



**BOARD OF DIRECTORS  
EAST BAY MUNICIPAL UTILITY DISTRICT**

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375 - 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

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**Notice of Time Change**


**PLANNING COMMITTEE  
MEETING**

**9:00 a.m.**

**Tuesday, January 14, 2020**

Notice is hereby given that the Tuesday, January 14, 2020 Planning Committee Meeting of the Board of Directors has been rescheduled from 9:15 a.m. to 9:00 a.m. The meeting will be held in the Training Resource Center of the Administration Building, 375 - 11th Street, Oakland, California.

Dated: January 9, 2020

  
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Rischa S. Cole  
Secretary of the District









**BOARD OF DIRECTORS  
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 – 11<sup>th</sup> Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

## **AGENDA**

**Planning Committee  
Tuesday, January 14, 2020  
9:00 a.m.  
Training Resource Center**

**(Committee Members: Directors Linney {Chair}, McIntosh and Mellon)**

### **ROLL CALL:**

**PUBLIC COMMENT:** The Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

### **DETERMINATION AND DISCUSSION:**

1. Intranet Replacement Project – Splashpad (Levine)
2. Wet Weather Consent Decree – Implementation Update (White)
3. West County Wastewater District Recycled Water Supply Agreement (White)
4. Main Wastewater Treatment Plant Gas Flare Improvements Update (White)
5. Facility Landscape Maintenance (Briggs)

### **ADJOURNMENT:**

#### **Disability Notice**

*If you require a disability-related modification or accommodation to participate in an EBMUD public meeting please call the Office of the Secretary (510) 287-0404. We will make reasonable arrangements to ensure accessibility. Some special equipment arrangements may require 48 hours advance notice.*

#### **Document Availability**

*Materials related to an item on this agenda that have been submitted to the EBMUD Board of Directors within 72 hours prior to this meeting are available for public inspection in EBMUD's Office of the Secretary at 375 11th Street, Oakland, California, during normal business hours, and can be viewed on our website at [www.ebmud.com](http://www.ebmud.com).*







## EAST BAY MUNICIPAL UTILITY DISTRICT

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DATE: January 9, 2020

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Andrew J. Levine, Manager of Information Systems *AL*

SUBJECT: Intranet Replacement Project - Splashpad

### SUMMARY

The District is updating its intranet website with a modern design, added capabilities to improve internal communication and strategic messaging, and easy-to-access tools and functionality for all employees. Ultimately, the new intranet will foster collaboration and improve efficiencies across District operations. The new intranet, named Splashpad, will be rolled out in phases, with the first release available in late January 2020. This item will be presented to the Planning Committee on January 14, 2020.

### DISCUSSION

The current intranet is not centrally managed and does not have interactive capabilities. Because of this, web authors add content and build web pages without following organizational standards. These pages are often not integrated with any central navigation, or coordinated with other groups' pages. As a result, pertinent announcements and information are often sent via email. Using email for managing information is inefficient and time-intensive because employees must search Outlook for important information, rather than accessing it through one central clearinghouse.

Employees need quick access to essential information about how to conduct business, who to contact with questions, how to check status of important projects, and how to collaborate with others. Coordinating work across departments, divisions, and budget units is essential to the success of the District. The new intranet will be a professional, centralized information center for all District staff. It employs a content management system with interactive capabilities so web authors can effectively share important District information, collaboration tools that facilitate data sharing for projects, and systems that assist new employees in navigating the District during the onboarding process. This project helps the District improve efficiencies across all departments by reducing time spent locating resources and maximizing communication among employees.



## **NEXT STEPS**

Splashpad will be rolled out to staff in phases. The first phase will be published in January 2020. This version will not include all features, but will allow staff to provide input and content on a significant portion of the site for the next steps of the site development. Additional features will continue to be rolled out in 2020.

ARC:AJL:sbl



## EAST BAY MUNICIPAL UTILITY DISTRICT

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DATE: January 9, 2020

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Eileen M. White, Director of Wastewater *EMW*

SUBJECT: Wet Weather Consent Decree – Implementation Update

### SUMMARY

The District and its seven satellite collection system agencies (Satellites) have been implementing inflow and infiltration (I&I) reduction efforts since the Wet Weather Consent Decree (Consent Decree) with the U.S. Environmental Protection Agency was approved in September 2014. The Consent Decree requires the District and Satellites to eliminate most discharges from the District's three wet weather facilities (WWFs) by 2036 through the reduction of I&I. Staff will provide an update on the District's implementation of Consent Decree requirements to the Planning Committee on January 14, 2020.

### DISCUSSION

The Consent Decree utilizes an asset management-based approach to eliminate discharges from the District's three WWFs. Instead of using large storage or treatment infrastructure, the Consent Decree concentrates on the rehabilitation of the older public and private infrastructure that allows stormwater and groundwater to enter the regional collection system. By design, the Consent Decree requires action by the parties directly responsible for the aged infrastructure to implement appropriate corrective measures. Private property owners are responsible for private sewer laterals (PSL), the Satellites are responsible for community sewer systems, and the District is responsible for its interceptors.

District compliance with the Consent Decree is determined through the use of a hydrologic and hydraulic model of the District's interceptor system. Calibration efforts are performed annually to assess progress in the removal of I&I and the resulting impact on the discharges from the WWFs. Results from the model are reported to the regulators and used to determine Consent Decree compliance at prescribed check-ins; the first will take place in 2022, the next in 2030, and final compliance will be in 2036. District efforts to comply with the Consent Decree include an inflow investigation program of the regional collection system, the Regional Technical Support Program (RTSP), the Regional PSL Program, flow modeling, and two capital improvement projects.



### Flow Model Output Ratio Results

At each of the WWFs, compliance with the Consent Decree is determined through an average of the three preceding output ratios, which compare discharge volumes from a fiscal year (FY) versus those that occurred in FY11 under a prescribed storm event. As compliance is only defined and reviewed at the stated check-ins, target values to monitor performance for non-check-in years are estimated through a straight-line interpolation of the established benchmarks. A WWF would meet expectations when the calculated average of the preceding three years' output ratios is less than the interpolated target line. A WWF would be at risk of noncompliance when the calculated average is greater than that of the interpolated target line.

The FY19 three-year average of output ratios for each WWF was calculated using the values from FY17, FY18, and FY19, which experienced significant fluctuations in average rainfall; FY17 logged 65 percent above average rainfall, FY18 logged slightly below the annual average, and FY19 was above average. Excessive rainfall occurring for multiple seasons may have adversely impacted output ratios because of elevated groundwater levels, which increased the rate of infiltration into the sewer system and adversely impacted the performance of rehabilitation efforts. Table 1 presents the calculated output ratios for each WWF from FY17 through FY19, plus both the three-year average of those ratios and the interpolated targets. Additionally, the table presents the 2022 and 2030 check-in and final compliance output ratios defined in the Consent Decree.

**Table 1- Computed Wet Weather Facility Output Ratios**

WWF	Output Ratios				Consent Decree Benchmarks			
	FY17	FY18	FY19	Three-Year Average	FY19 Target *	2022	2030	Final Compliance
Point Isabel	97%	97%	96%	97%	66%	53%	18%	0% by 2034
Oakport	86%	77%	75%	80%	75%	65%	31%	0% by 2036
San Antonio Creek	86%	82%	74%	81%	59%	43%	--	0% by 2028

*\*Interpolated target*

Projections for meeting future Consent Decree benchmarks are analyzed using output values from the past five years, including the FY19 wet season, in addition to the three-year average value for each WWF. As each three year-average output ratio is currently greater than the FY19 target values, a strict interpretation shows each WWF at risk of not being in compliance in 2022. The Consent Decree contains a 20 percent exceedance factor at the first check-in, which may mitigate that risk. The last two annual output ratios for Oakport WWF closely track the interpolated target line for compliance; if that trend continues, Oakport WWF will likely either be in compliance at the 2022 check-in, or within the exceedance factor. San Antonio Creek WWF discharges are significantly lower in volume than the other two WWFs. As a result, minor reductions in discharge volume achieve significant reductions in the San Antonio Creek WWF output ratio. San Antonio Creek WWF may meet the benchmark at the first Consent Decree check-in, and is expected to be within the exceedance factor. Based on the calculated



performance to date, Point Isabel WWF is currently expected to be out of compliance. However, the recently completed wastewater interceptor force main work in Berkeley will improve the situation by reducing the use of the Point Isabel WWF.

Staff performed additional reviews of system-wide trends to assess climatological impacts by comparing the discharge volumes from the annually calibrated model against the same model reverted to the baseline groundwater conditions. These calculated discharges include discharges from the Main Wastewater Treatment Plant (MWWTP) in addition to discharges from the three WWFs. This information is provided in Table 2. The trends associated with these reductions are being monitored to assess the ability of the District to meet the upcoming check-in with regulators in September 2022.

**Table 2- Calibrated versus Baseline Groundwater Condition Impacts on System-wide Discharges**

<b>Year</b>	<b>System-wide Volume Discharged with FY Calibrated Groundwater</b>	<b>System-wide Volume Discharged with FY11 Groundwater Conditions</b>
FY15	85%	98%
FY16	91%	96%
FY17	94%	93%
FY18	91%	89%
FY19	90%	89%

FY19 provided the fifth data set regarding I&I reductions, providing further understanding of trends. First, groundwater levels have a significant impact on achieving Consent Decree compliance. During the five years of analysis, the collection system has seen one of the driest and one of the wettest rainy seasons on record, which led to significant variations in I&I reduction. Second, localized reductions vary and may have significant impacts on meeting compliance.

#### Regional Technical Support Program

The objective of the RTSP is to identify sources of inflow and rapid infiltration in the Satellite-owned and operated sewer systems through District-led field investigations. Identified I&I sources deemed high-priority are reported to the regulators, triggering repair or rehabilitation by the responsible party (i.e., Satellite or private property owner). The District is required to spend a minimum of \$2 million on these field investigations and associated activities for the duration of the Consent Decree.

Staff has identified a number of significant I&I sources within the regional collection systems using an array of investigative tools, such as flow monitoring, flow isolations, time-lapse camera inspections of manholes, smoke testing, and visual inspections, including closed-circuit television inspections and three-dimensional manhole inspections. Sources include cross-connections with stormwater systems, connections with abandoned pipes, as well as connections to area drains collecting stormwater. These sources convey stormwater and groundwater into the sanitary system. To date, over 315 sources have been identified, totaling over 15 million gallons



per day during peak flows.

#### Regional Private Sewer Lateral Program

The Regional PSL Program began in 2011 and includes all Satellites except Berkeley, which continues to implement its own standalone PSL program. As part of the Regional PSL Program, the District issues compliance certificates to property owners who demonstrate leak-free PSLs at designated triggers, such as property sale. Through mid-December 2019, the District has issued nearly 37,000 compliance certificates, representing approximately 28 percent of the laterals within the program area and 570 miles of leak-free PSLs. The number of PSLs certified via the Regional PSL Program continues to trail approximately 20 percent behind projections, which were based on a 30-year review of property transactions. As the point-of-sale requirement for compliance is the driver for most certifications, real estate market conditions will directly impact the program's ability to meet projections. While overall compliance rates are at over 90 percent for those properties meeting a trigger, the small portion of properties that are noncompliant have accumulated over time. Staff is accelerating efforts to increase compliance, including issuing violation follow-up fees to properties that remain noncompliant.

#### Consent Decree Capital Projects

The District is required to implement two capital improvement projects as part of the Consent Decree. The Urban Runoff Diversion Project, which consists of a small pump and force main to convey flows from a stormwater facility into the District's South Interceptor, was formally commissioned in October 2017 and, since that time, has conveyed over 300 million gallons of dry weather urban runoff to the District's MWWTP. By treating the runoff at the MWWTP, the District is removing pollutants from waters captured in the stormwater system which otherwise would have been discharged to San Francisco Bay without treatment.

The second capital project, the Pump Station Q Force Main/Gravity Interceptor Reverse Flow project, was completed in December 2019, in advance of seasonal rainfall and the September 2020 Consent Decree requirement. This project relieves a structural bottleneck on the North Interceptor at Virginia Street in Berkeley and provides additional conveyance capacity to deliver flows to the MWWTP, which will reduce the use of the Point Isabel WWF.

#### **NEXT STEPS**

The District will continue working to remove I&I and monitor output ratios in preparation for the 2022 check-in, and will begin preparation of Consent Decree requirements in the event that Point Isabel WWF will be noncompliant in 2022. Staff will continue identifying innovative technologies to more effectively and efficiently detect I&I, will continue implementation of the Consent Decree, and will keep the Board informed on progress.

ARC:EMW



## EAST BAY MUNICIPAL UTILITY DISTRICT

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DATE: January 9, 2020

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ANC*

FROM: Eileen M. White, Director of Wastewater *EMW*

SUBJECT: West County Wastewater District Recycled Water Supply Agreement

### SUMMARY

Staff has completed negotiations with the West County Wastewater District (WCWD) to finalize terms for a Recycled Water Supply Agreement (Agreement). This Agreement will ensure consistent and reliable effluent water quality from WCWD's Water Quality Resource Recovery Plant (Plant) for use at the District's North Richmond Water Recycling Plant (NRWRP) and the Richmond Advanced Recycled Expansion (RARE) Water Facility. Staff will provide an update on proposed terms for the new agreement to the Planning Committee on January 14, 2020.

### BACKGROUND

Secondary effluent from WCWD's Plant supplies two District recycled water facilities, the NRWRP and RARE. NRWRP has been providing recycled water for cooling towers at the Chevron Richmond refinery since 1995. RARE has been providing recycled water for Chevron's boilers since 2011.

Historically, effluent from WCWD's Plant sustained high ammonia and turbidity levels. At the NRWRP, this required the District to blend potable water with treated recycled water and use extra chemicals to meet Chevron's water quality criteria to protect their cooling towers from corrosion and scaling.

In 2018, the WCWD completed construction of significant upgrades at its Plant. These upgrades allow the WCWD to produce effluent that meets higher water quality standards than the standards currently required by its current National Pollutant Discharge Elimination System (NPDES) permit. These higher water quality standards will reduce the need for potable water blending and use of extra chemicals at the NRWRP.

### DISCUSSION

District and WCWD staff reached consensus on draft terms for an agreement in 2017. Final approval of the agreement was delayed due to management changes at WCWD. Negotiations started again on June 3, 2019, and a draft Agreement was completed in December 2019.



Per the draft terms of the Agreement, the District will pay WCWD the additional power and chemical costs incurred by WCWD to treat to a higher level water quality (as measured by ammonia concentration in the effluent) than the quality level required by WCWD's NPDES permit. If the WCWD NPDES permit contains more stringent water quality requirements in the future, these costs to the District will decrease. Payment will be on a monthly basis and will be made only if the ammonia concentration of the effluent delivered by WCWD meets specified requirements for that month. The ammonia concentration limits are reasonable for WCWD to consistently achieve, will improve reliability at the NRWRP, and will reduce the overall treatment costs at the NRWRP by reducing chemical consumption.

### **FISCAL IMPACT**

Prior to the WCWD Plant upgrades, the District paid WCWD between \$12,400 and \$15,900 per month for costs related to the operations of additional treatment processes. The monthly cost per the Agreement is \$17,000 per month. This will be adjusted annually based on changes in unit costs for chemicals and energy. Although the proposed monthly payment from the District to WCWD is higher than the amount previously paid, the savings in chemicals required at the NRWRP due to the improved water quality will result in a net decrease in overall operating costs at the NRWRP.

### **NEXT STEPS**

Staff from both agencies will present the Agreement to their respective Boards for consideration in early 2020.

ARC:EMW



## EAST BAY MUNICIPAL UTILITY DISTRICT

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DATE: January 9, 2020

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Eileen M. White, Director of Wastewater *EMW*

SUBJECT: Main Wastewater Treatment Plant Gas Flare Improvements Update

### INTRODUCTION

Maintaining sufficient gas flaring capacity is essential to regulatory compliance at the Main Wastewater Treatment Plant (MWWTP). The combination of peak digester gas production periods and/or equipment outages requires flaring (or burning) of excess digester gas because the MWWTP's Bay Area Air Quality Management District (BAAQMD) permit prohibits venting of digester gas directly into the atmosphere. In 2017, the District installed two new enclosed digester gas flares at the MWWTP to supplement the four candlestick flares already in service. The enclosed flares were intended to increase flaring capacity and maintain air permit compliance by ensuring digester gas is not vented. The new flares have not come online due to performance and air permit compliance issues. The District, working with consultants, recently completed programming and control improvements and optimized flare performance. The District also negotiated with BAAQMD to allow the new flares to be placed in service. Staff will provide an update on this project to the Planning Committee on January 14, 2020.

### DISCUSSION

Formal air source testing conducted in November 2017 determined that emissions from the enclosed flares could not remain at or below 0.06 lb. NO<sub>x</sub>/million British Thermal Units (MMBtu), the existing nitrous oxide (NO<sub>x</sub>) air permit limit. Since this initial test, the District has worked with flare consultants to improve emissions, combustion zone temperatures, and gas header pressure stability. The District has completed mechanical flare improvements, including the replacement of air damper actuators, thermocouples, burner nozzles, register plates, and shutdown valve positioners. In October 2019, the District finalized control improvements to address gas header pressure stability and flare control integration with the existing gas system.

Staff also took steps to ensure the flares would maintain compliance with BAAQMD regulations. The District received permission from BAAQMD to test the new flares again and negotiated a tentative set of air permit conditions with the agency that will allow the District to put the flares in service pending the results of a formal air source test. Re-testing was completed in November 2019 and the preliminary results indicate the flares will meet a tentative set of negotiated air permit conditions. The updated conditions will allow the flares to operate with a higher NO<sub>x</sub>



emission limit of 0.12 lb. NOx/MMBtu and at a lower operating combustion zone temperature. Approval of these conditions is contingent upon submittal of results from the formal source test performed on the flares in November 2019. In order to offset the higher NOx limit, BAAQMD requires the District to purchase and surrender 5.5 tons of NOx emission reduction credits, also known as offsets.

## **FISCAL IMPACT**

The District is required to purchase up to \$100,000 of NOx offsets to preserve its existing digester gas combustion limit. Offsets must be purchased through a broker from a limited group of sellers who hold BAAQMD-issued emission reduction credit certificates. This is a one-time purchase; offsets currently cost \$15,000-\$18,000 per ton for NOx plus broker and transaction fees. The estimated cost should not exceed \$100,000 based on current market prices.

## **NEXT STEPS**

Staff will submit the final source test results to BAAQMD and finalize the tentative air permit condition changes to allow the flares to operate. At its January 28, 2020 meeting the Board will be asked to consider granting staff authority to purchase the required NOx emission offsets.

ARC:EMW



## EAST BAY MUNICIPAL UTILITY DISTRICT

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DATE: January 9, 2020

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: David A. Briggs, Manager of Water Operations *DB*

SUBJECT: Facility Landscape Maintenance

### INTRODUCTION

On December 10, 2019 staff discussed a proposed multi-year landscape maintenance agreement to address seasonal peak workload with the Planning Committee. During the meeting, the Committee requested additional information to better understand staffing and cost implications, and unaddressed workload. This memorandum summarizes the requested information. This item will be presented at the January 14, 2020 Planning Committee meeting.

### DISCUSSION

The District's vegetation management workload is highly seasonal with a significant peak occurring between April and October. Much of this work involves fire fuel reduction, which is required by local fire codes. Existing peak workload is managed with a combination of District forces, and contracts with Civicorps and vegetation management services utilizing goats.

The District's landscaping workload has increased in recent years. To ensure future work can be completed, an additional position will be filled this winter to complement the proposed larger contracting out effort. These additional resources will ensure regulations are met and allow completion of other important vegetation management work such as pruning, weeding, and planting activities at various District administration buildings, service centers, and the Oakport facility.

In addition, a facility landscape maintenance agreement is being recommended. Using contract resources to supplement District staff for the seasonal peak workload is desirable because removal and management of vegetation is significant at this time but is not needed or not undertaken during non-peak months, and particularly during inclement weather. The agreement provides the equivalent of two to three full-time equivalent (FTE) workers over the needed seven months.

In response to the Committee's comment, staff compared the cost of the contract services to District forces for the approximately 1,720 hours of annual work in the proposed agreement.



Under the terms of the agreement, the cost of this work is approximately \$115,000. Prevailing wages will apply to this public works agreement. The total annual cost to the District, including salary, benefits, overhead, and equipment, for 1,720 hours of District labor (assuming work is performed with Grounds Maintenance Specialist II staff) would be approximately \$186,000.

District-wide, vegetation management and landscaping are performed at over 400 facilities. Contracted work will generally focus on the administration buildings and service centers. In general, reducing the burden of landscaping maintenance at these facilities during the peak fire season will allow existing staff to better address landscape maintenance, fire fuel abatement, and customer concerns across the District.

### **NEXT STEPS**

The facility landscape maintenance agreement will be presented to the Board for consideration at the January 14, 2020 meeting. The District is actively filling a newly funded Grounds Maintenance Specialist II position.

ARC:DAB:sd