



2020 Pollution Prevention Report



EBMUD
Wastewater
Department

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February 25, 2021

VIA E-MAIL, UPLOADED TO CIWQS

Ms. Debbie Phan
SF Bay RWQCB
1515 Clay Street, Suite 1400
Oakland, CA 94612

RE: East Bay Municipal Utility District 2020 Annual Pollution Prevention Report

Dear Ms. Phan:

The East Bay Municipal Utility District (EBMUD) hereby submits the 2020 Pollution Prevention Annual Report, which was developed in accordance with Order Nos. R2-2015-0018 and R2-2020-0024, NPDES Permit No. CA 0037702.

If you have any questions regarding this report, please contact Phoebe Grow, EBMUD Pretreatment and Pollution Prevention Supervisor, at 510-287-0205 or phoebe.grow@ebmud.com.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Alicia', with a long, sweeping horizontal line extending to the right.

Alicia R. Chakrabarti, P.E.
Manager of Wastewater Environmental Services

Enclosure

cc: Eileen White, EBMUD

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Order No. R2-2020-0024, NPDES No. CA0037702

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**EAST BAY MUNICIPAL UTILITY DISTRICT
2020 POLLUTION PREVENTION REPORT
COVER SHEET**

National Pollutant Discharge Elimination System (NPDES) permit number:
Order No. R2-2020-0024, NPDES No. CA0037702

For further information concerning this report, contact:

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Period covered in this report: **January 1, 2020 to December 31, 2020**

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Eileen M. White
EILEEN M. WHITE, P.E.
DIRECTOR OF WASTEWATER

2/25/21
DATE



Order No. R2-2020-0024, NPDES No. CA0037702

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TABLE OF CONTENTS

1.	DESCRIPTION OF TREATMENT PLANT AND SERVICE AREA	1
2.	DISCUSSION OF CURRENT POLLUTANTS OF CONCERN	3
3.	SOURCES OF POLLUTANTS OF CONCERN	3
4.	TASKS TO MINIMIZE POLLUTANTS OF CONCERN.....	4
4.1	Copper Action Plan.....	6
4.2	Cyanide Action Plan	9
5.	OUTREACH TO EMPLOYEES	11
5.1	Earth Day	11
5.2	Green Business Certification	11
5.3	Training.....	11
5.4	Tours of the Wastewater Treatment Plant	11
5.5	Coastal Cleanup	12
5.6	E-Waste.....	12
5.7	Splashes Articles.....	12
6.	CONTINUATION OF PUBLIC OUTREACH PROGRAM.....	12
6.1	Wastewater Treatment Plant Tours.....	12
6.2	High School Internship Program	13
6.3	East Bay Express.....	13
6.4	Clean Bay Website.....	13
6.5	Social Media and Broadcasting Outreach.....	14
6.6	FOG Holiday Campaign	14
6.7	Environmental Services Hotline	14
6.8	Water Conservation Outreach.....	15
6.9	Collaboration with NGOs and Government Agencies.....	16
6.10	Brochures and Literature.....	17
7.	CRITERIA FOR MEASURING PROGRAM EFFECTIVENESS.....	19
7.1	Influent, Effluent, and Biosolids Monitoring Data	19
7.2	Metrics Measuring Residential and Commercial Outreach Effectiveness	19
8.	DOCUMENTATION OF EFFORTS AND PROGRESS	20
9.	EVALUATION OF POLLUTANT MINIMIZATION PROGRAM AND TASK EFFECTIVENESS.....	20
9.1	NPDES Permit Compliance – Over 20 Years.....	20
9.2	Effectiveness of P2 Program Tasks	20
10.	FUTURE EFFORTS, TASKS, AND TIME SCHEDULE.....	22



TABLES

Table 1 - Pollutants of Concern and Reason for Determination	3
Table 2 - Pollutants of Concern and Sources Identified	4
Table 3 - Pollutants of Concern and Minimization Tasks	5
Table 4 - Summary of Copper Action Plan Requirements	6
Table 5 - Inventory of Permitted Potential Copper Contributors	8
Table 6 - Summary of Cyanide Action Plan Requirements.....	9
Table 7 - Inventory of Potential Cyanide Contributors	10
Table 8 - EBMUD Partnership Activities	16
Table 9 - Brochures and Materials Produced and/or Distributed by EBMUD to a Commercial or Non-Residential Audience	17
Table 10 - Brochures and Materials Produced and/or Distributed by EBMUD to a Residential Audience	18
Table 11 - Measuring Effectiveness in Mitigating Pollutants of Concern.....	20
Table 12 - Future Tasks and Time Schedule	22

FIGURES

Figure 1 – EBMUD Wastewater Service Area	2
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This report covers East Bay Municipal Utility District's (EBMUD) Pollution Prevention (P2) program for the January 1, 2020, through December 31, 2020, reporting period. The report was prepared in accordance with the EBMUD NPDES Permit No. CA0037702, Order Nos. R2-2015-0018 and R2-2020-0024, adopted on May 13, 2015, and September 9, 2020, respectively.

1. DESCRIPTION OF TREATMENT PLANT AND SERVICE AREA

EBMUD is a publicly-owned utility formed under the Municipal Utility District (MUD) Act that was passed by the California state legislature in 1921. In accordance with the MUD Act's provisions, voters in the East San Francisco Bay Area created EBMUD in 1923 to provide water service. In 1944, voters in six East Bay cities – Alameda, Albany, Berkeley, Emeryville, Oakland, and Piedmont – elected to form EBMUD's Special District No. 1 (SD-1) to provide treatment of wastewater discharged to the San Francisco Bay. EBMUD formed the Wastewater Department following approval of SD-1. Wastewater treatment began in 1951. In 1971, the Stege Sanitary District, which includes the City of El Cerrito, the Richmond Annex and unincorporated Kensington, was annexed to SD-1.

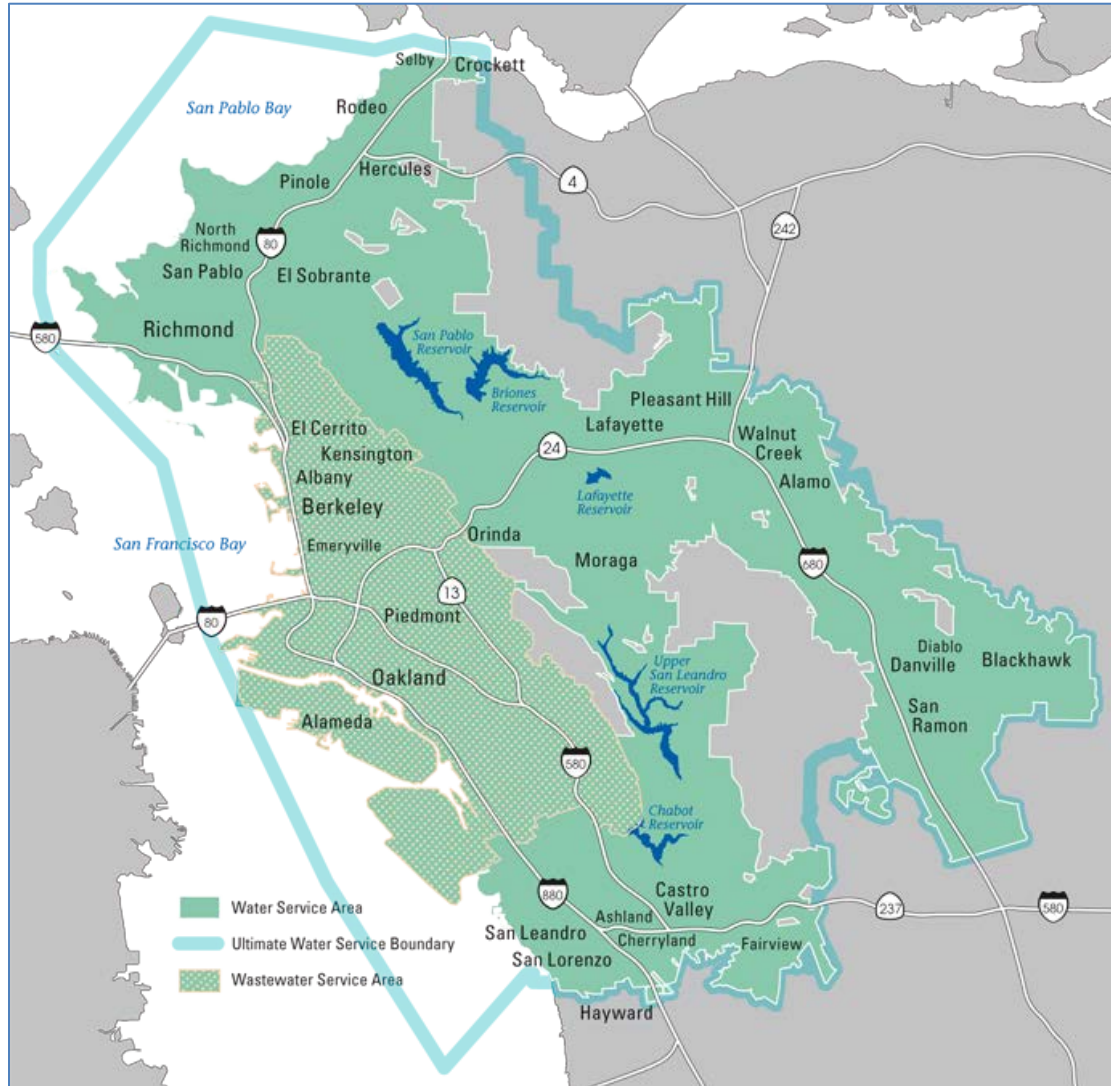
The individual communities own and maintain their collection systems (sewers and pumping stations) and discharge to one of five EBMUD interceptors. The EBMUD Wastewater Department owns and operates the interceptors, the Main Wastewater Treatment Plant (MWWTP), a deep-water outfall into San Francisco Bay, and three wet weather facilities (WWFs). The EBMUD collection system and service area has the following characteristics:

- EBMUD's wastewater service area is 88 square miles, which includes approximately 1,600 miles of community-owned and maintained sanitary sewers.
- EBMUD owns and operates 29 miles of gravity sewer interceptors, 15 pumping stations, and 9 miles of sewer force mains.
- EBMUD's Wastewater Department serves a population of approximately 740,000, which includes approximately 180,000 accounts, of which over 19,000 are commercial, industrial, and institutional users.

All wastewater is conveyed to the MWWTP, which provides secondary treatment through a high-purity oxygen activated sludge (HPOAS) process. The dry weather influent flow rate ranges between 50 and 60 million gallons per day (MGD). It has a permitted dry weather secondary treatment design capacity of 120 MGD and a primary treatment capacity of 320 MGD. The peak wet weather flow rate is 415 MGD, which includes short-term diversion of 95 MGD to the onsite 11 million gallon wet weather storage basin during peak storm events. The MWWTP liquid process train includes coarse and fine bar screens, aerated and vortex grit chambers, primary sedimentation basins, HPOAS reactors, secondary clarifiers, disinfection, recycled water facilities, and dechlorination. The solids process train includes scum thickening, secondary solids thickening using gravity belt thickeners, anaerobic digestion, and digested solids dewatering using solid-bowl centrifuges. Treated final effluent from the MWWTP is discharged through a deep water outfall located approximately 1.2 miles off the East Bay shoreline immediately south

of the San Francisco-Oakland Bay Bridge. Biosolids are hauled off-site by an outside contractor for beneficial use.

Figure 1 – EBMUD Wastewater Service Area





2. DISCUSSION OF CURRENT POLLUTANTS OF CONCERN

EBMUD identifies pollutants of concern as follows:

- By reviewing monitoring data from influent, effluent, biosolids, and industrial discharges
- When pollutants are assigned effluent limits in EBMUD's NPDES permit (Order Nos. R2-2015-0018 and R2-2020-0024) or are identified in watershed permits issued by the San Francisco Bay Regional Water Quality Control Board (Regional Board)
- When pollutants are addressed by the Bay Area Pollution Prevention Group (BAPPG) or Bay Area Clean Water Agencies (BACWA)

The table below presents the pollutants of concern for EBMUD and the basis for this determination.

Table 1 - Pollutants of Concern and Reason for Determination

Pollutant of Concern	Basis for Determination
Fats, Oils, and Grease (FOG)	Potential to cause sanitary sewer overflows; Requested by collection system agencies to operate the Regional FOG Control Program
Mercury	Permit No. CA0037702, Order No. R2-2015-0018 and R2-2020-0024; Permit No. CA0038849, Order No. R2-2017-0041 (Watershed Permit), Existing Local Limit
Copper	Order Nos. R2-2015-0018 and R2-2020-0024- Copper Action Plan, Existing Local Limit
Cyanide	Order Nos. R2-2015-0018 and R2-2020-0024- Cyanide Action Plan, Existing Local Limit
PCB	Permit No. CA0038849, Order No. R2-2017-0041 (Watershed Permit)
Other Metals (Cadmium, Chromium, Lead, Nickel, Zinc)	Historical concern, Existing Local Limits
Pharmaceuticals	Emerging concern

3. SOURCES OF POLLUTANTS OF CONCERN

EBMUD continues to inventory potential sources of pollutants of concern by monitoring influent data, monitoring known permitted dischargers, using its billing databases to identify certain industry lists, and staying up to date on emerging information from industry groups such as BACWA and BAPPG.



The table below presents the pollutants of concern for EBMUD and their identified sources.

Table 2 - Pollutants of Concern and Sources Identified

Pollutant of Concern	Sources Identified
FOG	<ul style="list-style-type: none">• Commercial facilities (mostly restaurants)• Residential cooking/food preparation
Mercury	<ul style="list-style-type: none">• Dental facilities• Residential users with mercury thermometers• Medical facilities and hospitals• Industrial users
Copper	<ul style="list-style-type: none">• See Section 4.1, Copper Action Plan
Cyanide	<ul style="list-style-type: none">• See Section 4.2, Cyanide Action Plan
PCB	<ul style="list-style-type: none">• Pumping of PCB-contaminated groundwater from construction sites or other facilities• PCB-contaminated stormwater entering the sewer system
Other Metals (Cadmium, Chromium, Lead, Nickel, Zinc)	<ul style="list-style-type: none">• Industrial users• Pumping of metal-contaminated groundwater from construction sites or other facilities• Metal-contaminated stormwater entering the sewer system
Pharmaceuticals	<ul style="list-style-type: none">• Bodily excretion• Improper residential disposal of pharmaceuticals from flushing medications

4. TASKS TO MINIMIZE POLLUTANTS OF CONCERN

The table below discusses the actions taken by EBMUD to minimize pollutants of concern. Unless an alternative timeline is specified, all tasks listed below are ongoing and will continue to be implemented in the future.


Table 3 - Pollutants of Concern and Minimization Tasks

Pollutant of Concern	Tasks to Minimize
FOG	<p>Commercial:</p> <ul style="list-style-type: none"> • Coordinates the Regional FOG Control Program within its wastewater service area, excluding the City of Oakland. • Collection system agencies identify FOG “hotspots,” and EBMUD staff conducts field investigations to determine if blockages are caused by nearby Food Service Establishments (FSE) or residential drainage basins. • Reports all work activities and progress in quarterly hotspot reports and provides routine database management with annual updates. • Attends regional planning meetings regarding FOG outreach to Microenterprise Home Kitchen Operations (MEHKOs). • Conducts commercial FOG outreach. <p>Residential:</p> <ul style="list-style-type: none"> • Maintains EBMUD website to provide information to residential FOG producers on proper disposal and residential FOG drop-off locations (www.ebmud.com/Cleanbay). • Provides FOG outreach materials for collection system agencies to distribute to FSEs and residents in the field. • Conducts targeted annual holiday FOG campaign in partnership with Baykeeper. • Continues residential FOG/trash outreach, mailing letters and outreach materials to residential hotspot areas. • Conducts residential FOG outreach.
Mercury	<p>Dental Facility Mercury:</p> <ul style="list-style-type: none"> • Tracks the number of dental facilities that have completed and returned a compliance report verifying use of an amalgam separator, in accordance with the 2017 United States Environmental Protection Agency (EPA) Dental Effluent Guidelines. • Continues to identify new facilities and maintain the database. • Provides information on EBMUD website www.ebmud.com/wastewater/bay-friendly-waste-disposal/mercury/dental-facilities about the 2017 EPA Dental Effluent Guidelines and how to achieve compliance. • Continues outreach through BAPPG and BACWA to educate dental assistant and dental hygienist students about proper amalgam management and disposal. See www.bacwa.org/wp-content/uploads/2021/01/2020-BAPPG-Annual-Report.pdf.



Pollutant of Concern	Tasks to Minimize
	Residential Mercury: <ul style="list-style-type: none"> Continues to provide information on its website about how to properly dispose of mercury thermometers in the home (www.ebmud.com/mercury).
Copper	<ul style="list-style-type: none"> Continues to control for copper through permitting, sampling, and monitoring of permit holders and new applicants. Implements NPDES Copper Action Plan (see Section 4.1 below).
Cyanide	<ul style="list-style-type: none"> Continues to permit, sample, and monitor permit holders and new applicants that use cyanide. Implements NPDES Cyanide Action Plan (see Section 4.2 below).
PCBs	<ul style="list-style-type: none"> Continues to control for PCBs through permitting, sampling, and monitoring of permit holders and new applicants. Continues to meet the requirements of the Watershed Permit for Mercury and PCBs.
Other Metals (Cadmium, Chromium, Lead, Nickel, Zinc)	<ul style="list-style-type: none"> Continues to permit, sample, and monitor industrial facilities, construction site dewatering, and groundwater remediation sites. Monitors influent, effluent, and biosolids.
Pharmaceuticals	<ul style="list-style-type: none"> Sponsors pharmaceutical collection sites within the wastewater service area www.ebmud.com/wastewater/bay-friendly-waste-disposal/medicine-disposal. Continues to support the Alameda County Safe Medicine Disposal Ordinance through membership in the Alameda County MEDS Coalition.

4.1 Copper Action Plan

EBMUD continued to meet the requirements of the Copper Action Plan with the following efforts:

Table 4 - Summary of Copper Action Plan Requirements

Task	Action	Compliance Date
1. Review Potential Copper Sources	<ul style="list-style-type: none"> Continues to inventory all sources of copper and permit, sample, and regulate dischargers who may be contributing to copper loadings at the MWWTP. See below. 	Ongoing



Task	Action	Compliance Date
2. Implement Copper Control Program	<ul style="list-style-type: none"> • Maintains EBMUD website to provide information on BMPs for pool and spa maintenance for both residential and commercial users. (www.ebmud.com/wastewater/bay-friendly-waste-disposal/copper-free-pools/) • Works with BAPPG to provide copper education for commercial and residential dischargers on baywise.org. • Works with BAPPG to provide consolidated education to plumbers regarding BMPs to minimize copper discharges. • EBMUD's potable water is a source of copper in the wastewater influent. EBMUD adjusts the pH of its potable water to reduce corrosiveness. 	Original plan submitted 2/28/2011. Current Copper Control Program is Ongoing
3. Implement Additional Measures	<ul style="list-style-type: none"> • The Regional Monitoring Program for Water Quality in the San Francisco Estuary (RMP) collected samples for copper during the 2019 Water Cruise. Preliminary results from 2019 indicate rolling average ambient copper concentrations remain below triggers in all five regions of the Bay. Final results will be published in early 2021. 	Ongoing
4. Undertake Studies to Reduce Copper Pollutant Impact Uncertainties	<ul style="list-style-type: none"> • Continues to partner with BACWA and contributes to the funding of the RMP. 	Ongoing
5. Report Status of Copper Control Program	<ul style="list-style-type: none"> • Continues to report to the Regional Board documentation of its implementation of the Copper Control Program. 	Annually with P2 Report

The following businesses have been identified as potential contributors of copper. EBMUD has issued permits to each of the below dischargers. Permits, including Zero Discharge (ZD) permits, contain required BMPs, and all dischargers are required to comply with EBMUD's local limit for copper (5 milligrams per liter [mg/L]). ZD permit holders are required to submit a Discharge Prevention Compliance Report annually, certifying that there have been no discharges of regulated process wastewater to the sanitary sewer. In addition, ZD permit holders are scheduled for inspection at least once during the five-year permit cycle to ensure no discharges are occurring.


Table 5 - Inventory of Permitted Potential Copper Contributors

Discharger	Service Address	Industry Category
Gold Seal Plating	3125 E 7th St, Oakland	Electroplating (ZD)
Johnson Plating	2526 Telegraph Ave, Oakland	Electroplating (ZD)
Monsen Plating Silversmith	3370 Adeline St, Berkeley	Electroplating (ZD)
Melrose Metal Finishing, Inc.	10222 Pearmain St, Oakland	Electroplating (ZD)
Lawrence Berkeley National Laboratory, Bldg. 77	1 Cyclotron Rd, Berkeley	Metal Finishing (ZD)
Able Metal Plating, Inc.	932 86th Ave, Oakland	Metal Finishing (ZD)
Electro-Coatings of California	893 Carleton St, Berkeley	Metal Finishing (ZD)
Mercurius Company	3224 Brookdale Ave, Oakland	Metal Finishing (ZD)
Fryer Industries, Inc./dba Dougco	1073 34th St, Oakland	Metal Finishing
Scientific Platers, Inc.	9809 Kitty Ln, Oakland	Metal Finishing
A B & I	7825 San Leandro St, Oakland	Metal Molding and Casting (ZD)
Mussi Artworks Foundry, LLC	729 Heinz Ave #10, Berkeley	Metal Molding and Casting (ZD)
Pressure Cast Products	4210 E 12th St, Oakland	Metal Molding and Casting (ZD)
SKS Die Casting Machining	1849 Oak St, Alameda	Metal Molding and Casting (ZD)
AC Transit – Emeryville	1177 47th St, Emeryville	Local/Suburban Transit
AC Transit – International	10626 International Blvd, Oakland	Local/Suburban Transit
AC Transit – Seminary	1100 Seminary Ave, Oakland	Local/Suburban Transit
Union Pacific Railroad Co.	1851-B 5th St, Oakland	Railroad Transportation
Oakland International Airport	Doolittle & Airport Dr, Oakland	Air Transportation
Berkeley Forge & Tool Inc.	1331 Eastshore Hwy, Berkeley	Aluminum Forming (ZD)
Coulter Forge Technology	1494 - 67th St, Emeryville	Aluminum Forming (ZD)
CASS, Inc.	2730 Peralta St, Oakland	Non-Ferrous Metals (ZD)
Harkrader Trucking, Inc.	9957 Medford Ave, Oakland	Transportation Equipment Cleaning
Aramark Uniform Services	330 Chestnut St, Oakland	Industrial Laundry

ZD = Zero Discharger



4.2 Cyanide Action Plan

EBMUD has taken the following measures in response to the regional Cyanide Action Plan, required through Permit No. CA0037702. Permits, including ZD permits, contain required BMPs, and all dischargers are required to comply with EBMUD's local limit for cyanide (5 mg/L). ZD permit holders are scheduled for inspection at least once during the five-year permit cycle to ensure no discharges are occurring. There are presently no known cyanide contributors among EBMUD's permitted customers.

Table 6 - Summary of Cyanide Action Plan Requirements

Task	Action	Compliance Date
1. Review Potential Cyanide Sources	<ul style="list-style-type: none">Continues to inventory all sources of cyanide and permit, sample, and regulate dischargers who may be contributing to cyanide loadings at the MWWTP. See Table 7 below.	Submitted 7/1/2010 with ongoing monitoring of potential sources
2. Implement Cyanide Control Program	<ul style="list-style-type: none">There are presently no known cyanide contributors among EBMUD's permitted customers.	Not applicable
3. Implement Additional Measures	<ul style="list-style-type: none">RMP ambient water quality data show that the cyanide concentration trigger was not exceeded, so no further actions are required at this time.	Ongoing
4. Report Status of Cyanide Control Program	<ul style="list-style-type: none">Continues to report to the Regional Board documentation of its implementation of the Cyanide Control Program.	Annually with P2 Report

The following businesses have been identified as potential contributors of cyanide. EBMUD has issued permits to each of the below dischargers with a cyanide limit and pretreatment requirements. Permits, including ZD permits, contain required BMPs. ZD permit holders are required to submit a Discharge Prevention Compliance Report annually, certifying that there have been no discharges of regulated process wastewater to the sanitary sewer. In addition, ZD permit holders are inspected once during the five-year permit cycle to ensure no discharges are occurring.


Table 7 - Inventory of Potential Cyanide Contributors

Discharger	Service Address	Regulatory Category	Summary of Cyanide Use
Gold Seal Plating	3125 E 7th St, Oakland	Electroplating	Cyanide waste off-hauled (ZD)
Johnson Plating	2526 Telegraph Ave, Oakland	Electroplating	Cyanide waste off-hauled (ZD)
Monsen Plating Silversmith	3370 Adeline St, Berkeley	Electroplating	Cyanide waste off-hauled (ZD)
Lawrence Berkeley National Laboratory, Bldg. 77	1 Cyclotron Rd, Berkeley	Metal Finishing	No cyanide use
Fryer Industries, Inc./dba Dougco	1073 34th St, Oakland	Metal Finishing	No cyanide use
Scientific Platers, Inc.	9809 Kitty Ln, Oakland	Metal Finishing	No cyanide use
Electro-Coatings of California	893 Carleton St, Berkeley	Metal Finishing	cyanide waste off-hauled (ZD)
Melrose Metal Finishing, Inc.	10222 Pearmain St, Oakland	Metal Finishing	cyanide waste off-hauled (ZD)
Able Metal Plating	932 86th Ave, Oakland	Metal Finishing	No cyanide use (ZD)
Mercurius Company	3224 Brookdale Ave, Oakland	Metal Finishing	No cyanide use (ZD)
Pacific Galvanizing	715 46th Ave, Oakland	Iron & Steel Mfg.	No cyanide use (ZD)
Bayer Corporation	4th & Parker St, Berkeley	Pharmaceutical	Potential cyanide use, waste off-hauled
Libby Laboratories, Inc.	1700 Sixth St, Berkeley	Pharmaceutical	No cyanide use
Novartis	5401 Chiron Way, Emeryville	Pharmaceutical	No cyanide use

ZD = Zero Discharger

EBMUD maintains a Significant Cyanide Discharge Response Plan that consists of the following:

- Defines a significant cyanide discharge as influent concentration of 6.2 micrograms per liter (µg/L), based on the highest concentration at the MWWTP from 2010-2017. EBMUD has established electronic outlier notifications for all analyses and associated parameter discharge limits/triggers. If a cyanide result is greater than or equal to the defined triggers, all applicable wastewater staff, including the Supervising Wastewater Control Representative, will be alerted through EBMUD's email system.

- An investigation team will be formed to identify the cyanide source. The investigation may include interceptor sampling, point source sampling, and a phone survey of potential contributors.
- If the cyanide source is identified, enforcement action may be taken against the facility.

When needed, an incident summary report outlining the actions taken will be included in the EBMUD's subsequent Annual P2 Report.

5. OUTREACH TO EMPLOYEES

Due to the COVID-19 pandemic and the shelter-in-place orders, EBMUD modified its P2 outreach to employees. The Wastewater Treatment Plant tours were transitioned to a virtual platform beginning in April 2020. In addition, the Coastal Cleanup event was extended to over a month long, focusing on removing litter and recyclables from employees' local neighborhoods and communities.

5.1 *Earth Day*

The Annual Earth Day Event for EBMUD personnel was not held; however, an email regarding "Wipes Clog Pipes" and choosing safe products was sent on April 29, 2020, to all EBMUD staff for Earth Week.

5.2 *Green Business Certification*

EBMUD's Fleet Maintenance Center, North Area Service Center, and Construction and Maintenance Services are certified Green Businesses. Green Business requirements were included in the EBMUD Water Treatment Plant Infrastructure Renewal Plan. EBMUD's janitorial staff received training on Green Business certification criteria for green cleaning products and on health and safety advantages. EBMUD staff is pursuing Green Business certifications for other EBMUD facilities.



5.3 *Training*

In 2020, employees continued to attend conferences and webinars provided by the California Water Environment Association (CWEA) and National Association of Clean Water Agencies (NACWA). This year, a total of five employees attended the P3S conference, and 30 employees attended P2 related webinars.

5.4 *Tours of the Wastewater Treatment Plant*

In 2020, 98 employees attended tours of the Wastewater Treatment Plant led by Wastewater staff. On these tours, Wastewater staff informs attendees of issues facing the plant and how they can play a role in preventing pollution.

5.5 Coastal Cleanup

EBMUD held its fourth annual Coastal Cleanup Event from September 1 to October 16, 2020. In prior years, EBMUD's Coastal Cleanup event was a one-day effort at the Martin Luther King Jr. Regional Shoreline Park. Following social distancing and other safety guidelines, over 100 EBMUD employees and family members removed litter and recyclables from their communities to prevent trash from polluting local waterways and shorelines. This Coastal Cleanup event coincided with EBMUD's fall pollution prevention outreach campaign in the East Bay Express newspaper.



5.6 E-Waste

EBMUD has an ongoing collection program for employee e-waste and spent battery disposal as part of its established Universal Waste Program.

5.7 Splashes Articles

EBMUD issues a bi-weekly Splashes electronic newsletter for EBMUD employees and retirees that covers topics related to EBMUD news, accomplishments, employee wellness, and sustainability. In 2020, Splashes featured two articles on how employees can change behaviors to prevent pollution.

6. CONTINUATION OF PUBLIC OUTREACH PROGRAM

Similar to employee outreach, EBMUD modified its P2 public outreach due to the public health crisis. The Wastewater Treatment Plant tours were transitioned to a virtual platform beginning in April 2020. Newspaper publications were released digitally, and pollution prevention messaging was posted on several social media platforms.

6.1 Wastewater Treatment Plant Tours

EBMUD continued the successful Wastewater Treatment Plant tour program for local schools and the public in 2020. Beginning in April 2020, EBMUD transitioned to virtual tours due to the shelter-in-place orders. The virtual tour conveys key messages about wastewater treatment, pollution prevention, and renewable resources. Over 572 middle and high school students and 1,487 additional local residents attended tours in 2020. Other professional groups and

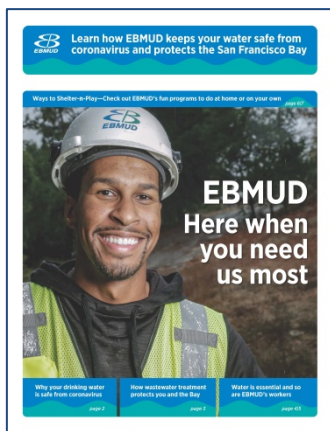


interested parties add to the total of over 2,500 wastewater treatment plant tour participants in 2020. Tours were also provided in Cantonese and Spanish for groups upon request.

6.2 High School Internship Program

High school students across the Bay Area joined EBMUD this past summer to gain hands-on experience and learn about job opportunities offered at EBMUD in administration, engineering, graphic design, and environmental services. In 2020, the P2 program hosted two high school interns. The interns reviewed and made recommendations to reconstruct EBMUD’s P2 website(s) for a more user-friendly experience and readability for a broader audience.

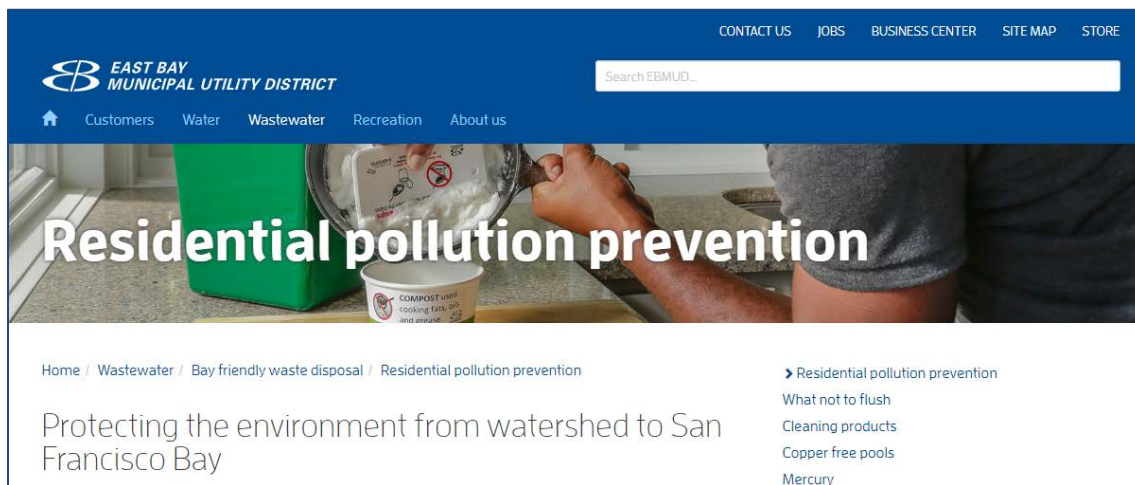
6.3 East Bay Express



In 2020, EBMUD issued the fourth annual East Bay Express insert, an 8-page booklet in the weekly newspaper. The insert, titled “EBMUD Here when you need us most,” describes EBMUD’s mission to provide safe, reliable water and wastewater services during public health emergencies, the critical role of our essential workers, and our pandemic response. The insert also offered pollution prevention tips and information about EBMUD’s partnerships with regulatory agencies and environmental organizations to protect the Bay and public health. The insert was digitally published in East Bay Express’ August 26 and September 16, 2020, editions and in the August 26, 2020, paper edition. Additionally, a one-page spread with similar messaging was published in the October edition of the “East Bay” magazine.

6.4 Clean Bay Website

EBMUD continued to provide information on residential pollution prevention on our Clean Bay website (www.ebmud.com/Cleanbay). The site discusses what can be flushed (the “3 Ps” – poop, pee and toilet paper), where to take expired medications, how to dispose of FOG properly, and other tips on how to best prevent pollution.



6.5 Social Media and Broadcasting Outreach

EBMUD posted pollution prevention messaging such as “Wipes Clog Pipes,” FOG disposal, “What not to Flush,” and Wastewater Treatment Plant virtual tour announcements on several social media platforms, including Twitter, NextDoor, and Facebook. In addition, an EBMUD employee was interviewed on the 99% Invisible podcast discussing “Wipes Clog Pipes.” <https://99percentinvisible.org/>.



6.6 FOG Holiday Campaign

EBMUD continued to raise awareness about the importance of keeping FOG from damaging pipes in homes and city sewer systems. During the holiday season, EBMUD posted messaging on the proper disposal of FOG.



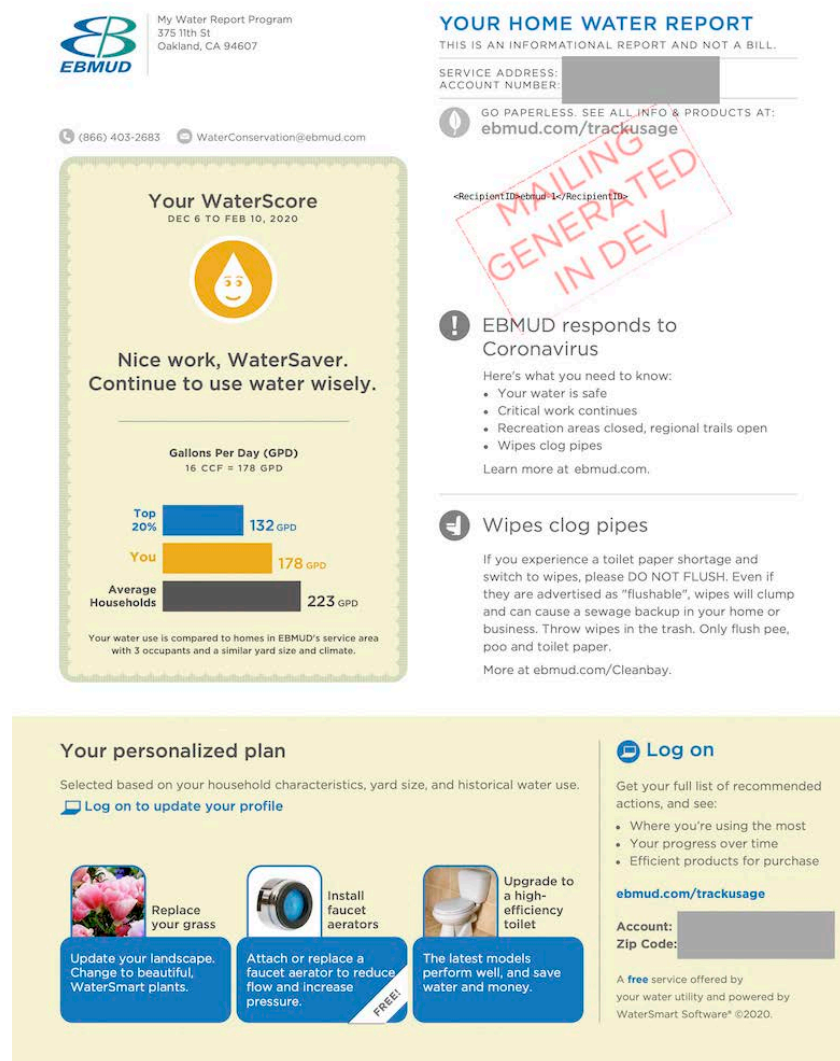
6.7 Environmental Services Hotline

The EBMUD Environmental Services Hotline offers residents a chance to ask wastewater experts questions directly. At either 510-287-1651 or Cleanbay@ebmud.com, residents can get quick answers to questions about proper waste disposal, what not to flush, and general guidance on pollution prevention.



6.8 Water Conservation Outreach

EBMUD's Water Conservation Division issues a bimonthly personalized "Home Water Report" to residential customers that shows their household water consumption compared to households of similar size and demographics. This report also includes pollution prevention messaging. In 2020, over 170,000 customers received this report, which included pollution prevention messaging on "Wipes Clog Pipes." In addition, Water Conservation issues a quarterly email newsletter to over 3,000 commercial subscribers. Each newsletter features information on how businesses can conserve water and save money. The newsletter also incorporates pollution prevention messaging. In March 2020, the newsletter featured messaging on "Wipes Clog Pipes," general pollution prevention for businesses, and proper disposal of bleach and other disinfectants.





6.9 Collaboration with NGOs and Government Agencies

EBMUD continued its partnerships with Non-Governmental Organizations (NGOs) and government agencies, including the following activities:

Table 8 - EBMUD Partnership Activities

Agency	Activity
Baykeeper	<ul style="list-style-type: none"> Continued partnership with Baykeeper to address residential FOG. Sponsored Baykeeper's Healthy Bay Challenge.
San Francisco Estuary Institute (SFEI)	<ul style="list-style-type: none"> Contributed funding to support San Francisco Estuary Institute (SFEI)'s study of microplastics in the Bay. Serve as Subject Matter Experts on laboratory testing of microplastics in wastewater samples and contributed to SFEI's publication titled "Recommended best practices for collecting, analyzing, and reporting microplastics in environmental media: Lessons learned from comprehensive monitoring of San Francisco Bay." Provided technical expertise on the study design for the upcoming Southern California Coastal Water Research Project/SFEI collaborative study on microplastics in wastewater.
BACWA and Bay Area Pollution Prevention Group (BAPPG)	<ul style="list-style-type: none"> EBMUD is a principal member of BACWA and BAPPG.
CWEA	<ul style="list-style-type: none"> Participated in the CWEA P3S Committee.
Oakland Housing Authority	<ul style="list-style-type: none"> Partnered with the Oakland Housing Authority to distribute grease scrapers and EBMUD's "What Not to Flush" and "Avoid a Clog" brochures.
Stege Sanitary District	<ul style="list-style-type: none"> Partnered with Stege Sanitary District to distribute EBMUD's "Think Before You Flush" brochures in their New Homeowner packets.
City of Berkeley	<ul style="list-style-type: none"> Distributed FOG brochures to the City of Berkeley on April 15, 2020.
Various Groups	<ul style="list-style-type: none"> Partnered with Baykeeper, Save the Bay, SFEI, California Coastal Commission, City of Oakland, and the Regional Board, along with local creek and watershed groups, on East Bay Express editorial.



6.10 Brochures and Literature

Pollution prevention literature in the form of brochures, posters, flyers and pamphlets produced for and distributed to commercial and residential audiences are listed in Tables 9 and 10. Literature geared toward a commercial audience is distributed at facility inspections or made available online for businesses. Literature geared toward a residential audience is distributed at public outreach events or mailed upon request.

Table 9 - Brochures and Materials Produced and/or Distributed by EBMUD to a Commercial or Non-Residential Audience

Material	Audience	Message	Comments
FOG BMP Poster	Food Service Establishments (FSEs)	“FOG Friendly Tips” for FSEs provide information about FOG and ways to prevent FOG issues	Distributed to FSEs in EBMUD service area
FOG Brochure	FSEs	“Controlling FOG in Food Handling Facilities” brochure: Frequently asked questions on FOG and FOG disposal	Distributed to FSEs in EBMUD service area
FOG Flyer	FSEs	“Best Management Practices for Food-Related Fats, Oils, and Grease” flyer Business specific practices to keep FOG out of the sewer	Distributed to FSEs in EBMUD service area
FOG Holiday Flyer	Grocery Stores and Residents	How to dispose of turkey fryer waste FOG	Posted at 16 grocery stores since 2019
P2 Practices for Automotive Facilities (BMP brochure)	Businesses	P2 for vehicle service facilities	Available on the EBMUD website
EBMUD “Pollution Prevention Self-Audit Checklist”	Businesses	Good housekeeping practices and Business-specific waste reduction practices	Covers 13 business categories modeled after DTSC HWM checklist
Vehicle Wash Signs	Vehicle Wash Facilities	“Discharge of Brake and Engine Cleaners to the Sewer is Prohibited”	Available on the EBMUD website



Material	Audience	Message	Comments
Maintaining Copper-Free Pools, Spas and Fountains	Public and private pool owners and pool maintenance companies	General information on the harmful effects to the ecosystem of copper accumulation in the Bay from discharges. Best Management Practices for reducing copper use and proper disposal of pool water	Available on the EBMUD website

Table 10 - Brochures and Materials Produced and/or Distributed by EBMUD to a Residential Audience

Material	Audience	Message	Comments
Grow It! Guides	Residents	Provides information on pesticide alternatives, drought-tolerant and native plants, and proper disposal information for household toxics	EBMUD provided native and drought-tolerant plant lists for this BAPPG project. EBMUD also tailored several pages specifically to the East Bay area.
“Think Before You Flush” Brochure	Residents	Emphasizes the message that a toilet is not a trash can. Provides multi-pollutant information and proper disposal options for household and personal hygiene products that should never be flushed.	Distributed during community events and residential hotspot areas where FOG and “flushable” wipes/trash related blockages/overflows occur
FOG Scrapers	Residents	”Use This Scraper To Prevent Sewage Backups”	These are distributed to residential customers upon request or in areas where there are FOG “hotspots” and/or areas of concern
FOG Turkey Fryer Stickers	Residents	“Recycle Cooking Oil”	Stickers placed on turkey fryers sold at major and local independent markets
FOG Residential Grease Sign	Residents	“Recycle Cooking Oil”	Placed at some major and local independent markets near fryers, oil, or turkey displays during the holidays



Material	Audience	Message	Comments
FOG Residential Grease Tear-off Pad	Residents	“Recycle Cooking Oil”	Placed at some local grocery stores near oil displays during the holidays
P2 Bookmarks	Schools / General Public	EBMUD recognition	
Clean It! Guides	General Public	Household Waste Control, less toxic cleaning product use	Guides are mailed to customers upon request
FOG Brochure and Door hanger	Residents	How to properly dispose of cooking FOG	Includes information on large quantity disposal (e.g., from turkey fryers) and use of kitchen scrap recycling programs. Door hanger has translated information in Spanish and Chinese.

7. CRITERIA FOR MEASURING PROGRAM EFFECTIVENESS

7.1 *Influent, Effluent, and Biosolids Monitoring Data*

EBMUD monitors influent data to understand trends in pollutants of concern and to compare pollutant levels with NPDES effluent limits. EBMUD uses this data to identify residential, commercial, and industrial sources to focus its pollution prevention efforts. EBMUD also monitors effluent and biosolids data to ensure that pollutants of concern remain below regulatory limits.

7.2 *Metrics Measuring Residential and Commercial Outreach Effectiveness*

EBMUD collects data throughout the year to measure the effectiveness of its residential and commercial outreach programs. The criteria used include measures of pollutants diverted from wastewater disposal, tools provided to residential users to support pollutant diversion, response to notifications of issues by collection system agencies, and actions taken to curb pollutants from commercial users as presented in Table 11.



8. DOCUMENTATION OF EFFORTS AND PROGRESS

This report in total details all of the Pollution Prevention/Pollutant Minimization Program activities during the reporting year. Additionally, EBMUD's Annual Pretreatment Program report discusses EBMUD's regulation of permitted industrial users and other permitted wastewater dischargers within the wastewater service area.

9. EVALUATION OF POLLUTANT MINIMIZATION PROGRAM AND TASK EFFECTIVENESS

The effectiveness of the EBMUD P2 program can be evaluated in the following ways:

9.1 NPDES Permit Compliance – Over 20 Years

In December 2020, EBMUD completed its 256th consecutive month, or over 21 years, of compliance with all NPDES permit effluent limits. There were no effluent violations recorded at the MWWTP for any parameters regulated by the permit in 2020.

9.2 Effectiveness of P2 Program Tasks

By considering the criteria stated in Section 7.2, the EBMUD P2 program was effective. EBMUD has responded to all notifications from collection system agencies of pollutant issues, has distributed pollutant mitigation materials and information to residents, and has collected a substantial amount of diverted pollutants. The table below describes the effectiveness of mitigation efforts for each identified pollutant of concern.

Table 11 - Measuring Effectiveness in Mitigating Pollutants of Concern

Pollutant of Concern	Effectiveness Measure
FOG	<p>COMMERCIAL</p> <ul style="list-style-type: none">Continued hotspot investigation procedures for grease-related sewer system overflows (SSOs) and blockages reported by collection system agencies. EBMUD responded to 8 hotspots identified by collection system agencies. Note that as of July 1, 2019, the City of Oakland is no longer part of the EBMUD FOG program. EBMUD worked with City of Oakland staff to update Oakland web pages regarding FOG.Provided enforcement support to agencies by requiring grease interceptor pumping at all 12 facilities shown to cause or contribute to FOG-related SSOs or blockages.Conducted 2 field inspections at FSEs with gravity grease interceptors to document compliance monitoring and ensure sufficient cleaning and maintenance of grease interceptors.There were no FOG-related SSOs from the EBMUD system.



Pollutant of Concern	Effectiveness Measure
	<p>RESIDENTIAL</p> <ul style="list-style-type: none"> Continued the Residential Used Cooking Oil Collection Program for residents in EBMUD's service area. During 2020, a total of 2,616 gallons of used cooking oil and grease were collected from EBMUD's MWWTP and the El Cerrito Recycling Center's oil drop-off locations. Both facilities recycle the collected cooking oil into a biofuel. Conducted annual holiday outreach campaign in collaboration with San Francisco Baykeeper. Distributed outreach material to 15 local independent retailers of turkey fryers and oil jugs. Performed outreach utilizing the "Think Before You Flush" brochure to address "flushable" wipes and consumer products, which often come in tandem with FOG and cause chronic problems, including blockages, SSOs, and expensive repair and maintenance issues in the sanitary sewer systems. In 2020, mailed 140 personalized FOG and "wipes/trash" related letters and "Think Before You Flush" brochures (in addition to residential FOG brochures) to residents in identified hotspot areas. Posted 15 Holiday FOG posters at area grocery stores. Distributed 4,500 grease scrapers in 2020. Distributed nearly 1,000 compostable grease cups in 2020.
Mercury	<ul style="list-style-type: none"> Continued to reach out by mail and phone to dentists to obtain compliance reports. Forms were due on July 14, 2020. Of the 302 dental offices listed in EBMUD's database, 300 forms (approximately 99 percent) have submitted compliance reports confirming use of amalgam separators as required.
Copper	<ul style="list-style-type: none"> Influent and effluent monitoring shows that copper has been decreasing over the past 30 years due to permit requirements, sampling, and monitoring of contributing sources.
Cyanide	<ul style="list-style-type: none"> Influent and effluent monitoring shows that metals have been decreasing over the past 30 years due to permit requirements, sampling, and monitoring of contributing sources.
PCB	<ul style="list-style-type: none"> Implemented PCBs sampling and analysis permit requirements at all dewatering sites that had PCB concern. Conducted influent and effluent monitoring to examine PCB levels per Order No. R2-2017-0041 (Mercury and PCBs Watershed Permit).



Pollutant of Concern	Effectiveness Measure
Other Metals (Cadmium, Chromium, Lead, Nickel, Zinc)	<ul style="list-style-type: none"> Influent and effluent monitoring shows that metals have been decreasing over the past 30 years due to permit requirements, sampling, and monitoring of contributing sources.
Pharmaceuticals	<ul style="list-style-type: none"> Collected 2,106 pounds of unwanted/expired pharmaceuticals through 10 permanent collection sites throughout the wastewater service area. The Pharmaceutical Take-back Program has collected over 39,100 pounds of expired/unwanted pharmaceuticals since the program's inception in 2009. Continued support of Alameda County Safe Medicine Disposal Ordinance through membership in the Alameda County MEDS Coalition.

10. FUTURE EFFORTS, TASKS, AND TIME SCHEDULE

EBMUD plans to continue its current, successful programs and public outreach initiatives such as the FOG program, pollutant of concern monitoring and permitting, NGO and agency partnerships, event tabling, social media campaigns, virtual tours, and video content. EBMUD plans to expand and improve its pollution prevention program in the future as presented in Table 12.

Table 12 - Future Tasks and Time Schedule

Task	Target Audience	Time Schedule
Increase the number of WWTP tour attendees, especially from underserved communities. Use CWEA P3S Grant award to fund one round-trip bus field trip for a Title 1 School in the wastewater service area.	Students and Schools	Spring 2021
Prepare an interactive web-based virtual tour of the MWWTP.	Students and Schools	Spring 2021
Expand EBMUD's Water Smart Business Program Certification to include Pollution Prevention BMPs for target sectors. Develop a Pollution Prevention Award Program.	Commercial Sector	Fall 2021



Task	Target Audience	Time Schedule
Improve readability of content on www.ebmud.com/Cleanbay site. Improve ability for search engines to access www.ebmud.com/Cleanbay site (i.e., Google). Increase online presence via social media and building video content.	Residents	Fall 2021
Expand residential P2 outreach using written materials (e.g., P2 literature, brochures, and flyers) by partnering with collection system agencies to create new homeowner mailing packets and with NGOs to reach their constituents. Promote P2 messaging via advertisements in public spaces and on public works vehicles. Create targeted wipes messaging and displays for retail stores.	Residents	Summer 2021



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