressway and Marsh Road and pump the wastewater to the Bayfront satellite treatment facility. The treatment facility includes grit removal and fine screening, biological reactor tanks, MBR treatment system, UV disinfection, de-colorization and all appurtenances required for a fully functional treatment system. The product water would be stored in a recycled water tank and a distribution pump station would be used to deliver recycled water to customers. Distribution from the satellite treatment facility to customers would be through an 8-inch pipeline.

The possible future Phase 3 Project, would likely involve construction of approximately 40,700-LF of distribution pipeline to various customers and additional 1,200-LF of pipeline for possible looping purposes.

8.6 POTENTIAL RECYCLED WATER PROJECT COST ESTIMATE

Table 8.2 on the following page summarizes the estimated cost for the Phase 2 facilities. Costs for Phase 3 are included for reference only. The Phase 1 facilities (the Bayfront Project) are not included in this estimate because, while not yet built, they have already been financed and are currently in the 30% design phase.

8.7 SCHEDULE AND CRITICAL PATH FOR IMPLEMENTATION

Full implementation of the Phase 2 project is anticipated to take approximately 10 years. All of the preliminary studies required to further refine the project need to be completed in order to: 1) prepare the Engineering Report for DDW; 2) initiate environmental documentation; and 3) refine project cost estimates. The environmental documentation should be completed in parallel with the Engineering Report.

Several permits are necessary for the implementation of the Phase 2 project. Foremost, the District would need to obtain an individual Water Reclamation Requirement permit from the San Francisco Bay Regional Water Quality Control Board to cover the production of recycled water. A Title 22 Engineering Report would also be needed to satisfy SWRCB Division of Drinking Water requirements. In addition, standard construction permits including encroachment and air quality permits would also be required. Depending on whether MPMW or the District decides to be the recycled water purveyor, that agency would need to enroll under the State Water Resources Control Board General Order WQ 2016-0068-DDW for permit coverage of the distribution and use of recycled water.

All public projects in California must comply with the California Environmental Quality Act (“CEQA”). Based on a preliminary review, it is likely that the District can prepare a Mitigated Negative Declaration for the project to meet CEQA requirements. A Mitigated Negative Declaration is allowed if an Initial Study determines that impacts can be reduced to less than significant levels with implementation of mitigation measures.

Table 8.2 Estimated Recycled Water Project Costs

Description	Phase 2 ¹	Phase 2 and 3 ¹
Influent Facilities (Pump Station and Pipeline) ²	\$-	\$-
Treatment Facilities ²	\$-	\$-
Distribution Facilities (Pump Station, Storage Tank, and Pipeline)	\$9,720,000	\$28,211,000
Raw Construction Cost	\$9,720,000	\$28,211,000
Construction Contingency (30% of Raw Construction Cost)	\$2,916,000	\$8,464,000
Total Construction Cost	\$12,636,000	\$36,675,000
Implementation Cost	\$3,664,000	\$10,636,000
Total Capital Cost	\$16,300,000	\$47,300,000
Annual Cost of Distribution Facilities	\$64,000	\$163,000
Annual Treatment Cost	\$500,000	\$1,000,000
Annual Cost of Power	\$16,000	\$33,000
Annual Labor Costs	\$18,000	\$18,000
Total Annual O&M	\$598,000	\$1,214,000
Annualized Total Project Cost ³	\$887,000	\$2,572,000
Annual O&M Costs	\$598,000	\$1,214,000
Annual Recycled Water Cost	\$7,000	\$9,000
Total Annualized Cost	\$1,492,000	\$3,795,000
Estimated Recycled Water Yield (AFY)	183	382
Unit Cost, Annualized (\$/AF)	\$8,200	\$9,900

Notes:

4. Planning level estimate; costs are in September 2023 dollars.
5. These costs are not included because they are considered part of Phase 1 (the Bayfront Project).
6. Annualized at 30 years, 3.5%.

In addition to CEQA, a project is subject to National Environmental Policy Act (NEPA) if it is jointly carried out by a federal agency, requires a federal permit, entitlement, or authorization, requires federal funding, and/or occurs on federal land. The SWRCB SRF loan program is partially funded by the U.S. Environmental Protection Agency and, as a result, requires additional environmental documentation beyond CEQA – but not as extensive as NEPA – that is referred to as “CEQA-Plus.”

From a project funding and financing perspective, CEQA certification is the critical path for gaining preliminary approval for grant funding and low-interest loans from the SWRCB. From a project start-up perspective, the Engineering Report approval is the critical path for acquiring a recycled water permit from the San Francisco Bay Regional Water Quality Control Board (RWQCB), which is needed prior to start of operations. CEQA certification is also needed before the RWQCB can issue the tentative permit.

Design of the infrastructure improvements would continue after completion of the relevant preliminary studies in coordination with CEQA and permitting efforts. Applications for funding and stakeholder/public outreach efforts would occur over the lifetime of the project.

8.8 FINANCING PLAN

Typically, recycled water projects are financed through a combination of grants, partnerships relative to project benefits, and the SWRCB State Revolving Fund (SRF). There are also several bond measures currently in development in the California State Legislature that may provide additional funding streams.

Potential funding opportunities are possible for this project, including the following. These options are discussed further in the Woodard & Curran Recycled Water Program Technical Memorandum.

- US Bureau of Reclamation (USBR) WaterSMART: Title XVI Water Reclamation and Reuse Program. The Bureau of Reclamation offers three categories of WaterSMART Grants through separate funding opportunities.
- SWRCB CWSRF / Water Recycling Funding Program (WRFP). The SWRCB administers the Water Recycling Funding Program and CWSRF loans. The Water Recycling Funding Program (WRFP) has approximately \$231.4 million in state-sourced grant funds and approximately \$21.7 million available in state-sourced loans for construction projects. In addition, the SWRCB administers the CWSRF Loan Program, which offers low-interest loans to eligible applicants. Finally, the SWRCB administers a grant program to cover construction of recycled water facilities.
- California Infrastructure and Economic Development Bank (I-Bank) Infrastructure State Revolving Fund (ISRF) Program. The ISRF Program provides low-interest loan financing to public agencies for a wide variety of infrastructure projects. Funding is available in amounts up to \$25 million with loan terms up to 30 years. The interest rate is set at the time the loan is approved. There is a one-time origination fee of 1% of the ISRF financing amount or \$10,000, whichever is greater.

8.9 ADDITIONAL CONSIDERATIONS

Nonpotable reuse, as envisioned in the Bayfront area and beyond allows for the highest and best use of the District's water resource. Centralized treatment for IPR and DPR is being investigated right now by Silicon Valley Clean water for advanced treatment associated with the Regional WWTP in Redwood City. In partnership with the City of San Mateo, the SFPUC, the Water Wholesaler for much of the region, and with Cal Water, retailer in much of the Silicon Valley Clean Water and San Mateo Service areas, the Crystal Springs Purified Water project is being developed and may bring the opportunity for District to receive some of those regional benefits. These future opportunities will allow the District to potentially repurpose some of its nonpotable recycling treatment and distribution assets. But, in the meantime, investment in nonpotable reuse treatment and distribution in the District's service area provides for the best short term, and potentially long term, utilization of this precious wastewater resource.

CHAPTER 9 CAPITAL IMPROVEMENT PROGRAM

This Chapter consolidates the Capital Improvement Program (“CIP”) components of Chapter 5 - Capacity Analysis, Chapter 6 - Linear Asset Management Plan, Chapter 7 - Pump Station Assessments, and Chapter 8 - Recycled Water Program. For more information about each of these planning efforts and about the individual projects listed in this consolidated CIP, please see the individual plans that are included in the respective Chapters.

The Capital Improvement Program is designed to include approximately \$10 million annually in current dollars to complete the proposed projects. The first two years of the CIP include budget placeholders for projects that are in progress, as well as the projects that are discussed in this Master Plan.

Table 9.1 presents a summarized scope of work for each project. Table 9.2 presents the project costs and proposed year, designating project priority

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Table 9.1 Summarized Project Descriptions

	Project Name	Project Description
LAMP Projects	L.1. Near-term Pipe Repair Projects	Point repairs and replacements that have been planned and are being implemented by the District during the first two fiscal years of the CIP. These repairs are not included in the projects described below.
	L.2. Grade 5 Priority Basins 010, 030, 040, 050, 070AB	
	L.2.1. Priority 1 Grade 5 Defects	Projects to repair or replace pipes with Grade 5 defects that have the highest risk. The pipes all have close proximity to a waterway and other concurrent risk factors.
	L.2.2. Priority 2 Grade 5 Defects	Projects to repair or replace pipes with Grade 5 defects but lower risk. The pipes do not have proximity to a waterway but are located in the same basins as the Priority 1 Grade 5 projects.
	L.2.3. Contiguous Grade 4 Defects	Projects to repair or replace pipes with Grade 4 defects that are contiguous to the pipes listed above.
	L.3. Grade 5 Basins 020, 060, and 080 through 150	
	L.3.1. Priority 2 Grade 5 Defects	Projects to repair or replace pipes with Grade 5 defects that are located in basins without any Priority 1 Grade 5 projects.
	L.3.2. Contiguous Grade 4 Defects	Projects to repair or replace pipes with Grade 4 defects that are contiguous to the pipes listed above.
	L.4. Grade 4 Basins 020, 030, 040, 050, 070	
	L.4.1. Priority 3 Grade 4 Defects	Projects to repair or replace pipes with Grade 4 defects that have close proximity to a waterway and are not contiguous to pipes with Grade 5 defects.
	L.4.2. Other Grade 4 Defects	Projects to repair or replace pipes with Grade 4 defects that do not have proximity to a waterway but are located in the same basins as the Priority 3 Grade 4 projects.
	L.5. Grade 4 Basins 010, 060, 080, 090 through 150	
	L.5.1. Other Grade 4 Defects	Projects to repair or replace pipes with Grade 4 defects with lower risk. These projects are currently recommended for observation and to be scheduled for repair or replacement with they reach Priorities 1 through 3.
	L.6. Future Repairs and Replacements (1% per year)	This budget placeholder replaces approximately one percent of the District's 202 mile gravity pipeline inventory each year for the duration of the CIP, after the other LAMP projects have been completed.
	L.7. Middle Undercrossing	This budget placeholder is for potential costs associated with the sewer main relocation @ Middle Avenue near El Camino Real.
Capacity Improvements	C.1. Willow PS Discharge (Ivy Drive) Capacity Improvements	
	C.1.1. Interim Solution - Sealed Manholes	The District has installed one sealed manhole on structure B12029 and plans to install additional sealed manhole lids on B12141 and B12147.
	C.1.2. Long-Term Solution - Extended Forcemain	Installs 2,456 feet of pipe or liner within the existing gravity pipeline between B12029 and B13044 to create an extended forcemain and upsizes the Willow pump station pumps accordingly.
	C.2. Elena Ave and Park Lane Capacity Improvements	
	C.2.1. Flow/Level Monitoring	Installs two SmartCovers or temporary flowmeters on Elena Avenue and Park Lane to measure water levels during the 2023/24 flow monitoring season. These flows would be used to confirm whether the pipe is significantly surcharged during rainfall events as predicted by the hydraulic model.
	C.2.2. Pipeline Replacement	Upsizes the existing 8-inch gravity sewer beginning at G15030 (Park Lane near Camino al Lago) to F16049 (Elena Avenue at Atherton Avenue). The existing 10-inch siphon on Elena Avenue will remain in place.
Pump Station Improvements	P.0 Pump Station Telemetry Improvements	The District is in the process of upgrading or installing new telemetry at the pump stations. This project is in process and included in the CIP for budgeting purposes.
	P.1. Willow Pump Station Near-Term Improvements	The District is preparing design documents for improvements to the station, including a new generator, new piping from the wetwell through the valve box, new valves, and wetwell coating. The estimated construction cost for this project is included in Year 1 of the CIP.
	P.2. Stowe Lane Pump Station Improvements	The District is preparing design documents for improvements to the station, including conversion to a submersible pump station and adding a new generator. The estimated construction cost for this project is included in Year 1 of the CIP.
	P.3. Hamilton Henderson Wetwell Lining	Installs a new wetwell lining, including bypassing operations.
	P.4. FERRF Pump Station Improvements	Rehabilitation of the station including replacing existing pump drives and electrical equipment, replacing existing submersible pumps and wet well piping, replacing discharge piping valves, recoating existing piping, lining the existing concrete wet well, and cleaning/recoating the existing metal building.
	P.5. Willow, University, and Illinois Forcemain Replacements	Replace forcemain pipelines that are nearing the end of their service lives. The forcemains range in size from 6 to 10 inches and have a combined length of 3,400 feet. The Willow pump station forcemain is scheduled later in the CIP to be completed concurrently with the Willow forcemain extension project.
Other	O.1. Maintenance Building Upgrades	The District is developing an approach for upgrading the Maintenance Building. Preliminary costs are included in the CIP for budgeting purposes.
Recycled Water Projects	RW.1. Recycled Water Phase 2	Construction of a booster pump station at the intersection of Terminal Ave and Del Norte Ave, approximately 15,700 lineal feet of distribution pipeline (to augment 3,100 lineal feet of existing pipe), and a 0.5 MG storage tank.
	RW.2. Recycled Water Phase 3	Placeholder for potential costs associated with a future Phase 3 Project that involves approximately 40,700 lineal feet of distribution pipeline and an additional 1,200 lineal feet of pipeline for possible looping purposes.

Table 9.2 Capital Improvement Program

	Project	Project Cost		2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	Future
LAMP Projects	L.1. Near-term Pipe Repair Projects	\$8,000,000		\$4,000,000	\$4,000,000									
	L.2. Grade 5 Priority Basins 010, 030, 040, 050, 070AB													
	L.2.1. Priority 1 Grade 5 Defects	\$284,300		\$284,300										
	L.2.2. Priority 2 Grade 5 Defects	\$3,651,000		\$730,200	\$2,190,600	\$730,200								
	L.2.3. Contiguous Grade 4 Defects	\$2,175,200		\$435,000	\$1,305,100	\$435,000								
	L.3. Grade 5 Basins 020, 060, 070CD, and 080 through 150													
	L.3.1. Priority 2 Grade 5 Defects	\$2,229,700				\$2,229,700								
	L.3.2. Contiguous Grade 4 Defects	\$672,900				\$672,900								
	L.4. Grade 4 Basins 020, 030, 040, 050, 070													
	L.4.1. Priority 3 Grade 4 Defects	\$1,340,000					\$1,340,000							
	L.4.2. Other Grade 4 Defects	\$5,925,900						\$5,925,900						
	L.5. Grade 4 Basins 010, 060, 080, 090 through 150													
	L.5.1. Other Grade 4 Defects	\$9,493,400						\$3,164,500	\$6,328,900					
	L.6. Future Repairs and Replacements (1.5% per year)	\$40,282,900							\$3,021,200	\$10,070,700	\$10,070,700	\$10,070,700	\$10,070,700	
	L.7 Middle Undercrossing	\$500,000			\$500,000									
Capacity Improvements	C.1. Willow PS Discharge (Ivy Drive) Capacity Improvements													
	C.1.1. Interim Solution	Completed												
	C.1.2. Convert Gravity Main to Extended Forcemain	\$1,409,800			\$704,900	\$704,900								
	C.2. Elena Ave and Park Lane Capacity Improvements													
	C.2.1. Flow/Level Monitoring	\$15,000		\$15,000										
	C.2.2. Upsize Pipe to 10" on Elena Avenue and Park Lane	\$3,675,500					\$3,675,500							
Pump Station Improvements	P.0 Pump Station Telemetry Project	\$600,000		\$600,000										
	P.1 Willow Pump Station Near-Term Improvements	\$1,700,000		\$1,700,000										
	P.2 Stowe Lane Pump Station Improvements	\$3,000,000		\$3,000,000										
	P.3 Hamilton Henderson Wetwell Lining	\$77,000			\$77,000									
	P.4 FERRF Pump Station Improvements	\$1,420,000			\$142,000	\$1,278,000								
	P.5 Willow, University, and Illinois Forceman Replacements	\$2,078,000			\$1,039,000	\$1,039,000								
Other	Maintenance Building Upgrades	\$7,000,000				\$3,000,000	\$4,000,000							
	Total without Recycled Water	\$47,647,700	Prior Allocation	\$10,164,500	\$9,958,600	\$10,089,700	\$9,015,500	\$9,090,400	\$9,350,100	\$10,070,700	\$10,070,700	\$10,070,700	\$10,070,700	
Recycled Water Projects	Bayfront Phase 1 Treatment	\$66,700,000	\$66,700,000											
	Recycled Water Phase 2	\$16,300,000					\$2,328,600	\$2,328,600	\$2,328,600	\$2,328,600	\$2,328,600	\$2,328,600	\$2,328,600	
	Recycled Water Phase 3	\$31,000,000												\$31,000,000
	Total with Recycled Water	\$94,947,700		\$10,164,500	\$9,958,600	\$10,089,700	\$11,344,100	\$11,419,000	\$11,678,700	\$12,399,300	\$12,399,300	\$12,399,300	\$12,399,300	\$31,000,000

Appendix A
2022-23 FLOW MONITORING REPORT (V&A)

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West Bay Sanitary District, CA

West Bay District 2022/2023 Wet Weather Flow Monitoring



Prepared for:

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Final Report Submittal Date:

September 29th, 2023

Prepared by:



V&A Project No. 22-0324

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Abbreviations and Acronyms

Abbreviations/Acronyms	Definition
ADWF	Average Dry Weather Flow
AVG.	Average
CCTV	Closed-Circuit Television
CDEC	California Data Exchange Center
CIP	Capital Improvement Plan
CO	Carbon Monoxide
DIA.	Diameter
d/D.....	Depth/Diameter Ratio
FPS.....	Feet/Second
FT.	Feet
FM.....	Flow Monitor
GPD.....	Gallons per Day
GPM	Gallons per Minute
GWl	Groundwater Infiltration
H2S.....	Hydrogen Sulfide
IN.	Inch
I/I.....	Inflow and Infiltration
IDM	Inch-Diameter Mile
IDW	Inverse Distance Weighting
LEL	Lower Explosive Limit
MAX.....	Maximum
MGD.....	Million Gallons per Day
MIN.	Minimum
NOAA	National Oceanic and Atmospheric Administration
N/A	Not applicable
PF.....	Peaking Factor
PS	Pump Station
PWS	Personal Weather Station
Q	Flow Rate

QAQCQuality Assurance Quality Control
RDIRainfall-Dependent Infiltration
RGRain Gauge
SSOSanitary Sewer Overflow
V&AV&A Consulting Engineers, Inc.
WEF.....Water Environment Federation
WRCCWestern Regional Climate Center
WUWeather Underground

Terms and Definitions

Term	Definition
Average dry weather flow (ADWF)	The average flow rate or pattern from days without noticeable inflow or infiltration response. ADWF usage patterns for weekdays and weekends differ and must be computed separately. ADWF is expressed as a numeric average and may include the influence of normal groundwater infiltration (not related to a rain event).
Basin	Sanitary sewer collection system upstream of a given location (often a flow meter), including all pipelines, inlets, and appurtenances. Also refers to the ground surface area near and enclosed by pipelines. A basin may refer to the entire collection system upstream from a flow meter or exclude separately monitored basins upstream.
Depth/diameter (d/D) ratio	Depth of water in a pipe as a fraction of the pipe's diameter. A measure of the fullness of the pipe used in the capacity analysis.
Infiltration and inflow	Infiltration and inflow (I/I) rates are calculated by subtracting the ADWF flow curve from the instantaneous flow measurements taken during and after a storm event. Flow in excess of the baseline consists of inflow, rainfall-responsive infiltration, and rainfall-dependent infiltration. Combined I/I is the total sum in gallons of additional flow attributable to a storm event.
Infiltration, groundwater	Groundwater infiltration (GWI) is groundwater that enters the collection system through pipe defects. GWI depends on the depth of the groundwater table above the pipelines as well as the percentage of the system that is submerged. The variation of groundwater levels and subsequent groundwater infiltration rates are seasonal by nature. On a day-to-day basis, groundwater infiltration rates are relatively steady and will not fluctuate greatly.
Infiltration, rainfall-dependent	Rainfall-dependent infiltration (RDI) is similar to groundwater infiltration but occurs as a result of storm water. The storm water percolates into the soil, submerges more of the pipe system, and enters through pipe defects. RDI is the slowest component of storm-related infiltration and inflow, beginning gradually and often lasting 24 hours or longer. The response time depends on the soil permeability and saturation levels.
Inflow	Inflow is defined as water discharged into the sewer system, including private sewer laterals, from direct connections such as downspouts, yard, and area drains, holes in manhole covers, cross-connections from storm drains, or catch basins. Inflow creates a peak flow problem in the sewer system and often dictates the required capacity of downstream pipes and transport facilities to carry these peak instantaneous flows. Overflows are often attributable to high inflow rates.
Peak Wet Weather Flow	The highest daily flow during and immediately after a significant storm event. Includes sanitary flow, infiltration, and inflow.
Peaking factor (PF)	PF is the ratio of peak measured flow to average dry weather flow. This ratio expresses the degree of fluctuation in flow rate over the monitoring period and is used in the capacity analysis.
Surcharge	When the flow level is higher than the crown of the pipe, then the pipeline is said to be in a surcharged condition. The pipeline is surcharged when the d/D ratio is greater than 1.0.

Executive Summary

Scope and Purpose

V&A Consulting Engineers (V&A) was retained by West Bay Sanitary District (District) to perform sanitary sewer flow and rainfall monitoring (with I/I analysis) within the District's collection system. The District provides wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and areas of East Palo Alto, Woodside, and unincorporated San Mateo and Santa Clara counties. The District conveys raw wastewater, via the Menlo Park Pump Station and force main, to Silicon Valley Clean Water (SVCW) for treatment and discharge to the San Francisco Bay.

V&A performed flow monitoring over 2 months from December 5, 2022, through February 12, 2023. Open-channel flow monitoring was conducted at 10 flow monitoring locations and data was collected at 15 permanent metering District installations. There were three general purposes of this study:

- Establish the baseline sanitary sewer flows at the flow monitoring sites
- Measure the peak flow characteristics of the subject pipes during the monitoring period
- Isolate infiltration and inflow (I/I) and run analyses pertaining to I/I response levels

Monitoring Sites and Basins

The flow monitoring site locations were selected and approved by the District and V.W. Housen and are listed in Table ES-1 and shown in Figure ES-1.

Table ES-1. List of Monitoring Sites

Monitoring Site	Manhole ID	Type	Monitored Pipe	Measured Pipe Dia (in)	Location
FM 20	M09014	Temporary	S IN	10	61 Los Trancos Rd. before Alpine Rd.
FM 30B	J11006	Temporary	S IN	10	2699 Alpine Rd.
FM 60A	H14109	Temporary	S IN	6	2122-2164 Avy Ave., Center of St.
FM 60B	H14148	Temporary	S IN	12	2122-2164 Avy Ave.
FM 70B	D16027	Temporary	S IN	6	197 Fair Oak Ln.
FM 70E	E14131	Temporary	S IN	10	Oak Grove Ave. and Pine St.
FM 80A	G14189	Temporary	SW IN	15	1435 Valparaiso Ave.
FM 80B	G14071	Temporary	NW IN	15	Sidewalk, Olive St. and Santa Cruz Ave.
FM 90	G13222	Temporary	SW IN	24	Middle Ave. and Hobart St.
FM 120A	C14036	Temporary	SW IN	10	Past gate at the end of Sheridan Dr., north corner of the empty lot.
FM 010	K10023	Permanent	S IN	15	1945 Oak Ave.

Monitoring Site	Manhole ID	Type	Monitored Pipe	Measured Pipe Dia (in)	Location
FM 30A	I2085	Permanent	S IN	21	SW of Ansel Ln. & Alpine Rd.
FM 40	H12065	Permanent	S IN	36	3300 Alpine Rd.
FM 50N	H16023	Permanent	SW IN	10	291 Atherton Ave.
FM 50S	H15134	Permanent	SW IN	15	321 Walsh Rd.
FM 70A	F16032	Permanent	SW IN	18	82 Atherton Ave.
FM 70C	E15047	Permanent	SW IN	17.625	65 McCormick Ln.
FM 70D	D15128	Permanent	SE IN	21	Middlefield b/w Marsh & Watkins
FM 100A	E14053	Permanent	SW IN	12	445 Oak Grove Ave.
FM 100B	E12158	Permanent	SW IN	23.25	25 Willow Rd.
FM 110A	B16004	Permanent	SW IN	23.5	3715 Haven Ave.
FM 120B	C13029	Permanent	W IN	15	Int of Hamilton Ave. and Hill Ave.
FM 130	C12089	Permanent	S IN	24.75	1018 Hollyburn Ave.
FM 140	B15047	Permanent	E IN	30	Bedwell Bayfront Park
FM 150	B13043	Permanent	SE IN	15	1334 Chilco St.

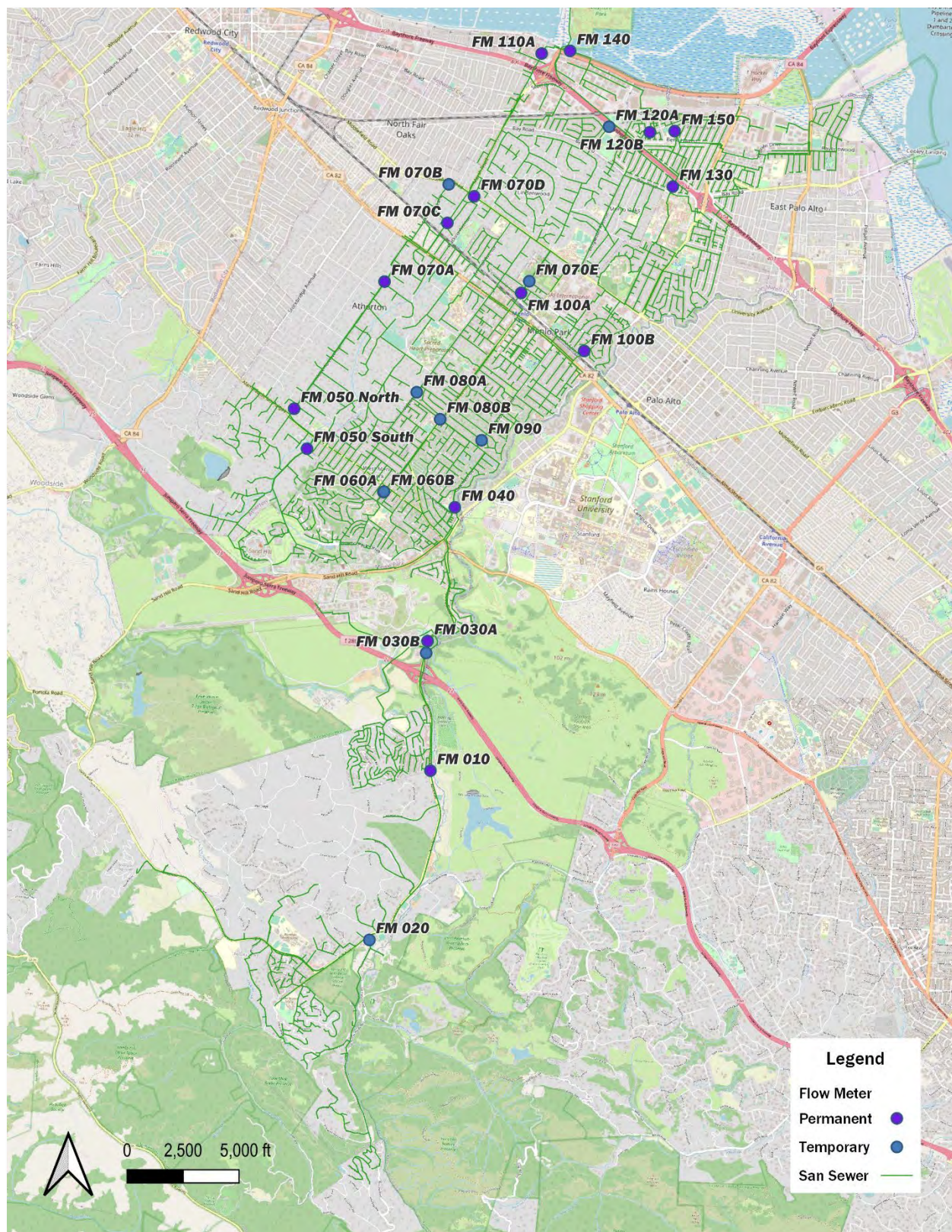


Figure ES-1. Map of Flow Monitoring Sites

Rainfall Monitoring

There were multiple rainfall events during this study that elicited solid I/I responses, as illustrated in Figure ES-2. Minor rainfall (>1 inch) on 12/02/23 and 12/04/23 proceeded the flow monitor installation on 12/05/23. Data did not indicate a significant increase in baseline flows.

A total of 19.88 inches of rainfall was recorded over the monitoring period. The highest rainfall intensity measured was 0.83 inches/hour on 12/30/22. This event saw 4.52 inches of rainfall over 20.75 hrs and has a return period of approximately 50 years based upon the depth of rainfall.

Monitored rainfall was plotted against the historical average rainfall. When this historical data is compared to the recorded rainfall, we see that cumulative precipitation was approximately 275% of historical precipitation.

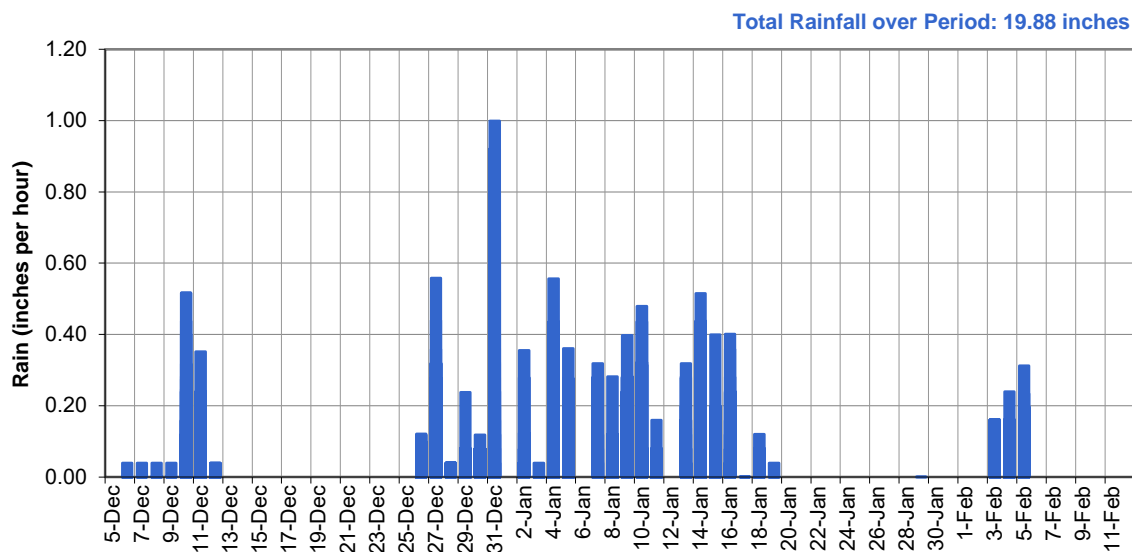


Figure ES-2. Rainfall Monitoring

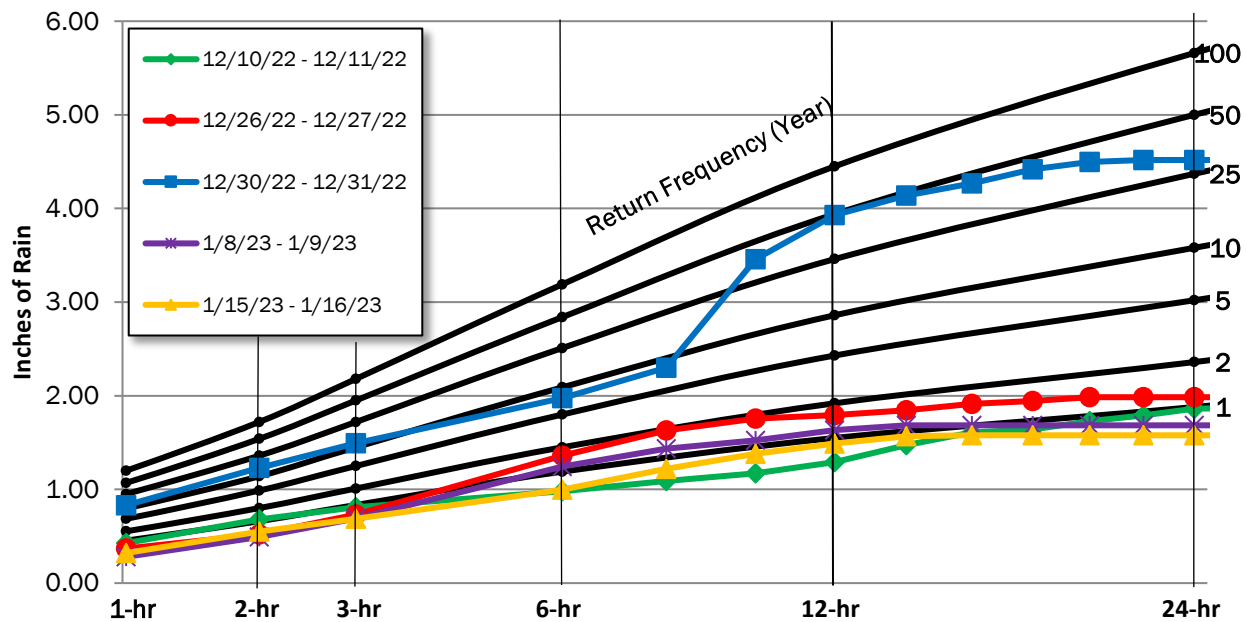


Figure ES-3. Rainfall Event Classification – 24-Hour Period

Site Flow Monitoring and Capacity Results

The flow monitoring program was successful in capturing both dry and wet weather flow data. Average dry weather flow (ADWF) curves were established during dry days when inflow and infiltration (I/I) had the least impact on the baseline flow. The following dry weather items relating to capacity are noted:

- **Sediment:** Site FM 080B was the only site with noted sediment. Site FM 080B appears to have mostly stagnant flow with little to no velocity.
- **d/D:** Average d/D ratios ranged from 0 – 0.51.

Peak measured flows and the hydraulic grade line data (flow depths) are important to understanding the capacity limitations of a collection system. The peak flows and flow levels are the peak measurements taken across the entirety of the flow monitoring period. For this study, peak flows and peak levels corresponded to rainfall events. The following capacity analysis definitions will be used:

- **Peaking Factor (PF)** is defined as the peak measured flow divided by the average dry weather flow (ADWF). Peaking factors are influenced by many factors including size and topography of the tributary area, flow attenuation, flow restrictions, characteristics of I/I entering the collection system, and hydraulic features such as pump stations.
 - For this report, $PF > 7$ is highlighted in **RED**¹; however, the District should refer to District standards when evaluating peaking factors. Peaking factor data should be used at the discretion of the District Engineer.
- **d/D Ratio** is the peak measured depth of flow (d) divided by the pipe diameter (D). The d/D ratio for each site is computed based on the maximum depth of flow for the study. Standards for the d/D ratio vary from agency to agency but typically range between $d/D \leq 0.5$ and $d/D \leq 0.75$
 - For this report, d/D ratios > 0.75 are highlighted in **RED**; however, the District should refer to District standards when evaluating d/D ratios, to be used at the discretion of the District Engineer.

Table ES-2 summarizes the peak recorded flows, depths, d/D ratios, and peaking factors per site during the flow monitoring period. Capacity analysis data are presented on a site-by-site basis and represent the hydraulic conditions only at the site locations; hydraulic conditions in other areas of the collection system will differ. Figure ES-4 and Figure ES-5 show bar graph summaries of the peaking factors and d/D ratios, respectively.

The following capacity analysis results are noted:

- **Peaking Factors**
 - Most of the sites had wet-to-dry weather peaking factors greater than 7. Only sites FM 030B, FM 050 N, FM 070B, FM 110A, and FM 120A did not. The majority of the peak wet-weather flow occurred during the 12/31/22 event.
 - Several basins had extremely high PF's ($PF's > 20$). Upon further review, there is the potential for velocity anomalies at each of the 3 sites that occurred during the 12/31/22, and 1/1/23, events. However, no adjustments were made as these velocity spikes coincided with a substantial depth response and a wet-weather event.

¹ WEF Manual of Practice FD-6 and ASCE Manual No. 62 suggests typical peaking factor ratios range between 3 and 4, with higher values possibly indicative of pronounced I/I flows.

- d/D Ratio:
 - d/D > 0.75: Site FM 070C had a d/D ratio of greater than 0.75.
 - d/D > 1 (surcharge): Sites FM 070A, FM 070D, FM 080B, FM 100B, FM 110A, FM 140, and FM 150 had d/D ratios greater than 1.

Table ES-2. Capacity Analysis Summary

Site	ADWF (MGD)	Peak Measured Flow (MGD)	Peaking Factor	Pipe Diameter, <i>D</i> (IN)	Max Depth, <i>d</i> (IN)	Max d/D Ratio	Surcharge above pipe crown (FT)
FM 020	0.024	0.319	13.4	10	3.61	0.36	-
FM 030B	0.000	0.122	-	10	3.85	0.38	-
FM 060A	0.007	0.127	18.4	6	1.68	0.28	-
FM 060B	0.051	0.880	17.4	12	3.35	0.28	-
FM 070B	0.033	0.104	3.2	10	3.57	0.36	-
FM 070E	0.083	0.801	9.6	10	6.75	0.68	-
FM 080A	0.089	1.210	13.5	15	7.27	0.48	-
FM 080B	0.062	12.38	200.6	15	31.27	2.08	1.4
FM 090	0.438	7.036	16.1	24	16.44	0.68	-
FM 120A	0.071	0.430	6.1	10	6.41	0.64	-
FM 010	0.191	1.802	9.5	15	6.43	0.43	-
FM 030A	0.166	2.98	18.0	21	10.26	0.49	-
FM 040	0.282	4.25	15.1	36	14.79	0.41	-
FM 050N	0.074	0.374	5.1	10	5.69	0.57	-
FM 050S	0.242	1.943	8.0	15	10.77	0.72	-
FM 070A	0.558	5.507	9.9	18	18.93	1.05	0.1
FM 070C	0.211	1.977	9.4	17.625	16.17	0.92	-
FM 070D	0.534	12.04	22.6	21	25.54	1.22	0.4
FM 100A	0.155	1.593	10.3	12	8.32	0.69	-
FM 100B	0.524	22.17	42.3	23.25	23.62	1.02	0.03
FM 110A	1.131	5.924	5.2	23.5	23.44	1.00	0.00
FM 120B	0.120	1.064	8.8	15	7.78	0.52	-
FM 130	1.284	10.24	8.0	24.75	12.08	0.49	-
FM 140	0.891	6.854	7.7	30	35.63	1.19	0.5
FM 150	0.269	3.276	12.2	15	21.68	1.45	0.6

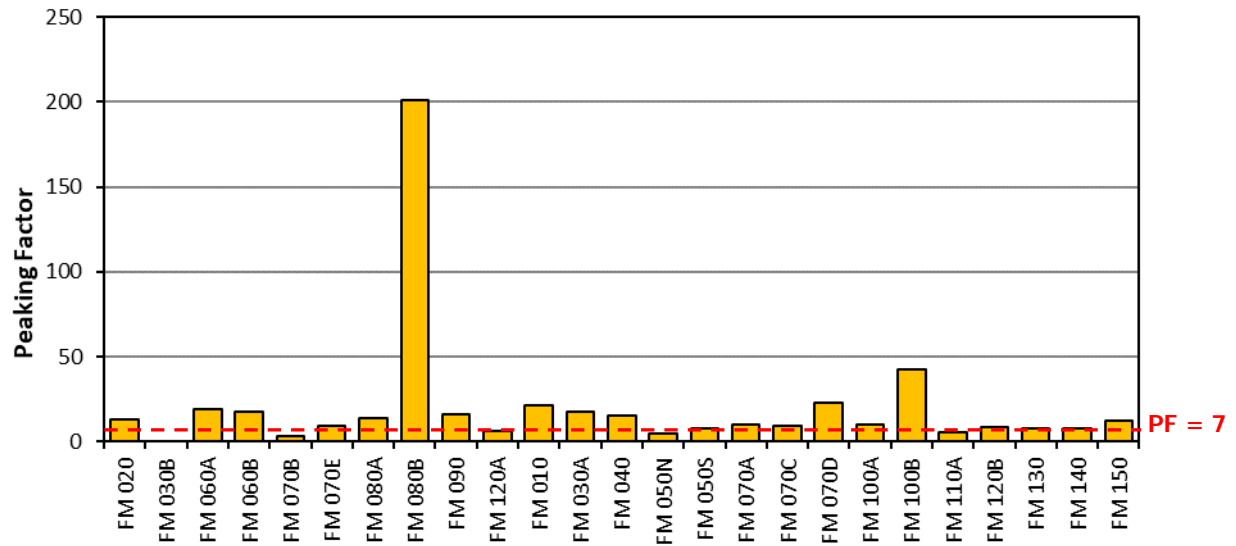


Figure ES-4. Peaking Factors

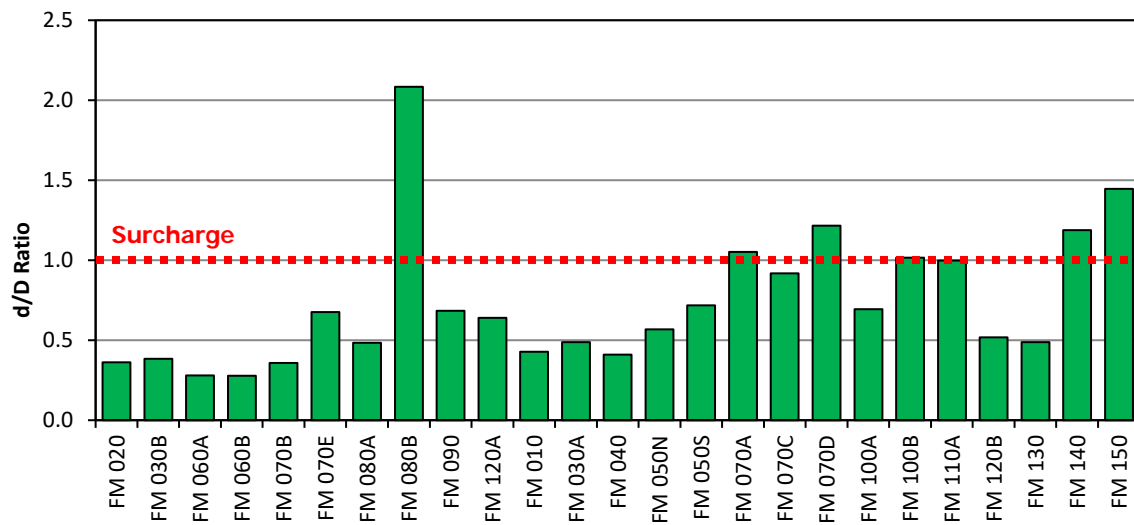


Figure ES-5. Capacity Summary: Max d/D Ratios

Infiltration and Inflow Analysis

Table ES-3 summarizes the I/I results for this study. The “Top 3” basins for each category have been shaded in **RED**. Please refer to the I/I Methods section for more information on inflow and infiltration analysis methods and ranking methods. Temperature maps for the ranked inflow, RDI, Total I/I, and GWI response metrics are shown in Figure ES-6, Figure ES-7, Figure ES-8, and Figure ES-9. The following infiltration and inflow results are noted:

- **Inflow:**
 - Inflow for meter sites FM 030B, FM 070B, and FM 080B was not calculated due to lack of or poor/missing flow conditions. Some sites had substantial spikes in velocity due to or following wet-weather events which yielded substantial spikes in flow. These may or may not be erroneous data and more collection system data is required to confirm or disprove these responses. These sites include FM 080B, FM 070D, FM 100B, and FM 150.
 - It is noted that there are mass flow balance issues where basins 40, 70S, 100, 120E are showing a potential loss in flow during wet-weather.
 - Basin 140 had the highest weighted individual inflow rate of 5.076 mgd. However, it should be noted that, as mentioned in Section 3.2.2, sites FM 070A, FM 070D, FM 080B, FM 100B, FM 110A, FM 140, and FM 150 surcharged during the 12/31/22 event where peak flow would have been restricted.
 - Basin 90 ranked the highest based on inflow per-ADWF and highest overall.
 - Basin 140 ranked the highest based on inflow per IDM and inflow per-Acre.
- **RDI:**
 - RDI for meter sites FM 030B, FM 070B, and FM 080B was not calculated due to lack of or poor/missing flow conditions.
 - It is noted that there are mass flow balance issues where Basins 40, 70S, 100, 120E are showing a potential loss in flow during wet-weather.
 - Basin 90 had the highest RDI rate at 0.360 mgd and ranked highest based upon RDI per-IDM, per-ADWF, and RDI per-Acre.
 - The “Top 3” ranked basin according to RDI, in order from 1st to 3rd, are 90, 30, 50N.
- **Combined I/I:**
 - Basin 90 saw the highest % of rainwater entering the collection at 40.1%. Basin 90 also ranked highest based on total I/I per acre and I/I per IDM. Basins 050N and 080 ranked 2nd and 3rd respectively for total I/I.
 - Combined I/I for meter sites FM 030B, FM 070B, and FM 080B was not calculated due to lack of or poor/missing flow conditions.
 - It is noted that there are mass flow balance issues where basins 40, 70S, 100, 120E are showing a potential loss in flow during wet-weather.
- **Groundwater Infiltration:**
 - 8 Sites, corresponding to 6 Basins, have ratios that indicated groundwater may be entering the collection system with higher than average low-ADWF ratios. These sites include FM 020, FM 070A, FM 070B, FM 070C, FM 070E, FM 080B, FM 110A, and FM 140.

Table ES-3. I/I Analysis Summary

Basin ID	ADWF (mgd)	Peak Inflow Rate (mgd)	RDI Rate (mgd)	Combined I/I (gallons)	R-Value	Inflow Rank	RDI Rank	Combined I/I Rank	Possible high GWI?
10	0.06	1.605	0.064	619,868	1.1%	10	12	12	Normal
20	0.02	0.325	0.063	631,458	4.3%	12	6	8	Yes
30	0.08	1.259	0.186	1,493,324	9.5%	5	2	5	Normal
40*	0.12	-0.362	-0.016	-1,589,363	-12.5%	15	17	17	Normal
50N	0.07	0.822	0.122	1,021,807	9.6%	8	3	2	Normal
50S	0.24	1.368	0.136	910,184	6.5%	6	5	9	Normal
60	0.06	0.697	0.070	571,406	6.5%	7	7	7	Normal
70N	0.24	2.126	0.217	1,206,942	4.4%	11	9	11	Yes
70S*	0.05	-2.572	-0.279	-2,397,095	-14.1%	18	18	18	Yes
80	0.15	1.032	0.096	1,075,605	12.4%	9	4	3	Yes
90	0.04	2.675	0.360	4,577,330	40.1%	1	1	1	Normal
100*	0.24	-1.762	0.155	241,118	1.3%	17	10	14	Normal
110	0.35	1.090	0.126	1,876,243	11.4%	13	11	4	Yes
120E*	-0.49	-3.343	-0.817	-6,529,434	-50.5%	16	14	15	Normal
120W	0.07	0.271	0.005	37,964	0.5%	14	16	16	Normal
130	0.76	3.962	0.046	807,506	3.4%	3	15	13	Normal
140	0.50	5.076	0.110	1,965,269	12.9%	2	13	6	Yes
150	0.27	2.379	0.164	1,319,874	9.0%	4	8	10	Normal
*Flow not adding up as it travels downstream.									

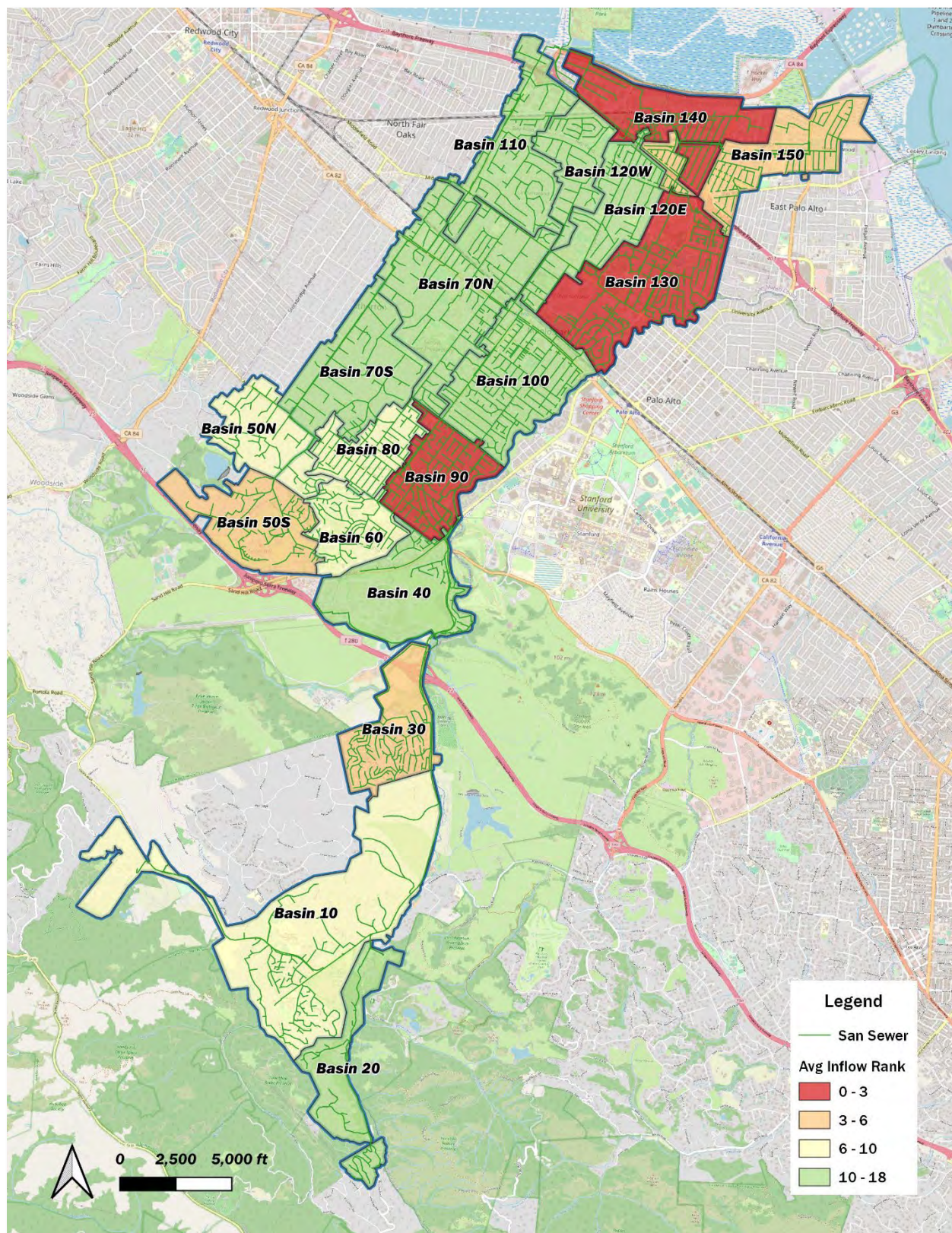


Figure ES-6. Temperature Map: Inflow Final Basin Rankings

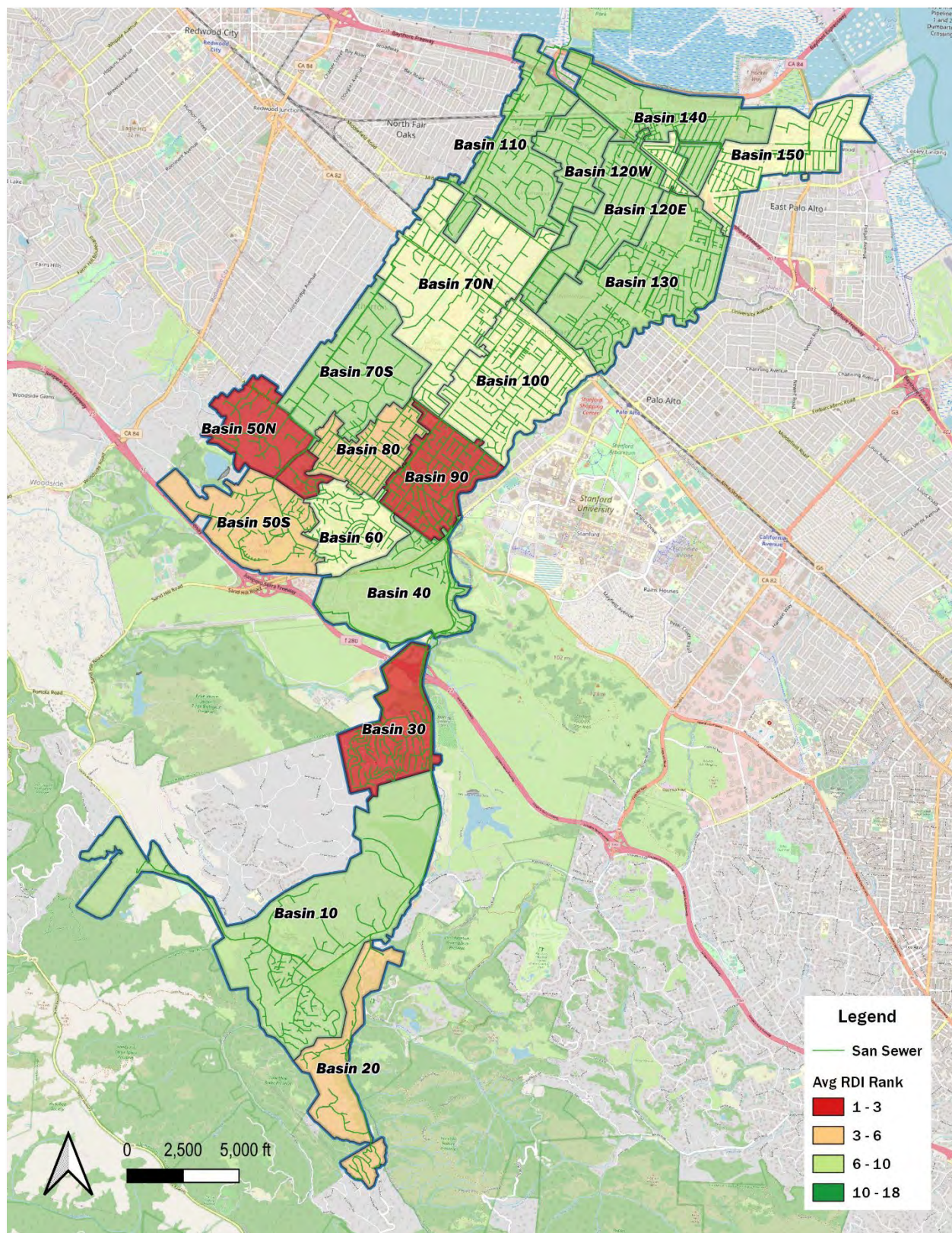


Figure ES-7. Temperature Map: RDI Final Basin Rankings

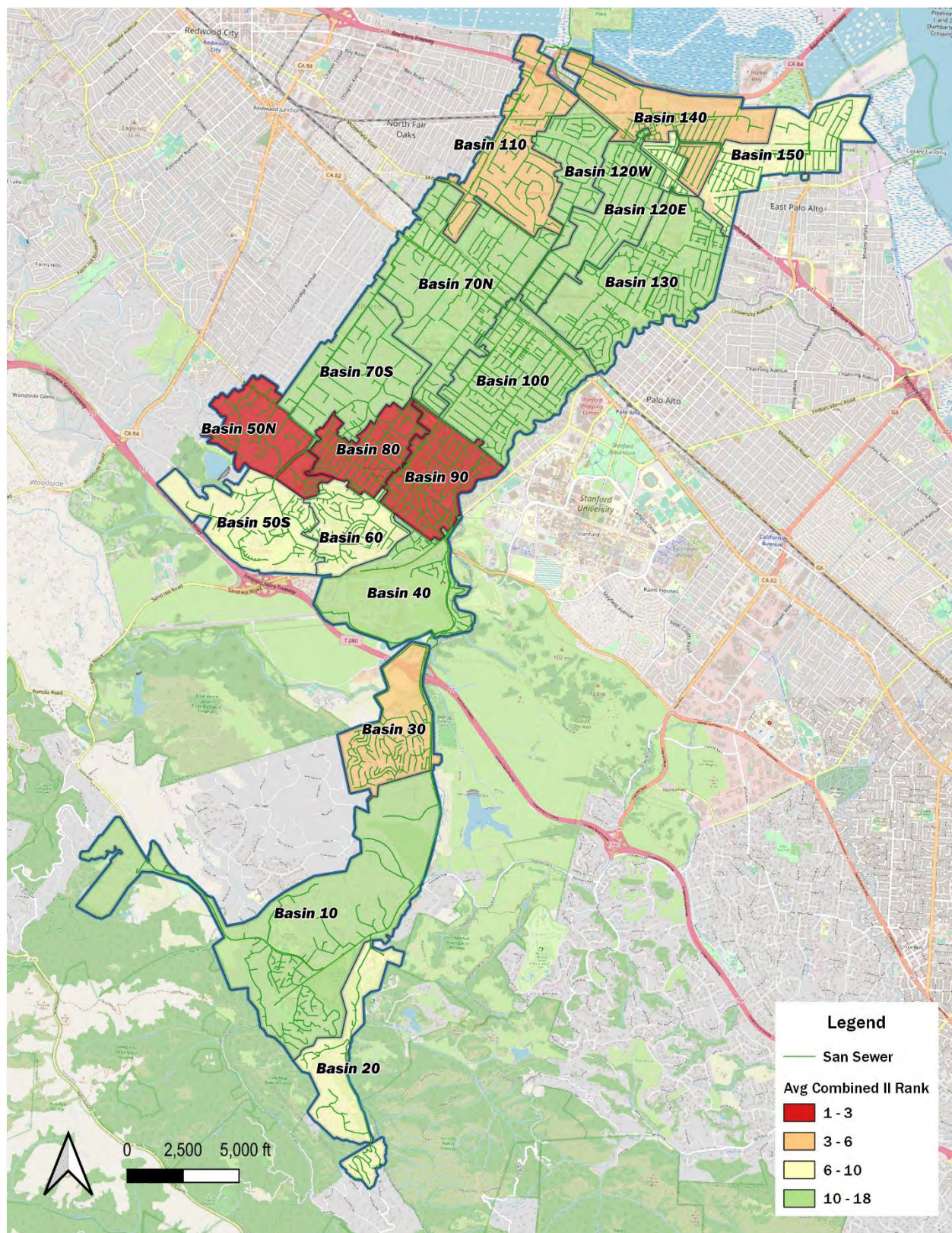
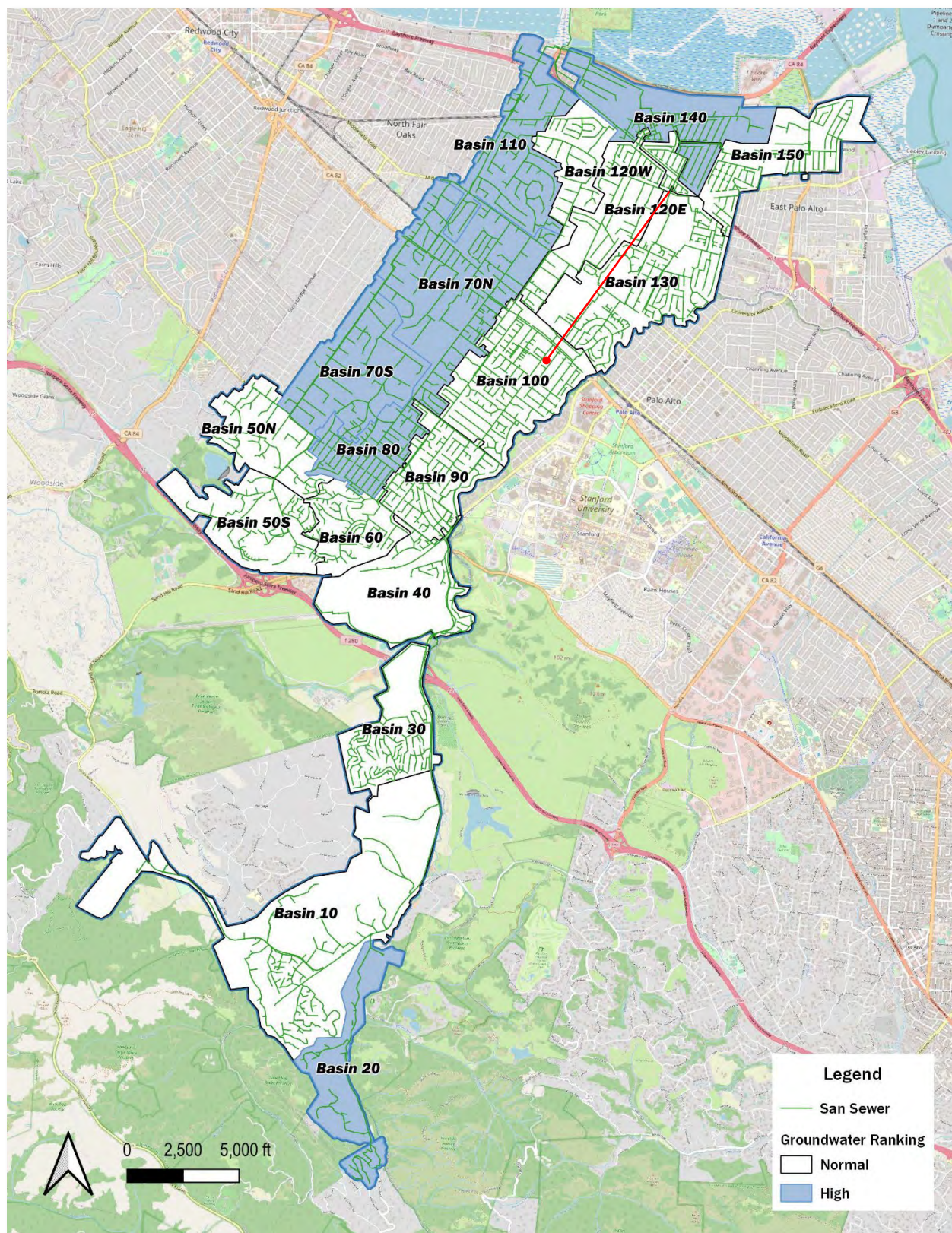


Figure ES-8. Temperature Map: Combined I/I Final Basin Rankings



Recommendations

V&A advises that future I/I reduction plans consider the following recommendations:

1. **Master Plan and Model Implementation:** This study focuses on inflow and infiltration generation; the study results can be used to update the master plan and compare it with previous model assumptions and flow monitoring results.
2. **Verify Interconnections and Overflows:** Understanding the interconnections and overflows can help with the master plan, basin isolation, and I/I analysis. Multiple basin cross-connections exist which may be affecting flow analysis. These cross-connections should be field verified to determine where, and how much, flow is going through each basin.
 - a. Mass flow balance issues were noted during this study. It is recommended that system characterization work be performed to identify, during both dry and wet-weather, manholes where flow could potentially be diverted to other areas of the system. Invert measurements and pipe connections should be verified, and basin flow responses (dry and wet) adjusted as appropriate.
3. **Capacity Analysis:** 8 sites were surcharged during the monitoring period during a 50-year storm event. It should also be noted that multiple rainfall events preceded the 12/31/22 event which would have saturated the soil and made the 12/31/22 system response more pronounced than for a single isolated wet-weather event. The calculated return period for this event is a triangulated average to the Study Area centroid; individual basins would have experienced rainfall with a slightly higher or lower return period. It is assumed that during the hydraulic modeling portion of this study that system capacity constraints for the design storm event will be identified and added to the capital improvement plan in the updated master plan. The following possible capacity concerns are noted:
 - a. **Dry weather:** No issues with dry weather flow were noted. The highest d/D ratio noted was 0.51 at site FM 080B. All remaining sites ranged from 0 to 0.33.
 - b. **Wet Weather:** The monitoring data indicates that meter sites FM 070A, FM 070D, FM 080B, FM 100B, FM 110A, FM 140, and FM 150 would lack capacity during a 50-storm event, as noted during the 12/31/22 storm event. Max d/D ratios ranged from 1 – 2.08 at these sites.
4. **Determine I/I Reduction Program:** The District should examine its I/I reduction needs to determine its goals for a future I/I reduction program.
 - a. If peak flows, sanitary sewer overflows and pipeline capacity issues are of greater concern, then priority can be given to investigate and reduce sources of inflow within the basins with the greatest inflow problems. The highest-ranked basins according to inflow are 90, 140, and 130.
 - b. If total infiltration and general pipeline deterioration are of greater concern, then the program can be weighted to investigate and reduce sources of infiltration within the basins with the greatest infiltration problems. The highest basins according to RDI are 090, 030, and 050N. Additionally, basins 20, 70N, 70S, 80, 110, and 140 may show evidence of excessive GWI.
5. **I/I Investigation Methods:** Potential I/I investigation methods include the following:
 - a. Smoke testing.
 - b. Manhole inspections
 - c. Private building evaluations

- d. Night-time² reconnaissance work to (1) investigate and determine direct point sources of inflow, and (2) determine the areas and/or pipe reaches responsible for high levels of infiltration contribution.
 - e. CCTV inspection.
 - f. Dye Testing: Dye testing can be performed to confirm connectivity or to indicate the extent of I/I entering the system.
6. **I/I Reduction Cost Effective Analysis:** The District should conduct a study to determine which is more cost-effective: (1) locating the sources of inflow/infiltration and systematically rehabilitating or replacing the faulty pipelines; or (2) continued treatment of the additional rainfall dependent I/I flow.

² Reconnaissance work is conducted during low-flow hours, typically between 12:00 A.M. and 4:30 A.M., to best differentiate and identify I/I contribution from sanitary flows.

1 Introduction

1.1 Scope and Purpose

V&A Consulting Engineers (V&A) was retained by West Bay Sanitary District (District) to perform sanitary sewer flow and rainfall monitoring (with I/I analysis) within the District's collection system. The District provides wastewater collection and conveyance services to the City of Menlo Park, Atherton, and Portola Valley, and areas of East Palo Alto, Woodside, and unincorporated San Mateo and Santa Clara counties. The District conveys raw wastewater, via the Menlo Park Pump Station and force main, to Silicon Valley Clean Water (SVCW) for treatment and discharge to the San Francisco Bay. Figure 1-1 shows the District's service area.



Figure 1-1: District Service Area

Flow monitoring was performed over 2 months from 12/5/22, through 2/12/23. Open-channel flow monitoring was conducted at 10 flow monitoring locations and data was collected at 15 permanent metering District installations. There were three general purposes of this study:

- Establish the baseline sanitary sewer flows at the flow monitoring sites
- Measure the peak flow characteristics of the subject pipes during the monitoring period
- Isolate infiltration and inflow (I/I) and run analyses pertaining to I/I response levels

1.2 Flow Monitoring Sites and Isolated Sewerage Basins

Flow monitoring sites are defined as the manholes where flow monitors are secured and the pipelines in which flow sensors are placed. Capacity analysis and flow rate information are presented on a site-by-site basis. The flow monitoring sites were selected and approved by V.W. Housen and the District. Information regarding the flow monitoring locations is listed in Table 1-1 and illustrated in Figure 1-2. Detailed descriptions of the individual flow monitoring sites, including photographs, are included in Appendix A.

V&A proposed 10 new flow meters be used in conjunction with the existing 15 flow meters to isolate flow sewerage basins within the District collection system, and that also mostly conforms with the basins as already defined.

Flow monitoring site data may include the flows of one or many drainage basins. Flow monitoring basins are localized areas of a sanitary sewer collection system upstream of a given location (often a flow meter), including all pipelines, inlets, and appurtenances. The basin refers to the ground surface area near and enclosed by the pipelines. A basin may refer to the entire collection system upstream from a flow meter or may exclude separately monitored basins upstream, requiring basin isolation (subtraction of upstream flows). The I/I analysis results will be presented on an isolated basin basis. The basins, basin attributes, and basin isolation equations are listed in Table 1-2 and shown in Figure 1-3. Rain gauge locations about the drainage basins are also shown in Figure 1-3. The following notes regarding basin isolations are noted:

- Basin 10: Uses existing Flow Meter 010 (Site 7 flow meter on 15" line) that will capture approximately 120% of the original 10 basins (the northwest portion of the original 20 basin flows into Basin 10)
- Basin 20: New Flow Meter 020 (expected 10" line) that will capture approximately 70% of the original 020 basin. The northwest portion of the original 020 basin flows into Basin 010. The single flow meter will be stand-alone and capture the entirety of the proposed basin area. Basin 020 Isolation = FM 020
- Basin 30: Uses existing Flow Meter 030A (Site 8 Alpine on 21" line) and includes new Flow Meter 030B (expected 10" line) that will capture approximately 110% of the original 30 basins. There is a possible split near the downstream northeast corner of the original 30 basin – to properly capture this basin another flow meter (or possible plug) is included to capture the entirety of the basin including possible split/overflow situations. Basin 30 Isolation = FM 030A + FM 030B – FM 010.
- Basin 40: Proposed new Flow Meter 040 (expected 36" line) that will capture approximately 120% of the original 40 basin. This line is after an upstream split and should capture the basin shown as a whole. There are possible overflow relief lines that need to be investigated to confirm basin isolation (Leland and Stanford Ave near Sand Hill) Basin 40 Isolation = FM 040 – (FM 030A + FM 030B).
- Basin 50: Uses existing Flow Meter 050 South (Site 14 Walsh on 15" line) and uses existing Flow Meter 050 North (Site 13 Atherton/Mulberry on 10" line) that captures ~100% of the original 50 basin, but naturally splits the basin into north and south sub-basins based on existing flow meter locations. A potential cross-connection needs to be confirmed to be inactive. Basin 50 North Isolation = FM 050 North. Basin 50 South Isolation = FM 050 South.
- Basin 60: Propose new flow meters 060A (expecting 6" line) and 060B (expecting 12" line) that will capture ~85% of the original 60 basins. There currently are no WBSD meters that measure near this basin. There appears to be a possible split at Altschul/Avy that necessitates the use of two flow meters to meter this basin. It's possible a plug could be utilized as well to achieve basin isolation. Small portions of the east and northwest regions of the original basin flow out to other neighboring basins. Basin 60 Isolation = FM 060A + FM 060B.

- Basin 70N: Uses existing Flow Meter 070A (Site 15 Atherton/Stevenson on 18" line) to isolate Basin 70 North. Basin 70 North Isolation = FM 070A – (FM 050A + FM 050B)
- Basin 70S: Uses existing Flow Meter 070C (Site 10 Burns/McCormick on 17.625" line), existing Flow Meter 070D (Site 9 Middlefield on 21" line) and proposed new Flow Meter 070B (expected 10" line) and new Flow Meter 070E (possible overflow inlet condition to the basin on 12" line) to isolate Basin 70 South. Basin 70 South Isolation = (FM 070B + FM 070C + FM 070D) – (FM 070A + FM 070E + FM 080A). Proposed locations will measure ~120% of the original Basin 70 (which intrudes north into Basin 110).
- Basin 80: Propose new flow meters 080A (expecting 15" line) and 080B (expecting 16" line) that will capture ~95% of the original 80 basins. There currently are no WBSD meters that measure near this basin. There appears to be a split at Valparaiso, just north of Pulitzer Drive that necessitates the use of two flow meters to meter this basin. A possible overflow at Barney and A Los Cerros should be confirmed. Basin 80 Isolation = FM 080A + FM 080B.
- Basin 90: Propose a new flow meter 090 (expecting a 24" line) that will capture ~100% of the original 90 basins. Basin 90 Isolation = FM 090 – (FM 040 + FM 060A + FM 060B + FM 080B).
- Basin 100: Uses existing flow meters 100A (Site 12 Oak Grove on 12" line) and 100B (Site 6 Willow on 23.25" line) that will capture ~100% of the original 100 basins. Basin 100 Isolation = FM 100A + FM 100B – FM 090. Possible cross-basin connections on Arbor, San Mateo, and University for review.
- Basin 110: Uses existing Flow Meter 110 (Site 1 Haven on 23.5" line) to isolate Basin 110, capturing ~85% of the original 110 Basin. Basin 110 Isolation = FM 110 – (FM 070B + FM 070C + FM 070D).
- Basin 120W: Propose new FM 120A (expected 10") to directly monitor Basin 120 West. Basin 120 West Isolated = FM 120A
- Basin 120E: Use existing FM 120B (Site 3 Hamilton/Hill on 15" line) to measure Basin 120 East. Both meters will capture ~100% of the original 120 basin. Basin 120 East Isolated = FM 120B – (FM 100A – FM 070E [overflow]).
- Basin 130: Uses existing FM 130 (Site 5 Hollyburne on 24.75" line) that will capture ~100% of the original 130 basin. Basin 130 Isolation = FM 130 – FM 100B.
- Basin 140: Uses existing FM 140 (Site 2 Levee on 30" line) that will capture ~95% of the original 140 basin. Basin 140 Isolation = FM 140 – (FM 120B + FM 150). Check overflow at Pierce and Hollyburne.
- Basin 150: Uses existing FM 150 (Site 4 Chilco on 15" line) that will capture ~120% of the original 150 basin. Basin 150 Isolation = FM 150. Check overflow at Pierce and Hollyburne.

Table 1-1. List of Monitoring Locations

Monitoring Site	Manhole ID	Type	Monitored Pipe	Measured Pipe Dia (in)	Location
FM 20	M09014	Temporary	S IN	10	61 Los Trancos Rd. before Alpine Rd.
FM 30B	J11006	Temporary	S IN	10	2699 Alpine Rd.
FM 60A	H14109	Temporary	S IN	6	2122-2164 Avy Ave., Center of St.
FM 60B	H14148	Temporary	S IN	12	2122-2164 Avy Ave.

Monitoring Site	Manhole ID	Type	Monitored Pipe	Measured Pipe Dia (in)	Location
FM 70B	D16027	Temporary	S IN	6	197 Fair Oak Ln.
FM 70E	E14131	Temporary	S IN	10	Oak Grove Ave. and Pine St.
FM 80A	G14189	Temporary	SW IN	15	1435 Valparaiso Ave.
FM 80B	G14071	Temporary	NW IN	15	Sidewalk, Olive St. and Santa Cruz Ave.
FM 90	G13222	Temporary	SW IN	24	Middle Ave. and Hobart St.
FM 120A	C14036	Temporary	SW IN	10	Past gate at the end of Sheridan Dr., north corner of the empty lot.
FM 010	K10023	Permanent	S IN	15	1945 Oak Ave.
FM 30A	I2085	Permanent	S IN	21	SW of Ansel Ln. & Alpine Rd.
FM 40	H12065	Permanent	S IN	36	3300 Alpine Rd.
FM 50N	H16023	Permanent	SW IN	10	291 Atherton Ave.
FM 50S	H15134	Permanent	SW IN	15	321 Walsh Rd.
FM 70A	F16032	Permanent	SW IN	18	82 Atherton Ave.
FM 70C	E15047	Permanent	SW IN	17.625	65 McCormick Ln.
FM 70D	D15128	Permanent	SE IN	21	Middlefield b/w Marsh & Watkins
FM 100A	E14053	Permanent	SW IN	12	445 Oak Grove Ave.
FM 100B	E12158	Permanent	SW IN	23.25	25 Willow Rd.
FM 110A	B16004	Permanent	SW IN	23.5	3715 Haven Ave.
FM 120B	C13029	Permanent	W IN	15	Int of Hamilton Ave. and Hill Ave.
FM 130	C12089	Permanent	S IN	24.75	1018 Hollyburn Ave.
FM 140	B15047	Permanent	E IN	30	Bedwell Bayfront Park
FM 150	B13043	Permanent	SE IN	15	1334 Chilco St.

NW = Northwest, SW = Southwest, NE = Northeast, SE = Southeast, IN = influent

Table 1-2. Isolated Flow Monitoring Basin Characteristics

Monitoring Site ID	Sub-Basin ID	Basin ID	Basin Flow Isolation Calculation	Basin Area (Acres)
FM 010	10	10	$Q_{10} - Q_{20}$	1,463
FM 020	20	20	Q_{20}	372
FM 030A	30A	30	$Q_{30A} + Q_{30B} - Q_{10}$	393
FM 030B	30B	30	$Q_{30A} + Q_{30B} - Q_{10}$	393
FM 040	40	40	$Q_{40} - (Q_{30A} + Q_{30B})$	526
FM 050N	50N	50	Q_{50N}	348
FM 050S	50S	50	Q_{50S}	456
FM 060A	60A	60	$Q_{60A} + Q_{60B}$	285
FM 060B	60B	60	$Q_{60A} + Q_{60B}$	285
FM 070A	70A	70N	$Q_{70A} - (Q_{50A} + Q_{50B})$	556
FM 070B	70B	70S	$(Q_{70B} + Q_{70C} + Q_{70D}) - (Q_{70A} + Q_{70E} + Q_{80A})$	897
FM 070C	70C	70S	$(Q_{70B} + Q_{70C} + Q_{70D}) - (Q_{70A} + Q_{70E} + Q_{80A})$	897
FM 070D	70D	70S	$(Q_{70B} + Q_{70C} + Q_{70D}) - (Q_{70A} + Q_{70E} + Q_{80A})$	897
FM 070E	70E	70S	$(Q_{70B} + Q_{70C} + Q_{70D}) - (Q_{70A} + Q_{70E} + Q_{80A})$	897
FM 080A	80A	80	$Q_{80A} + Q_{80B}$	284
FM 080B	80B	80	$Q_{80A} + Q_{80B}$	284
FM 090	90	90	$Q_{90} - (Q_{40} + Q_{60A} + Q_{60B} + Q_{80B})$	373
FM 100A	100A	100	$Q_{100A} + Q_{100B} - Q_{90}$	619
FM 100B	100B	100	$Q_{100A} + Q_{100B} - Q_{90}$	619
FM 110A	110	110	$Q_{110} - (Q_{70B} - Q_{70C} + Q_{70D})$	539
FM 120A	120W	120	Q_{120}	272
FM 120B	120E	120	$Q_{120} - (Q_{100B} - Q_{70E} \text{ OVERFLOW})$	422
FM 130	130	130	$Q_{130} - Q_{100B}$	774
FM 140	140	140	$Q_{140} - (Q_{120B} + Q_{150})$	499
FM 150	150	150	Q_{150}	478

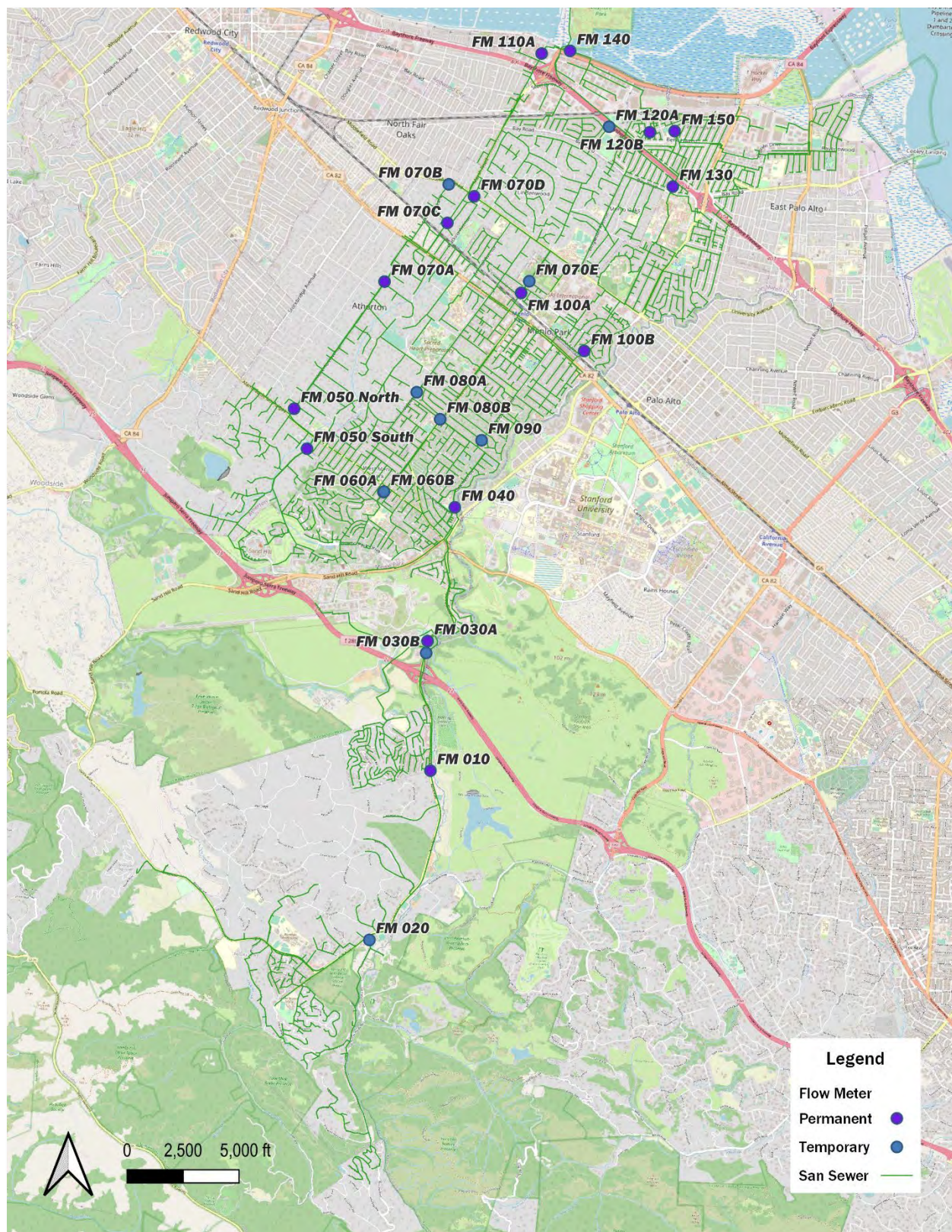


Figure 1-2. Map of Flow Monitoring Sites

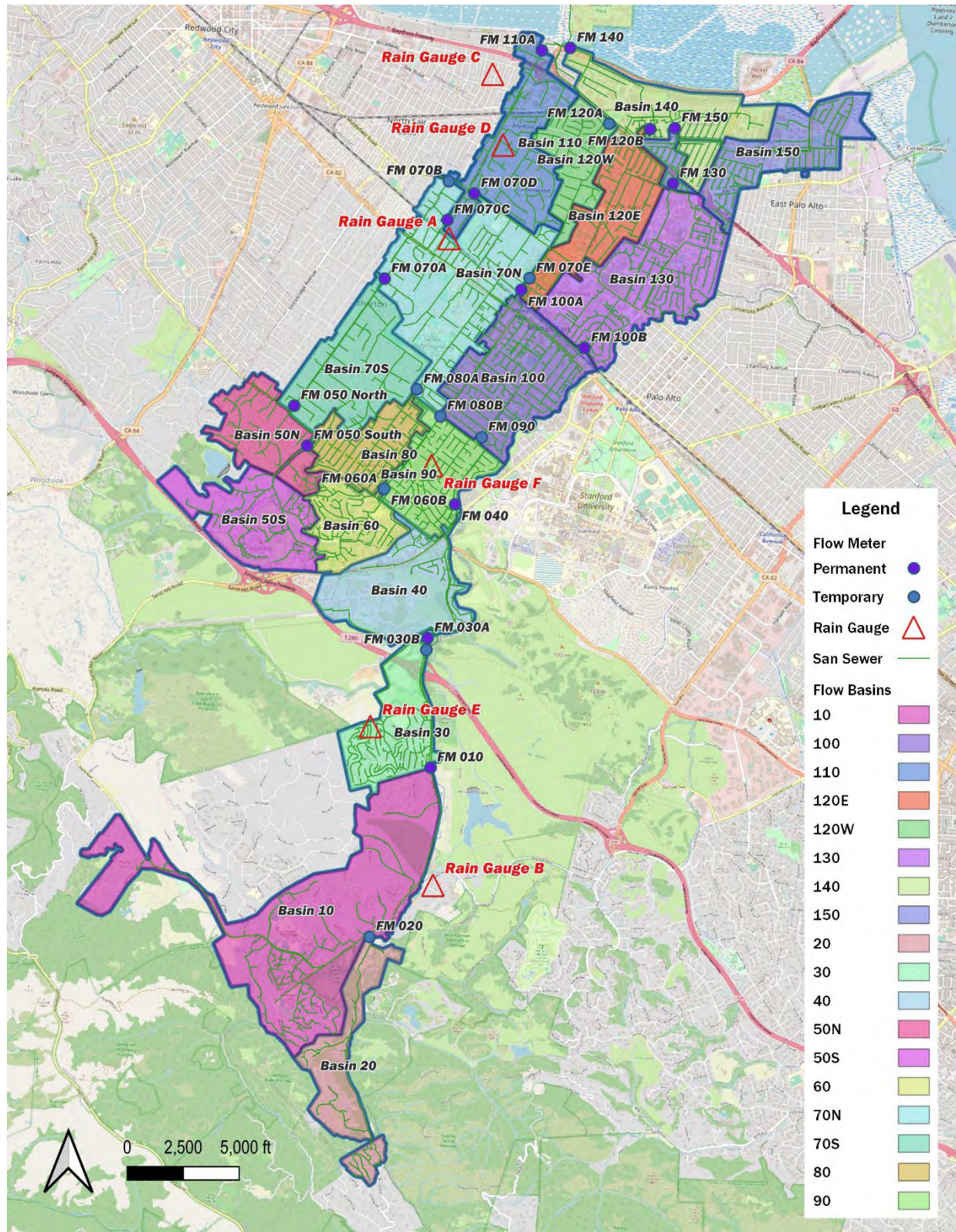


Figure 1-3. Map of Flow Monitoring Basins and Rain Gauges

2 Methods and Procedures

2.1 Confined Space Entry

A confined space (Photo 2-1) is defined as any space that is large enough and so configured that a person can bodily enter and perform assigned work, has limited or restricted means for entry or exit, and is not designed for continuous employee occupancy. In general, the atmosphere must be constantly monitored for sufficient levels of oxygen (19.5% to 23.5%), and the presence of hydrogen sulfide (H₂S) gas, carbon monoxide (CO) gas, and lower explosive limit (LEL) levels. A typical confined space entry crew has members with OSHA-defined responsibilities of Entrant, Attendant, and Supervisor. The Entrant is the individual performing the work. He or she is equipped with the necessary personal protective equipment needed to perform the job safely, including a personal four-gas monitor (Photo 2-2). If it is not possible to maintain line-of-sight with the Entrant, then more Entrants are required until line-of-sight can be maintained. The Attendant is responsible for maintaining contact with the Entrants to monitor the atmosphere using another four-gas monitor and maintaining records of all Entrants if there is more than one. The Supervisor is responsible for developing a safe work plan for the job at hand before entering.



Photo 2-1. Confined Space Entry



Photo 2-2. Typical Personal Four-Gas Monitor

2.2 Flow Meter Installation

V&A installed 10 temporary flow monitoring devices within the collection system using a combination of both contact and non-contact manufactured equipment. Three non-contact Flo-Dar assemblies and 7 Hach FL904 submerged sensor, with a pressure transducer, were utilized to collect depth readings, and an ultrasonic Doppler sensor to determine the average fluid velocity. The ultrasonic sensor emits high-frequency sound waves, which are reflected by air bubbles and suspended particles in the flow. The sensor receives the reflected signal and determines the Doppler frequency shift, which indicates the estimated average flow velocity. The sensor is typically mounted at a manhole inlet to take advantage of smoother upstream flow conditions. The sensor may be offset to one side of the pipe to lessen the chances of fouling and sedimentation where these problems are expected to occur. Manual level and velocity measurements were taken during the installation of the flow meters, and again when they were removed, and compared to simultaneous level and velocity readings from the flow meters to ensure proper calibration and accuracy. Figure 2-1 shows a typical installation for a flow meter with a submerged sensor. The non-contact sensor is mounted on a support system in the manhole, centered above the flow.

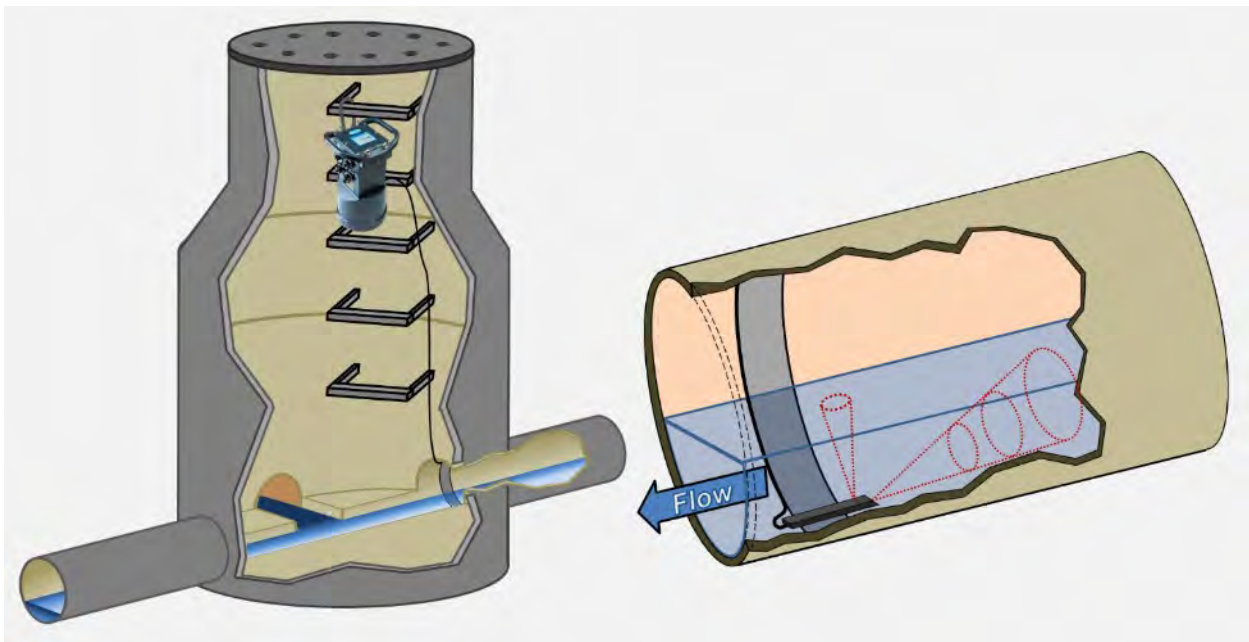


Figure 2-1. Typical Installation for temporary flow meter with a contact submerged sensor

2.3 Flow Calculation

Data retrieved from the flow meters is placed into a spreadsheet program for analysis. Data analysis includes comparison to field calibration measurements as well as necessary geometric adjustments as required for sediment (sediment reduces the pipe's wetted cross-sectional area available to carry flow). Area-velocity flow metering uses the continuity equation,

$$Q = v \cdot A = v \cdot (A_T - A_S)$$

where Q : volume flow rate

v : average velocity as determined by the ultrasonic sensor

A : cross-sectional area available to carry the flow

A_T : total cross-sectional area with both wastewater and sediment

A_S : cross-sectional area of sediment

For circular pipe,

$$A_T = \left[\frac{D^2}{4} \cos^{-1} \left(1 - \frac{2d_w}{D} \right) \right] - \left[\left(\frac{D}{2} - d_w \right) \left(\frac{D}{2} \right) \sin \left(\cos^{-1} \left(1 - \frac{2d_w}{D} \right) \right) \right]$$

$$A_S = \left[\frac{D^2}{4} \cos^{-1} \left(1 - \frac{2d_s}{D} \right) \right] - \left[\left(\frac{D}{2} - d_s \right) \left(\frac{D}{2} \right) \sin \left(\cos^{-1} \left(1 - \frac{2d_s}{D} \right) \right) \right]$$

where d_w : distance between wastewater level and pipe invert

d_s : depth of sediment

D : pipe diameter

2.4 Measurement Error and Uncertainty

For traditional engineering applications, measurement “error” is explained as a difference between a computed, estimated, or measured value and the generally accepted true or theoretically correct value. It can also be thought of as a difference between the desired and the actual performance of equipment. For equipment, an error is usually expressed as a percentage relative to accuracy (i.e., “...the velocity sensor has an accuracy of $\pm 2\%$ of the reading...”).

However, for this study and flow monitoring applications, the cause of the measurement difference is important, and a distinction will be made between the equipment not performing to industry standards (“error”) and expected inaccuracies (“uncertainty”) associated with monitoring technology limitations.

Gauging “**error**” occurs when the equipment is not performing to industry standards. This can occur as a result of the following common categories of conditions that can be encountered at a wastewater monitoring site.

- Malfunctioning equipment (i.e. a sensor is damaged, battery life ends, or a desiccant canister becomes saturated)
- Improper equipment choice or maintenance (i.e. the selected gauging equipment technologies are incompatible with hydraulic conditions within the sewer, or excessive gravel deposits are allowed to accumulate around the sensors without being removed)
- Improper equipment calibration (i.e. depth and/or velocity measurements are incorrectly taken within the sewer, or equipment is allowed to drift out of calibration)
- Field conditions within the sewer, (i.e. foaming at the water surface that “blinds” an ultrasonic depth sensor or toilet paper catching and accumulating on a combination sensor, blinding the acoustic Doppler velocity meter)

For flow monitoring applications, gauging “**uncertainty**” is used to describe and quantify the expected inaccuracies that result from the limitations of the technologies that utilize indirect measurements to quantify wastewater flow.

It is important to try and install flow meters in “ideal” flow conditions. Ideal flow conditions are generally defined as laminar flow in a straight-through, constant-slope pipeline with no disturbances (elbows, tees, hydraulic shifts, etc.) 10 diameters upstream and 5 diameters downstream from the flow monitoring location. If ideal flow conditions are met, then an expected uncertainty of final flow calculation from an open-channel flow meter may be approximately $\pm 5\%$. In many situations, ideal flow conditions cannot be met, and uncertainties increase.

2.4.1 Flow Addition versus Flow Subtraction

Due to the uncertainties involved in subtracting flows of similar magnitudes, the addition of flows at multiple monitoring sites is usually preferred over the subtraction of flows. Subtraction becomes an issue especially when the flow difference from the subtraction falls within the measurement uncertainty range of the two larger flow data sets (i.e. subtracting a large flow from another large flow to obtain a small difference).

This concept is best demonstrated by the following example:

1. Meter A measures 2.00 MGD of flow and has an expected uncertainty of $\pm 5\%$, thus the uncertainty range of the flow measurement is ± 0.10 MGD.
2. Meter B measures 2.50 MGD of flow and has an expected uncertainty of $\pm 6\%$, thus the uncertainty range of the flow measurement is ± 0.15 MGD.

3. Meter C measures 0.50 MGD of flow and has an expected uncertainty of $\pm 8\%$, thus the uncertainty range of the flow measurement is ± 0.04 MGD.

Scenario 1 – Flow Addition

- Meter A + Meter B = 2.00 MGD (± 0.10) + 2.50 MGD (± 0.15) = 4.50 MGD (± 0.25)
- Overall uncertainty = $\pm 0.25 / 4.50 = \pm 5.6\%$
- For flow addition, the final uncertainty is essentially a weighted average of the component uncertainties.

Scenario 2 – Flow Subtraction, Large Flow less Small Flow

- Meter B – Meter C = 2.50 MGD (± 0.15) – 0.50 MGD (± 0.04) = 2.00 MGD (± 0.19)
- Overall uncertainty = $\pm 0.19 / 2.00 = \pm 9.5\%$
- For flow subtraction, the final uncertainty will always be greater than the component uncertainties.
- When subtracting a small flow from a large flow, the resulting uncertainties can still be manageable.

Scenario 3 – Flow Subtraction, Large Flow less a similarly Large Flow

- Meter B – Meter A = 2.50 MGD (± 0.15) – 2.00 MGD (± 0.10) = 0.50 MGD (± 0.25)
- Overall uncertainty = $\pm 0.25 / 0.50 = \pm 50\%$
- When subtracting similarly sized flow rates, the resulting uncertainties may not be manageable. In this example, an uncertainty of $\pm 50\%$ may be considered unacceptable for confident analyses.

Scenario 3 is a very “real-world” situation. The uncertainties for Meter A and Meter B are extremely reasonable (indeed, most flow monitoring service providers would be extremely pleased with true meter uncertainties of $\pm 5\%$ to $\pm 6\%$). However, the reality of the math is clear, and the above example demonstrates the concept of flow subtraction and compounding or inflating uncertainty ranges.

The following points are emphasized in relation to the items of this section:

- For subtraction of flows, the overall uncertainty can be an inflated value that far exceeds the component uncertainties.
- The smaller the resultant flow from the subtraction equation, the larger the percentage uncertainty.
- Whenever possible, basin flows should be directly measured, rather than calculated as a subtraction of two or more flow meters.
- If flow subtraction cannot be avoided, it is better to have the magnitudes of the component flows be as dissimilar as possible.

2.5 Average Dry Weather Flow Determination

For this study, four distinct average dry weather flow curves were established for each site location:

- Mondays – Thursdays
- Fridays
- Saturdays
- Sundays

Flows for many sites differ on Friday evenings compared to Mondays through Thursdays. Starting around 7 p.m., the flows are often decreased (compared to Monday through Thursday). Similarly, flow patterns for Saturday and Sunday were also separated due to their unique evening flow pattern. This type of differentiation can be important when determining I/I response, especially if a rain event occurs on a Friday, Saturday, or Sunday evening.

Figure 2-2 illustrates a sample of varying flow patterns within a typical dry week³.

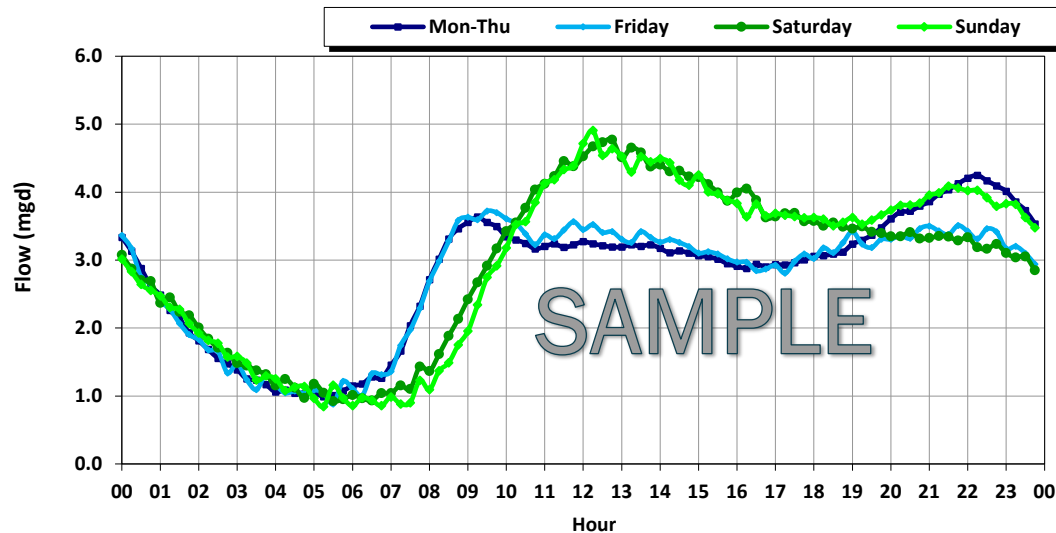


Figure 2-2. Sample ADWF Diurnal Flow Patterns

ADWF curves are taken from “Dry Days” when RDI had the least impact on the baseline flow. The overall average dry weather flow (ADWF) is calculated using the following equation:

$$ADWF = \left(ADWF_{Mon-Thu} \times \frac{4}{7} \right) + \left(ADWF_{Fri} \times \frac{1}{7} \right) + \left(ADWF_{Sat} \times \frac{1}{7} \right) + \left(ADWF_{Sun} \times \frac{1}{7} \right)$$

³ Holiday flows can be extremely variable. Christmas flows are different from Thanksgiving flows and different from MLK Day flows. See Section 0 for details on whether holiday ADWF curves were established for this project’s I/I analysis.

2.6 Flow Attenuation

Flow attenuation in a sewer collection system is the natural process of the reduction of the peak flow rate through redistribution of the same volume of flow over a longer period of time. This occurs as a result of friction (resistance), internal storage and diffusion along the sewer pipes. Fluids are constantly working towards equilibrium. For example, a volume of fluid poured into a static vessel with no outside turbulence will eventually stabilize to a static state, with a smooth fluid surface without peaks and valleys. Attenuation within a sanitary sewer collection system is based upon this concept. A flow profile with a strong peak will tend to stabilize towards equilibrium, as shown in Figure 2-3.

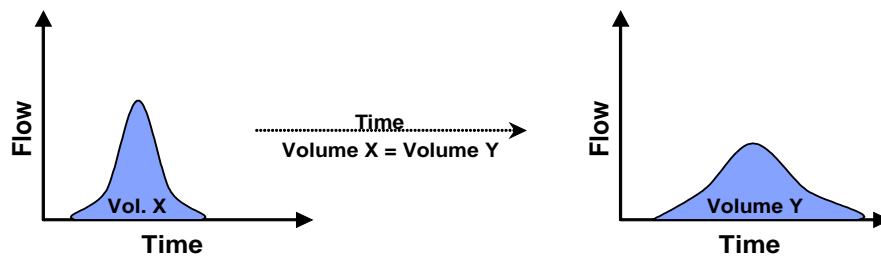


Figure 2-3. Attenuation Illustration

Within a sanitary sewer collection system, each individual basin will have a specific flow profile. As the flows from the basins combine within the trunk sewer lines, the peaks from each basin will not necessarily coincide at the same time, and peak flows may attenuate before reaching the treatment facility due to the length and time of travel through the trunk sewers. The sum of the peak flows of the individual basins within a collection system will usually be greater than the peak flows observed at the treatment facility.

2.7 Inflow / Infiltration Analysis: Definitions and Identification

Inflow and infiltration (I/I) consists of stormwater and groundwater that enters the sewer system through pipe defects and improper storm drainage connections and is defined as follows:

- **Inflow:** Stormwater inflow is defined as water discharged into the sewer system, including private sewer laterals, from direct connections such as downspouts, yard, and area drains, holes in manhole covers, cross-connections from storm drains, or catch basins.
- **Infiltration:** Infiltration is defined as water entering the sanitary sewer system through defects in pipes, pipe joints, and manhole walls, which may include cracks, offset joints, root intrusion points, and broken pipes.

Figure 2-4 illustrates the possible sources and components of I/I.

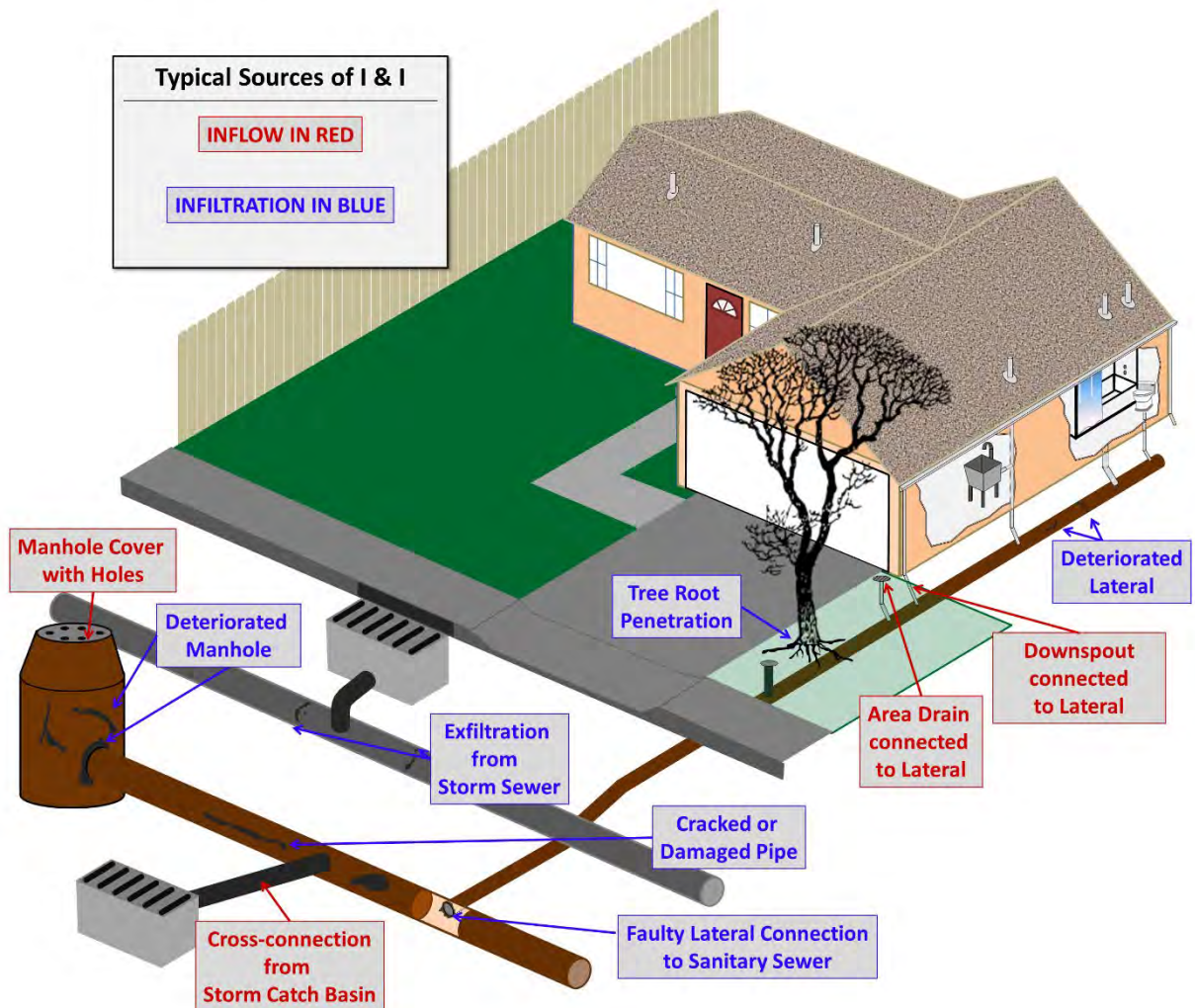


Figure 2-4. Typical Sources of Infiltration and Inflow

2.7.1 Infiltration Components

Infiltration can be further subdivided into components as follows:

- **Groundwater Infiltration:** Groundwater infiltration depends on the depth of the groundwater table above the pipelines as well as the percentage of the system submerged. The variation of groundwater levels and subsequent groundwater infiltration rates are seasonal by nature. On a day-to-day basis, groundwater infiltration rates are relatively steady and will not fluctuate greatly.
- **Rainfall-Dependent Infiltration:** This component occurs as a result of stormwater and enters the sewer system through pipe defects, as with groundwater infiltration. The stormwater first percolates directly into the soil and then migrates to an infiltration point. Typically, the time of concentration for rainfall-related infiltration maybe 24 hours or longer, but this depends on the soil permeability and saturation levels.
- **Rainfall-Responsive Infiltration** is stormwater that enters the collection system indirectly through pipe defects, but normally in sewers constructed close to the ground surface such as private laterals. Rainfall-responsive infiltration is independent of the groundwater table and reaches defective sewers via the pipe trench in which the sewer is constructed, particularly if the pipe is placed in impermeable soil and is bedded and backfilled with granular material. In this case, the pipe trench serves as a conduit similar to a French drain, conveying storm drainage to defective joints and other openings in the system. This type of infiltration can have a quick response and graphically can look very similar to inflow.

2.7.2 Impact and Cost of Source Detection and Removal

- **Inflow:**
 - **Impact:** Inflow creates a peak flow problem in the sewer system and often dictates the required capacity of downstream pipes and transport facilities to carry these peak instantaneous flows. Because the response and magnitude of inflow are tied closely to the intensity of the storm event, the short-term peak instantaneous flows may result in surcharging and overflows within a collection system. Severe inflow may result in sewage dilution, resulting in upsetting the biological treatment (secondary treatment) at the treatment facility.
 - **Cost of Source Identification and Removal:** Inflow locations are usually less difficult to find and less expensive to correct. These sources include direct and indirect cross-connections with storm drainage systems, roof downspouts, and various types of surface drains. Generally, the costs to identify and remove sources of inflow are low compared to potential benefits to public health and safety or the costs of building new facilities to convey and treat the resulting peak flows.
- **Infiltration:**
 - **Impact:** Infiltration typically creates long-term annual volumetric problems. The major impact is the cost of pumping and treating the additional volume of water, and of paying for treatment (for municipalities that are billed strictly on flow volume).
 - **Cost of Source Detection and Removal:** Infiltration sources are usually harder to find and more expensive to correct than inflow sources. Infiltration sources include defects in deteriorated sewer pipes or manholes that may be widespread throughout a sanitary sewer system.

2.7.3 Graphical Identification of I/I

Inflow is usually recognized graphically by large-magnitude, short-duration spikes immediately following a rain event. Infiltration is often recognized graphically by a gradual increase in flow after a wet-weather event. The increased flow typically sustains for a period after rainfall has stopped and then gradually

drops off as soils become less saturated and as groundwater levels recede to normal levels. Real-time flows are plotted against ADWF to analyze the I/I response to rainfall events. Figure 2-5 illustrates a sample of how this analysis is conducted and some of the measurements that are used to distinguish infiltration and inflow. Similar graphs have been generated for the individual flow monitoring sites and can be found in Appendix A.

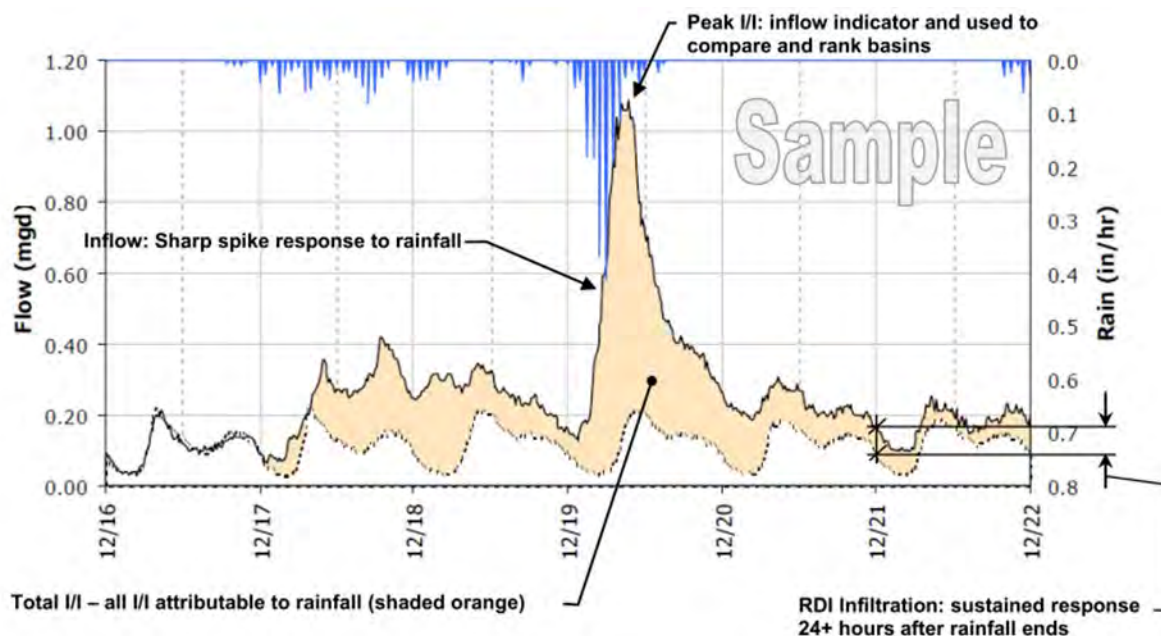


Figure 2-5. Sample Infiltration and Inflow Isolation Graph

2.7.4 Analysis Metrics

After differentiating I/I flows from ADWF flows, various calculations can be made to determine which I/I component (inflow or infiltration) is more prevalent at a particular site and to compare the relative magnitudes of the I/I components between drainage basins and between storm events:

- **Inflow – Peak I/I Flow Rate:** Inflow is characterized by sharp, direct spikes occurring during a rainfall event. Peak I/I rates are used for inflow analysis⁴.
- **Groundwater Infiltration (GWI):** GWI analysis is conducted by looking at minimum dry weather flow to average dry weather flow ratios and comparing them to established standards to quantify the rate of excess groundwater infiltration.
- **Rainfall-Dependent Infiltration (RDI):** RDI Analysis is conducted by looking at the infiltration rates at set periods after the conclusion of a storm event. Depending on the particular collection system and the time required for flows to return to ADWF levels, different periods may be examined to determine the basins with the greatest or most sustained rainfall-dependent infiltration rates.
- **Combined I/I:** The combined inflow and infiltration are measured in gallons per site and per storm event. Because it is based on combined I/I volume, it is used to identify the overall volumetric influence of I/I within the monitoring basin.

⁴ I/I flow rate is the real time flow less the estimated average dry weather flow rate. It is an estimate of flows attributable to rainfall. By using peak measured flow rates (inclusive of ADWF), the I/I flow rate would be skewed higher or lower depending on whether the storm event I/I response occurs during low-flow or high-flow hours.

2.7.5 Normalization Methods

There are three ways to *normalize* the I/I analysis metrics for an “apples-to-apples” comparison among the different drainage basins:

- **per-ADWF:** The metric is divided by the established average dry weather flow rate and is typically expressed as a ratio. Peaking Factors are examples of using ADWF to normalize data from different sites.
- **per-IDM:** The metric is divided by the length of pipe (IDM [inch-diameter mile]) contained within the upstream basin. Final units typically are gallons per day (gpd) per IDM.
- **per-ACRE:** The metric is divided by the acreage of the upstream basin. Final units typically are gallons per day (gpd) per ACRE.

The infiltration and inflow indicators were normalized by the per-ADWF, per-IDM, and per-ACRE methods in this report and these results will be shown in the following I/I analysis results sections. For basin rankings, the following weighting decisions are given:

- **per-ADWF:** Per-ADWF metrics were assigned 30% weighting towards final rankings. It is noted that abnormal waste usage could result in low ADWF values, which could skew results and lend to possible misinterpretation of data.
- **per-IDM:** Per-IDM values were assigned 40% weighting towards final rankings. Most of the diameters are in the GIS and should result in valid per-IDM analyses.
- **Per-ACRE:** Per-ACRE rankings were assigned a 30% weighting towards final rankings. Basin acreage was calculated using GIS.

3 Results and Analysis

3.1 Rainfall Monitoring

3.1.1 Rain Gauge Locations

V&A analyzed rainfall data from 15 publicly available private weather stations (PWS) on Weather Underground⁵, choosing the best 6 locations, allowing for solid coverage over the collection system which has a diverse range of topographical features. Table 3-1 lists the identification label, PWS ID, location, elevation, and measured rainfall of the selected gauges. Figure 3-1 illustrates the locations and labeling convention used for the 6 rain gauges.

Table 3-1: List of Rain Gauge Locations

RG Name	PWS RG ID	Lat.	Long.	Elev. (ft)	Rain (in)
A	KCAATHER30	37.462	-122.194	56	18.6
B	KCAPORT0103	37.383	-122.191	554	24.6
C	KCAREDW0119	37.483	-122.189	20	16.5
D	KCAATHER23	37.474	-122.187	43	17.2
E	KCAMENLO105	37.402	-122.202	302	24.7
F	KCAMENLO53	37.434	-122.195	112	19.9

⁵ Weather Underground (wunderground.com) collects data from 180,000+ weather stations across the country, including Automated Surface Observation System (ASOS) at airports, personal weather stations (PWS), and Meteorological Assimilation Data Ingest System (MADIS) managed by the National Oceanic and Atmospheric Administration (NOAA). While V&A has no direct control over the rain gauges, V&A performs additional QA/QC on the data to assure its suitability for use.

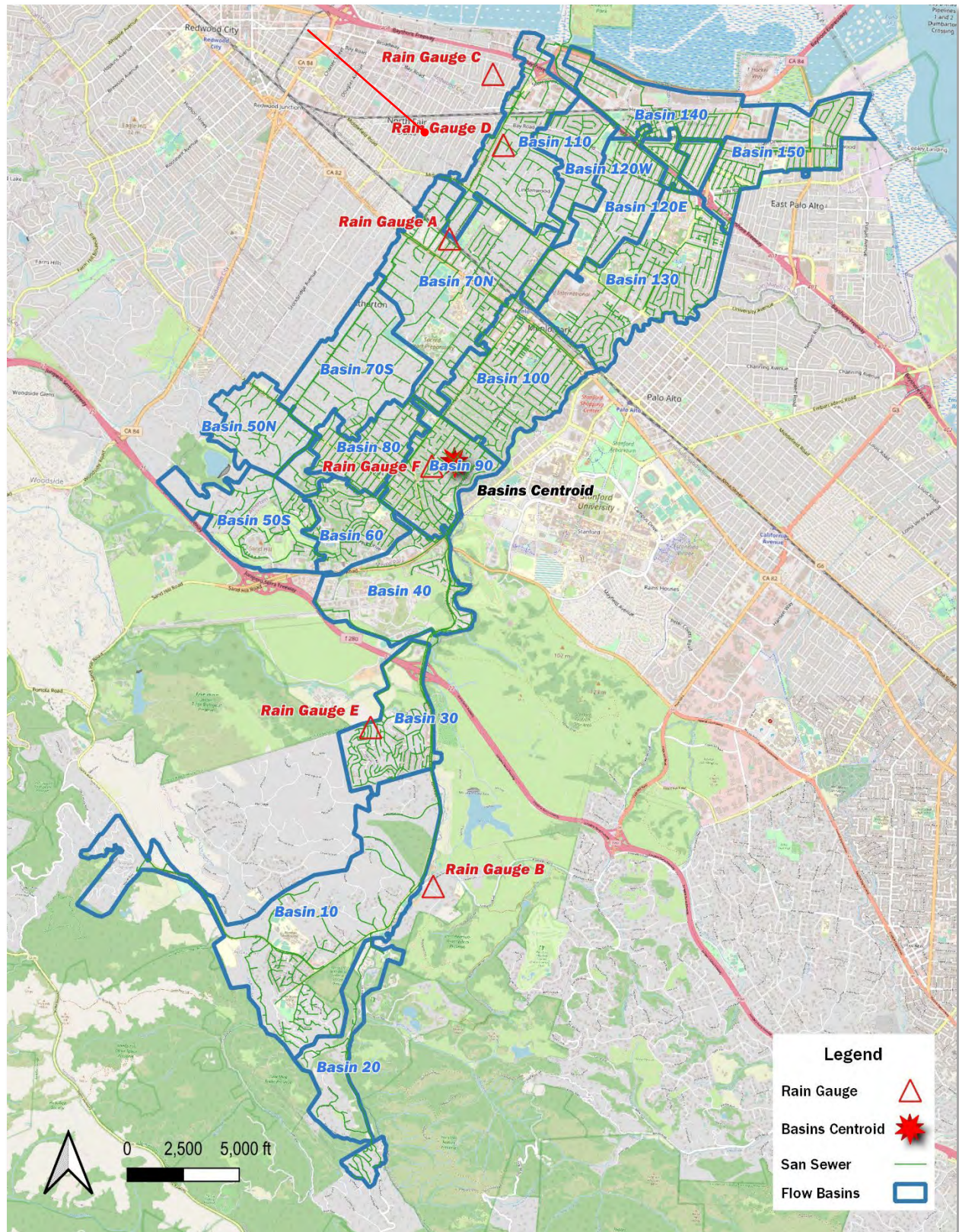


Figure 3-1. Location of Rain Gauges

3.1.2 Flow Study Rainfall Data

There were multiple rainfall events during this study that elicited solid I/I responses, as illustrated in Figure 3-2. Minor rainfall (>1 inch) on 12/02/23 and 12/04/23 proceeded the flow monitor installation on 12/05/23. Data did not indicate a significant increase in baseline flows.

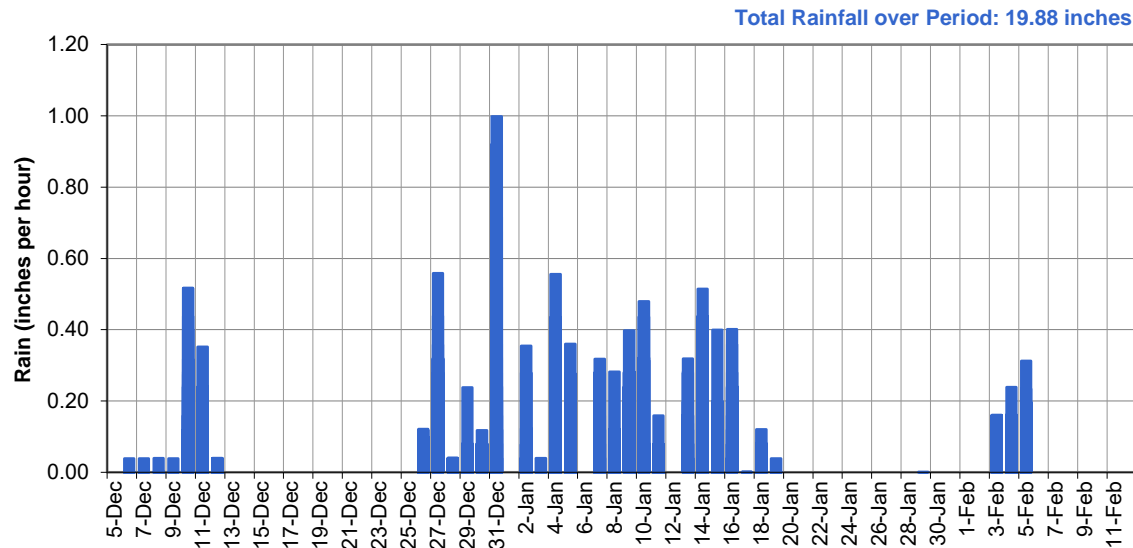


Figure 3-2. Rainfall Monitoring (Triangulation of 6 selected rain gauges)

A total of 19.88 inches of rainfall was recorded over the monitoring period, triangulated to the centroid of the Study Area. Table 3-2 lists the significant rainfall events recorded (events > 0.5-inch). The highest rainfall intensity measured was 0.83 inches/hour on 12/30/22. This event saw 4.52 inches of rainfall over 20.75 hrs and has a return period of approximately 50 years based on the depth of rainfall.

Table 3-2. Significant Rainfall Events

Storm Start Date	Duration (hrs)	Total Rainfall (in)	1-hr intensity (in/hr)	Return Period
12/10/2022 5:45	27.25	1.93	0.43	~ 1-YR
12/26/2022 17:45	18.75	1.98	0.37	< 2-YR
12/30/2022 22:00	20.75	4.52	0.83	~ 50-YR
1/4/2023 11:30	13.00	1.31	0.45	< 1-YR
1/8/2023 19:45	13.25	1.68	0.28	~ 1-YR
1/13/2023 7:45	4.00	0.59	0.22	< 1-YR
1/13/2023 23:45	9.25	1.27	0.30	~ 1-YR
1/15/2023 15:15	14.25	1.58	0.32	~ 1-YR
Note: Only events > 0.5-inch listed				

Figure 3-3 shows the rain accumulation plot of the period rainfall, as well as the historical average

rainfall⁶ (triangulated to the historical WRCC Redwood City rain gauge 047339) over the project duration. When this historical data is compared to the recorded rainfall, we see that cumulative precipitation was approximately 275% of historical precipitation averages over the specific duration of the flow monitoring when compared to the triangulated average.

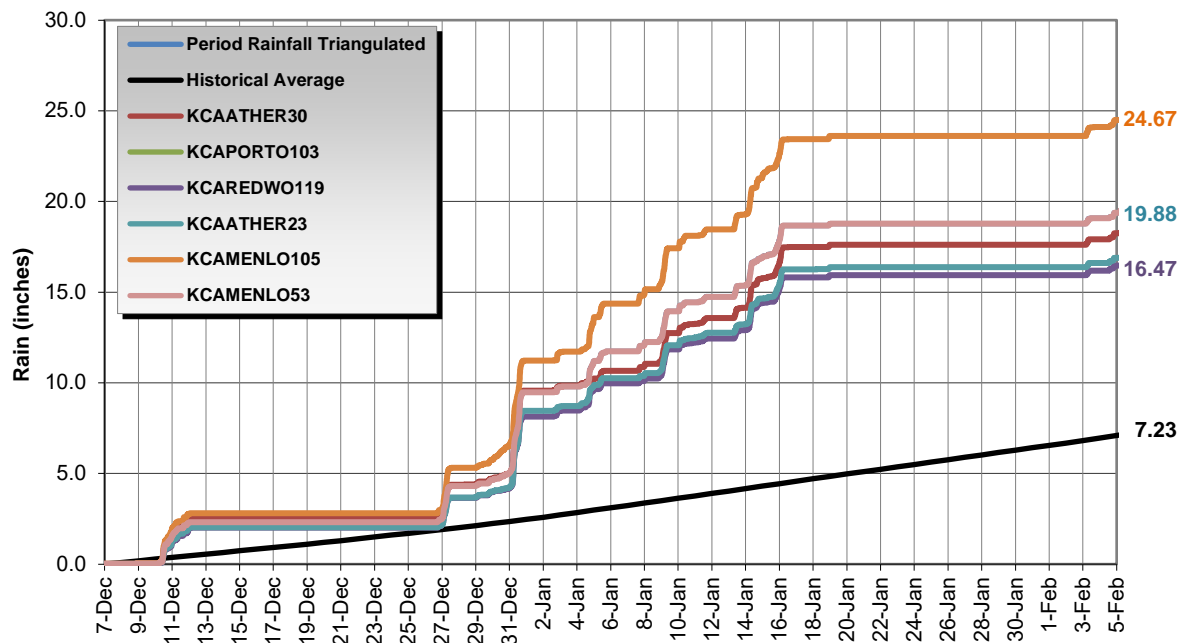


Figure 3-3. Rainfall Accumulation Plot

⁶ Historical data taken from the WRCC (Station 047339 in Redwood City: <http://www.wrcc.dri.edu/summary/climsmnca.html>)

3.1.3 Regional Rainfall Event Classification

It is important to classify the relative size of a major storm event that occurs throughout a flow monitoring period⁷. Rainfall events are classified by intensity and duration. Based on historical data, frequency contour maps for storm events of given intensity and duration have been developed by the NOAA for all areas within the continental United States (Figure 3-4).

For example, the NOAA Rainfall Frequency Atlas⁸ classifies a 10-year, 24-hour storm event at the Redwood City (Site ID 04-7339) rain gauge location as 3.58 inches. This means that in any given year, at this specific location, there is a 10% chance that 3.58 inches of rain will fall in any 24-hour period.

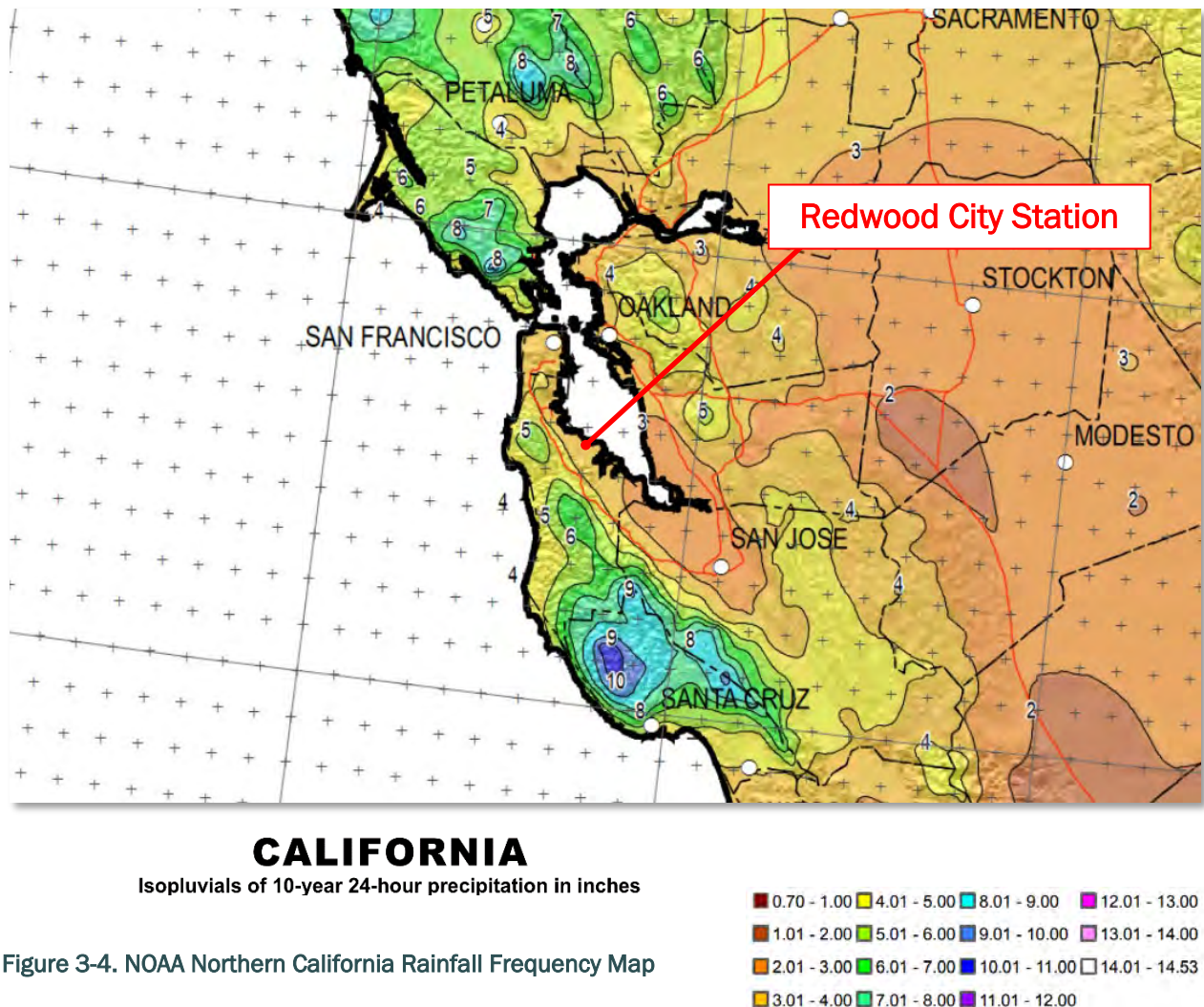


Figure 3-4. NOAA Northern California Rainfall Frequency Map

From the NOAA frequency maps, for a specific latitude and longitude, the rainfall densities for period durations ranging from 1 hour to 20 days are known for rain events ranging from 1-year to 10-year intensities. These are plotted to develop a rain event frequency map specific to each rainfall monitoring site. Superimposing the peak measured densities for the rainfall events on the rain event frequency plot

⁷ Sanitary sewers are often designed to withstand I/I contribution to sanitary flows for specific-sized “design” storm events.

⁸ NOAA Western U.S. Precipitation Frequency Maps Atlas 14, Volume 6, 2011:
<http://hdsc.nws.noaa.gov/pub/hdsc/data/sw/ca10y24h.pdf>

determines the classification of the rainfall event.

Figure 3-5 shows the peak classification plot for the top 5 triangulated rainfall events. The following items are noted:

- The 12/30/22 - 12/31/22 event includes multiple small back-to-back events on 12/30 prior to larger events on 12/31. Analysis indicates that this triangulated event was approximately a 50-yr, 12-hr event with individual gauges being slightly more or less intense. For triangulation, an event was not considered separate unless the time between recorded rainfall exceeded 2.5 hrs.

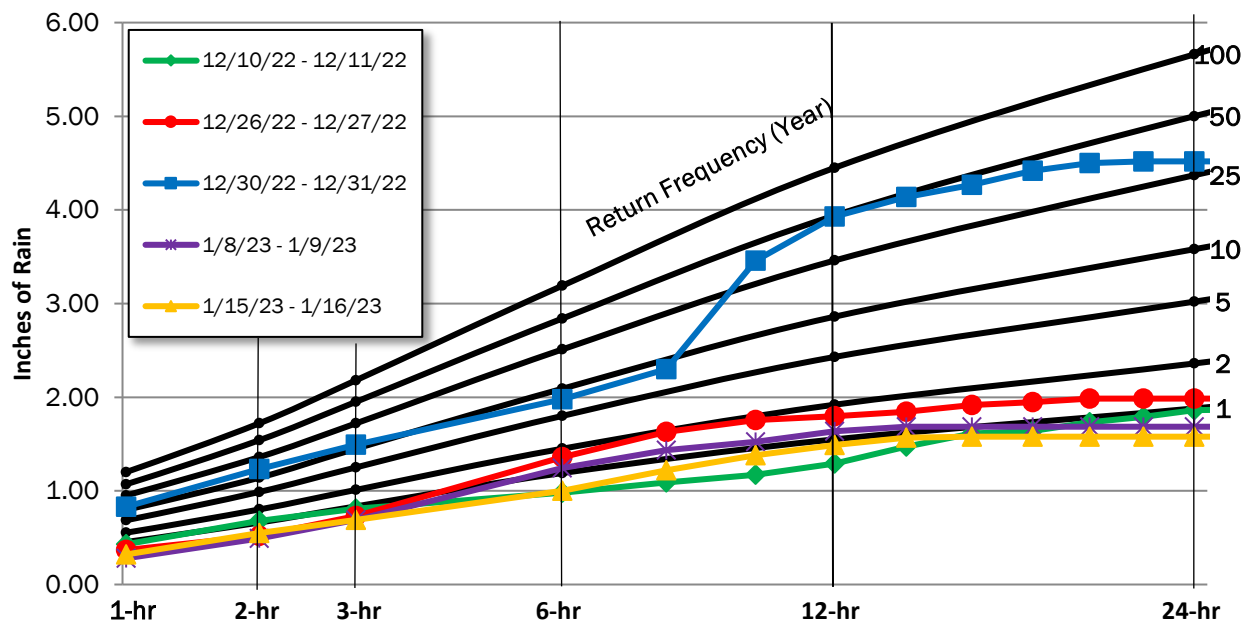


Figure 3-5. Rainfall Event Classification – 24-Hour Period

To determine peak collection system flows, it is essential that associated rainfall events have moderate intensities. High-intensity rainfall events usually result in peak wastewater flows that create surcharge, backups, and possibly overflows. The goal of the design flow projection analysis is to evaluate the hydraulic behavior of the sewer system under open-channel flow conditions. Therefore, surcharges and backups produce non-representative data and must be used cautiously. Also, projecting the theoretical peak wastewater flows under these conditions is virtually impossible since storage and other volumetric losses reduce peak measured flows.

It is also important to use caution when evaluating the hydraulic performance of a collection system based on total rainfall only. For example, a low-intensity rainfall with a cumulative total of 2 to 3 inches may fall during a period of several hours, resulting in only moderate inflow (peak) responses in the collection system. However, a high-intensity rainfall of 0.5 to 1.0 inches in 60 minutes may result in a greater inflow response in the collection system. Ideally, several rainfall events ranging from 0.2 to 1.0 inches per hour are normally required to project peak sanitary sewer system flows.

3.1.4 Rain Gauge Triangulation Distribution

The rainfall affecting the sanitary sewer collection system basins must be calculated based on the proximity to the rain gauge locations. The mean precipitation for each site's upstream basin was calculated by taking data from the rain gauges and using the inverse distance weighting (IDW) method. IDW is an interpolation method that assumes the influence of each rain gauge location diminishes with distance. The center of an upstream basin⁹ is identified, and a weighted triangulated average is taken of the precipitation data from nearby rain gauge locations.

The IDW function is as follows:

$$weight(d) = \frac{1/d^p}{\sum 1/d^p},$$

where: d = distance
 p = power ($p > 0$)

The value of p is user-defined. The most common choice for hydrological studies of watershed areas is $p = 2$.

Figure 3 6 illustrates the IDW method with sample data. The rain gauge distribution as calculated for each flow monitoring site is shown in Table 3-2.

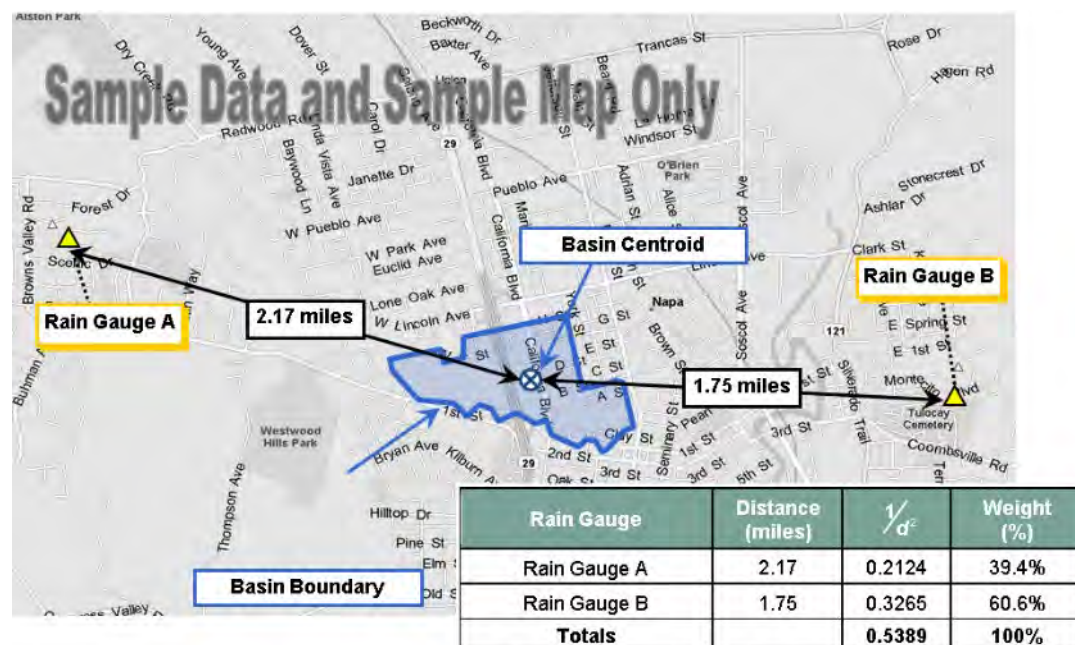


Figure 3-6. Rainfall Inverse Distance Weighting Method

⁹ Note that the full basin upstream of the site was used instead of the isolated basins as the rain data will be compared to the flow at each site

Table 3-3. Rain Gauge Distribution per Monitoring Site

Monitoring Site ID	Sub-Basin ID	Basin ID	RG A	RG B	RG C	RG D	RG E	RG F
FM 020	20	20	0.0%	69.4%	0.0%	0.0%	29.1%	1.5%
FM 030B	30B	30	0.0%	57.5%	0.0%	0.0%	41.1%	1.4%
FM 060A	60A	60	8.0%	0.0%	0.0%	0.0%	18.0%	73.9%
FM 060B	60B	60	8.0%	0.0%	0.0%	0.0%	18.0%	73.9%
FM 070B	70B	70S	63.9%	0.0%	5.0%	8.7%	0.0%	22.4%
FM 070E	70E	70S	30.2%	0.0%	7.6%	12.7%	0.0%	49.6%
FM 080A	80A	80	7.8%	0.0%	0.0%	1.4%	12.7%	78.2%
FM 080B	80B	80	7.9%	0.0%	0.0%	0.5%	16.0%	75.5%
FM 090	90	90	0.0%	38.0%	0.0%	0.0%	43.1%	18.9%
FM 120A	120W	120	14.5%	0.0%	23.0%	59.7%	0.0%	2.8%
FM 010	10	10	0.0%	69.5%	0.0%	0.0%	30.5%	0.0%
FM 030A	30A	30	0.0%	2.0%	0.0%	0.0%	97.2%	0.8%
FM 040	40	40	0.0%	42.5%	0.0%	0.0%	48.2%	9.3%
FM 050N	50N	50	23.2%	0.0%	0.0%	0.0%	17.3%	59.5%
FM 050S	50S	50	18.8%	0.0%	0.0%	0.0%	25.6%	55.6%
FM 070A	70A	70N	23.5%	0.0%	3.0%	4.4%	15.1%	53.9%
FM 070C	70C	70S	84.6%	0.0%	3.5%	7.4%	0.0%	4.4%
FM 070D	70D	70S	84.6%	0.0%	3.5%	7.4%	0.0%	4.4%
FM 100A	100A	100	30.1%	0.0%	7.6%	13.0%	0.0%	49.3%
FM 100B	100B	100	0.9%	37.0%	0.2%	0.4%	41.9%	19.7%
FM 110A	110	110	42.0%	0.0%	3.3%	21.7%	6.9%	26.1%
FM 120B	120E	120	3.6%	33.1%	2.4%	5.0%	37.5%	18.4%
FM 130	130	130	6.3%	30.4%	3.6%	6.2%	34.5%	19.0%
FM 140	140	140	38.8%	0.0%	8.2%	24.7%	5.9%	22.4%
FM 150	150	150	25.7%	0.0%	34.4%	39.9%	0.0%	0.0%

Notes: Rain gauge ID's listed below. % Distribution rounded to the nearest tenth

A=KCAATHER30
 B=KCAPORT0103
 C=KCAREDW0119
 D=KCAATHER23
 E=KCAMENLO105
 F=KCAMENLO53

3.2 Flow Monitoring

3.2.1 Average Flow Analysis

Average dry weather flow (ADWF) curves were established during dry days when I/I had the least impact on the baseline flow. Table 3-3 summarizes the dry weather flow data measured for this study. ADWF curves for each site can be found in Appendix A. The following ADWF analysis results are noted:

- **Sediment:** Site FM 080B was the only site with noted sediment. Site FM 080B appears to have mostly stagnant flow with little to no velocity.
- **d/D:** Average d/D ratios ranged from 0 – 0.51.

Table 3-4. Dry Weather Flow

Monitored Site	Sediment* (in.)	Average d/D Ratio	Mon-Thu ADWF (MGD)	Friday ADWF (MGD)	Saturday ADWF (MGD)	Sunday ADWF (MGD)	Overall ADWF (MGD)
FM 020	0	0.11	0.023	0.018	0.025	0.034	0.024
FM 030B**	0	0.00	0.000	0.000	0.000	0.000	0.000
FM 060A	0	0.09	0.007	0.006	0.008	0.007	0.007
FM 060B	0	0.06	0.049	0.044	0.049	0.063	0.051
FM 070B	0	0.25	0.032	0.035	0.033	0.034	0.033
FM 070E	0	0.22	0.082	0.086	0.088	0.084	0.083
FM 080A	0	0.13	0.090	0.085	0.094	0.087	0.089
FM 080B	2	0.51	0.060	0.058	0.071	0.065	0.062
FM 090	0	0.16	0.453	0.418	0.417	0.418	0.438
FM 120A	0	0.30	0.073	0.066	0.066	0.073	0.071
FM 010	0	0.16	0.078	0.099	0.089	0.084	0.084
FM 030A	0	0.10	0.163	0.147	0.180	0.180	0.166
FM 040	0	0.15	0.273	0.284	0.337	0.261	0.282
FM 050N	0	0.33	0.072	0.076	0.076	0.073	0.074
FM 050S	0	0.25	0.229	0.269	0.237	0.270	0.242
FM 070A	0	0.20	0.507	0.536	0.617	0.725	0.558
FM 070C	0	0.31	0.216	0.210	0.213	0.189	0.211
FM 070D	0	0.27	0.536	0.554	0.532	0.509	0.534
FM 100A	0	0.28	0.155	0.163	0.157	0.142	0.155
FM 100B	0	0.19	0.516	0.560	0.536	0.508	0.524
FM 110A	0	0.33	1.139	1.152	1.131	1.073	1.131
FM 120B	0	0.16	0.121	0.122	0.120	0.119	0.120
FM 130	0	0.17	1.287	1.326	1.265	1.247	1.284
FM 140	0	0.26	0.914	0.886	0.881	0.816	0.891
FM 150	0	0.30	0.263	0.267	0.282	0.281	0.269

* Max recorded sediment. Sediment can fluctuate over the course of the monitoring period.

** Possibly an overflow line. Inconsistent levels and velocities throughout the period.

3.2.2 Peak Measured Flows and Pipeline Capacity Analysis

Peak measured flows and the hydraulic grade line data (flow depths) are important to understanding the capacity limitations of a collection system. The peak flows and flow levels are the peak measurements taken across the entirety of the flow monitoring period. For this study, peak flows and peak levels corresponded to rainfall events. The following capacity analysis definitions will be used:

- **Peaking Factor (PF)** is defined as the peak measured flow divided by the average dry weather flow (ADWF). Peaking factors are influenced by many factors including size and topography of the tributary area, flow attenuation, flow restrictions, characteristics of I/I entering the collection system, and hydraulic features such as pump stations.
 - For this report, $PF > 7$ is highlighted in **RED**¹⁰; however, the District should refer to District standards when evaluating peaking factors. Peaking factor data should be used at the discretion of the District Engineer.
- **d/D Ratio** is the peak measured depth of flow (d) divided by the pipe diameter (D). The d/D ratio for each site is computed based on the maximum depth of flow for the study. Standards for d/D ratio vary from agency to agency but typically range between $d/D \leq 0.5$ and $d/D \leq 0.75$
 - For this report, d/D ratios > 0.75 are highlighted in **RED**; however, the District should refer to District standards when evaluating d/D ratios, to be used at the discretion of the District Engineer.

Table 3-4 summarizes the peak recorded flows, depths, d/D ratios, and peaking factors per site during the flow monitoring period. Capacity analysis data are presented on a site-by-site basis and represent the hydraulic conditions only at the site locations; hydraulic conditions in other areas of the collection system will differ. Figure 3-7 and Figure 3-8 show bar graph summaries of the peaking factors and d/D ratios, respectively.

The following capacity analysis results are noted:

- Peaking Factors:
 - Most of the sites had wet-to-dry weather peaking factors greater than 7. Only sites FM 030B, FM 050 N, FM 070B, FM 110A, and FM 120A did not. The majority of the peak wet-weather flow occurred during the 12/31/22 event.
 - Several basins had extremely high PFs, $PFs > 20$. Upon further review, there is the potential for velocity anomalies at each of the 3 sites that occurred during the 12/31/22, and 1/1/23, events. However, no adjustments were made as these velocity spikes coincided with a substantial depth response and a wet-weather event.
- d/D Ratio:
 - $d/D > 0.75$: Site FM 070C had a d/D ratio greater than 0.75.
 - $d/D > 1$ (surcharge): Sites FM 070A, FM 070D, FM 080B, FM 100B, FM 110A, FM 140, and FM 150

¹⁰ WEF Manual of Practice FD-6 and ASCE Manual No. 62 suggests typical peaking factor ratios range between 3 and 4, with higher values possibly indicative of pronounced I/I flows.

Table 3-5. Capacity Analysis Summary

Site	ADWF (MGD)	Peak Measured Flow (MGD)	Peaking Factor	Pipe Diameter, <i>D</i> (IN)	Max Depth, <i>d</i> (IN)	Max <i>d</i> / <i>D</i> Ratio	Surcharge above pipe crown (FT)
FM 020	0.024	0.319	13.4	10	3.61	0.36	-
FM 030B	0.000	0.122	-	10	3.85	0.38	-
FM 060A	0.007	0.127	18.4	6	1.68	0.28	-
FM 060B	0.051	0.880	17.4	12	3.35	0.28	-
FM 070B	0.033	0.104	3.2	10	3.57	0.36	-
FM 070E	0.083	0.801	9.6	10	6.75	0.68	-
FM 080A	0.089	1.210	13.5	15	7.27	0.48	-
FM 080B	0.062	12.377	200.6	15	31.27	2.08	1.4
FM 090	0.438	7.036	16.1	24	16.44	0.68	-
FM 120A	0.071	0.430	6.1	10	6.41	0.64	-
FM 010	0.191	1.802	9.5	15	6.43	0.43	-
FM 030A	0.166	2.980	18.0	21	10.26	0.49	-
FM 040	0.282	4.250	15.1	36	14.79	0.41	-
FM 050N	0.074	0.374	5.1	10	5.69	0.57	-
FM 050S	0.242	1.943	8.0	15	10.77	0.72	-
FM 070A	0.558	5.507	9.9	18	18.93	1.05	0.1
FM 070C	0.211	1.977	9.4	17.625	16.17	0.92	-
FM 070D	0.534	12.044	22.6	21	25.54	1.22	0.4
FM 100A	0.155	1.593	10.3	12	8.32	0.69	-
FM 100B	0.524	22.170	42.3	23.25	23.62	1.02	0.03
FM 110A	1.131	5.924	5.2	23.5	23.44	1.00	0.00
FM 120B	0.120	1.064	8.8	15	7.78	0.52	-
FM 130	1.284	10.240	8.0	24.75	12.08	0.49	-
FM 140	0.891	6.854	7.7	30	35.63	1.19	0.5
FM 150	0.269	3.276	12.2	15	21.68	1.45	0.6

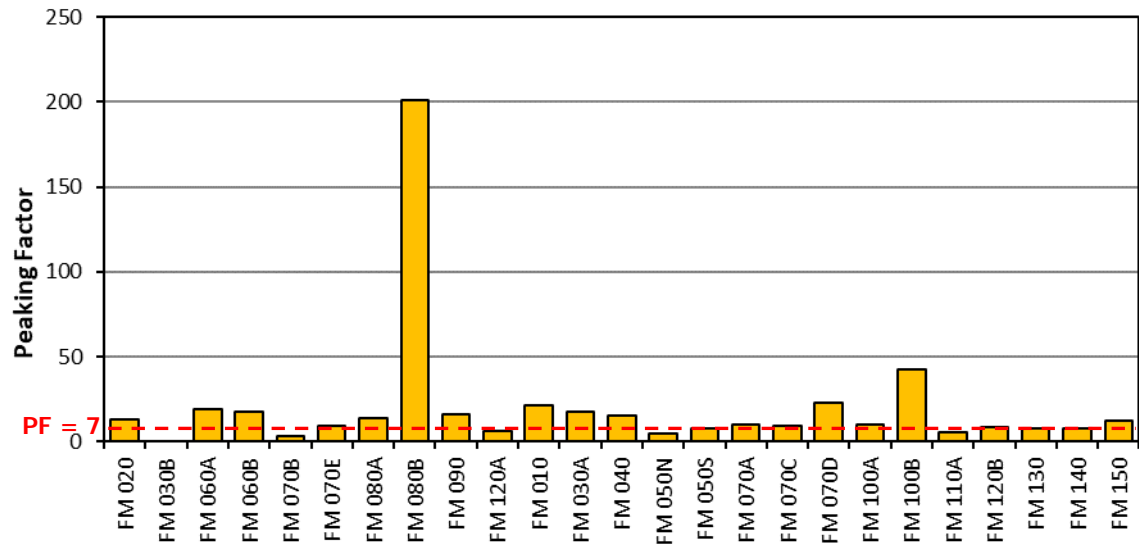


Figure 3-7. Peaking Factors

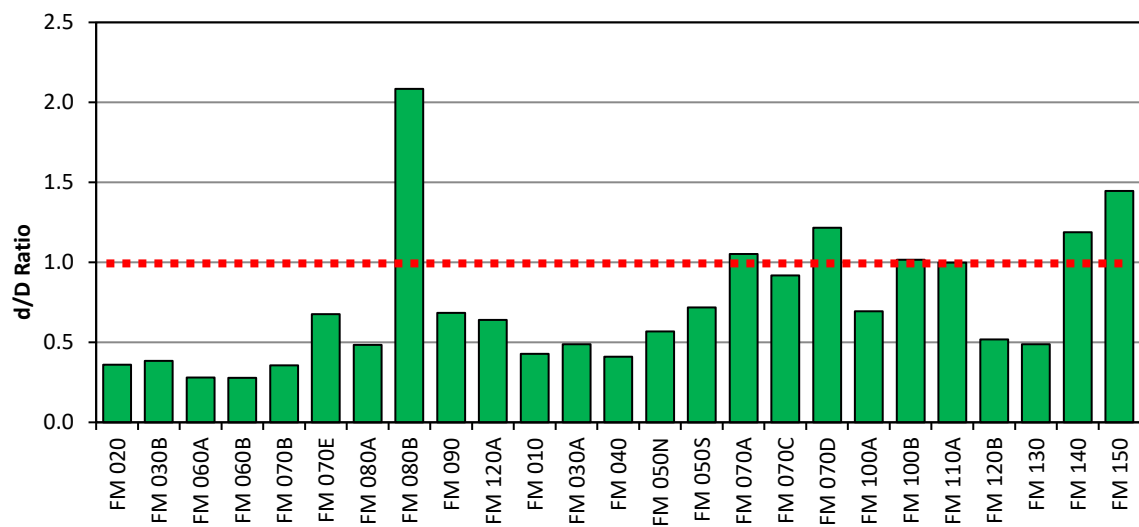


Figure 3-8. Capacity Summary: Max d/D Ratios

3.3 Inflow and Infiltration: Results

3.3.1 Preface

I/I analyses are presented on a basin-by-basin basis. Items relevant to the analysis in this study are noted below and referenced in Figure 3-9:

- **I/I Isolation:** The I/I flow rate is the real-time flow less the estimated average dry weather flow rate (shown below as the **RED** line).
- **Inflow:** Inflow is usually recognized graphically by large-magnitude, short-duration spikes immediately following a rain event. The peak inflow rate is the highest spike in the isolated I/I hydrograph immediately following the evaluated rainfall event. For this project, peak inflow rates were taken as a weighted average of the 12/31/22 and 1/13/23 storm events.
- **RDI:** RDI is typically taken as the average I/I flow rate measured after the peak inflow response has receded. Depending upon the size and characteristics of the basin (impervious/pervious area, soil types, collection system defects, etc.) peak RDI response can typically take approximately 24 – 96 hours after the rainfall event has concluded. For this project, RDI rates were a weighted average taken from a period between 24-hr and 96-hr following the storm events depending on the event.
- **Combined I/I:** the totalized volume (in gallons) of both inflow and RDI throughout a rainfall event (shown below as the shaded orange area). For this project, combined I/I was calculated utilizing a weighted average from the selected wet weather events.

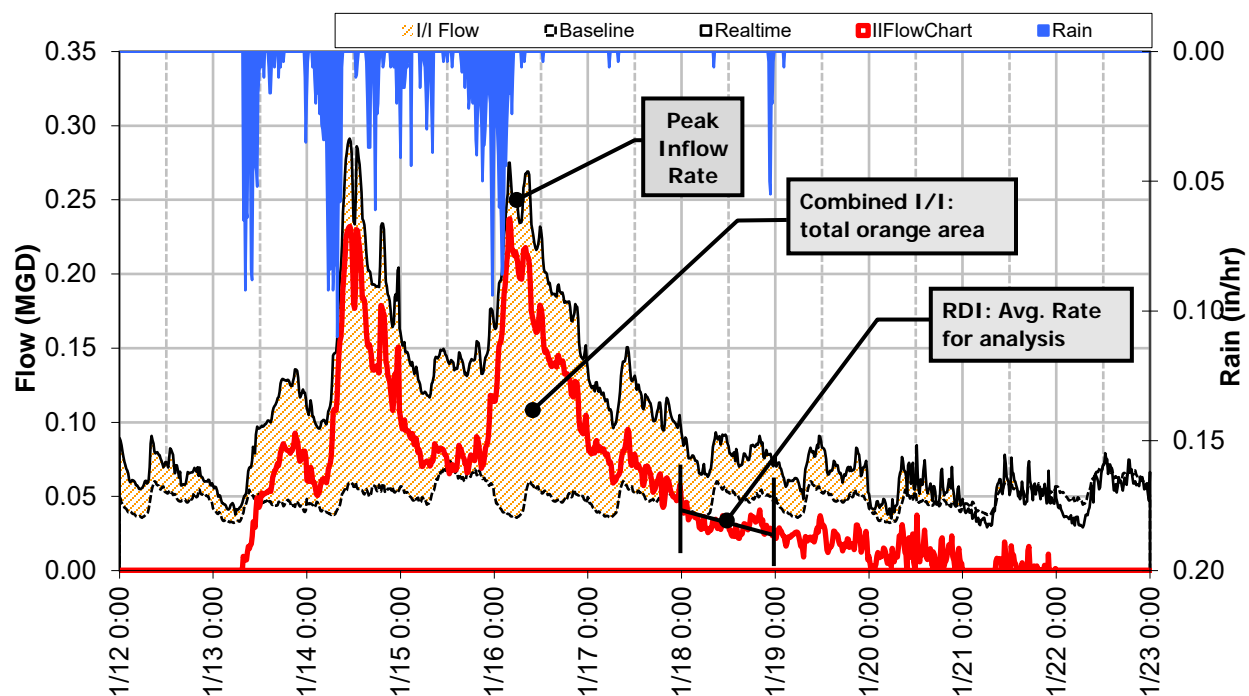


Figure 3-9. I/I Isolation, FM 20, January 13th Storm Event

3.3.2 Inflow Results Summary

Inflow is stormwater discharged into the sewer system through direct connections such as downspouts, area drains, cross-connections to catch basins, etc. These sources transport rainwater directly into the sewer system and the corresponding flow rates are tied closely to the intensity of the storm. This component of I/I often causes a peak flow problem in the sewer system and often dictates the required capacity of downstream pipes and transport facilities to carry these peak instantaneous flows.

Table 3-5 summarizes the peak measured inflow and inflow analysis results for the relevant flow monitoring basins. Figure 3-10 shows a temperature map summary of the inflow analysis results per basin. The “Top 3” basins for each category have been shaded in **RED**. The following inflow results are noted:

- Inflow for meter sites FM 030B, FM 070B, FM 080B was not calculated due to lack of or poor / missing flow conditions.
- It is noted that there are mass flow balance issues where basins 40, 70S, 100, 120E are showing a potential loss in flow during wet-weather.
- Some sites had substantial spikes in velocity due to or following wet-weather events which yielded substantial spikes in flow. These may or may not be erroneous data and more collection system data is required to confirm or disprove these responses. These sites include FM 080B, FM 070D, FM 100B, FM 150.
- Basin 140 had the highest weighted individual inflow rate of 5.076 mgd. However, it should be noted that, as previously mentioned in Section 3.2.2, sites FM 70A, FM 70D, FM 80B, FM 100B, FM110A, FM 140, and FM 150 surcharged during the 12/31/22 event where peak flow would have been restricted.
- Basin 90 ranked the highest based on inflow per-ADWF and highest overall.
- Basin 140 ranked the highest based on inflow per-IDM and inflow per-Acre.

Table 3-6. Results and Rankings of Inflow Analysis

Basin ID	ADWF (mgd)	Basin Acres	Peak Inflow Rate (mgd)	Peak Inflow per-IDM (gpd/IDM)	Peak Inflow per-Acre (gpd/acre)	Peak Inflow/ADWF Ratio	Inflow per-IDM Rank	Inflow per-Acre Rank	Inflow per-ADWF Rank	Final Inflow Rank
10	0.06	1,463	1.605	12,482	1,097	26.9	11	12	2	10
20	0.02	372	0.325	8,007	874	13.7	13	14	4	12
30	0.08	393	1.259	14,687	3,203	15.3	9	6	3	5
40*	0.12	526	-0.362	-3,584	-688	-3.1	15	15	16	15
50N	0.07	348	0.822	19,581	2,363	11.2	6	10	6	8
50S	0.24	456	1.368	24,883	2,999	5.7	3	7	12	6
60	0.06	285	0.697	14,859	2,445	12.1	8	8	5	7
70N	0.24	898	2.126	13,522	2,367	8.7	10	9	9	11
70S*	0.05	556	-2.572	-28,676	-4,626	-54.8	17	17	18	18
80	0.15	284	1.032	17,518	3,633	6.8	7	5	11	9
90	0.04	373	2.675	22,994	7,170	72.6	4	2	1	1
100*	0.24	619	-1.762	-11,687	-2,847	-7.3	16	16	17	17
110	0.35	539	1.090	10,094	2,023	3.1	12	11	15	13
120E*	-0.49	422	-3.343	-42,284	-7,921	6.9	18	18	10	16
120W	0.07	272	0.271	7,286	997	3.8	14	13	14	14
130	0.76	774	3.962	24,972	5,119	5.2	2	3	13	3
140	0.50	499	5.076	37,571	10,173	10.1	1	1	7	2
150	0.27	478	2.379	19,762	4,978	8.9	5	4	8	4
*Flow not adding up as it travels downstream.										

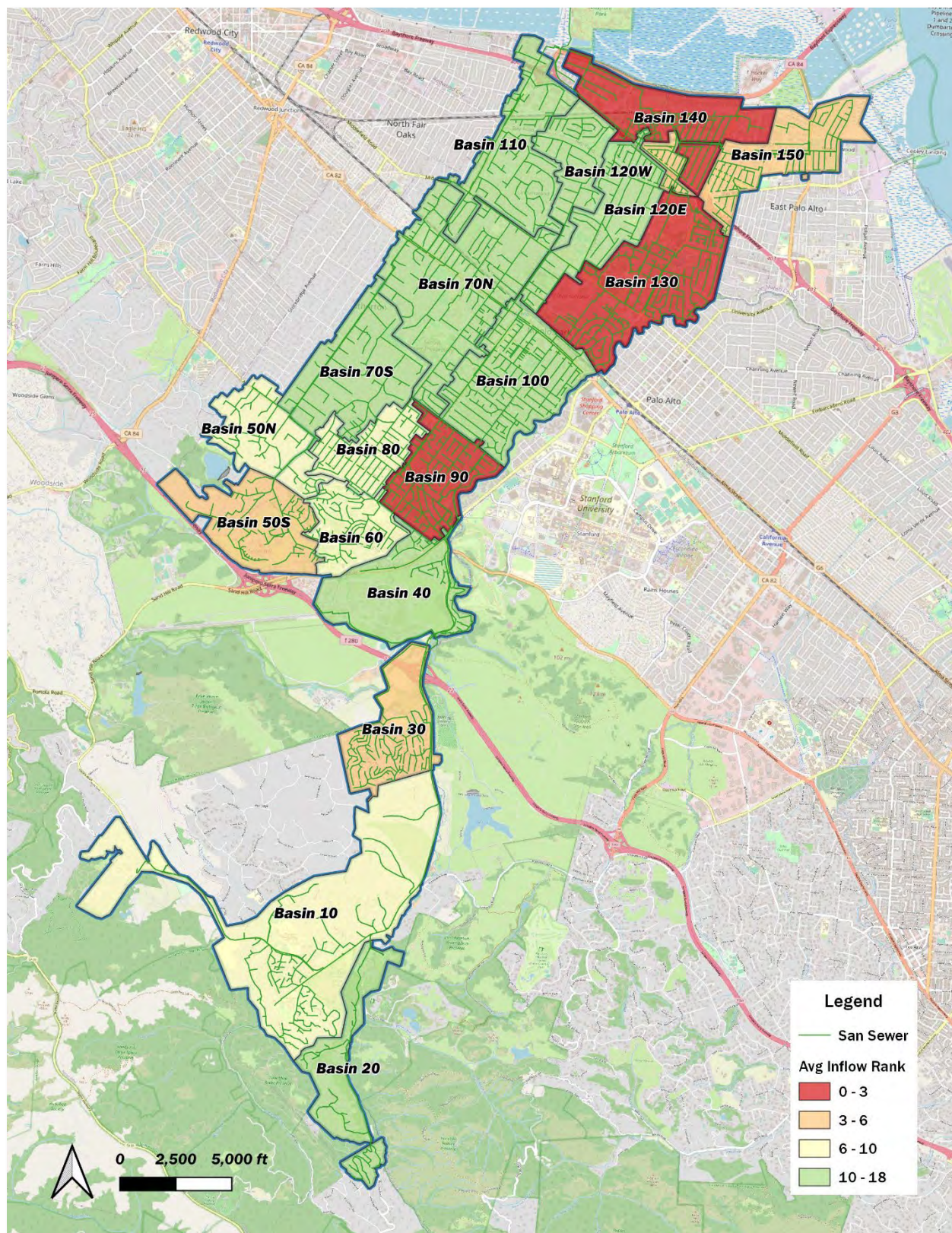


Figure 3-10. Temperature Map: Inflow Final Basin Rankings

3.3.3 Rainfall-Dependent Infiltration Results Summary

Infiltration is defined as water entering the sanitary sewer system through defects in pipes, pipe joints, and manhole walls, which may include cracks, offset joints, root intrusion points, and broken pipes. Increased flows into the sanitary sewer system are usually tied to groundwater levels and soil saturation levels. Infiltration sources transport rainwater into the system indirectly; flow levels in the sanitary system increase gradually, are typically sustained for a period after rainfall has stopped, and then gradually decrease as soils become less saturated and groundwater levels recede to normal.

Infiltration typically creates long-term annual volumetric problems. The major impact is the cost of pumping and treating the additional volume of water, and of paying for treatment (for municipalities that are billed strictly on flow volume).

Table 3-6 summarizes the RDI analysis results for the relevant flow monitoring basins. The “Top 3” basins for each category have been shaded in **RED**. The following RDI results are noted:

- RDI for meter sites FM 030B, FM 070B, and FM 080B was not calculated due to lack of or poor/missing flow conditions.
- It is noted that there are mass flow balance issues where basins 40, 70S, 100, 120E are showing a potential loss in flow during wet-weather.
- Basin 90 had the highest RDI rate at 0.360 mgd and ranked highest based upon RDI per-IDM, per-ADWF, and RDI per-Acre.
- The “Top 3” ranked basin according to RDI, in order from 1st to 3rd, are 90, 30, 50N.

Figure 3-11 shows a temperature map summary of the average final RDI analysis rankings per basin.

Table 3-7. Results and Rankings of RDI Analysis

Basin ID	RDI Rate (mgd)	RDI per IDM	RDI per-Acre (gpd/acre)	RDI per ADWF ratio	RDI per-IDM Rank	RDI per-Acre Rank	RDI per-ADWF Rank	Final RDI Rank
10	0.064	499	44	1.1	13	14	7	12
20	0.063	1,539	168	2.6	6	12	2	6
30	0.186	2,175	474	2.3	4	2	3	2
40*	-0.016	-157	-30	-0.1	16	16	17	17
50N	0.122	2,915	352	1.7	2	3	5	3
50S	0.136	2,467	297	0.6	3	6	12	5
60	0.070	1,484	244	1.2	7	8	6	7
70N	0.217	1,380	241	0.9	8	9	8	9
70S*	-0.279	-3,106	-501	-5.9	17	17	18	18
80	0.096	1,629	338	0.6	5	5	10	4
90	0.360	3,095	965	9.8	1	1	1	1
100*	0.155	1,028	251	0.6	11	7	9	10
110	0.126	1,170	234	0.4	10	10	13	11
120E*	-0.817	-10,336	-1,936	1.7	18	18	4	14
120W	0.005	125	17	0.1	15	15	15	16
130	0.046	289	59	0.1	14	13	16	15
140	0.110	813	220	0.2	12	11	14	13
150	0.164	1,360	342	0.6	9	4	11	8

*Flow not adding up as it travels downstream.

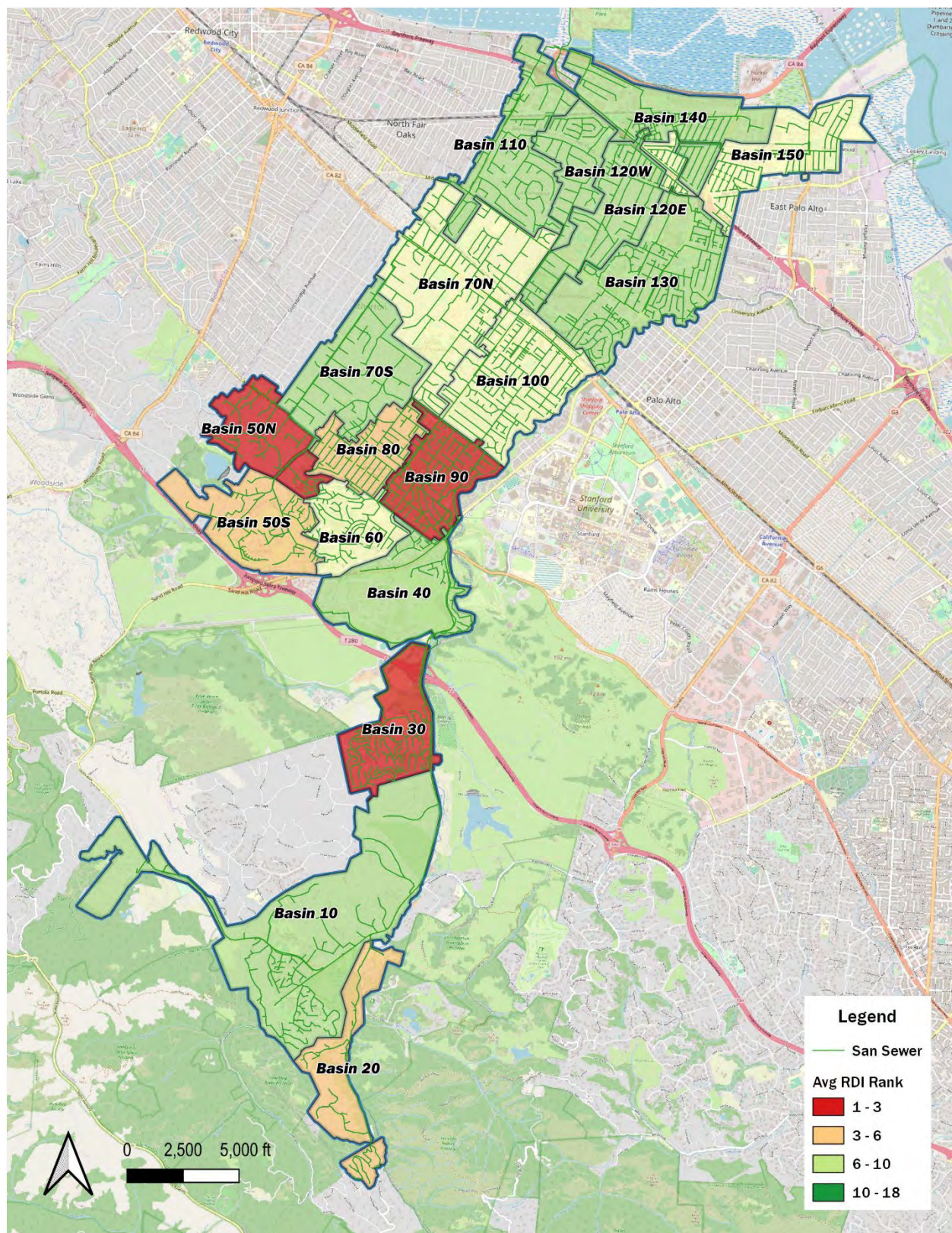


Figure 3-11. Temperature Map: RDI Final Basin Rankings

3.3.4 Combined I/I Results

Combined (total) I/I analysis considers the totalized volume (in gallons) of both inflow and rainfall-dependent infiltration over the course of a storm event. Table 3-7 summarizes the combined I/I analysis results for the relevant flow monitoring basins. Figure 3-12 shows a temperature map summary of the combined I/I analysis results per basin. The “Top 3” basins for each category have been shaded in **RED**. The following combined I/I results are noted:

- Combined I/I for meter sites FM 030B, FM 070B, and FM 080B was not calculated due to lack of or poor/missing flow conditions.
- It is noted that there are mass flow balance issues where basins 40, 70S, 100, 120E are showing a potential loss in flow during wet-weather.
- Basin 90 saw the highest % of rainwater entering the collection at 40.1%. Basin 090 also ranked highest based on total I/I per acre and I/I per IDM.
- Basins 50N and 80 ranked 2nd and 3rd respectively for total I/I.

Table 3-8. Combined I/I Analysis Summary

Basin ID	Total I/I (gallons)	Total I/I per IDM	Total I/I per ACRE	Total I/I per ADWF	Total I/I per IDM	Total I/I per-ADWF Ranking	Total I/I per-Acre Ranking	Final Total I/I Ranking
10	619,868	3,508	1.1%	7.55	13	14	7	12
20	631,458	10,574	4.3%	18.03	9	11	2	8
30	1,493,324	11,827	9.5%	12.32	7	6	4	5
40*	-1,589,363	-17,674	-12.5%	-15.41	16	16	17	17
50N	1,021,807	21,571	9.6%	12.32	2	5	3	2
50S	910,184	14,680	6.5%	3.34	5	9	13	9
60	571,406	10,803	6.5%	8.81	8	8	6	7
70N	1,206,942	6,808	4.4%	4.40	11	10	10	11
70S*	-2,397,095	-23,692	-14.1%	-45.27	17	17	18	18
80	1,075,605	16,190	12.4%	6.31	3	3	8	3
90	4,577,330	34,890	40.1%	110.23	1	1	1	1
100*	241,118	1,418	1.3%	0.89	14	13	15	14
110	1,876,243	15,400	11.4%	4.72	4	4	9	4
120E*	-6,529,434	-73,230	-50.5%	11.88	18	18	5	15
120W	37,964	905	0.5%	0.47	15	15	16	16
130	807,506	4,513	3.4%	0.94	12	12	14	13
140	1,965,269	12,896	12.9%	3.47	6	2	12	6
150	1,319,874	9,719	9.0%	4.36	10	7	11	10
*Flow not adding up as it travels downstream.								

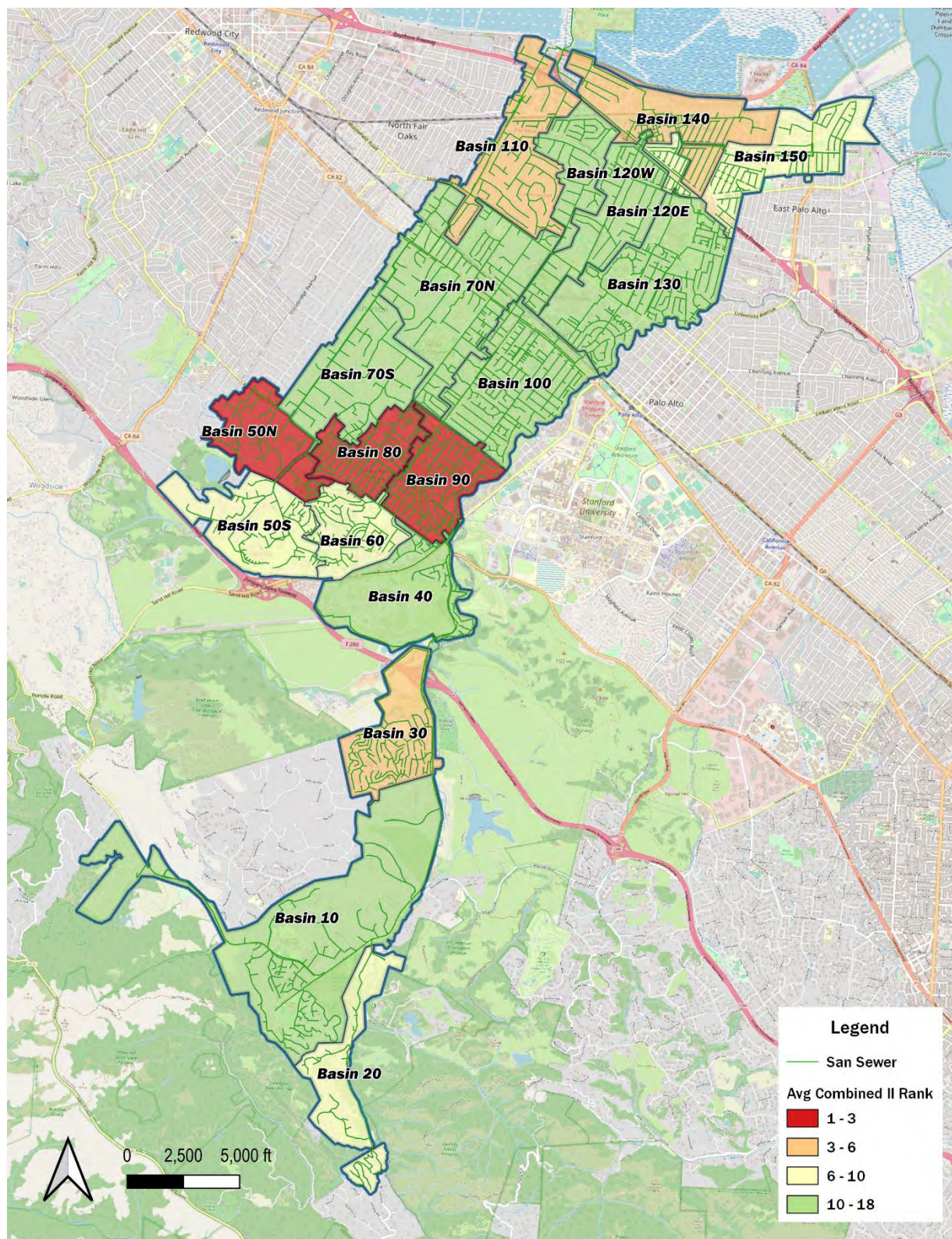


Figure 3-12. Temperature Map: Combined I/I Final Basin Rankings

3.3.5 Groundwater Infiltration Results Summary

Dry weather (ADWF) flow can be expected to have a predictable diurnal flow pattern. While each site is unique, experience has shown that, given a reasonable volume of flow and typical loading conditions, the daily flows fall into a predictable range when compared to the daily average flow. If a site has a large percentage of groundwater infiltration occurring during the periods of dry weather flow measurement, the amplitudes of the peak and low flows will be dampened¹¹. Figure 3-13 shows a sample of two flow monitoring sites, both with nearly the same average daily flow, but with considerably different peak and low flows. In this *sample* case, Site B1 may have a considerable volume of groundwater infiltration.

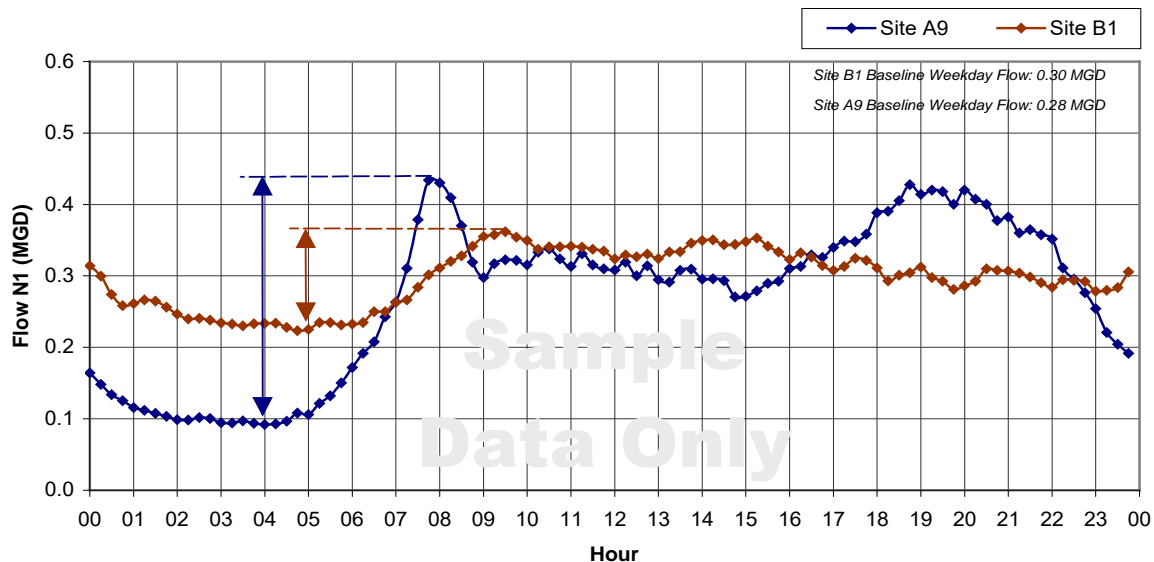


Figure 3-13. Groundwater Infiltration Sample Figure

It can be useful to compare the low-to-ADWF flow ratios for the flow monitoring sites. A site with abnormal ratios, and with no other reasons to suspect abnormal flow patterns (such as proximity to a pump station, treatment facilities, etc.), has a possibility of higher levels of groundwater infiltration in comparison to the rest of the collection system.

Figure 3-14 plots the low-to-ADWF flow ratios¹² against the ADWF flows for the relevant flow monitoring sites. The brown dashed line shows “typical” low-to-ADWF ratios per the Water Environment Federation (WEF). Figure 3-15 shows a color-coded map of the basins with rates of groundwater infiltration considerably above typical groundwater infiltration standards (as set forth by WEF).

WEF derived these ratios from residential sanitary sewer data. It is noted that if the type of service is not residential (industrial, for example), there exists the possibility of excessive early-morning flows due to abnormal working hours. This analysis is presented for reference only. The following GWI results are noted:

- 8 Sites, corresponding to 5 Basins, have ratios that indicated groundwater may be entering the collection system with higher than average low-ADWF ratios. These sites include FM 020, FM 070A,

¹¹ In an extreme case, perhaps 0.2 mgd of ADWF flow and 2.0 mgd of groundwater infiltration, the peaks and lows would be barely recognizable; the ADWF flow would be nearly a straight line.

¹² The Minimum to Average flow ratio is calculated by taking the minimum flow and dividing by the ADWF value (using the Mon-Thu ADWF curve).

FM 070B, FM 070C, FM 070E, FM 080B, FM 110A, and FM 140. Only sites greater than the WEF average are labeled below to keep the figure less congested.

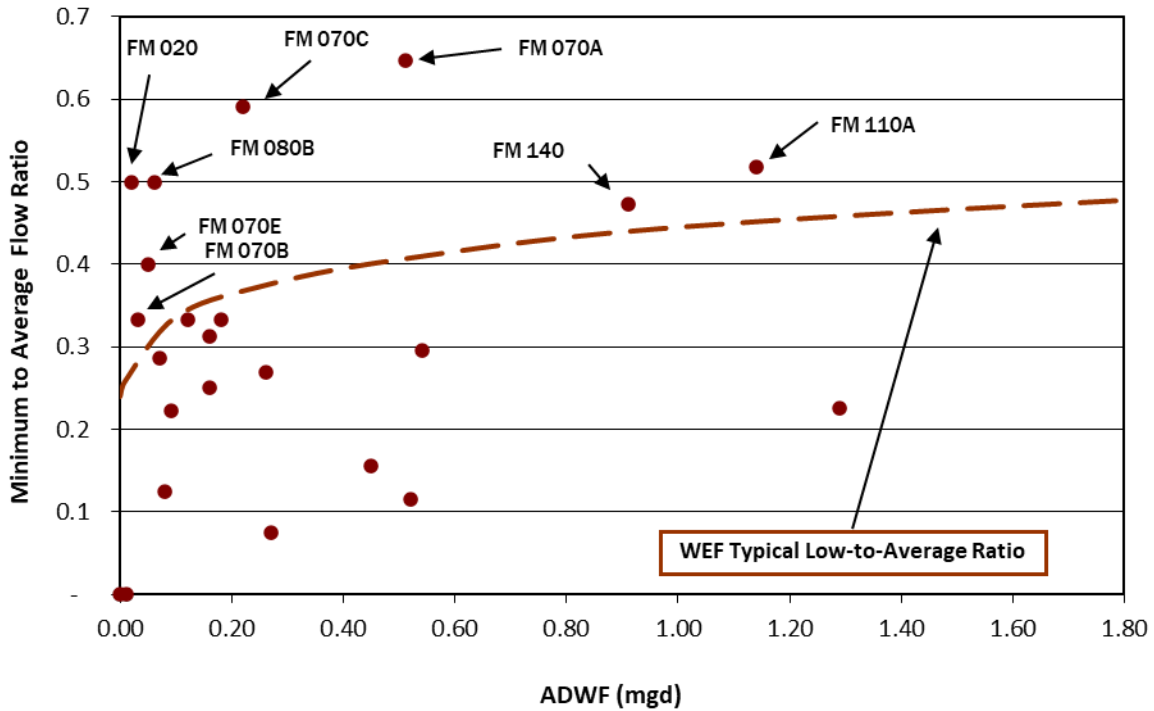


Figure 3-14. Minimum Flow Ratios vs ADWF¹³

¹³ Due to attenuation, it should be expected that sites with larger flow volumes should not have quite the peak-to-average and low-to-average flow ratios as sites with lesser flow volumes. This is why the WEF typical trend line's slope is closer to 1.0 as the ADWF increases, as shown in the figure.

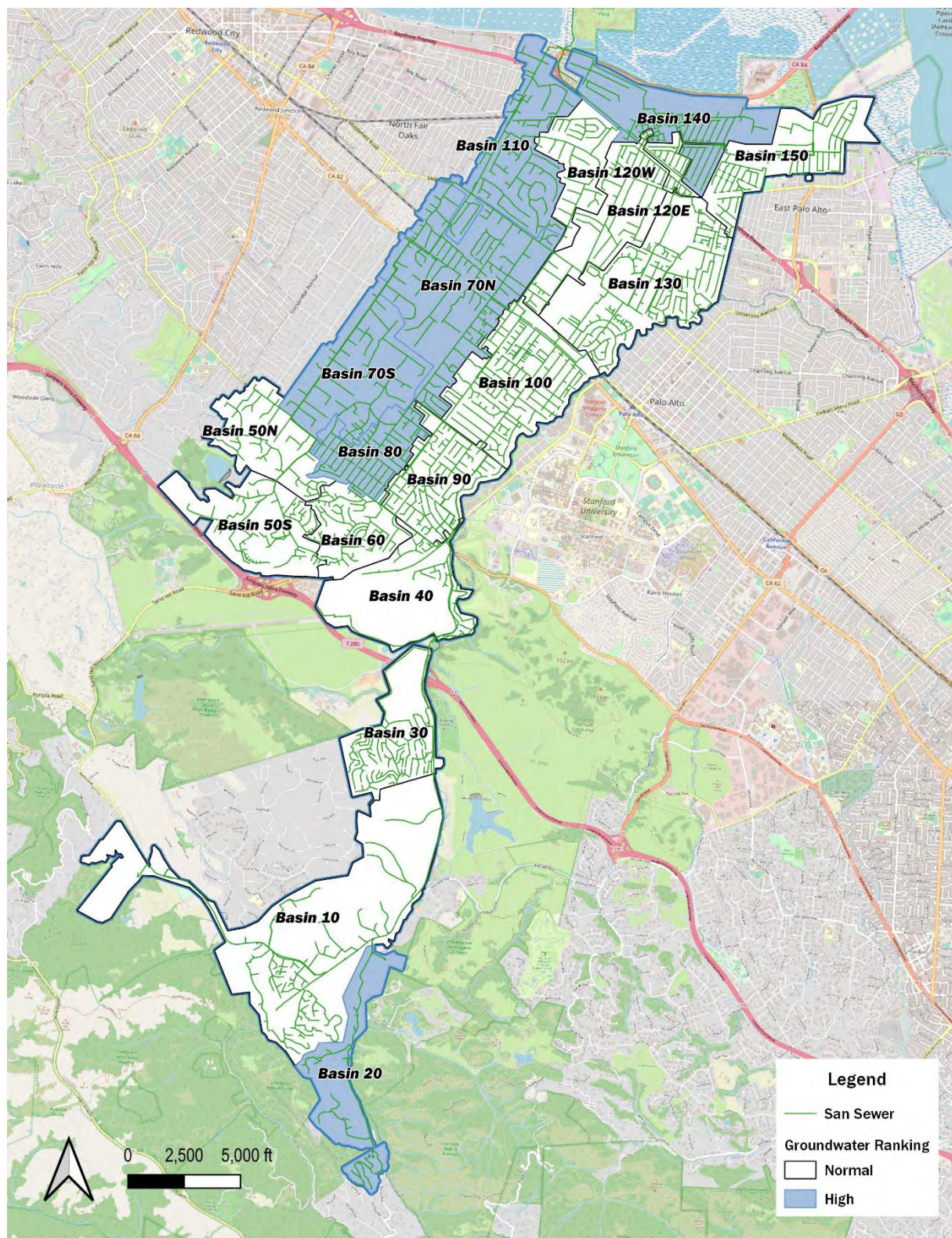


Figure 3-15. Temperature Map: Basins with Potentially High GWI

3.4 Summary

The resulting data from the flow and rainfall monitoring program indicates the presence of system-wide RDII entering the collection system by responding quickly to rainfall events. This is a typical response from a system containing deficiencies that allow surface run-off to enter the sanitary sewer. The quick flow responses shown in the monitoring data are believed to be caused by inflow entering the collection system through defects, e.g., vented covers, uncapped cleanouts, connected downspouts, and directly connected storm sewers. Typically, an inflow response is followed by a period of extended and elevated flow conditions, referred to as infiltration. Infiltration is caused by seeping into the collection system through defects, e.g., offset or separated pipe joints, broken pipes, and deteriorated manhole structures.

The monitoring data indicates that meter sites FM 070A, FM 070D, FM 080B, FM 100B, FM 110A, FM 140, and FM 150 would lack capacity during a 50-year storm event, as noted by system flow responses during the 12/31/22 storm event. It should also be noted that multiple rainfall events preceded the 12/31/22 event which would have saturated the soil and made the 12/31/22 system response more pronounced than for a single isolated wet-weather event. The calculated return period for this event is a triangulated average to the Study Area centroid, individual basins would have experienced rainfall with a slightly higher or lower return period.

Some sites indicated a flow loss between upstream and downstream sites. This could be due to unknown cross connections in the system, unknown dry or wet-weather overflows, inaccurate data, or monitoring sites not located where they were presumed to be. Final flow monitoring data was double-checked against site reconnaissance/maintenance data and no further adjustments were deemed justified. Additional field verification may be necessary to determine why flows were not continually adding up as they moved downstream based on the agreed-upon basin flow schematic.

4 Recommendations

V&A advises that future I/I reduction plans consider the following recommendations:

1. **Master Plan and Model Implementation:** This study focuses on inflow and infiltration generation; the study results can be used to update the master plan and compare it with previous model assumptions and flow monitoring results.
2. **Verify Interconnections and Overflows:** understanding the interconnections and overflows can help with the master plan, basin isolation, and I/I analysis. Multiple basin cross-connections exist which may be affecting flow analysis. These cross-connections should be field verified to determine where, and how much, flow is going through each basin.
 - a. Mass flow balance issues were noted during this study. It is recommended that system characterization work be performed to identify, during both dry and wet-weather, manholes where flow could potentially be diverted to other areas of the system. Invert measurements and pipe connections should be verified, and basin flow responses (dry and wet) adjusted as appropriate.
3. **Capacity Analysis:** 8 sites were surcharged during the monitoring period during a 50-year storm event. It should also be noted that multiple rainfall events preceded the December 31st event which would have saturated the soil and made the 12/31/22 system response more pronounced than for a single isolated wet-weather event. The calculated return period for this event is a triangulated average to the Study Area centroid, individual basins would have experienced rainfall with a slightly higher or lower return period. It is assumed that during the hydraulic modeling portion of this study that system capacity constraints for the design storm event will be identified and added to the capital improvement plan in the updated master plan. The following possible capacity concerns are noted:
 - a. **Dry weather:** No issues with dry weather flow were noted. The highest d/D ratio noted was 0.51 at site FM 080B. All remaining sites ranged from 0 to 0.33.
 - b. **Wet Weather:** The monitoring data indicates that meter sites FM 070A, FM 070D, FM 080B, FM 100B, FM 110A, FM 140, and FM 150 would lack capacity during a 50-storm event, as noted during the 12/31/22 storm event. Max d/D ratios ranged from 1 – 2.08 at Site FM 080B.
4. **Determine I/I Reduction Program:** The District should examine its I/I reduction needs to determine its goals for a future I/I reduction program.
 - a. If peak flows, sanitary sewer overflows and pipeline capacity issues are of greater concern, then priority can be given to investigate and reduce sources of inflow within the basins with the greatest inflow problems. The highest-ranked basins according to inflow are 090, 140, and 130.
 - b. If total infiltration and general pipeline deterioration are of greater concern, then the program can be weighted to investigate and reduce sources of infiltration within the basins with the greatest infiltration problems. The highest basins according to RDI are 90, 30, and 50N. Additionally, basins 20, 70N, 70S, 80, 110, and 140 may show evidence of excessive GWI.
5. **I/I Investigation Methods:** Potential I/I investigation methods include the following:
 - a. Smoke testing.
 - b. Manhole inspections
 - c. Private building evaluations

- d. Night-time¹⁴ reconnaissance work to (1) investigate and determine direct point sources of inflow, and (2) determine the areas and/or pipe reaches responsible for high levels of infiltration contribution.
 - e. CCTV inspection.
 - f. Dye Testing: Dye testing can be performed to confirm connectivity or to indicate the extent of I/I entering the system.
6. **I/I Reduction Cost Effective Analysis:** The District should conduct a study to determine which is more cost-effective: (1) locating the sources of inflow/infiltration and systematically rehabilitating or replacing the faulty pipelines; or (2) continued treatment of the additional rainfall dependent I/I flow.

¹⁴ Reconnaissance work is conducted during low-flow hours, typically between 12:00 A.M. and 4:30 A.M., to best differentiate and identify I/I contribution from sanitary flows.

Appendix A

Flow Monitoring Sites: Data, Graphs, Information

V&A Project No. 22-0324

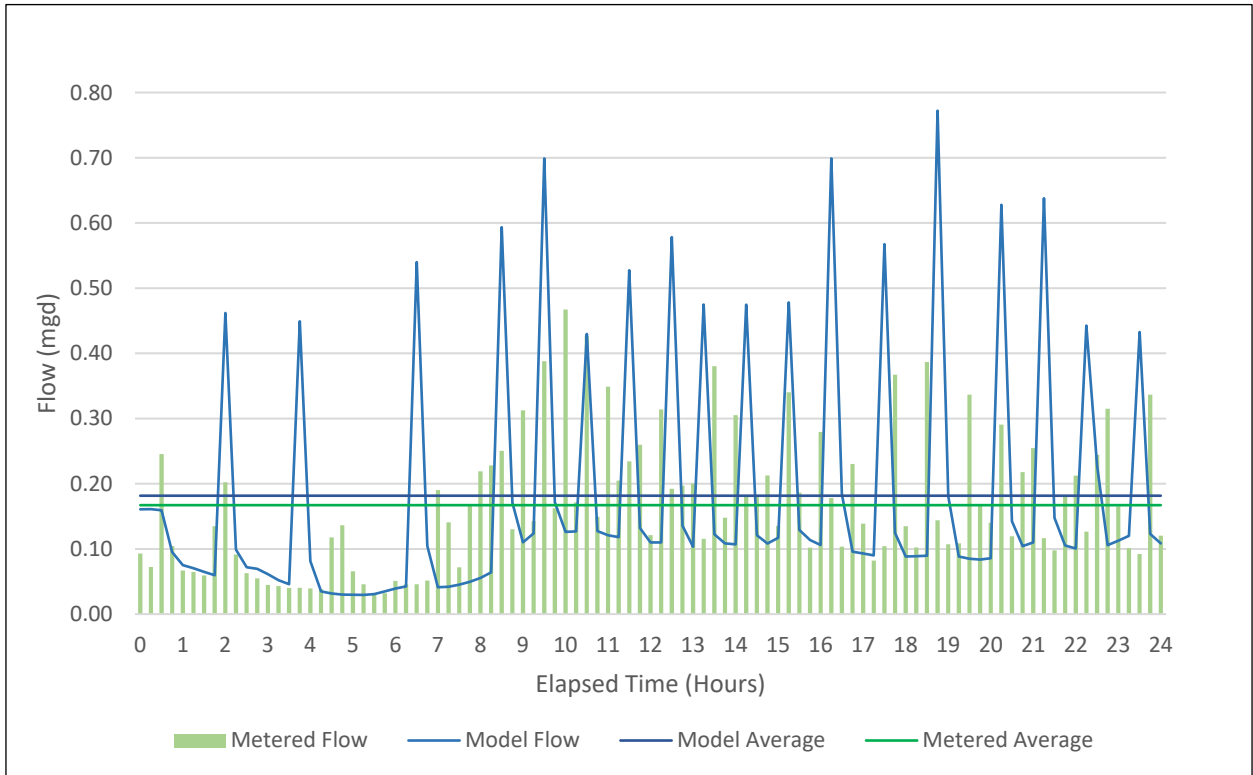



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1000 Broadway
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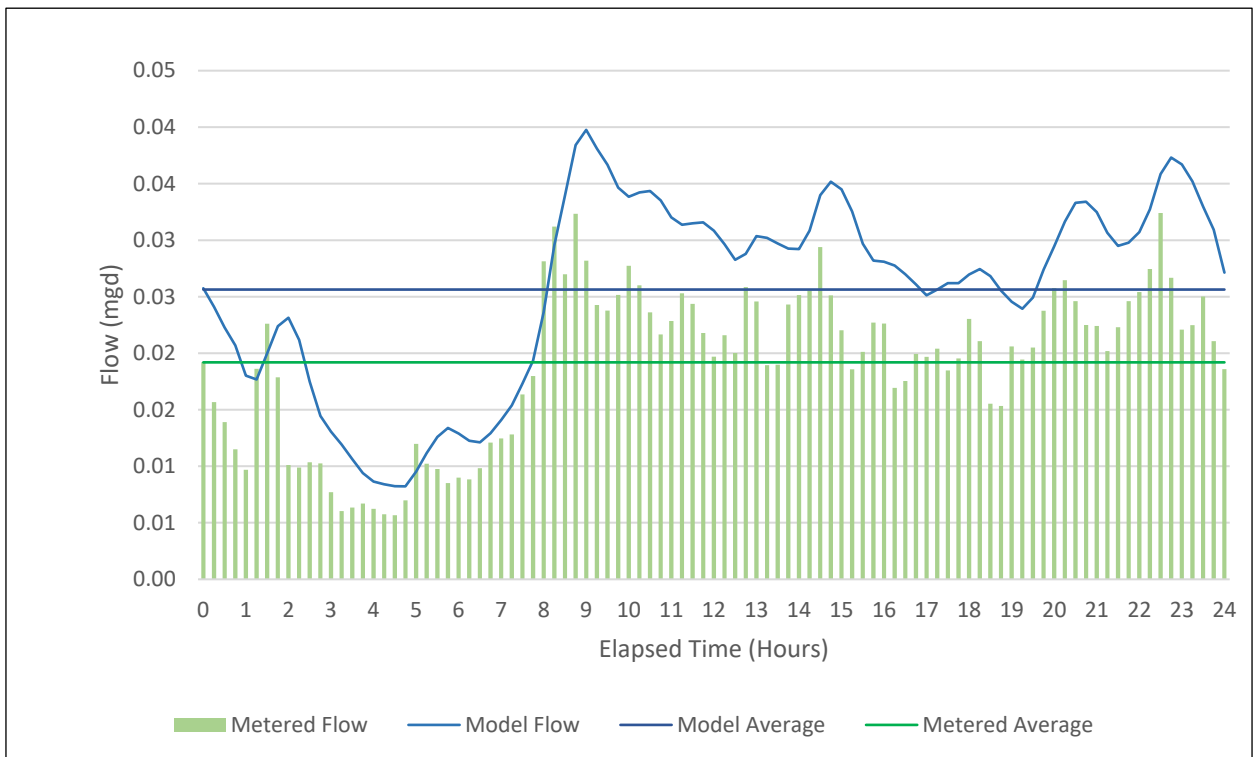
Appendix B
DRY WEATHER CALIBRATION PLOTS

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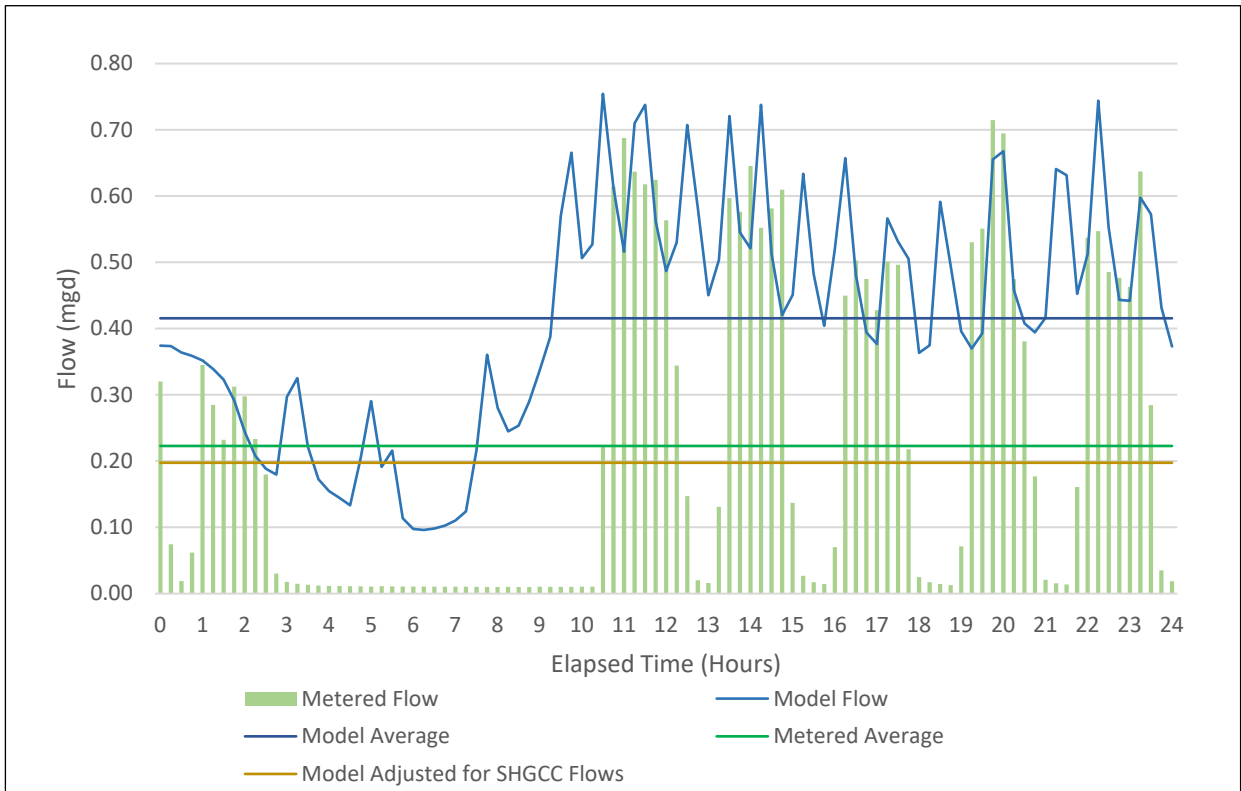
Basin 010 Dry Weather Calibration – 12/07/2023



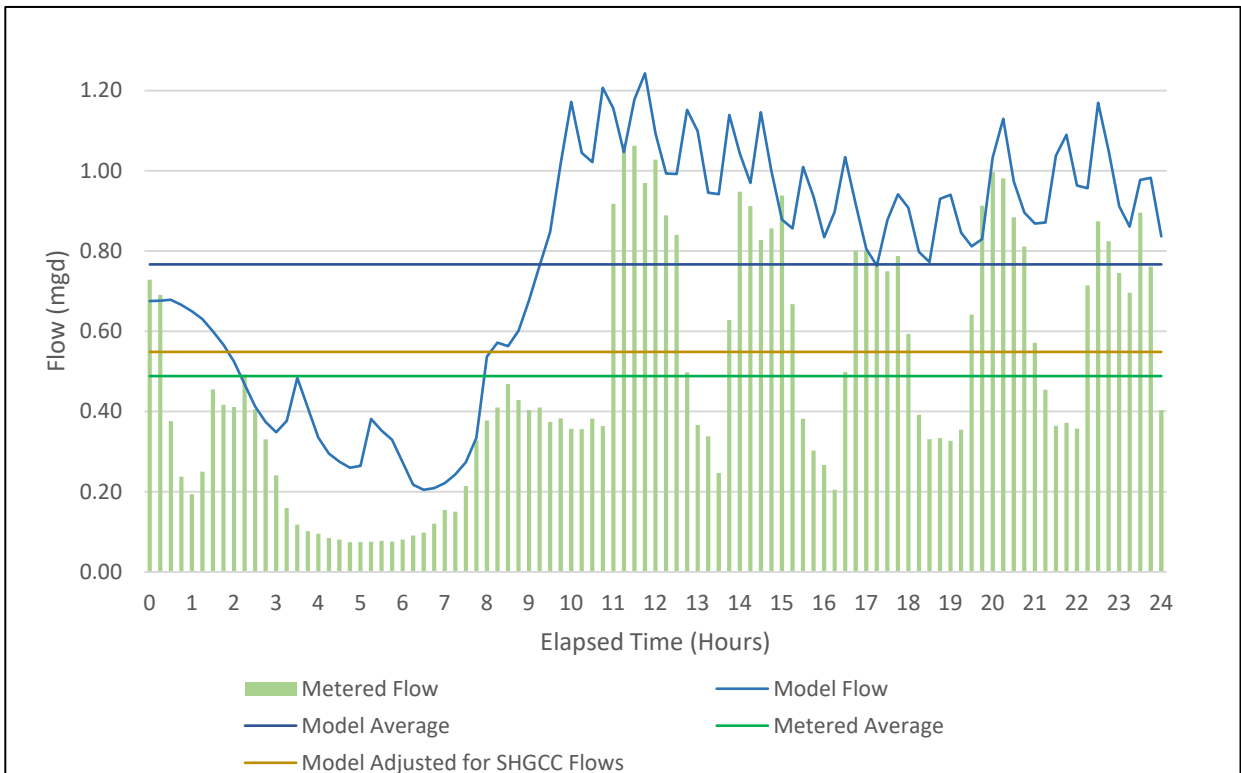
Basin 020 Dry Weather Calibration – 12/07/2023



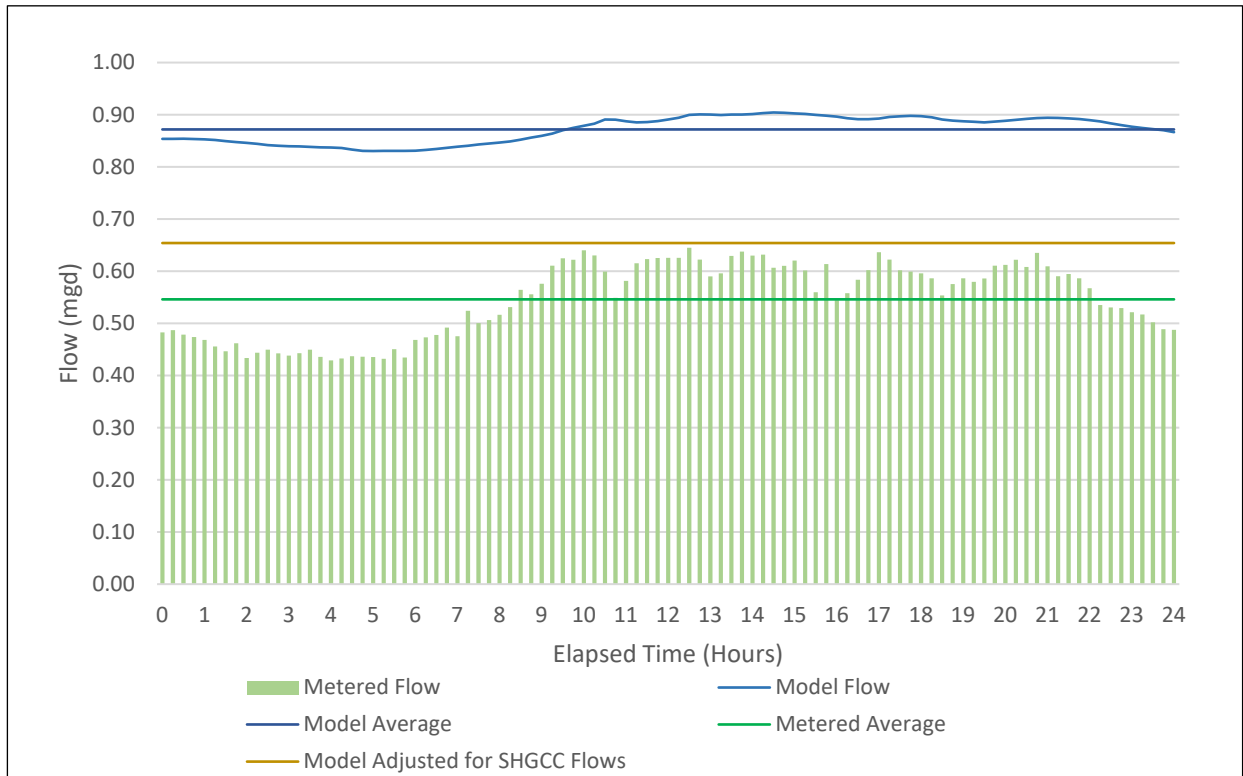
Basin 040 Dry Weather Calibration – 12/07/2023
Pumped Flow to SHGCC is Visible in Metered Flow



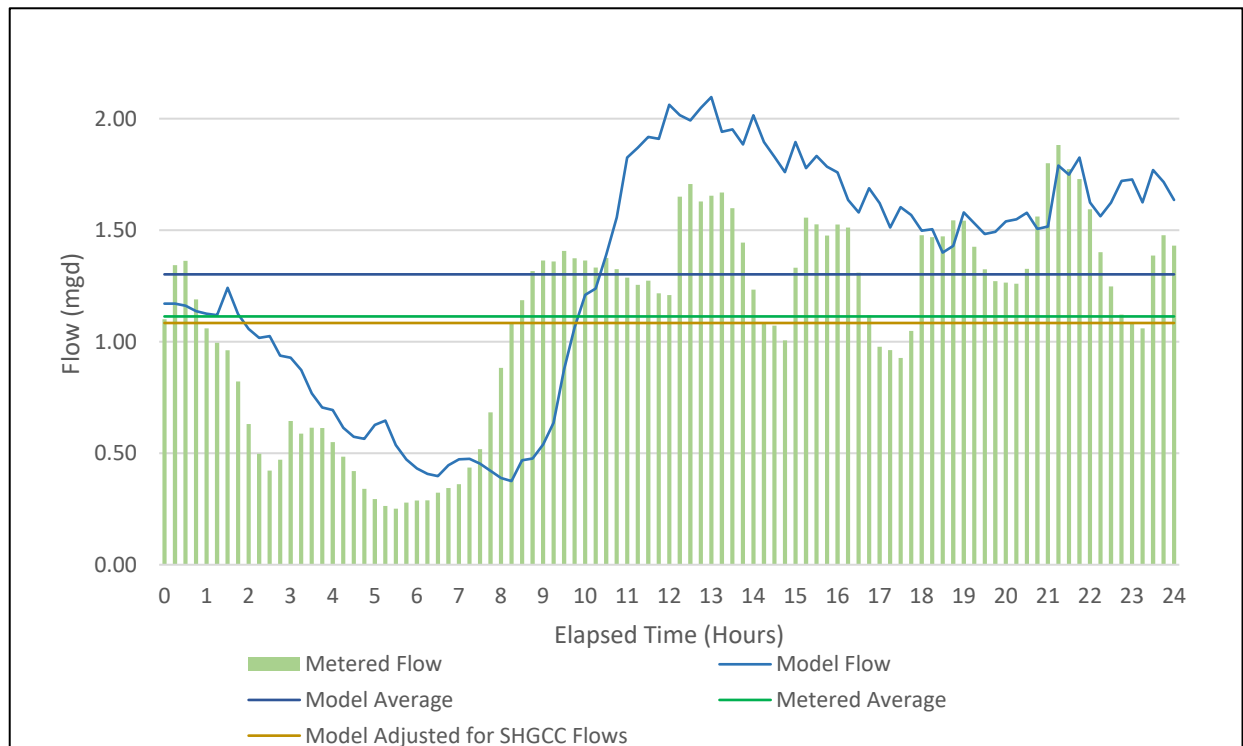
Basin 090 Dry Weather Calibration – 12/07/2023
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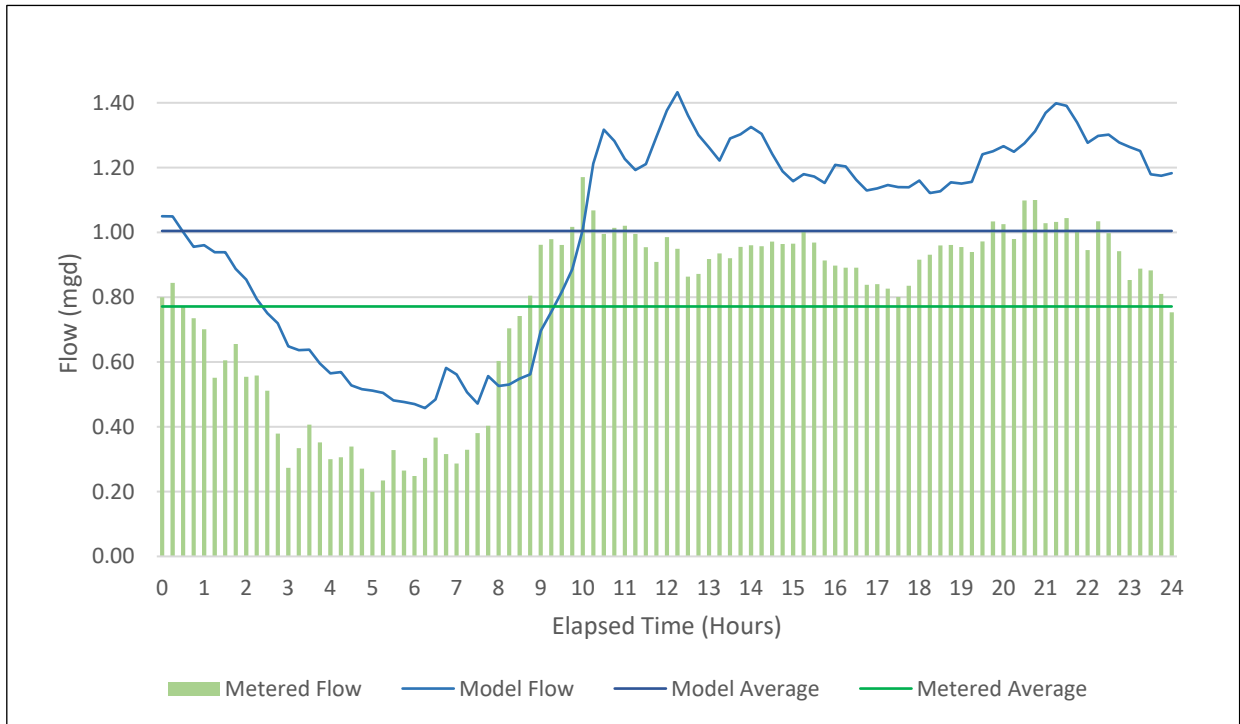
Basin 100A/B Dry Weather Calibration – 12/07/2023
Pumped Flow to SHGCC is Removed Mathematically to Create Adjusted Model Average



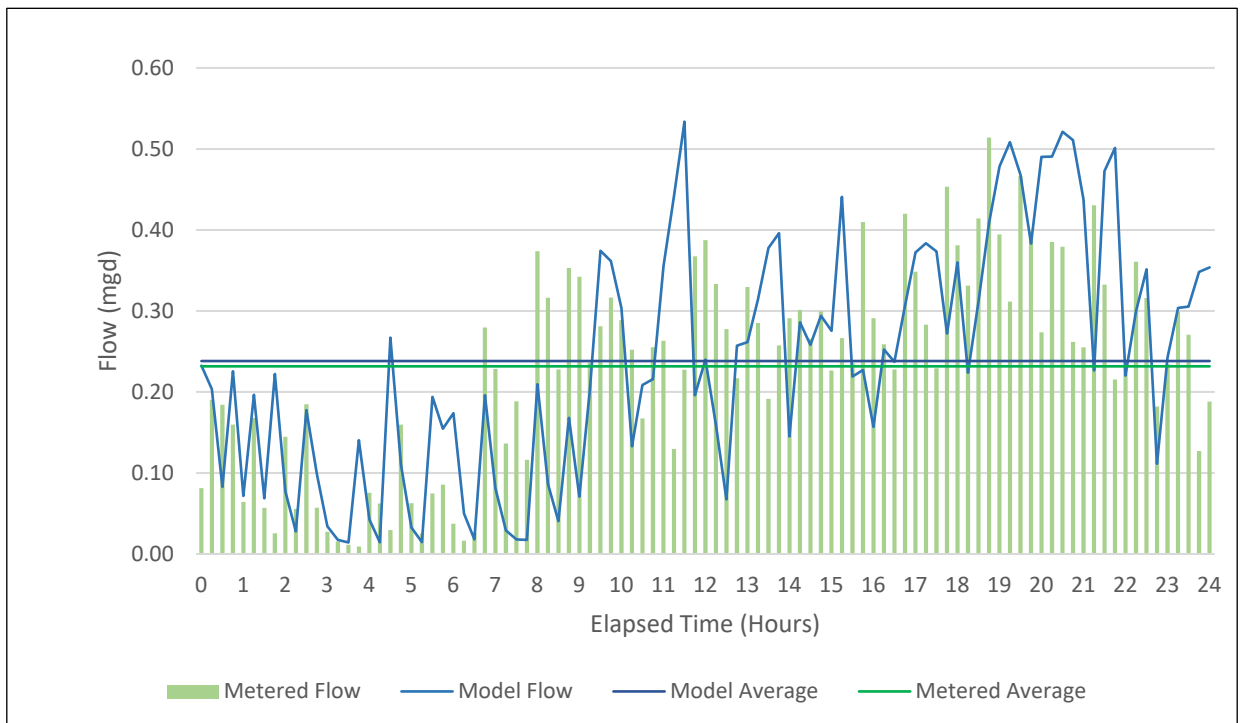
Basin 130 Dry Weather Calibration – 12/07/2023
Pumped Flow to SHGCC is Removed Mathematically to Create Adjusted Model Average



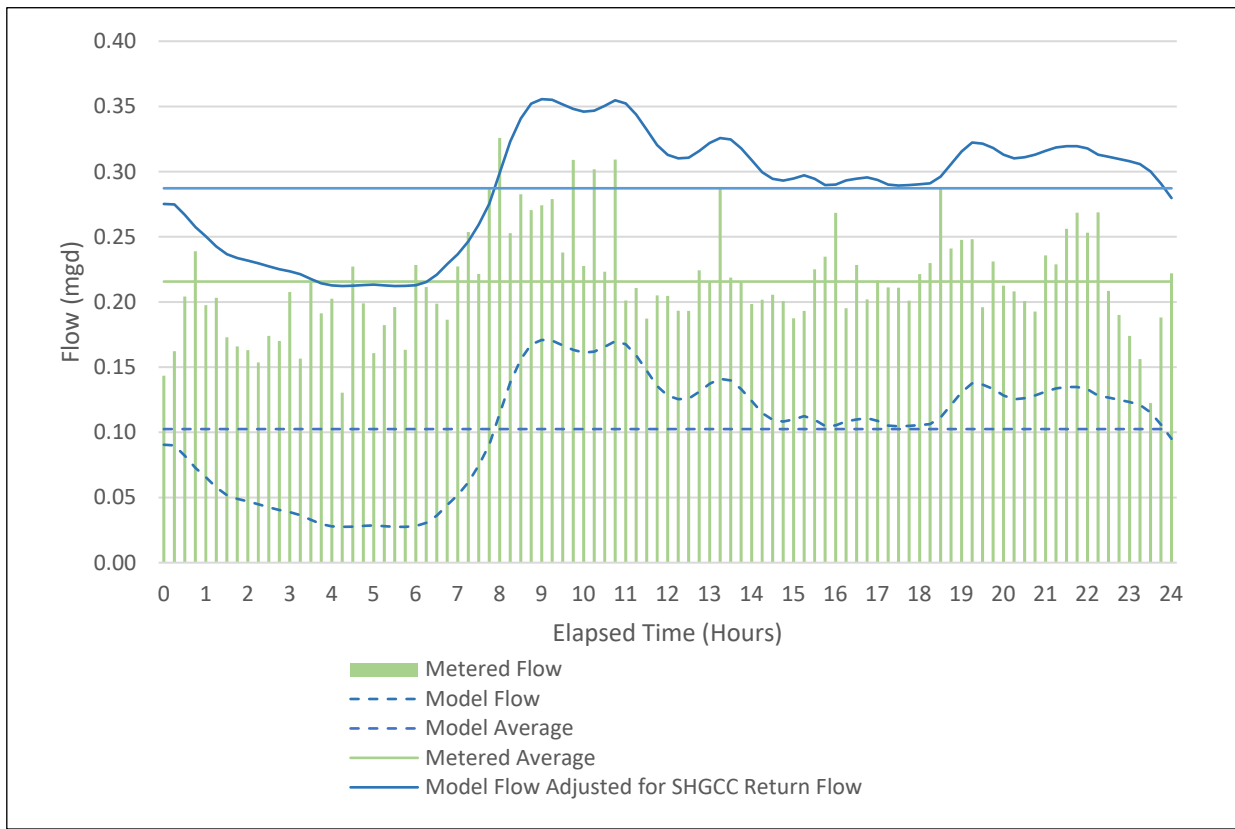
Basin 140 Dry Weather Calibration – 12/07/2023



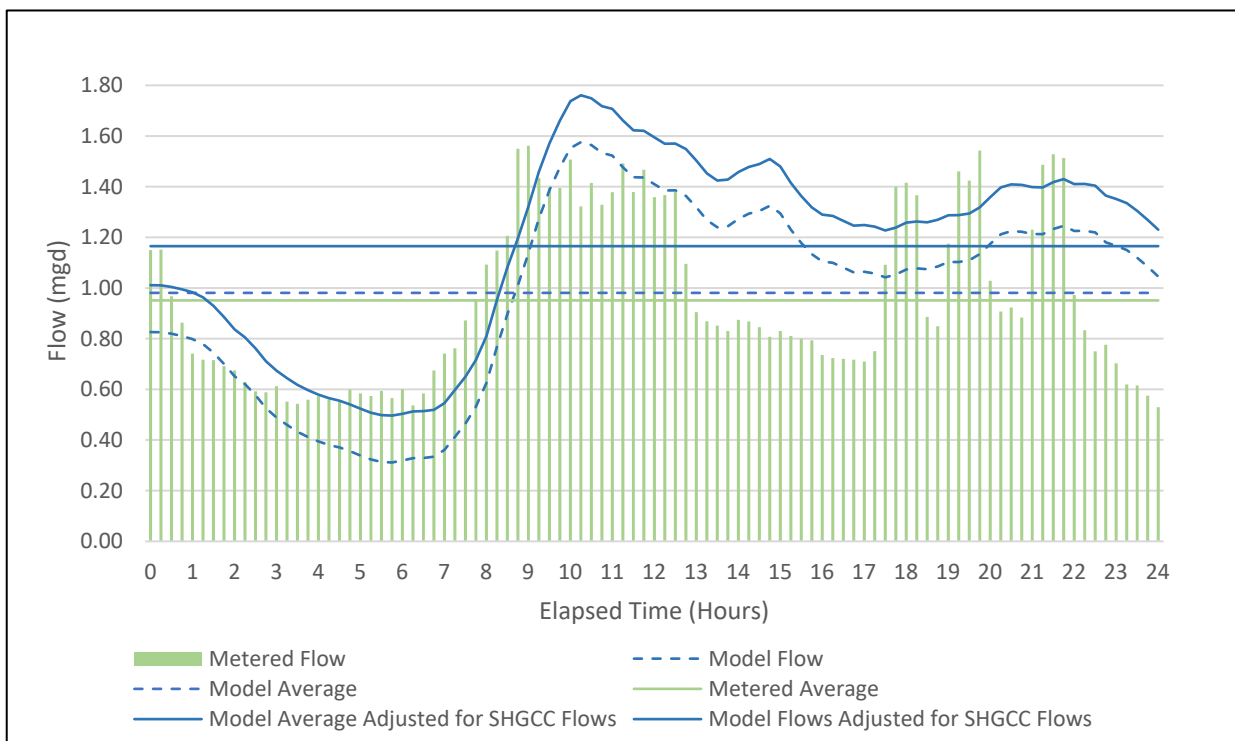
Basin 150 Dry Weather Calibration – 12/07/2023



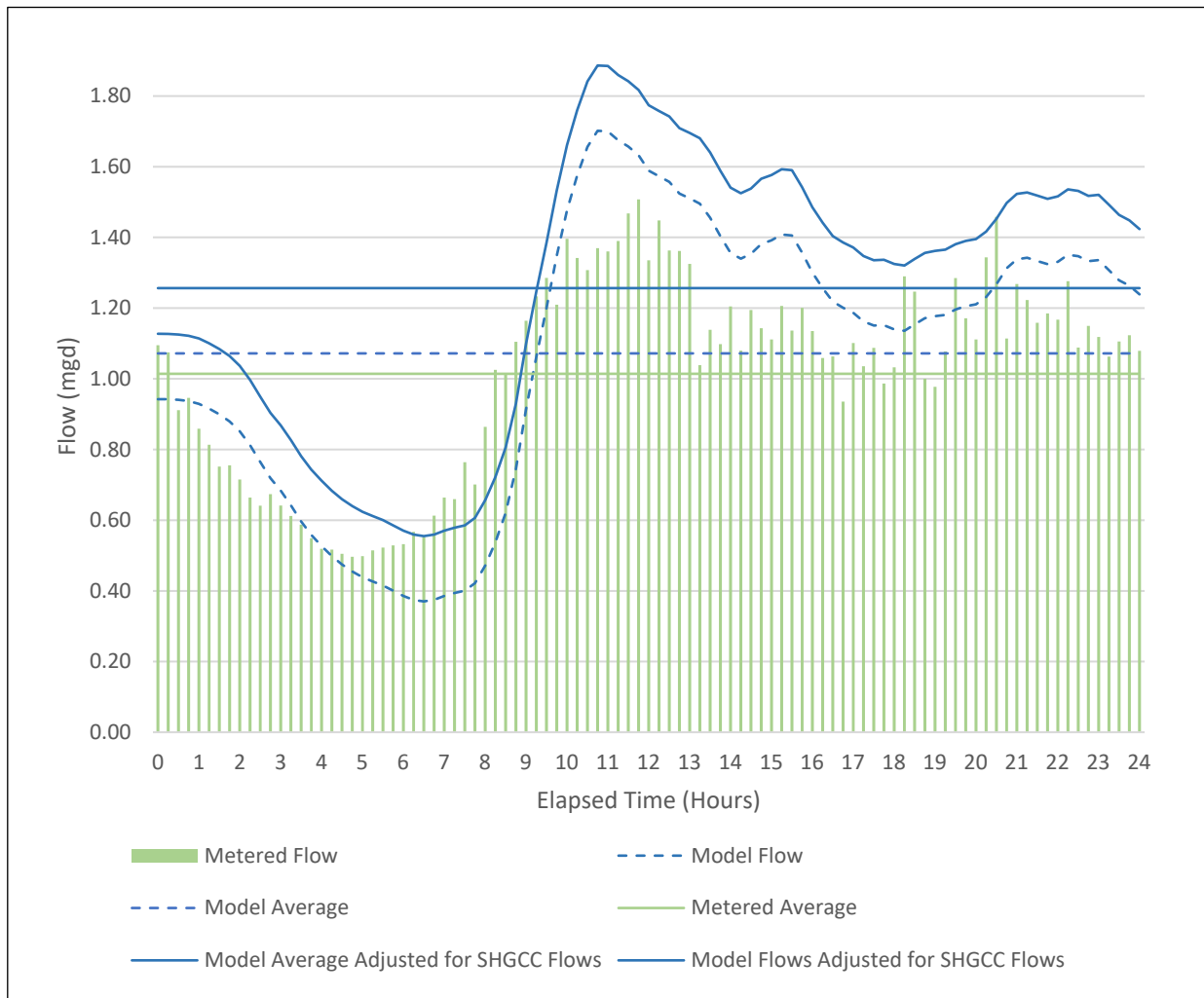
Basin 050_S Dry Weather Calibration – 12/07/2023
SHGCC Flows are Added Mathematically



Basin 070BCD Dry Weather Calibration – 12/07/2023
SHGCC Flows are Added Mathematically



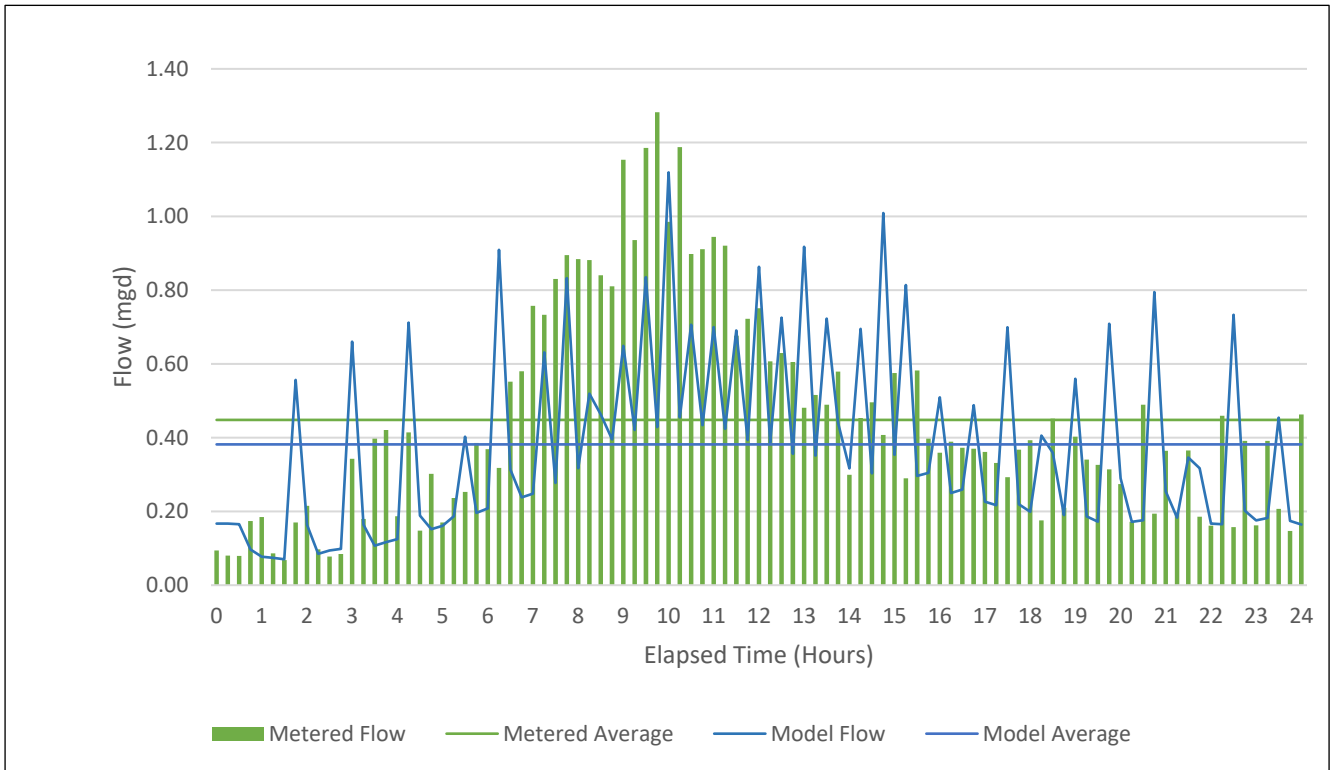
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SHGCC Flows are Added Mathematically



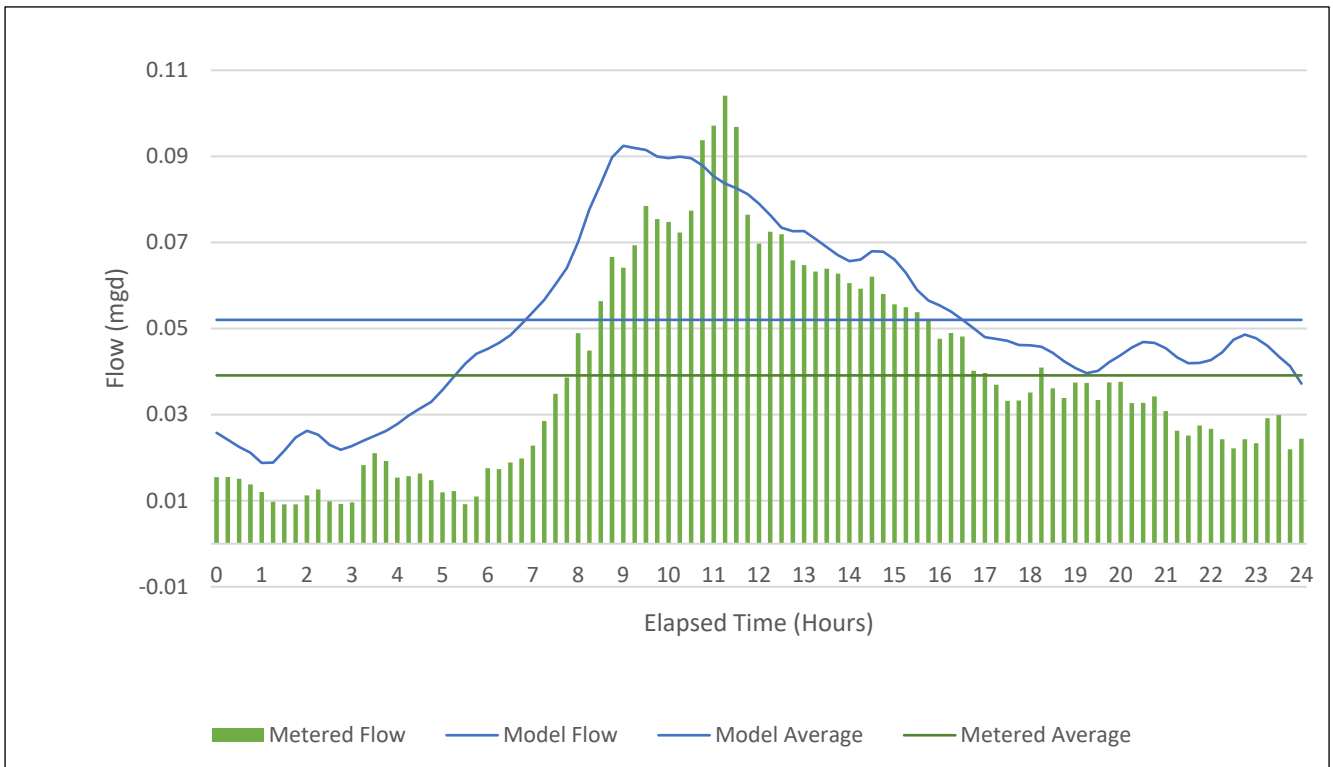
Appendix C
WET WEATHER CALIBRATION PLOTS

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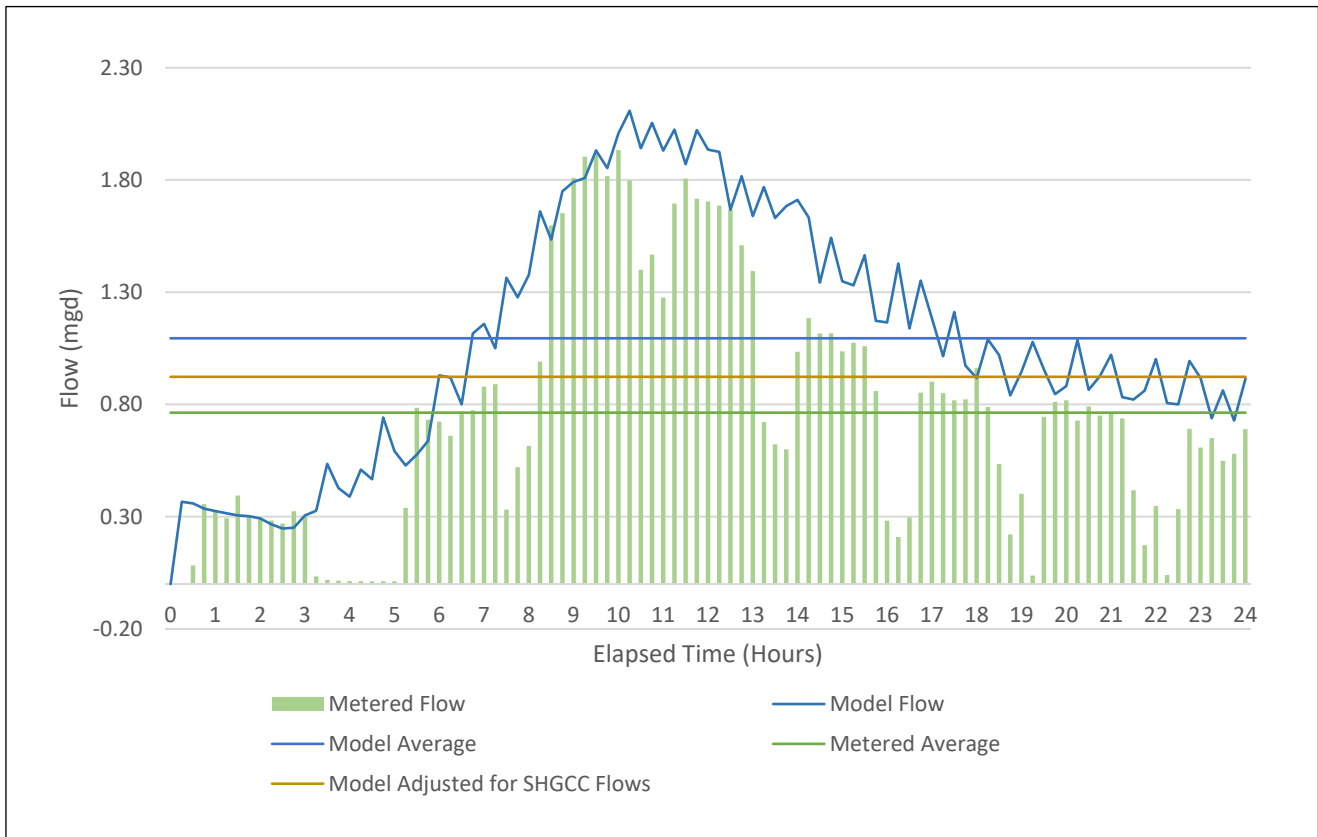
Basin 010 Wet Weather Calibration – 12/27/2023



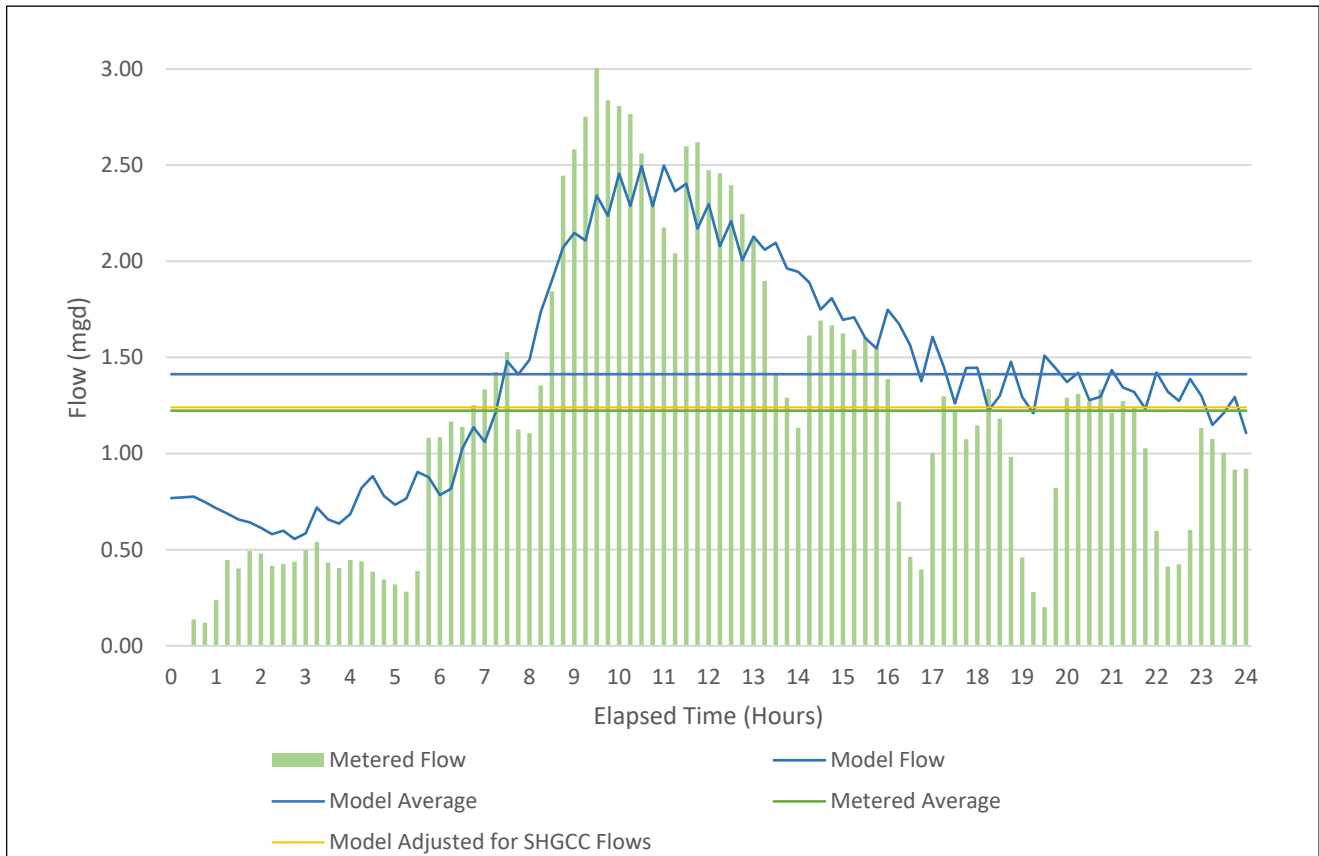
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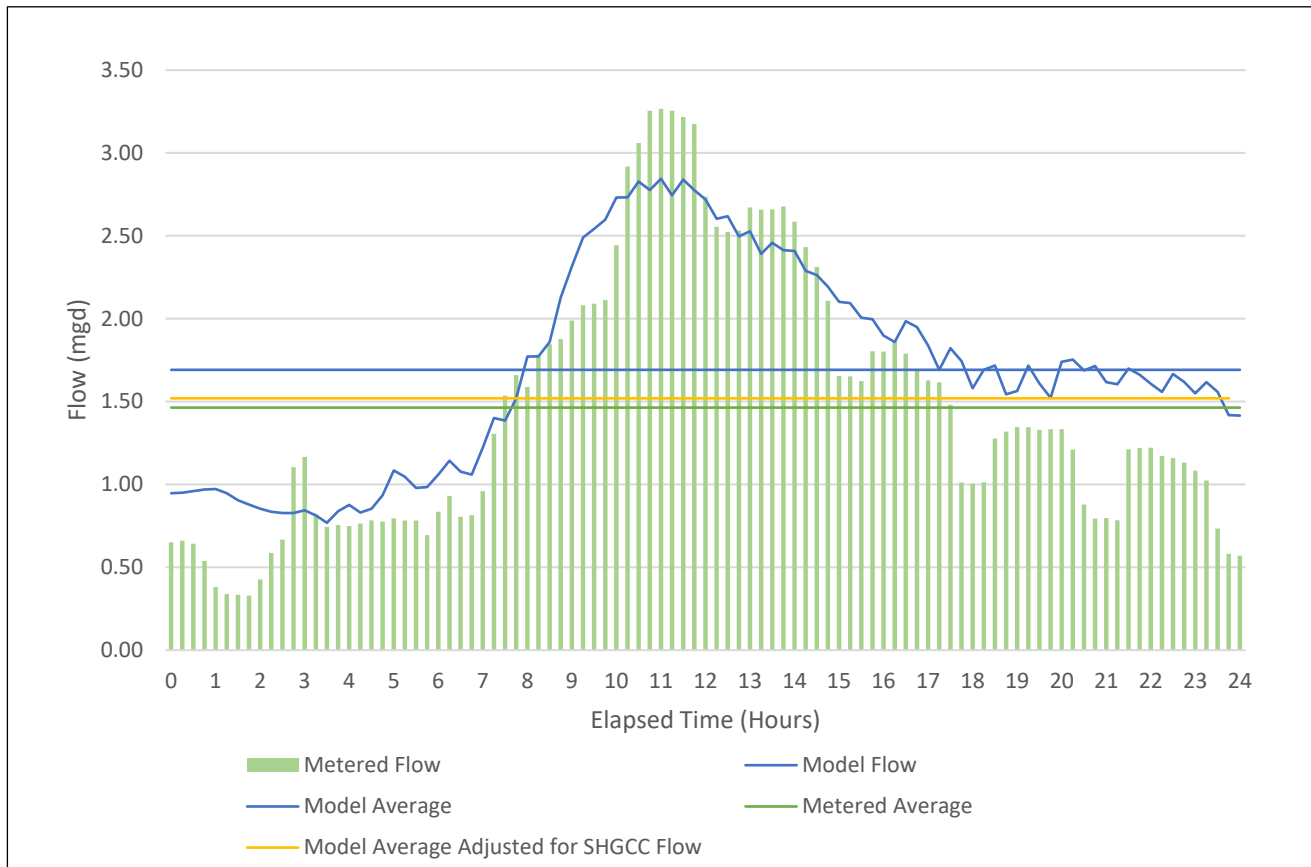
Basin 040 Wet Weather Calibration – 12/27/2023
Pumped Flow to SHGCC is Visible in Metered Flow



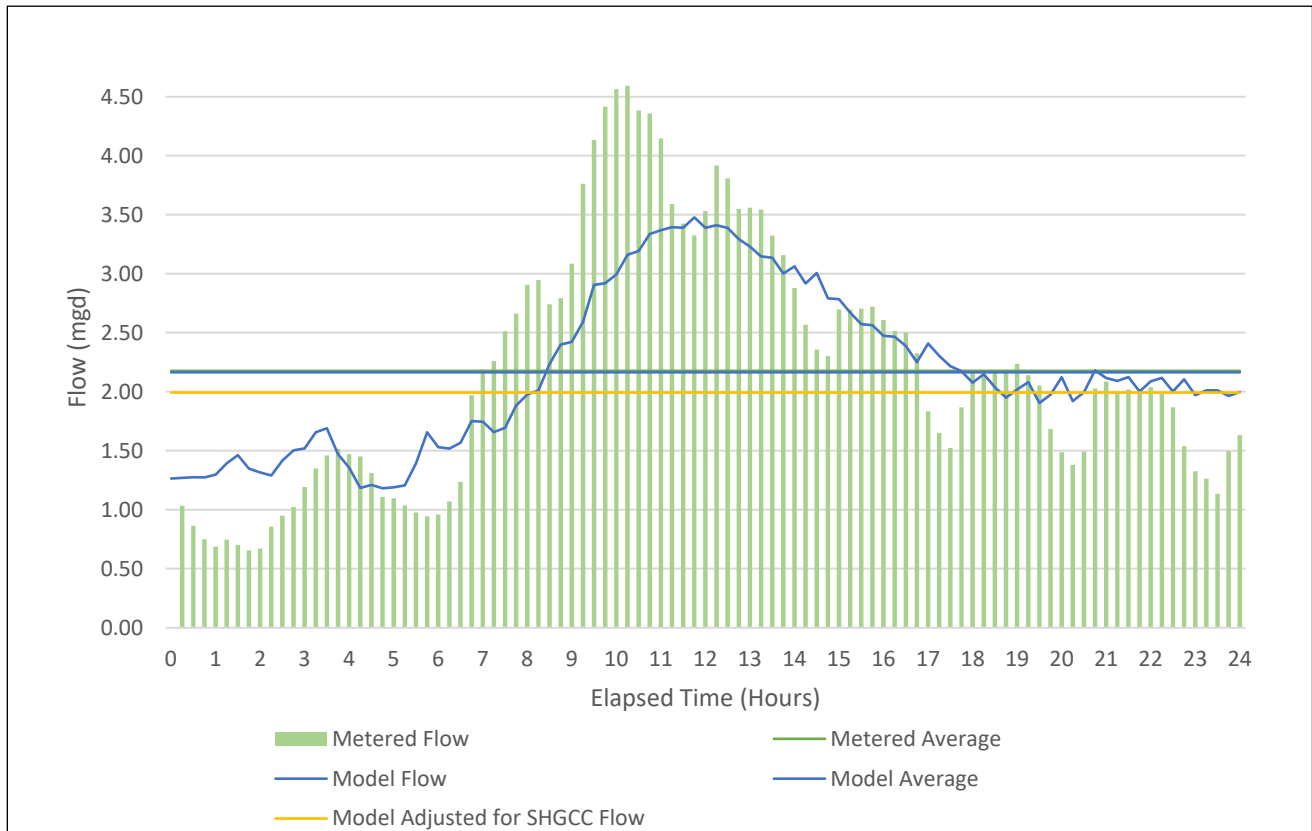
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Pumped Flow to SHGCC is Visible in Metered Flow



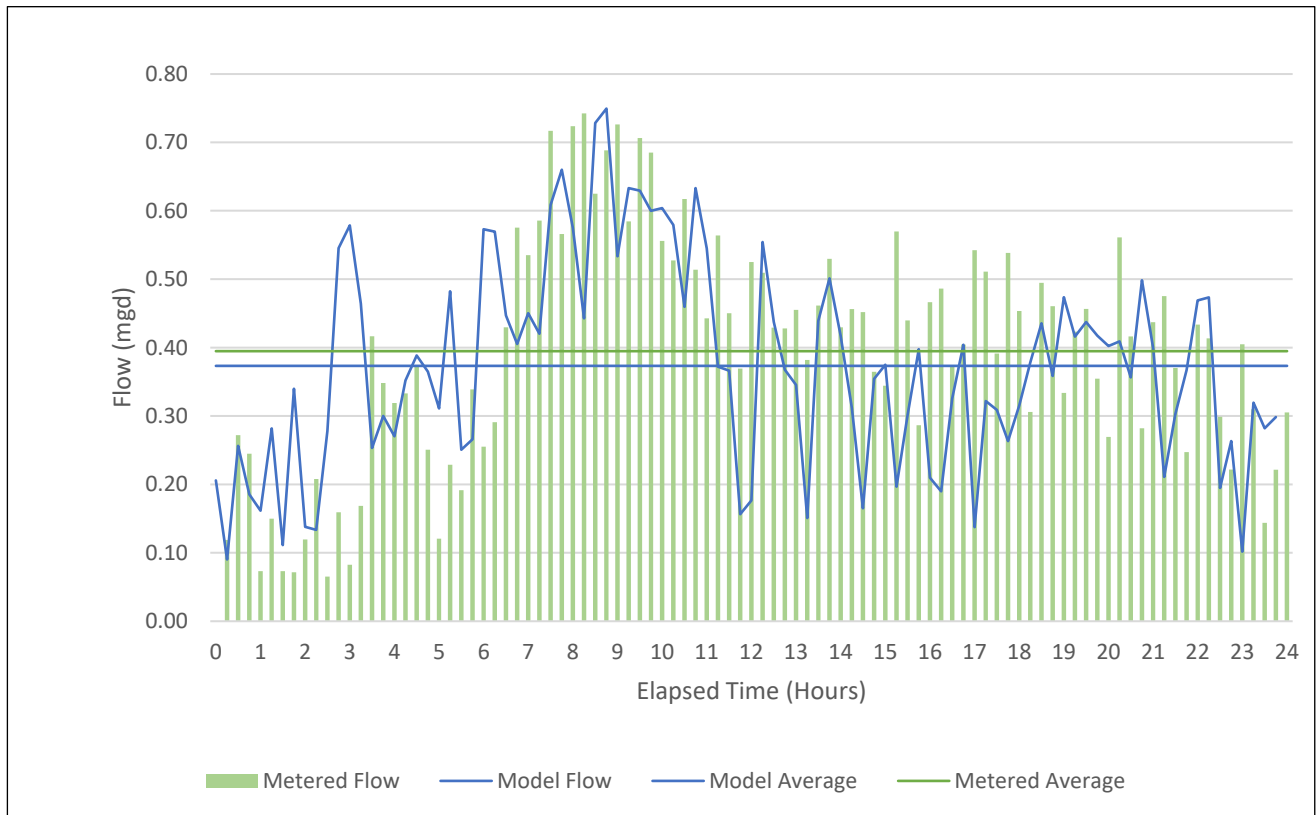
Basin 100A/B Wet Weather Calibration – 12/27/2023
Pumped Flow to SHGCC is Removed Mathematically to Create Adjusted Model Average



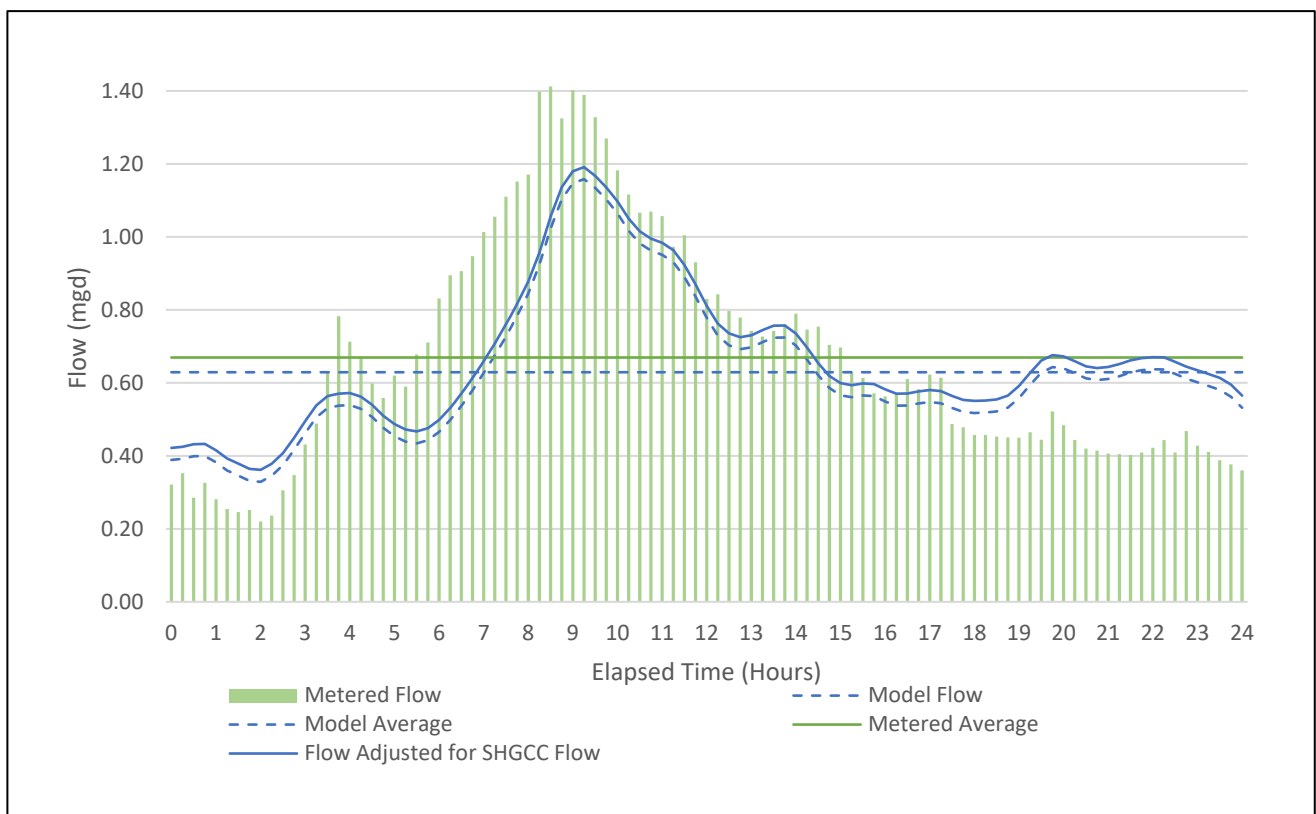
Basin 130 Wet Weather Calibration – 12/27/2023
Pumped Flow to SHGCC is Removed Mathematically to Create Adjusted Model Average



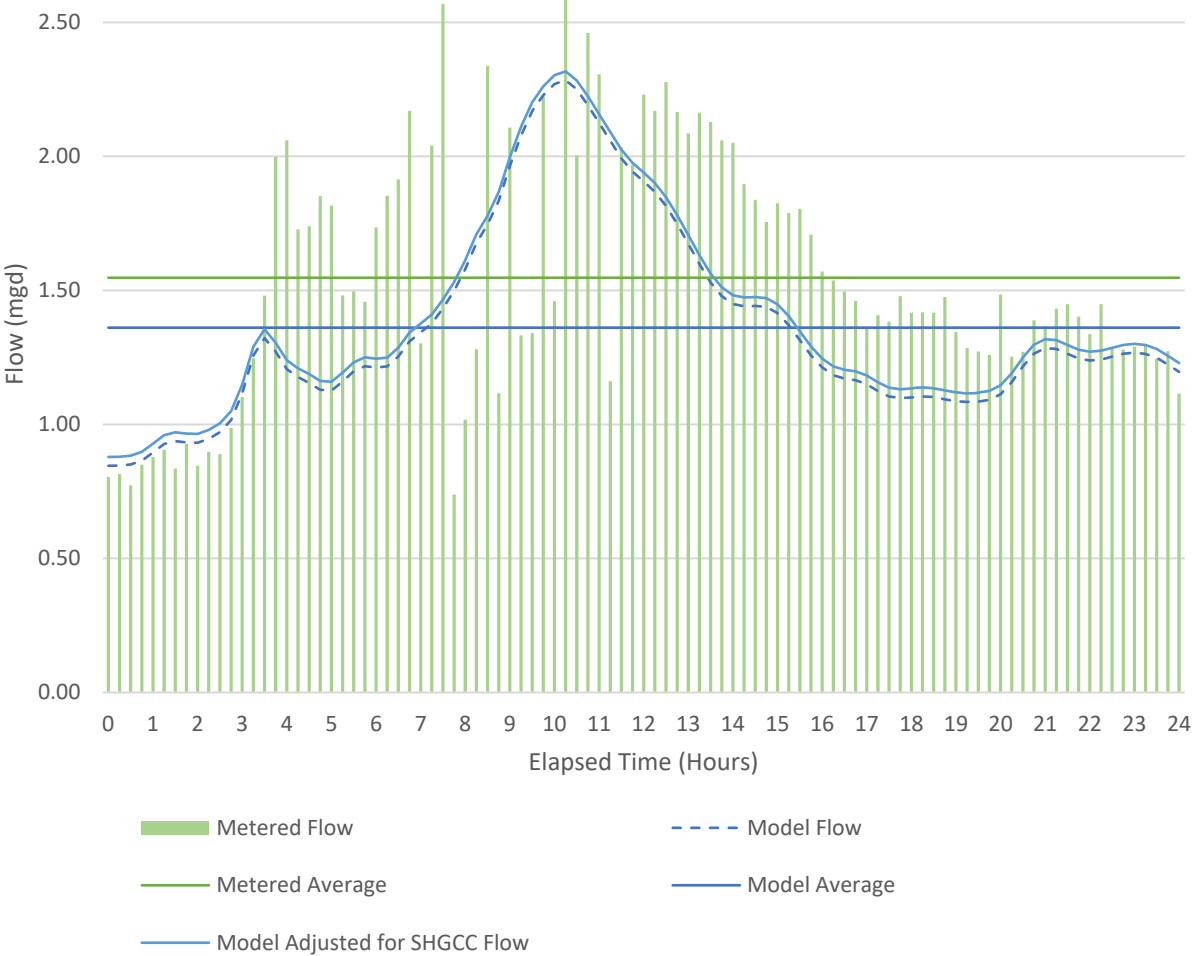
Basin 150 Wet Weather Calibration – 12/27/2023



Basin 070A Wet Weather Calibration – 12/27/2023 SHGCC Flows are Added Mathematically



Basin 110 Wet Weather Calibration – 12/27/2023
SHGCC Flows are Added Mathematically

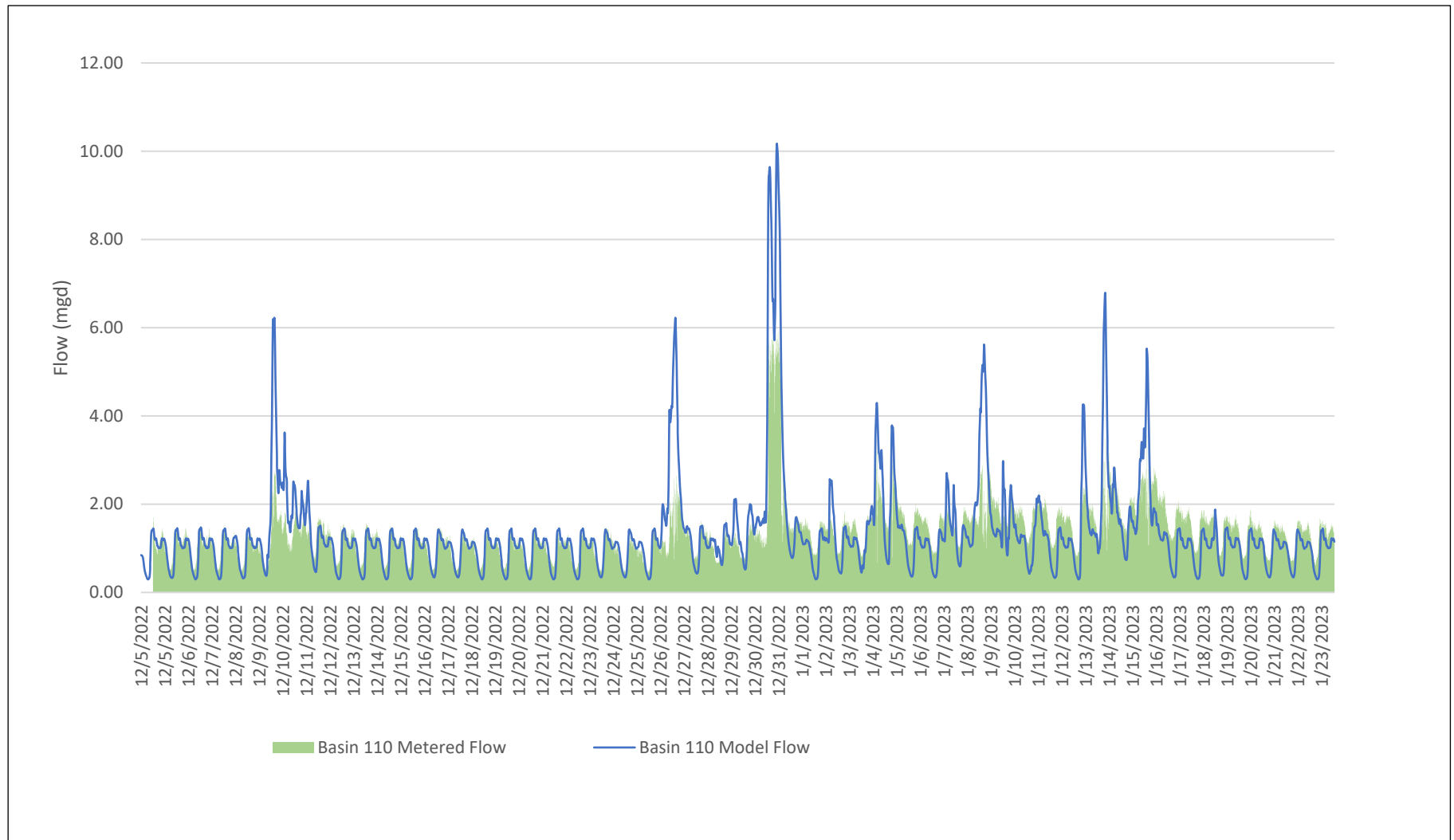


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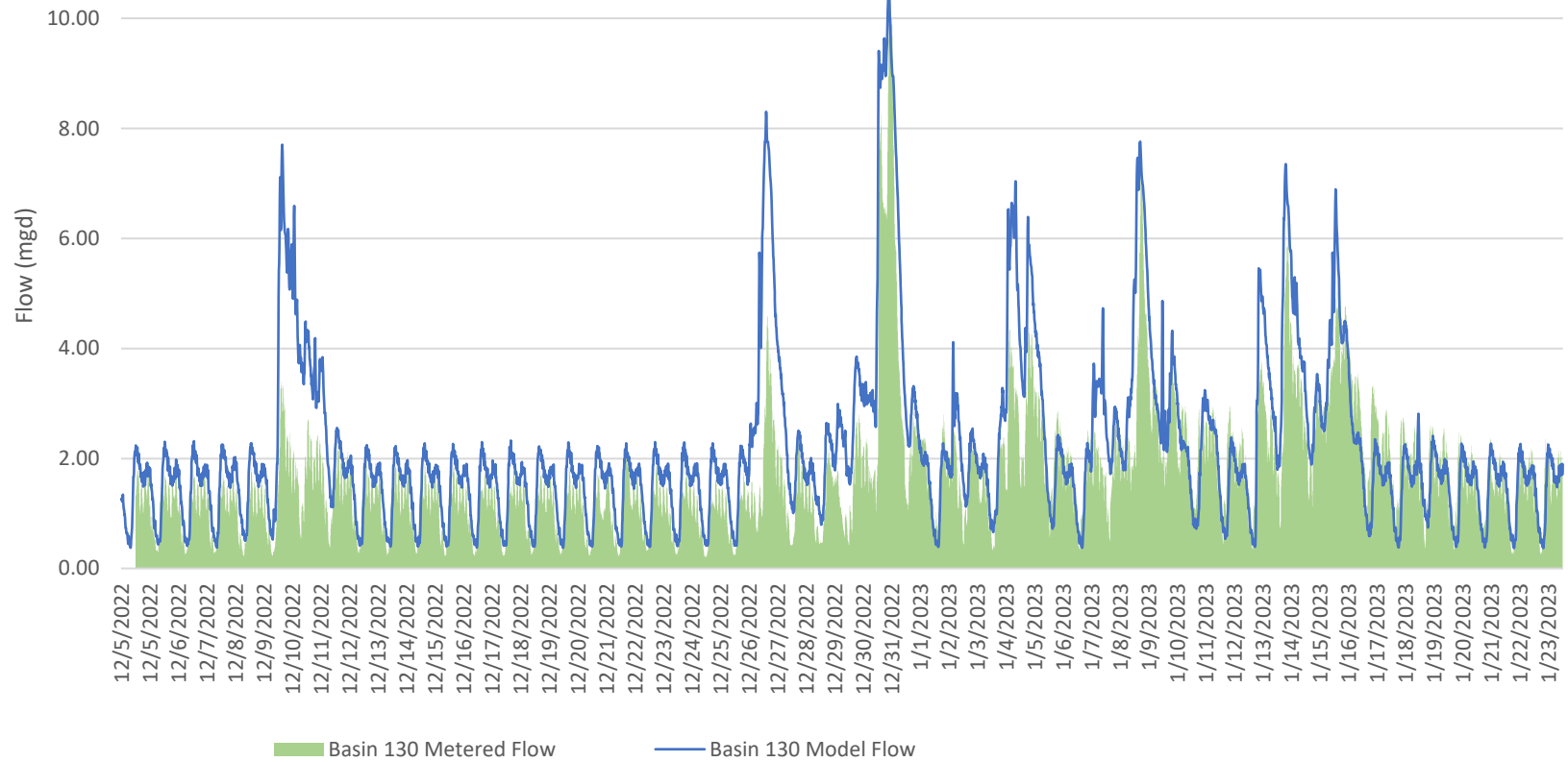
Appendix D
EXTENDED RUN – CONFIRMATION PLOTS

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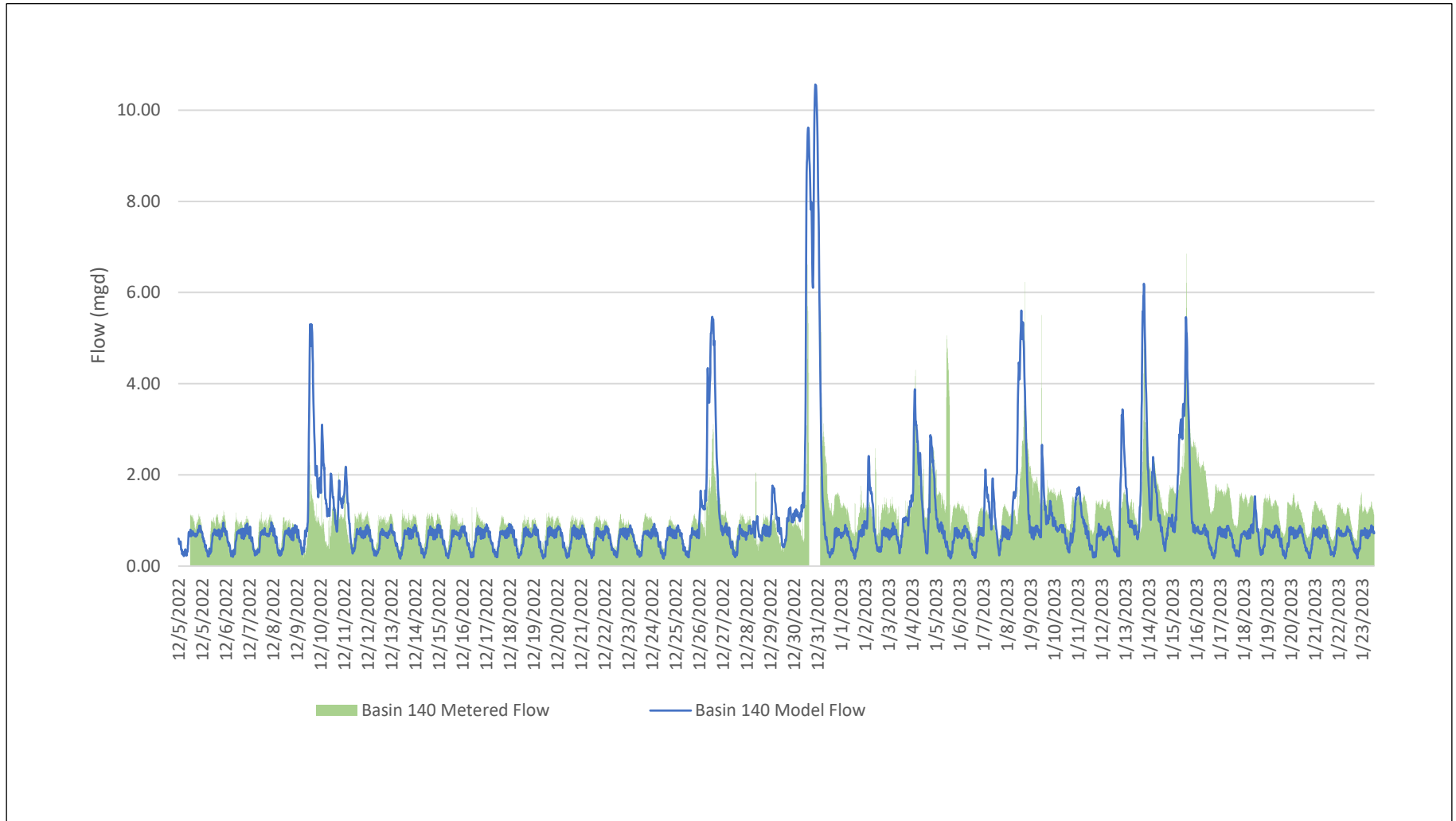
Basin 110 Confirmation Run – 12/5/2022 through 1/23/2023
Marsh Road between Middlefield and Highway 101



Basin 130 Confirmation Run – 12/5/2022 through 1/23/2023
Willow Road Communities between El Camino Real and Highway 101



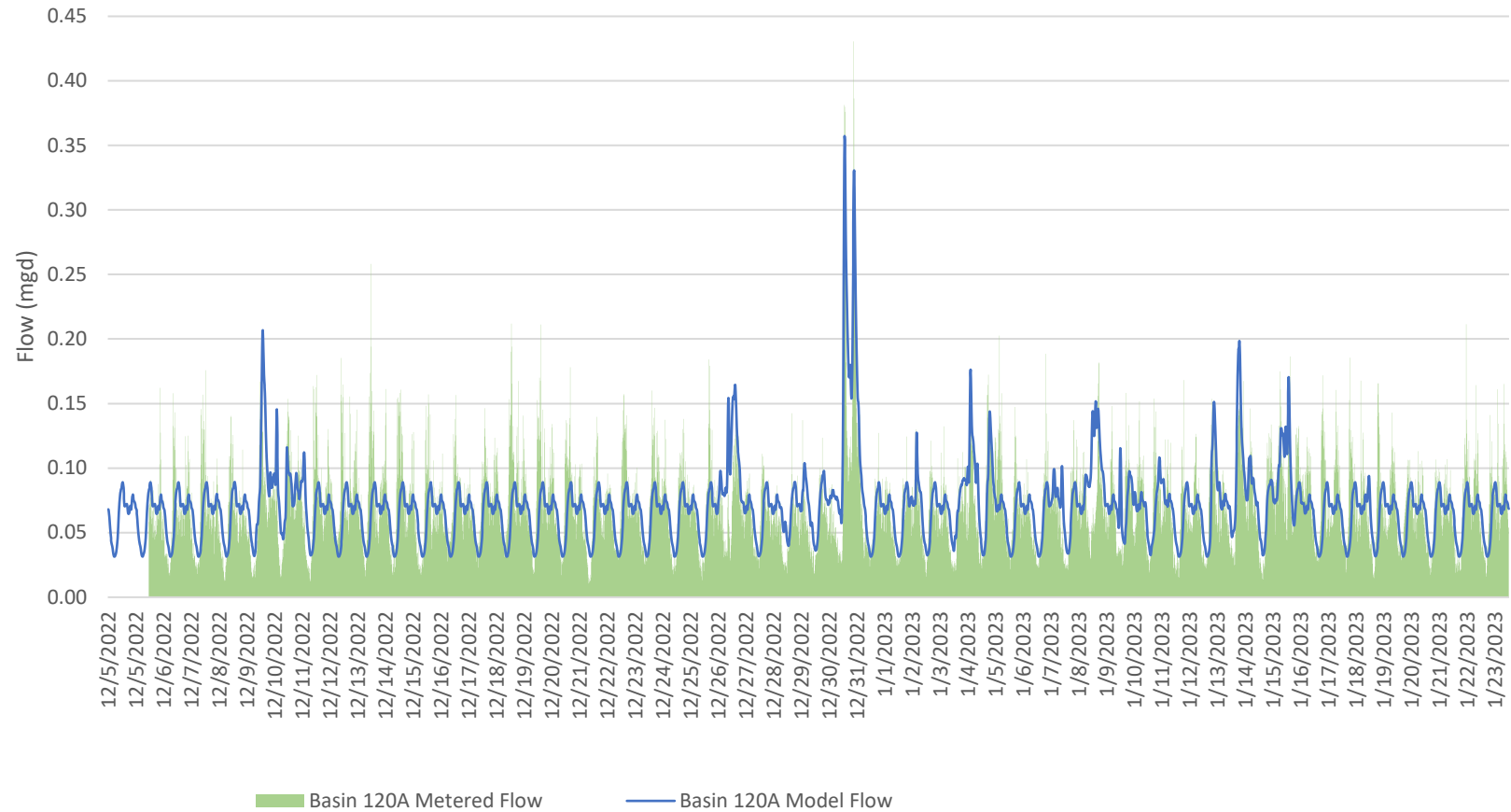
Basin 140 Confirmation Run – 12/5/2022 through 1/23/2023
Bounded by Bayfront Expressway, Highway 101, Belle Haven, and Willow Road



Notes:

1. Basin 130 split and appear in Basin 140 during wet weather events.
2. On December 31, 2022 the meter at Basin 140 surcharged and stopped registering flow for 14 hours.

Basin 120A Confirmation Run – 12/5/2022 through 1/23/2023
Oak Grove Avenue south of Highway 101



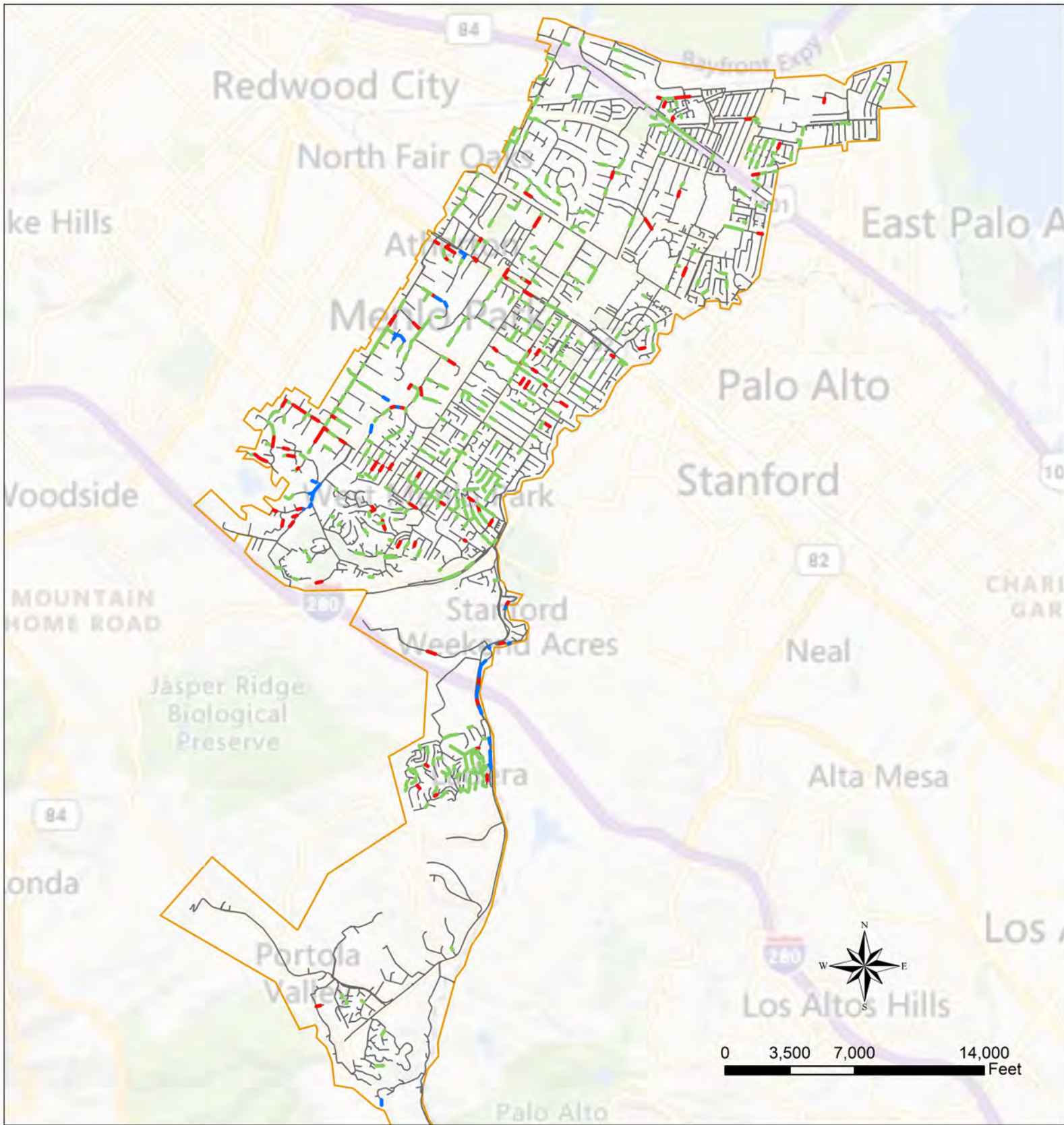
Notes:

1. Peaks shown in metered flows are dry and wet weather diversions from Basin 070.

Appendix E

Likelihood and Consequence of Failure Parameters

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Map A1

West Bay Sanitary District
Linear Asset Management Plan

LOF and COF Parameters

Structural Grade 4 and 5 Defects

Legend

- Priority 1 and 2 Grade 5
- Priority 3 Grade 4
- Other Grade 4 Defects
- Sewer Pipelines
- WBSD Service Area

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14-256a



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Map A2

West Bay Sanitary District
Linear Asset Management Plan

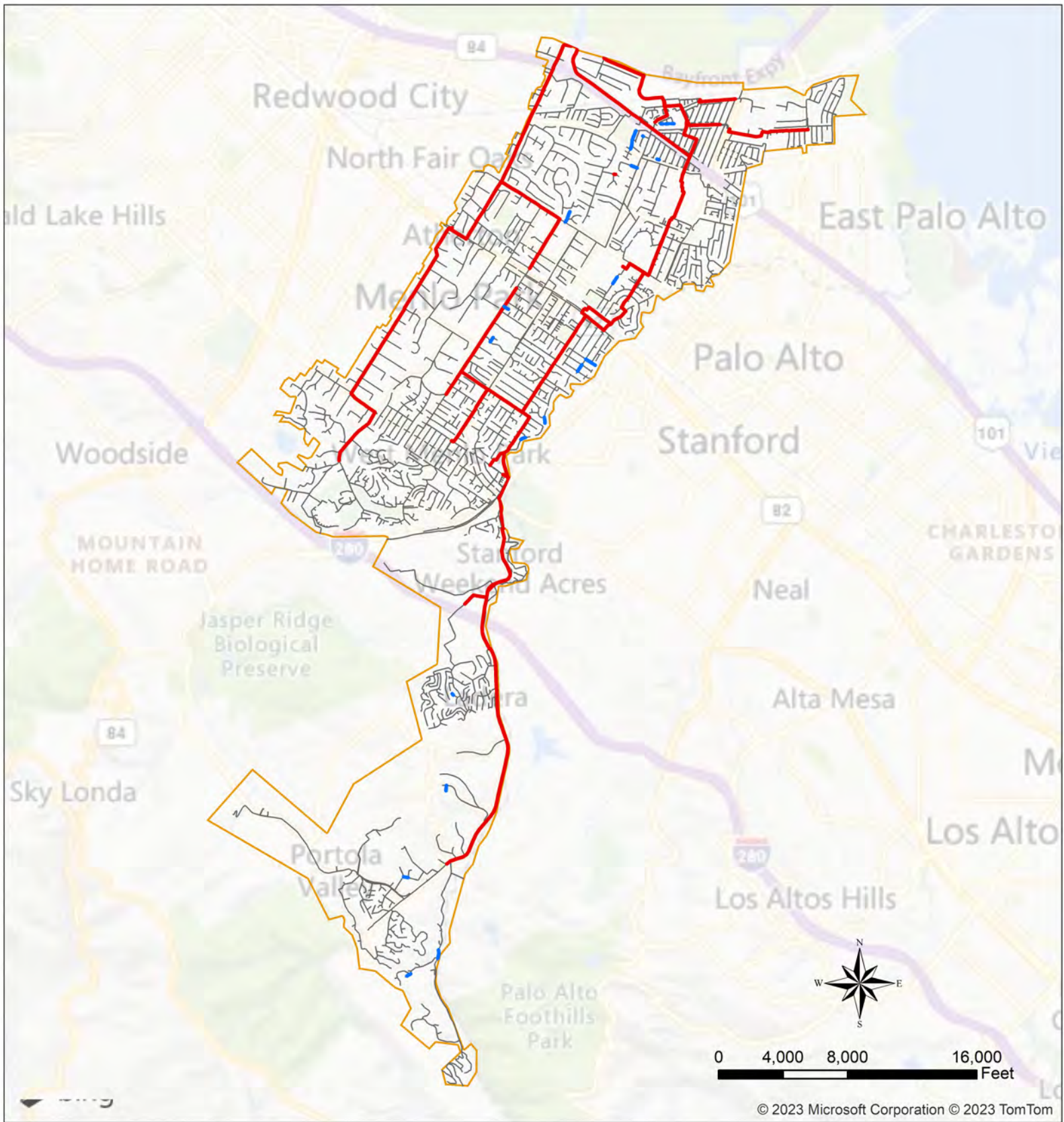
LOF and COF Parameters

Pipe Material



0 4,000 8,000 16,000
Feet

14-257



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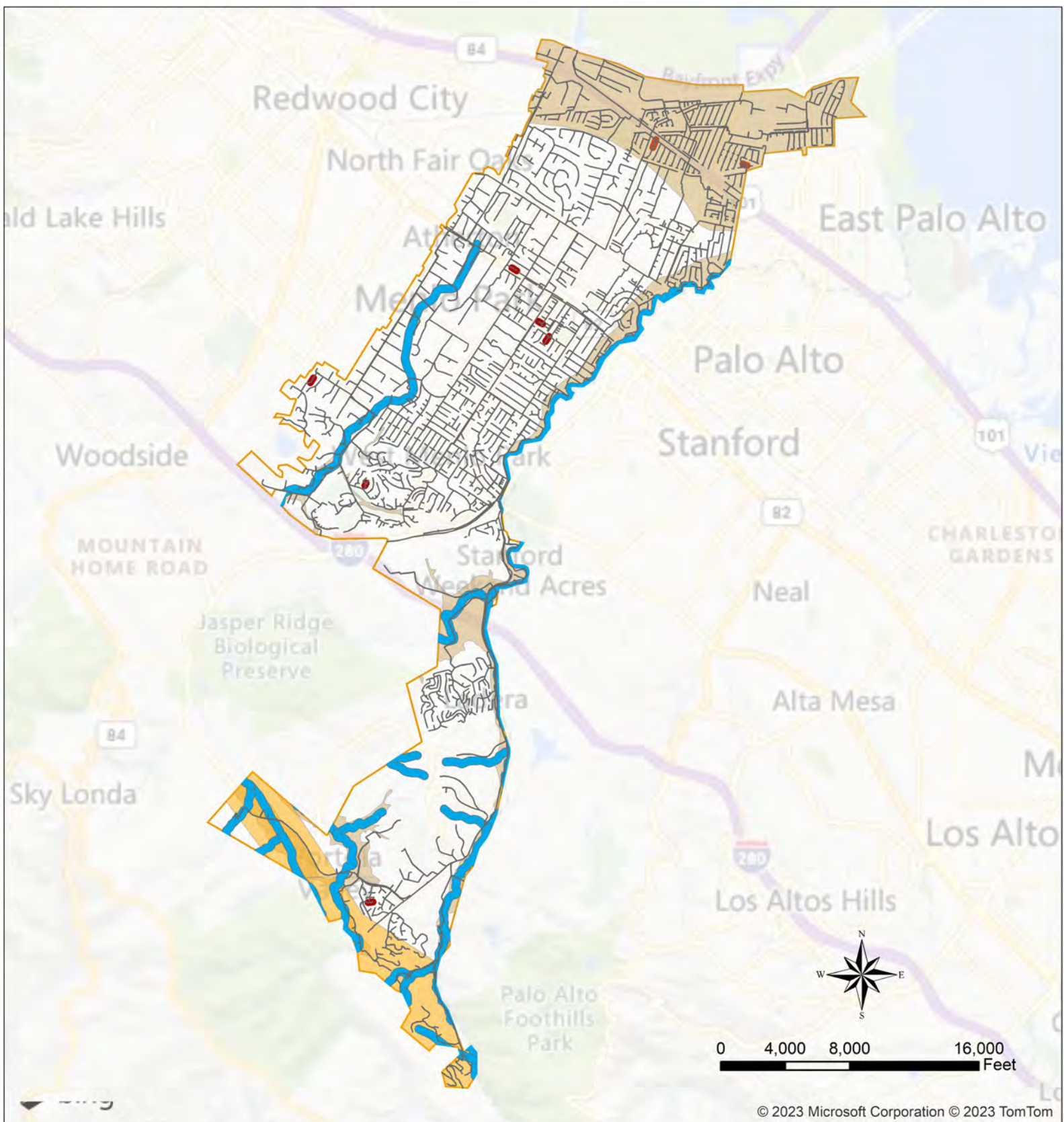
Map A3

West Bay Sanitary District
Linear Asset Management Plan

LOF and COF Parameters
Pipe Size

Legend

- | | |
|--|--|
| — < 6 Inches in Diameter | — Other Sewer Pipelines |
| — > 12 Inches in Diameter | WBSD Service Area 14-258 |



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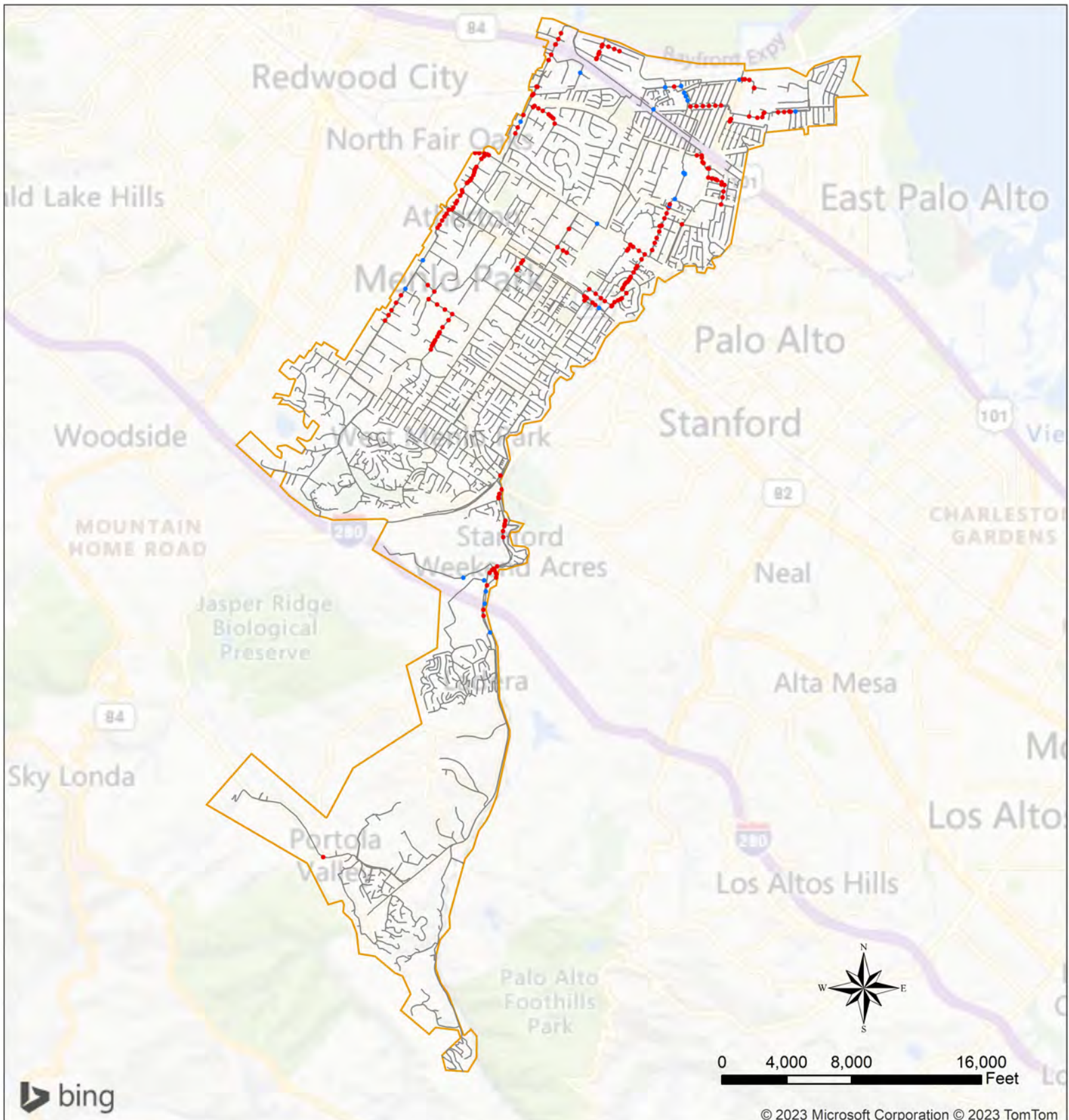
Map A4

West Bay Sanitary District
Linear Asset Management Plan

LOF and COF Parameters
Geology, Spills, Waterways

Legend

- | | |
|-----------------------------|--------------------------|
| Sewer Pipelines | Liquefaction |
| Waterway with 200-ft Buffer | Spills (5 Years) |
| Loma Prieta Fault Zone | WBSD Service Area 14-259 |



Map A5

West Bay Sanitary District
Linear Asset Management Plan

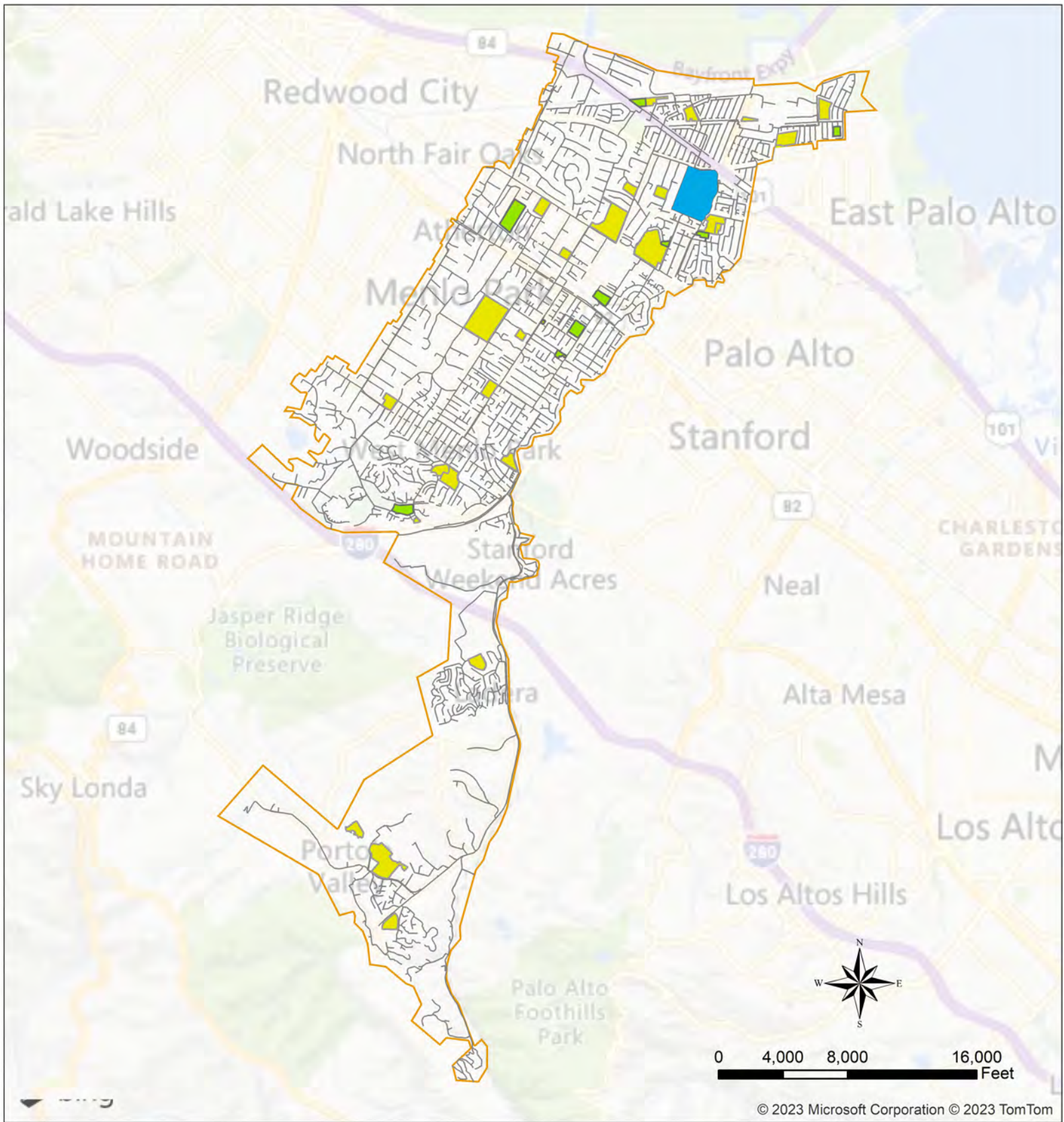
LOF and COF Parameters

Manholes with Surcharge (d/D)

Legend

- Water Level (d) / Pipe Diameter (D)**
- d/D is over 0.8
 - d/D is over 1
 - Other Sewer Pipelines
14-260





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Map A6

West Bay Sanitary District
Linear Asset Management Plan

LOF and COF Parameters

Parks, Schools, Hospitals

Legend

Schools

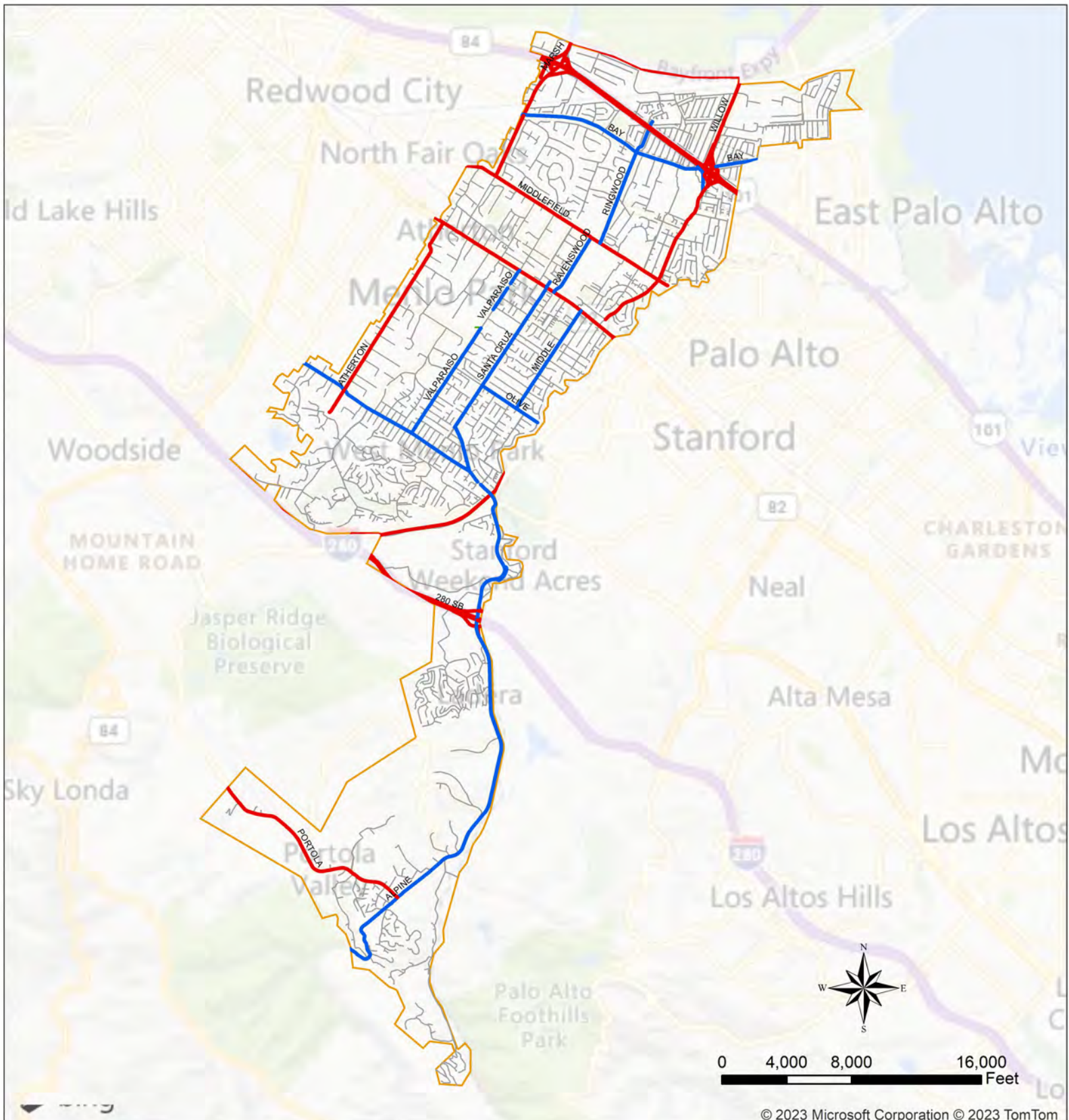
Parks

Hospital

Other Sewer
Pipelines

WBSD
Service Area

14-261



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Map A7

West Bay Sanitary District
Linear Asset Management Plan

LOF and COF Parameters

Primary and Secondary Arterial Roadways

Legend

- Primary Arterial
- Secondary Arterial
- Other Sewer Pipelines
- WBSD Service Area

14-262

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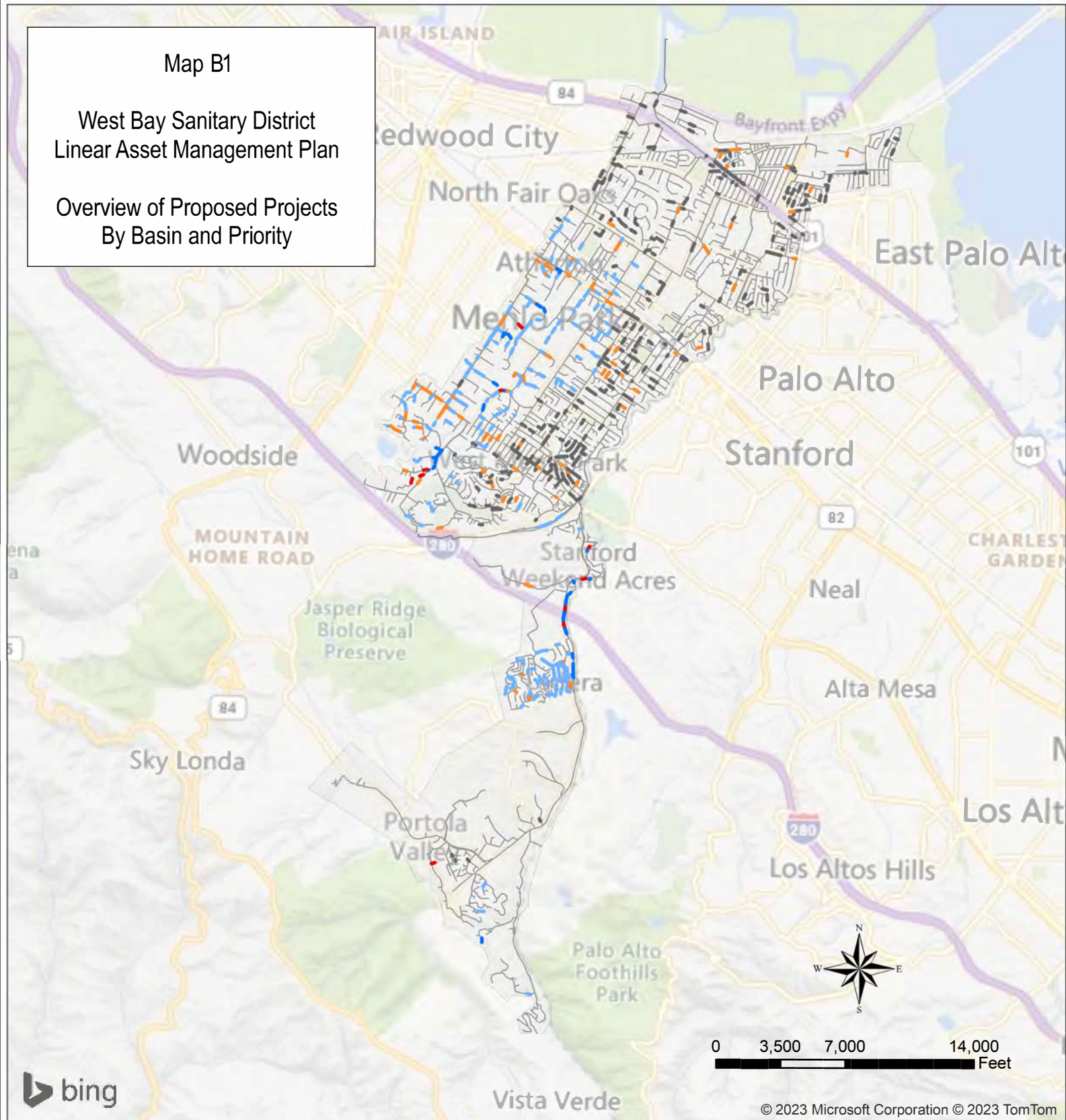
Appendix F
LAMP Project Maps

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Map B1

West Bay Sanitary District Linear Asset Management Plan

Overview of Proposed Projects By Basin and Priority



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Legend

— Priority 1 Grade 5 Pipes

— Priority 2 Grade 5 Pipes

— Priority 3 Grade 4 Pipes

— Priority 3a Additional Grade 4 Pipes

— Priority 4 Future Grade 4 Repairs

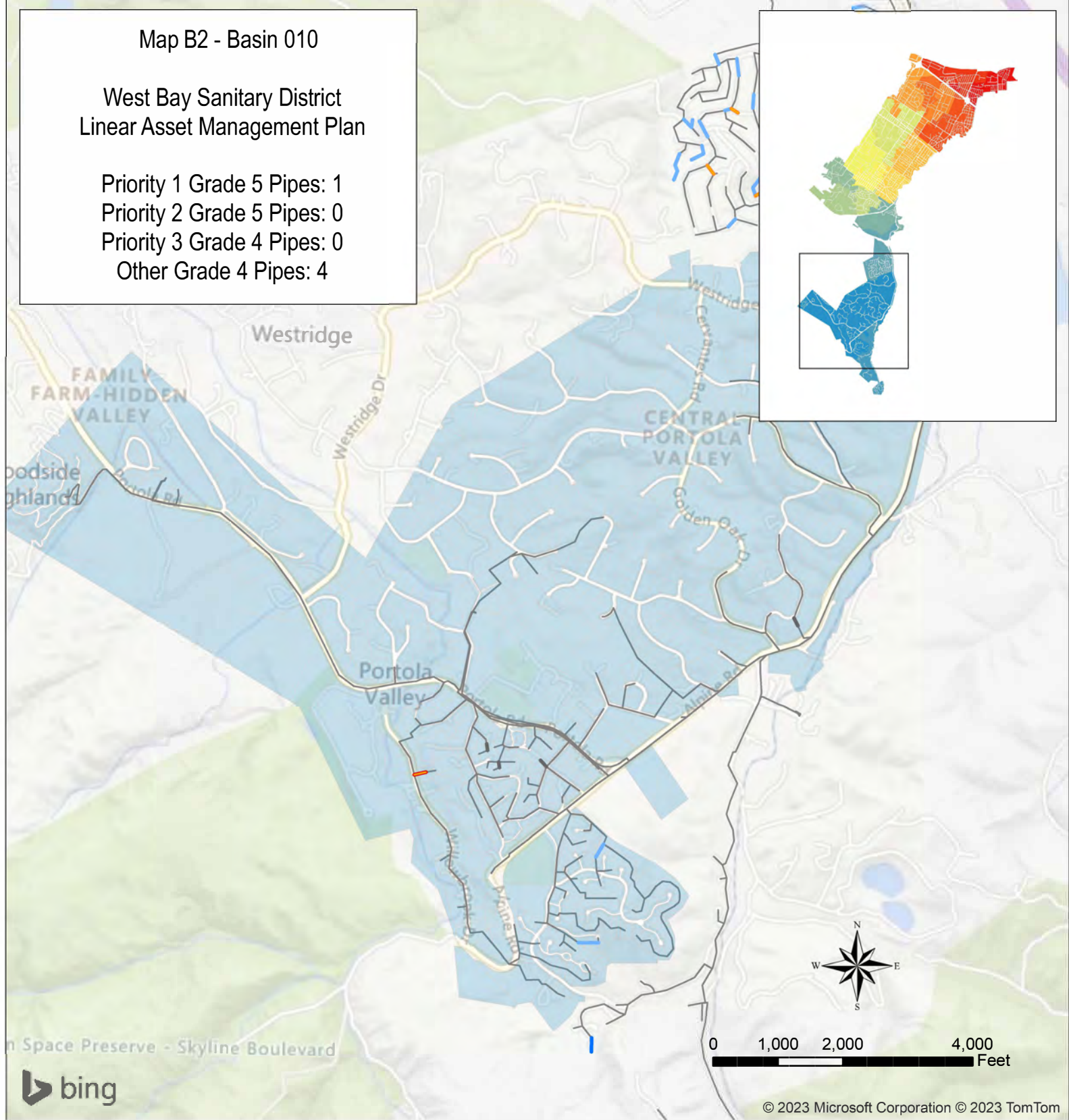
WBSD Service Area

WBSD_SM

Map B2 - Basin 010

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 1
Priority 2 Grade 5 Pipes: 0
Priority 3 Grade 4 Pipes: 0
Other Grade 4 Pipes: 4



Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs
- Basin 010
- Sewer Pipeline

WEST BAY
SANITARY DISTRICT

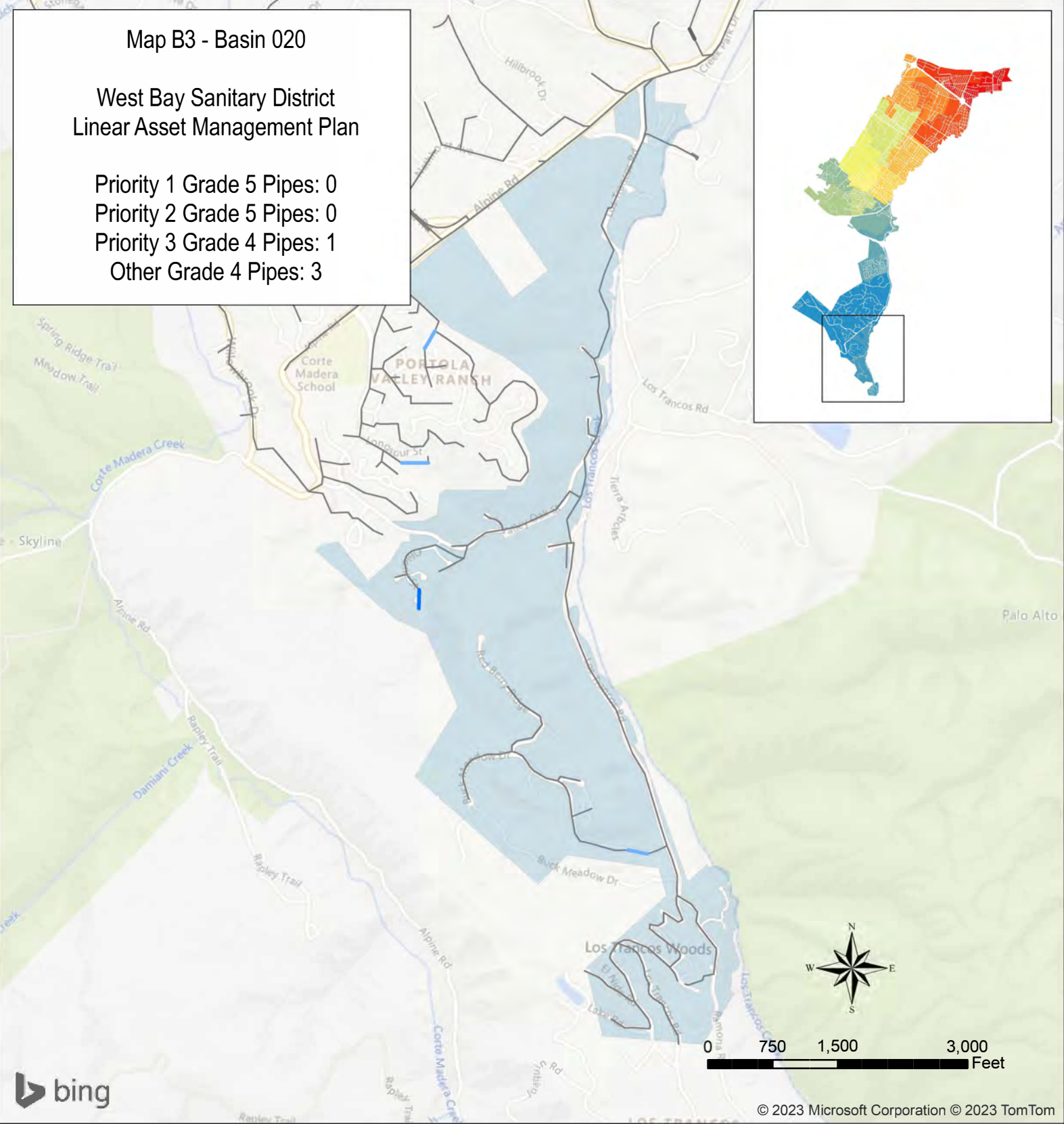
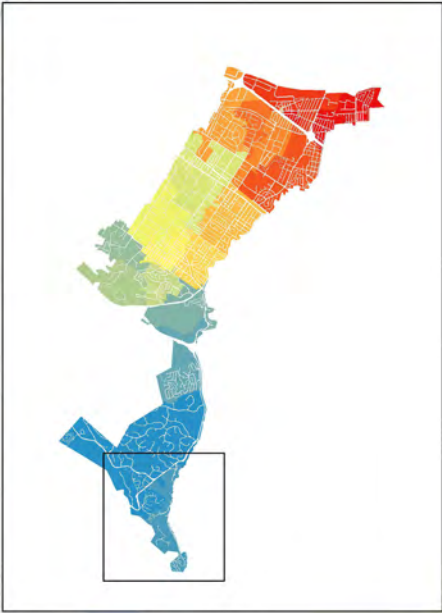


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Map B3 - Basin 020

West Bay Sanitary District
Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
Priority 2 Grade 5 Pipes: 0
Priority 3 Grade 4 Pipes: 1
Other Grade 4 Pipes: 3



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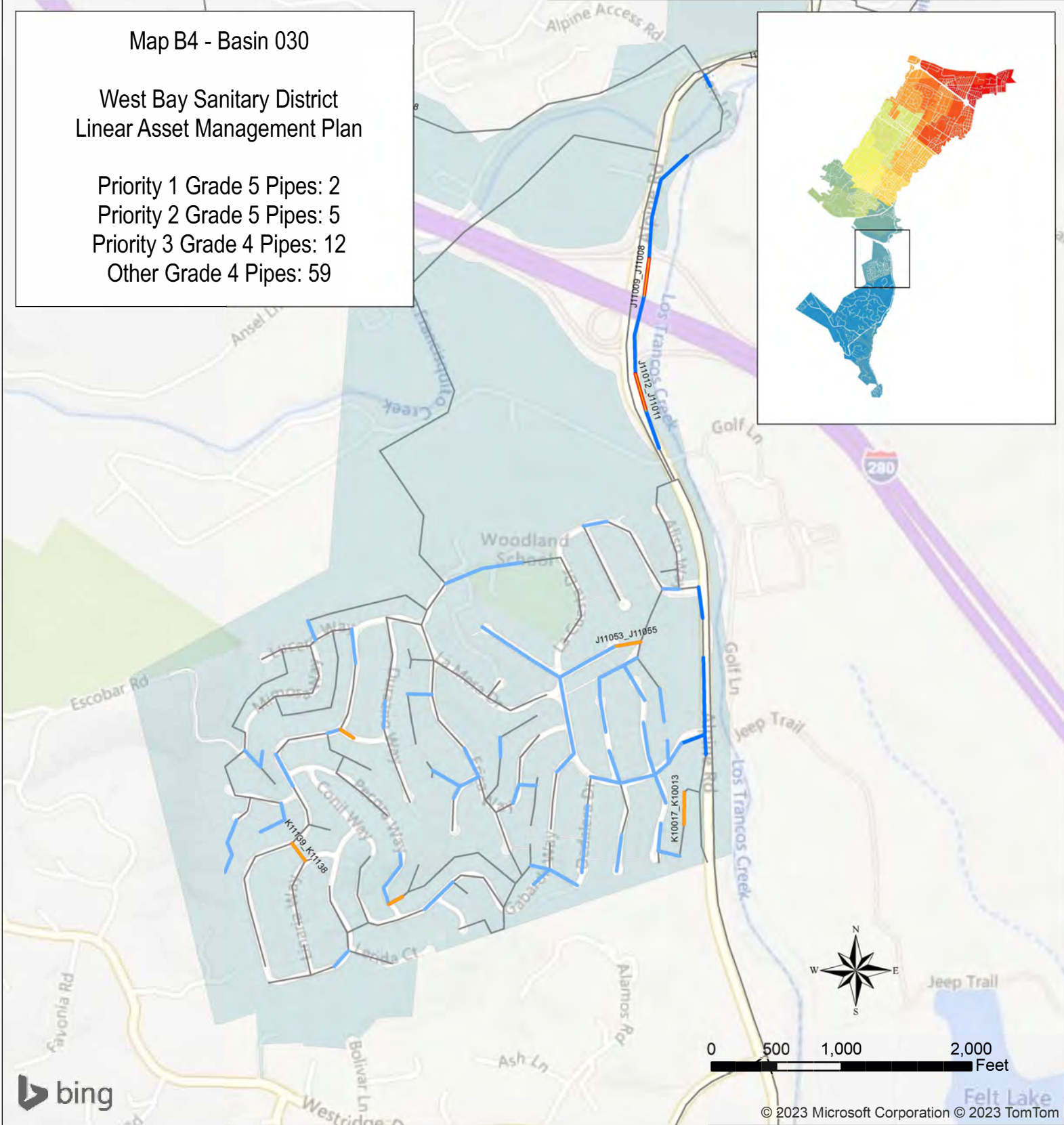
Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs
- 020 Equiv
- Sewer Pipeline

Map B4 - Basin 030

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 2
Priority 2 Grade 5 Pipes: 5
Priority 3 Grade 4 Pipes: 12
Other Grade 4 Pipes: 59



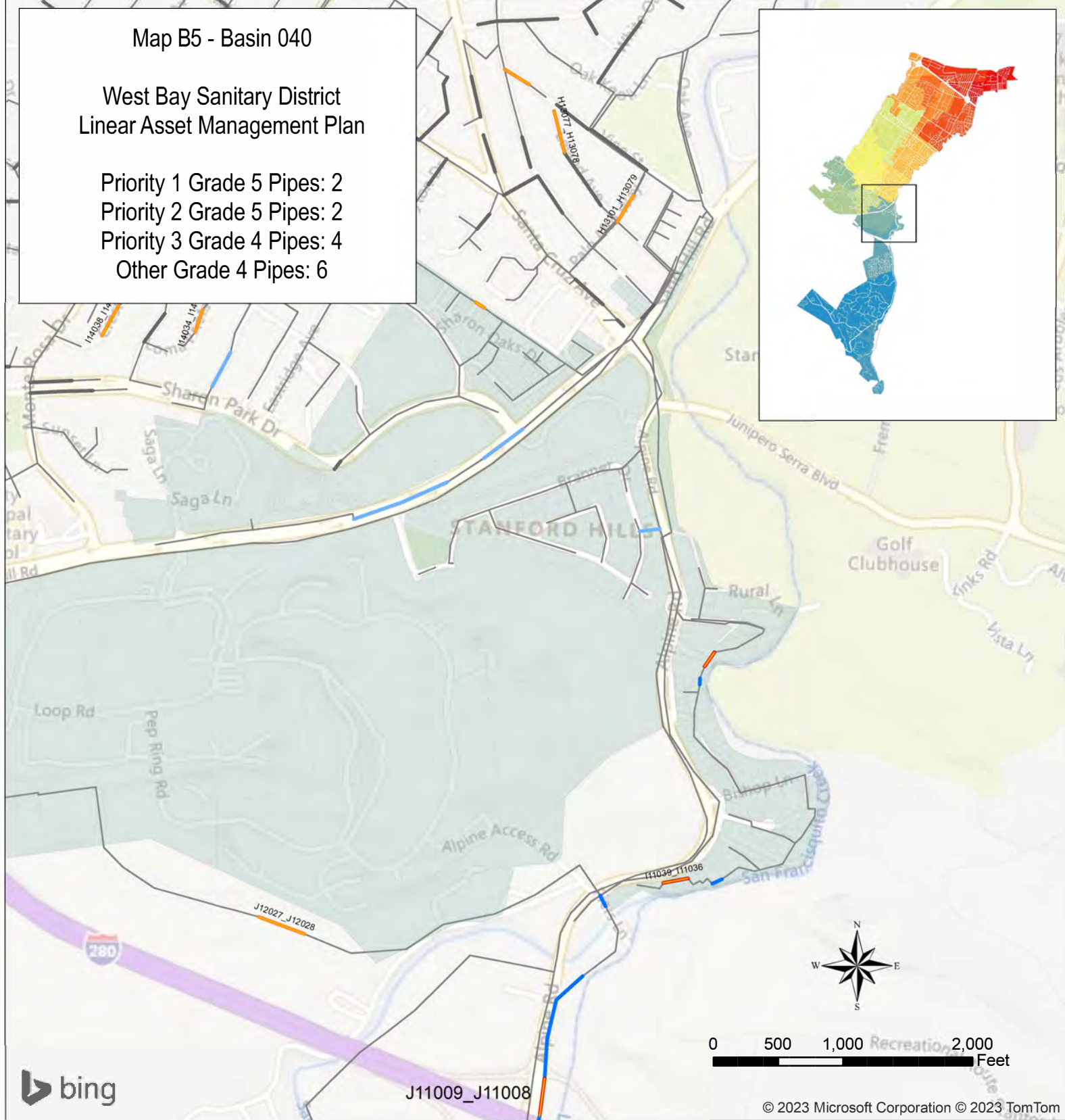
Legend

- | | |
|--------------------------------------|----------------|
| Priority 1 Grade 5 Pipes | 030 Equiv |
| Priority 2 Grade 5 Pipes | Sewer Pipeline |
| Priority 3 Grade 4 Pipes | |
| Priority 3a Additional Grade 4 Pipes | |
| Priority 4 Future Grade 4 Repairs | |

Map B5 - Basin 040

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 2
Priority 2 Grade 5 Pipes: 2
Priority 3 Grade 4 Pipes: 4
Other Grade 4 Pipes: 6



Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs
- Basin040
- Sewer Pipeline

WEST BAY
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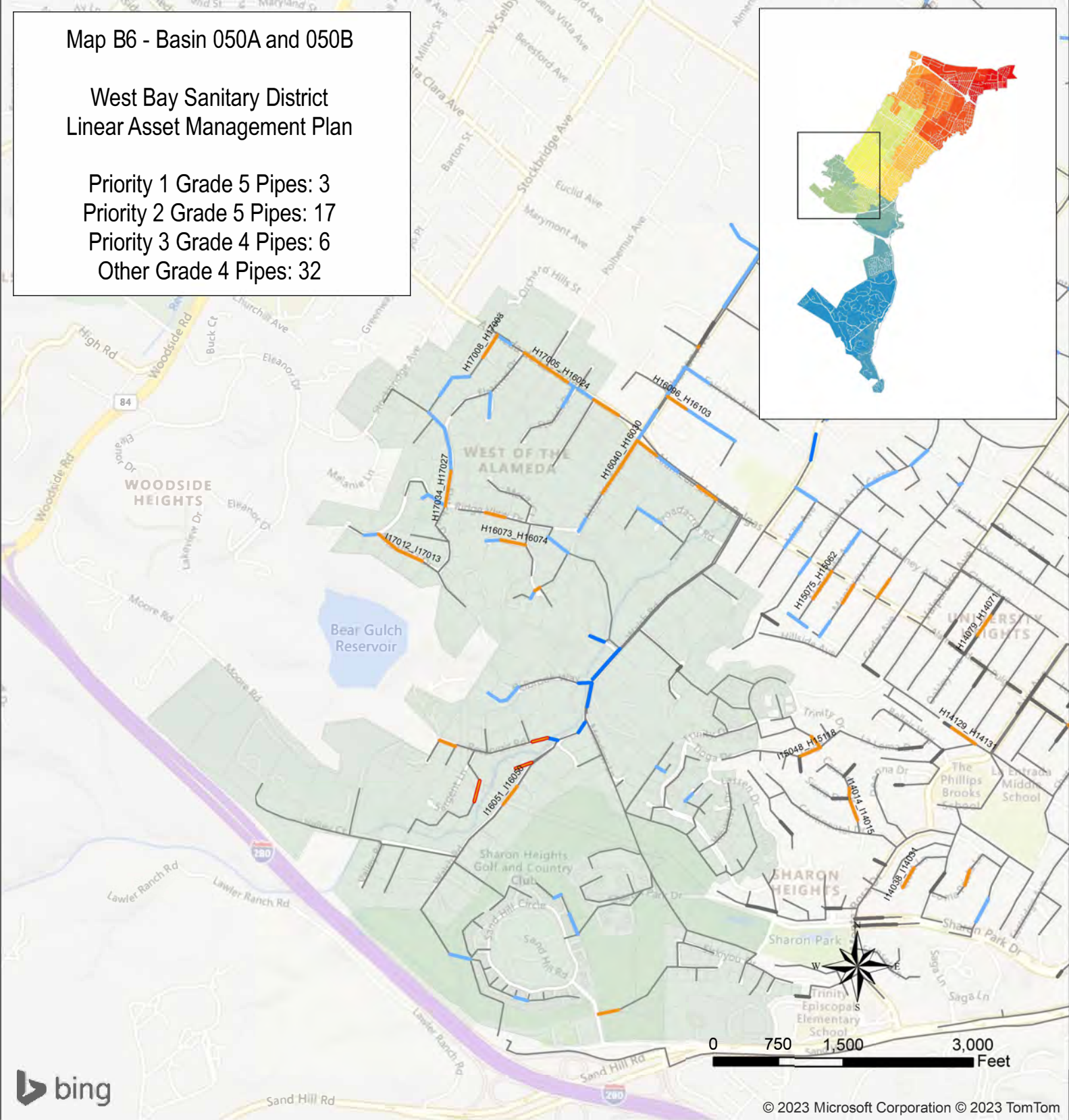


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Map B6 - Basin 050A and 050B

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 3
 Priority 2 Grade 5 Pipes: 17
 Priority 3 Grade 4 Pipes: 6
 Other Grade 4 Pipes: 32



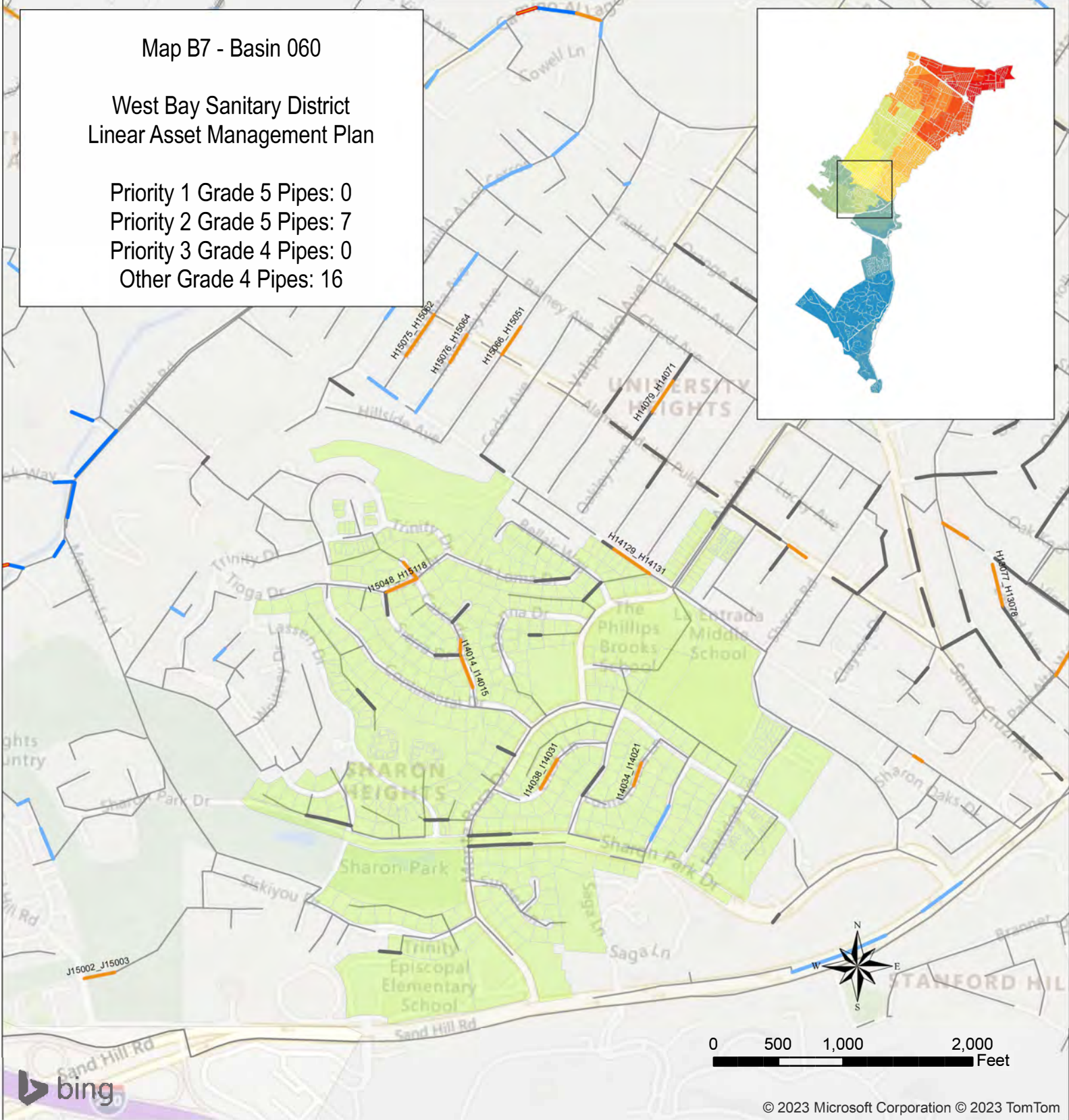
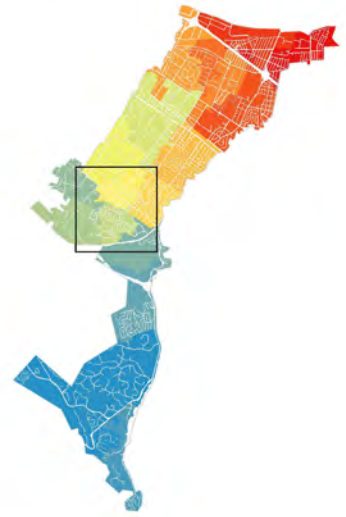
Legend

- | | |
|---|---|
| — Priority 1 Grade 5 Pipes | 050 South Equiv S14 |
| — Priority 2 Grade 5 Pipes | 050 North Equiv S13 |
| — Priority 3 Grade 4 Pipes | Sewer Pipeline |
| — Priority 3a Additional Grade 4 Pipes | |
| — Priority 4 Future Grade 4 Repairs | |

Map B7 - Basin 060

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
Priority 2 Grade 5 Pipes: 7
Priority 3 Grade 4 Pipes: 0
Other Grade 4 Pipes: 16



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Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs

- Basin 060
- WBSD Service Area
- Sewer Pipeline

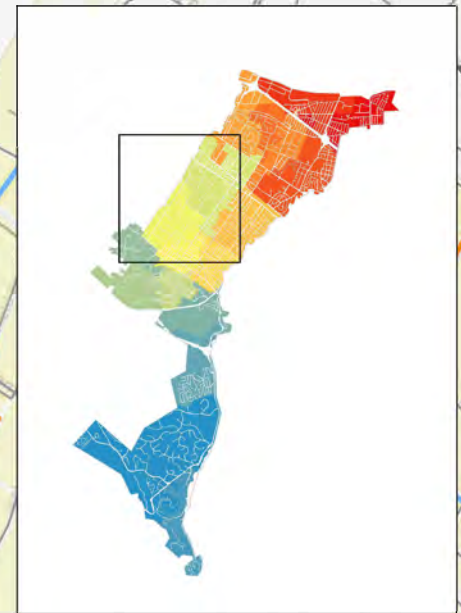
14-272

Map B8 - Basin 070A and 070B

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 2
Priority 2 Grade 5 Pipes: 19
Priority 3 Grade 4 Pipes: 8 Other
Grade 4 Pipes: 78

Includes Elena Ave, which is also
a capacity project.












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Legend

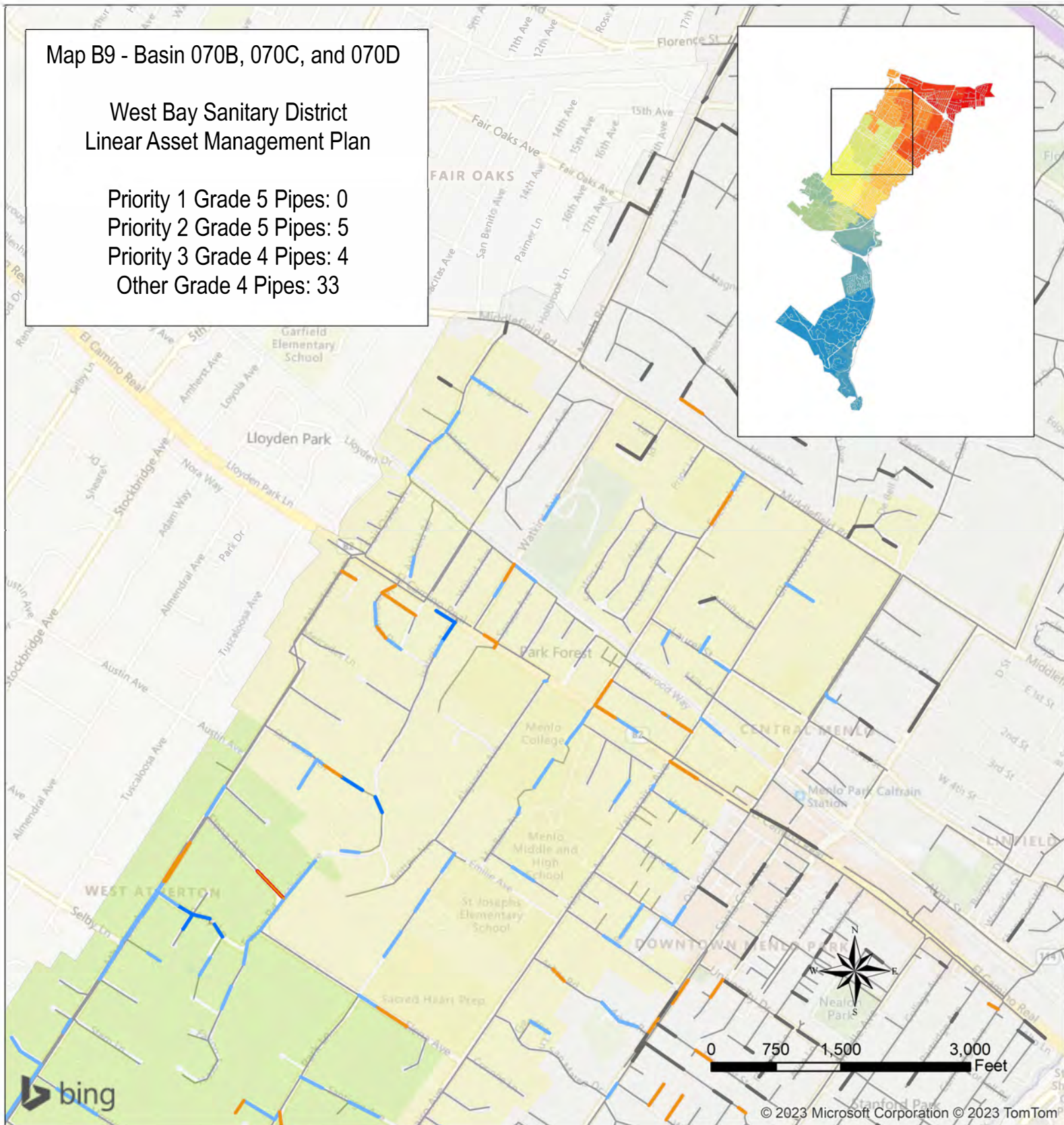
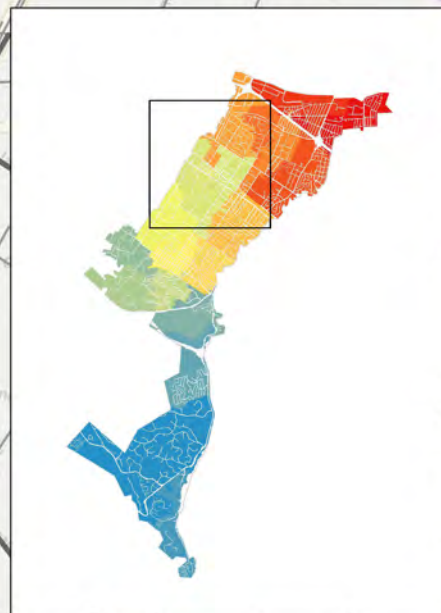
- | | | | |
|---|--------------------------------------|---|-------------------|
|  | Priority 1 Grade 5 Pipes |  | Basin 070A |
|  | Priority 2 Grade 5 Pipes |  | Basin 070BCD |
|  | Priority 3 Grade 4 Pipes |  | WBSD Service Area |
|  | Priority 3a Additional Grade 4 Pipes |  | Sewer Pipeline |
|  | Priority 4 Future Grade 4 Repairs | | |

14-273

Map B9 - Basin 070B, 070C, and 070D

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
 Priority 2 Grade 5 Pipes: 5
 Priority 3 Grade 4 Pipes: 4
 Other Grade 4 Pipes: 33



Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs
- Basin 070A
- Basin 070BCD
- WBSD Service Area
- Sewer Pipeline

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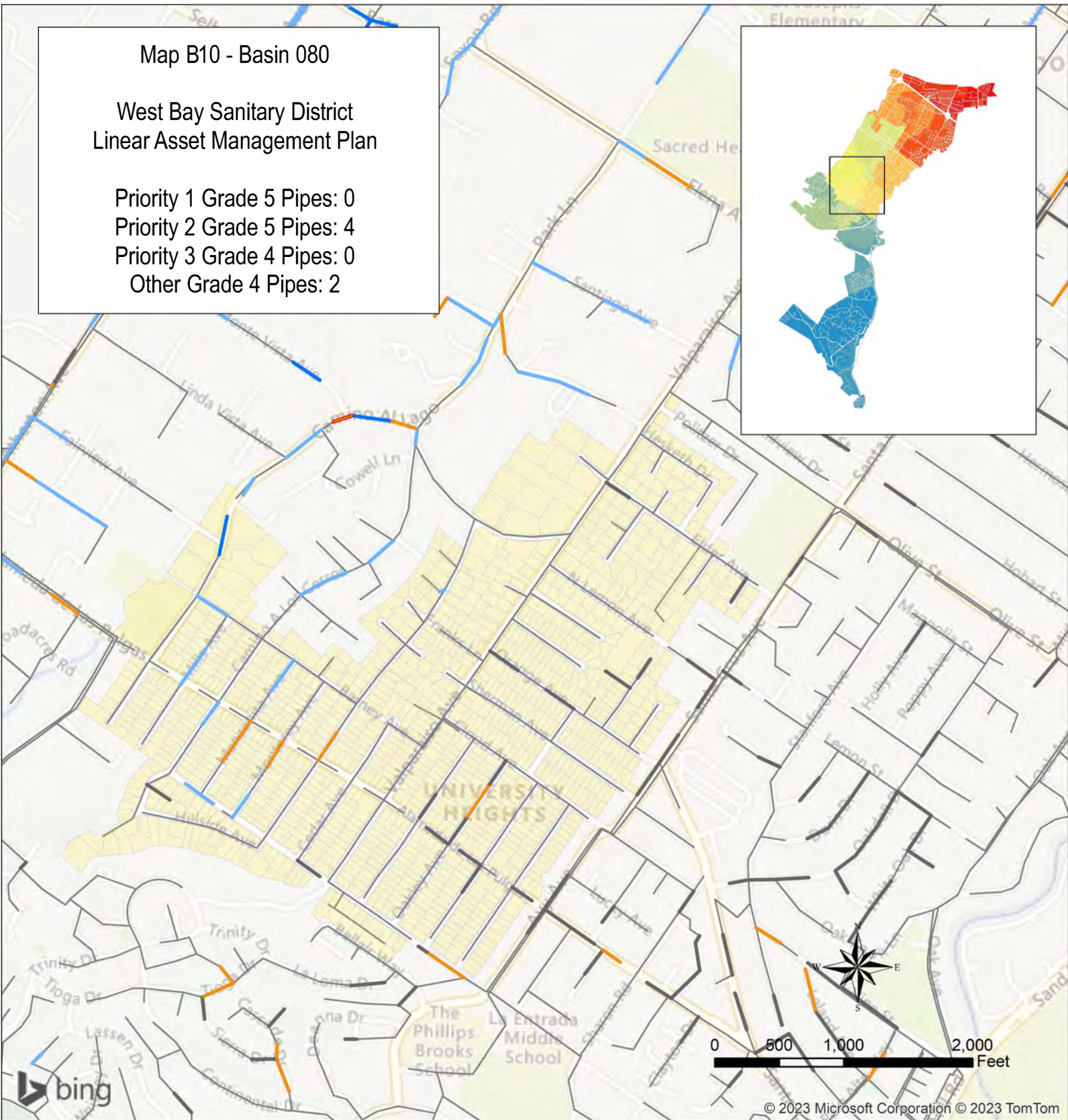
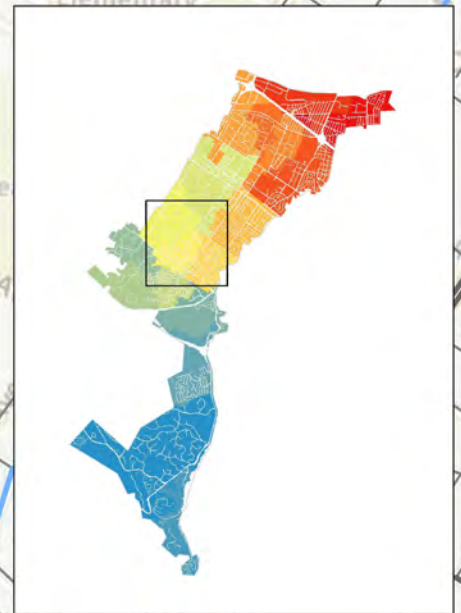


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Map B10 - Basin 080

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
Priority 2 Grade 5 Pipes: 4
Priority 3 Grade 4 Pipes: 0
Other Grade 4 Pipes: 2



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Legend

— Priority 1 Grade 5 Pipes

— Priority 2 Grade 5 Pipes

— Priority 3 Grade 4 Pipes

— Priority 3a Additional Grade 4 Pipes

— Priority 4 Future Grade 4 Repairs

Basin 080

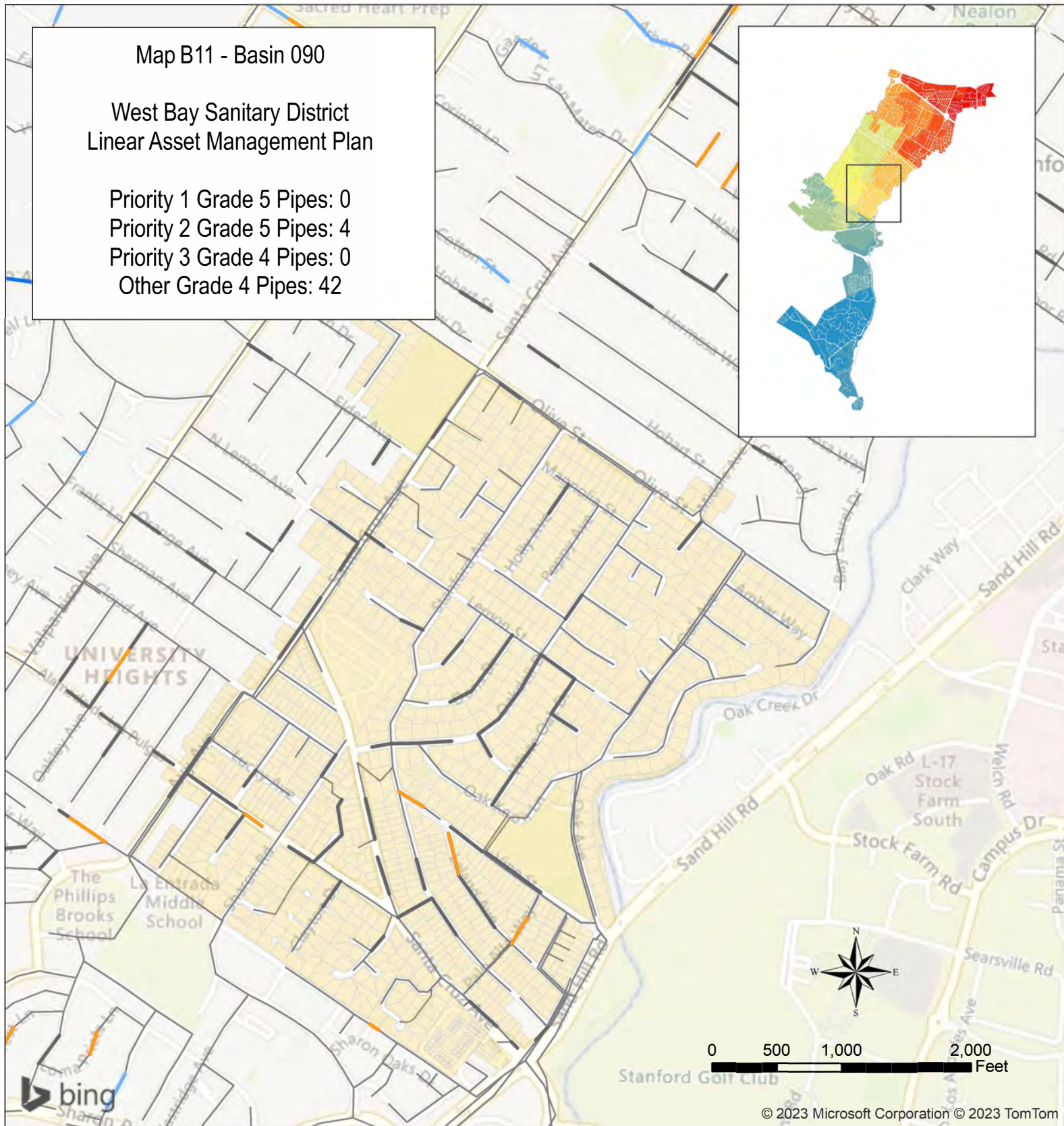
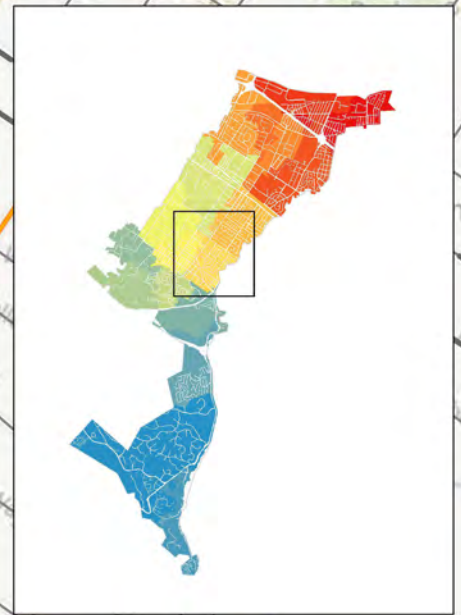
Sewer Pipeline

14-275








Map B11 - Basin 090

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
Priority 2 Grade 5 Pipes: 4
Priority 3 Grade 4 Pipes: 0
Other Grade 4 Pipes: 42



Legend

- | | |
|--|--|
|  Priority 1 Grade 5 Pipes |  Basin 090 |
|  Priority 2 Grade 5 Pipes |  Sewer Pipeline |
|  Priority 3 Grade 4 Pipes | |
|  Priority 3a Additional Grade 4 Pipes | |
|  Priority 4 Future Grade 4 Repairs | |

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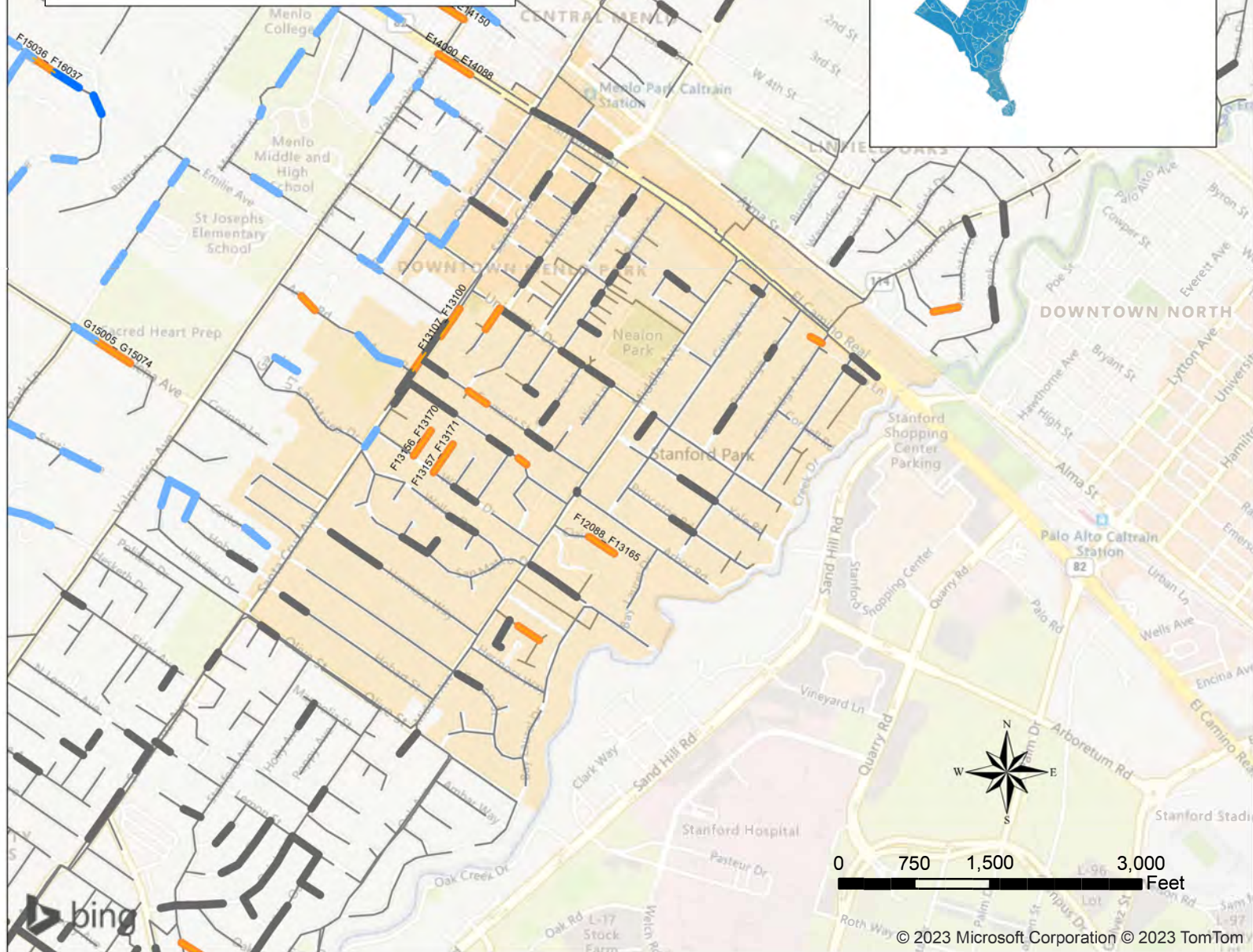
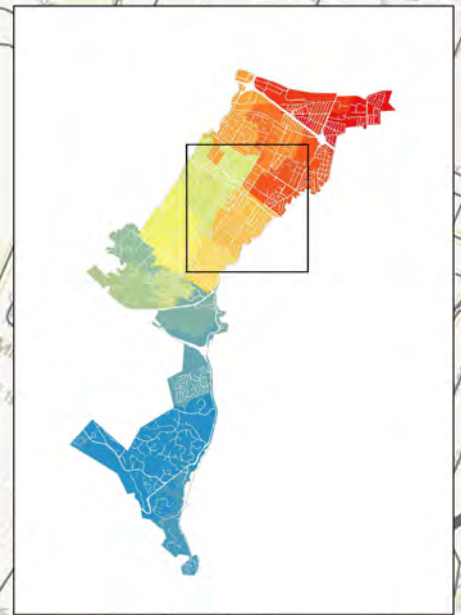



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Map B12 - Basins 100A and 100B

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
Priority 2 Grade 5 Pipes: 10
Priority 3 Grade 4 Pipes: 0
Other Grade 4 Pipes: 47



Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs
- Basin 100AB
- Sewer Pipeline

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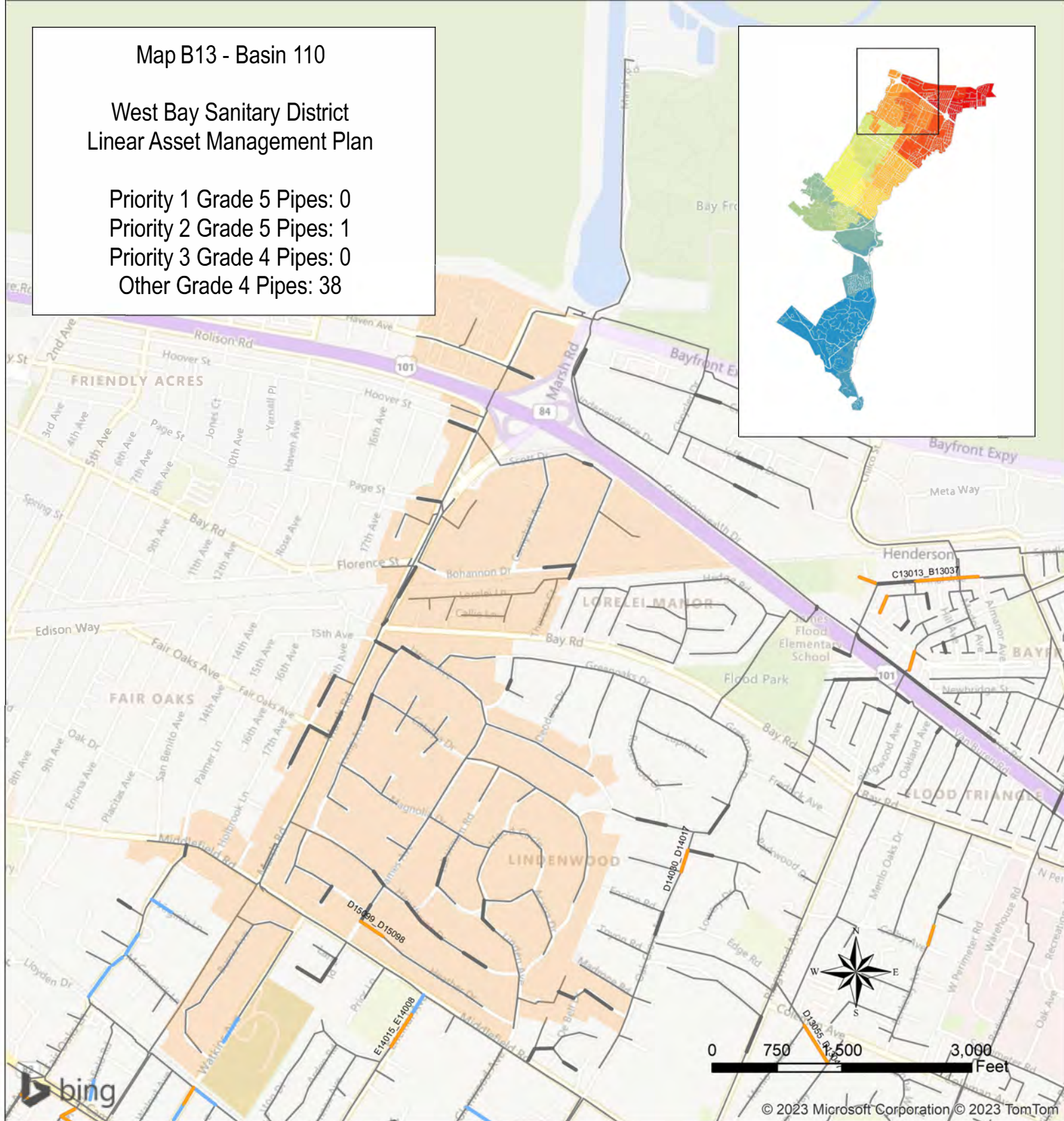
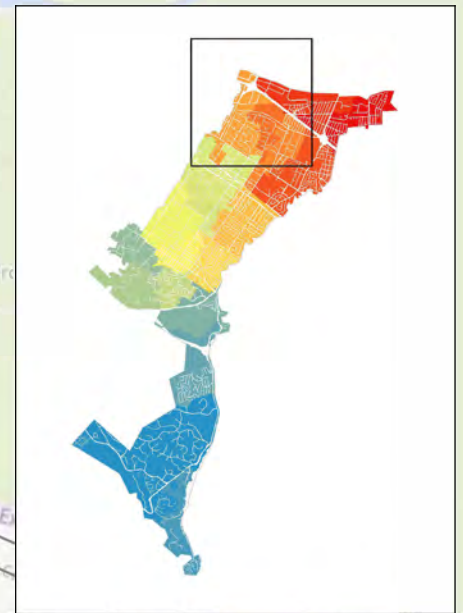


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Map B13 - Basin 110

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
Priority 2 Grade 5 Pipes: 1
Priority 3 Grade 4 Pipes: 0
Other Grade 4 Pipes: 38



Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs

- Basin 110
- Sewer Pipeline

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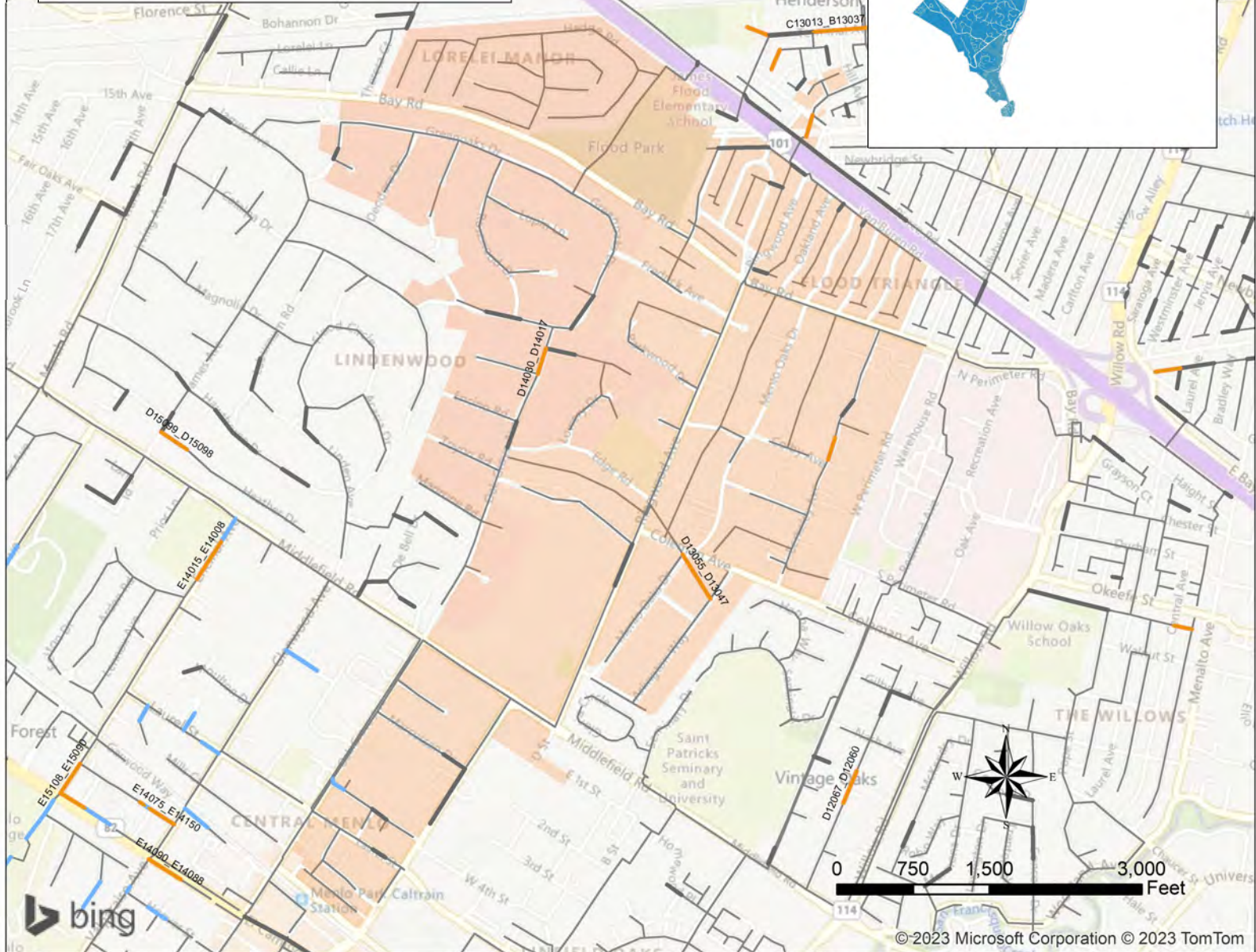
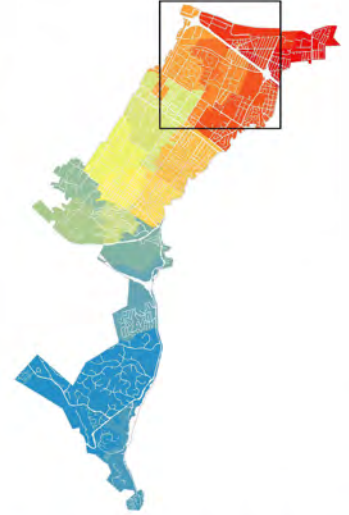


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Map B14 - Basins 120A and 120B

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
 Priority 2 Grade 5 Pipes: 4
 Priority 3 Grade 4 Pipes: 0
 Other Grade 4 Pipes: 23



Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs
- 120A
- 120B
- Sewer Pipeline

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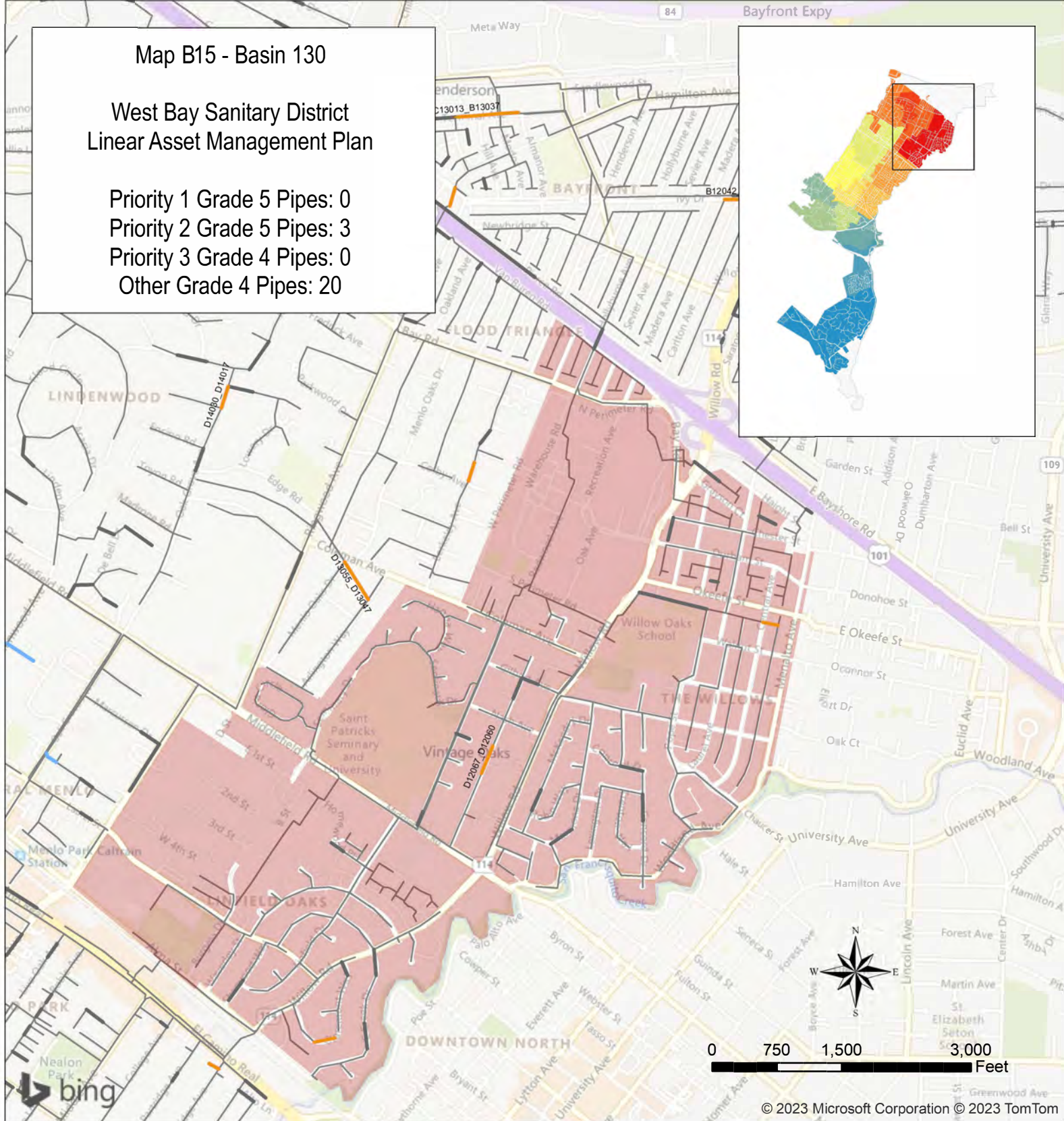


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Map B15 - Basin 130

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
Priority 2 Grade 5 Pipes: 3
Priority 3 Grade 4 Pipes: 0
Other Grade 4 Pipes: 20



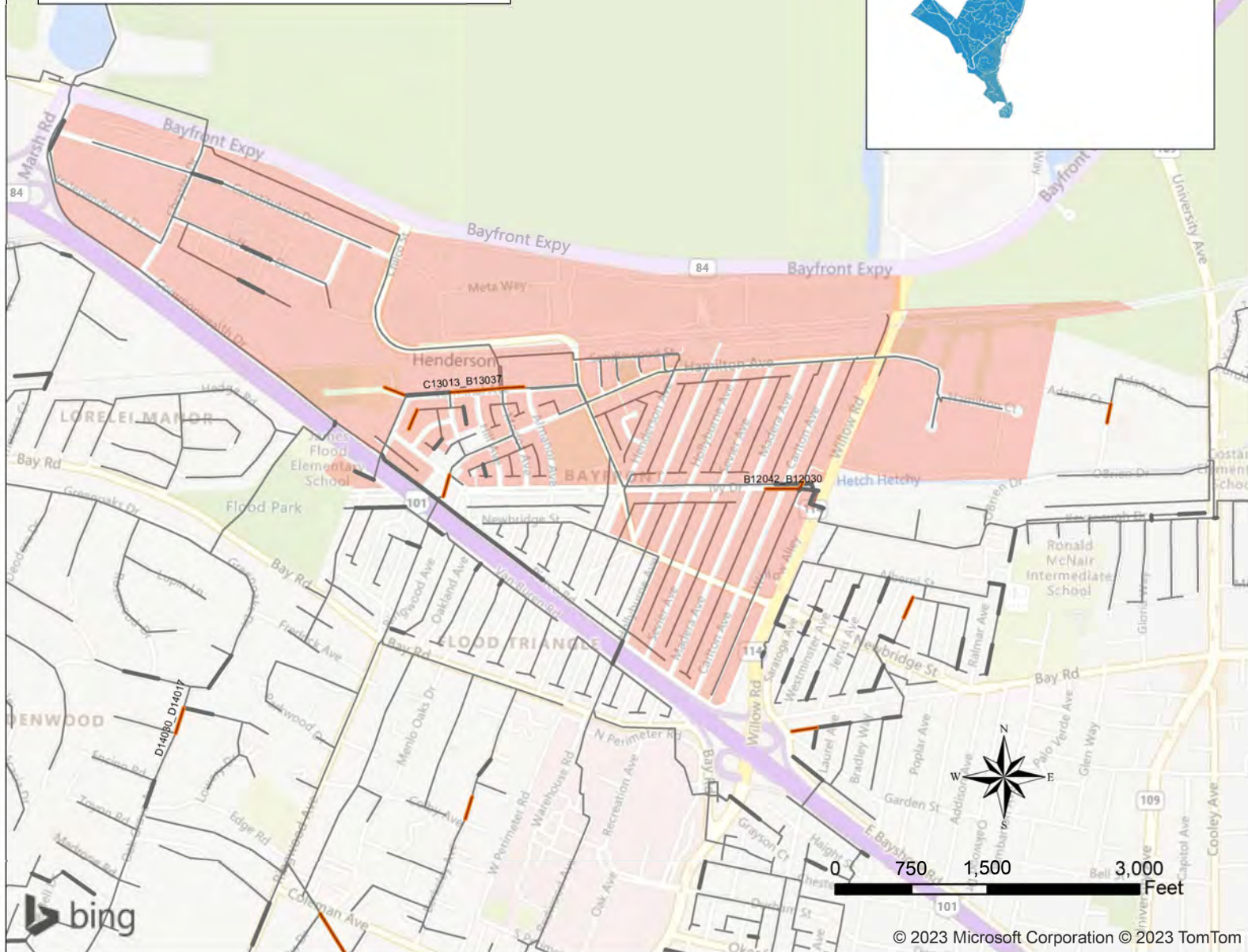
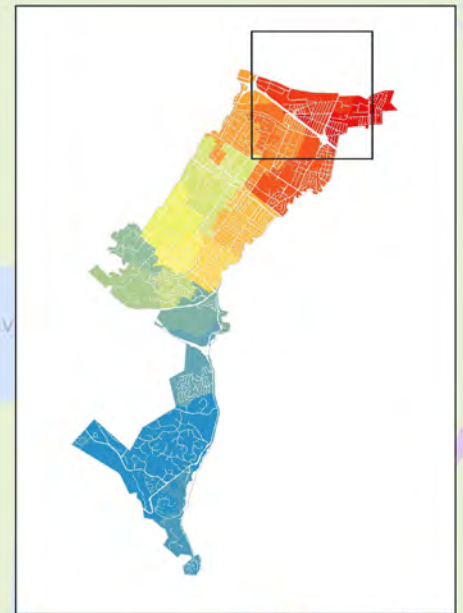
Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs
- Basin 130
- Sewer Pipeline

Map B16 - Basin 140

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
 Priority 2 Grade 5 Pipes: 6
 Priority 3 Grade 4 Pipes: 0
 Other Grade 4 Pipes: 15



Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs
- Basin 140
- Sewer Pipeline

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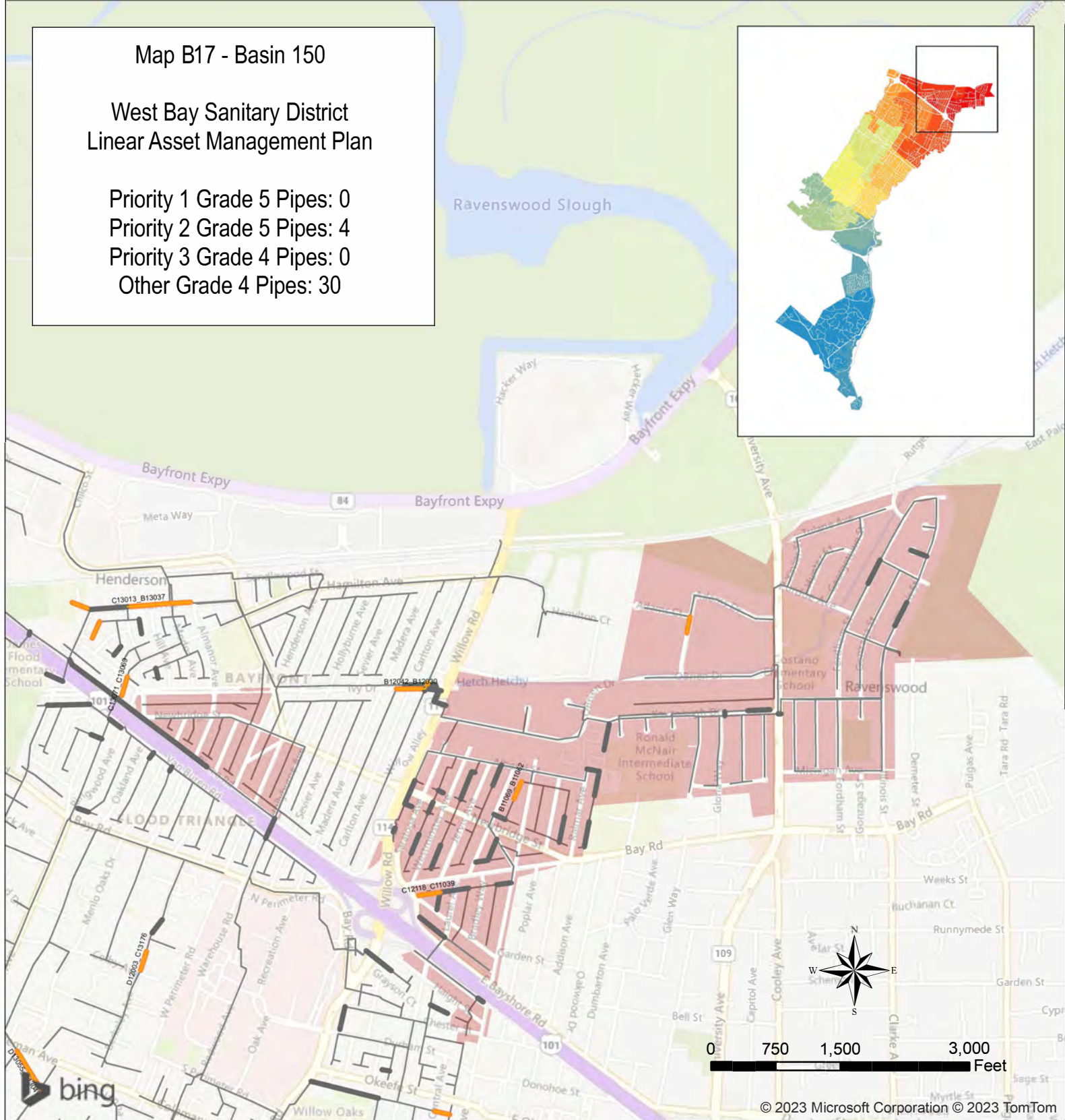


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Map B17 - Basin 150

West Bay Sanitary District Linear Asset Management Plan

Priority 1 Grade 5 Pipes: 0
 Priority 2 Grade 5 Pipes: 4
 Priority 3 Grade 4 Pipes: 0
 Other Grade 4 Pipes: 30



Legend

- Priority 1 Grade 5 Pipes
- Priority 2 Grade 5 Pipes
- Priority 3 Grade 4 Pipes
- Priority 3a Additional Grade 4 Pipes
- Priority 4 Future Grade 4 Repairs
- Basin 150
- Sewer Pipeline

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Appendix G
Project Information, Priorities, and Costs

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West Bay Sanitary District
2023 Linear Asset Management Plan
Pipeline Rehabilitation Project Information

PipeID	Priority	US MH	DS MH	Str PACP	Basin	Length	Diam (in)	Action	Constr. Cost	Project Cost	Risk Score	Structural PACP	O&M PACP	Material	Pipe Size	Geology	Capacity	Waterway	Critical Facilities	Area Served	Arterial Roadway
Priority 1 Grade 5 Pipes																					
N11054_N11053	1	N11054	N11053	5100	010	185	6	Repair	\$13,000	\$13,000	6380	●				●		●			
J11009_J11008	1	J11009	J11008	5143	030	293	10	Repair	\$52,000	\$52,000	7650	●				●		●			●
J11012_J11011	1	J11012	J11011	5141	030	297	10	Repair	\$26,000	\$26,000	8174	●				●	●	●			●
I11039_I11036	1	I11039	I11036	5100	040	194	6	Repair	\$13,000	\$13,000	4154	●				●		●			●
I12047_I12040	1	I12047	I12040	5132	040	132	6	Repair	\$13,000	\$13,000	2640	●						●			
I16043_I16039	1	I16043	I16039	5141	050	181	8	Repair	\$26,000	\$26,000	5610	●				●		●			
I16067_I16066	1	I16067	I16066	5121	050	247	6	Repair	\$13,000	\$13,000	3410	●				●		●			
I16083_I16082	1	I16083	I16082	5121	050	195	6	Repair	\$13,000	\$13,000	3410	●				●		●			
F15061_F16051	1	F15061	F16051	5141	070AB	449	6	Repair	\$26,000	\$26,000	5940	●					●	●			
G15050_G15047	1	G15050	G15047	5145	070AB	147	6	Replace	\$68,727	\$89,345	5610	●				●		●			
Adjacent Grade 4 Pipes																					
J11010_J11009	3	J11010	J11009	4600	030	307	10	Repair	\$78,000	\$78,000	6855	●				●	●	●			●
J11011_J11010	3	J11011	J11010	4100	030	298	10	Repair	\$13,000	\$13,000	8250	●				●	●	●			●
J11013_J11012	3	J11013	J11012	4121	030	301	10	Repair	\$13,000	\$13,000	6030	●				●		●			●
I16039_I16040	3	I16039	I16040	4232	050	121	8	Repair	\$26,000	\$26,000	4950	●				●		●			
F15056_F15057	3a	F15056	F15057	4533	070AB	288	6	Repair	\$65,000	\$65,000	760	●									
F15057_F15061	3a	F15057	F15061	4231	070AB	281	8	Repair	\$26,000	\$26,000	960	●					●				
G15001_F15061	3a	G15001	F15061	4131	070AB	462	8	Repair	\$13,000	\$13,000	560	●					●				
G15009_G15001	3a	G15009	G15001	4133	070AB	188	6	Repair	\$13,000	\$13,000	1240	●	●				●				
G15010_G15009	3a	G15010	G15009	442A	070AB	266	6	Repair	\$52,000	\$52,000	760	●									
G15047_G15048	3	G15047	G15048	4338	070AB	316	6	Repair	\$39,000	\$39,000	5170	●				●		●			
G15049_G15042	3a	G15049	G15042	412A	070AB	124	8	Repair	\$13,000	\$13,000	760	●									
Priority 2 Grade 5 Pipes																					
K10017_K10013	2	K10017	K10013	5200	030	248	6	Repair	\$26,000	\$26,000	1056	●									●
J11053_J11055	2	J11053	J11055	5145	030	200	6	Replace	\$93,372	\$121,384	880	●									
K11097_K11095	2	K11097	K11095	5100	030	123	6	Repair	\$13,000	\$13,000	480	●									
K11139_K11138	2	K11139	K11138	5100	030	167	6	Repair	\$13,000	\$13,000	480	●									
K11144_K11145	2	K11144	K11145	5141	030	120	6	Repair	\$26,000	\$26,000	480	●									
J12027_J12028	2	J12027	J12028	5100	040	375	8	Repair	\$13,000	\$13,000	1500	●				●					
H13164_H13192	2	H13164	H13192	5124	040	81	6	Repair	\$13,000	\$13,000	1360	●									
H16034_H16033	2	H16034	H16033	5147	050	263	8	Replace	\$122,886	\$159,752	132	●							●		●
H16027_H16028	2	H16027	H16028	514A	050	335	8	Replace	\$156,989	\$204,086	1936	●									●
H17004_H17005	2	H17004	H17005	5141	050	299	8	Repair	\$26,000	\$26,000	1936	●									●
H17005_H16024	2	H17005	H16024	5146	050	304	8	Replace	\$142,040	\$184,652	1936	●									●
H17008_H17003	2	H17008	H17003	5249	050	302	6	Replace	\$141,503	\$183,954	1936	●									●
H16040_H16030	2	H16040	H16030	534A	050	371	6	Replace	\$173,479	\$225,523	1360	●									
H16045_H16040	2	H16045	H16040	514B	050	353	6	Replace	\$165,389	\$215,005	1360	●									
H16060_H16061	2	H16060	H16061	5200	050	233	6	Repair	\$26,000	\$26,000	1360	●									
I16051_I16050	2	I16051	I16050	5224	050	262	8	Repair	\$26,000	\$26,000	1360	●		●							
H16031_H16030	2	H16031	H16030	514A	050	299	8	Replace	\$139,986	\$181,982	880	●									
H17034_H17027	2	H17034	H17027	544A	050	408	6	Replace	\$190,816	\$248,061	880	●									
I16061_I16063	2	I16061	I16063	5143	050	200	6	Replace	\$93,817	\$121,962	880	●									
I17011_I17012	2	I17011	I17012	514A	050	281	6	Replace	\$131,577	\$171,051	880	●									
I17012_I17013	2	I17012	I17013	5346	050	313	6	Replace	\$146,696	\$190,705	880	●									
H16073_H16074	2	H16073	H16074	5241	050	287	6	Repair	\$39,000	\$39,000	960	●									
I16012_I16014	2	I16012	I16014	5100	050	67	6	Repair	\$13,000	\$13,000	480	●									
J15002_J15003	2	J15002	J15003	5100	050	239	6	Repair	\$13,000	\$13,000	480	●									

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PipeID	Priority	US MH	DS MH	Str PACP	Basin	Length	Diam (in)	Action	Constr. Cost	Project Cost	Risk Score	Structural PACP	O&M PACP	Material	Pipe Size	Geology	Capacity	Waterway	Critical Facilities	Area Served	Arterial Roadway
H14129_H14131	2	H14129	H14131	5142	060	330	6	Repair	\$39,000	\$39,000	1360	●									
H15117_H15118	2	H15117	H15118	5121	060	163	6	Repair	\$13,000	\$13,000	880	●		●							
I14034_I14021	2	I14034	I14021	5132	060	183	6	Repair	\$13,000	\$13,000	960	●									
I14006_I14014	2	I14006	I14014	5126	060	118	6	Repair	\$13,000	\$13,000	480	●									
I14014_I14015	2	I14014	I14015	5125	060	268	6	Repair	\$13,000	\$13,000	480	●									
I14038_I14031	2	I14038	I14031	5145	060	263	6	Replace	\$123,051	\$159,967	480	●									
I15048_H15118	2	I15048	H15118	5221	060	267	6	Repair	\$26,000	\$26,000	480	●									
E15085_E15075	2	E15085	E15075	5133	070AB	239	6	Repair	\$13,000	\$13,000	204	●							●		●
E15145_E15151	2	E15145	E15151	5221	070AB	178	8	Repair	\$26,000	\$26,000	4080	●									●
E15104_E15145	2	E15104	E15145	5141	070AB	65	8	Replace	\$30,390	\$39,507	2640	●									●
E15108_E15090	2	E15108	E15090	5141	070AB	349	8	Repair	\$26,000	\$26,000	2640	●									●
E16066_E16064	2	E16066	E16064	5144	070AB	175	6	Replace	\$82,100	\$106,730	2640	●									●
E14090_E14088	2	E14090	E14088	5145	070AB	376	6	Repair	\$78,000	\$78,000	1936	●									●
G15034_G15027	2	G15034	G15027	5141	070AB	302	6	Repair	\$26,000	\$26,000	1560	●						●			
E16080_E16079	2	E16080	E16079	5341	070AB	187	6	Replace	\$87,603	\$113,884	1080	●						●			
G15032_G15028	2	G15032	G15028	5141	070AB	173	6	Repair	\$26,000	\$26,000	1360	●		●							
H16009_H16008	2	H16009	H16008	5100	070AB	29	10	Replace	\$16,915	\$21,990	1360	●									
E14167_E14168	2	E14167	E14168	5141	070AB	64	6	Replace	\$29,952	\$38,938	880	●									
F15036_F16037	2	F15036	F16037	5244	070AB	260	8	Replace	\$121,645	\$158,138	880	●									
F16006_F16005	2	F16006	F16005	5149	070AB	181	6	Replace	\$84,485	\$109,831	880	●									
F16056_F16054	2	F16056	F16054	514A	070AB	324	8	Replace	\$151,487	\$196,933	880	●									
G16005_F16055	2	G16005	F16055	5142	070AB	360	10	Repair	\$39,000	\$39,000	880	●									
G16005_F16056	2	G16005	F16056	5123	070AB	238	8	Repair	\$13,000	\$13,000	880	●									
H16096_H16103	2	H16096	H16103	5141	070AB	271	6	Repair	\$26,000	\$26,000	880	●		●							
E15110_E16066	2	E15110	E16066	5100	070AB	469	8	Repair	\$13,000	\$13,000	480	●									
G15048_G15042	2	G15048	G15042	5244	070AB	204	6	Replace	\$95,346	\$123,949	880	●									
E14084_E15108	2	E14084	E15108	5233	070CDE	296	6	Repair	\$26,000	\$26,000	4080	●									●
E14015_E14008	2	E14015	E14008	514B	070CDE	438	8	Replace	\$205,080	\$266,604	204	●							●		
G15005_G15074	2	G15005	G15074	5131	070CDE	417	6	Repair	\$13,000	\$13,000	204	●							●		
E14075_E14150	2	E14075	E14150	5244	070CDE	306	6	Replace	\$142,981	\$185,875	1360	●									
F14072_F14071	2	F14072	F14071	5126	070CDE	192	6	Repair	\$13,000	\$13,000	1360	●									
H15066_H15051	2	H15066	H15051	5141	080	258	6	Repair	\$26,000	\$26,000	2992	●									●
H15075_H15062	2	H15075	H15062	5141	080	383	6	Repair	\$26,000	\$26,000	2992	●									●
H15076_H15064	2	H15076	H15064	5133	080	249	6	Repair	\$13,000	\$13,000	1936	●									●
H14079_H14071	2	H14079	H14071	5131	080	292	6	Repair	\$13,000	\$13,000	1360	●									
H13109_H14101	2	H13109	H14101	5231	090	165	6	Repair	\$26,000	\$26,000	2992	●									●
H13059_H13058	2	H13059	H13058	5141	090	225	6	Repair	\$26,000	\$26,000	1360	●									
H13077_H13078	2	H13077	H13078	5147	090	337	6	Replace	\$157,762	\$205,091	1360	●									
H13101_H13079	2	H13101	H13079	5243	090	234	6	Replace	\$109,710	\$142,623	880	●									
F13107_F13100	2	F13107	F13100	5142	100	328	8	Repair	\$39,000	\$39,000	132	●							●		●
G12013_G13041	2	G12013	G13041	5131	100	250	6	Repair	\$13,000	\$13,000	3300	●				●					●
F13125_F13212	2	F13125	F13212	5141	100	378	6	Repair	\$26,000	\$26,000	2992	●									●
F13101_F13085	2	F13101	F13085	5141	100	250	6	Repair	\$26,000	\$26,000	204	●							●		
F13143_F13144	2	F13143	F13144	5132	100	103	6	Repair	\$13,000	\$13,000	204	●							●		
F12088_F13165	2	F12088	F13165	5133	100	299	6	Repair	\$13,000	\$13,000	1360	●									
F13156_F13170	2	F13156	F13170	5100	100	300	6	Repair	\$13,000	\$13,000	1360	●									
F13157_F13171	2	F13157	F13171	5135	100	338	6	Repair	\$13,000	\$13,000	1360	●									
F13216_F13130	2	F13216	F13130	5131	100	218	6	Repair	\$13,000	\$13,000	1360	●									

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F12017_F12018	2	F12017	F12018	5100	110	127	6	Repair	\$13,000	\$13,000	4080	●									●
D15099_D15098	2	D15099	D15098	5333	110	307	6	Repair	\$39,000	\$39,000	1360	●									
C13071_C13069	2	C13071	C13069	524A	120A	224	10	Replace	\$131,021	\$170,327	4500	●				●			●		●
D14030_D14017	2	D14030	D14017	5113	120A	265	6	Repair	\$13,000	\$13,000	1360	●									
D12003_C13176	2	D12003	C13176	5141	120B	229	6	Repair	\$26,000	\$26,000	204	●							●		
D13055_D13047	2	D13055	D13047	5123	120B	516	6	Repair	\$13,000	\$13,000	1360	●									
E12082_E12092	2	E12082	E12092	5141	130	245	6	Repair	\$26,000	\$26,000	1500	●				●					
C11113_C11128	2	C11113	C11128	5133	130	181	6	Repair	\$13,000	\$13,000	1020	●				●					
D12067_D12060	2	D12067	D12060	5142	130	345	6	Repair	\$39,000	\$39,000	1360	●									
B12030_B12031	2	B12030	B12031	5141	140	72	6	Replace	\$33,805	\$43,947	3060	●				●					●
C14011_C14012	2	C14011	C14012	5249	140	209	10	Replace	\$122,229	\$158,898	225	●				●			●		
C14022_C14015	2	C14022	C14015	5131	140	208	6	Repair	\$13,000	\$13,000	225	●				●			●		
B13025_B13064	2	B13025	B13064	5143	140	213	6	Replace	\$99,498	\$129,347	1500	●				●					
B13037_B13064	2	B13037	B13064	5131	140	252	6	Repair	\$13,000	\$13,000	1500	●				●					
C13013_B13037	2	C13013	B13037	5141	140	269	6	Repair	\$26,000	\$26,000	1500	●				●					
B12042_B12030	2	B12042	B12030	5141	150	338	6	Repair	\$26,000	\$26,000	4500	●				●			●		●
B11069_B11062	2	B11069	B11062	5134	150	221	6	Repair	\$13,000	\$13,000	1500	●				●					
C12118_C11039	2	C12118	C11039	5122	150	249	6	Repair	\$13,000	\$13,000	1500	●				●					
B11097_B11098	2	B11097	B11098	5100	150	191	6	Repair	\$13,000	\$13,000	1100	●				●					
Adjacent Grade 4 Pipes																					
K11015_K11016	Other Grade 4	K11015	K11016	4337	030	241	6	Repair	\$39,000	\$39,000	54	●							●		
K11016_K11017	3a	K11016	K11017	4133	030	235	6	Repair	\$13,000	\$13,000	54	●							●		
K11017_K11018	3a	K11017	K11018	4232	030	234	6	Repair	\$26,000	\$26,000	54	●							●		
K11005_J11053	3a	K11005	J11053	4323	030	241	6	Repair	\$39,000	\$39,000	360	●									
K11018_K11005	3a	K11018	K11005	4134	030	247	6	Repair	\$13,000	\$13,000	360	●									
K11042_K11018	3a	K11042	K11018	4634	030	303	6	Replace	\$141,603	\$184,083	360	●									
K11043_K11042	3a	K11043	K11042	4532	030	293	6	Repair	\$65,000	\$65,000	360	●									
K11066_K11043	3a	K11066	K11043	4333	030	195	6	Repair	\$39,000	\$39,000	360	●									
K11129_K11130	3a	K11129	K11130	4121	030	86	6	Repair	\$13,000	\$13,000	360	●									
K11130_K11143	3a	K11130	K11143	4311	030	221	6	Repair	\$39,000	\$39,000	360	●									
K11143_K11144	3a	K11143	K11144	4200	030	131	6	Repair	\$26,000	\$26,000	360	●									
H16024_H16025	3a	H16024	H16025	4332	050	91	8	Replace	\$42,809	\$55,652	1672	●									●
H16026_H16027	3a	H16026	H16027	4331	050	225	8	Repair	\$39,000	\$39,000	1672	●									●
H16032_H16031	3a	H16032	H16031	4332	050	293	8	Repair	\$39,000	\$39,000	1672	●									●
H17003_H17048	3a	H17003	H17048	4633	050	190	8	Replace	\$89,129	\$115,868	1672	●									●
H16029_H16023	3a	H16029	H16023	4334	050	292	10	Repair	\$39,000	\$39,000	760	●									
H16030_H16029	3a	H16030	H16029	4231	050	124	10	Repair	\$26,000	\$26,000	760	●									
H17023_H17022	3a	H17023	H17022	4731	050	90	6	Replace	\$42,102	\$54,732	760	●									
H17024_H17023	3a	H17024	H17023	4425	050	174	6	Replace	\$81,341	\$105,743	760	●									
H17026_H17024	3a	H17026	H17024	4333	050	261	6	Repair	\$39,000	\$39,000	760	●									
H17027_H17026	3a	H17027	H17026	4933	050	244	6	Replace	\$114,234	\$148,505	760	●									
H17033_H17034	3a	H17033	H17034	4131	050	237	6	Repair	\$13,000	\$13,000	760	●									
H17039_H17033	3a	H17039	H17033	4737	050	83	6	Replace	\$38,609	\$50,192	760	●									
I17010_I17011	3a	I17010	I17011	493A	050	170	6	Replace	\$79,552	\$103,418	760	●									
H16072_H16073	3a	H16072	H16073	4235	050	170	6	Repair	\$26,000	\$26,000	360	●									
I16013_I16012	3a	I16013	I16012	4131	050	100	6	Repair	\$13,000	\$13,000	360	●									
I14013_I14014	Other Grade 4	I14013	I14014	4231	060	193	6	Repair	\$26,000	\$26,000	360	●									
I15049_I15048	Other Grade 4	I15049	I15048	4221	060	173	6	Repair	\$26,000	\$26,000	360	●									

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G15074_G15004	3a	G15074	G15004	4134	070AB	246	8	Repair	\$13,000	\$13,000	186	●	●				●		●		
H16098_H16097	3a	H16098	H16097	4200	070AB	366	6	Repair	\$26,000	\$26,000	114	●							●		
G15029_G15030	3a	G15029	G15030	4300	070AB	203	6	Repair	\$39,000	\$39,000	960	●					●				
G15030_G15027	3a	G15030	G15027	423B	070AB	110	8	Replace	\$51,569	\$67,040	960	●					●				
G16023_G16015	3a	G16023	G16015	432A	070AB	446	8	Repair	\$39,000	\$39,000	960	●					●				
G16015_G16004	3a	G16015	G16004	4331	070AB	381	8	Repair	\$39,000	\$39,000	774	●					●				
F15008_F16006	3a	F15008	F16006	4533	070AB	219	6	Replace	\$102,267	\$132,947	760	●									
F16005_E16069	3a	F16005	E16069	432D	070AB	265	6	Repair	\$39,000	\$39,000	760	●									
G15028_G15029	3a	G15028	G15029	4131	070AB	218	6	Repair	\$13,000	\$13,000	760	●									
G16013_G16005	3a	G16013	G16005	4132	070AB	267	10	Repair	\$13,000	\$13,000	760	●									
G16016_G16013	3a	G16016	G16013	4135	070AB	286	10	Repair	\$13,000	\$13,000	760	●									
G16019_G16016	3a	G16019	G16016	4134	070AB	232	10	Repair	\$13,000	\$13,000	760	●									
H16097_H16096	3a	H16097	H16096	4121	070AB	295	6	Repair	\$13,000	\$13,000	760	●		●							
E14008_D14114	3a	E14008	D14114	4138	070CDE	267	8	Repair	\$13,000	\$13,000	156	●	●						●		●
E14085_E14084	3a	E14085	E14084	4132	070CDE	283	6	Repair	\$13,000	\$13,000	6600	●									●
F15037_F15036	3	F15037	F15036	4225	070CDE	281	8	Repair	\$26,000	\$26,000	4950	●				●		●			
E14168_E14075	3a	E14168	E14075	4129	070CDE	34	6	Replace	\$15,912	\$20,686	760	●									
E15086_E15085	3a	E15086	E15085	432A	070CDE	199	6	Repair	\$39,000	\$39,000	760	●									
F16037_F16062	3a	F16037	F16062	4331	070CDE	94	8	Replace	\$44,179	\$57,432	760	●									
H14090_H14091	Other Grade 4	H14090	H14091	412C	080	212	6	Repair	\$13,000	\$13,000	1760	●									●
H14091_H14079	Other Grade 4	H14091	H14079	4A36	080	248	6	Replace	\$116,242	\$151,114	1672	●									●
H16008_H16003	Other Grade 4	H16008	H16003	463C	080	306	10	Repair	\$78,000	\$78,000	800	●	●								
H14071_H14060	Other Grade 4	H14071	H14060	4132	080	249	6	Repair	\$13,000	\$13,000	760	●									
H14127_H14129	Other Grade 4	H14127	H14129	4132	080	104	6	Repair	\$13,000	\$13,000	760	●									
H13078_H13091	Other Grade 4	H13078	H13091	4239	090	244	6	Repair	\$26,000	\$26,000	760	●									
H13091_H13100	Other Grade 4	H13091	H13100	413B	090	245	6	Repair	\$13,000	\$13,000	760	●									
F13212_F13099	Other Grade 4	F13212	F13099	422A	100	196	6	Repair	\$26,000	\$26,000	1672	●									●
F13085_F13086	Other Grade 4	F13085	F13086	4131	100	333	6	Repair	\$13,000	\$13,000	156	●	●						●		
D15098_D15091	Other Grade 4	D15098	D15091	412D	110	225	6	Repair	\$13,000	\$13,000	800	●									
B12030_B12032	Other Grade 4	B12030	B12032	4221	140	184	6	Repair	\$26,000	\$26,000	225	●				●			●		●
B12143_B12030	Other Grade 4	B12143	B12030	4122	140	24	6	Replace	\$11,261	\$14,640	3540	●				●					●
C14013_C13013	Other Grade 4	C14013	C13013	4234	140	424	6	Repair	\$26,000	\$26,000	141	●	●			●			●		
C11039_C11041	Other Grade 4	C11039	C11041	4122	150	336	6	Repair	\$13,000	\$13,000	1180	●	●			●					
C11040_C11039	Other Grade 4	C11040	C11039	4131	150	203	6	Repair	\$13,000	\$13,000	900	●				●					
Other Grade 4 Pipes																					
M09027_M09026	Other Grade 4	M09027	M09026	4100	010	132	8	Repair	\$13,000	\$13,000	360	●									
N10014_N10015	Other Grade 4	N10014	N10015	4131	010	136	6	Repair	\$13,000	\$13,000	360	●									
N11057_N11017	Other Grade 4	N11057	N11017	4100	010	100	6	Repair	\$13,000	\$13,000	360	●									
N11060_N11028	Other Grade 4	N11060	N11028	4331	010	88	6	Replace	\$41,058	\$53,375	360	●									
O09009_O09008	3	O09009	O09008	4100	020	217	6	Repair	\$13,000	\$13,000	5280	●				●		●			
N09028_N10117	3a	N09028	N10117	4100	020	311	6	Repair	\$13,000	\$13,000	960	●				●					
O08013_O08012	3a	O08013	O08012	4121	020	228	8	Repair	\$13,000	\$13,000	560	●				●					
N10083_N10072	3a	N10083	N10072	4100	020	234	6	Repair	\$13,000	\$13,000	360	●									
J11007_J11006	3	J11007	J11006	4300	030	307	10	Repair	\$39,000	\$39,000	8250	●				●	●	●			●
J11008_J11007	3	J11008	J11007	4100	030	308	10	Repair	\$13,000	\$13,000	6855	●				●	●	●			●
J11036_J11029	3	J11036	J11029	4534	030	238	8	Replace	\$111,613	\$145,097	7906	●				●		●			●
J10001_J11058	3	J10001	J11058	4121	030	116	8	Repair	\$13,000	\$13,000	6030	●				●		●			●
J11045_J11044	3	J11045	J11044	4100	030	71	8	Repair	\$13,000	\$13,000	6030	●				●		●			●

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Pipeline Rehabilitation Project Information

PipeID	Priority	US MH	DS MH	Str PACP	Basin	Length	Diam (in)	Action	Constr. Cost	Project Cost	Risk Score	Structural PACP	O&M PACP	Material	Pipe Size	Geology	Capacity	Waterway	Critical Facilities	Area Served	Arterial Roadway
J11058_J11045	3	J11058	J11045	4400	030	122	8	Replace	\$56,867	\$73,927	6030	●				●		●			●
K10007_K10004	3	K10007	K10004	4200	030	195	6	Repair	\$26,000	\$26,000	6030	●				●		●			●
K10008_K10004	3	K10008	K10004	4100	030	154	8	Repair	\$13,000	\$13,000	6030	●				●		●			●
K10004_J10001	3	K10004	J10001	4234	030	284	8	Repair	\$26,000	\$26,000	3350	●				●		●			●
J11039_J11049	3a	J11039	J11049	4121	030	307	8	Repair	\$13,000	\$13,000	114	●							●		
J11034_J11028	3a	J11034	J11028	4131	030	127	6	Repair	\$13,000	\$13,000	900	●				●					
K10029_K10024	3a	K10029	K10024	4134	030	278	6	Repair	\$13,000	\$13,000	800	●	●								
J11021_J11022	3a	J11021	J11022	4100	030	185	6	Repair	\$13,000	\$13,000	760	●									
J11054_J11056	3a	J11054	J11056	4200	030	118	6	Repair	\$26,000	\$26,000	760	●									
K10010_K10007	3a	K10010	K10007	4100	030	181	6	Repair	\$13,000	\$13,000	760	●									
K10012_K10010	3a	K10012	K10010	4300	030	137	6	Replace	\$64,093	\$83,321	760	●									
K10016_K10012	3a	K10016	K10012	4200	030	230	6	Repair	\$26,000	\$26,000	760	●									
K10020_K10025	3a	K10020	K10025	4100	030	211	6	Repair	\$13,000	\$13,000	760	●									
K10025_K10027	3a	K10025	K10027	4100	030	169	6	Repair	\$13,000	\$13,000	760	●									
K11080_K11081	3a	K11080	K11081	4200	030	241	6	Repair	\$26,000	\$26,000	760	●									
K11124_K12030	3a	K11124	K12030	4122	030	278	6	Repair	\$13,000	\$13,000	760	●									
K12052_K12050	3a	K12052	K12050	4431	030	189	6	Replace	\$88,536	\$115,097	760	●									
K12053_K12052	3a	K12053	K12052	4131	030	99	6	Repair	\$13,000	\$13,000	760	●									
K12054_K12053	3a	K12054	K12053	4200	030	148	6	Repair	\$26,000	\$26,000	760	●									
K11022_J11057	3a	K11022	J11057	4636	030	257	6	Replace	\$120,200	\$156,260	640	●	●								
K11009_J11054	3a	K11009	J11054	4200	030	315	6	Repair	\$26,000	\$26,000	360	●									
K11019_J11054	3a	K11019	J11054	4632	030	212	6	Replace	\$99,255	\$129,031	360	●									
K11020_K11019	3a	K11020	K11019	4431	030	160	6	Replace	\$75,015	\$97,520	360	●									
K11021_K11048	3a	K11021	K11048	4533	030	249	6	Replace	\$116,371	\$151,283	360	●									
K11023_K10010	3a	K11023	K10010	4332	030	175	6	Repair	\$39,000	\$39,000	360	●									
K11044_K11020	3a	K11044	K11020	4700	030	260	6	Replace	\$121,514	\$157,969	360	●									
K11045_K11047	3a	K11045	K11047	4131	030	232	6	Repair	\$13,000	\$13,000	360	●									
K11046_K11047	3a	K11046	K11047	4200	030	263	6	Repair	\$26,000	\$26,000	360	●									
K11047_K10012	3a	K11047	K10012	4221	030	274	6	Repair	\$26,000	\$26,000	360	●									
K11048_K10012	3a	K11048	K10012	4412	030	165	6	Replace	\$77,327	\$100,525	360	●									
K11053_K12006	3a	K11053	K12006	4100	030	265	6	Repair	\$13,000	\$13,000	360	●									
K11056_K11058	3a	K11056	K11058	4200	030	187	6	Repair	\$26,000	\$26,000	360	●									
K11061_K11062	3a	K11061	K11062	4100	030	147	6	Repair	\$13,000	\$13,000	360	●									
K11064_K11086	3a	K11064	K11086	4110	030	150	6	Repair	\$13,000	\$13,000	360	●									
K11065_K11064	3a	K11065	K11064	4100	030	132	6	Repair	\$13,000	\$13,000	360	●									
K11078_K11055	3a	K11078	K11055	4131	030	206	6	Repair	\$13,000	\$13,000	360	●									
K11081_K11082	3a	K11081	K11082	4121	030	162	6	Repair	\$13,000	\$13,000	360	●									
K11082_K11060	3a	K11082	K11060	4100	030	247	6	Repair	\$13,000	\$13,000	360	●									
K11090_K11068	3a	K11090	K11068	4A31	030	226	6	Replace	\$105,671	\$137,373	360	●									
K11093_K11095	3a	K11093	K11095	4100	030	103	6	Repair	\$13,000	\$13,000	360	●									
K11102_K11081	3a	K11102	K11081	4132	030	103	6	Repair	\$13,000	\$13,000	360	●									
K11110_K11111	3a	K11110	K11111	4100	030	167	6	Repair	\$13,000	\$13,000	360	●									
K11111_K11109	3a	K11111	K11109	4121	030	148	6	Repair	\$13,000	\$13,000	360	●									
K11113_K11111	3a	K11113	K11111	4200	030	247	6	Repair	\$26,000	\$26,000	360	●									
K11114_K11090	3a	K11114	K11090	4634	030	289	6	Replace	\$135,458	\$176,095	360	●									
K11148_K11133	3a	K11148	K11133	4221	030	302	6	Repair	\$26,000	\$26,000	360	●									
K11164_K11159	3a	K11164	K11159	4100	030	163	6	Repair	\$13,000	\$13,000	360	●									
K11172_K11170	3a	K11172	K11170	4200	030	130	6	Repair	\$26,000	\$26,000	360	●									

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PipeID	Priority	US MH	DS MH	Str PACP	Basin	Length	Diam (in)	Action	Constr. Cost	Project Cost	Risk Score	Structural PACP	O&M PACP	Material	Pipe Size	Geology	Capacity	Waterway	Critical Facilities	Area Served	Arterial Roadway
K11174_K11172	3a	K11174	K11172	4432	030	210	6	Replace	\$98,229	\$127,698	360	●									
K12011_K12008	3a	K12011	K12008	4100	030	162	6	Repair	\$13,000	\$13,000	360	●									
K12042_K12043	3a	K12042	K12043	4231	030	119	6	Repair	\$26,000	\$26,000	360	●									
K12043_K12040	3a	K12043	K12040	4500	030	177	6	Replace	\$82,791	\$107,629	360	●									
I13010_H12046	3a	I13010	H12046	4100	040	373	8	Repair	\$13,000	\$13,000	1080	●									●
I13026_I13019	3a	I13026	I13019	4200	040	376	8	Repair	\$26,000	\$26,000	1080	●									●
I13034_I13026	3a	I13034	I13026	4121	040	398	8	Repair	\$13,000	\$13,000	1080	●									●
I12060_I12058	3	I12060	I12058	4221	040	93	12	Repair	\$26,000	\$26,000	4690	●				●	●	●	●	●	●
J11006_I11052	3	J11006	I11052	4100	040	274	10	Repair	\$13,000	\$13,000	6030	●				●		●			●
I12016_I12010	3a	I12016	I12010	4711	040	157	6	Replace	\$73,619	\$95,705	792	●									●
J11049_K11002	3a	J11049	K11002	4400	040	306	8	Repair	\$52,000	\$52,000	114	●							●		
I11034_I11035	3	I11034	I11035	4100	040	82	6	Repair	\$13,000	\$13,000	2750	●				●		●			
I12049_I12048	3	I12049	I12048	4125	040	49	6	Replace	\$22,995	\$29,894	1980	●						●			
I13023_I13016	3a	I13023	I13016	4134	040	301	6	Repair	\$13,000	\$13,000	360	●									
H16093_H16025	3a	H16093	H16025	4134	050	269	6	Repair	\$13,000	\$13,000	880	●	●								●
I16033_I16034	3	I16033	I16034	4831	050	137	8	Replace	\$64,016	\$83,221	5170	●				●		●			
I16026_I16079	3	I16026	I16079	4131	050	141	6	Repair	\$13,000	\$13,000	4950	●				●		●			
I16031_I16028	3	I16031	I16028	4339	050	274	8	Repair	\$39,000	\$39,000	4950	●				●		●			
I16019_I16020	3	I16019	I16020	4132	050	110	8	Repair	\$13,000	\$13,000	4180	●						●			
I16027_I16019	3	I16027	I16019	4133	050	359	8	Repair	\$13,000	\$13,000	4180	●						●			
J15005_J16004	3a	J15005	J16004	4100	050	243	8	Repair	\$13,000	\$13,000	620	●	●			●					
H16058_H16050	3a	H16058	H16050	4112	050	166	6	Repair	\$13,000	\$13,000	760	●									
H16095_H16019	3a	H16095	H16019	4128	050	96	10	Repair	\$13,000	\$13,000	760	●									
H17010_H17011	3a	H17010	H17011	4425	050	201	6	Replace	\$93,989	\$122,186	760	●									
H17018_H17010	3a	H17018	H17010	4233	050	253	6	Repair	\$26,000	\$26,000	760	●									
I16036_I16037	3a	I16036	I16037	4100	050	163	6	Repair	\$13,000	\$13,000	760	●									
I16037_I16038	3a	I16037	I16038	4124	050	81	6	Repair	\$13,000	\$13,000	760	●									
I16038_I16029	3a	I16038	I16029	4131	050	201	6	Repair	\$13,000	\$13,000	760	●									
H16046_H16047	3a	H16046	H16047	4100	050	317	8	Repair	\$13,000	\$13,000	640	●									
H16065_H16066	3a	H16065	H16066	4232	050	294	6	Repair	\$26,000	\$26,000	360	●									
H17016_H17012	3a	H17016	H17012	4534	050	290	6	Repair	\$65,000	\$65,000	360	●									
I15064_I15063	3a	I15064	I15063	4333	050	119	6	Replace	\$55,582	\$72,257	360	●									
I15099_I15097	3a	I15099	I15097	4200	050	113	6	Repair	\$26,000	\$26,000	360	●									
I15119_I15120	3a	I15119	I15120	4100	050	91	6	Repair	\$13,000	\$13,000	360	●									
I15121_I15122	3a	I15121	I15122	4236	050	256	6	Repair	\$26,000	\$26,000	360	●									
J15021_J15019	3a	J15021	J15019	4132	050	154	6	Repair	\$13,000	\$13,000	360	●									
H14195_H14150	Other Grade 4	H14195	H14150	4135	060	195	6	Repair	\$13,000	\$13,000	114	●		●					●		
I14057_I14056	Other Grade 4	I14057	I14056	4112	060	250	6	Repair	\$13,000	\$13,000	54	●							●		
I14103_I14055	Other Grade 4	I14103	I14055	4321	060	322	6	Repair	\$39,000	\$39,000	54	●							●		
I14104_I14105	Other Grade 4	I14104	I14105	4131	060	195	6	Repair	\$13,000	\$13,000	54	●							●		
I15108_H15108	Other Grade 4	I15108	H15108	4131	060	65	6	Repair	\$13,000	\$13,000	500	●				●					
H14198_H14199	Other Grade 4	H14198	H14199	4111	060	90	6	Repair	\$13,000	\$13,000	760	●									
I13051_I13045	Other Grade 4	I13051	I13045	4100	060	78	8	Repair	\$13,000	\$13,000	360	●									
I14036_I14102	Other Grade 4	I14036	I14102	4125	060	143	6	Repair	\$13,000	\$13,000	360	●									
I14039_I14032	Other Grade 4	I14039	I14032	4200	060	271	6	Repair	\$26,000	\$26,000	360	●									
I14058_I14057	Other Grade 4	I14058	I14057	4100	060	233	6	Repair	\$13,000	\$13,000	360	●									
I14108_I14147	Other Grade 4	I14108	I14147	4131	060	178	6	Repair	\$13,000	\$13,000	360	●									
I14133_I14104	Other Grade 4	I14133	I14104	4121	060	158	6	Repair	\$13,000	\$13,000	360	●									

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PipeID	Priority	US MH	DS MH	Str PACP	Basin	Length	Diam (in)	Action	Constr. Cost	Project Cost	Risk Score	Structural PACP	O&M PACP	Material	Pipe Size	Geology	Capacity	Waterway	Critical Facilities	Area Served	Arterial Roadway
I14135_I14085	Other Grade 4	I14135	I14085	4231	060	161	6	Repair	\$26,000	\$26,000	360	●									
I14142_I14141	Other Grade 4	I14142	I14141	4100	060	200	6	Repair	\$13,000	\$13,000	360	●									
G14107_G14095	Other Grade 4	G14107	G14095	433A	080	178	8	Repair	\$39,000	\$39,000	114	●							●		●
H14109_H14097	Other Grade 4	H14109	H14097	4131	080	228	6	Repair	\$13,000	\$13,000	1760	●									●
H14111_H14101	Other Grade 4	H14111	H14101	4131	080	235	6	Repair	\$13,000	\$13,000	1760	●	●								●
G14099_G14182	Other Grade 4	G14099	G14182	4200	080	215	6	Repair	\$26,000	\$26,000	1672	●									●
G14137_G14139	Other Grade 4	G14137	G14139	4113	080	271	6	Repair	\$13,000	\$13,000	1672	●									●
G14140_G14138	Other Grade 4	G14140	G14138	4131	080	176	6	Repair	\$13,000	\$13,000	1672	●									●
H14031_H14213	Other Grade 4	H14031	H14213	4134	080	267	6	Repair	\$13,000	\$13,000	1672	●									●
H14039_H14025	Other Grade 4	H14039	H14025	4232	080	260	8	Repair	\$26,000	\$26,000	1672	●									●
H14049_H14039	Other Grade 4	H14049	H14039	4132	080	305	8	Repair	\$13,000	\$13,000	1672	●									●
H14089_H14078	Other Grade 4	H14089	H14078	4131	080	221	6	Repair	\$13,000	\$13,000	1672	●									●
H14092_H14093	Other Grade 4	H14092	H14093	4134	080	199	6	Repair	\$13,000	\$13,000	1672	●									●
H14096_H14095	Other Grade 4	H14096	H14095	4131	080	184	6	Repair	\$13,000	\$13,000	1672	●									●
H14097_H14082	Other Grade 4	H14097	H14082	4211	080	322	6	Repair	\$26,000	\$26,000	1672	●									●
H14098_H14097	Other Grade 4	H14098	H14097	4335	080	256	6	Repair	\$39,000	\$39,000	1672	●									●
H14099_H14084	Other Grade 4	H14099	H14084	4100	080	153	6	Repair	\$13,000	\$13,000	1672	●									●
H14100_H14098	Other Grade 4	H14100	H14098	4131	080	219	6	Repair	\$13,000	\$13,000	1672	●									●
H14107_H14093	Other Grade 4	H14107	H14093	4134	080	253	6	Repair	\$13,000	\$13,000	1672	●									●
G14114_G14105	Other Grade 4	G14114	G14105	4100	080	220	6	Repair	\$13,000	\$13,000	114	●							●		
H14016_H14018	Other Grade 4	H14016	H14018	4129	080	233	6	Repair	\$13,000	\$13,000	1040	●									
G14150_H14017	Other Grade 4	G14150	H14017	4121	080	176	6	Repair	\$13,000	\$13,000	760	●									
H14033_H14032	Other Grade 4	H14033	H14032	4132	080	262	6	Repair	\$13,000	\$13,000	760	●									
H14120_H15092	Other Grade 4	H14120	H15092	4100	080	214	6	Repair	\$13,000	\$13,000	760	●									
H14154_H14148	Other Grade 4	H14154	H14148	4100	080	263	6	Repair	\$13,000	\$13,000	760	●									
H14156_I14005	Other Grade 4	H14156	I14005	4232	080	180	6	Repair	\$26,000	\$26,000	760	●									
H15111_H15110	Other Grade 4	H15111	H15110	4100	080	215	6	Repair	\$13,000	\$13,000	760	●									
F14075_F14076	3a	F14075	F14076	422A	070AB	223	6	Repair	\$26,000	\$26,000	120	●	●						●		●
F14005_E14112	3a	F14005	E14112	4100	070AB	66	12	Repair	\$13,000	\$13,000	2112	●					●			●	●
F14102_F13168	3a	F14102	F13168	4124	070AB	200	8	Repair	\$13,000	\$13,000	1760	●									●
H15058_H15047	3a	H15058	H15047	4131	070AB	347	6	Repair	\$13,000	\$13,000	1672	●									●
H15073_H15060	3a	H15073	H15060	4332	070AB	216	6	Repair	\$39,000	\$39,000	1672	●									●
F14074_F14075	3a	F14074	F14075	4132	070AB	292	6	Repair	\$13,000	\$13,000	114	●							●		
F15047_F15041	3a	F15047	F15041	4231	070AB	256	6	Repair	\$26,000	\$26,000	120	●							●		
F15062_F15059	3a	F15062	F15059	4237	070AB	343	6	Repair	\$26,000	\$26,000	120	●	●						●		
F15055_F15049	3a	F15055	F15049	4232	070AB	291	6	Repair	\$26,000	\$26,000	114	●							●		
H15039_H15040	3a	H15039	H15040	433B	070AB	280	8	Repair	\$39,000	\$39,000	114	●							●		
H15024_H15031	3	H15024	H15031	4A33	070AB	304	6	Replace	\$142,039	\$184,651	5170	●				●		●			
G16009_G16008	3	G16009	G16008	4222	070AB	206	6	Repair	\$26,000	\$26,000	4950	●					●		●		
I16016_I16017	3	I16016	I16017	4431	070AB	176	6	Replace	\$82,208	\$106,870	2750	●					●		●		
G15046_G15045	3	G15046	G15045	4233	070AB	251	6	Repair	\$26,000	\$26,000	4840	●							●		
G16008_G16007	3	G16008	G16007	4634	070AB	205	6	Replace	\$96,008	\$124,810	4180	●							●		
G16012_G16011	3	G16012	G16011	4132	070AB	173	6	Repair	\$13,000	\$13,000	4180	●							●		
G16014_G16008	3	G16014	G16008	4131	070AB	206	6	Repair	\$13,000	\$13,000	4180	●							●		
G15038_G15033	3a	G15038	G15033	423B	070AB	184	8	Repair	\$26,000	\$26,000	960	●					●				
G15039_G15038	3a	G15039	G15038	4234	070AB	227	8	Repair	\$26,000	\$26,000	960	●					●				
G15075_G15021	3a	G15075	G15021	4326	070AB	288	6	Repair	\$39,000	\$39,000	960	●					●				
F14061_F14059	3a	F14061	F14059	412A	070AB	229	6	Repair	\$13,000	\$13,000	1040	●	●								

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G14045_G15022	3a	G14045	G15022	4133	070AB	384	6	Repair	\$13,000	\$13,000	1040	●									
G14047_G14037	3a	G14047	G14037	4234	070AB	264	6	Repair	\$26,000	\$26,000	1040	●									
G16049_G16048	3a	G16049	G16048	4137	070AB	308	6	Repair	\$13,000	\$13,000	1040	●									
G16050_G16049	3a	G16050	G16049	4532	070AB	247	6	Replace	\$115,778	\$150,511	1040	●									
F14040_F14041	3a	F14040	F14041	4122	070AB	149	6	Repair	\$13,000	\$13,000	800	●	●								
F14171_F14026	3a	F14171	F14026	413A	070AB	133	6	Repair	\$13,000	\$13,000	800	●									
G16045_G16046	3a	G16045	G16046	4435	070AB	291	6	Repair	\$52,000	\$52,000	800	●									
F14008_F14007	3a	F14008	F14007	4111	070AB	58	6	Repair	\$13,000	\$13,000	760	●									
F14041_F14126	3a	F14041	F14126	4200	070AB	255	8	Repair	\$26,000	\$26,000	760	●									
F14060_F14038	3a	F14060	F14038	4100	070AB	455	6	Repair	\$13,000	\$13,000	760	●									
F14124_F14006	3a	F14124	F14006	4111	070AB	119	6	Repair	\$13,000	\$13,000	760	●									
F16036_F16035	3a	F16036	F16035	4131	070AB	244	8	Repair	\$13,000	\$13,000	760	●									
F16048_F16043	3a	F16048	F16043	4100	070AB	397	18	Repair	\$13,000	\$13,000	760	●								●	
F16063_F16062	3a	F16063	F16062	4321	070AB	240	6	Repair	\$39,000	\$39,000	760	●									
F16064_F16063	3a	F16064	F16063	4131	070AB	158	6	Repair	\$13,000	\$13,000	760	●									
G14038_G14037	3a	G14038	G14037	4432	070AB	308	6	Repair	\$52,000	\$52,000	760	●									
G14041_G14040	3a	G14041	G14040	423A	070AB	280	6	Repair	\$26,000	\$26,000	760	●									
G14048_G14038	3a	G14048	G14038	4234	070AB	258	6	Repair	\$26,000	\$26,000	760	●									
G14079_G15036	3a	G14079	G15036	4331	070AB	246	6	Repair	\$39,000	\$39,000	760	●									
G15019_G15016	3a	G15019	G15016	4439	070AB	292	6	Repair	\$52,000	\$52,000	760	●									
G15036_G15035	3a	G15036	G15035	4134	070AB	333	6	Repair	\$13,000	\$13,000	760	●									
G15057_G15070	3a	G15057	G15070	4427	070AB	60	6	Replace	\$27,994	\$36,392	760	●									
G15062_G15057	3a	G15062	G15057	4234	070AB	290	6	Repair	\$26,000	\$26,000	760	●									
G16007_G16006	3a	G16007	G16006	4132	070AB	298	6	Repair	\$13,000	\$13,000	760	●									
G16021_G16020	3a	G16021	G16020	4111	070AB	171	6	Repair	\$13,000	\$13,000	760	●									
G16022_G16018	3a	G16022	G16018	4100	070AB	244	6	Repair	\$13,000	\$13,000	760	●		●							
G16027_G16024	3a	G16027	G16024	4232	070AB	317	10	Repair	\$26,000	\$26,000	760	●									
G16028_G16027	3a	G16028	G16027	4422	070AB	167	10	Replace	\$97,449	\$126,683	760	●									
G16042_G16037	3a	G16042	G16037	473A	070AB	172	12	Replace	\$120,825	\$157,072	760	●								●	
G16044_G16045	3a	G16044	G16045	4233	070AB	186	6	Repair	\$26,000	\$26,000	760	●								●	
G16047_G16046	3a	G16047	G16046	4234	070AB	135	12	Repair	\$26,000	\$26,000	760	●								●	
G16052_G16047	3a	G16052	G16047	4934	070AB	343	12	Replace	\$240,483	\$312,628	760	●								●	
G16053_G16052	3a	G16053	G16052	4B31	070AB	291	12	Replace	\$204,184	\$265,439	760	●								●	
G16059_G16058	3a	G16059	G16058	4100	070AB	307	15	Repair	\$13,000	\$13,000	760	●								●	
H15015_H15016	3a	H15015	H15016	4222	070AB	41	8	Replace	\$19,157	\$24,905	760	●									
H15017_H15010	3a	H15017	H15010	4126	070AB	153	6	Repair	\$13,000	\$13,000	760	●									
H15025_H15019	3a	H15025	H15019	4139	070AB	160	6	Repair	\$13,000	\$13,000	760	●									
H15032_H15025	3a	H15032	H15025	4138	070AB	239	6	Repair	\$13,000	\$13,000	760	●									
H15049_H15042	3a	H15049	H15042	4233	070AB	300	6	Repair	\$26,000	\$26,000	760	●									
H15086_H15087	3a	H15086	H15087	4123	070AB	143	6	Repair	\$13,000	\$13,000	760	●									
H15090_H15077	3a	H15090	H15077	462B	070AB	212	6	Replace	\$99,122	\$128,859	760	●									
H15148_H15087	3a	H15148	H15087	4131	070AB	122	6	Repair	\$13,000	\$13,000	760	●									
H16011_H16010	3a	H16011	H16010	4137	070AB	326	6	Repair	\$13,000	\$13,000	760	●									
H16019_H16010	3a	H16019	H16010	4531	070AB	298	10	Repair	\$65,000	\$65,000	760	●									
H15012_H15007	3a	H15012	H15007	4131	070AB	253	6	Repair	\$13,000	\$13,000	640	●									
E15076_E15075	3a	E15076	E15075	4100	070CDE	321	6	Repair	\$13,000	\$13,000	114	●							●		●
E15111_E15101	3	E15111	E15101	4A3B	070CDE	267	6	Replace	\$125,056	\$162,572	7800	●						●			●
E15098_E15101	3	E15098	E15101	433A	070CDE	254	6	Repair	\$39,000	\$39,000	5700	●						●			●

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PipeID	Priority	US MH	DS MH	Str PACP	Basin	Length	Diam (in)	Action	Constr. Cost	Project Cost	Risk Score	Structural PACP	O&M PACP	Material	Pipe Size	Geology	Capacity	Waterway	Critical Facilities	Area Served	Arterial Roadway
E16033_E16031	3a	E16033	E16031	4226	070CDE	420	10	Repair	\$26,000	\$26,000	3000	●					●				●
E14070_E14151	3a	E14070	E14151	4100	070CDE	291	6	Repair	\$13,000	\$13,000	2280	●		●							●
E15113_E15109	3a	E15113	E15109	4431	070CDE	164	6	Replace	\$76,666	\$99,666	2280	●									●
E16052_E16048	3a	E16052	E16048	4100	070CDE	226	6	Repair	\$13,000	\$13,000	2280	●									●
E15148_E15150	3a	E15148	E15150	4100	070CDE	33	8	Replace	\$15,409	\$20,031	1080	●									●
E14035_E14034	3a	E14035	E14034	4100	070CDE	43	6	Replace	\$19,977	\$25,970	156	●							●		
E14136_E14035	3a	E14136	E14035	4122	070CDE	119	6	Repair	\$13,000	\$13,000	156	●							●		
E15057_E15050	3a	E15057	E15050	4137	070CDE	317	6	Repair	\$13,000	\$13,000	120	●	●						●		
F15042_F15038	3	F15042	F15038	4233	070CDE	198	6	Repair	\$26,000	\$26,000	4180	●						●			
E16010_E16009	3a	E16010	E16009	4221	070CDE	275	6	Repair	\$26,000	\$26,000	1240	●	●				●				
E16021_E16018	3a	E16021	E16018	4138	070CDE	189	10	Repair	\$13,000	\$13,000	1240	●					●				
E16022_E16021	3a	E16022	E16021	4134	070CDE	88	10	Repair	\$13,000	\$13,000	960	●					●				
E16030_E16077	3a	E16030	E16077	4236	070CDE	144	10	Repair	\$26,000	\$26,000	960	●					●				
E14019_E14164	3a	E14019	E14164	4137	070CDE	368	6	Repair	\$13,000	\$13,000	1040	●									
E14043_E14155	3a	E14043	E14155	413F	070CDE	201	6	Repair	\$13,000	\$13,000	1040	●									
E14052_E14038	3a	E14052	E14038	4132	070CDE	174	6	Repair	\$13,000	\$13,000	1040	●									
F14018_F14003	3a	F14018	F14003	4132	070CDE	302	6	Repair	\$13,000	\$13,000	1040	●									
F15023_F15018	3a	F15023	F15018	422A	070CDE	129	6	Repair	\$26,000	\$26,000	1040	●	●								
E14036_E14042	3a	E14036	E14042	4231	070CDE	204	6	Repair	\$26,000	\$26,000	760	●									
E15117_E15111	3a	E15117	E15111	4132	070CDE	189	6	Repair	\$13,000	\$13,000	760	●									
E15120_E15113	3a	E15120	E15113	4331	070CDE	223	8	Repair	\$39,000	\$39,000	760	●									
F14054_F14053	3a	F14054	F14053	4133	070CDE	299	6	Repair	\$13,000	\$13,000	760	●									
F14084_F14083	3a	F14084	F14083	4126	070CDE	256	6	Repair	\$13,000	\$13,000	760	●									
F15014_F15085	3a	F15014	F15085	4100	070CDE	45	6	Replace	\$20,920	\$27,197	760	●									
F15018_F15014	3a	F15018	F15014	4223	070CDE	215	6	Repair	\$26,000	\$26,000	760	●									
F15027_F15074	3a	F15027	F15074	4B3A	070CDE	78	6	Replace	\$36,381	\$47,296	760	●									
F15053_F15052	3a	F15053	F15052	4131	070CDE	208	6	Repair	\$13,000	\$13,000	760	●									
F15083_E15120	3a	F15083	E15120	4428	070CDE	76	6	Replace	\$35,556	\$46,222	760	●									
H12033_H12029	Other Grade 4	H12033	H12029	4335	090	137	6	Replace	\$64,150	\$83,395	2880	●					●				●
H12032_H12076	Other Grade 4	H12032	H12076	4100	090	66	6	Repair	\$13,000	\$13,000	2280	●									●
H13089_H13096	Other Grade 4	H13089	H13096	4231	090	301	6	Repair	\$26,000	\$26,000	2288	●									●
H13118_H13098	Other Grade 4	H13118	H13098	4136	090	302	6	Repair	\$13,000	\$13,000	2288	●									●
H13180_H13178	Other Grade 4	H13180	H13178	4100	090	149	6	Repair	\$13,000	\$13,000	1760	●									●
H13201_H13055	Other Grade 4	H13201	H13055	4236	090	201	6	Repair	\$26,000	\$26,000	1760	●									●
G13123_G13107	Other Grade 4	G13123	G13107	4136	090	265	6	Repair	\$13,000	\$13,000	1672	●									●
H12031_H13130	Other Grade 4	H12031	H13130	4131	090	290	6	Repair	\$13,000	\$13,000	1672	●									●
H13049_H13039	Other Grade 4	H13049	H13039	4133	090	149	6	Repair	\$13,000	\$13,000	1672	●									●
H13074_H13073	Other Grade 4	H13074	H13073	4121	090	63	6	Repair	\$13,000	\$13,000	1672	●									●
H13088_H13075	Other Grade 4	H13088	H13075	4131	090	324	6	Repair	\$13,000	\$13,000	1672	●									●
H13111_H13112	Other Grade 4	H13111	H13112	4232	090	197	6	Repair	\$26,000	\$26,000	1672	●									●
H13112_H13113	Other Grade 4	H13112	H13113	4322	090	26	6	Replace	\$12,309	\$16,002	1672	●									●
H13113_H13086	Other Grade 4	H13113	H13086	4232	090	309	6	Repair	\$26,000	\$26,000	1672	●									●
H13127_H13114	Other Grade 4	H13127	H13114	4139	090	243	6	Repair	\$13,000	\$13,000	1672	●									●
H14020_G14139	Other Grade 4	H14020	G14139	4136	090	254	8	Repair	\$13,000	\$13,000	1672	●									●
H13043_H13031	Other Grade 4	H13043	H13031	4333	090	296	6	Repair	\$39,000	\$39,000	114	●							●		
H13061_H13062	Other Grade 4	H13061	H13062	463B	090	311	6	Replace	\$145,592	\$189,270	114	●							●		
H13066_H13064	Other Grade 4	H13066	H13064	4132	090	268	6	Repair	\$13,000	\$13,000	114	●							●		
H13068_H13066	Other Grade 4	H13068	H13066	4332	090	259	6	Repair	\$39,000	\$39,000	114	●							●		

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PipeID	Priority	US MH	DS MH	Str PACP	Basin	Length	Diam (in)	Action	Constr. Cost	Project Cost	Risk Score	Structural PACP	O&M PACP	Material	Pipe Size	Geology	Capacity	Waterway	Critical Facilities	Area Served	Arterial Roadway
H13029_H13021	Other Grade 4	H13029	H13021	4100	090	196	6	Repair	\$13,000	\$13,000	1160	●	●								
G13132_G13117	Other Grade 4	G13132	G13117	4131	090	270	6	Repair	\$13,000	\$13,000	1040	●	●								
H13012_G13183	Other Grade 4	H13012	G13183	4138	090	315	6	Repair	\$13,000	\$13,000	1040	●	●								
H13098_H13099	Other Grade 4	H13098	H13099	4535	090	343	6	Repair	\$65,000	\$65,000	800	●									
G13168_G13153	Other Grade 4	G13168	G13153	4221	090	227	8	Repair	\$26,000	\$26,000	760	●									
G13184_G13183	Other Grade 4	G13184	G13183	4132	090	322	6	Repair	\$13,000	\$13,000	760	●									
H13008_H13009	Other Grade 4	H13008	H13009	4121	090	185	6	Repair	\$13,000	\$13,000	760	●									
H13011_G13181	Other Grade 4	H13011	G13181	4139	090	271	6	Repair	\$13,000	\$13,000	760	●									
H13013_G13184	Other Grade 4	H13013	G13184	4137	090	325	6	Repair	\$13,000	\$13,000	760	●									
H13014_H13013	Other Grade 4	H13014	H13013	4136	090	232	6	Repair	\$13,000	\$13,000	760	●									
H13019_G13194	Other Grade 4	H13019	G13194	453A	090	235	6	Replace	\$110,141	\$143,183	760	●									
H13020_H13011	Other Grade 4	H13020	H13011	4234	090	267	6	Repair	\$26,000	\$26,000	760	●									
H13021_H13012	Other Grade 4	H13021	H13012	4338	090	280	6	Repair	\$39,000	\$39,000	760	●									
H13025_H13020	Other Grade 4	H13025	H13020	4338	090	184	6	Repair	\$39,000	\$39,000	760	●									
H13028_H13040	Other Grade 4	H13028	H13040	4431	090	263	6	Repair	\$52,000	\$52,000	760	●									
H13030_H13029	Other Grade 4	H13030	H13029	4A32	090	196	6	Replace	\$91,764	\$119,293	760	●									
H13031_H13022	Other Grade 4	H13031	H13022	4132	090	278	6	Repair	\$13,000	\$13,000	760	●									
H13040_H13039	Other Grade 4	H13040	H13039	4231	090	205	6	Repair	\$26,000	\$26,000	760	●									
H13086_H13074	Other Grade 4	H13086	H13074	4629	090	219	6	Replace	\$102,513	\$133,267	760	●									
H13097_H13090	Other Grade 4	H13097	H13090	4235	090	243	6	Repair	\$26,000	\$26,000	760	●									
F12013_F12012	Other Grade 4	F12013	F12012	4235	100	312	6	Repair	\$26,000	\$26,000	2820	●	●			●					●
F12023_F12021	Other Grade 4	F12023	F12021	4134	100	219	6	Repair	\$13,000	\$13,000	2820	●				●					●
F13009_E13090	Other Grade 4	F13009	E13090	4131	100	189	6	Repair	\$13,000	\$13,000	3120	●									●
F12106_F12008	Other Grade 4	F12106	F12008	4232	100	98	6	Replace	\$45,645	\$59,339	2280	●									●
F13151_F13248	Other Grade 4	F13151	F13248	4100	100	22	6	Replace	\$10,315	\$13,409	54	●							●		●
E13067_E14096	Other Grade 4	E13067	E14096	4111	100	470	10	Repair	\$13,000	\$13,000	2288	●									●
F13128_F13127	Other Grade 4	F13128	F13127	412A	100	249	6	Repair	\$13,000	\$13,000	2288	●	●								●
F13139_F13138	Other Grade 4	F13139	F13138	4131	100	321	6	Repair	\$13,000	\$13,000	2288	●	●								●
F12094_F13195	Other Grade 4	F12094	F13195	4134	100	300	6	Repair	\$13,000	\$13,000	1760	●	●								●
E13069_E13067	Other Grade 4	E13069	E13067	4231	100	405	6	Repair	\$26,000	\$26,000	1672	●									●
F13028_F13012	Other Grade 4	F13028	F13012	4131	100	277	12	Repair	\$13,000	\$13,000	1672	●							●		●
F13041_F14028	Other Grade 4	F13041	F14028	4112	100	392	6	Repair	\$13,000	\$13,000	1672	●									●
F13154_F13138	Other Grade 4	F13154	F13138	4121	100	256	8	Repair	\$13,000	\$13,000	1672	●									●
F13195_F13243	Other Grade 4	F13195	F13243	4134	100	250	6	Repair	\$13,000	\$13,000	1672	●									●
F13213_F13126	Other Grade 4	F13213	F13126	4100	100	230	6	Repair	\$13,000	\$13,000	1672	●									●
F13228_F13094	Other Grade 4	F13228	F13094	4100	100	175	6	Repair	\$13,000	\$13,000	1672	●									●
G13072_G13224	Other Grade 4	G13072	G13224	413A	100	249	6	Repair	\$13,000	\$13,000	1672	●									●
G13078_G13079	Other Grade 4	G13078	G13079	4136	100	278	6	Repair	\$13,000	\$13,000	1672	●									●
G13096_G14075	Other Grade 4	G13096	G14075	4232	100	187	6	Repair	\$26,000	\$26,000	1672	●									●
G14051_G14050	Other Grade 4	G14051	G14050	4339	100	284	6	Repair	\$39,000	\$39,000	1672	●									●
F13089_F13088	Other Grade 4	F13089	F13088	4121	100	244	6	Repair	\$13,000	\$13,000	156	●							●		
F13132_F13133	Other Grade 4	F13132	F13133	4131	100	262	6	Repair	\$13,000	\$13,000	156	●	●						●		
F13232_F13091	Other Grade 4	F13232	F13091	4131	100	278	6	Repair	\$13,000	\$13,000	156	●	●						●		
F13236_F13078	Other Grade 4	F13236	F13078	4100	100	199	6	Repair	\$13,000	\$13,000	114	●		●					●		
F12073_F12074	Other Grade 4	F12073	F12074	4126	100	253	6	Repair	\$13,000	\$13,000	1180	●	●			●					
F13017_E13094	Other Grade 4	F13017	E13094	4111	100	300	6	Repair	\$13,000	\$13,000	1040	●									
F13032_F13227	Other Grade 4	F13032	F13227	4222	100	116	6	Repair	\$26,000	\$26,000	1040	●	●								
F13051_F13033	Other Grade 4	F13051	F13033	4133	100	107	6	Repair	\$13,000	\$13,000	1040	●	●								

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F13067_F13050	Other Grade 4	F13067	F13050	4322	100	124	6	Replace	\$58,233	\$75,703	1040	●									
F13073_F13044	Other Grade 4	F13073	F13044	4131	100	300	6	Repair	\$13,000	\$13,000	1040	●	●								
F13120_F13113	Other Grade 4	F13120	F13113	4100	100	225	6	Repair	\$13,000	\$13,000	1040	●									
G13029_G13030	Other Grade 4	G13029	G13030	4132	100	292	6	Repair	\$13,000	\$13,000	1040	●	●								
F13021_F13022	Other Grade 4	F13021	F13022	4339	100	244	6	Repair	\$39,000	\$39,000	800	●	●								
G13019_G13030	Other Grade 4	G13019	G13030	4232	100	156	6	Repair	\$26,000	\$26,000	800	●									
F12032_F12031	Other Grade 4	F12032	F12031	4100	100	115	6	Repair	\$13,000	\$13,000	760	●									
F12050_F12046	Other Grade 4	F12050	F12046	4131	100	290	6	Repair	\$13,000	\$13,000	760	●									
F12066_F12065	Other Grade 4	F12066	F12065	4124	100	408	6	Repair	\$13,000	\$13,000	760	●									
F13112_F13111	Other Grade 4	F13112	F13111	4222	100	109	6	Replace	\$51,077	\$66,400	760	●		●							
F13140_F13139	Other Grade 4	F13140	F13139	4138	100	221	6	Repair	\$13,000	\$13,000	760	●									
F13141_F13142	Other Grade 4	F13141	F13142	4135	100	247	6	Repair	\$13,000	\$13,000	760	●									
F13172_F13173	Other Grade 4	F13172	F13173	4632	100	263	6	Replace	\$123,054	\$159,970	760	●									
F13187_F13188	Other Grade 4	F13187	F13188	4111	100	300	6	Repair	\$13,000	\$13,000	760	●									
G13047_G13048	Other Grade 4	G13047	G13048	423A	100	255	6	Repair	\$26,000	\$26,000	760	●									
G13048_G13049	Other Grade 4	G13048	G13049	413B	100	324	6	Repair	\$13,000	\$13,000	760	●									
E13102_E13025	Other Grade 4	E13102	E13025	412C	100	173	6	Repair	\$13,000	\$13,000	640	●	●								
C16045_C16005	Other Grade 4	C16045	C16005	4236	110	303	6	Repair	\$26,000	\$26,000	3660	●	●			●	●				●
C16035_C16032	Other Grade 4	C16035	C16032	4137	110	399	12	Repair	\$13,000	\$13,000	3420	●				●	●			●	●
D16015_D16016	Other Grade 4	D16015	D16016	493A	110	262	6	Replace	\$122,640	\$159,432	3720	●	●				●				●
D16016_D16013	Other Grade 4	D16016	D16013	4133	110	313	24	Repair	\$13,000	\$13,000	2322	●					●			●	●
C15049_C15038	Other Grade 4	C15049	C15038	4135	110	166	6	Repair	\$13,000	\$13,000	3540	●		●		●					●
C15023_C15022	Other Grade 4	C15023	C15022	4111	110	95	12	Repair	\$13,000	\$13,000	2700	●				●			●	●	
C15047_C15038	Other Grade 4	C15047	C15038	4100	110	361	8	Repair	\$13,000	\$13,000	2700	●				●					●
C16020_C16021	Other Grade 4	C16020	C16021	4233	110	263	6	Repair	\$26,000	\$26,000	2700	●				●					●
C16041_C16040	Other Grade 4	C16041	C16040	4121	110	75	12	Repair	\$13,000	\$13,000	2700	●				●			●	●	
D14096_D14095	Other Grade 4	D14096	D14095	4132	110	209	6	Repair	\$13,000	\$13,000	3120	●									●
D14095_D14113	Other Grade 4	D14095	D14113	4132	110	153	5	Repair	\$13,000	\$13,000	2480	●			●						●
G13055_G13040	Other Grade 4	G13055	G13040	4131	110	271	6	Repair	\$13,000	\$13,000	2288	●									●
G13056_G13055	Other Grade 4	G13056	G13055	4114	110	58	6	Repair	\$13,000	\$13,000	2288	●	●								●
D16027_D16026	Other Grade 4	D16027	D16026	4131	110	127	8	Repair	\$13,000	\$13,000	1240	●					●				
D15014_D15013	Other Grade 4	D15014	D15013	4131	110	232	10	Repair	\$13,000	\$13,000	1000	●	●				●				
C16013_C16014	Other Grade 4	C16013	C16014	4A37	110	318	6	Replace	\$148,909	\$193,581	1180	●				●					
E14028_E14029	Other Grade 4	E14028	E14029	4333	110	181	6	Repair	\$39,000	\$39,000	1160	●	●								
D14082_D14080	Other Grade 4	D14082	D14080	4132	110	191	6	Repair	\$13,000	\$13,000	1040	●									
D14098_D14097	Other Grade 4	D14098	D14097	4100	110	166	6	Repair	\$13,000	\$13,000	1040	●									
D15012_D16005	Other Grade 4	D15012	D16005	4131	110	266	12	Repair	\$13,000	\$13,000	1040	●	●							●	
D15075_D15067	Other Grade 4	D15075	D15067	4124	110	319	6	Repair	\$13,000	\$13,000	1040	●	●								
D16012_D16009	Other Grade 4	D16012	D16009	4A3A	110	393	6	Replace	\$183,794	\$238,932	1040	●	●								
C15100_C15099	Other Grade 4	C15100	C15099	4331	110	117	6	Replace	\$54,662	\$71,060	800	●									
D14062_D14057	Other Grade 4	D14062	D14057	4135	110	214	6	Repair	\$13,000	\$13,000	800	●									
D14063_D14062	Other Grade 4	D14063	D14062	4131	110	181	6	Repair	\$13,000	\$13,000	800	●									
D14075_D14074	Other Grade 4	D14075	D14074	4131	110	305	6	Repair	\$13,000	\$13,000	800	●									
D15084_D15083	Other Grade 4	D15084	D15083	4132	110	204	6	Repair	\$13,000	\$13,000	800	●									
D15097_D15094	Other Grade 4	D15097	D15094	4132	110	217	6	Repair	\$13,000	\$13,000	800	●	●								
D14071_D14070	Other Grade 4	D14071	D14070	4132	110	379	6	Repair	\$13,000	\$13,000	760	●									
D15041_D15028	Other Grade 4	D15041	D15028	4200	110	306	6	Repair	\$26,000	\$26,000	760	●									
D15086_D15085	Other Grade 4	D15086	D15085	4222	110	286	6	Repair	\$26,000	\$26,000	760	●									

West Bay Sanitary District
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Pipeline Rehabilitation Project Information

PipeID	Priority	US MH	DS MH	Str PACP	Basin	Length	Diam (in)	Action	Constr. Cost	Project Cost	Risk Score	Structural PACP	O&M PACP	Material	Pipe Size	Geology	Capacity	Waterway	Critical Facilities	Area Served	Arterial Roadway
D15087_D15086	Other Grade 4	D15087	D15086	4121	110	296	6	Repair	\$13,000	\$13,000	760	●									
D16035_D16015	Other Grade 4	D16035	D16015	413A	110	237	6	Repair	\$13,000	\$13,000	760	●									
E15023_E15024	Other Grade 4	E15023	E15024	4131	110	315	6	Repair	\$13,000	\$13,000	760	●									
E15024_E15017	Other Grade 4	E15024	E15017	4232	110	320	6	Repair	\$26,000	\$26,000	760	●									
D16020_D16035	Other Grade 4	D16020	D16035	423A	110	255	6	Repair	\$26,000	\$26,000	640	●	●								
E16015_E16016	Other Grade 4	E16015	E16016	4122	110	169	6	Repair	\$13,000	\$13,000	360	●									
C14109_C14108	Other Grade 4	C14109	C14108	4132	120A	177	6	Repair	\$13,000	\$13,000	1040	●									
D14108_D14042	Other Grade 4	D14108	D14042	4131	120A	276	6	Repair	\$13,000	\$13,000	1040	●									
D14007_C14109	Other Grade 4	D14007	C14109	4336	120A	216	6	Repair	\$39,000	\$39,000	760	●									
D14014_D14015	Other Grade 4	D14014	D14015	4231	120A	348	6	Repair	\$26,000	\$26,000	760	●									
D14018_D14017	Other Grade 4	D14018	D14017	4129	120A	293	6	Repair	\$13,000	\$13,000	760	●		●							
C12083_C12073	Other Grade 4	C12083	C12073	4121	120B	250	24	Repair	\$13,000	\$13,000	3540	●				●				●	●
C13103_C13095	Other Grade 4	C13103	C13095	4337	120B	316	8	Repair	\$39,000	\$39,000	3540	●	●			●					●
C13068_C14029	Other Grade 4	C13068	C14029	4Q00	120B	459	24	Replace	\$515,679	\$670,382	2700	●		●		●				●	●
C13083_C13068	Other Grade 4	C13083	C13068	4R00	120B	516	24	Replace	\$580,065	\$754,084	2700	●		●		●				●	●
C13085_C13083	Other Grade 4	C13085	C13083	4R00	120B	484	24	Replace	\$543,838	\$706,989	2700	●		●		●				●	●
C13088_C13085	Other Grade 4	C13088	C13085	4R00	120B	501	24	Replace	\$562,249	\$730,923	2700	●		●		●				●	●
C13107_C13106	Other Grade 4	C13107	C13106	4100	120B	81	6	Repair	\$13,000	\$13,000	2700	●				●					●
C13109_C13108	Other Grade 4	C13109	C13108	4100	120B	56	6	Repair	\$13,000	\$13,000	2700	●				●					●
D13061_D13054	Other Grade 4	D13061	D13054	413B	120B	445	12	Repair	\$13,000	\$13,000	156	●	●						●	●	
C14051_C13103	Other Grade 4	C14051	C13103	4131	120B	178	8	Repair	\$13,000	\$13,000	1180	●	●			●					
C13098_C13097	Other Grade 4	C13098	C13097	4231	120B	169	8	Repair	\$26,000	\$26,000	900	●				●					
C13186_C13105	Other Grade 4	C13186	C13105	453A	120B	136	6	Replace	\$63,460	\$82,498	900	●				●					
C13205_C13135	Other Grade 4	C13205	C13135	4131	120B	133	6	Repair	\$13,000	\$13,000	900	●				●					
E13017_E13018	Other Grade 4	E13017	E13018	4131	120B	258	6	Repair	\$13,000	\$13,000	1040	●									
E13033_E13032	Other Grade 4	E13033	E13032	4127	120B	153	6	Repair	\$13,000	\$13,000	1040	●	●								
C13219_C13150	Other Grade 4	C13219	C13150	4121	120B	192	6	Repair	\$13,000	\$13,000	760	●									
E13020_E13018	Other Grade 4	E13020	E13018	4132	120B	282	8	Repair	\$13,000	\$13,000	760	●									
E13022_E13020	Other Grade 4	E13022	E13020	4135	120B	357	8	Repair	\$13,000	\$13,000	760	●									
D11130_D11004	Other Grade 4	D11130	D11004	4K35	130	289	6	Replace	\$135,349	\$175,954	177	●				●			●		●
D12016_D11130	Other Grade 4	D12016	D11130	4D37	130	145	6	Replace	\$67,688	\$87,994	141	●	●			●			●		●
E12012_D12077	Other Grade 4	E12012	D12077	4100	130	170	6	Repair	\$13,000	\$13,000	114	●							●		●
E12052_E12044	Other Grade 4	E12052	E12044	4133	130	301	6	Repair	\$13,000	\$13,000	3540	●				●					●
C11052_C12181	Other Grade 4	C11052	C12181	4331	130	371	8	Repair	\$39,000	\$39,000	2700	●				●					●
E12055_E12050	Other Grade 4	E12055	E12050	4122	130	168	6	Repair	\$13,000	\$13,000	2700	●				●					●
C12139_C12136	Other Grade 4	C12139	C12136	4132	130	269	6	Repair	\$13,000	\$13,000	177	●	●			●			●		
D11004_C11116	Other Grade 4	D11004	C11116	4M27	130	370	6	Replace	\$173,367	\$225,377	177	●				●			●		
D12064_D12062	Other Grade 4	D12064	D12062	4232	130	168	6	Repair	\$26,000	\$26,000	156	●							●		
C11061_C11060	Other Grade 4	C11061	C11060	4227	130	219	6	Repair	\$26,000	\$26,000	1180	●				●					
D11069_D11066	Other Grade 4	D11069	D11066	4126	130	266	6	Repair	\$13,000	\$13,000	1180	●				●					
E12083_E12073	Other Grade 4	E12083	E12073	4126	130	297	6	Repair	\$13,000	\$13,000	1180	●				●					
C11109_C11110	Other Grade 4	C11109	C11110	4121	130	89	6	Repair	\$13,000	\$13,000	900	●				●					
D11088_D11071	Other Grade 4	D11088	D11071	4100	130	312	6	Repair	\$13,000	\$13,000	900	●				●					
D11110_D11097	Other Grade 4	D11110	D11097	4131	130	299	6	Repair	\$13,000	\$13,000	900	●				●					
D11094_D11082	Other Grade 4	D11094	D11082	4122	130	267	6	Repair	\$13,000	\$13,000	1040	●									
D12046_D12117	Other Grade 4	D12046	D12117	4100	130	202	6	Repair	\$13,000	\$13,000	760	●									
D12051_D12046	Other Grade 4	D12051	D12046	4528	130	259	6	Replace	\$121,360	\$157,768	760	●									
E12018_E12019	Other Grade 4	E12018	E12019	4238	130	176	6	Repair	\$26,000	\$26,000	760	●									

West Bay Sanitary District
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Pipeline Rehabilitation Project Information

PipeID	Priority	US MH	DS MH	Str PACP	Basin	Length	Diam (in)	Action	Constr. Cost	Project Cost	Risk Score	Structural PACP	O&M PACP	Material	Pipe Size	Geology	Capacity	Waterway	Critical Facilities	Area Served	Arterial Roadway
E12087_E12075	Other Grade 4	E12087	E12075	412A	130	285	6	Repair	\$13,000	\$13,000	760	●									
B12123_B12029	Other Grade 4	B12123	B12029	4121	140	713	10	Repair	\$13,000	\$13,000	105	●				●	●		●		●
C14023_C14122	Other Grade 4	C14023	C14122	4111	140	34	10	Replace	\$20,144	\$26,187	135	●				●			●		●
B15015_B15009	Other Grade 4	B15015	B15009	4300	140	318	6	Repair	\$39,000	\$39,000	3540	●	●			●					●
C14040_C14041	Other Grade 4	C14040	C14041	4100	140	205	6	Repair	\$13,000	\$13,000	3540	●	●			●					●
C12149_C12011	Other Grade 4	C12149	C12011	4100	140	127	6	Repair	\$13,000	\$13,000	2700	●				●					●
C14029_C14028	Other Grade 4	C14029	C14028	4700	140	63	24	Replace	\$70,543	\$91,705	1500	●				●				●	●
B15032_B15013	Other Grade 4	B15032	B15013	4100	140	309	10	Repair	\$13,000	\$13,000	1100	●				●	●				
C14006_C14005	Other Grade 4	C14006	C14005	4121	140	280	8	Repair	\$13,000	\$13,000	1180	●				●					
B14010_B14009	Other Grade 4	B14010	B14009	4131	140	311	8	Repair	\$13,000	\$13,000	940	●	●			●					
C13028_C13015	Other Grade 4	C13028	C13015	4231	140	170	6	Repair	\$26,000	\$26,000	900	●				●					
C13040_C13041	Other Grade 4	C13040	C13041	493B	140	126	6	Replace	\$58,903	\$76,574	900	●				●					
C13049_C13048	Other Grade 4	C13049	C13048	4100	140	113	8	Repair	\$13,000	\$13,000	500	●				●					
C12026_C12025	Other Grade 4	C12026	C12025	4100	150	88	6	Repair	\$13,000	\$13,000	3540	●				●					●
C11046_C11047	Other Grade 4	C11046	C11047	4126	150	372	6	Repair	\$13,000	\$13,000	2820	●				●					●
C11065_C11064	Other Grade 4	C11065	C11064	4131	150	78	6	Repair	\$13,000	\$13,000	2700	●				●					●
C12025_C12149	Other Grade 4	C12025	C12149	4235	150	167	6	Repair	\$26,000	\$26,000	2700	●				●					●
C12055_C12054	Other Grade 4	C12055	C12054	4132	150	53	6	Replace	\$24,570	\$31,941	2700	●				●					●
B11057_B11056	Other Grade 4	B11057	B11056	4132	150	144	6	Repair	\$13,000	\$13,000	177	●				●			●		
B11060_B11057	Other Grade 4	B11060	B11057	4131	150	288	6	Repair	\$13,000	\$13,000	177	●				●			●		
B11087_B11067	Other Grade 4	B11087	B11067	4131	150	293	6	Repair	\$13,000	\$13,000	177	●	●			●			●		
B11051_B11044	Other Grade 4	B11051	B11044	4112	150	309	6	Repair	\$13,000	\$13,000	135	●				●			●		
B12064_B12053	Other Grade 4	B12064	B12053	4132	150	256	6	Repair	\$13,000	\$13,000	1180	●	●			●					
C11029_C11030	Other Grade 4	C11029	C11030	4100	150	142	6	Repair	\$13,000	\$13,000	1180	●				●					
C11042_C11004	Other Grade 4	C11042	C11004	4122	150	171	6	Repair	\$13,000	\$13,000	1180	●				●					
C12016_B12063	Other Grade 4	C12016	B12063	4131	150	258	6	Repair	\$13,000	\$13,000	1180	●	●			●					
C12057_C12043	Other Grade 4	C12057	C12043	4233	150	244	6	Repair	\$26,000	\$26,000	1180	●	●			●					
A10020_A10024	Other Grade 4	A10020	A10024	4126	150	300	6	Repair	\$13,000	\$13,000	940	●				●					
C11030_C11022	Other Grade 4	C11030	C11022	4223	150	266	6	Repair	\$26,000	\$26,000	940	●	●			●					
C12028_C12147	Other Grade 4	C12028	C12147	4131	150	140	6	Repair	\$13,000	\$13,000	940	●				●					
C12058_C12044	Other Grade 4	C12058	C12044	4424	150	293	6	Repair	\$52,000	\$52,000	940	●	●			●					
A10011_A10012	Other Grade 4	A10011	A10012	4100	150	200	6	Repair	\$13,000	\$13,000	900	●				●					
A10018_A10014	Other Grade 4	A10018	A10014	4100	150	305	6	Repair	\$13,000	\$13,000	900	●				●					
B10023_B10046	Other Grade 4	B10023	B10046	4136	150	33	10	Replace	\$19,130	\$24,869	900	●				●					
B11004_B11008	Other Grade 4	B11004	B11008	4126	150	260	6	Repair	\$13,000	\$13,000	900	●				●					
B11012_B11013	Other Grade 4	B11012	B11013	4100	150	49	6	Replace	\$22,768	\$29,599	900	●				●					
B11084_B11071	Other Grade 4	B11084	B11071	4131	150	303	6	Repair	\$13,000	\$13,000	900	●				●					
B12063_B12087	Other Grade 4	B12063	B12087	4300	150	87	6	Replace	\$40,670	\$52,870	900	●				●					
B12087_B12086	Other Grade 4	B12087	B12086	4100	150	38	6	Replace	\$17,843	\$23,197	900	●				●					
C11005_C11006	Other Grade 4	C11005	C11006	4132	150	147	6	Repair	\$13,000	\$13,000	900	●				●					
C12014_C12013	Other Grade 4	C12014	C12013	4131	150	65	6	Repair	\$13,000	\$13,000	900	●				●					

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Appendix H
Pump Station Assessment TM (Woodard & Curran)

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TECHNICAL MEMORANDUM

TO: Vivian Housen, Principal, V.W. Housen & Associates, Inc.

PREPARED BY: Tony Valdivia, Woodard & Curran, CA PE No. 66847

REVIEWED BY: Dave Richardson, Woodard & Curran

DATE: December 8, 2023

RE: WBSD Wastewater Pump Station Condition Assessment



1. BACKGROUND

The West Bay Sanitary District (District) adopted a Wastewater Collection System Master Plan Update in 2011 and an Update in 2013 based on updated flow monitoring results. The District is interested in replacing those Master Plans with this update which evaluates the current system that has been improved since 2011, prioritizes the capital improvement program, minimizes inflow and infiltration, ensures compliance with regulatory requirements, includes recycled water planning, and increases efficiencies in operations and maintenance. The updated sanitary sewer master plan ("Master Plan") is intended recommend short term and long-term capital improvement projects (CIPs) that will improve system reliability, resiliency, functionality, and flexibility. The Master Plan will guide the management and implementation of the sanitary sewer facility improvement projects within the District's collection system. The Master Plan will incorporate evaluation from the existing Master Plan, recently completed sewer rehabilitation projects, flow studies provided by the District, and any new or additional data and analysis necessary to complete the Master Plan update.

In conjunction with the hydraulic analysis and recycled water planning, a Pump Station Assessment will be conducted as a part of the Master Plan and is documented herein. The purpose of the Pump Station Assessment is to review the current condition of the existing pump station and force mains, to visit the District's pump stations to interview District operations staff and to determine the potential for large scale rehabilitations that may fall outside the scope of the District's proactive pump replacement program. Where such projects are identified, planning level capital cost estimates and approximate timelines for pump station rehabilitation have been developed.

This Technical Memorandum summarizes the execution and findings of the Pump Station Site Visits. Details regarding the procedures in evaluating pump stations and recommendations for improvement projects are provided in the following sections.

2. PROCEDURES AND RESULTS

On August 3, 2023, Woodard & Curran (W&C) visited and assessed the condition of twelve pump stations within the District's collection system. W&C staff were accompanied by the District's Pump Facility Supervisor, who facilitated the site visits and provided further detail regarding the function and condition of each pump station.

2.1 General Pump Station Characteristics

With the exception of Stowe Lane Pump Station, all of the District's wastewater pump stations feature Flygt (Xylem) submersible pumps in circular concrete wet wells, with an adjacent concrete valve vault housing discharge isolation and check valves. None of the concrete wet wells are currently lined, with the exception of the FERRF Pump Station. Each of these submersible stations has an above-grade electrical cabinet and communication cabinet/equipment and an installed diesel generator with either onboard or separate fuel storage. Sites are secured by fences or concrete walls. At each of these stations, W&C was allowed to observe the wet wells and valve vault, observe the cabinets with open doors, and visually inspect generators and other above-grade facilities.

Stowe Lane Pump Station is the only dry pit pump station owned by the District. This aging facility does not match the design standard of the other submersible stations, and features pumps that are housed in a below grade dry pit. Both the wet well and dry pit are OSHA-defined confined spaces. And, as such, W&C was not able to directly observe the pumping equipment or wet well at this facility. However, this facility is currently slated for replacement with a submersible pump station, with design underway; consequently, assessment of the station is not required.

The other atypical station is the District's Flow Equalization and Resource Recovery Facility (FERRF) Pump Station. The FERRF is located at the District's abandoned wastewater treatment facility just north of the Menlo Park Pump Station, which is owned and operated by Silicon Valley Clean Water (SVCW), the Joint Powers Authority (JPA) that handles wastewater conveyance and treatment for the region. WBSD is a member of the JPA. The FERRF, in general, serves as repository for flows that exceed the capacity of the Menlo Pump Station and the downstream system, storing these peak flows in lined basins until they can be pumped back into the collection system by the FERRF pump station. The FERRF is therefore not in continuous use and serves as a standby facility. Also, the FERRF has not been recently operated by WBSD, but rather has been operated by SVCW in its capacity to relieve excess conveyance and wastewater treatment plant flows. Recent improvements at the SVCW treatment plant are expected to minimize future use of the FERRF Pump Station, however the District would like to maintain this facility in order to manage emergencies, unanticipated flows and planned maintenance within the system.

2.2 Site Visit Observations

Table 1 provides a summary of the observed pump stations, the major aspects or issues, and the potential for CIPs that may not be included in the routine operations and maintenance budget. As noted above, W&C was able to directly observed many aspects of the District's pump stations,

Table 1 - Pump Station Assessment Summary

Pump Station	Observed Conditions to be Addressed	CIP Project Required?	Existing CIP Projects?
Willow PS	<ul style="list-style-type: none"> • Safety Grates absent • Hatches do not conform to current District Standards • Force mains in need of replacement • Flow meter required • Wet Well Coating required • Odor control required 	Yes	Yes
University PS	<ul style="list-style-type: none"> • Safety Grates absent under wet well hatch • Hatches do not conform to current District standards 	No	No
Illinois PS	<ul style="list-style-type: none"> • Safety Grates absent under wet well hatch 	No	No
Menlo Industrial PS	<ul style="list-style-type: none"> • No Deficiencies Observed • PS may be replaced for Willow Village Development 	No	No
Hamilton – Henderson PS	<ul style="list-style-type: none"> • Exposed aggregate above water line indicative of hydrogen sulfide corrosion 	Yes	No
Flow Equalization and Resource Recovery Facility	<ul style="list-style-type: none"> • Electrical equipment at end of life • Pumps at end of life • Communications equipment at end of life • Valves and piping show signs of corrosion and may not be routinely exercised 	Yes	No
Vintage Oaks 1 PS	No Deficiencies Observed	No	No
Vintage Oaks 2 PS	No Deficiencies Observed	No	No
Stowe Lane PS	<ul style="list-style-type: none"> • Dry pit pump configuration • Pumps are in confined space • Aging Electrical Equipment 	Yes	Yes
Los Trancos PS	No Deficiencies Observed	No	No
Sausal Vista PS	No Deficiencies Observed	No	No
Village Square PS	No Deficiencies Observed	No	No

As indicated in the above table, the majority of pump stations did not have deficiencies that were observed or informed to warrant a CIP. With the exception of Willow Pump Station, Stowe Lane Pump Station and the FERFF Pump Station, the District's stations all share common design features and have been well maintained by District staff. One of the more common deficiencies noted – the lack of fall protection safety grates beneath wet well hatches – is relatively minor in nature and, along with wet well grating and covers that do not comply with current District standards, do not require a capital improvement program to correct at this time.

Four pump stations have needs that can be addressed through capital improvement projects, two of which are already included in the District's existing CIP. These stations are:

- Willow Pump Station
- Stowe Lane Pump Station
- Hamilton-Henderson Pump Station
- FERFF Pump Station

2.2.1 Willow Pump Station

Willow Pump Station is located at the intersection of Willow Rd. and O'Brien St. This pump station has been evaluated as a part of previous assessments and a current design approach and budget have been developed for upgrades. The planned upgrades are as follows:

- Replacements:
 - Generator
 - Piping from wet well through valve box
 - Valves
- Additions:
 - Wet well coating

The existing CIP budget for improvements at Willow Pump Station is \$1,700,000. The project is currently under design and a new Engineer's Estimate of Probable Cost is pending.

Figure 1 - Willow Pump Station Wet Well Cover and Equipment



2.2.2 Stowe Lane

Stowe Lane Pump Station is the District's only dry pit station. A CIP project has already been developed for design and construction of a replacement station to create a submersible pump station to match the District's other stations. The following improvements are planned:

- Demolish existing dry pit pump station
- Construct submersible pump station
- Add new generator

The existing CIP budget for improvements at Stowe Lane Pump Station is \$3,000,000. The project is currently under design and a new Engineer's Estimate of Probable Cost is pending.

Figure 2 - Stowe Lane Pump Station



2.2.3 Hamilton-Henderson Pump Station

Generally, this pump station is in good condition. However, during visual inspection of the wet well walls, it was noted that the concrete aggregate is exposed on the surface of the wet well wall. By contract, the concrete below the water line does not exhibit this condition. This typically indicates hydrogen sulfide corrosion of the concrete, which softens the cement and allows for erosion of the wall aggregate matrix over time. Often, this situation is limited to the surface of the concrete, and can be corrected by installing an epoxy liner over the top of the cleaned concrete. Prior to executing this work, the concrete should be checked for soundness using non-destructive testing ("sounding" of the wall with a special hammer) to ensure that the damage does not extend deeper into the wall, and that reinforcement bars are not impacted.

**Figure 3 - Wet Well Corrosion Above Water Surface
at Hamilton-Henderson Wet Well Walls**



While the lining of the Hamilton-Henderson Pump Station wet well is straight forward, it does require full access to the wet well for sufficient time to clear and prepare the walls, then coat the walls and allow time for curing. This requires short-term bypassing of the wet well, typically using portable pumps to move water from an upstream manhole to the force main. For this reason, the project is considered worthy of a new CIP project to rehabilitate the wet well.

2.2.4 Flow Equalization and Resource Recovery Facility Pump Station

The Flow Equalization and Resource Recovery Facility (FERRF) is a pump station located at the end of Marsh Road, in the very northeast portion of the City of Menlo Park. The FERRF currently pumps water from the adjacent emergency storage pond back into the WBSD sewer system. This pump station is an important fail safe to the collections system. The FERRF is operated by the Silicon Valley Clean Water Agency, and therefore the condition and operations of this pump station is not thoroughly known.

Figure 4 - FERRF Pump Station



It was observed that the pump station consists of a wet well and valve box with three 60 horsepower (hp) pumps, 14-inch diameter pump discharges, and 30" and 24" isolation valves that determine the direction of flow to and from the station. Additionally, there is an adjacent metal building housing the electrical and control systems.

According to the visual observations and District input, the FERRF is aging and reaching its end of useful life. While performing the site visits, we observed that the electrical equipment is showing signs of aging and deterioration. The three pumps, valves, and piping appeared to be corroded and the District informed W&C that the pumps are in need of replacement. Additionally, exposed aggregate was observed on the wet well walls, indicating potential hydrogen sulfide corrosion of the concrete.

Figure 5 - FERFF Pump Discharge Valves



The District wishes to maintain the operational and emergency flexibility provided by the FERFF. As such, rehabilitation of this aging facility has been established as a CIP project. This project will include the following:

- Replace existing pump drives and electrical equipment
- Replace existing submersible pumps (60 Hp) and wet well piping (14")
- Replace discharge piping valves (gate valve and check valves)
- Recoat existing piping
- Line existing concrete wet well
- Clean and recoat metal building

Due to its intermittent, wet weather use, the FERFF can be improved without operational impacts to the WBSD collection system or to SVCW conveyance operation. All improvements listed above can be completed within a single dry season, assuming equipment is procured ahead of time. Therefore, bypassing of flows should not be required to complete this project.

2.2.5 Force Main Replacements

The District has identified three force main segments that, based on pipeline age and repair history, are in need of replacement. These force mains are downstream of the following pump stations (approximate force main installation date as noted, based on District records)

- Willow Pump Station (circa 1980s)
- University Pump Station (1985)
- Illinois Pump Station (1985)

The force mains above total 3,600 linear feet and can be replaced as part of a combined capital improvement project. Open-cut replacement of these force mains is assumed.

3. COST ESTIMATES

Cost estimates for the two new pump station CIP projects (Hamilton-Henderson and FERRF) are presented here. As noted above, the Willow Pump Station and Stowe Lane Pump Station are currently included in the District's CIP, with updated costs to be developed by the Engineer of Record for the improvements in early November 2023. Updated costs from the design engineer should supercede existing CIP costs.

Costs are referenced to an ENR Construction Cost Index (CCI) of 15489.7 (San Francisco, September 2023)

Unless otherwise noted, equipment costs include 25% markups for installation and testing.

Hamilton-Henderson Pump Station

Project: Wet well lining

Description:

The wet well will be isolated from the upstream collection system throughout the cleaning and lining operation, which is assumed to require bypass pumping from the upstream manhole to the downstream forcemain. Bypass pumping will consist of trailer mounted trash pumps. Once the pump station has been bypassed, the wet well will be emptied and cleaned (typically sandblasted to remove loose cement and biological growth). The pump station will then be lined with an epoxy lining to reduce future corrosion, extending the useful life of the wet well and simplifying wet well maintenance. This project adds no new operations or maintenance costs.

Costs are summarized in Table 2.

Table 2 - Hamilton-Henderson Wet Well Lining Cost Estimate

Planning Level Cost Estimate					
	size	Qty	Unit Cost	Unit	Subtotal
Wet Well Lining and Cleaning	-	1	\$ 25,000	LS	\$ 25,000
Bypass Pumping	PDWF	1	\$ 20,000	LS	\$ 20,000
Baseline Construction Cost					\$ 45,000
Construction Contingency			30%		\$ 14,000
Total Construction Cost					\$ 59,000
Allowance for Change Orders			10%		\$ 5,900
Construction Inspection			5%		\$ 2,950
Engineering Design			7%		\$ 4,130
Permits			2%		\$ 1,180
Construction Administration			5%		\$ 2,950
Legal, Fiscal, and Administrative			2%		\$ 1,180
Implementation (Rounded Up)					\$ 18,000
Total Project Cost (Rounded Up)					\$ 77,000
Annualized Total Project Cost (3%, 30 years)			0.05437		\$ 5,000
Total Annualized Cost (\$/Year)					\$ 5,000

FERRF Pump Station

Project: Pump Station Rehabilitation

Description:

All major mechanical, electrical and control components will be replaced, including pumps, drives, panel boards and valving. These components have reached the end of their useful lives. Equipment is assumed to be replaced in-kind to match existing equipment/capacity. The existing pump station building exterior will be cleaned and recoated, and the interior of the wet well will be cleaned and relined to reduce future corrosion. The project does not include replacement of the large wastewater routing valves that control the direction of flow, as WBSD has indicated that they do not control these valves. SVCW would need to address these valves, as they are responsible for their operation. New variable frequency drives will be provided. It is assumed that the existing power service is sufficient for the rehabilitated facility.

Because this facility is used only intermittently and typically only during wet weather or planned maintenance, no pump station bypass or temporary pumping is included.

Costs for the project are summarized in Table 3.

Table 3 - FERRF Rehabilitation Capital and Operating Cost Estimates

Planning Level Cost Estimate: FERRF Pump Station					
Item	Size	Qty	Unit Cost	Unit	Subtotal
Pump Station/Wet Well					
New Submersible Pumps	60 Hp	3	\$ 120,000	EA	\$ 360,000
Wet well cleaning and lining	-	1	\$ 40,000	EA	\$ 40,000
Piping Recoating Allowance	-	1	\$ 10,000	AL	\$ 10,000
Building HVAC Replacement	-	1	\$ 20,000	AL	\$ 20,000
Building Coating	--	1	\$ 20,000	LS	\$ 20,000
Subtotal					\$ 450,000
Piping, Valves, Accessories					
Plug Valve (replaces gate valve)	14	14,219	\$ 3	EA	\$ 43,000
Check Valve	14	17,719	\$ 3	EA	\$ 53,000
Miscellaneous Piping and Accessories	-	10,000	\$ 1	AL	\$ 10,000
Subtotal					\$ 106,000
Electrical/SCADA Cost					
Electrical , incl. VFDs (60 Hp), Panelboards, and Switchgear	-	1	\$ 175,000	LS	\$ 175,000
Instrumentation and Controls	-	1	\$ 20,000	LS	\$ 20,000
Programming and Integration	-	1	\$ 5,000	LS	\$ 5,000
Subtotal					\$ 200,000
Demolition and Removal					
				LS	\$ -
Subtotal					\$ 756,000
General Allowance					
Mobilization (Rounded Up)			5%		\$ 38,000
Subtotal					\$ 38,000
Baseline Construction Cost					
					\$ 794,000
Construction Contingency (Rounded Up)			30%		\$ 239,000
Total Construction Cost					\$ 1,033,000
Allowance for Change Orders			10%		\$ 103,300
Construction Inspection			5%		\$ 51,650
Engineering Design			10%		\$ 103,300
Permits/Easements			5%		\$ 51,650
Construction Administration			5%		\$ 51,650
Legal, Fiscal, and Administrative			2%		\$ 21,000
Implementation					\$ 382,550
Total Project Cost (Rounded Up)					\$ 1,420,000
Annualized Total Project Cost (3%, 30 years)					
			0.05102		\$ 72,000
Annual O&M Cost (\$/year)					
					\$ 81,000
Total Annualized Cost (\$/year) (Rounded Up)					\$ 160,000
Annual Operations & Maintenance Cost					
			Basis	Unit Cost	
Pipelines, Valves, Accessories			\$106,000	0.5%	\$ 1,000
Pumps			360,000	2.5%	\$ 9,000
Pumping Energy (5 days operation/year)		kWh	120,000	\$ 0.38	\$ 46,000
Labor				\$ 25,000	\$ 25,000
Total Annual Operations & Maintenance Cost					\$ 81,000

Force Main Replacements

Project: Replace force mains downstream of the following stations:

- Willow Pump Station (circa 1980s), 10" diameter, 700 linear feet
- University Pump Station (1985), 8" diameter, 600 linear feet
- Illinois Pump Station (1985), 6" diameter, 2,100 linear feet

Description:

Based on age and maintenance history, these three force mains are planned to be replaced. For planning purposes, it is assumed that the force mains will be replaced through open cut construction, placing a new force main parallel to the existing to avoid the need for long term bypassing of the entire force main. Design may allow for trenchless replacement (pipe bursting) at lower cost, however bypass pumping will be required, at additional cost. This project adds no new operating or maintenance costs and may offset savings of trenchless methodology. Additionally, it may be beneficial to leave the existing force mains in place as redundant spares for future use.

Costs are summarized in Table 4.

Table 4 - Force Main Replacement Capital Cost Estimate

Planning Level Cost Estimate					
	size	Qty	Unit Cost	Unit	Subtotal
Forcemain Replacements					
(Downstream of)					
Willow Pump Station	10	700	\$ 50	in-diam/LF	\$ 350,000
University Pump Station	8	600	\$ 50	in-diam/LF	\$ 240,000
Illinois Pump Station	6	2,100	\$ 50	in-diam/LF	\$ 630,000
Baseline Construction Cost					\$ 1,220,000
Construction Contingency			30%		\$ 366,000
Total Construction Cost					\$ 1,586,000
Allowance for Change Orders			10%		\$ 158,600
Construction Inspection			5%		\$ 79,300
Engineering Design			7%		\$ 111,020
Permits			2%		\$ 31,720
Construction Administration			5%		\$ 79,300
Legal, Fiscal, and Administrative			2%		\$ 31,720
Implementation (Rounded Up)					\$ 492,000
Total Project Cost (Rounded Up)					\$ 2,078,000
Annualized Total Project Cost (3%, 30 years, Rounded Up)			0.05437		\$ 113,000
Total Annualized Cost (\$/Year)					\$ 113,000

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Appendix I
Recycled Water Program TM (Woodard & Curran)

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TECHNICAL MEMORANDUM

TO: Vivian Housen, Principal, V.W. Housen & Associates, Inc.

PREPARED BY: Kelsey Bradley, Woodard & Curran, CA PE No. 94000

REVIEWED BY: Dave Richardson, Woodard & Curran, CA PE No. 37097

DATE: November 30, 2023

RE: Final West Bay Sanitary District Recycled Water Plan



1. INTRODUCTION

1.1 Background

West Bay Sanitary District (WBSD or District) maintains and operates over 200 miles of main line sewer in the City of Menlo Park (City) and portions of the Cities of East Palo Alto, Redwood City, the Towns of Atherton, Woodside and Portola Valley and portions of Unincorporated San Mateo and Santa Clara Counties. The raw wastewater collected by WBSD is conveyed to Silicon Valley Clean Water (SVCW) where the wastewater is treated and discharged or reused. **Figure 1** illustrates the WBSD boundaries and the study area.

In 2014, WBSD completed a Recycled Water Market Survey (Market Survey) (RMC, 2014), including a preliminary market and recycled water supply assessment and an evaluation of three conceptual alternatives to serve recycled water customers to assess overall feasibility of expanding the service area water supply portfolio to include recycled water.

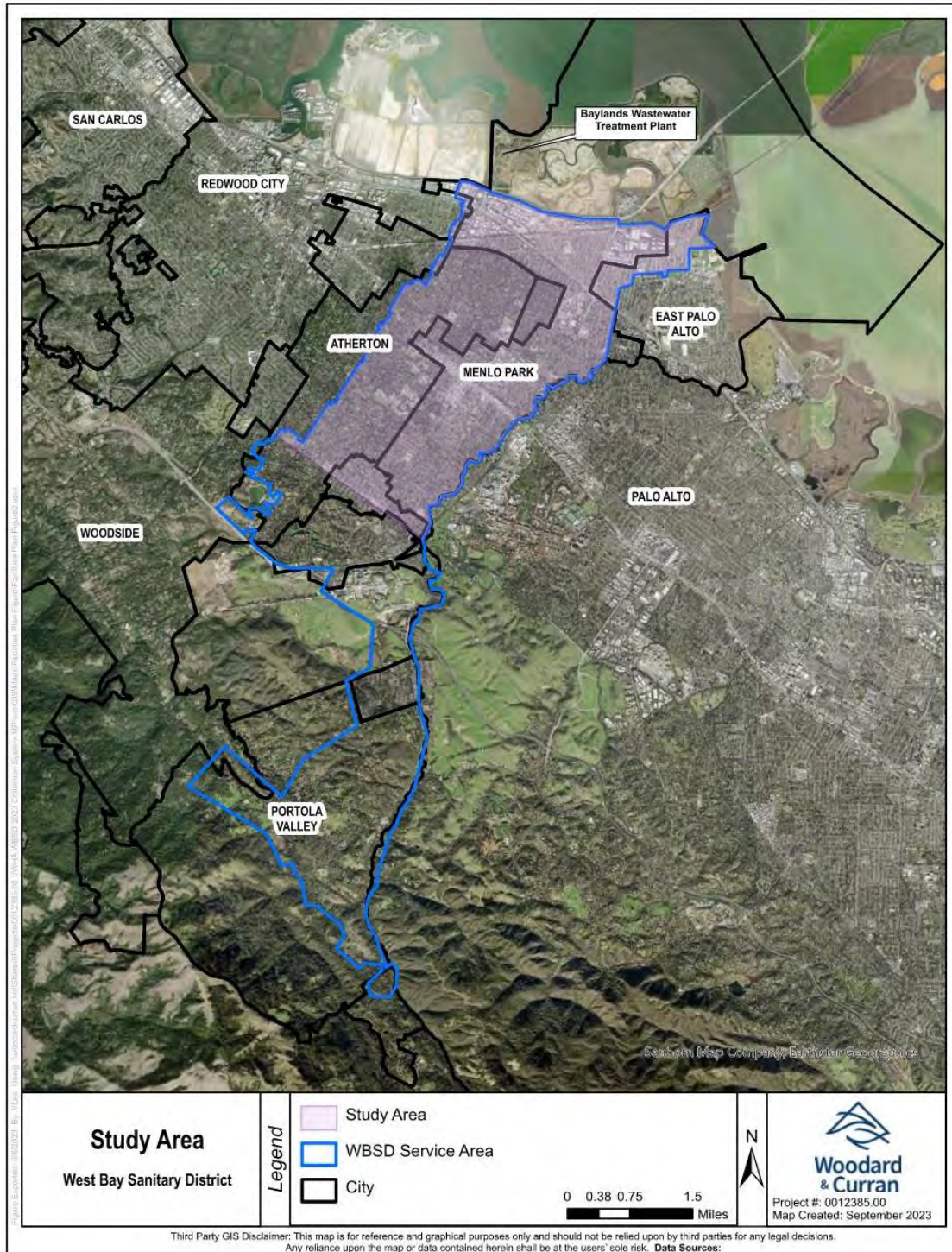
WBSD decided to further evaluate a satellite treatment plant at Sharon Heights Golf & Country Club (SHGCC) and recycled water use at the golf course and other potential customers near the golf course. This evaluation was documented in the Sharon Heights Recycled Water Facilities Plan (RMC, 2015), and WBSD completed the construction of this new satellite water reclamation plant, herein referred to as the Sharon Heights Recycled Water Project, in May 2020.

In 2019, Woodard & Curran completed the WBSD Bayfront Recycled Water Facilities Plan (Bayfront RWFP), which evaluated projects identified in the Market Survey in the Bayfront area. This Recycled Water Plan Technical Memorandum (TM) builds off the work completed in the Bayfront RWFP to update and refine the market assessment and analyze various recycled water project alternatives.

The Bayfront facilities, including the influent facilities (pump station and pipeline), treatment facilities, and distribution facilities (pump station and pipeline) have already been planned and are in the 30% design phase. Therefore, this report focuses on additional distribution facilities that extend down to the central and southwest portions of the study area.

This chapter of the report includes background on the District and previous planning efforts, a description of the study area, documentation of the goals and drivers for considering implementation of additional recycled water distribution pipeline in the study area, and a discussion of the TM objectives and approach.

Figure 1: Study Area



1.2 Objectives and Approach

The objectives of this TM are to expand on the previous recycled water market and supply evaluation from the Bayfront RWFP developed by Woodard & Curran in May 2019 and:

1. Identify optimal areas for recycled water distribution pipe such that installation can occur simultaneously with sewer improvement projects in WBSD's service area;
2. Identify a recycled water expansion and production strategy for the Bayfront area to the Government Center, including target customers, planning-level design criteria, and a planning-level cost estimate;
3. Prepare an implementation plan for the recommended project, including an implementation schedule and a construction financing plan.

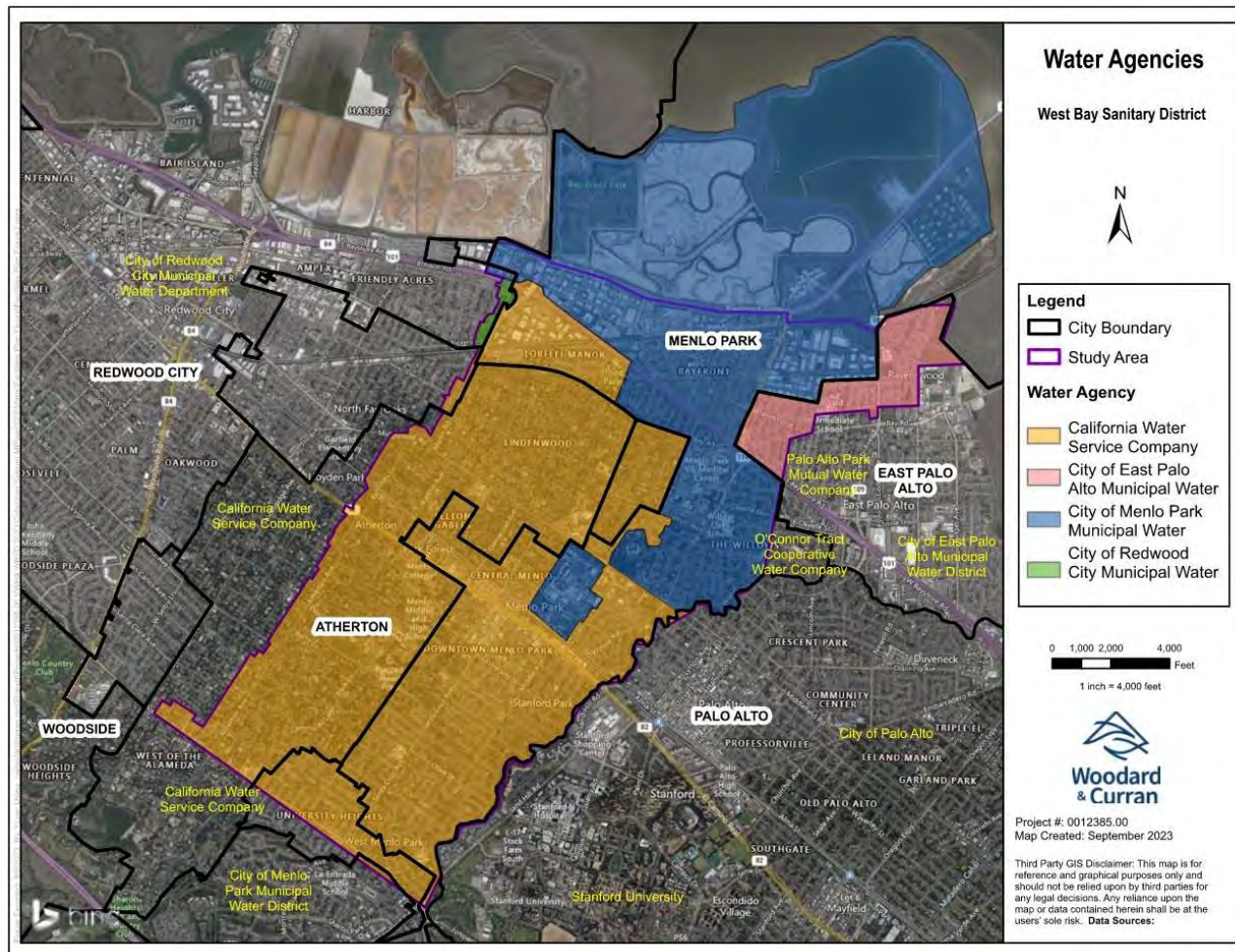
1.3 Study Area Characteristics

This section provides additional background information on the characteristics of the study area, including a discussion of water demand and supply.

1.3.1 Study Area

The study area for this TM is defined as the northwestern section of the WBSD service area, as shown in **Figure 1**. The study area includes the Bayfront area, which has experienced a surge of development in recent years. An increased interest in recycled water has been seen from potential future customers in the Bayfront area that prompted the study of the potential demand for recycled water. The recycled water facility will be located at the abandoned WBSD wastewater treatment plant (WWTP) site; hence, the southeastern section of the WBSD service area was not considered for this Report. There is limited development potential in the southeastern section of the service area, and therefore less incentive for WBSD to invest in additional recycled water infrastructure. Potable water in this section of the District's service area is supplied by Menlo Park Municipal Water (MPMW) and California Water Service (Cal Water) as shown in **Figure 2**.

Figure 2: Study Area Water Agencies



1.3.2 Water Demand

Based on the 2020 Urban Water Management Plan for the Menlo Park Municipal Water District (EKL, 2021), the population of the City of Menlo Park served by the MPMW is expected to increase from 18,276 in 2020 to 30,184 in 2040, increasing overall water demand substantially. In addition to residential growth, the City is anticipating commercial development in the future, and employment in the service area is estimated to increase from 23,574 jobs in 2020 to 37,311 jobs in 2040, which is an increase of 58%, increasing both overall and nonpotable recycled water demand.

Cal Water serves the Bear Gulch District, which includes Portola Valley, Woodside, Atherton, and portions of Menlo Park, Redwood City, and San Mateo County. Based on the 2020 Urban Water Management Plan, Bear Gulch District (EKL, M.Cubed, Gary Fiske and Associates, 2021), population in Cal Water's service area is expected to reach 62,302 in 2040, increasing from an estimated 60,814 in 2020. While Cal Water supplies water to residential, commercial, industrial, and governmental customers, about 84 percent of them are residential customers.

MPMW demands are expected to grow from 1,069 AFY in 2020 to 4,183 AFY in 2040, and Cal water demands are expected to decrease from 12,972 AFY in 2020 to 12,675 AFY in 2040 (EKL, M.Cubed, Gary Fiske and Associates, 2021). For this reason, the driver for recycled water expansion in Cal Water's service area served by WBSD is much lower. Expected water savings and estimated growth were considered for projected water demands.

1.3.3 Water Supply

MPMW purchases all its water from the San Francisco Public Utilities Commission (SFPUC), while Cal Water's supply for all three of its districts on the San Francisco Peninsula is a combination of mostly water purchased from SFPUC and a small percentage of local surface water sources. For the Bear Gulch District, about 95 percent of the water is purchased from SFPUC and 5 percent is produced from the District's reservoir and treatment plant in Atherton (EKL, M.Cubed, Gary Fiske and Associates, 2021).

With increasing water demands forecasted over the next 20 years and the Study Area's dependence on the SFPUC water, adequate water supply for the region is an issue that recycled water could help address.

Since the 1960s, the City's primary source of potable water has been the SFPUC's Hetch Hetchy Regional Water System. The SFPUC system supply is predominantly snowmelt from the Sierra Nevada Mountains, delivered through the Hetch Hetchy aqueducts. The SFPUC wholesales water to MPMW and Cal Water, which are the water retailers for the majority of the customers within the City.

The MPMW's and Cal Water's dependence on SFPUC for potable water supplies leads to several potential issues that may be addressed or reduced by using recycled water in the City:

- **Water Supply Availability during Average Year.** Per the MPMW's contract with SFPUC, the MPMW has an Individual Supply Guarantee of approximately 4,991 AFY through 2034.
- **Water Supply Reliability during Periods of Drought.** The majority of SFPUC water supplies are surface water and susceptible to drought conditions. Supplying recycled water to non-potable demands would dampen drought impacts on potable water supply.

- **Water Supply Reliability during Service Disruptions.** The majority of SFPUC water supplies are piped in from outside the City's immediate area. The City's exclusive dependence on the SFPUC for potable water leaves the City in a vulnerable position to service disruptions and outages if an event (e.g., earthquake) damages the transmission system. To address this issue, SFPUC undertook the Water System Improvement Program to address reliability and seismic protection in their system. In addition, recycled water would allow for the use of a local, reliable water supply for non-potable demands in the event of service disruptions.

2. POTENTIAL RECYCLED WATER CUSTOMERS AND DEMANDS

This section discusses updates to previous efforts to determine potential recycled water customers and demands in the study area. The previous work consists of the Bayfront RWFP (Woodard & Curran, 2019) and the Bayfront Recycled Water Project (Woodard & Curran, 2021).

2.1 Market Assessment

2.1.1 Bayfront RWFP (2019)

A preliminary recycled water market assessment was conducted as part of the Market Survey (RMC, 2014) that included a preliminary definition of the Baylands WWTP Facility project concept in the Bayfront area. For the Bayfront RWFP, the preliminary recycled water market assessment was refined to:

- **Refine customer demand estimates, define demand profiles, and identify other potential customers near Bayfront.** The Bayfront RWFP considered additional potential potable water customers (existing and future) that were not originally evaluated during the 2014 Markey Survey.
- **Confirm/refine the water quality needs.** The Bayfront RWFP expanded upon the original water quality needs identified in the Markey Survey by considering additional monitoring as well as identifying any customer needs related to water quality.

The refined market assessment formed the basis for evaluating recycled water distribution alternatives in the Bayfront RWFP. Refinements to potential uses, customers, and recycled water demands applied specifically to the development of a satellite treatment plant at the old WBSD Baylands WWTP site and recycled water delivery to potential local customers in the Bayfront area.

Figure 6 of the Bayfront RWFP shows the potential recycled water customers that were considered when developing the recycled water distribution alternatives and recommended project. See Section 3.2.6 of the Bayfront RWFP, in which Table 7 presents the list of potential recycled water customers with potable water offset and Table 8 presents the list of potential recycled water customers with groundwater offset.

2.1.2 Bayfront Recycled Water Project (2021 Update)

The 2021 Bayfront Recycled Water Project expanded the list of potential recycled water customers to include existing and future developments not previously included in the Bayfront RWFP. The potential recycled water customers evaluated in this project were existing Facebook facilities, the Menlo Park Community Center, and new developments within the Bayfront area. **Table 1** lists the customers evaluated in this update. The recycled water demands for potential new development customers were provided by developers and Menlo County Club.

Table 1: Potential Bayfront Recycled Water Demands (New Development, Menlo Park Community Center, and Existing Facebook)

Project/Developer	Average Day Peak Month (MGD)	Average Day (Annual) (MGD)	Annual Total (MG)
Willow Village (Signature)	0.26	0.17	58
123 Independence (Sobrato)	0.00058	0.00039	0.14
Commonwealth 3 (Sobrato)	<i>Information needed</i>		
1350 Adams (Tarlton)	0.039	0.026	9.5
Menlo Portal (Greystar)	0.013	0.0085	3.1
Menlo Uptown (Greystar)	0.012	0.0079	2.9
Menlo Flats (Greystar)	0.007	0.0044	1.6
CS Bio		0.004	1.5
Mid Pen	<i>Small demand</i>		
Subtotal (New Development)	0.34	0.22	77
Menlo Park Community Center (KPFF)	0.0029	0.0019	0.7
Subtotal (New Development + Menlo Park Community Center)	0.34	0.22	77
Facebook Campus Expansion	0.04	0.028	10
Facebook MPK 20	0.12	0.077	28
Facebook MPK 21 & 22	0.098	0.065	24
Facebook MPK 23	0.028	0.019	6.8
Subtotal (Existing Facebook)	0.28	0.19	69
TOTAL	0.62 MGD	0.41 MGD	146 MG

2.1.3 Approved and Pending Development Projects (2023)

A list of approved and pending development projects (Development Projects List) in the study area was provided by WBSD in May 2023. Development projects that were provided on this list but not accounted for in the Bayfront RWFP or the 2021 Bayfront Recycled Water Project were also included as potential recycled water customers in this TM. A complete list of customers developed for this TM is provided in **Appendix A**.

2.2 Non-Potable Demand Estimate Methodologies

The existing and potential customers considered in this TM were sourced from the Bayfront RWFP, the 2021 Bayfront Recycled Water Project, and the 2023 Development Projects List provided by WBSD. The total non-potable demand for each customer is comprised of three demand types: irrigation, flushing, and cooling tower demands. The methodologies listed below were used to estimate these demands based on available data and use type:

Method 1 – Irrigation and Cooling Demands from the Bayfront RWFP

Irrigation and cooling tower demands were estimated for potential recycled water customers in the Bayfront RWFP and used in this analysis. The non-potable demand for these customers was based on use type: either

irrigation or multi-use. Note that all potential customers considered in the Bayfront RWFP had estimated irrigation demands, but only two customers, USGS and the Menlo Park Veteran's Administration (VA) Medical Center (Veteran's Administration), were estimated to have cooling demands. No customers considered in the Bayfront RWFP were estimated to have flushing demands. The ConnectMenlo customer listed in the Bayfront RWFP was identified as the 2014-2016 update of the Land Use and Circulation Elements of the City of Menlo Park General Plan. The City Council identified the area generally between US 101 and the Bay adjoining the Belle Haven Neighborhood, where the transition from traditional industrial uses was well underway, as the primary location for potential change in the city over the coming decades (Woodard & Curran, 2019). This customer was removed in this TM since more recent updates, including the Bayfront Recycled Water Project from 2021 and the Approved and Pending projects list from May 2023, gave a more up-to-date picture of future development in the Bayfront area. A list of the customers from the Bayfront RWFP and the basis for their irrigation and cooling demands is provided in **Appendix B**.

Method 2 – Irrigation, Cooling, and Flushing Demands from Bayfront Recycled Water Project (2021 Update)

Irrigation, cooling, and flushing demands were estimated for potential recycled water customers in the Bayfront Recycled Water Project. These demands were refined in September 2021. Estimates were based on annual average demands (AAD). Note that some customers did not have available data on cooling or flushing. A list of the customers from the Bayfront Recycled Water Project 2021 update and the basis for their irrigation and cooling demands is provided in **Appendix C**.

Method 3 – Irrigation Demands for Development Projects List (2023)

Irrigation demands for potential customers from the Development Projects List were estimated depending on the available information for each customer. One of the following methods was used to estimate the recycled water demand for each customer:

- **Method 3.1:** Estimated Total Water Use (ETWU) from Development Planning Documents – Irrigation demand for some customers corresponds to the ETWU, if available, from their development planning documents downloaded from Menlo Park's website: [Projects City of Menlo Park](#).
- **Method 3.2:** Development Planning Documents (estimate using irrigated area) – Irrigation demand for some customers corresponds to the total irrigated area, if available, from their development planning documents downloaded from Menlo Park's website.
- **Method 3.3:** Development Planning Documents (estimate using 10% irrigated area) – Customers that had development planning documents available but did not have irrigated areas listed were assumed to have 10% of the total site area irrigated.
- **Method 3.4:** Aerial View Approximation – Irrigation estimates for customers that did not have the above information were determined by measuring the approximate building area from the aerial view in Google Earth. 10% of the approximated area was assumed to be irrigated.

For Method 3.2, 3.3, and 3.4, once the irrigated area was retrieved/estimated for each customer, the area was multiplied by an irrigation demand factor of 3.3 AFY per year, which was adopted from the irrigation demand estimates in the Bayfront RWFP. One customer from the Development Projects List, Guild Theater,

was deemed unlikely to have irrigation demands. The Development Projects List is included in **Appendix D**.

Method 4 – Cooling and Flushing Demand Calculations for Development Projects List (2023)

Cooling and flushing demands for the customers on the development projects list that did not already have cooling and flushing demands from Method 1 or Method 2 were calculated using the average ratio of demand (number of gallons) per commercial building area (square foot) for both flushing and cooling for the Bayfront customers from the 2021 Bayfront Recycled Water project. The average ratios were then multiplied by the total commercial building area for customers from the Development Projects List. Note that the average cooling and flushing ratios were derived from customers that had both flushing and cooling demands (no demands of 0 were included). All Greystar customers were also excluded since they are mixed-use buildings with unrepresentative commercial area to building area ratios. The calculated flushing and cooling ratios are provided in **Appendix E**.

Commercial customers were assumed to have both cooling and flushing demands. However, hotels and some customers, such as Parkline (SRI International), were assumed to have no flushing demands due to not having dual plumbing.

2.3 Demand Peaking Factors

Facilities for treating and conveying recycled water are sized based on the periods of highest demand. Two peak flow situations were defined as criteria for development of the recycled water distribution system in the market assessment: maximum day demand (MDD) and peak hour demand (PHD). The average daily demand during the peak demand month of the year is the assumed MDD. PHD is defined as the maximum anticipated flow rate delivered to a customer (in gallons per minute) during MDD conditions. MDD and PHD factors were updated from the market assessment based on use type and are discussed as follows. Revised MDD and PHD values are presented and are summarized in **Table 2**.

MDD for irrigation is based on net evapotranspiration data from the Western Regional Climate Center, which shows that July is the peak demand month for the WBSD service area for irrigation customers. The MDD peaking factor is 2.0 times the average annual demand (AAD) based on the estimated irrigation demand in July being twice the AAD. Irrigation-only customers without on-site storage typically operate at night for an 8-hour irrigation period. Therefore, the PHD factor was estimated at 3.0 (24-hour/8-hour irrigation = 3.0).

MDD for a cooling tower is based on an assumption that cooling towers operate 8 months out of the year. The MDD peaking factor of 1.5 recognizes the differences in water demand during the cooler months in the 8-month operating window and during the months with higher temperatures/higher water demands. As projects progress, it's important to work with the individual facility managers to understand their specific cooling towers and the water demand (i.e., onsite storage/break tanks, etc.). Furthermore, it is assumed that cooling towers operate for 12 hours daily. Consequently, the PHD is calculated as 2 times the MDD to accommodate this operating pattern.

For flushing demand, the MDD peaking factor of 1 is applied, as the demand remains consistent throughout the year and does not fluctuate with seasons. The PHD is set at 2, considering a 12-hour daily pumping cycle to fill the flushing roof tank.

Table 2: Demand Peaking Factors

Peaking Factors	Type of Use		
	Irrigation	Flushing	Cooling Tower
ADD to MDD	2.0	1.0	1.5
MDD to PHD	3.0	2.0	2.0
AAD to PHD	6.0	2.0	3.0

2.4 Customer Demands and Planned/Proposed Recycled Water Distribution System

A map of the estimated customer average annual demands in million gallons per year (MG) is shown in **Figure 3**. The seven largest customer demands and all customers in addition to Bayfront customers that are the focus of this TM are labeled by name and estimated recycled water average annual demand. **Figure 3** also shows existing, planned, and proposed recycled water distribution pipeline alignments to service customers in the study area. Phase 1 includes all planned purple pipe in the Bayfront area, which is currently being designed; Phase 2 includes the proposed orange pipelines that would service Flood Park, Veteran's Administration, Menlo-Atherton High School, and Parkline (SRI International); and Phase 3 includes additional potential pipe in the Southwest and Eastern portions of the study area. Phase 3 pipelines are broken out into dashed and solid; the solid lines are the primary proposed pipes, and the dashed lines represent possible looping of the system. The purple dashed line is existing recycled water pipe. As stated previously, the focus of this TM is on the proposed Phase 2 recycled water distribution facilities, but the Phase 3 pipeline is included for discussion purposes.

Table 3 summarizes the total demand per phase. Customers that were more than 1,000 feet away from the pipelines were not included in this demand estimate.

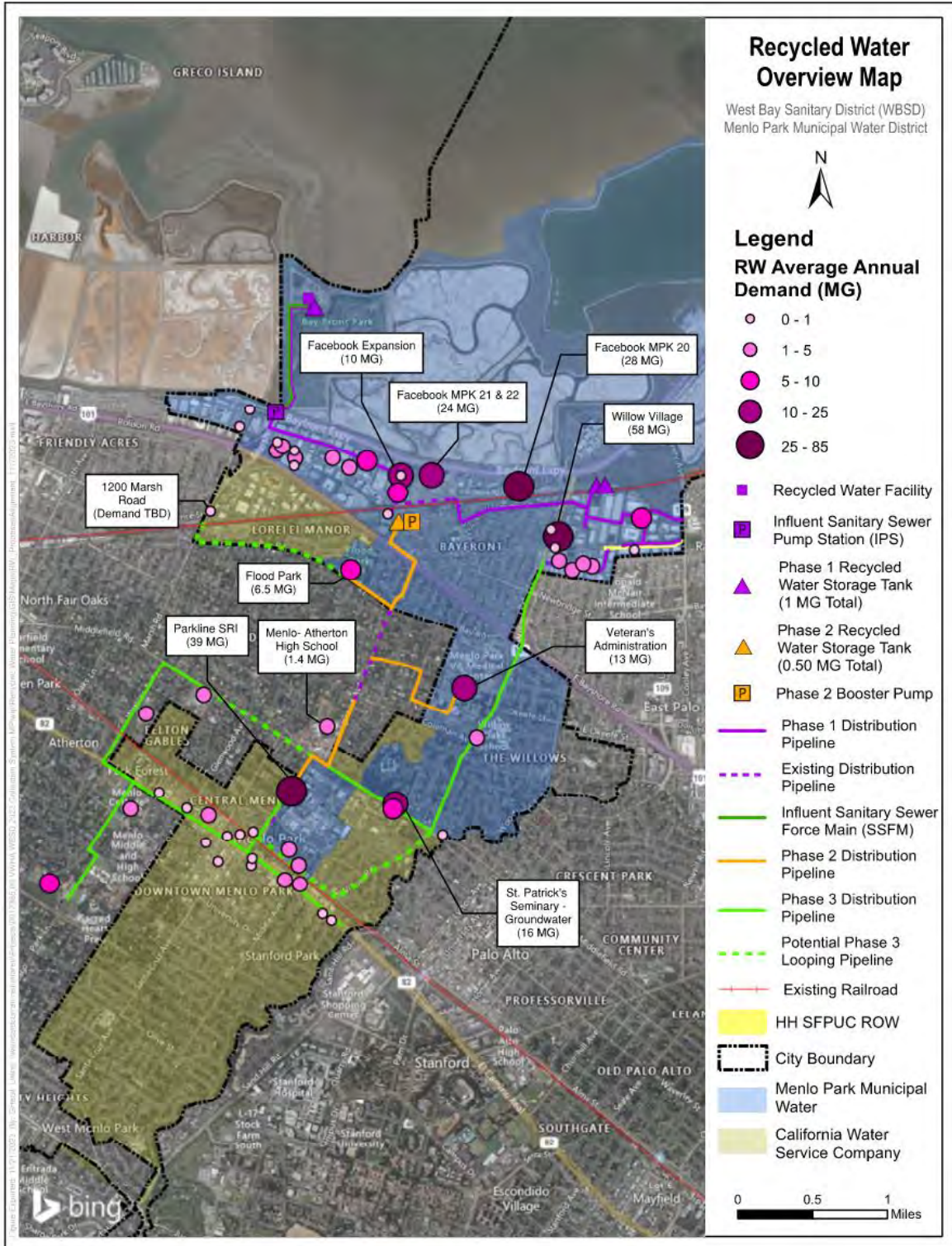
Table 3: Customer Demands by Pipeline Service Region

Pipeline Service Region	RW Average Annual Demand (AFY)	RW Average Annual Demand (MG)	RW Average Daily Demand (MGD)
Phase 1, Northwest Area (Bayfront) ¹	548.33	178.64 ⁴	.49
Phase 2, Central Area ²	182.55	59.48	0.16
Total Phase 1 and 2	730.89	238.16	0.65
Phase 3, Southwest and Eastern Area ³	199.71	65.08	0.18
Total Phase 1, 2, and 3	930.60	303.24	0.83

Notes:

1. Area north of Highway 101.
2. Extending south of Highway 101 down Ringwood Ave., with an endpoint at Parkline (SRI International).
3. Extending farther south and west to customers surrounding Downtown Menlo Park and east along Middlefield Road and Willow Road.
4. The recycled water demand for Phase 1 in this table is larger than the demand listed in Table 1, from the 2021 update, because the amount in this table includes two customers from the Bayfront RWFP and some additional customers from the 2023 Development Projects List.

Figure 3: Recycled Water Overview Map



3. TREATMENT PLAN

This section describes the potential recycled water supplies available for production of recycled water generated in the Bayfront area of the WBSD service area.

3.1 Recycled Water Quality Requirements

Potential irrigation customers have different water quality needs according to their intended use. The following section describes water quality guidelines for landscape irrigation, the primary type of demand within WBSD. The section also describes the recommended level of treatment based on these requirements.

3.1.1 Irrigation Water Quality Requirements

Water quality guidelines for landscape use are well established. **Table 4** characterizes three degrees of restriction (none, slight to moderate, and severe) for use of recycled water in landscaped irrigation based on various water quality constituents (although specific requirements vary depending on the type of plant).

Table 4: Landscape Irrigation Water Quality Comparison

Constituent	Units	Degree of Restriction on Use ⁽¹⁾		
		None	Slight to Moderate	Severe
Salinity				
TDS	mg/L	<450	450-2,000	>2,000
Specific Ion Toxicity				
Sodium (Na) ^(2,3)	mg/L	<70	>70	
Chloride (Cl) ^(2,3)	mg/L	<100	>100	
Boron (B)	mg/L	<0.7	0.7-3.0	>3.0
Miscellaneous Effects				
pH	-	6.5-8.4		
Total Nitrogen ⁽⁴⁾	mg/L	<5	5-30	>30
Bicarbonate ⁽⁵⁾	mg/L	<90	90-500	>500

Notes:

1. Adapted from Metcalf and Eddy, 2007.
2. Values apply to most tree crops and woody ornamentals which are sensitive to sodium and chloride.
3. With overhead sprinkler irrigation and low humidity (<30%), sodium or chloride levels greater than 70 or 100 mg/L, respectively, have resulted in excessive leaf adsorption and crop damage to sensitive crops.
4. Total nitrogen should include nitrate-nitrogen, ammonia-nitrogen, and organic-nitrogen. Although forms of nitrogen in wastewater vary, the irrigated plant responds to the total nitrogen.
5. Overhead sprinkling only.

Except for nitrogen, the constituents in **Table 4** are not removed by conventional wastewater or tertiary treatment processes. Therefore, recycled water constituent levels are likely to be similar to the source wastewater constituent levels.

3.2 Non-Potable Treatment

3.2.1 Baylands Wastewater Treatment Plant (WWTP) Site

WBSD previously owned and operated its own WWTP located adjacent to San Francisco Bay north of Highway 101, referred to herein as the Baylands WWTP site. The entire flow from the WBSD collection system converges at the Baylands WWTP site and from there is pumped to SVCW. Structures from the WWTP still exist at the site but are in poor condition and not likely capable for reuse in a new plant. Due to its location relative to the collection system and the availability of land to construct a new treatment plant, the Baylands WWTP is an advantageous location for a new centralized treatment plant that could be used to produce recycled water. The three storage ponds on the west and north side of the site are used for storage during wet weather flows and are referred to as the Flow Equalization and Resource Recovery Facility.

3.2.2 Baylands Wastewater Characterization

This section presents the preliminary wastewater quality and flow characterization of potential influent wastewater.

3.2.2.1 Preliminary Wastewater Quality Characteristics

The satellite treatment project requires diversion of wastewater flow from the existing collection system to the new treatment facilities. Two locations in the collection system were measured for water quality and flow:

1. 24-in Sewer – Haven (Flow and Water Quality)
2. 54-in Sewer – Kelly Park (Flow and Water Quality)

Table 5 summarizes the average of the sampling results from 10 to 20 sample events (2 times per day for 5 to 10 days) in June, August, and September 2023.

Table 5: Water Quality Sampling Results

Constituent ¹	Unit	Haven	Kelly Park
Ammonia	mg/L	48	60
BOD	mg/L	206	231
EC	umhos/cm	773	761
TDS	mg/L	317	269
TSS	mg/L	194	237
TKN	mg/L	52	67
Tannins & Lignins	mg/L	11	10
Total Phosphorus	mg/L	6	6
Silica	mg/L	30	35
Calcium	mg/L	21	14
Alkalinity	mg/L	216	234
pH	-	7	7
Temperature	F	55	56

Notes:

1. Ammonia, BOD, EC, TDS, TSS, and TKN were measured with 20 sample events (2 times per day for 5 days in June and 5 days in September); Tannins & Lignins were measured with 10 sample events (2 times per day for 5 days in August); Total Phosphorus, Silica, Calcium, Alkalinity, pH, and Temperature were measured with 10 sample events (2 times per day for 5 days in September).

3.2.2.2 Preliminary Wastewater Flows

Flow monitoring was conducted by WBSD in June 2023 for 5 days at the two sites mentioned previously. **Table 6** summarizes preliminary data for the average flow during the monitoring period, average minimum hourly flow, and average maximum hourly flow.

Table 6: Available Wastewater Flows (MGD)

Site	Monitoring Period	Minimum Flow	Average Flow	Maximum Flow
Haven	6/18/26 – 6/22/23	0.6	1.1	1.6
Kelly Park	6/18/26 – 6/22/23	0.3	0.9	1.6

3.3 Treatment Requirements for Reuse

Based on the target uses, the treatment facilities would need to meet Title 22 Disinfected Tertiary Recycled Water requirements. **Table 7** summarizes the water quality requirements, which vary depending on the type of filtration technology used.

Table 7: Title 22 Disinfection Tertiary Recycled Water Quality Requirements

Process	Requirement
Filtration Method	
Coagulated ¹ and passed through a bed of filter media	Rate does not exceed 5 gallons per minute per square foot of surface area in mono, dual or mixed media gravity, upflow or pressure filtration systems. Turbidity of the filtered wastewater does not exceed any of the following: An average of 2 NTU within a 24-hour period; 5 NTU more than 5 percent of the time within a 24-hour period; and 10 NTU at any time
Microfiltration, Ultrafiltration	Turbidity does not exceed any of the following: 0.2 NTU more than 5 percent of the time within a 24-hour period; and 0.5 NTU at any time
Disinfection	
UV	A disinfection process that, when combined with filtration, has been demonstrated to achieve 5-log inactivation of virus. The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

NTU: Nephelometric Turbidity Units

Note:

1. Coagulation need not be used as part of the treatment process provided that the filter effluent turbidity does not exceed 2 NTU, the turbidity of the influent to the filters is continuously measured, the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU, and that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU for more than 15 minutes.

3.4 Potential for Direct Potable Reuse

Nonpotable reuse, as envisioned in the Bayfront area and beyond, allows for the highest and best use of the WBSD water resource. Centralized treatment for IPR and DPR is being investigated right now by Silicon Valley Clean Water for advanced treatment associated with the Regional WWTP in Redwood City. In partnership with the City of San Mateo, the SFPUC (the water wholesaler for much of the region), and with Cal Water (retailer in much of the Silicon Valley Clean Water and San Mateo Service areas), the San Francisco-Peninsula Regional PureWater project is being developed and may bring the opportunity for WBSD to receive some of those regional benefits. Future DPR opportunities could allow WBSD to potentially repurpose some of its nonpotable recycling treatment and distribution assets. But, in the meantime, investment in nonpotable reuse treatment and distribution in the WBSD service area provides for the best short term, and potentially long term, utilization of this precious wastewater resource.

4. PROJECT DEVELOPMENT

This Chapter documents the Project recycled water production assumptions and the process of determining the Recommended Project.

4.1 Planning and Design Assumptions

Table 8 summarizes the design criteria used to size infrastructure.

Table 8: Facilities Criteria and Hydraulic Criteria

Item	Value	Units/Notes
Pump Stations		
Pump Efficiency	75	%
Pipelines		
Max Velocity for Sizing	5	ft per second
C Coefficient for Headloss	130	Assuming PVC pipe
Max Headloss	5	ft per 1,000 ft
Storage		
Delivery Pressure	70	psi

4.1.1 Cost Estimate Basis

Cost estimates were developed to evaluate and support the selection of a recommended project. The actual final costs of the project will depend on a variety of factors, including but not limited to actual labor costs, material costs, site conditions, market conditions, project scope, and implementation schedule.

4.1.1.1 Capital Cost Basis

Capital cost estimates were based on similar recycled water projects, cost quotations from suppliers, and industry publications. The Recycled Water Plan is a preliminary planning phase project, the provided estimates are considered Class 5 estimates based on the International (AACEI) Recommended Practice No. 56R-08, Cost Estimate Classification System – As Applied for the Building and General Construction Industries (revised August 2020). Class 5 estimates are based on a level of project definition of 0 to 2 percent and are suitable for alternatives analysis. The typical accuracy ranges for a Class 5 estimate are -20 to -50 percent on the low end and +30 to +100 percent on the high end. In addition, the capital costs include the following contingency and markups:

- Construction Contingency: 30% of raw construction costs to account for unknown or unforeseen construction costs.
- Implementation Allowance:
 - Allowance for Change Orders (5%)
 - Construction Inspection (5%)
 - Engineering Design (7%)
 - Permits/Easements (5%)
 - Construction Administration (5%)
 - Legal, Fiscal, and Administrative (2%)

Estimated costs are referenced to the September 2023 Engineering Construction Cost Index for San Francisco 15489.7.

4.1.1.2 Capital Financing Assumptions

The SWRCB Clean Water State Revolving Fund (CWSRF) offers low interest financing for publicly-owned facilities including recycled water projects. The CWSRF program offers 30-year financing at an interest rate of half the most recent General Obligation Bond rate at time of funding approval rounded up to the nearest one-tenth percent. The interest rate has typically ranged from 2.5 percent to 3.0 percent and is currently 2.1%. CWSRF financing assumptions used to annualize capital costs are:

- Annual Interest Rate: 3.0%
- Term of Financing: 30 years

The rates for CWSRF financing are adjusted every year and change based on the current market conditions, so the actual project financing rate will likely differ from the assumption above.

4.1.1.3 O&M Cost Basis

Operations and Maintenance (O&M) costs are the recurring annual expense to operate and maintain the facilities after construction is completed. The O&M cost estimate is developed based on similar recycled

water projects, vendor quotes, industry publications, and pumping estimates. A contingency is not applied to O&M costs. **Table 9** summarizes O&M cost assumptions.

Table 9: O&M Cost Assumptions

O&M Costs	Unit	Value
Pipeline Consumables	-	0.5% of Pipeline Costs
Pump Station Consumables	-	2.5% of Pump Station Costs
Storage Consumables	-	1% of Storage Tank Costs
Power Costs	\$ per kwh	\$0.30
Labor Costs	\$ per month	\$1,476

4.1.2 Unit Costs and Assumptions

Process facilities, including pipelines, pump stations, and storage tanks, were preliminary sized.

Unit costs were developed based on estimates from recent recycled water projects in California, vendor quotes, and RSMeans construction cost data. Pipeline unit costs were developed using Woodard & Curran's pipeline cost estimating tool with inputs specific to the study area.

4.1.3 Recycled Water Project Components

Production and distribution of disinfected tertiary recycled water from raw wastewater diverted from local sewers includes several components:

- Influent conveyance system: Influent pump station, force main, and equalization
- Water recycling facility (WRF): Grit removal, screening, MBR, UV, chlorination, de-colorization
- Waste return pump station and force main
- Recycled water distribution system: storage, pump station, and pipelines

The influent conveyance system (pump station, force main, and equalization) will be sized to provide a constant feed to the new WRF. Raw wastewater would be pumped from a new manhole at Marsh Road and Bayfront Expressway, which would divert flow from the existing 36-inch sewer to the satellite treatment plant.

The WRF would be sized to meet the max day demand. Due to seasonal irrigation demands, the facility would operate as a dry weather satellite plant – operating at a constant flow rate over 24 hours a day for 8 months of the year and operate at half capacity for 4 months of wet weather to maintain the biological processes.

Grit and screenings produced at the facility would be washed, compacted, and hauled offsite for disposal. Waste sludge and the de-colorization waste product would be discharged by force main to an existing 30-inch sewer main running along the north side of the Bayfront Expressway to be conveyed to SVCW.

The recycled water distribution system would be sized to meet peak hour demand, which typically occurs during an 8-hour period overnight between 8 PM and 4 AM. The peak hour demand for Phase 1 and Phase

2 exceeds the WRF capacity, so recycled water storage would be provided to collect excess supply during periods of low demand so that sufficient supply is available on demand.

4.2 Potential Recycled Water Project

This section describes the Recommended Recycled Water Project (Recommended Project) and includes target customers, project facilities descriptions, cost estimates, and project benefits.

4.2.1 Proposed Recycled Water Project Facilities

The Phase 1 (Bayfront Project) involves the construction of an influent pump station to divert wastewater from the WBSD collection system, approximately 4,900-LF of influent pipeline, a satellite MBR/UV treatment facility to treat and ultimately produce a maximum daily flow of 0.6 MGD (for Bayfront Project only), and a recycled water distribution system including a recycled water storage tank, recycled water pump station, and approximately 30,800-LF of distribution pipeline (approximately 27,500-LF planned and 3,300-LF existing) to various customers.

The Phase 2 Project (focus of this TM) involves the construction of a booster pump station at the intersection of Terminal Ave and Del Norte Ave, where the Phase 2 pipeline begins, to divert recycled water from the Phase 1 system to the Phase 2 system, approximately 19,500-LF of distribution pipeline (approximately 15,900-LF proposed and 3,600-LF existing) to various customers, and a 0.5 MG storage tank.

The possible future Phase 3 Project (not part of the scope of this TM), would involve construction of approximately 38,500-LF of distribution pipeline to various customers and an additional 18,800-LF of pipeline for possible looping purposes.

The Recommended Project (Phase 1 and Phase 2) would deliver an estimated total of 731 AFY (Average Annual Demand) for irrigation, cooling towers, and flushing uses, and a future Phase 3 would deliver an additional estimated total of 200 AFY. A list of recycled water demands (AAD, MDD, and PHD) by customer area and customer use type for the Recommended Project is presented in **Table 10**. WBSD will need to expand the treatment facilities to 1.0 MGD to increase treatment capacity due to Phase 2 increased demand. This increase would allow WBSD to connect to future customers and expand the recycled water distribution system for the future.

Table 10: Recommended Project, Recycled Water Customers

Customer Area	Customer Use Type	AAD (AFY)	MDD (AFY)	PHD (AFY)	AAD (MGD)	MDD (MGD)	PHD (MGD)
Northeast Area (Bayfront) ¹	Irrigation	244	488	1,464	0.22	0.44	1.31
	Toilet Flushing	244	244	390	0.22	0.22	0.35
	Cooling Tower	60	91	181	0.05	0.08	0.16
Total Phase 1		548	822	1,562	0.49	0.73	1.39
Phase 2, Central Area ²	Irrigation	144	289	866	0.13	0.26	0.77
	Toilet Flushing	0	0	0	0.00	0.00	0.00

Customer Area	Customer Use Type	AAD (AFY)	MDD (AFY)	PHD (AFY)	AAD (MGD)	MDD (MGD)	PHD (MGD)
	Cooling Tower	38	58	115	0.03	0.05	0.10
Total Phase 2		183	346	866	0.16	0.31	0.77
Total Phases 1 and 2		731	1,169	2,428	0.65	1.04	2.17
Phase 3, Southwestern and Eastern Area ³	Irrigation	161	322	965	0.14	0.29	0.86
	Toilet Flushing	22	22	35	0.02	0.02	0.03
	Cooling Tower	17	26	51	0.02	0.02	0.05
Total Phase 3		200	369	974	0.18	0.33	0.87
Total Phases 2 and 3		382	715	1,840	0.34	0.64	1.64
Total Phases 1, 2, and 3		931	1,538	3,402	0.83	1.37	3.04

Notes:

1. Area north of Highway 101.
2. Central: Extending south of Highway 101 down Ringwood Ave., with an endpoint at Parkline (SRI International).
3. Southwestern and Eastern Area: Extending farther south and west to customers surrounding Downtown Menlo Park and east along Middlefield Road and Willow Road.

The Recommended Project would divert wastewater from the 36-in sewer pipeline near the intersection of Bayfront Expressway and Marsh Road and pump the wastewater to the Bayfront satellite treatment facility. The treatment facility includes grit removal and fine screening, biological reactor tanks, MBR treatment system, UV disinfection, de-colorization and all appurtenances required for a fully functional treatment system. The product water would be stored in a recycled water tank, and a distribution pump station would be used to deliver recycled water to customers. Grit and screenings would be collected in a common dumpster and hauled offsite for disposal.

Distribution from the satellite treatment facility to customers would be through an 8-inch pipeline (Phase 1). Solids produced from the MBR system would be discharged by gravity through a 4-inch pipeline to the existing 30-inch sewer main running along the north side of the Bayfront Expressway to be conveyed to SVCW. Distribution from the Phase 1 system to Phase 2 would be through a 10-inch pipe, and there would be two 6-inch pipes that would branch off to connect to Flood Park and Veteran's Administration. There is already an existing 8-inch pipe on Ringwood Ave., so that would exist between the two main 10-inch pipes. The Phase 3 pipes were not sized using hydraulic analysis and were assumed to be 8-inch pipes.

Figure 3 maps the customers for the Recommended Project and major facilities.

A summary of key planning-level design criteria for the Phase 2 facilities is presented in **Table 11**.

Table 11: Design Criteria for Recommended Project Phase 2

Component	Value	Units	Notes
Storage and Distribution			
Storage Tank	0.50	MG	
10-inch Pipe	8,600	LF	Proposed
6-inch Pipe	7,300	LF	Proposed
8-inch Pipe	3,600	LF	Existing
No. of Pumps	2	-	1 Duty, 1 Standby
TDH	240	ft	
hp per Pump	50	hp	

With Phase 3 added, there would be an additional 38,500-LF of distribution pipe as well as 18,800-LF of pipe (all 8-inch) for possible looping purposes. Also, Phase 3 would require the installation of two additional 50 hp pumps (3 duty, 1 standby), and the TDH would be approximately 350 ft. The amount of storage would stay the same. Additional treatment capacity beyond 1 MGD would be required for Phase 3 since the MDD for Phases 1, 2, and 3 is approximately 1.4 MGD.

4.2.2 Potential Recycled Water Project Cost Estimate

Table 12 summarizes the estimated cost for the Phase 2 facilities. Costs for both Phase 2 and Phase 3, combined, are also included for reference only, as Phase 3 is a future phase and not included as part of this planning TM for capital improvement plan (CIP) budgeting purposes. The Phase 1 facilities (the Bayfront Project) are also not included in this estimate because, while not yet built, they have already been financed and are currently in the 30% design phase. See **Appendix F** for detailed cost information. **Appendix F** also includes a cost estimate for Phases 2 and 3 with the Phase 3 dashed pipe (proposed looping) included, which is not presented in **Table 12**.

Table 12: Recommended Project Costs

Description	Phase 2 ¹	Phase 2 and 3 ¹
Influent Facilities (Pump Station and Pipeline) ²	\$-	\$-
Treatment Facilities ²	\$-	\$-
Distribution Facilities (Pump Station, Storage Tank, and Pipeline)	\$9,720,000	\$28,211,000
Raw Construction Cost	\$9,720,000	\$28,211,000
Construction Contingency (30% of Raw Construction Cost)	\$2,916,000	\$8,464,000
Total Construction Cost	\$12,636,000	\$36,675,000
Implementation Cost	\$3,664,000	\$10,636,000
Total Capital Cost	\$16,300,000	\$47,300,000
Annual Cost of Distribution Facilities	\$64,000	\$163,000
Annual Treatment Cost	\$500,000	\$1,000,000
Annual Cost of Power	\$16,000	\$33,000
Annual Labor Costs	\$18,000	\$18,000
Total Annual O&M	\$598,000	\$1,214,000

Description	Phase 2¹	Phase 2 and 3¹
Annualized Total Project Cost ³	\$887,000	\$2,572,000
Annual O&M Costs	\$598,000	\$1,214,000
Annual Recycled Water Cost	\$7,000	\$9,000
Total Annualized Cost	\$1,492,000	\$3,795,000
Estimated Recycled Water Yield (AFY)	183	382
Unit Cost, Annualized (\$/AF)	\$8,200	\$9,900

Notes:

1. Planning level estimate; costs are in September 2023 dollars.
2. These costs are not included because they are considered part of Phase 1 (the Bayfront Project).
3. Annualized at 30 years, 3.5%.

5. IMPLEMENTATION PLAN

5.1 Institutional Needs

5.1.1 Water Rights

No water rights issues were identified. Water Code Section 1210 states that the WWTP owner shall hold the exclusive right to the treated wastewater as against anyone who has supplied the water discharged into the wastewater collection and treatment system, including a person using water under a water service contract, unless otherwise provided by agreement. WBSD will curtail the sewer flow diverted to SVCW by up to 0.4 MGD; however, no formal agreement is required to reduce the flow to SVCW. The flow reduction will result in a slightly reduced flow charge to WBSD.

WBSD does not currently have an NPDES permit as its wastewater is diverted to SVCW for treatment and discharge to the San Francisco Bay at the Redwood City facility. Water Code Section 1211 requires that before making a change in the point of discharge, place of use, or purpose of use of treated wastewater being discharged to a water body with downstream water rights, the WWTP owner must seek approval from the SWRCB Division of Water Rights, which is accomplished by filing a Petition for Change for Owners of Wastewater Treatment Plants (Petition for Change). The SWRCB must be able to find that the proposed change will not injure other legal customers of water, will not unreasonably harm in-stream uses, and is not contrary to the public interest. Because SVCW is a bay discharger, they do not need a Petition for Change to be filed with the SWRCB due to the change in wastewater discharge volume associated with effluent diverted to the project.

5.1.2 Permitting and Agreements

Several permits were identified as necessary for the implementation of the Recommended Project. Foremost, WBSD would need to obtain a recycled water permit to produce recycled water. WBSD currently operates its sewers under the SWRCB Collection System General Order and will need to obtain an individual Water Reclamation Requirement permit to cover the production of recycled water with the San Francisco Bay Regional Water Quality Control Board for the Bayfront Recycled Water Facility. A Title 22 Engineering Report would be needed to satisfy SWRCB Division of Drinking Water requirements. Standard construction permits including encroachment and air quality permits would also be required. In addition, if MPMW decides to be the recycled water purveyor, MPMW would need to enroll under the State Water Resources

Control Board General Order WQ 2016-0068-DDW for permit coverage of the distribution and use of recycled water, and a recycled water purchase agreement between WBSD and the City / MPMW would be required. If MPMW declines to become the purveyor, WBSD would need to apply for a recycled water permit for the production, distribution, and use of recycled water.

5.1.3 Right of Way Acquisition

No right of way acquisition was identified.

5.2 Financing Plan

This section discusses potential funding sources for the Recommended Project, the construction financing plan, and associated cash flow over the implementation period. Typically, recycled water projects are financed through a combination of grants, partnerships relative to project benefits, and the SWRCB State Revolving Fund (SRF). There are also several bond measures currently in development in the California State Legislature that may provide additional funding streams.

5.2.1 Funding Opportunities

A variety of potential funding opportunities are possible for this project, including the following:

- US Bureau of Reclamation (USBR) WaterSMART: Title XVI Water Reclamation and Reuse Program
- SWRCB CWSRF / Water Recycling Funding Program (WRFP)
- California Infrastructure and Economic Development Bank (I-Bank) Infrastructure State Revolving Fund (ISRF) Program

Each of these funding opportunities is described in further detail in the following sections.

5.2.1.1 US Bureau of Reclamation (USBR) WaterSMART Grants

Through WaterSMART Grants, the Bureau of Reclamation (Reclamation) provides financial assistance to water managers for projects that seek to conserve and use water more efficiently, implement renewable energy, investigate and develop water marketing strategies, mitigate conflict risk in areas at a high risk of future water conflict, and accomplish other benefits that contribute to sustainability in the western United States. Cost-shared projects that can be completed within two or three years are selected annually through a competitive process.

Three categories of WaterSMART Grants are offered through separate funding opportunities: Water and Energy Efficiency Grants; Small-Scale Water Efficiency Projects; and Water Marketing Strategy Grants.

Eligible applicants for all WaterSMART Grants funding opportunities include states; tribes; irrigation districts; water districts; state, regional, or local authorities, whose members include one or more organization with water or power delivery authority; other organizations with water or power delivery authority; and nonprofit conservation organizations that are acting in partnership with and with the agreement of an entity previously described. To be eligible, applicants must be located in the Western United States or U.S. Territories.

5.2.1.1.1 Water and Energy Efficiency Grants

Water and Energy Efficiency Grants, the primary category of funding under WaterSMART Grants, focuses on projects that result in quantifiable and sustained water savings, including canal lining and piping projects, municipal metering projects, and Supervisory Control and Data Acquisition (SCADA) and automation projects. Criteria also place a priority on projects that support broader sustainability benefits, including addressing the impacts of climate change, enhancing drought resiliency, and projects that will complement on-farm irrigation improvements, including those that may be eligible for Natural Resource Conservation Service funding. Applicants may request federal funding: (I) up to \$500,000 for projects to be completed within two years, (II) up to \$2 million for projects to be completed within three years; and (III) up to \$5 million for projects to be completed within three years, with a non-Federal cost share of 50% or more of the total project cost.

The FY23 and FY24 Large-Scale Water Recycled Projects Funding Opportunity was posted September 7, 2023. There are three submission periods: first round of applications are due November 21, 2023; second round of applications are due March 29, 2024; final round of applications are due September 30, 2024.

More information is available here: [View Opportunity | GRANTS.GOV.](#)

5.2.1.2 State Water Resources Control Board Recycled Water Funding

The SWRCB administers the Water Recycling Funding Program and CWSRF loans. Construction grants and loans specific to recycled water programs fall under the Water Recycling Funding Program (WRFP) and follow the CWSRF policy.

5.2.1.2.1 Water Recycling Funding Program

The WRFP funds planning and construction grant, funded through a mix of Proposition 1, Proposition 13, Proposition 68, and CWSRF funds. The WRFP will fund projects that offset or augment state or local fresh water supplies and water recycling research. Construction grants can fund up to 35 percent of the construction cost up to \$15 million. Eligible costs include planning, design, construction management, value engineering, and administration, as well as construction contingencies. As of March 1, 2022, the WRFP has approximately \$231.4 million in state-sourced grant funds and approximately \$21.7 million available in state-sourced loans for construction projects. The SWRCB also has authority to commit approximately \$22.3 million in planning grants. Guidelines were developed for the WRFP in 2019 and are available at https://www.waterboards.ca.gov/water_issues/programs/grants_loans/docs/wrfp_guidelines.pdf.

5.2.1.2.2 Clean Water State Revolving Fund (CWSRF) Program

The SWRCB administers the CWSRF Loan Program. This Program offers low-interest loans to eligible applicants for construction of publicly owned facilities including wastewater treatment, local sewers, sewer interceptors, water reclamation facilities, and stormwater treatment. Funding under this Program is also available for expanded use projects including implementation of nonpoint source projects or programs and development and implementation of estuary comprehensive conservation and management plans.

The process for securing funds includes submitting a CWSRF application, in addition to additional water recycling project-specific application items. CWSRF loans typically have a lower interest rate than bonds, at

half of the General Obligation bond (typically 2.5 percent to 3 percent, currently 2.1 percent) at the time of the Preliminary Funding Commitment. Loans are paid back over 20 or 30 years. Annually, the CWSRF program disburses \$200 million to \$300 million to agencies in California. There is now a \$50 million maximum for each new project added to the CWSRF Fundable List. Repayment begins one year after construction is complete. SWRCB funds projects on a readiness-to-proceed basis. The application process can take up to 6 months; SWRCB recommends collecting required information and applying once the draft CEQA and additional federal requirements (i.e., CEQA+) documents, required resolutions, and financial package are completed. Historically, SWRCB has offered up to \$3 million in principal forgiveness (PF) (i.e., grants) to applicants if the project directly benefits a disadvantaged community (DAC). It is anticipated PF/grants will be made available to DACs in the future. Guidelines for the amounts of PF/grants available to DACs are outlined in the annual Intended Use Plan released by SWRCB each year.

Projects may receive a combination of grant and low interest construction financing. The application process for construction grants and loans is the same and involves completion of an application package consisting of four separate applications to document general project information, financial security, technical project information, and environmental documentation and placement on the competitive funding list. The process is summarized in Figure 7-1. Projects can also apply for planning grants to fund the construction grant application process along with any other planning or design needs.

More information about the SWRCB CWSRF Program can be found at:

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml.

5.2.1.2.3 Facility Construction Grants

The SWRCB administers a grant program to cover construction of recycled water facilities. Per the SWRCB's WRF Guidelines adopted on June 16, 2015, a construction grant can cover 35% of eligible construction costs up to \$15 million, including construction allowances. Eligible costs include construction allowances which may include engineering during construction, construction management, and contingencies limited to 15% of the construction grant value. To be eligible to receive grant funds, at least a 50% local cost share match must be provided. In the past, WRF grant funding came from Proposition 1, but the \$725 million available for recycled water and desalination projects has been exhausted. It is possible the funding could be replenished through another source in the future, such as Proposition 68, the Parks, Environment, and Water Bond approved in June 2018.

A CWSRF application would be submitted, and SWRCB would award the project the best package of funding available at the time of financing agreement execution, which could be a combination of a low-interest loan, grant funding, and/or principal forgiveness.

5.2.1.3 Infrastructure State Revolving Fund (ISRF) Program – I-Bank

The ISRF Program provides low-interest loan financing to public agencies for a wide variety of infrastructure projects such as water supply, parks and recreation facilities, sewage collection and treatment, and water treatment and distribution projects. Funding is available in amounts up to \$25 million with loan terms up to 30 years. The interest rate is set at the time the loan is approved. Eligible applicants include cities, counties, special districts, assessment districts, joint powers authorities, and nonprofit organizations. Applicants must demonstrate project readiness and feasibility to complete construction within two years after I-Bank loan approval. Additionally, eligible projects must promote economic development and attract,

create, and sustain long-term employment opportunities. There is no required match; however, there is a one-time origination fee of 1% of the ISRF financing amount or \$10,000, whichever is greater. Applications are accepted on a continuous basis. The I-Bank recommends applications be submitted upon completion of design, as construction must begin within six months of the I-Bank's loan commitment.

More information about the ISRF Program can be found here: <http://www.ibank.ca.gov/infrastructure-state-revolving-fund-isrf-program/>.

5.2.2 Construction Financing and Cash Flow

The Phase 2 total capital cost is about \$16.3M. The anticipated cash flow over the implementation period of the recommended project is about \$1.6M per year for 10 years. Costs were summarized as part of Section 4, and the unit cost for water at this feasibility is \$8,200/AF. As grants and loans become available to the Recommended Project, rates and charges will be refined. Additionally, the District is in the process of establishing reclaimed water connection and user fees, which will also help offset the capital cost.

5.3 Preliminary Environmental Review

All public projects in California must comply with the CEQA. If a project is not exempt, CEQA provides for the preparation of an Initial Study to analyze whether the project would have a significant impact upon the environment. A Negative Declaration/Mitigated Negative Declaration could be issued if the analysis in the Initial Study determines that the project or action, as proposed or as proposed with specific mitigation measures, would not have a significant impact upon the environment. If the analysis in the Initial Study determines that the project or action has the potential to result in a significant impact(s) to the environment, then an Environmental Impact Report (EIR) would need to be prepared to further address such impacts. If the Initial Study determines that impacts can be reduced to less than significant levels with implementation of mitigation measures, then a Mitigated Negative Declaration can be prepared, and is a shorter process than preparation of an EIR. Based on a preliminary review, it is likely that the District can prepare a Mitigated Negative Declaration for the project, but would be confirmed during the Initial Study phase when preliminary designs for the project are available. In addition to CEQA, a project is subject to National Environmental Policy Act (NEPA) if it is jointly carried out by a federal agency, requires a federal permit, entitlement, or authorization, requires federal funding, and/or occurs on federal land. The SWRCB SRF loan program (see Section 5.2.1 for further discussion) is partially funded by the U.S. Environmental Protection Agency and, as a result, requires additional environmental documentation beyond CEQA – but not as extensive as NEPA – that is referred to as “CEQA-Plus.”

5.4 Engineering, Design, and Construction Activities

The new facilities for the Recommended Project were presented in Section 4.2. This section discusses the effort needed to develop and implement the capital improvement projects identified for the Recommended Project, including advanced water treatment facilities, conveyance pump stations, pipelines, and recycled water storage.

5.4.1 Pre-Design Report

Detailed facilities plans would be prepared for all the new facilities identified for the project, including facilities layouts for the advanced water treatment facilities, conveyance pump stations, pipeline alignments, and recycled water storage. The plans would also include revised capital and O&M cost estimates based on

vendor quotes and proposals. During pre-design, the conceptual design developed in this report would be further developed, and assumptions would be updated, validated and documented. The draft pre-design report is anticipated to take approximately six months.

5.4.2 Final Design

Following preliminary design, design packages would be prepared for the advanced water treatment facilities. Design for the conveyance pump stations and pipelines could proceed independently of the advanced water treatment facility design. The advanced water treatment facilities design is expected to be completed within six to ten months. A bid package (after permitting is completed) could be prepared in two months.

5.4.3 Bidding/Contract Award, Construction, and Startup

Bidding and contract award would commence once the bid package is complete. These tasks are assumed to take three months. The bidding and contract award period is defined as starting from when the bid package is sent for advertisement to the day that the notice to proceed to the contractor is issued. Construction of the advanced water treatment facilities, conveyance pump stations, and conveyance pipelines is anticipated to take one year. The startup period and final approvals of the advanced water treatment facilities and overall project are anticipated to take three months.

5.5 Implementation Schedule

Full implementation of the Phase 2 project is anticipated to take approximately 10 years, and implementation of the Phase 2 pipe will occur simultaneously with the sewer improvements. In summary, all the preliminary studies required to further refine the project need to be completed in order to: 1) prepare the Engineering Report for DDW; 2) initiate environmental documentation; and 3) refine project cost estimates. The environmental documentation should be done in parallel with the Engineering Report.

From a project funding and financing perspective, CEQA certification is the critical path for gaining preliminary approval for grant funding and low-interest loans from the SWRCB. From a project start-up perspective, the Engineering Report approval is the critical path for acquiring a recycled water permit from the San Francisco Bay Regional Water Quality Control Board (RWQCB), which is needed prior to start of operations. CEQA certification is also needed before the RWQCB can issue the tentative permit.

Design of the infrastructure improvements would continue after completion of the relevant preliminary studies in coordination with CEQA and permitting efforts. Applications for funding and stakeholder/public outreach efforts would occur over the lifetime of the project.

6. CONCLUSION AND NEXT STEPS

The possibility of a Bayfront Recycled Water Facility was first presented in the WBSD 2014 Recycled Water Facilities Plan, which identified the Sharon Heights Recycled Water Project as the recommended alternative. Increasing interest in recycled water from potential customers in the Bayfront led to the preparation of the Bayfront RWFP to reassess and update potential demands and alternatives to serve the area. The facilities in the Bayfront, or the Phase 1 facilities, are currently being designed.

The desire to identify optimal areas for additional recycled water distribution pipe beyond Phase 1, such that installation could occur simultaneously with sewer improvement projects in WBSD's service area, led to the development of this TM, which builds upon the Bayfront RWFP to present an extension of the Recycled Water Project, or Phase 2, south of Bayfront to larger customers including Flood Park, Parkline (SRI International), Menlo-Atherton High School, and Veteran's Administration.

Customers include new commercial and residential development planned as well as existing customers. Some of these customers will include indoor use for dual-plumbing systems with demands largely outside of the peak irrigation season and hours and year-round demands. The City and WBSD have been working together to evaluate potential recycled water projects. The City has expressed support for the recycled water project, and WBSD is going to be both the producer and purveyor of recycled water.

The Bayfront Recycled Water Facility and Sharon Heights Recycled Water Project will support the statewide water conservancy efforts by providing a reliable source of water and offsetting potable water use within the Menlo Park Municipal Water Service area, which will also offset the demand in the SFPUC Hetch Hetchy water system. However, the economics of the Phase 2 project will require securing outside funding (e.g. grant funding or new development contributions) to lower the estimated unit cost (\$8,200/AF) to an acceptable level.

The project has the ability to expand in the future to incorporate Phase 3 pipeline. This TM also presents preliminary costs for Phase 3, which would expand the recycled water distribution to customers farther south surrounding Downtown Menlo Park and east along Middlefield Rd and Willow Rd. It is important to note that the addition of Phase 3 would require additional treatment capacity beyond 1 MGD. In addition, Phase 3 would require a high-pressure system of about 150 psi. To counteract this, the District could install a booster pump at another location midway through the Phase 2 and Phase 3 system or reduce the service pressure and require some users to boost in order to receive the minimum 70 psi delivery pressure. WBSD is continuing coordination with the City to determine next steps in project planning.

7. REFERENCES

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APPENDIX A: 2023 RECYCLED WATER CUSTOMERS LIST

2023 Recycled Water Customers List

							Average Annual Demand (AFY)				Average Annual Demand (MG)					
Project Name	Type of Use	Project Address	City	Total Site Area	Irrigated Area	Commercial Space	Irrigation Demand	Flushing Demand	Cooling Demand	Total Demand	Irrigation Demand	Flushing Demand	Cooling Demand	Total	Associated Pipe Segment *	Method(s) Used
Menlo Gateway Phase I	Office	100 Independence Dr	Menlo Park	4.08	0.41	177,640	1.35	7.38	2.34	11.07	0.44	2.40	0.76	3.61	Phase 1	Method 3, Method 4
Menlo Gateway Phase II	Office	101 and 155 Constitution Dr	Menlo Park	8.30	0.83	495,000	2.74	20.56	6.53	29.83	0.89	6.70	2.13	9.72	Phase 1	Method 3, Method 4
1010 Alma St	Office	1010 Alma St	Menlo Park	0.70	0.07	25,156	0.23	1.04	0.33	1.61	0.08	0.34	0.11	0.52	Phase 3	Method 3, Method 4
650 Live Oak Ave	Office	650 Live Oak Ave	Menlo Park	0.69	0.41	16,854	1.36	0.70	0.22	2.28	0.44	0.23	0.07	0.74	Phase 3	Method 3, Method 4
Facebook Expansion Project	Office/Hotel	301 Constitution Dr	Menlo Park			962,400	11.97	15.20	4.50	31.68	3.90	4.95	1.47	10.32	Phase 1	Method 3, Method 4
1430 O'Brien Dr	R&D/Restaurant/Recreation	1430 O'Brien Dr	Menlo Park	1.71	0.17	18,506	0.56	0.77	0.24	1.58	0.18	0.25	0.08	0.51	Phase 1	Method 3, Method 4
Guild Theater	Entertainment	949 El Camino Real	Menlo Park			10,854	0.00	0.45	0.14	0.59	0.00	0.15	0.05	0.19	Phase 3	Method 3, Method 4
506 Santa Cruz Ave, 556 Santa Cruz Ave, 1125 Merrill St	Office	506 Santa Cruz Ave, 556 Santa Cruz Ave, 1125 Merrill St	Menlo Park	0.97	0.10	26,843	0.32	1.11	0.35	1.79	0.10	0.36	0.12	0.58	Phase 3	Method 3, Method 4
Hotel Nia	Hotel	200 Independence Dr	Menlo Park	3.84	0.38	68,258	1.27	0.00	0.90	2.17	0.41	0.00	0.29	0.71	Phase 1	Method 3, Method 4
Park James Hotel	Hotel	1400 El Camino Real	Menlo Park	0.49	0.05	9,631	0.16	0.00	0.13	0.29	0.05	0.00	0.04	0.09	Phase 3	Method 3, Method 4
Stanford - 500 El Camino Real	Residential/Office/Retail/Restaurant	500 El Camino Real	Menlo Park		1.37	153,126	4.51	6.36	2.02	12.89	1.47	2.07	0.66	4.20	Phase 3	Method 3, Method 4
Springline	Residential/Office/Retail/Personal Service	1300 El Camino Real	Menlo Park	0.96	0.10	224,103	0.32	9.31	2.96	12.58	0.10	3.03	0.96	4.10	Phase 3	Method 3, Method 4
1021 Evelyn St.	Residential/Office	1021 Evelyn St.	Menlo Park	0.26	0.03	6,610	0.09	0.27	0.09	0.45	0.03	0.09	0.03	0.15	Not Included	Method 3, Method 4
Stanford - 2111 Sand Hill Road	Office/Residence	2111 Sand Hill Road	Menlo Park	1.54	0.15	87,034	0.51	3.61	1.15	5.27	0.17	1.18	0.37	1.72	Not Included	Method 3, Method 4
40 Middlefield Rd	Office	40 Middlefield Rd	Menlo Park	0.08	0.01	3,584	0.03	0.15	0.05	0.23	0.01	0.05	0.02	0.07	Phase 3	Method 3, Method 4
115 El Camino Real	Residential/Retail/Personal Service/Non-Medical Office	115 El Camino Real	Menlo Park	0.21	0.02	1,543	0.07	0.06	0.02	0.16	0.02	0.02	0.01	0.05	Phase 3	Method 3, Method 4
409 Glenwood Ave	Residential	409 Glenwood Ave	Menlo Park		0.17	0	0.55	0.00	0.00	0.55	0.18	0.00	0.00	0.18	Not Included	Method 3, Method 4
1350 Adams Court	R&D	1350 Adams Court	Menlo Park		0.24	260,400	13.80	16.40	0.00	30.20	4.50	5.34	0.00	9.84		Method 2
Willow Village	Residential/Office/Retail/Hotel	1350 Willow Road	Menlo Park			1,800,000	67.52	85.93	24.55	178.00	22.00	28.00	8.00	58.00		Method 2
111 Independence Drive	Residential/Retail	111 Independence Drive	Menlo Park	0.92	0.04	746	0.13	0.03	0.01	0.17	0.04	0.01	0.00	0.06		Method 3, Method 4
1125 O'Brien Drive	R&D/Retail/Non-Office Commercial	1125 O'Brien Drive	Menlo Park		0.28	131,285	0.94	5.45	1.73	8.12	0.31	1.78	0.56	2.65	Phase 1	Method 3, Method 4
Commonwealth Corporate Center	Commercial Office	162 Jefferson Dr	Menlo Park	5.73	2.05	249,500	2.56	0.00	0.00	2.56	0.83	0.00	0.00	0.83	Not Included	Method 3, Method 4
706 Santa Cruz Avenue	Residential/Office/Retail	706 Santa Cruz Avenue	Menlo Park			35,489	0.04	1.47	0.47	1.98	0.01	0.48	0.15	0.65	Phase 3	Method 3, Method 4
MidPen	Residential	1345 Willow Road	Menlo Park		0.77	0	2.53	0.00	0.00	2.53	0.82	0	0	0.82	Phase 1	Method 2

2023 Recycled Water Customers List

							Average Annual Demand (AFY)				Average Annual Demand (MG)					
Project Name	Type of Use	Project Address	City	Total Site Area	Irrigated Area	Commercial Space	Irrigation Demand	Flushing Demand	Cooling Demand	Total Demand	Irrigation Demand	Flushing Demand	Cooling Demand	Total	Associated Pipe Segment	Method(s) Used
201 El Camino Real	Residential/Retail/Restaurant	201 El Camino Real	Menlo Park	0.40	0.14	7,076	0.12	0.29	0.09	0.50	0.04	0.10	0.03	0.16	Phase 3	Method 3, Method 4
Menlo Uptown	Residential/Retail/Non-Office Commercial	141 Jefferson Drive	Menlo Park			2,940	3.38	4.29	1.27	8.94	1.10	1.40	0.41	2.91	Phase 1	Method 2
1162 El Camino Real	Residential	1162 El Camino Real	Menlo Park	0.19	0.02	0	0.06	0.00	0.00	0.06	0.02	0	0	0.02	Phase 3	Method 3, Method 4
Hotel Moxy	Hotel	3723 Haven Ave	Menlo Park	0.76	0.15	58,027	0.51	0.00	0.77	1.27	0.17	0.00	0.25	0.42	Phase 1	Method 3, Method 4
Menlo Portal Project	Office/Retail/Non-Office Commercial	115 Independence Drive	Menlo Park			36,427	3.68	4.59	1.36	9.63	1.20	1.49	0.44	3.14	Phase 1	Method 2
(CitizenM Hotel CDP Amendment)	Hotel	301 Constitution Drive	Menlo Park	2.61	0.26	90,868	0.86	0.00	1.20	2.06	0.28	0.00	0.39	0.67	Phase 1	Method 3, Method 4
CSBio Phase 3	R&D/Office/Restaurant/Commercial	1075 O'Brien Drive and 20 Kelly Court	Menlo Park	0.70		124,454	2.24	0.00	2.24	4.48	0.73	0.00	0.73	1.46	Phase 1	Method 2
1550 El Camino Real	Residential/Office	1550 El Camino Real	Menlo Park	1.37	0.14	18,500	0.45	0.77	0.24	1.46	0.15	0.25	0.08	0.48	Phase 3	Method 3, Method 4
Menlo Flats	Residential/Commercial	165 Jefferson Drive	Menlo Park			15,000	1.84	2.37	0.70	4.91	0.60	0.77	0.23	1.60	Phase 1	Method 2
Sobrato	Residential	123 Independence Drive	Menlo Park			0	0.43	0.00	0.00	0.43	0.14	0.00	0.00	0.14	Phase 1	Method 2
Parkline - SRI Master Plan	Residential/Office/Commercial/R&D	333 Ravenswood Ave	Menlo Park	63.22	30.30	1,379,545	99.99	0.00	18.20	118.18	32.58	0.00	5.93	38.51	Phase 2	Method 3, Method 4
995-1005 O'Brien Drive and 1320 Willow Road	Office/R&D	995-1005 O'Brien Drive and 1320 Willow Road	Menlo Park	4.22	0.78	227,998	2.57	9.47	3.01	15.05	0.84	3.09	0.98	4.90	Phase 1	Method 3, Method 4
Philips Brooks School Gymnasium/Flex Building	Recreational/Educational	2245 Avy Avenue	Menlo Park	8.01	0.15	15,011	0.49	0.62	0.20	1.31	0.16	0.20	0.06	0.43	Not Included	Method 3, Method 4
1220 Hoover Street	Residential	1220 Hoover Street	Menlo Park	0.30	0.03	0	0.10	0.00	0.00	0.10	0.03	0.00	0.00	0.03	Phase 3	Method 3, Method 4
3705 Haven	Residential	3705 Haven	Menlo Park	0.66	0.10	0	0.32	0.00	0.00	0.32	0.10	0.00	0.00	0.10	Phase 1	Method 3, Method 4
1030 O'Brien	R&D/Office & Commercial	1030 O'Brien	Menlo Park	3.58	0.41	154,641	1.36	6.42	2.04	9.82	0.44	2.09	0.66	3.20	Phase 1	Method 3, Method 4
Veteran's Administration	Residential/Commercial	795 Willow	Menlo Park	0.38	0.04	0	20.00	0.00	20.00	40.00	6.52	0.00	6.52	13.03	Phase 2	Method 3, Method 4
4055 Bohannon Drive	R&D	4055 Bohannon Drive	Menlo Park	4.69	0.47	33,300	1.55	1.38	0.44	3.37	0.50	0.45	0.14	1.10	Not Included	Method 3, Method 4
985 Santa Cruz Avenue	Residential	985 Santa Cruz Avenue	Menlo Park	0.23	0.02	0	0.08	0.00	0.00	0.08	0.03	0.00	0.00	0.03	Not Included	Method 3, Method 4
Menlo Park Community Campus (MPCC)	Multi-Service Public Facility	100 Terminal Ave	Menlo Park	0.8494		37,000	1.29	0.83	0.00	2.12	0.42	0.27	0.00	0.69	Phase 1	Method 2
Facebook MPK 20	Office	1 Meta Way	Menlo Park	9.95305		433,555	73.65	9.15	2.71	85.51	24.00	2.98	0.88	27.86	Phase 1	Method 2
Facebook MPK 21 & 22	Office	305 Constitution Dr.	Menlo Park	22.4977		980,000	31.92	40.96	0.00	72.87	10.40	13.35	0.00	23.75	Phase 1	Method 2
Facebook MPK 23	Office	300 Constitution Dr.	Menlo Park	4.13223		180,000	2.46	14.20	4.21	20.87	0.80	4.63	1.37	6.80	Phase 1	Method 2
Menlo College	Commercial - Business	1000 El Camino Rd	Atherton				15.00	0.00	0.00	15.00	4.89	0.00	0.00	4.89	Phase 3	Method 1
Caltrans	Farm - Irrigation	100 Independence Dr	Menlo Park				12.67	0.00	0.00	12.67	4.13	0.00	0.00	4.13	Phase 1	Method 1
Burgess Park	Farm - Irrigation	601 Laurel St	Menlo Park				10.38	0.00	0.00	10.38	3.38	0.00	0.00	3.38	Phase 3	Method 1
Menlo Atherton High School	Commercial - Public Authority	555 Middlefield Rd	Atherton				4.37	0.00	0.00	4.37	1.42	0.00	0.00	1.42	Phase 2	Method 1
USGS	Commercial - Public Authority	345 Middlefield Rd	Menlo Park				10.00	0.00	10.00	20.00	3.26	0.00	3.26	6.52	Phase 3	Method 1
Arrillage Family Gymnasium	Farm - Irrigation	600 Alma St	Menlo Park				7.38	0.00	0.00	7.38	2.40	0.00	0.00	2.40	Phase 3	Method 1

2023 Recycled Water Customers List

							Average Annual Demand (AFY)				Average Annual Demand (MG)					
Project Name	Type of Use	Project Address	City	Total Site Area	Irrigated Area	Commercial Space	Irrigation Demand	Flushing Demand	Cooling Demand	Total Demand	Irrigation Demand	Flushing Demand	Cooling Demand	Total	Associated Pipe Segment	Method(s) Used
Bohannon Development	Commercial - Business	1020 Marsh Rd	Menlo Park				1.42	0.00	0.00	1.42	0.46	0.00	0.00	0.46	Not Included	Method 1
Safeway Inc.	Commercial - Business	525 El Camino Real	Menlo Park				13.90	0.00	0.00	13.90	4.53	0.00	0.00	4.53	Phase 3	Method 1
Willow Oaks Park	Farm - Irrigation	490 Willow Rd	Menlo Park				5.52	0.00	0.00	5.52	1.80	0.00	0.00	1.80	Phase 3	Method 1
St. Patrick's Seminary	Commercial	320 Middlefield Rd	Menlo Park				50.00	0.00	0.00	50.00	16.29	0.00	0.00	16.29	Phase 3	Method 1
Round Meadow Farm	Commercial/Recreation	190 Park Ln	Atherton				26.00	0.00	0.00	26.00	8.47	0.00	0.00	8.47	Phase 3	Method 1
Flood Park	Park	215 Bay Rd	Menlo Park				20.00	0.00	0.00	20.00	6.52	0.00	0.00	6.52	Phase 2	Method 1
Holbrook Palmer Park	Park	150 Watkins Ave	Atherton				10.00	0.00	0.00	10.00	3.26	0.00	0.00	3.26	Phase 3	Method 1
Encinal Elementary School	Commercial	195 Encinal Ave	Atherton				5.00	0.00	0.00	5.00	1.63	0.00	0.00	1.63	Phase 3	Method 1
MidPen High School	Commerical	1340 Willow Rd.	Menlo Park				2.05	0.00	0.00	2.05	0.67	0.00	0.00	0.67	Phase 1	Method 1
					Total		557	272	117	946	181	89	38	308		
Key																
Hard entry														0.84		
Groundwater users																

*Customers not included are not within 1,000 feet of the planned/proposed pipelines.

APPENDIX B: RECYCLED WATER CUSTOMERS FROM THE BAYFRONT RWFP

Recycled Water Customers from the 2019 RWFP

Address Consolidated	City	ZIP	General Meter Type	Customer Name	Use Type	Potable Water Usage (AFY)	% RW Usage	Potential RW Demand (AFY) - Adjusted		MMD		PHD	Notes
				ConnectMenlo	Irrigation			104	2.0	0.186	3.0	0.557	
				ConnectMenlo	Multi-Use			101	1.5	0.135	0.0	0.000	
100 independence dr	Menlo Park	94025	Farm - Irrigation	Caltrans	Irrigation	13	100%	12.7	2.0	0.023	3.0	0.068	
1 hacker way	Menlo Park	94025	Commercial - Business	Facebook East	Irrigation								
									2.0	0.000	3.0	0.000	
1320 willow rd	Menlo Park	94025	Commercial - Industrial	Mid Peninsula High School	Irrigation	4	50%	2.1	2.0	0.004	3.0	0.011	
1020 Marsh Rd	Menlo Park	94025	Commercial - Business	David Bohannon Organizatio	Irrigation	14	10%	1.4	2.0				Not part of Alternatives due to location
215 Bay Rd	Menlo Park	94025		Flood Park	Groundwater - Irrigation		GW	20.0	2.0				Not part of Alternatives due to location
320 Middlefield Rd	Menlo Park	94025		St. Patricks Seminary	Groundwater - Irrigation		GW	50.0	2.0	0.089	3.0	0.268	
795 willow rd	Menlo Park	94025	Commercial - Public Authority	Menlo Park VA Medical Cent	Multi-Use	111	est	40.0	2.0	0.071	1.5	0.107	20 for IRR; 20 for cooling towers
490 willow rd	Menlo Park	94025	Farm - Irrigation	Willow Oaks Park	Irrigation	6	100%	5.5	2.0	0.010	3.0	0.030	
345 Middlefield Rd 3	Menlo Park	94025	Commercial - Public Authority	USGS	Multi-Use	19	est	20.0	2.0	0.036	1.5	0.054	private wells for irrigation (10) + cooling towers (10)
555 Middlefield Rd.	Atherton	94027	Commercial - Public Authority	Menlo-Atherton High School	Irrigation	17	25%	4.4	2.0	0.008	3.0	0.023	
190 Park Ln	Atherton	94027		Menlo Circus Park	Groundwater - Irrigation		GW	26.0	2.0	0.046	3.0	0.139	
1000 El Camino Real	Atherton	94027	Commercial - Business	Menlo College	Groundwater - Irrigation	49	GW	15.0	2.0	0.027	3.0	0.080	
333 Ravenswood Ave	Menlo Park	94025	Commercial - Business	S R I International	Irrigation	134	10%	13.4	2.0	0.024	3.0	0.072	
601 laurel st	Menlo Park	94025	Farm - Irrigation	Burgess Park	Irrigation	10	100%	10.4	2.0	0.019	3.0	0.056	
150 Watkins Ave	Atherton	94027		Holbrook Palmer Park	Groundwater - Irrigation		GW	10.0	2.0	0.018	3.0	0.054	
600 alma st	Menlo Park	94025	Farm - Irrigation	Arrillaga Family Gymnasium	Irrigation	7	100%	7.4	2.0	0.013	3.0	0.040	
195 Encinal Ave	Atherton	94027		Encinal Elementary School	Groundwater - Irrigation		GW	5.0	2.0	0.009	3.0	0.027	
525 El Camino Real	Menlo Park	94025	Commercial - Business	Safeway, Inc.	Irrigation	14	10%	1.4	2.0	0.002	3.0	0.007	

Removed

- 100 Independence, David Bohannon Org because RW demand was close to 0 AFY RW demand.
- 300 Constitution, Tyco Corp; 1 Facebook, Hines because Facebook is using/going to use this building (part of ConnectMenlo development).
- 1320 Willow, Balco because RW demand was close to 0 AFY RW demand.
- 190 Jefferson, Intuit (Facebook) because it's part of ConnectMenlo.

From file Combined Data 2014-2016_10-24
"\\woodardcurran.net\shared\Projects\RMC\SF\0606 West Bay Sanitary District\0606-008 - WBSD Bayfront RW Facilities Plan\2. Project Work\3. Market Assessment\1. Data Analysis\Combined Data 2014-2016_10-24.xlsx", tab Bayfront Top Customers. We are not considering those customers in groups B and F. Note: Group A is Alt A, Group D is Alt B, and

Subtotal Alt A	220	0.35		0.64	
Subtotal Alt B	340	0.56	0.91	1.12	1.75
Subtotal Alt C	428	0.72		1.59	
			0.35		
			0.22	0.58	
			0.17		
			0.75		

**APPENDIX C: RECYCLED WATER CUSTOMERS FROM THE BAYFRONT
RECYCLED WATER PROJECT 2021 UPDATE**

Recycled Water Customers - Bayfront Recycled Water Project 2021 Update

WBSD Bayfront - Recycled Water Estimated Demands
Date 9/7/2021

Source: W&C 2021.09.07 RW Demand Data with Buy-In Cost_0.4MGD&0.6MGD

Plant Capacity (MGD)	0.4
Peaking factor (peak month/average day)	1.5
Estimated Site/Land/Upfront WBSD Investment	\$ -
Estimated Cost for Plant and Distribution System	\$ 56,600,000
Total Estimated Cost	\$ 56,600,000

Table 2: Annual Average Recycled Water Demand by Use

Project/Developer	Irrigation		Cooling		Toilet Flushing		Total	
	(MG)	(%)	(MG)	(%)	(MG)	(%)	(MG)	(%)
Willow Village (Signature)	22	38%	8	14%	28	48%	58	100%
123 Independence (Sobrato)	0.14	100%					0	100%
Commonwealth 3 (Sobrato)								
1350 Adams (Tarlton)	4.2	44%	0.0	0%	5.3	56%	9.5	100%
Menlo Portal (Greystar)	1.2	38%	0.4	14%	1.5	48%	3.1	100%
Menlo Uptown (Greystar)	1.1	38%	0.4	14%	1.4	48%	2.9	100%
Menlo Flats (Greystar)	0.6	38%	0.2	14%	0.8	48%	1.6	100%
CS Bio	0.73	50%	0.73	50%	0.00	0%	1.46	100%
Mid Pen	0.0		0.0		0.0		0.0	0%
WBSD Extra Capacity								
Subtotal (New Development)	30	32%	10	11%	37	40%	77	83%
Menlo Park Community Center (KPFF)	0.42	60%	0.0	0%	0.27	39%	0.69	99%
Subtotal (New Development+MPCC)	30	33%	10	11%	37	40%	77	83%
Facebook Campus Expansion	3.9	38%	1.5	14%	5.0	48%	10	100%
Facebook MPK 20	24	86%	0.88	3%	3.0	11%	28	100%
Facebook MPK 21 & 22	10.4	44%	0	0%	13.3	56%	24	100%
Facebook MPK 23	0.80	12%	1.4	20%	4.6	68%	6.8	100%
Subtotal (Existing Development)	39	57%	4	5%	26	38%	69	100%
Total (MG)	70	43%	14	8%	63	39%	146	90%

Notes:

General Notes

- Estimates are based on annual average demands.
- Willow Village (Signature) provided breakdowns by use of non-potable water demands.
- Estimates for 1350 Adams (Tarlton) and all 3 Greystart projects are calculated using Willow Village (Signature) data.
- Tarlton estimates do not include cooling as non-potable demand use estimate does not include cooling.
- Facebook Campus Extension irrigation, cooling, and toilet flushing estimates are calculated using Willow Village (Signature) data.
- MPK 20, and MPK 23 cooling and toilet flushing estimates are calculated using Willow Village (Signature) data.
- See ConnectMenlo+FB Demands tab for MPK 20 and MPK 23 demand analysis.

Recycled Water Customers - Bayfront Recycled Water Project 2021 Update

- Facebook MPK 21 and MPK 22 irrigation and toilet flushing estimates are calculated using Willow Village (Signature) data. Cooling demand data not available.
- Menlo Park Community Center (KPFF) provided non-potable water demands for irrigation and toilet flushing. Estimates provided on 7/27/2021.
- Independence 123 (Sobrato) demand is for irrigation only.
- Demand values were provided by developers and Menlo County Club on 9/16/2020.
- The non-potable demand values provided by Signature for Willow Village are used to calculate a peaking factor to calculate other projects' peak month demands.
- The peak month is assumed to be July.

Willow Village (Signature)

- Previous meeting peak month demand estimate provided was 0.16 - 0.18 MGD.
- Previous peak month demand estimated was an average of the range 0.21 - 0.26 MGD provided on 9/16/2020.
- Annual average non-potable demand breakdown provided on 9/16/2020: 27 MG toilet flushing, 21 MG irrigation, and 8 MG cooling.
- EKI provided updated annual, average day, and average day peak month data and anticipated % of annual average demand information on 10/19/2020.

123 Independence (Sobrato)

- Peak month demands provided are assumed to be non-potable water. Updated on 7/20/2021 to only includes peak estimates provided on 9/16/2020 for open space 12,000 gal, off-site 6,000 gal.
- Anticipated percentage of annual average demand needed not provided by developer. Estimate assumes 100% by 2027.
- Project was updated to be all residential.

Commonwealth 3 (Sobrato)

- Water demand data were not provided by developer during 7/15/2021 meeting.

1350 Adams (Tarlton)

- Tarlton provided the following annual average demand values: 41 MG potable, 9.5 MG non-potable (irrigation + toilet flushing).
- Anticipated percentage of annual average demand needed not provided by developer. Estimate assumes 100% by 2027.

Greystar

- Greystar provided updated total demands for the 3 projects anticipated % of annual averaga demand information during meeting on 10/20/2020.

Facebook

- See tab ConnectMenlo+FB Demands tab for demand analysis for Facebook Campus Expansion, MPK 20, and MPK 23.
- It is assumed that all buildings have dual-plumbing.
- For MPK 21 and MPK 22, we assumed an average demand of 65,000 gpd for irritaion and toilet flushing combined for both buildings.

CS Bio

- CS Bio provided demand information during meeting on 10/23/2020.

Mid Pen

- Meeting with Mid Pen took place on 10/21/2020. Demand data were not available.

Menlo Park Community Center (KPFF)

- Meeting with KPFF and Facebook took place on 6/29/2021. Estimated total annual demand provided: irrigation demand 0.42 MG; toilet flushing demand 0.27 MG; total demand 0.69 MG on 7/27/2021.

Sharon Heights Capacity Information (for reference only)

Peak Hour/Day (MGD)	0.9
Average Day (MGD)	0.14
Peak Month (MGD)	0.5
Annual Average (MG)	50

Recycled Water Customers - Bayfront Recycled Water Project 2021 Update

ConnectMenlo and Facebook Estimated Demand Data **Source: W&C 2021.09.07 RW Demand Data with Buy-In Cost_0.4MGD&0.6MGD**

Sources of data: Water Supply Evaluation Study, ConnectMenlo - General Plan and M-2 Area Zoning Update prepared by Erler & Kalinowski, Inc (Feb 3, 2016); Water Supply Assessment Study - Facebook Campus Expansion prepared by EKI (Feb 3, 2016); Menlo Park water use data 2015-2016 (provided by WBSD)
Total water demand for Bayfront area at buildout by 2040 - 343 MG per year
For the Facility Plan, we assumed 1/3 of the non-residential indoor uses are non-potable and 100% of all outdoor uses are non-potable.
The values presented are averages.

Non-potable portion of indoor demand	0.33
Peaking factor (peak month/average day)	1.50 (from Bayfront RW Demands tab)

Table 1. ConnectMenlo Estimated Water Demand

Demand	Total Indoor Non-residential	Total Indoor Transit Center	Total Outdoor Multi-family Residential	Total Outdoor Non-residential	TOTAL
Total Annual (MG)	99	0.4	10	24	133
Total Annual (AF)	304	1.23	30.7	73.7	409
Avg Day (MGD)	0.27	0.0011	0.027	0.066	0.37

Table 1 Notes
Source: EKI's General Plan report
The estimates do NOT include Facebook Building MPK 20 and Building MPK 23
The estimates do NOT include Facebook Campus Expansion (approximate total annual water demand = 88 MG)

Table 2. ConnectMenlo Estimated Non-potable Water Demand

Demand	Non-potable Indoor Non-residential (Excludes	Non-potable Indoor Transit Center	Non-potable Outdoor Multi-family Residential	Non-potable Outdoor Non-residential	TOTAL (Non-potable)
Total Annual (MG)	33	0.32	10	24	67
Total Annual (AF)	101	0.98	30.7	73.7	207
Avg Day (MGD)	0.090	0.00088	0.027	0.066	0.18
Avg Day Peak Month (MGD)	0.136	0.00132	0.041	0.099	0.28

Table 2 Notes
Source: EKI's General Plan report
The EKI report included a breakdown of water use for indoor Transit Center. The estimated non-potable demand is a sum of toilet flushing and urinal water demands.

Table 3. Facebook Estimated Water Demand

	Campus Expansion			Building MPK 23			Building MPK 20 (average of 2015-2016 water use data)			TOTAL
Demand	Total Indoor	Total Outdoor	Subtotal	Total Indoor	Total Outdoor	Subtotal	Total Domestic Meter	Total Irrigation Meter	Subtotal	
Total Annual (MG)	81	7	88	18.00	0.8	19	12	24	36	143
Total Annual (AF)	249	21	270	55	2	58	36	75	110	438
Avg Day (MGD)	0.22	0.019	0.24	0.05	0.0022	0.052	0.03	0.0666	0.098	0.39

Recycled Water Customers - Bayfront Recycled Water Project 2021 Update

Table 3 Notes

Sources: EKI's General Plan report and Facebook Campus Expansion report; Menlo Park water use data provided by WBSD (see above note)
Facebook Campus Expansion does not include Willow Village
Facebook Campus Expansion includes Building MPK 21, MPK 22, and a hotel.
Building MPK 20 is NOT included in either ConnectMenlo or Campus Expansion's demand estimates; it was a project approved under the prior General Plan.

Table 4. Facebook Estimated Non-potable Water Demand

Demand	Campus Expansion			Building MPK 23			Building MPK 20 (average of 2015-2016 water use data)			TOTAL (Non-potable)
	Non-potable Indoor	Non-potable Outdoor	Subtotal Non-potable	Non-potable Indoor	Non-potable Outdoor	Subtotal Non-potable	Domestic Meter Non-potable	Irrigation Meter	Subtotal Non-potable	
Total Annual (MG)	27	7	34	6	0.8	6.8	3.9	24	28	69
Total Annual (AF)	83	21	104	18	2	21	12	75	86	212
Avg Day (MGD)	0.074	0.019	0.093	0.016	0.0022	0.019	0.011	0.067	0.077	0.19
Avg Day Peak Month (MGD)	0.111	0.029	0.14	0.025	0.0033	0.028	0.016	0.100	0.116	0.28

Table 4 Notes

Sources: EKI's General Plan report and Facebook Campus Expansion report; Menlo Park water use data provided by WBSD
Building MPK 20 water use data from 2015-2016 were provided by WBSD (from Menlo Park) for the Bayfront Recycled Water Facilities Plan.
At the time the Bayfront Recycled Water Facilities Plan was developed, water use data for Buildings MPK 21 and MPK 22 were not available.
Building MPK 20 is NOT included in either ConnectMenlo or Campus Expansion's demand estimates; it was a project approved under the prior General Plan.

Table 5. Total Non-potable Demand - ConnectMenlo + Facebook Campus Expansion

Demand	Non-potable	Non-potable	TOTAL (Non-potable)
Total Annual (MG)	70	66	136
Total Annual (AF)	215	203	418
Avg Day (MGD)	0.19	0.18	0.37
Avg Day Peak Month (MGD)	0.29	0.27	0.56

APPENDIX D: 2023 DEVELOPMENT PROJECTS LIST

2023 Development Projects List

Non-Residential and Hotel 2017-2021

Project Name/Address	Type of Use	Net New Square Footage		Project Name/Address	Type of Use	New Hotel Rooms
Commonwealth Corporate Center 162-164 Jefferson Dr	Office	240,747		Hotel Nia	Hotel	250
Menlo Gateway Phase I Independence Dr	Office	177,640		Park James Hotel	Hotel	61
Menlo Gateway Phase II Constitution Dr	Office	361,362				
1010-1026 Alma St	Office	25,156				
650-660 Live Oak Ave	Office	10,858				
Facebook Expansion Project 301-309 Constitution Dr	Office	835,388				
1430 O'Brien Dr	R&D	631				
1430 O'Brien Dr	Restaurant	7,652				
1430 O'Brien Dr	Recreation	10223				
Guild Theater 949 El Camino Real	Entertainment	6682				
505-556 Santa Cruz Ave	Office	17877				
1125 Merrill St	Office	4366				

2023 Development Projects List

List of Development Projects Based on Applications Received before May 31, 2023

PROJECT ADDRESS	TYPE OF USE	SIZE	UNITS OF MEASURE	APPROVED OR PENDING	STATUS	PROJECT LOCATION
					As of May 31, 2023	
Facebook/Meta Expansion Project 301-309 Constitution Dr	Office	450,400	sf	Approved	Completed/Occupied	East of US 101
	Office	512,000	sf	Approved	Completed/Occupied	
	Hotel	200	rooms	Approved	Under Construction	
	Hotel	174,800	sf	Approved	Hotel sf for reference only	
	Manufacturing	-308,142	sf	Existing	Demolished	
	R&D	-76,533	sf	Existing	Demolished	
	Office	-127,012	sf	Existing	Demolished	
Stanford 500 El Camino Real	Residential	215	du	Approved	Under Construction	West Menlo/Downtown/El Camino Real
	Office	142,840	sf	Approved	Under Construction	
	Retail/Restaurant	10,286	sf	Approved	Under Construction	
	Temporary Art Gallery	-35,275	sf	Existing	Demolished	
	Auto Dealer (Vacant)	-35,270	sf	Existing	Demolished	
Springline 1300 El Camino Real	Residential	183	du	Approved	Completed	West Menlo/Downtown/El Camino Real
	Office	199,054	sf	Approved	Completed/Partially occupied	
	Retail/Personal Service	25,049	sf	Approved	Completed/Partially occupied	
	Dance Studio	-3,800	sf	Existing	Demolished	
	Fast Food Restaurant	-1,200	sf	Existing	Demolished	
	Hardware Storage	-5,000	sf	Existing	Demolished	
1021 Evelyn St (Old: 841 Menlo Ave)	Residential	3	du	Approved	Under Construction	West Menlo/Downtown/El Camino Real
	Office	6,610	sf	Approved	Under Construction	
Stanford 2111-2121 Sand Hill Road	Office	39,010	sf	Pending	Proposed Construction	Sharon Heights/Sand Hill
	Office	48,024	sf	Existing	Existing (Would Remain)	
	Residence	1	du	Existing	Existing (Would Remain)	
40 Middlefield Rd	Office	3,584	sf	Approved	Proposed Construction	West of US 101
115 El Camino Real	Residential	4	du	Approved	Under Construction	West Menlo/Downtown/El Camino Real
	Retail/personal service/non-medical office	1,543	sf	Approved	Under Construction	

2023 Development Projects List

List of Development Projects Based on Applications Received before May 31, 2023

PROJECT ADDRESS	TYPE OF USE	SIZE	UNITS OF MEASURE	APPROVED OR PENDING	STATUS	PROJECT LOCATION
					As of May 31, 2023	
	Hotel	-13	rooms	Existing	Demolished	
409 Glenwood Ave.	Residential	7	du	Approved	Proposed Construction	West Menlo/Downtown/El Camino Real
	Residential	-2	du	Existing	Proposed Demo	
	Residential (Historic Home)	1	du	Existing	Existing (Would Remain)	
1350 Adams Court (1315 O'Brien Drive)	R&D	260,400	sf	Approved	Under construction	East of US 101
1350 Willow Road (Facebook Willow Village)	Residential	1,730	du	Approved	Proposed Construction	East of US 101
	Office	1,600,000	sf	Approved	Proposed Construction	
	Retail (Non Office Commercial)	200,000	sf	Approved	Proposed Construction	
	Hotel	193	rooms	Approved	Proposed Construction	
	Office/Lab	-390,663	sf	Existing	Proposed Demolition	
	Warehouse	-446,483	sf	Existing	Proposed Demolition	
	Warehouse/Office	-137,819	sf	Existing	Proposed Demolition	
111 Independence Drive	Residential	105	du	Approved	Proposed Construction	East of US 101
	Retail	746	sf	Approved	Proposed Construction	
	Office	-15,000	sf	Existing	Proposed Demolition	
1125 O'Brien Drive	R&D	128,525	sf	Pending	Proposed Construction	East of US 101
	Retail/Non-office commercial	2,760	sf	Pending	Proposed Construction	
	Office/Warehouse	-38,688	sf	Existing	Proposed Demolition	
	Warehouse (1 Casey)	-20,955	sf	Existing	Proposed Demolition	
162-164 Jefferson Drive (formerly 151 Commonwealth Drive)	Office	249,500	sf	Pending	Proposed Construction	East of US 101
706-716 Santa Cruz Avenue	Residential	4	du	Approved	Proposed Construction	West Menlo/Downtown/El Camino Real
	Office	23,454	sf	Approved	Proposed Construction	
	Retail	12,035	sf	Approved	Proposed Construction	
	Retail/Restaurant/Bank	-15,175	sf	Existing	Proposed Demolition	

2023 Development Projects List

List of Development Projects Based on Applications Received before May 31, 2023

PROJECT ADDRESS	TYPE OF USE	SIZE	UNITS OF MEASURE	APPROVED OR PENDING	STATUS	PROJECT LOCATION
					As of May 31, 2023	
1345 Willow Road	Residential	140	du	Approved	Under Construction	East of US 101
	Residential	-82	du	Existing	Demolished	
201 El Camino Real	Residential	14	du	Approved	Proposed Construction	West Menlo/Downtown/El Camino Real
	Retail	5,876	sf	Approved	Proposed Construction	
	Restaurant	1,200	sf	Approved	Proposed Construction	
	Residential	-4	du	Existing	Proposed Demolition	
	Commercial	-5,949	sf	Existing	Proposed Demolition	
141 Jefferson Drive (Menlo Uptown)	Residential	483	du	Approved	Under Construction	East of US 101
	Retail/Non-office commercial	2,940	sf	Approved	Under Construction	
	Industrial	-67,161	sf	Existing	Demolished	
	Industrial	-30,000	sf	Existing	Demolished	
	Industrial	-11,250	sf	Existing	Demolished	
1162 El Camino Real	Residential	9	du	Approved	Under Construction (Demo only)	West Menlo/Downtown/El Camino Real
	Commercial/Office/Retail	-11,062	sf	Existing	Demolished	
3723 Haven Ave (Hotel Moxy)	Hotel	163	rooms	Approved	Proposed Construction	East of US 101
	Hotel	58,027	sf	Approved	Hotel sf for reference only	
	Office/Warehouse	-13,700	sf	Existing	Proposed Demolition	
110 Constitution Drive 115 Independence Drive (Menlo Portal)	Residential	335	du	Approved	Under Construction	East of US 101
	Office	34,819	sf	Approved	Proposed Construction	
	Retail/non-office commercial	1,608	sf	Approved	Proposed Construction	
	Office/Industrial	-25,091	sf	Existing	Demolished	
	Office	-23,212	sf	Existing	Demolished	
	Office	-16,529	sf	Existing	Demolished	
301 Constitution Drive* (CitizenM Hotel CDP Amendment)	Hotel	40	rooms	Approved	Under construction	East of US 101

2023 Development Projects List

List of Development Projects Based on Applications Received before May 31, 2023

PROJECT ADDRESS	TYPE OF USE	SIZE	UNITS OF MEASURE	APPROVED OR PENDING	STATUS	PROJECT LOCATION
					As of May 31, 2023	
1075 O'Brien Drive 20 Kelly Court	R&D/Office	89,191	sf	Pending	Proposed Construction	East of US 101
	Restaurant/Commercial	9,869	sf	Pending	Proposed Construction	
	Warehouse	-14,523	sf	Existing	Proposed Demolition	
	R&D	25,394	sf	Existing	Existing to Remain	
	R&D	-12,192	sf	Existing	Proposed Demolition	
1550 El Camino Real	Residential	8	du	Approved	Proposed Construction	West Menlo/Downtown/El Camino Real
	Office	18,500	sf	Existing	Existing office building to remain (sf for reference)	
165 Jefferson Drive (Menlo Flats)	Residential	158	du	Approved	Proposed Construction	East of US 101
	Commerical	15,000	sf	Approved	Proposed Construction	
	Office	-24,300	sf	Existing	Proposed Demolition	
123 Independence Drive **Development Proposed within amount studied in ConnectMenlo Program Level EIR 123 Indendence Drive (Sobrato) **Development Proposed greater than amount studied in ConnectMenlo Program Level EIR	Residential	281	du	Pending	Proposed Construction	East of US 101
	Warehouse/manufacturing	-108,461		Existing	Proposed Demolition	
	Residential	151	du	Pending	Proposed Construction	
333 Ravenswood Ave. (Parkline - SRI Master Plan)	Residential	550 (800 variant)	du	Pending	Proposed Construction	West of US 101
	Office/Commercial	1,095,719	sf	Pending	Proposed Construction	
	Office/R&D	283,826	sf	Existing	Existing buildings to remain (sf for reference)	
	Office/R&D	1,095,719	sf	Existing	Proposed Demolition	
995-1005 O'Brien Drive and 1320 Willow Road	Office/R&D	227,998	sf	Pending	Proposed Construction	East of US 101
	Office/R&D	40,586	sf	Existing	Proposed Demolition	
	Commercial/Warehouse	50,045	sf	Existing	Proposed Demolition	
2245 Avy Avenue - Philips Brooks School Gymnasium/Flex Building	Recreational	12,961	sf	Proposed	Proposed Construction	Sharon Heights/Sand Hill
	Educational	2,050	sf	Proposed	Proposed Construction	

2023 Development Projects List

List of Development Projects Based on Applications Received before May 31, 2023

PROJECT ADDRESS	TYPE OF USE	SIZE	UNITS OF MEASURE	APPROVED OR PENDING	STATUS	PROJECT LOCATION
					As of May 31, 2023	
1220 Hoover Street	Residential	8	du	Proposed	Proposed Construction	West Menlo/Downtown/El Camino Real
	Residential	2	du	Existing	Proposed Demolition	
3705 Haven	Residential	99	du	Proposed	Proposed Construction	East of US 101
	Office	10,362	sf	Existing	Proposed Demolition	
1030 O'Brien	R&D/Office & Commercial	92,522	sf	Proposed	Proposed Construction	East of US 101
	Commercial/Office	62,119	sf	Existing	Proposed Demolition (partial)	
795 Willow	Residential	62	du	Proposed	Proposed Construction	West of US 101
					(existing space used as overflow parking lot)	
4055 Bohannon Drive	R&D	33,300	sf	Proposed	Proposed Construction	West of US 101
	Residential	31,559	sf	Existing	Proposed Demolition (partial)	
985 Santa Cruz Avenue	Residential	7	du	Proposed	Proposed Construction	West Menlo/Downtown/El Camino Real
	Residential	2	du	Existing	Proposed Demolition	

Notes:

Table includes all projects in City of Menlo Park that have filed a complete development application for 5 or more NET NEW residential units or 5,000 sf or more of NET NEW commercial. For residential projects, occupancy is based on date of final building inspection. For commercial projects, occupancy is based on date of final building inspection of applicable tenant improvements. Some projects involve the demolition of existing structures. Demolished buildings are only listed for projects that receive credit for traffic purposes.

Project location corresponds to the four categories in the CSA as follows from west to east: Sharon Heights/Sand Hill; West Menlo/Downtown/El Camino; West of US 101; and East of US 101. n/a = not applicable

Project Specific Notes:

*40 additional hotel rooms being requested beyond the 200 listed in the Facebook Campus Expansion project detailed earlier in this list -- project remains subject to West Campus trip cap
**123 Independence Drive exceeds the number of residential unit studied in the ConnectMenlo EIR but does not exceed the total cap on residential units. A full EIR is required and the 107 additional units should be considered in cumulative analyses for other projects in the City

Key

Commercial
Residential
Demolished/Proposed Demolition

APPENDIX E: CALCULATED FLUSHING AND COOLING RATIOS

Calculated Flushing and Cooling Ratios

Project Name	Project Address	Building Area (SF)	Irrigation (MG)	Flushing Demand (MG)		Cooling Demand (MG)		Total (MG)	Calc	Flushing Ratio (gal/SF)	Cooling Ratio (gal/SF)
Facebook E301 Consti		962,400	3.90		4.95		1.47	10.00	10.32	5.15	1.53
Tarlton	1350 Adarr	260,400	4.50		5.34		0.00	9.80	9.84	20.52	
Willow Vill: 1350 Willo		1,800,000	22.00		28.00		8.00	58.00	58.00	15.56	4.44
Commonw 162 Jeffers		249,500	0.83		0.00		0.00	0.83	0.83		
MidPen	1345 Willo	-	0.82		0.00		0.00	0.82	0.82		
Menlo Upt: 141 Jeffers		2,940	1.10		1.40		0.41	2.90	2.91	475.58	140.91
Menlo Port 115 Indepe		36,427	1.20		1.49		0.44	3.10	3.14	41.03	12.16
CSBio Phas 1075 O'Bri		124,454	0.73		0.00		0.73	1.50	1.46		5.87
Menlo Flat: 165 Jeffers		15,000	0.60		0.77		0.23	1.60	1.60	51.43	15.24
Sobrato	123 Indepe	-	0.14		0.00		0.00	0.14	0.14		
Menlo Park 100 Termir		37,000	0.42		0.27		0.00	0.70	0.69	7.30	
Facebook P 1 Meta Wa		433,555	24.00		2.98		0.88	28.00	27.86	6.88	2.04
Facebook P 305 Consti		980,000	10.40		13.35		0.00	24.00	23.75	13.62	
Facebook P 300 Consti		180,000	0.80		4.63		1.37	6.80	6.80	25.71	7.62
								66.28	23.72511	<- with Menlo Uptown	
								13.53	4.29838	<-without Menlo Uptown, Menlo Portal, or Menlo Flats	
EL Calcs (in MG/SF)								13.53	3.91		

1075 O'Brien Drive	R&D/Office	89,191	sf	Pending	Proposed Construction	East of US 101
	Restaurant/Commercial	9,869	sf	Pending	Proposed Construction	
	Warehouse	-14,523	sf	Existing	Proposed Demolition	
20 Kelly Court	R&D	25,394	sf	Existing	Existing to Remain	
	R&D	-12,192	sf	Existing	Proposed Demolition	

APPENDIX F: PHASE 2 AND PHASE 3 COST ESTIMATE

WBSD Phase 2 Recycled Water Project

Planning Level Cost Estimate					
	size	Qty	Unit Cost	Unit	Subtotal
Recycled Water Alignment (Phase 2)	10	8,600	\$ 50	in-diam/LF	\$ 4,300,000
Recycled Water Alignment (Phase 2)	6	7,300	\$ 50	in-diam/LF	\$ 2,190,000
Special Crossings - Railroad crossings		-	\$ 460,310	per crossing	\$ -
Special Crossings - HWY 101		1	\$ 1,334,233	per crossing	\$ 1,400,000
Booster Pump Station		100	\$ 8,700	horsepower	\$ 870,000
Storage Tank	0.5 MG	500,000	\$ 1.91	per gallon	\$ 960,000
Baseline Construction Cost					\$ 9,720,000
Construction Contingency			30%		\$ 2,916,000
Total Construction Cost					\$ 12,636,000
Allowance for Change Orders			5%		\$ 631,800
Construction Inspection			5%		\$ 631,800
Engineering Design			7%		\$ 884,520
Permits/Easements			5%		\$ 631,800
Construction Administration			5%		\$ 631,800
Legal, Fiscal, and Administrative			2%		\$ 252,720
Implementation					\$ 3,664,000
Total Project Cost					\$ 16,300,000
Annualized Total Project Cost			0.05437		\$ 887,000
Annual O&M Cost					\$ 598,000
Annual Recycled Water Cost		650,000	\$ 0.0098	gal	\$ 7,000
Total Annualized Cost					\$ 1,492,000
Annual Operations & Maintenance Cost					
			Basis	Unit Cost	
Recycled Water Alignment			6,490,000	0.5%	\$ 32,450
Treatment Cost		MGD	1.0	\$ 500,000	\$ 500,000
Booster Pump Station			870,000	2.5%	\$ 22,000
Pumping Energy		kWh	51,000	\$ 0.30	\$ 16,000
Storage			960,000	1.0%	\$ 10,000
Monthly Service		mo	12	\$ 1,476	\$ 18,000
Total Annual Operations & Maintenance Cost					\$ 598,000
*Not included: recycled water wheeling; potable water for blending; onsite irrigation system improvements; cross connection testing and site inspections					

WBSD Phase 2 and Phase 3 Recycled Water Project

Planning Level Cost Estimate					
	size	Qty	Unit Cost	Unit	Subtotal
Recycled Water Alignment (Phase 2)	10	8,600	\$ 50	in-diam/LF	\$ 4,300,000
Recycled Water Alighment (Phase 2)	6	7,300	\$ 50	in-diam/LF	\$ 2,190,000
Recycled Water Alignment (Phase 3)	8	38,500	\$ 50	in-diam/LF	\$ 15,400,000
Special Crossings - Railroad crossings		2	\$ 460,310	per crossing	\$ 921,000
Special Crossings - HWY 101		2	\$ 1,334,233	per crossing	\$ 2,700,000
Booster Pump Station		200	\$ 8,700	horsepower	\$ 1,740,000
Storage Tank	0.5 MG	500,000	\$ 1.91	per gallon	\$ 960,000
Baseline Construction Cost					\$ 28,211,000
Construction Contingency			30%		\$ 8,464,000
Total Construction Cost					\$ 36,675,000
Allowance for Change Orders			5%		\$ 1,833,750
Construction Inspection			5%		\$ 1,833,750
Engineering Design			7%		\$ 2,567,250
Permits/Easements			5%		\$ 1,833,750
Construction Administration			5%		\$ 1,833,750
Legal, Fiscal, and Administrative			2%		\$ 733,500
Implementation					\$ 10,636,000
Total Project Cost					\$ 47,300,000
Annualized Total Project Cost			0.05437		\$ 2,572,000
Annual O&M Cost					\$ 1,214,000
Annual Recycled Water Cost		830,000	\$ 0.0098	gal	\$ 9,000
Total Annualized Cost					\$ 3,795,000
Annual Operations & Maintenance Cost					
			Basis	Unit Cost	
Recycled Water Alignment			21,890,000	0.5%	\$ 109,450
Treatment Cost		MGD	2.0	\$ 500,000	\$ 1,000,000
Booster Pump Station			1,740,000	2.5%	\$ 44,000
Pumping Energy		kWh	108,400	\$ 0.30	\$ 33,000
Storage			960,000	1.0%	\$ 10,000
Monthly Service		mo	12	\$ 1,476	\$ 18,000
Total Annual Operations & Maintenance Cost					\$ 1,214,000
*Not included: recycled water wheeling; potable water for blending; onsite irrigation system improvements; cross connection testing and site inspections					

WBSD Phase 2 and Phase 3 Recycled Water Project Including Potential Phase 3 Looping

Planning Level Cost Estimate					
	size	Qty	Unit Cost	Unit	Subtotal
Recycled Water Alignment (Phase 2)	10	8,600	\$ 50	in-diam/LF	\$ 4,300,000
Recycled Water Alignment (Phase 2)	6	7,300	\$ 50	in-diam/LF	\$ 2,190,000
Recycled Water Alignment (Phase 3)	8	38,500	\$ 50	in-diam/LF	\$ 15,400,000
Recycled Water Alignment (Phase 3, potential looping)	8	18,800	\$ 50	in-diam/LF	\$ 7,520,000
Special Crossings - Railroad crossings		3	\$ 460,310	per crossing	\$ 1,381,000
Special Crossings - HWY 101		2	\$1,334,233	per crossing	\$ 2,700,000
Booster Pump Station		200	\$ 8,700	horsepower	\$ 1,740,000
Storage Tank	0.5 MG	500,000	\$ 1.91	per gallon	\$ 960,000
Baseline Construction Cost					\$ 36,191,000
Construction Contingency			30%		\$ 10,858,000
Total Construction Cost					\$ 47,049,000
Allowance for Change Orders			5%		\$ 2,352,450
Construction Inspection			5%		\$ 2,352,450
Engineering Design			7%		\$ 3,293,430
Permits/Easements			5%		\$ 2,352,450
Construction Administration			5%		\$ 2,352,450
Legal, Fiscal, and Administrative			2%		\$ 940,980
Implementation					\$ 13,644,000
Total Project Cost					\$ 60,700,000
Annualized Total Project Cost			0.05437		\$ 3,301,000
Annual O&M Cost					\$ 1,252,000
Annual Recycled Water Cost		830,000	\$ 0.0098	gal	\$ 9,000
Total Annualized Cost					\$ 4,562,000
Annual Operations & Maintenance Cost					
			Basis	Unit Cost	
Recycled Water Alignment			29,410,000	0.5%	\$ 147,050
Treatment Cost		MGD	2.0	\$ 500,000	\$ 1,000,000
Booster Pump Station			1,740,000	2.5%	\$ 44,000
Pumping Energy		kWh	108,400	\$ 0.30	\$ 33,000
Storage			960,000	1.0%	\$ 10,000
Estimated O&M for Bayfront RW Facility					
Monthly Service		mo	12	\$ 1,476	\$ 18,000
Total Annual Operations & Maintenance Cost					\$ 1,252,000
<i>*Not included: recycled water wheeling; potable water for blending; onsite irrigation system improvements; cross connection testing and site inspections</i>					

Unit Costs			
Construction costs	Unit Cost		Source
Force Main	\$50	per in-diam/LF	
Gravity Sewer	\$50	per in-diam/LF	
Recycled Force Main (onsite)	\$24	per in-diam/LF	HDR (2017)*
Booster Pump Station	\$8,700	per HP	HDR (2017)*
Storage Tank	\$1.91	per gallon	Kennedy Jenks (2010) Escalated
4" - 6" Service Line with Meter	\$50,000	each	Woodard & Curran database
System Connection	\$307,000	each	Kennedy Jenks (2010) Escalated
Special Crossings	\$345,000	per crossing	Kennedy Jenks (2010) Escalated
Implementation	25%	of Construction cost	
Legal/Admin/Environmental	5%		
Design	8%		
Construction Management	8%		
Services during Construction	4%		
Project Contingency	30%	of Capital cost	
Annual Operation & Maintenance Costs			
Pipelines	0.5%	of Construction cost	
Pump Station	2.5%	of Construction cost	
Storage	1.0%	of Construction cost	
MBR Power	\$33,641	Annual	Cloacina MBR .15 MGD Estimate (2020)
MBR Replacements, Consumables and Parts	\$60,924	Annual	Cloacina MBR .15 MGD Estimate (2020)
MBR Labor	\$160,000	Annual	Cloacina MBR .15 MGD Estimate (2020)
Financing			
Interest Rate	3.5%		
Period	30	years	
Capital Recovery Factor	0.05437		
Escalation Factor Applied to Kennedy/Jenks 2010 Unit Costs			
December 2010 SF CCI	10120	January 2017 SF CCI	11609
September 2023 SF CCI	15490		
Escalation	1.53	Escalation	1.33
* HDR costs based on recent applicable construction projects			



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14-372



WEST BAY SANITARY DISTRICT AGENDA ITEM 15

To: *Board of Directors*

From: *Fariborz Heydari, P.E., Project Manager*

Subject: *Consider Authorizing the General Manager to Issue the Call for Bids for the Willow Road Pump Station Project No. 1764.0*

Background

The Willow Road Pump Station was constructed in 1981. The District had a new MCC (Control Panel) installed in December 2012 and a new fuel tank and fencing in 2022. No other improvements have been made to the pump station since it was constructed.

The Willow Road Pump Station Wet Well Rehabilitation and Discharge Piping Replacement Project includes the recoating of the pump station wet well and valve pit to extend the operational life of the existing structure, replacement of the discharge lines of each pump through the valve pit, and replacement of the pump station generator set. Safety features addressed as part of the project include improved lighting, fall protection access hatches, passive wet well ventilation odor control, replacement of fencing with 8-foot-high perimeter fencing, and provisions for security cameras.

Analysis

On July 12, 2023, the Board authorized the General Manager to enter into an agreement with Freyer and Laureta (F&L) for design and construction support for the replacement of the Willow Road Pump Station.

The anticipated construction cost for this project is \$860,000.

Fiscal Impact

On June 14, 2023, the District adopted the FY 2023-24 Budget. The Pipeline Replacement & Rehab Construction summary table on Page 14 of the FY 2023-24 Budget shows \$1.7 million allocated towards construction of Willow Road Pump Station in 2024.

Environmental Review

This project is exempt from the CEQA environmental review. Reasons for exemption include the project consisting of construction and location of limited numbers of new,

small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. The Project would have a limited disturbance area and minimal aboveground components, and thus would be considered a small facility.

An environmental checklist was prepared for the Project, which documents that the Project would not trigger any exceptions to a categorical exemption (i.e., would not impact scenic highways, is not located on a hazardous waste site, would not impact a historical resource, and would not have a significant impact due to its location, cumulative impacts, or other unusual circumstances). Thus, the Project is exempt under State CEQA Guidelines Sec. 15303.

Recommendation

The Project Manager recommends that the District Board approve the Call for Bids as presented for Willow Road Pump Station.

Attachments: Notice of Exemption

Notice of Exemption

To: County Clerk
County of San Mateo
555 County Center
Redwood City CA 94063

From: West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Project Title: Willow Road Pump Station Reconstruction Project

Project Location – Specific: Willow Road and O'Brien Drive Intersection

Project Location – City: Menlo Park

Project Location – County: San Mateo

Description of Project: Reconstruct the sanitary sewer pumping station (known as Willow Road Pump Station). The Willow Road Pump Station Wet Well Rehabilitation and Discharge Piping Replacement Project includes the recoating of the pump station wet well and valve pit to extend the operational life of the existing structure, replacement of the discharge lines of each pump through the valve pit, and replacement of the pump station generator set located at the intersection of Willow Road and O'Brien Drive in Menlo Park.

Name of Public Agency Approving Project: West Bay Sanitary District

Name of Person or Agency Carrying Out Project: West Bay Sanitary District

Exempt Status:

CEQA Guidelines Section 15601(b)(3), General Rule;
Categorical Exemption: Class 1 – Section 15301(b), Existing Facilities, and Class 2 – Section 15302(c), Replacement or Reconstruction.

Reasons why project is exempt:

This project is exempt from CEQA because it can be “seen with certainty that there is no possibility that the activity in question may have a significant impact on the environment.” This certainty is based on past experience with numerous sewer construction and rehabilitation projects of this nature, and the mitigated measures included in all such projects to alleviate any impacts.

Most project elements also are exempt as minor alteration and repair of existing public facilities or topographical features involving negligible or no expansion of use beyond that previously exist.

Lead Agency: West Bay Sanitary District

Lead Agency Contact Person: Sergio Ramirez

(650) 321-0384

Signature

Date: _____

Title: General Manager

“PRELIMINARY REVIEW”

WILLOW ROAD PUMP STATION RECONSTRUCTION PROJECT SAN MATEO COUNTY

December 7, 2023

INTRODUCTION. At the December 13, 2023 District Board Meeting, the Board will consider approving the bidding of this Project and authorization for the filing of a California Environmental Quality Act (CEQA) “Notice of Exemption” for the project. The District proposes this project.

EXEMPTION REVIEW. In compliance with CEQA Guidelines, this “preliminary review” of the Willow Road Pump Station Reconstruction Project at Willow Road was conducted to determine whether the project is exempt from CEQA. Based on this review, staff has concluded that the project is exempt from CEQA under several sections of the guidelines. In summary, the project would not have any significant impacts on the environment because it includes little or no expansion of capacity, and will employ mitigation measures to alleviate any impacts.

This preliminary review presents and elaborates upon the rationale for the conclusions reached by staff.

Staff has concluded that all project elements are exempt under CEQA Guidelines section 15061(b)(3) (known as the “General Rule”), since it can be “seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment.”

This certainty is based on past experience with numerous sewer construction projects of this nature, and the mitigation measures included in all such projects to alleviate any impacts.

Past Experience. The District has completed the construction of many miles of sewer pipeline and pump station construction projects throughout San Mateo County. While construction-related impacts on land use, traffic, noise, air quality, erosion, drainage, public safety, and cultural resources can occur, no significant environmental impacts have resulted from this work.

The reasons these have been “less-than-significant” include the short-term nature of construction activities, application of the District’s standard construction mitigation measures, good community relations outreach programs to inform project area residents of construction activities, and active coordination with local jurisdictions.

Construction Mitigation Measures. Specific impact mitigation measures will be included in the proposed project to avoid, minimize, reduce, or rectify for construction-related impacts. These measures are used on all sewer construction projects and will be required in the project plans and specifications. The measures address dust control; erosion control; noise control; protection of soils; provision for adequate drainage; protection and restoration of structures; public health and safety precautions; community notifications; traffic control; and preservation of cultural resources.

Staff has concluded that most project elements are “categorically exempt” under CEQA Guidelines Section 15301(b) (existing facilities); or Section 15302(c) (replacement or reconstruction). These exemptions require repair, maintenance, or minor alteration of existing structures or facilities.

The pump station has reached its expected life and is in need of repair. This project is being implemented to reconstruct the sanitary sewer pumping station (known as Willow Road Pump Station). The Willow Road Pump Station Wet Well Rehabilitation and Discharge Piping Replacement Project includes the recoating of the pump station wet well and valve pit to extend the operational life of the existing structure, replacement of the discharge lines of each pump through the valve pit, and replacement of the pump station generator set. Safety features addressed as part of the project include improved lighting, fall protection access hatches, passive wet well ventilation odor control, replacement of fencing with 8-foot-high perimeter fencing, and provisions for security cameras located at the intersection of Willow Road and O’Brien Drive in Menlo Park. The project shall reduce operations and maintenance costs, energy consumption, and risk of pump failure.

CONCLUSION. Based on the information presented herein, staff has concluded that the subject project is exempt from CEQA under the CEQA Guidelines Section 15061(b)(3) (the General Rule), and that most project elements are also exempt under CEQA Guideline Section 15301(b), (existing facilities) or Section 15302(c), (replacement or reconstruction).

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WEST BAY SANITARY DISTRICT AGENDA ITEM 16

To: *Board of Directors*

From: *Fariborz Heydari, P.E., Project Manager*

Subject: *Consider Authorizing the General Manager to Issue the Call for Bids for the Stowe Lane Pump Station Project No. 1763.0*

Background

The Stowe Lane Pump Station was built in 1950 and it is the last Wet Well/Dry Well station at West Bay.

The Stowe Lane Pump Station Replacement Project includes removal of the existing pump station above grade structure and abandonment of place of existing below grade structure, construction of a new and more efficient wet well and valve pit layouts, re-routing of gravity lines to the wet well, new pumps and switchgear controls, incorporation of multi-smart panel, and replacement of the pump station generator set. Safety features addressed as part of the project include improved lighting, fall protection access hatches, 8-foot-high perimeter fencing, passive wet well ventilation, and provisions for security cameras.

Analysis

On July 12, 2023, the Board authorized the General Manager to enter into an agreement with Freyer and Laureta (F&L) for design and construction support for the replacement of the Stowe Lane Pump Station.

The anticipated construction cost for this project is \$1.6M.

Fiscal Impact

On June 14, 2023, the District adopted the FY 2023-24 Budget. The Pipeline Replacement & Rehab Construction summary table on Page 14 of the FY 2023-24 Budget shows \$3 million allocated towards construction of Stowe Lane Pump Station in 2024.

Environmental Review

This project is exempt from the CEQA environmental review. Reasons for exemption include the project consisting of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in

small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. The Project would have a limited disturbance area and minimal aboveground components, and thus would be considered a small facility.

An environmental checklist was prepared for the Project, which documents that the Project would not trigger any exceptions to a categorical exemption (i.e., would not impact scenic highways, is not located on a hazardous waste site, would not impact a historical resource, and would not have a significant impact due to its location, cumulative impacts, or other unusual circumstances). Thus, the Project is exempt under State CEQA Guidelines Sec. 15303.

Recommendation

The Project Manager recommends that the District Board approve the Call for Bids as presented for the Stowe Lane Pump Station.

Attachments: Notice of Exemption

Notice of Exemption

To: County Clerk
County of San Mateo
555 County Center
Redwood City CA 94063

From: West Bay Sanitary District
500 Laurel Street
Menlo Park, CA 94025

Project Title: Stowe Lane Pump Station Reconstruction Project

Project Location – Specific: Stowe Lane in San Mateo County

Project Location – City: San Mateo County

Project Location – County: San Mateo

Description of Project: Reconstruct the sanitary sewer pumping station (known as Stowe Lane Pump Station) with a new and more efficient wet well and valve pit layouts, re-routing of gravity lines to the wet well, new pumps and switchgear controls, incorporation of multi-smart panel, and replacement of the pump station generator set located at the end of Stowe Lane in San Mateo County.

Name of Public Agency Approving Project: West Bay Sanitary District

Name of Person or Agency Carrying Out Project: West Bay Sanitary District

Exempt Status:

CEQA Guidelines Section 15601(b)(3), General Rule;
Categorical Exemption: Class 1 – Section 15301(b), Existing Facilities, and Class 2 – Section 15302(c), Replacement or Reconstruction.

Reasons why project is exempt:

This project is exempt from CEQA because it can be “seen with certainty that there is no possibility that the activity in question may have a significant impact on the environment.” This certainty is based on past experience with numerous sewer construction and rehabilitation projects of this nature, and the mitigated measures included in all such projects to alleviate any impacts.

Most project elements also are exempt as minor alteration and repair of existing public facilities or topographical features involving negligible or no expansion of use beyond that previously exist.

Lead Agency: West Bay Sanitary District

Lead Agency Contact Person: Sergio Ramirez

(650) 321-0384

Signature

Date: _____

Title: General Manager

“PRELIMINARY REVIEW”

STOWE LANE PUMP STATION RECONSTRUCTION PROJECT SAN MATEO COUNTY

December 7, 2023

INTRODUCTION. At the December 13, 2023 District Board Meeting, the Board will consider approving the bidding of this Project and authorization for the filing of a California Environmental Quality Act (CEQA) “Notice of Exemption” for the project. The District proposes this project.

EXEMPTION REVIEW. In compliance with CEQA Guidelines, this “preliminary review” of the Stowe Lane Pump Station Reconstruction Project at Stowe Lane was conducted to determine whether the project is exempt from CEQA. Based on this review, staff has concluded that the project is exempt from CEQA under several sections of the guidelines. In summary, the project would not have any significant impacts on the environment because it includes little or no expansion of capacity, and will employ mitigation measures to alleviate any impacts.

This preliminary review presents and elaborates upon the rationale for the conclusions reached by staff.

Staff has concluded that all project elements are exempt under CEQA Guidelines section 15061(b)(3) (known as the “General Rule”), since it can be “seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment.”

This certainty is based on past experience with numerous sewer construction projects of this nature, and the mitigation measures included in all such projects to alleviate any impacts.

Past Experience. The District has completed the construction of many miles of sewer pipeline and pump station construction projects throughout San Mateo County. While construction-related impacts on land use, traffic, noise, air quality, erosion, drainage, public safety, and cultural resources can occur, no significant environmental impacts have resulted from this work.

The reasons these have been “less-than-significant” include the short-term nature of construction activities, application of the District’s standard construction mitigation measures, good community relations outreach programs to inform project area residents of construction activities, and active coordination with local jurisdictions.

Construction Mitigation Measures. Specific impact mitigation measures will be included in the proposed project to avoid, minimize, reduce, or rectify for construction-related impacts. These measures are used on all sewer construction projects and will be required in the project plans and specifications. The measures address dust control; erosion control; noise control; protection of soils; provision for adequate drainage; protection and restoration of structures; public health and safety precautions; community notifications; traffic control; and preservation of cultural resources.

Staff has concluded that most project elements are “categorically exempt” under CEQA Guidelines Section 15301(b) (existing facilities); or Section 15302(c) (replacement or reconstruction). These exemptions require repair, maintenance, or minor alteration of existing structures or facilities.

The pump station has reached its expected life and is in need of repair. This project is being implemented to reconstruct the sanitary sewer pumping station (known as Stowe Lane Pump Station) with a new and more efficient wet well and valve pit layouts, re-routing of gravity lines to the wet well, new pumps and switchgear controls, incorporation of multi-smart panel, and replacement of the pump station generator set located at the end of Stowe Lane in San Mateo County. The project shall reduce operations and maintenance costs, energy consumption, and risk of pump failure.

CONCLUSION. Based on the information presented herein, staff has concluded that the subject project is exempt from CEQA under the CEQA Guidelines Section 15061(b)(3) (the General Rule), and that most project elements are also exempt under CEQA Guideline Section 15301(b), (existing facilities) or Section 15302(c), (replacement or reconstruction).

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WEST BAY SANITARY DISTRICT AGENDA ITEM 17

To: *Board of Directors*

From: *Fariborz Heydari, P.E., Project Manager*

Subject: *Consider Authorizing the General Manager to Enter Into an Agreement for On-Call Geotechnical Observation and Testing Services and Special Inspections with BAGG Engineers for the Flow Equalization and Resource Recovery Facility (FERRF) Levee Improvement Project*

Background

On August 23, 2023, the Board awarded the levee improvement project to Anderson Pacific Engineering Construction, Inc. The project requires Geotechnical Observation, Testing, and Special Inspection by a third-party.

The project will consist of advancing sheetpiles around the northwest and west sides of the former wastewater treatment plant. Other work will consist of new underground utility installation, additional fill utilizing lightweight flowable fill in keyways, lime treatment to stabilize excessively soft areas.

BAGG Engineers has been providing such inspections services for the District's projects in the past. This proposal summarizes the understanding of the project and presents proposed scope of work, budget, and assumptions for supporting implementation of on-call Geotechnical Observation, Testing, and Special Inspections services for anticipated schedule through February 2025. A majority of these fees will be reimbursed from the grant received from the National Fish and Wildlife Foundation (NFWF).

Analysis

The following services include the following tasks, with added descriptions in the attached proposal.

- Review the geotechnical aspects of the project drawings.
- Attending a pre-construction meeting.
- Verifying sheetpiles penetrated into firm material below Young Bay Mud deposits underlying the site.
- Provide observations testing services for the earthwork.

- Perform laboratory tests.
- Perform welding inspections.
- Perform reinforcing steel inspections.
- Prepare field engineers daily reports.
- Prepare a stamped and signed “Final” letter of observations and tests during construction.

Fiscal Impact

The District applied for a loan from the State Water Resources Control Board (SWRCB) State Revolving Fund (SRF) to design and construct the Levee as well as the Recycled Water facility. The SWRCB awarded the project \$66.6 million including \$14.7 million in State grants. The SRF will fund the recycled water facility and a portion of the levee.

The District’s FY2023/24 Construction in Progress - Levee Improvement Project budget is \$7 million. The proposed fee for the above listed tasks is \$83,066 of which a portion of that will be reimbursed by the NFWF grant obtained by the District.

Recommendation

The Project Manager recommends the District Board of Directors authorize the General Manager to enter into an agreement with BAGG Engineers for Geotechnical Observation, Testing, and Special Inspection Services for the FERRF Levee Improvement Project.

Attachment: Agreement
 BAGG Engineers Proposal

**AGREEMENT FOR PROFESSIONAL
SERVICES BETWEEN WEST BAY
SANITARY DISTRICT AND BAGG
ENGINEERS**

THIS AGREEMENT, hereinafter referred to as “Agreement”, made and effective on this 13th day of December, 2023, by and between West Bay Sanitary District, hereinafter referred to as “District”, and BAGG Engineers, hereinafter referred to as “Consultant.” (District and Consultant are referred to individually as a “Party” and collectively, as the “Parties”).

WITNESSETH:

WHEREAS, the District desires to procure certain inspections services as more particularly described in “WEST BAY SANITARY DISTRICT FLOW EQUALIZATION AND RESOURCE RECOVERY FACILITY (FERRF) LEVEE IMPROVEMENTS PROJECT SCOPE FOR GEOTECHNICAL OBSERVATION, TESTING, AND SPECIAL INSPECTION SERVICES BAGG ENGINEERS” (“Scope of Work”) attached hereto as Exhibit “A” and incorporated herein by reference (hereinafter referred to as “Proposal”); and

WHEREAS, Consultant has available, and offers to provide, personnel and facilities necessary to accomplish the work contemplated in the Proposal as may be requested by the District;

NOW, THEREFORE, the District and Consultant agree as follows:

I. DESCRIPTION OF PROJECT

Consultant will provide geotechnical observation, testing, and special inspection services for the West Bay Sanitary District FERRF Levee Improvements Project in the City of Menlo Park, San Mateo County.

II. SCOPE OF SERVICES

Consultant agrees to perform those services described in the **Scope of Work**, attached hereto as **Exhibit A**.

Consultant shall not undertake any work beyond the scope of services as set forth in Exhibit A. No changes in the scope of services shall be made without the District's prior written approval.

II. TIME FOR COMPLETION

The term of this Agreement shall commence on the effective date of this Agreement and

terminate on either February 28, 2025 or the timely completion of the Scope of Work described in the Proposal, whichever is later.

Consultant shall begin work as specified in a written authorization (e.g. Notice to Proceed) to perform services. The written authorization to perform work shall not be issued until after this Agreement has been approved and authorized by the District.

Consultant acknowledges that it is necessary for Consultant to complete its work on or before the completion date of February 28, 2025 in order to allow the District to achieve its objectives for entering into this Agreement. The Parties therefore agree that time is of the essence in the performance of this Agreement.

III. COMPENSATION

For actual services performed by Consultant, the District agrees to pay, and Consultant agrees to accept, compensation in an amount not to exceed the total amount described in the Proposal as full compensation for all personnel, materials, supplies, and equipment used by Consultant in the scope of services to be provided. Any change requiring compensation in excess of the sum of \$83,066.00 as specified in the Proposal, shall only be allowed if approved in advance in writing by the District's authorized representative. Consultant shall invoice the District detailing the time and materials for services provided under this Agreement in accordance with the Proposal.

Consultant shall submit invoices for services completed each month. The District shall pay such invoices within forty-five (45) days after their receipt.

IV. RESPONSIBILITY OF CONSULTANT

Consultant agrees that in undertaking the duties to be performed hereunder, it shall act as an independent consultant for and on behalf of the District. The District shall not direct the work and means for accomplishment of the services and work to be performed hereunder. The District, however, retains the right to require that all work performed by Consultant or under Consultant's direction, shall be rendered in accordance with the generally accepted practices, and to the standards of, Consultant's profession. Consultant represents and warrants that Consultant: (i) is fully experienced and properly qualified to perform the work and services provided for herein, (ii) has the financial capability required for the performance of the work and services, and (iii) is properly equipped and organized to perform the work and services in a competent, timely, and proper manner, in accordance with the requirements of this Agreement.

If, in performing the work, it is necessary to conduct field operations, security and safety of the job site will be the Consultant's responsibility excluding, the security and safety of any facility of District within the job site which is not under the Consultant's control.

V. INDEMNIFICATION

Consultant agrees, to the fullest extent permitted by law, to indemnify, defend, and hold harmless the District, its directors, officers, employees, and agents (collectively, "Indemnitees") from and against any and all liability, claim, action, loss, injury, damage, judgment, or expense, including attorneys' fees and costs ("Losses") caused by or resulting from the negligence, recklessness, or willful misconduct of Consultant, Consultant's officers, employees, agents, or subcontractors in any way related to this Agreement. Consultant's duty to indemnify and hold harmless Indemnitees shall not apply to the extent such Losses are caused by the sole or active negligence or willful misconduct of Indemnitees, as determined by an adjudicatory body or court of competent jurisdiction. The obligation to defend shall arise regardless of any claim or assertion that Indemnitees caused or contributed to the Losses.

In the event this Agreement involves the performance of design professional services by Consultant, Consultant's officers, employees, agents, or subcontractors, Consultant's costs to defend Indemnitees shall not exceed the Consultant's proportionate percentage of fault per Civil Code §2782.8. This section shall survive the termination or expiration of this Agreement.

VI. INSURANCE

Prior to the beginning and throughout the duration of the Agreement, as may be extended by written amendment, Consultant will maintain and comply with the insurance requirements below with insurers licensed to do business in the State of California and with a Best's rating of no less than A:VII. Consultant will insure the District against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the services hereunder. The insurance coverages required shall not in any way limit the liability of the Consultant.

Certificate Requirements:

The District will be issued a Certificate of Insurance (a Memorandum of Understanding will not be accepted) with the following minimum requirements:

- Certificate(s) will show current policy number(s) and effective dates,
- Coverage and policy limits will meet or exceed the requirements below,
- The Certificate Holder will be West Bay Sanitary District, 500 Laurel Street, Menlo Park, CA 94025,
- Certificate will be signed by an authorized representative,
- An endorsement, if required below, will be provided to show the District, its directors, officers, , and employees as additional insureds, and
- Coverages must be maintained during the term of the Agreement with the District, unless a longer duration is required.

Required Coverage:

A. Commercial General Liability (CGL) insurance, including products and completed operations, property damage, bodily injury, personal and advertising injury with limits

of not less than \$1,000,000 each occurrence and \$2,000,000 aggregate.

B. Automobile Liability insurance of \$1,000,000 per accident covering automobile bodily injury and property damage, including all owned (if any), hired and non-owned autos. If Consultant acquires any owned vehicles, Consultant shall provide insurance as above.

C. Worker's Compensation insurance and Occupational Disease insurance, with statutory limits as required by law, and Employer's Liability insurance, of \$1,000,000 per accident for bodily injury or disease covering all workplaces involved in this Agreement. Consultant shall provide an endorsement with a **waiver of subrogation** in the District's favor for all services performed by Consultant and its employees relating to payment of any loss, including attorney's fees.

D. The Commercial General Liability and Automobile Liability Insurance policies shall be endorsed to name the District, its directors, officers, employees, and agents as additional insureds with respect to liability arising out of services or operations performed by or on behalf of Consultant including materials, parts, or equipment furnished in connection with such services or operations. Consultant's insurance coverage is primary insurance and any insurance maintained by the District shall not contribute with it.

E. Errors and Omissions: Consultant shall also provide Professional Liability Insurance appropriate to Consultant's profession with limits of liability in amounts not less than \$1,000,000 per occurrence or claim and \$2,000,000 aggregate. Consultant shall maintain, and provide evidence of coverage for at least five (5) years after the date of completion of the services under this Agreement. If coverage is canceled or non-renewed and not replaced with another claims-made policy form with a retroactive date prior to the Agreement effective date or start of work date, Consultant must purchase "extended reporting" coverage for a minimum of five (5) years after completion of services under this Agreement.

F. Consultant shall require and verify that all of Consultant's subcontractors maintain insurance meeting all of the requirements stated herein, and Consultant shall ensure that the District, its directors, officers, employees, and agents are additional insureds on the CGL and Automobile liability insurance policies required from subcontractors.

G. Consultant shall provide the District with Certificates of Insurance and endorsements, on forms acceptable to District, or other evidence of insurance acceptable to District, prior to commencement of any services under this Agreement. Each insurance policy required above shall provide that there will be no cancellation of coverage by the carrier without prior written notice to District.

H. If Consultant maintains broader insurance coverage and/or higher limits than the minimums shown above, the District requires and shall be entitled to the broader insurance coverage and/or higher limits maintained by Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the District.

I. Any excess/liability policies must provide similar coverage as the primary CGL policy with no new exclusions - Excess liability insurance must follow from the terms, conditions, definitions, and exclusions of the underlying CGL insurance. The excess/umbrella policy must also be written on a primary and noncontributory basis for an additional insured, and that it will apply before any other insurance that is available to such additional insured which covers that person or organization as a named insured, and we will not share with that other insurance.

J. The Excess policy must provide that the aggregate limits if applicable shall apply in the same manner as the aggregate limits shown in the Schedule of the Underlying Insurance.

VII. TERMINATION

The District may terminate this Agreement for its convenience with written notice of not less than 10 calendar days prior to an effective termination date. The District or Consultant may terminate the Agreement for material breach of Agreement by providing written notice to the other party not less than 15 calendar days prior to an effective termination date.

Upon notice of termination, the Consultant will immediately take action not to incur any additional obligations, costs or expenses, except as may be reasonably necessary to terminate its activities. The District's only obligation to the Consultant will be just and equitable payment for materials and/or services authorized by, and received to the satisfaction of, the District up to and including the effective date of termination, less any amounts withheld. All finished or unfinished work, materials, supplies, goods, or documents procured or produced under the Agreement will become property of the District upon the termination date. In the event of Consultant's failure to perform, District reserves the right to obtain services elsewhere, and the defaulting Consultant will be liable for the difference between the prices set forth in the terminated Agreement and the actual cost to the District. After the effective date of termination, Consultant will have no further claims against the District under the Agreement including, but not limited to, claims for anticipated profit related to unperformed services. Termination of the Agreement pursuant to this paragraph may not relieve the Consultant of any liability to District for damages sustained by the District because of any breach of the Agreement by Consultant, and District may withhold any payments to Consultant for the purpose of set-off until such time as the exact amount of damages due District from Consultant is determined.

The rights and remedies provided in this section will not be exclusive and are in addition to any other rights and remedies provided by law or under the contract.

VIII. SUBCONTRACTS

Except as provided in the Proposal, and otherwise with prior written approval of the District, Consultant shall not enter into any subcontract with any other party for purposes of providing any work or services covered by this Agreement. If at any time, the District determines any subcontractor is incompetent or unqualified, Consultant will be notified and will be expected to immediately cancel the subcontract. Consultant shall require and verify that all

subcontractors maintain insurance meeting all the requirements stated herein, and Consultant shall ensure that the District, its directors, officers, and employees are additional insureds on insurance required from subcontractors.

IX. OTHER TERMS

1. Compliance with Laws. All activities of Consultant, its employees, subcontractors and/or agents will be carried out in compliance with all applicable federal, state and local laws and regulations.
2. Conflicts of Interest. Consultant owes District a duty of undivided loyalty in performing the work and services under this Agreement. Consultant on behalf of itself, its employees, agents, representatives, and subcontractors, covenants that it presently has no direct or indirect interest, financial or otherwise, and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Agreement. Consultant acknowledges that it is aware of and agrees to comply with the provisions of the Political Reform Act, Section 1090 of the Government Code. Consultant will immediately advise District if Consultant learns of a conflicting financial interest of Consultant's during the term of this Agreement. Consultant owes District a duty of undivided loyalty in performing the work and services under this Agreement.
3. Property of District. The work, or any portion, of Consultant in performing this Agreement shall become the property of the District. The Consultant shall be permitted to retain copies or such work for information and reference in connection with the District's use. All materials and work product, whether finished or unfinished, shall be delivered to the District upon completion of contract services or termination of this Agreement for any reason. Consultant agrees that all copyrights which arise from creation of project-related documents and materials pursuant to this Agreement shall be vested in the District, and Consultant waives and relinquishes all claims to copyright or other intellectual property rights in favor of the District. Any work product related to this Agreement shall be confidential, not to be used by the Consultant on other projects or disclosed to any third party, except by agreement in writing by the District.
4. Consultant's Records. Consultant shall maintain accurate accounting records and other written documentation pertaining to the costs incurred for this project for examination and audit by the District, local, state, or federal government, as applicable. Such records and documentation shall be kept available at Consultant's office during the period of this Agreement, and after the term of this Agreement for a period of five years from the date of the final District payment for Consultant's services. If Consultant engages a subcontractor to perform work related to this Agreement with a cost of \$10,000 or more over a 12-month period, such subcontract shall contain these same requirements. This provision shall survive the termination of this Agreement.
5. California Public Records Act. District is a public agency subject to the disclosure requirements of the California Public Records Act ("CPRA"). If Consultant's

proprietary information is contained in documents or information submitted to District, and Consultant claims that such information falls within one or more CPRA exemptions, Consultant must clearly mark such information "Confidential and Proprietary," and identify the specific lines containing the information. In the event of a request for such information, District will make best efforts to provide notice to Consultant prior to such disclosure. If Consultant contends that any documents are exempt from the CPRA and wishes to prevent disclosure, it is required to obtain a protective order, injunctive relief or other appropriate remedy from a court of law in San Mateo County before the District is required to respond to the CPRA request. If Consultant fails to obtain such remedy within the time the District is required to respond to the CPRA request, District may disclose the requested information without any liability to Consultant. Consultant further agrees that it shall defend, indemnify and hold District harmless against any claim, action or litigation (including but not limited to all judgments, costs, and attorney's fees) that may result from denial by District of a CPRA request for information arising from any representation, or any action (or inaction), by the Consultant.

6. Independent Contractor. In the performance of this Agreement, it is expressly understood that Consultant, including each of Consultant's employees, agents, subcontractors or others under Consultant's supervision or control, is an independent contractor solely responsible for its own acts and omissions, and shall not be considered an employee of the District for any purpose. Consultant agrees to comply with AB5, codified at Labor Code section 2750.3, and shall indemnify, defend and hold harmless the District, its officials, officers, employees, and agents against any claim or liability, including attorneys' fees and costs, arising in any manner related to this Agreement that an employee, agent or others under Consultant's supervision or control was misclassified.
7. Consultant Not an Agent. Except as the District may specify in writing, Consultant shall have no authority, express or implied, to act on behalf of District in any capacity whatsoever as an agent. Consultant shall have no authority, express or implied, pursuant to this Agreement to bind the District to any obligation whatsoever.
8. Consultant Services Only. Consultant is employed to render professional services only and any payments made to Consultant are compensation solely for such professional services.
9. Subcontractors. Consultant shall obtain prior approval of the District prior to subcontracting of any work pursuant to this Agreement. If at any time, the District determines any subcontractor is incompetent or unqualified, Consultant will be notified and will be expected to immediately cancel the subcontract. Consultant shall require and verify that all subcontractors maintain insurance meeting all of the requirements stated herein, including naming the District, its directors, officers, employees, and agents as additional insureds. Any modification to the insurance requirements for subcontractors must be agreed to by the District in writing.

10. Prevailing Wage. To the extent that the work or services to be performed under this Agreement may be considered a “public work” pursuant and subject to Labor Code section 1720 *et seq.*, Consultant (and any sub consultant performing the work or services) shall conform to any and all prevailing wage requirements applicable to such work/and or services under this Agreement. Consultant (and any sub consultant) shall adhere to the prevailing wage determinations made by the Director of Industrial Relations (DIR) pursuant to California Labor Code Part 7, Chapter 1, Article 2, applicable to the work, if any. All workers employed in the execution of a public works contract (as such term is defined California Labor Code section 1720 *et seq.* and section 1782(d)(1)) must be paid not less than the specified prevailing wage rates for the type of work performed. Reference: California Labor Code sections 1720, 1774 and 1782.

Consultant agrees to be bound by the prevailing wage requirements to the extent applicable to the scope of work and services under this Agreement, including, but not limited to, the following:

- a. If a worker is paid less than the applicable prevailing wage rate owed for a calendar day (or any portion thereof), Consultant shall pay the worker the difference between the prevailing wage rate and the amount actually paid for each calendar day (or portion thereof) for which the worker(s) was paid less than the prevailing wage rate, as specified in Labor Code section 1775;
- b. Consultant shall maintain and make available payroll and worker records in accordance with Labor Code sections 1776 and 1812;
- c. If Consultant employs (and/or is legally required to employ) apprentices in performing the work and/or services under this Agreement, Consultant shall ensure compliance with Labor Code section 1777.5;
- d. Consultant is aware of the limitations imposed on overtime work by Labor Code sections 1810 *et seq.* and shall be responsible for any penalties levied in accordance with Labor Code section 1813 for failing to pay required overtime wages;
- e. Consultant shall post a copy of the applicable wage rates at each jobsite at a location readily available to its workers.

Any failure of Consultant and/or its sub consultant to comply with the above requirements relating to a public work project shall constitute a breach of this Agreement that excuses the District’s performance of this Agreement at the District’s sole and absolute option, and shall be at the sole risk of Consultant. Consultant on behalf of itself, any sub consultant, agree to indemnify, defend and hold harmless the District and its directors, officers, and employees from and against any and all claims, liabilities, losses, costs, expenses, attorney’s fees, damages, expenses, fines, financial consequences, interest, and penalties, of any kind or nature, arising from or relating to any failure (or alleged failure) of the Consultant and any sub consultant to pay

prevailing wages or to otherwise comply with the requirements of prevailing wage law relating to a public work.

11. Registration with DIR. Consultant acknowledges that it and/ any sub consultant shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, unless currently registered with the DIR and qualified to perform public work pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. A bid shall not be accepted nor any contract or subcontract entered into without proof of the Consultant or sub consultant's current registration to perform public work. Labor Code section 1771.1(b).
12. Dispute Resolution. The Parties agree to attempt in good faith to resolve through negotiation any dispute, claim or controversy arising out of or relating to this Agreement. Either party may initiate negotiations by providing written notice in letter form to the other party, setting forth the subject of the dispute and the relief requested. Promptly upon such notification, the Parties shall meet at a mutually agreeable time and place in order to exchange relevant information and perspective, and to attempt to resolve the dispute. In the event that no resolution is achieved, and if, but only if, the parties mutually agree, then prior to pursuing formal legal action, the parties shall make a good faith effort to resolve the dispute by non-binding mediation or negotiations between representatives with decision-making power, who, to the extent possible, shall not have had substantive involvement in the matters of the dispute. To the extent that the dispute involves or relates to a public works project, the Parties agree to attempt to resolve the dispute by complying with the claims process as set forth in Public Contract Code section 9204(e). Parties also reserve the right to exercise any and all other remedies available.
13. Force Majeure. Neither party hereto shall be considered in default in the performance of its obligation hereunder to the extent that the performance of any such obligation, except the payment of money, is prevented or delayed by an act of God, natural disaster, pandemic, acts of terrorism, war, or other peril, existing or future, which is beyond the reasonable control of the affected party and without the negligence of the respective Parties. . Each party hereto shall give notice promptly to the other of the nature and extent of any Force Majeure claimed to delay, hinder or prevent performance of the services under this Agreement. In the event either party is prevented or delayed in the performance of its respective obligation by reason of such Force Majeure, the only remedy is that there may be an equitable adjustment of the schedule based on the District's sole discretion.
14. Intellectual Property and Indemnity. Consultant represents to District that, to the best of Consultant's knowledge, any Intellectual Property (including but not limited to: patent, patent application, trade secret, copyright and any applications or right to apply for registration, computer software programs or applications, tangible or intangible proprietary information, or any other intellectual property right) in connection with any services and/or products related to this Agreement does not violate or infringe upon any

Intellectual Property rights of any other person or entity.

To the fullest extent permitted by law, Consultant agrees to indemnify, defend, and hold harmless District, its directors, officers, employees, and agents, from any and all claims, demands, actions, liabilities, damages, or expenses (including reasonable attorneys' fees and costs) arising out of a claim of infringement, actual or alleged, direct or contributory, of any Intellectual Property rights in any way related to Consultant's performance under this Agreement or to the District's authorized intended or actual use of Consultant's product or service under this Agreement. This provision shall survive termination or expiration of this Agreement.

If any product or service becomes, or in the Consultant's opinion is likely to become, the subject of a claim of infringement, the Consultant shall, at its sole expense: (i) provide the District the right to continue using the product or service; or (ii) replace or modify the product or service so that it becomes non-infringing; or (iii) if none of the foregoing alternatives are possible even after Consultant's commercially reasonable efforts, in addition to other available legal remedies, District will have the right to return the product or service and receive a full or partial refund of an amount equal to the value of the returned product or service, less the unpaid portion of the purchase price and any other amounts, which may be due to the Consultant. District shall have the right to retrieve its data and proprietary information at no charge prior to any return of the product or termination of service.

15. Assignment. This Agreement may not be assigned by either the District or Consultant without the prior written consent of the other.
16. Benefit. Except as herein provided, this Agreement shall inure to the benefit of the assigns, heirs, and successors of the Parties to this Agreement.
17. Attorneys' Fees. If any action at law or in equity is brought to enforce or interpret the provisions of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees in addition to any other relief. The laws of the State of California, with jurisdiction in the San Mateo County Superior Court, shall govern all matters relating to the validity, interpretation, and effect of this Agreement and any authorized or alleged changes, the performance of any of its terms, as well as the rights and obligations of Consultant and the District.
18. Complete Agreement. This Agreement, along with any attachments, is the full and complete integration of the parties' agreement with respect to the matters addressed herein, and that this Agreement supersedes any previous written or oral agreements between the parties with respect to the matters addressed herein.
19. Amendments. This Agreement may not be amended in any respect except by way of a written instrument which expressly references and identifies this particular Agreement, which expressly states that its purpose is to amend this particular Agreement, and which is duly executed by the District and Consultant. Consultant acknowledges that no such

amendment shall be effective until approved and authorized by the District's authorized representative.

20. Severability. The unenforceability, invalidity or illegality of any provision(s) of this Agreement shall not render the other provisions unenforceable, invalid or illegal.
21. Waiver. Waiver by any party of any portion of this Agreement shall not constitute a waiver of the same or any other portion hereof.
22. Governing Law. This Agreement shall be governed by and interpreted in accordance with California law.
23. Contract Interpretation. Each party acknowledges that it has reviewed this Agreement and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement.
24. Notices. If either party shall desire or is required to give notice to the other such notice shall be given in writing, via email and concurrently delivered by overnight Federal Express [or priority U.S. Mail], addressed to recipient as follows:

To District:

West Bay Sanitary District
Sergio Ramirez
500 Laurel Street
Menlo Park, Ca 94025
sramirez@westbaysanitary.org
(650) 321-0384

To CONSULTANT:

BAGG Engineers
Mike Matusich
138 Charcot Avenue
San Jose, CA 95131
mike@baggenineers.com
(650) 852-9133

Changes to the above information shall be given to the other party in writing ten (10) business days before the change is effective.

25. Counterparts. This Agreement may be executed in counterparts, and when each party has signed and delivered at least one such counterpart, each one shall be deemed an original and, when taken together with other signed counterparts, shall constitute one Agreement, which shall be binding on and effective regarding all parties. A scanned, electronic, facsimile, or other copy of a party's signature shall have the same force and effect as an original signature.

26. ACKNOWLEDGMENT

By their signatures below, the Parties acknowledge that they have each read and understand the terms of this Agreement, and are authorized to execute this Agreement to legally obligate their respective representatives, agents, successors and assigns to comply with the provisions of this Agreement.

[SIGNATURES ON FOLLOWING PAGE]

WEST BAY SANITARY DISTRICT

BAGG ENGINEERS

By: _____
Sergio Ramirez, General Manager

By: _____
Mike Matusich, PE, GE

Date: _____

Date: _____

APPROVED AS TO FORM

Date: _____
Anthony Condotti, General Counsel

EXHIBIT

“A”

SCOPE

OF

WORK

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WEST BAY SANITARY DISTRICT AGENDA ITEM 18

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*

Subject: *Consider Accepting Reclaimed Water Facilities Constructed Pursuant to Class 3 Permit No. 1611 at 100 Terminal Ave., Menlo Park (Menlo Park Community Campus), and Accept the Public Utility Easement and Approve the Reimbursement for such Facilities*

Background

During the September 8, 2021 Regular Board Meeting the Board discussed partnering with the City of Menlo Park (City) on a reclaimed water main extension for the Menlo Park Community Campus at 100 Terminal Avenue in Menlo Park. The City planned to bore a 3 inch private service line under the CalTrains railroad tracks from Chilco Street to the MPCC. District staff recommend a reclaimed water extension be installed rather than a private service line. The Board's consensus was to participate in the cost sharing of such facilities. The Board agreed to pay for the difference between the City installing a 3 inch private service line versus installing an 8 inch main extension.

At the February 9, 2022 Regular Board Meeting the Board ratified the issuance of Class 3 Permit No. 1611 for the installation of the reclaimed water main extension. Subsequently the District entered into a reimbursement agreement with Hibiscus Properties to pay for it's share of the cost.

Analysis

As part of the Class 3 Permit the District Board agreed to fund a portion of the recycled water installation in an amount not to exceed \$337,740.70. The contractor has since then performed the work to the District's standards.

Additionally, the City of Menlo Park agreed to give the District a Public Utility Easement for the pipeline since it was installed on City property.

Fiscal Impact

The fiscal impact to the District is \$337,740.70 which will be paid to Hibiscus Properties out of the Recycled Water Fund budget.

Recommendation

The General Manager recommends the District Board Accept the Reclaimed Water Facilities Constructed Pursuant to Class 3 Permit No. 1611 at 100 Terminal Ave., Menlo Park, Accept the Public Utility Easement, and Approve the Reimbursement for the Facilities.

WEST BAY SANITARY DISTRICT

500 Laurel Street
Menlo Park, California 94025
(650) 321-0384

Permit Number
1611

Type CLASS 3

APPLICATION FOR CLASS 3 SEWER PERMIT

To the WEST BAY SANITARY DISTRICT:

The undersigned, being the ☐ Owner ☒ Owner's Agent of the property located at

100 W. Terminal Ave.

does hereby request permission to construct sanitary sewers and related facilities to serve a

☐ Residential ☒ Non-residential Development at said location.

ENGINEER'S

KPFF engineer

Name

45 Fremont St, 28th Floor, SF CA 94105

Address

CONTRACTOR'S

Level 10 Construction

Name

1050 Enterprise Way, Suite 250 Sunnyvale, CA 94084

Address

OWNER'S

Hibiscus Properties, LLC

Name

1 Hacker Way, Menlo Park, CA 94025

Address

[Signature]
Applicant's Signature

Rachel Pena

Signed by — Please Print Name

133 Botelho Ave, Milpitas, CA 95035

Address

Receipt of \$ 585 Application Fee is hereby acknowledged [Signature] 8/31/2021
Date

Receipt of \$ 2,000 ☐ Cash Deposit or ☐ Performance Bond

Comments Install reclaimed water for the Menlo Park Community Center

Approved by the District Board on _____

Application approved and permit issued:

WEST BAY SANITARY DISTRICT

Sergio Ramirez, District Manager

Date 1/25/2022

By [Signature]

Final Acceptance by the District Board on _____

(SEE PERMIT CONDITIONS ON REVERSE)

CLASS 3 SEWER PERMIT

Permission is hereby granted to the applicant to construct sanitary sewers and related facilities ("the work") to serve the property described upon the following conditions:

1. **Compliance with District Regulations.** There shall be full compliance with all pertinent provisions of the District's Code of General Regulations.

2. **Performance of the Work.** The work shall be constructed:

- (a) In accordance with the District's "Standard Specifications for Sanitary Sewer Construction — Part D"; and
- (b) In substantial accordance with the drawings on file in the District Office and approved by the District Board; and
- (c) Under the inspection of and to the approval of the District. In this regard, the District shall not control or direct the actual work of construction, but shall be the sole judge as to whether the work is completed and has met all requirements including requirements of quantity and quality of materials and equipment.

3. **Protection of the Work.** Until the work has been finally completed, it and all its component parts, materials, and equipment shall be cared for and protected by the Owner/Owner's Agent and the District shall have no responsibility whatsoever for such care and protection. Final acceptance shall not be deemed to have occurred until there has been formal action of the District Board accepting the work.

4. **One-Year Guaranty of the Work.** The Owner/Owner's Agent shall guarantee the work against leaks, breaks, and other unsatisfactory conditions due to defective materials, equipment, or workmanship for a period of one (1) year from the date of final acceptance. Upon discovery of any such unsatisfactory conditions, except in the event of an emergency requiring immediate action, the District shall give you prompt written notice thereof to the Owner/Owner's Agent requiring that repairs or replacements be promptly made to the work. Should the Owner/Owner's Agent fail to undertake the necessary repairs or replacements within five (5) days after written notice has been given or shall fail to promptly complete such repairs or replacements, or in the event of an emergency when the District shall be excused from giving prior written notice, the District may make such repairs and replacements and charge Owner/Owner's Agent for the cost thereof.

The Owner/Owner's Agent shall defend and hold the District harmless from any and all claims, actions, causes of action, liability, damages, costs, expenses, attorney's fees or the like arising out of any occurrence resulting from an unsatisfactory condition of the work or from any repair or replacement thereof.

5. **Cash Deposit or Performance Bond.** The Owner/Owner's Agent shall furnish the District with a cash deposit or a corporate surety bond securing faithful performance of the one-year guaranty referred to in Condition No. 4 above, including the obligation to defend and hold the District harmless. The amount of the cash deposit or corporate surety bond shall be equal to fifty percent (50%) of the District's estimated cost of the work. Cash deposits shall not accrue interest for the benefit of the Owner/Owner's Agent. Corporate surety bonds shall be written by a company or companies and in a form acceptable to the District.

6. **Payment of District's Cost and Expenses.** The Owner/Owner's Agent shall reimburse the District for all of its costs and expenses in excess of the Permit application fee in connection with examination of plans and specifications, inspection of construction, testing of facilities, and the like. The amount of such costs and expenses shall be determined by the District.

RECORDING REQUESTED BY:
WEST BAY SANITARY DISTRICT

WHEN RECORDED MAIL TO:
WEST BAY SANITARY DISTRICT
500 LAUREL STREET
MENLO PARK, CA 94025

Title Order No. N/A
Escrow No. N/A
Parcel No.

GRANT DEED OF EASEMENT

THE UNDERSIGNED GRANTOR(S) DECLARE(S):

DOCUMENTARY TRANSFER TAX is \$0 CITY TAX is \$0 DEED TO PUBLIC AGENCY
☐ computed on the full value of the property conveyed, or
☐ computed on full value less value of liens or encumbrances remaining at the time of sale,
☒ this is a conveyance of an easement and the consideration and value is less than \$100, R & T 11911 & R&T 11922.
☐ Unincorporated area of San Mateo County ☐ City/Town of _____

FOR NO CONSIDERATION, receipt of which is hereby acknowledged, I (we)

The City of Menlo Park, a municipal corporation of the State of California

Hereby GRANT(S) to:

West Bay Sanitary District, a Public Agency organized and existing under the laws of the State of California,

A perpetual, non-exclusive easement to construct, install, maintain, use, repair, remove, replace any and all pipeline, fittings, and related facilities necessary for the operation of an underground wastewater or recycled water conveyance system in the area described as follows over the following described real property in the City of Menlo Park, County of San Mateo, State of California; more particularly described in Exhibit "A" and "B", attached hereto, and by this reference incorporated herein ("Easement Area")

Provided that West Bay Sanitary District does not unreasonably interfere with Grantor's use and enjoyment of the Easement Area, West Bay Sanitary District, its employees and agents shall have the right to enter upon the Easement Area at any and all times with such tools and equipment as may be necessary or convenient for the exercise of the rights herein granted to West Bay Sanitary District.

No building or structure of any kind shall be constructed upon the Easement Area, nor shall any trees be planted in the Easement Area, and should a building or structure be erected or tree be planted in violation of this provision, West Bay and its successors and assigns may still exercise all rights herein granted and shall have the right to remove, or cause Grantor to remove, at Grantor's expense, any building, or structure, or tree that may be erected upon or over the Easement Area. West Bay Sanitary District shall not be held liable in any manner whatsoever for any damages to such building, or structure, or tree erected or installed in the Easement Area in violation of this provision, nor shall West Bay have any obligation to replace any structure or tree that may be removed from said property.

This grant of easement shall be binding upon and shall inure to the benefit of the respective administrators, executors, personal representatives, successors and assigns of the parties hereto.

LEGAL DESCRIPTION ATTACHED HERETO AS EXHIBITS "A" AND "B" MADE A PART HEREOF

Also Known As: **100 Terminal Avenue**

Assessor's Parcel Number: **055-280-998**

Executed on _____, _____, at _____

Printed Name _____

Executed on _____, _____, at _____

Printed Name _____

MENLO PARK, CA.
(City and State)
[Signature]
Signature

(City and State)

Signature(s)

(ATTACH NOTARY CERTIFICATE)

PLEASE SEE
NOTARY ATTACHMENT

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of San Mateo

On Nov 29th / 2023 before me, Atieh Ramezani, Notary Public, personally appeared Sergio Ramirez

who proved to me on the basis of satisfactory evidence to be the person~~(s)~~ whose name~~(s)~~ is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she~~/~~they~~ executed the same in his/~~her~~/~~their~~ authorized capacity~~(ies)~~, and that by his/~~her~~/~~their~~ signature~~(s)~~ on the instrument the person~~(s)~~, or the entity upon behalf of which the person~~(s)~~ acted, executed the instrument. I certify under Penalty of Perjury under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS MY HAND AND OFFICIAL SEAL.

Signature of Notary Public



(Notary Seal)

OPTIONAL INFORMATION

The acknowledgment contained within this document is in accordance with California law. Any certificate of acknowledgement performed within the State of California shall use the preceding wording pursuant to Civil Code section 1189. An acknowledgment cannot be affixed to a document sent by mail or otherwise delivered to a notary public, including electronic means, whereby the signer did not personally appear before the notary public, even if the signer is known by the notary public. In addition, the correct notarial wording can only be signed and sealed by a notary public. The seal and signature cannot be affixed to a document without the correct notarial wording.

DESCRIPTION OF ATTACHED DOCUMENT

Grant Deed of Easement
(Title of document)
Number of Pages 4 (Including acknowledgment)
Document Date 11/29/2023

CAPACITY CLAIMED BY SIGNER

____ Individual
____ Corporate Officer
____ Partner
____ Attorney-In-Fact
____ Trustee
____ Other: _____

EXHIBIT "A"

RECLAIMED WATER FACILITIES EASEMENT

SAID PARCEL IS LOCATED

IN THE CITY OF MENLO PARK, COUNTY OF SAN MATEO, STATE OF CALIFORNIA

BEING A PORTION OF LOT 2, BLOCK 43, TRACT 525 BELLE HAVEN CITY, AS RECORDED IN BOOK 23 OF MAPS, AT PAGE 6 ON SEPTEMBER 18, 1940, IN THE OFFICE OF THE SAN MATEO COUNTY RECORDER.

COMMENCING AT THE NORTHWESTERLY CORNER OF SAID LOT 2, SAID CORNER ALSO BEING THE NORTHEASTERLY CORNER OF LOT 3 OF SAID BLOCK AND TRACT.

THENCE RUNNING ALONG THE NORTHERLY BOUNDARY LINE OF SAID LOT 2 NORTH 85°00'40" EAST A DISTANCE OF 10.87 FEET TO THE **TRUE POINT OF BEGINNING**, THENCE FOLLOWING SAID NORTHERLY BOUNDARY LINE NORTH 85°00'40" EAST A DISTANCE OF 10.00 FEET, THENCE LEAVING SAID NORTHERLY BOUNDARY LINE OF LOT 2 SOUTH 04°57'03" EAST A DISTANCE OF 3.19 FEET, THENCE SOUTH 29°07'17" EAST A DISTANCE OF 7.36 FEET, THENCE SOUTH 05°00'54" EAST A DISTANCE OF 134.25 FEET, THENCE SOUTH 10°46'42" EAST A DISTANCE OF 89.76 FEET TO THE SOUTHERLY BOUNDARY LINE OF LOT 2 AND THE NORTHERLY RIGHT OF WAY OF TERMINAL AVE. THENCE RUNNING ALONG THE SOUTHERLY BOUNDARY LINE OF SAID LOT 2 NORTH 73°35'38" WEST A DISTANCE OF 11.24 FEET, THENCE LEAVING SAID SOUTHERLY BOUNDARY LINE OF LOT 2 NORTH 10°46'42" WEST A DISTANCE OF 85.13 FEET, THENCE NORTH 05°00'54" WEST A DISTANCE OF 90.56 FEET, THENCE SOUTH 84°51'59" WEST A DISTANCE OF 4.21 FEET, THENCE NORTH 05°08'01" WEST A DISTANCE OF 10.00 FEET, THENCE NORTH 84°51'59" EAST A DISTANCE OF 4.23 FEET, THENCE NORTH 05°00'54" WEST A DISTANCE OF 32.06 FEET, THENCE NORTH 29°07'17" WEST A DISTANCE OF 7.37 FEET, THENCE NORTH 04°57'03" WEST A DISTANCE OF 5.33' FEET TO A POINT ALONG THE NORTHERLY BOUNDARY LINE OF SAID LOT 2 AND THE **TRUE POINT OF BEGINNING**;

CONTAINING 2,367 SQUARE FEET, OR 0.054 ACRES, MORE OR LESS.

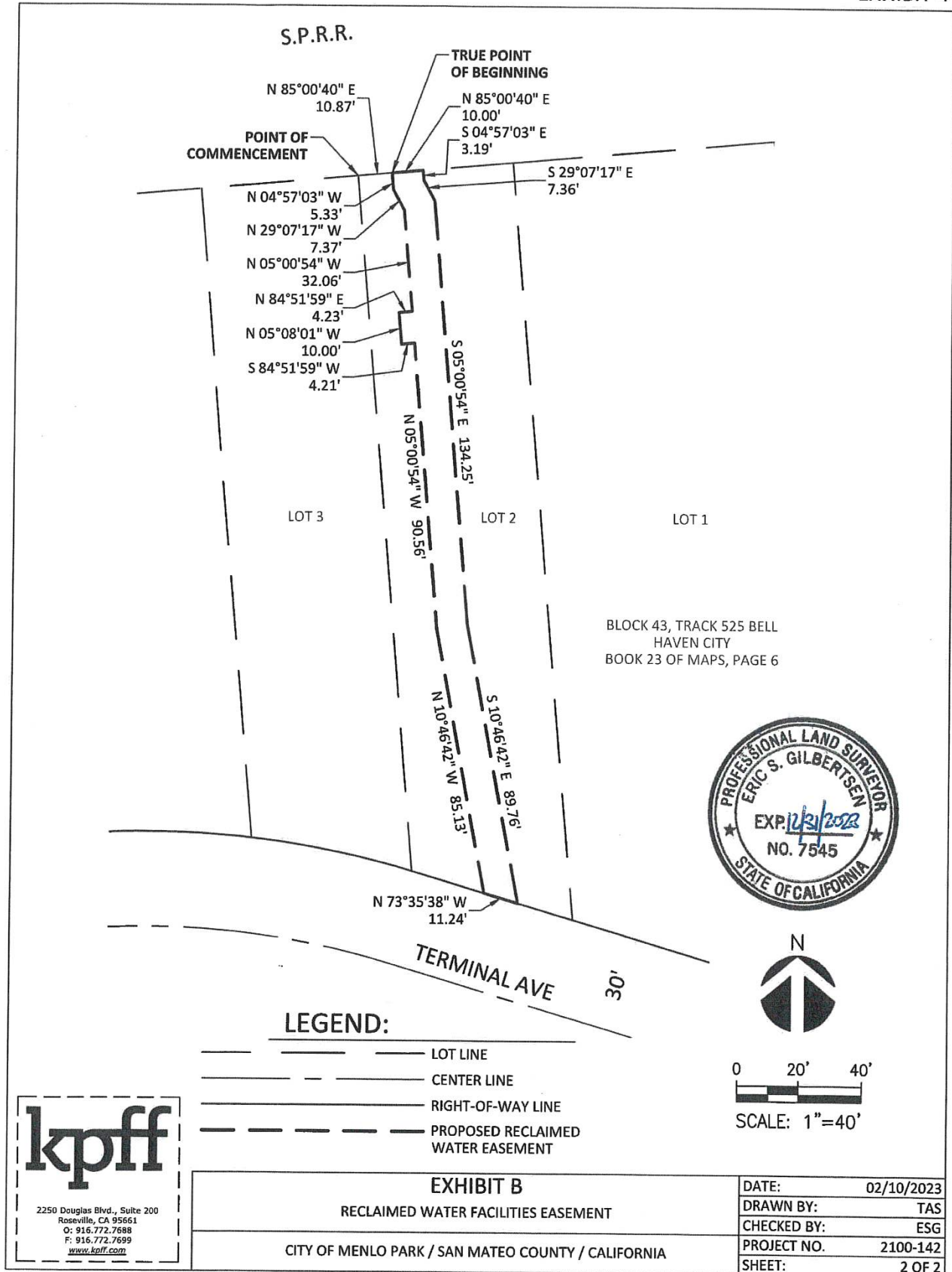
AS SHOWN ON EXHIBIT B, A PLAT TO ACCOMPANY THE LEGAL DESCRIPTION, ATTACHED HERETO AND MADE A PART HEREOF.


ERIC S. GILBERTSEN, PLS NO. 7545

15 FEB 2023
DATE



EXHIBIT A		DATE:	02/10/2023
RECLAIMED WATER FACILITIES EASEMENT		DRAWN BY:	TAS
		CHECKED BY:	ESG
CITY OF MENLO PARK / SAN MATEO COUNTY / CALIFORNIA		PROJECT NO.	2100-142
		SHEET:	1 OF 2





WEST BAY SANITARY DISTRICT AGENDA ITEM 19

To: Board of Directors

From: Sergio Ramirez, General Manager

Subject: Consider Approving an Amendment to Agreement with Woodard & Curran to Prepare a Recycled Water Feasibility Study and Facilities Plan for the Woodside Recycled Water Facility, in collaboration with Menlo Country Club

Background:

On July 28, 2021, the Board approved applying for a planning grant for the proposed Woodside Recycled Water Facility Project in collaboration with Menlo Country Club (MCC) with the understanding that West Bay Sanitary District (WBSD) would not be obligated to construct the recycled water facility. The State Water Resources Control Board will reimburse WBSD for a portion of the planning study once completed.

On May 11, 2022 the Board approved an agreement with Woodard and Curran for the above services not to exceed \$300 thousand and will be fully funded by MCC.

Woodard & Curran has nearly completed the Feasibility Study and Facilities Plan but requires additional funding. This funding is outside of the approved \$300 thousand of which 50% is reimbursable by the State Water Resources Control Board.

Analysis:

WBSD has received a proposal from Woodard & Curran to complete the Feasibility Study and Facilities Plan for \$12,460.00. The planning study has been funded by the Menlo Country Club and has committed to fund this additional cost.

Fiscal Impact:

The new total budget for this amendment is not-to-exceed \$12,460, raising the total budget of the project to \$312,460 from the initial agreement fee of \$300 thousand. A budget breakdown is attached. The costs to the District would be associated with District staff time for document review, meetings, and legal services associated with the amendment and original agreement.

MCC has made an initial deposit of \$20,000.00 to the District to cover such efforts. The fiscal impact to the District for outside services would be zero.

Recommendation:

The General Manager recommends the District Board approve the Amendment Agreement with Woodard & Curran and authorize the General Manager and General Counsel to execute the amendment.

Attachments:

- 1) Amendment Proposal from Woodard & Curran for Woodside Recycled Water Facility Feasibility Study and Facilities Plan

AMENDMENT #1 TO WOODARD & CURRAN AGREEMENT FOR
RECYCLED WATER FEASIBILITY STUDY AND FACILITIES PLAN FOR
WOODSIDE RECYCLED WATER FACILITY PROJECT

This Amendment #1 to Woodward & Curran Agreement for Recycled Water Feasibility Study and Facilities Plan for Woodside Recycled Water Facility Project ("Amendment #1") is made and entered into on the date by which it has been executed by all parties hereto (the "Effective Date") by and between West Bay Sanitary District ("West Bay") and Woodward & Curran ("Consultant") (collectively the "Parties").

WHEREAS, West Bay engaged Woodard & Curran for Recycled Water Feasibility Study and Facilities Plan pursuant to that certain agreement entered into on or about June 16, 2022 (the "Agreement"); and

WHEREAS, the Parties now desire to amend the Agreement as specified herein.

NOW, THEREFORE it is agreed that the Agreement shall be and is amended as follows:

1. Paragraph II—SCOPE OF SERVICES is hereby amended to read as follows:

"In addition, Consultant agrees to perform those services described in the attached proposal dated September 25, 2023, attached hereto as Exhibit A and incorporated herein by reference."

2. Paragraph III—TIME FOR COMPLETION is hereby amended to read as follows:

"The work is scheduled for completion by December 31, 2023."

3. The first sentence only of Paragraph —COMPENSATION is hereby amended to read as follows:

"For services to be performed by Consultant, the District agrees to pay, and Consultant agrees to accept, compensation in an amount not to exceed the total amount of \$12,460.00, as described in and at the rates shown in Exhibit A."

4. In all other material respects, the terms and conditions of the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties have executed the Agreement on the dates set forth below:

WEST BAY SANITARY DISTRICT

WOODWARD & CURRAN

By: _____
Sergio Ramirez, General Manager

By: _____
David L. Richardson, Vice President

Date: _____

Date: _____

Tony Condotti
District Legal Counsel

EXHIBIT "A"

2175 N California Blvd
Suite 315
Walnut Creek, CA 94596
www.woodardcurran.com

T 800.426.4262
T 925.627.4100



Via Electronic Mail

September 25, 2023

Sergio Ramirez
District Manager

Subject: Scope Amendment for the Recycled Water Facilities Plan for the Woodside Recycled Water Facility

Dear Mr. Ramirez:

Woodard & Curran is requesting a \$12,460 amendment to the existing scope of work with West Bay Sanitary District for the preparation of the Recycled Water Facilities Plan to add an alternative project and revise the recommended project and related sections of the Draft Facilities Plan. The new alternative project consists of a water reclamation facility with a design capacity of 0.17 MGD and daily storage. The developed Administrative Draft Facilities Plan included a similar project alternative of a water reclamation facility with seasonal storage in the form of an embankment dam and reservoir. In addition, Woodard & Curran will update the CEQA project description to be consistent with the Facilities Plan.

The total budget for this amendment is not-to-exceed \$12,460, raising the total budget of the project to \$312,460 from the initial agreement fee of \$300,000. A budget breakdown is attached.

Please let me know if you have any questions or would like to discuss this scope amendment further. I can be reached at (925) 627-4138 or drichardson@woodardcurran.com.

Sincerely,

WOODARD & CURRAN, INC.

A handwritten signature in black ink that reads "David L. Richardson".

David L. Richardson, P.E.
Principal in Charge, Senior Principal

Attachment: Budget Breakdown for Additional Tasks



West Bay Sanitary District Facilities Plan - Woodside Recycled Water Facility

Fee Estimate for Additional Tasks

September 25, 2023

Tasks	Labor								Total Hours	Total Labor Costs (1)	Total Fee
	Dave Richardson	Elisa Lee	Serena Takada	Olivia Chu	Project Planner	Quality Control	Graphics	Admin.			
	PIC	PM	PE	E1	PP3	QA/QC	GA1	PA1			
	\$350	\$280	\$265	\$200	\$260	\$335	\$150	\$130			
Task 7: Report Preparation											
Additional Updates to Project Description	1	2			6				9	\$2,470	\$2,470
Updates to Draft Report	2	6	10	18		2	2	3	43	\$9,990	\$9,990
Subtotal Task 8:	3	8	10	18	6	2	2	3	52	\$12,460	\$12,460
TOTAL	3	8	10	22	6	2	2	3	56	\$12,460	\$12,460

1. The individual hourly rates include salary, overhead and profit.
2. W&C reserves the right to adjust its hourly rate structure and ODC markup at the beginning of the calendar year for all ongoing contracts.
3. Additional Woodard & Curran staff may perform work on the project, based on our standard billing rate schedule currently in effect.

Description	Total
Amendment Fee	\$12,460
Initial Agreement Fee	\$300,000
Total Amended Project Fee	\$312,460

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WEST BAY SANITARY DISTRICT AGENDA ITEM 20

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*

Subject: *Consider Resolution to Elect President, and Secretary to the District Board, Appoint a Treasurer and Consider Appointment of Committee Appointees and Alternates*

Background

The Board requires Board members to serve as President, and Secretary effective January 1, 2024. This item requires nominations for election and Board selection of these positions. The Treasurer position is also required and subject to Presidential appointment.

Finally, Committee appointees and alternates must also be selected as necessary, to serve as District representatives for the SVCW Commission and the SBWMA JPA Board, and on Ad-Hoc committees and advisory groups such as Finance and Recycled Water. These appointments can be done by Presidential appointment.

Analysis

Per Elections Code Section 10554:

“Elective officers, elected or appointed pursuant to this part, take office at noon on the first Friday in December next following the general district election. Prior to taking office, each elective officer shall take the official oath and execute any bond required by the principal act.”

Fiscal Impact

None

Recommendation

The General Manager recommends the current District Board President preside over the Election of Officers and selection of committee appointees and alternates.

Report to the District Board for the Regular Meeting of December 13, 2023

RESOLUTION NO. _____ (2023)

**RESOLUTION APPROVING ELECTION AND APPOINTMENT OF OFFICERS OF
THE WEST BAY SANITARY DISTRICT BOARD**

WHEREAS, The DISTRICT BOARD requires a President, Secretary and Treasurer; and

WHEREAS, the DISTRICT BOARD has requested nominations and voted by majority to elect the DISTRICT BOARD Officers as follows:

President: _____

Secretary: _____

And,

WHEREAS, the District President has appointed the following Board Member as Treasurer as follows:

Treasurer: _____

and,

WHEREAS, these appointments are effective January 1, 2024.

NOW, THEREFORE, BE IT RESOLVED that the District Board of the West Bay Sanitary District, County of San Mateo, State of California, does hereby approve the election and appointment of the above mentioned Officers of the District Board and conveys on these Officers all benefits, privileges, honors and responsibilities appointed unto the respective office.

PASSED AND ADOPTED by the District Board of the West Bay Sanitary District at a regular meeting thereof held on 13th day of December, 2023, by the following votes:

Ayes:

Noes:

Absent:

Abstain:

President of the District Board of the
West Bay Sanitary District of San
Mateo County, State of California

Attest:

Secretary of the District Board of the
West Bay Sanitary District of San Mateo
County, State of California

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WEST BAY SANITARY DISTRICT AGENDA ITEM 21

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*

Subject: *Discussion and Direction on the West Bay and Sharon Heights Recycled Water Facility*

A discussion will be held on the Sharon Heights Recycled Water Facility and other events related to the recycled water plant. The Board will have the opportunity to provide direction to staff and legal counsel.

Recycled Water Facility Production Data:

2020	Treated	Delivered
August	8.8MG	8.2MG
September	8.2MG	5.1MG
October	7.4MG	4.5MG
November	5MG	1.4MG
December	4.7MG	.55MG
2021	Treated	Delivered
January	4.8MG	.23MG
February	4.4MG	.13MG
March	5.9MG	1.8MG
April	8.5MG	7.6MG
May	9.3.MG	8.2MG
June	9.8MG	8.7MG
July	9.5MG	9.1MG
August	9.4MG	9.0MG
September	9.1MG	6.9MG*
October	7.6MG	2.6MG**
November	5.2MG	0
December	4.7MG	0

2022	Treated	Delivered
January	4.4MG	97,000 gallons
February	4.4MG	1.5MG
March	6.6MG	3.5MG
April	7.6MG	3.8MG
May	9.2MG	7.4MG
June	9.8MG	8.7MG
July	9.6MG	8.1MG
August	9.2MG	8.1MG
September	8.6MG	6.7MG
October	7.9MG	4.6MG
November	5.9MG	310,000 gallons
December	5.4MG	154,690 gallons

2023	Treated	Delivered
January	5MG	0 gallons
February	3.3MG	0 gallons
March	3.5MG	0 gallons
April	4.9MG	32k gals. Dust Control
May	5.1MG	432k gals. Dust Control
June	4.8MG	456k gals. Dust Control
July	6.2MG	1.05MG Dust Control
August	8.1MG	2.7MG (+ 1.5 MG Dust Control)
September	8.4MG	4MG (+ 1.04 MG Dust Control)
October	9.6MG	7.4MG
November	7.7MG	3.7MG

* Sharon Heights substantially tapered off their water usage for September which is the reason for the large discrepancy between treated and delivered.

** Treatment was reduced in the second half of the month. Rain in late October and an irrigation equipment malfunctions caused water delivery to decrease.

The following is a disclosure statement required for any document, written report or brochure prepared in whole or in part pursuant to the Finance Agreement with the State Water Resources Control Board for the West Bay Sanitary District Recycled Water Project - Sharon Heights: Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board. California's Clean Water State Revolving Fund is capitalized through a variety of funding sources, including grants from the United States Environmental Protection Agency and state bond proceeds. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.



WEST BAY SANITARY DISTRICT AGENDA ITEM 22

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*

Subject: *Discussion and Direction on the Bayfront Recycled Water Project and Status Update*

A discussion will be held on the District's Bayfront Recycled Water Projects and other events related to the recycled water projects including financing, environmental review, design/build issues and grant applications.

The Board will have the opportunity to provide direction to staff and general counsel.

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WEST BAY SANITARY DISTRICT AGENDA ITEM 23

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*

Subject: *Report, Discussion, and Direction on South Bayside Waste Management Authority (SBWMA) including the Solid Waste Franchise Re-Assignment*

The District's representative to South Bayside Waste Management Authority (SBWMA), President Fran Dehn, will report on any pertinent items regarding SBWMA business. General Manager Ramirez will report and seek direction on the solid waste franchise re-assignment.

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WEST BAY SANITARY DISTRICT AGENDA ITEM 24

To: *Board of Directors*

From: *Sergio Ramirez, General Manager*

Subject: *Report and Discussion on Silicon Valley Clean Water (SVCW) Plant*

The District's representative to Silicon Valley Clean Water (SVCW), Commissioner George Otte, will report on pertinent items regarding SVCW Operations, CIP and Finance.

Report to the District Board for the Regular Meeting of December 13, 2023

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WEST BAY SANITARY DISTRICT AGENDA ITEM 25

To: *Board of Directors*

From: *Fariborz Heydari, P.E., Project Manager*

Subject: *Consider Authorizing the General Manager to Enter Into an Agreement for Construction Support Services for the Bayfront Park Sanitary Sewer Project in Menlo Park, San Mateo County*

Background

On February 24, 2021, the Board approved an agreement with F&L for \$194,100 for engineering services and design sanitary sewer improvements for the Bayfront Park entrance area. The design was completed in 2022 and the project was bid in May 2022 but the bids were rejected for being over budget.

The project was rebid on October 18, 2022 and on October 26, 2022, the Board awarded the construction contract to Ranger Pipelines, Inc.

The project was delayed due to obtaining encroachment permits from Caltrans and requiring additional drawings for the restoration of the existing traffic loops at the intersection of Marsh Road and Haven Avenue and responding to multiple RFIs for conflict between Caltran's signal pole and the District's existing 36" sewer main at the entrance.

Analysis

Due to these delays, staff and Ranger Pipelines agreed to push the project's start to March 2024 to avoid sewer bypass during the wet season and risk overflow. To have F&L's construction support from March through November 2024, F&L has provided staff with a proposal in the amount of \$35,352.00.

Fiscal Impact

The funding for this agreement will come from the Capital Fund for the Bayfront Park Sanitary Sewer Improvements Project which has a balance of approximately \$1.1 million.

Recommendation

The Project Manager recommends the District Board of Directors authorize the General Manager to enter into an agreement with Freyer and Laureta, Inc. to the amount of \$35,352.00 for the construction support for the Bayfront Park Sanitary Sewer Improvements Project.

Report to the District Board for the Regular Meeting of December 13, 2023

Attachment: Agreement
Proposal

**AGREEMENT FOR PROFESSIONAL
SERVICES BETWEEN WEST BAY
SANITARY DISTRICT AND
FREYER & LAURETA, INC.**

THIS AGREEMENT, hereinafter referred to as “Agreement”, made and effective on this 13th day of December, 2023, by and between West Bay Sanitary District, hereinafter referred to as “District”, and Freyer & Laureta, Inc., hereinafter referred to as “Consultant.” (District and Consultant are referred to individually as a “Party” and collectively, as the “Parties”).

WITNESSETH:

WHEREAS, the District desires to procure certain professional services as more particularly described in “WEST BAY SANITARY DISTRICT BAYFRONT PARK SANITARY SEWER IMPROVEMENT PROJECT SCOPE FOR DESIGN AND CONSTRUCTION CONSULTATION SUPPORT PROJECT MANAGEMENT SERVICES FREYER & LAURETA” (“Scope of Work”) attached hereto as Exhibit “A” and incorporated herein by reference (hereinafter referred to as “Proposal”); and

WHEREAS, Consultant has available, and offers to provide, personnel and facilities necessary to accomplish the work contemplated in the Proposal as may be requested by the District;

NOW, THEREFORE, the District and Consultant agree as follows:

I. DESCRIPTION OF PROJECT

Consultant will provide engineering construction support services for the Bayfront Park Sanitary Sewer Improvement Project in Menlo Park, San Mateo County.

II. SCOPE OF SERVICES

Consultant agrees to perform those services described in the **Scope of Work**, attached hereto as **Exhibit A**.

Consultant shall not undertake any work beyond the scope of services as set forth in Exhibit A. No changes in the scope of services shall be made without the District's prior written approval.

II. TIME FOR COMPLETION

The term of this Agreement shall commence on the effective date of this Agreement and terminate on either December 31, 2024 or the timely completion of the Scope of Work described in the Proposal, whichever is later.

Consultant shall begin work as specified in a written authorization (e.g. Notice to Proceed) to perform services. The written authorization to perform work shall not be issued until after this Agreement has been approved and authorized by the District.

Consultant acknowledges that it is necessary for Consultant to complete its work on or before the completion date of December 31, 2024 in order to allow the District to achieve its objectives for entering into this Agreement. The Parties therefore agree that time is of the essence in the performance of this Agreement.

III. COMPENSATION

For actual services performed by Consultant, the District agrees to pay, and Consultant agrees to accept, compensation in an amount not to exceed the total amount described in the Proposal as full compensation for all personnel, materials, supplies, and equipment used by Consultant in the scope of services to be provided. Any change requiring compensation in excess of the sum of \$35,352.00 as specified in the Proposal, shall only be allowed if approved in advance in writing by the District's authorized representative. Consultant shall invoice the District detailing the time and materials for services provided under this Agreement in accordance with the Proposal.

Consultant shall submit invoices for services completed each month. The District shall pay such invoices within forty-five (45) days after their receipt.

IV. RESPONSIBILITY OF CONSULTANT

Consultant agrees that in undertaking the duties to be performed hereunder, it shall act as an independent consultant for and on behalf of the District. The District shall not direct the work and means for accomplishment of the services and work to be performed hereunder. The District, however, retains the right to require that all work performed by Consultant or under Consultant's direction, shall be rendered in accordance with the generally accepted practices, and to the standards of, Consultant's profession. Consultant represents and warrants that Consultant: (i) is fully experienced and properly qualified to perform the work and services provided for herein, (ii) has the financial capability required for the performance of the work and services, and (iii) is properly equipped and organized to perform the work and services in a competent, timely, and proper manner, in accordance with the requirements of this Agreement.

If, in performing the work, it is necessary to conduct field operations, security and safety of the job site will be the Consultant's responsibility excluding, the security and safety of any facility of District within the job site which is not under the Consultant's control.

V. INDEMNIFICATION

Consultant agrees, to the fullest extent permitted by law, to indemnify, defend, and hold harmless the District, its directors, officers, employees, and agents (collectively,

“Indemnitees”) from and against any and all liability, claim, action, loss, injury, damage, judgment, or expense, including attorneys’ fees and costs (“Losses”) caused by or resulting from the negligence, recklessness, or willful misconduct of Consultant, Consultant’s officers, employees, agents, or subcontractors in any way related to this Agreement. Consultant’s duty to indemnify and hold harmless Indemnitees shall not apply to the extent such Losses are caused by the sole or active negligence or willful misconduct of Indemnitees, as determined by an adjudicatory body or court of competent jurisdiction. The obligation to defend shall arise regardless of any claim or assertion that Indemnitees caused or contributed to the Losses.

In the event this Agreement involves the performance of design professional services by Consultant, Consultant’s officers, employees, agents, or subcontractors, Consultant’s costs to defend Indemnitees shall not exceed the Consultant’s proportionate percentage of fault per Civil Code §2782.8. This section shall survive the termination or expiration of this Agreement.

VI. INSURANCE

Prior to the beginning and throughout the duration of the Agreement, as may be extended by written amendment, Consultant will maintain and comply with the insurance requirements below with insurers licensed to do business in the State of California and with a Best’s rating of no less than A:VII. Consultant will insure the District against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the services hereunder. The insurance coverages required shall not in any way limit the liability of the Consultant.

Certificate Requirements:

The District will be issued a Certificate of Insurance (a Memorandum of Understanding will not be accepted) with the following minimum requirements:

- Certificate(s) will show current policy number(s) and effective dates,
- Coverage and policy limits will meet or exceed the requirements below,
- The Certificate Holder will be West Bay Sanitary District, 500 Laurel Street, Menlo Park, CA 94025,
- Certificate will be signed by an authorized representative,
- An endorsement, if required below, will be provided to show the District, its directors, officers, , and employees as additional insureds, and
- Coverages must be maintained during the term of the Agreement with the District, unless a longer duration is required.

Required Coverage:

A. Commercial General Liability (CGL) insurance, including products and completed operations, property damage, bodily injury, personal and advertising injury with limits of not less than \$1,000,000 each occurrence and \$2,000,000 aggregate.

B. Automobile Liability insurance of \$1,000,000 per accident covering automobile bodily injury and property damage, including all owned (if any), hired and non-owned autos. If Consultant acquires any owned vehicles, Consultant shall provide insurance as above.

C. Worker's Compensation insurance and Occupational Disease insurance, with statutory limits as required by law, and Employer's Liability insurance, of \$1,000,000 per accident for bodily injury or disease covering all workplaces involved in this Agreement. Consultant shall provide an endorsement with a **waiver of subrogation** in the District's favor for all services performed by Consultant and its employees relating to payment of any loss, including attorney's fees.

D. The Commercial General Liability and Automobile Liability Insurance policies shall be endorsed to name the District, its directors, officers, employees, and agents as additional insureds with respect to liability arising out of services or operations performed by or on behalf of Consultant including materials, parts, or equipment furnished in connection with such services or operations. Consultant's insurance coverage is primary insurance and any insurance maintained by the District shall not contribute with it.

E. Errors and Omissions: Consultant shall also provide Professional Liability Insurance appropriate to Consultant's profession with limits of liability in amounts not less than \$1,000,000 per occurrence or claim and \$2,000,000 aggregate. Consultant shall maintain, and provide evidence of coverage for at least five (5) years after the date of completion of the services under this Agreement. If coverage is canceled or non-renewed and not replaced with another claims-made policy form with a retroactive date prior to the Agreement effective date or start of work date, Consultant must purchase "extended reporting" coverage for a minimum of five (5) years after completion of services under this Agreement.

F. Consultant shall require and verify that all of Consultant's subcontractors maintain insurance meeting all of the requirements stated herein, and Consultant shall ensure that the District, its directors, officers, employees, and agents are additional insureds on the CGL and Automobile liability insurance policies required from subcontractors.

G. Consultant shall provide the District with Certificates of Insurance and endorsements, on forms acceptable to District, or other evidence of insurance acceptable to District, prior to commencement of any services under this Agreement. Each insurance policy required above shall provide that there will be no cancellation of coverage by the carrier without prior written notice to District.

H. If Consultant maintains broader insurance coverage and/or higher limits than the minimums shown above, the District requires and shall be entitled to the broader insurance coverage and/or higher limits maintained by Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the District.

I. Any excess/liability policies must provide similar coverage as the primary CGL

policy with no new exclusions - Excess liability insurance must follow form the terms, conditions, definitions, and exclusions of the underlying CGL insurance. The excess/umbrella policy must also be written on a primary and noncontributory basis for an additional insured, and that it will apply before any other insurance that is available to such additional insured which covers that person or organization as a named insured, and we will not share with that other insurance.

J. The Excess policy must provide that the aggregate limits if applicable shall apply in the same manner as the aggregate limits shown in the Schedule of the Underlying Insurance.

VII. TERMINATION

The District may terminate this Agreement for its convenience with written notice of not less than 10 calendar days prior to an effective termination date. The District or Consultant may terminate the Agreement for material breach of Agreement by providing written notice to the other party not less than 15 calendar days prior to an effective termination date.

Upon notice of termination, the Consultant will immediately take action not to incur any additional obligations, costs or expenses, except as may be reasonably necessary to terminate its activities. The District's only obligation to the Consultant will be just and equitable payment for materials and/or services authorized by, and received to the satisfaction of, the District up to and including the effective date of termination, less any amounts withheld. All finished or unfinished work, materials, supplies, goods, or documents procured or produced under the Agreement will become property of the District upon the termination date. In the event of Consultant's failure to perform, District reserves the right to obtain services elsewhere, and the defaulting Consultant will be liable for the difference between the prices set forth in the terminated Agreement and the actual cost to the District. After the effective date of termination, Consultant will have no further claims against the District under the Agreement including, but not limited to, claims for anticipated profit related to unperformed services. Termination of the Agreement pursuant to this paragraph may not relieve the Consultant of any liability to District for damages sustained by the District because of any breach of the Agreement by Consultant, and District may withhold any payments to Consultant for the purpose of set-off until such time as the exact amount of damages due District from Consultant is determined.

The rights and remedies provided in this section will not be exclusive and are in addition to any other rights and remedies provided by law or under the contract.

VIII. SUBCONTRACTS

Except as provided in the Proposal, and otherwise with prior written approval of the District, Consultant shall not enter into any subcontract with any other party for purposes of providing any work or services covered by this Agreement. If at any time, the District determines any subcontractor is incompetent or unqualified, Consultant will be notified and will be expected to immediately cancel the subcontract. Consultant shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Consultant shall ensure that the District, its directors, officers, and employees are additional insureds on

insurance required from subcontractors.

IX. OTHER TERMS

1. Compliance with Laws. All activities of Consultant, its employees, subcontractors and/or agents will be carried out in compliance with all applicable federal, state and local laws and regulations.
2. Conflicts of Interest. Consultant owes District a duty of undivided loyalty in performing the work and services under this Agreement. Consultant on behalf of itself, its employees, agents, representatives, and subcontractors, covenants that it presently has no direct or indirect interest, financial or otherwise, and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Agreement. Consultant acknowledges that it is aware of and agrees to comply with the provisions of the Political Reform Act, Section 1090 of the Government Code. Consultant will immediately advise District if Consultant learns of a conflicting financial interest of Consultant's during the term of this Agreement. Consultant owes District a duty of undivided loyalty in performing the work and services under this Agreement.
3. Property of District. The work, or any portion, of Consultant in performing this Agreement shall become the property of the District. The Consultant shall be permitted to retain copies or such work for information and reference in connection with the District's use. All materials and work product, whether finished or unfinished, shall be delivered to the District upon completion of contract services or termination of this Agreement for any reason. Consultant agrees that all copyrights which arise from creation of project-related documents and materials pursuant to this Agreement shall be vested in the District, and Consultant waives and relinquishes all claims to copyright or other intellectual property rights in favor of the District. Any work product related to this Agreement shall be confidential, not to be used by the Consultant on other projects or disclosed to any third party, except by agreement in writing by the District.
4. Consultant's Records. Consultant shall maintain accurate accounting records and other written documentation pertaining to the costs incurred for this project for examination and audit by the District, local, state, or federal government, as applicable. Such records and documentation shall be kept available at Consultant's office during the period of this Agreement, and after the term of this Agreement for a period of five years from the date of the final District payment for Consultant's services. If Consultant engages a subcontractor to perform work related to this Agreement with a cost of \$10,000 or more over a 12-month period, such subcontract shall contain these same requirements. This provision shall survive the termination of this Agreement.
5. California Public Records Act. District is a public agency subject to the disclosure requirements of the California Public Records Act ("CPRA"). If Consultant's proprietary information is contained in documents or information submitted to District, and Consultant claims that such information falls within one or more CPRA exemptions,

Consultant must clearly mark such information “Confidential and Proprietary,” and identify the specific lines containing the information. In the event of a request for such information, District will make best efforts to provide notice to Consultant prior to such disclosure. If Consultant contends that any documents are exempt from the CPRA and wishes to prevent disclosure, it is required to obtain a protective order, injunctive relief or other appropriate remedy from a court of law in San Mateo County before the District is required to respond to the CPRA request. If Consultant fails to obtain such remedy within the time the District is required to respond to the CPRA request, District may disclose the requested information without any liability to Consultant. Consultant further agrees that it shall defend, indemnify and hold District harmless against any claim, action or litigation (including but not limited to all judgments, costs, and attorney’s fees) that may result from denial by District of a CPRA request for information arising from any representation, or any action (or inaction), by the Consultant.

6. Independent Contractor. In the performance of this Agreement, it is expressly understood that Consultant, including each of Consultant’s employees, agents, subcontractors or others under Consultant’s supervision or control, is an independent contractor solely responsible for its own acts and omissions, and shall not be considered an employee of the District for any purpose. Consultant agrees to comply with AB5, codified at Labor Code section 2750.3, and shall indemnify, defend and hold harmless the District, its officials, officers, employees, and agents against any claim or liability, including attorneys’ fees and costs, arising in any manner related to this Agreement that an employee, agent or others under Consultant’s supervision or control was misclassified.
7. Consultant Not an Agent. Except as the District may specify in writing, Consultant shall have no authority, express or implied, to act on behalf of District in any capacity whatsoever as an agent. Consultant shall have no authority, express or implied, pursuant to this Agreement to bind the District to any obligation whatsoever.
8. Consultant Services Only. Consultant is employed to render professional services only and any payments made to Consultant are compensation solely for such professional services.
9. Subcontractors. Consultant shall obtain prior approval of the District prior to subcontracting of any work pursuant to this Agreement. If at any time, the District determines any subcontractor is incompetent or unqualified, Consultant will be notified and will be expected to immediately cancel the subcontract. Consultant shall require and verify that all subcontractors maintain insurance meeting all of the requirements stated herein, including naming the District, its directors, officers, employees, and agents as additional insureds. Any modification to the insurance requirements for subcontractors must be agreed to by the District in writing.
10. Prevailing Wage. To the extent that the work or services to be performed under this Agreement may be considered a “public work” pursuant and subject to Labor

Code section 1720 *et seq.*, Consultant (and any sub consultant performing the work or services) shall conform to any and all prevailing wage requirements applicable to such work/and or services under this Agreement. Consultant (and any sub consultant) shall adhere to the prevailing wage determinations made by the Director of Industrial Relations (DIR) pursuant to California Labor Code Part 7, Chapter 1, Article 2, applicable to the work, if any. All workers employed in the execution of a public works contract (as such term is defined California Labor Code section 1720 *et seq.* and section 1782(d)(1)) must be paid not less than the specified prevailing wage rates for the type of work performed. Reference: California Labor Code sections 1720, 1774 and 1782.

Consultant agrees to be bound by the prevailing wage requirements to the extent applicable to the scope of work and services under this Agreement, including, but not limited to, the following:

- a. If a worker is paid less than the applicable prevailing wage rate owed for a calendar day (or any portion thereof), Consultant shall pay the worker the difference between the prevailing wage rate and the amount actually paid for each calendar day (or portion thereof) for which the worker(s) was paid less than the prevailing wage rate, as specified in Labor Code section 1775;
- b. Consultant shall maintain and make available payroll and worker records in accordance with Labor Code sections 1776 and 1812;
- c. If Consultant employs (and/or is legally required to employ) apprentices in performing the work and/or services under this Agreement, Consultant shall ensure compliance with Labor Code section 1777.5;
- d. Consultant is aware of the limitations imposed on overtime work by Labor Code sections 1810 *et seq.* and shall be responsible for any penalties levied in accordance with Labor Code section 1813 for failing to pay required overtime wages;
- e. Consultant shall post a copy of the applicable wage rates at each jobsite at a location readily available to its workers.

Any failure of Consultant and/or its sub consultant to comply with the above requirements relating to a public work project shall constitute a breach of this Agreement that excuses the District's performance of this Agreement at the District's sole and absolute option, and shall be at the sole risk of Consultant. Consultant on behalf of itself, any sub consultant, agree to indemnify, defend and hold harmless the District and its directors, officers, and employees from and against any and all claims, liabilities, losses, costs, expenses, attorney's fees, damages, expenses, fines, financial consequences, interest, and penalties, of any kind or nature, arising from or relating to any failure (or alleged failure) of the Consultant and any sub consultant to pay prevailing wages or to otherwise comply with the requirements of prevailing wage law relating to a public work.

11. Registration with DIR. Consultant acknowledges that it and/ any sub consultant shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, unless currently registered with the DIR and qualified to perform public work pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. A bid shall not be accepted nor any contract or subcontract entered into without proof of the Consultant or sub consultant's current registration to perform public work. Labor Code section 1771.1(b).
12. Dispute Resolution. The Parties agree to attempt in good faith to resolve through negotiation any dispute, claim or controversy arising out of or relating to this Agreement. Either party may initiate negotiations by providing written notice in letter form to the other party, setting forth the subject of the dispute and the relief requested. Promptly upon such notification, the Parties shall meet at a mutually agreeable time and place in order to exchange relevant information and perspective, and to attempt to resolve the dispute. In the event that no resolution is achieved, and if, but only if, the parties mutually agree, then prior to pursuing formal legal action, the parties shall make a good faith effort to resolve the dispute by non-binding mediation or negotiations between representatives with decision-making power, who, to the extent possible, shall not have had substantive involvement in the matters of the dispute. To the extent that the dispute involves or relates to a public works project, the Parties agree to attempt to resolve the dispute by complying with the claims process as set forth in Public Contract Code section 9204(e). Parties also reserve the right to exercise any and all other remedies available.
13. Force Majeure. Neither party hereto shall be considered in default in the performance of its obligation hereunder to the extent that the performance of any such obligation, except the payment of money, is prevented or delayed by an act of God, natural disaster, pandemic, acts of terrorism, war, or other peril, existing or future, which is beyond the reasonable control of the affected party and without the negligence of the respective Parties. . Each party hereto shall give notice promptly to the other of the nature and extent of any Force Majeure claimed to delay, hinder or prevent performance of the services under this Agreement. In the event either party is prevented or delayed in the performance of its respective obligation by reason of such Force Majeure, the only remedy is that there may be an equitable adjustment of the schedule based on the District's sole discretion.
14. Intellectual Property and Indemnity. Consultant represents to District that, to the best of Consultant's knowledge, any Intellectual Property (including but not limited to: patent, patent application, trade secret, copyright and any applications or right to apply for registration, computer software programs or applications, tangible or intangible proprietary information, or any other intellectual property right) in connection with any services and/or products related to this Agreement does not violate or infringe upon any Intellectual Property rights of any other person or entity.

To the fullest extent permitted by law, Consultant agrees to indemnify, defend, and hold harmless District, its directors, officers, employees, and agents, from any and all claims, demands, actions, liabilities, damages, or expenses (including reasonable attorneys' fees and costs) arising out of a claim of infringement, actual or alleged, direct or contributory, of any Intellectual Property rights in any way related to Consultant's performance under this Agreement or to the District's authorized intended or actual use of Consultant's product or service under this Agreement. This provision shall survive termination or expiration of this Agreement.

If any product or service becomes, or in the Consultant's opinion is likely to become, the subject of a claim of infringement, the Consultant shall, at its sole expense: (i) provide the District the right to continue using the product or service; or (ii) replace or modify the product or service so that it becomes non-infringing; or (iii) if none of the foregoing alternatives are possible even after Consultant's commercially reasonable efforts, in addition to other available legal remedies, District will have the right to return the product or service and receive a full or partial refund of an amount equal to the value of the returned product or service, less the unpaid portion of the purchase price and any other amounts, which may be due to the Consultant. District shall have the right to retrieve its data and proprietary information at no charge prior to any return of the product or termination of service.

15. Assignment. This Agreement may not be assigned by either the District or Consultant without the prior written consent of the other.
16. Benefit. Except as herein provided, this Agreement shall inure to the benefit of the assigns, heirs, and successors of the Parties to this Agreement.
17. Attorneys' Fees. If any action at law or in equity is brought to enforce or interpret the provisions of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees in addition to any other relief. The laws of the State of California, with jurisdiction in the San Mateo County Superior Court, shall govern all matters relating to the validity, interpretation, and effect of this Agreement and any authorized or alleged changes, the performance of any of its terms, as well as the rights and obligations of Consultant and the District.
18. Complete Agreement. This Agreement, along with any attachments, is the full and complete integration of the parties' agreement with respect to the matters addressed herein, and that this Agreement supersedes any previous written or oral agreements between the parties with respect to the matters addressed herein.
19. Amendments. This Agreement may not be amended in any respect except by way of a written instrument which expressly references and identifies this particular Agreement, which expressly states that its purpose is to amend this particular Agreement, and which is duly executed by the District and Consultant. Consultant acknowledges that no such amendment shall be effective until approved and authorized by the District's authorized representative.

20. Severability. The unenforceability, invalidity or illegality of any provision(s) of this Agreement shall not render the other provisions unenforceable, invalid or illegal.
21. Waiver. Waiver by any party of any portion of this Agreement shall not constitute a waiver of the same or any other portion hereof.
22. Governing Law. This Agreement shall be governed by and interpreted in accordance with California law.
23. Contract Interpretation. Each party acknowledges that it has reviewed this Agreement and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement.
24. Notices. If either party shall desire or is required to give notice to the other such notice shall be given in writing, via email and concurrently delivered by overnight Federal Express [or priority U.S. Mail], addressed to recipient as follows:

To District:

West Bay Sanitary District
Sergio Ramirez
500 Laurel Street
Menlo Park, Ca 94025
sramirez@westbaysanitary.org
(650) 321-0384

To CONSULTANT:

Freyer & Laureta, Inc.
Richard J. Laureta
150 Executive Park Blvd, Ste 4200
San Francisco, CA 94134
laureta@freyerlaureta.com
(415) 534-7070

Changes to the above information shall be given to the other party in writing ten (10) business days before the change is effective.

25. Counterparts. This Agreement may be executed in counterparts, and when each party has signed and delivered at least one such counterpart, each one shall be deemed an original and, when taken together with other signed counterparts, shall constitute one Agreement, which shall be binding on and effective regarding all parties. A scanned, electronic, facsimile, or other copy of a party's signature shall have the same force and effect as an original signature.

26. ACKNOWLEDGMENT

By their signatures below, the Parties acknowledge that they have each read and understand the terms of this Agreement, and are authorized to execute this Agreement to legally obligate their respective representatives, agents, successors and assigns to comply with the provisions of this Agreement.

[SIGNATURES ON FOLLOWING PAGE]

WEST BAY SANITARY DISTRICT

FREYER & LAURETA, INC.

By: _____
Sergio Ramirez, General Manager

By: _____
Richard J. Laureta, President

Date: _____

Date: _____

APPROVED AS TO FORM

Date: _____
Anthony Condotti, General Counsel

EXHIBIT

“A”

SCOPE

OF

WORK

ADDED CONSTRUCTION CONSULTATION BUDGET

Bayfront Project
West Bay Sanitary District

TASKS	ESTIMATED LABOR (Hours)			TOTAL LABOR COST (\$)
	Personnel & Rates (\$/hr)			
	Staff Engineer IV	F&L Principal	F&L Principal	
	179	247	263	
Task I - Added Construction Consultation				
Staff IV (16 hrs/mo), Assoc. Principal (8 hrs/mo.), Principal (4 hrs/mo.) for 6 months	96	48	24	\$35,352
Subtotal Labor Hours - Task I	96	48	24	\$35,352
Total Labor Hours	96	48	24	\$35,352

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WEST BAY SANITARY DISTRICT AGENDA ITEM 27

To: Board of Directors

From: Sergio Ramirez, General Manager

**Subject: Consider Approving the End-of-Year Goals and Objectives
Performance Compensation for the General Manager**

Background

The Employment Agreement between West Bay Sanitary District and the General Manager allows for an end-of-year performance compensation in an amount up to 15% of Employee's annual salary based on the Board of Director's assessment of the General Manager's overall performance in meeting the goals and objectives during the prior calendar year. The end-of-year compensation is payable on or after January 1, 2024.

Analysis

During the regular meeting of December 13, 2023 the Board met to review the General Manager's Goals. The Board may approve the end-of-year performance compensation up to 15% of the General Manager's base salary.

Fiscal Impact

Funds would be allocated from the General Fund – Salaries and Wages.

Recommendation

The General Manager recommends the District Board adopt the resolution establishing the end-of-year compensation by the District Board at the approved percentage.

RESOLUTION NO. _____ (2023)

IN THE DISTRICT BOARD OF THE WEST BAY SANITARY DISTRICT

COUNTY OF SAN MATEO, STATE OF CALIFORNIA

A Resolution Establishing End Of Year (2023) Compensation for General Manager

WHEREAS:

1. The Employment Agreement between West Bay Sanitary District and the General Manager allows for an end-of-year performance compensation in an amount up to 15% of Employee's base salary based on the Board of Director's assessment of General Manager's performance in meeting goals and objectives during the year; and
2. During the regular meeting of December 13, 2023 the Board assessed the overall performance of the General Manager and evaluated his set Goals and Objectives.

NOW, THEREFORE, BE IT RESOLVED that:

The District Board of the West Bay Sanitary District has determined:
The General Manager will be compensated _____% of current base salary, or
\$_____ as the End-of-Year Performance compensation for Calendar
Year 2023.

Passed and adopted by the District Board of the West Bay Sanitary District at a regular meeting thereof held on the 13th day of December, 2023 by the following vote:

Ayes:

Noes:

Abstain:

Absent:

President of the District Board of the West Bay
Sanitary District of San Mateo County, State of
California

Attest:

Secretary of the District Board of the West
Bay Sanitary District of San Mateo County,
State of California