



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

---

375 - 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

---

**Notice of Time and Location Change**

**PLANNING COMMITTEE MEETING**

**Tuesday, August 10, 2021**

**9:00 a.m.**

***\*\*Virtual\*\****

Notice is hereby given that the Tuesday, August 10, 2021 Planning Committee Meeting of the Board of Directors has been rescheduled from 9:15 a.m. to 9:00 a.m.

In accordance with the Governor's Executive Order N-08-21 which suspends portions of the Brown Act, **this meeting will be conducted by webinar and teleconference only.** A physical location will not be provided for this meeting.

Dated: August 5, 2021

A handwritten signature in blue ink that reads 'Rischa S. Cole'.

Rischa S. Cole

Secretary of the District

This page is intentionally left blank.



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

375 - 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

**AGENDA  
Planning Committee  
Tuesday, August 10, 2021  
9:00 a.m.  
\*\*Virtual\*\***

**Location**

In accordance with the Governor's Executive Order N-08-21 which suspends portions of the Brown Act, **this meeting will be conducted by webinar and teleconference only.** A physical location will not be provided for this meeting.

*Committee Members: Marguerite Young {Chair}, Lesa R. McIntosh and Frank Mellon*

**\*\*\* Please see appendix for public participation instructions\*\*\***

**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. Research and Innovation at EBMUD       | (Yoloye)    |
| 2. Groundwater Sustainability Plan Update | (Tognolini) |
| 3. Dam Safety Program Annual Report       | (Yoloye)    |
| 4. Dump Truck Services                    | (Ambrose)   |

**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 11<sup>th</sup> Street, Oakland, California, during normal business hours, and can be viewed on our website at [www.ebmud.com](http://www.ebmud.com).*



---

**Planning Committee Meeting  
Tuesday, August 10, 2021  
9:00 a.m.**

EBMUD public Board meetings will be conducted via Zoom.  
*Board committee meetings are recorded, and live-streamed on the District's website.*

*Please visit this page beforehand to familiarize yourself with Zoom.*  
<https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting>

Online

<https://ebmud.zoom.us/j/94576194030?pwd=dWZlc3hNU3JNUVBQYmNKWjJSNVZQdz09>

**Webinar ID:** 945 7619 4030

Passcode: 925293

By Phone

Telephone: 1 669 900 6833

**Webinar ID:** 945 7619 4030

Passcode: 925293

International numbers available: <https://ebmud.zoom.us/u/agkOoY9Nt>

**Providing public comment**

The EBMUD 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.

If you wish to provide public comment please:

- Use the raise hand feature in Zoom to indicate you wish to make a public comment  
<https://support.zoom.us/hc/en-us/articles/205566129-Raising-your-hand-in-a-webinar>
  - If you participate by phone, press \*9 to raise your hand
- When prompted by the Secretary, please state your name, affiliation if applicable, and topic
- The Secretary will call each speaker in the order received
- Comments on **non-agenda items** will be heard at the beginning of the meeting
- Comments on **agenda items** will be heard when the item is up for consideration
- Each speaker is allotted 3 minutes to speak; the Committee Chair has the discretion to amend this time based on the number of speakers
- The Secretary will keep track of time and inform each speaker when his/her allotted time has concluded

---

**To observe the Planning Committee Meeting,**  
please visit: <https://www.ebmud.com/about-us/board-directors/board-meetings/>


---


## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: August 5, 2021

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager 

FROM: Olujimi O. Yoloye, Director of Engineering and Construction 

SUBJECT: Research and Innovation at EBMUD

### SUMMARY

The District is a leader in the water and wastewater industry in large part due to its past and ongoing research and innovation efforts. The challenges this industry faces today in environmental systems, infrastructure management, community engagement, utility operations, and financial responsibility require continued investment in research and innovation to meet the goals and objectives in the District's Strategic Plan. This memorandum provides an overview of current research and innovation efforts at the District, an approach to create a structured research and innovation program, and a proposal to partner with the University of California at Berkeley (UC Berkeley) to develop a Center for Smart Infrastructure. This item was held over from the July 13, 2021 Planning Committee meeting due to time constraints and will be presented at the August 10, 2021 Planning Committee meeting.

### DISCUSSION

The District has embarked on many innovation efforts and led or participated in research activities over its entire history. Most recently, the District led an effort with the American Water Works Association's (AWWA) Innovation Initiative Utility Guidance Subcommittee to develop the publication "Guidance for Developing a Water Utility Innovation Program." The AWWA publication highlighted that "innovation is essential for utilities to meet increasingly stringent regulatory requirements, improve efficiency and effectiveness, reduce costs, meet increasing customer expectations and workforce needs, and attract future talent." Examples of areas where the District has innovated include the following:

- Pipeline Rebuild Program: In 2015, the District started the Pipeline Rebuild Program to innovate and research new ways to plan, design, and renew its water distribution pipelines. Since then, pipeline replacement has increased from 10 miles per year to over 25 miles in Fiscal Year 2021, while also reducing the unit cost for installation.
- Building Information Modeling (BIM): To further improve design efficiency and quality, the District is piloting BIM technologies to create 3D models of facilities, which can be used to create visualizations for better client department and community review.

- **Project Management:** The District is developing an Infrastructure Project Tracker, an online system that tracks project information and costs, to allow for efficient collaboration between various District workgroups.
- **Water Loss:** The District's water loss control program has guided the development of innovative products and methodologies, including satellite leak detection, hydrant-mounted leak detection and pressure monitoring devices, and a pressure management system that generates electricity from a pressure regulating facility.
- **Wastewater Renewable Energy Program:** Over the past fifteen years, the District has worked with various partners to test and assess different approaches to cost-effectively treat food waste to produce biogas and renewable energy. The Main Wastewater Treatment Plant (MWWTP) was one of the first wastewater treatment plants in the country to be a net-energy producer.
- **Wastewater Use of Surplus Biogas:** The District is evaluating emerging technologies, such as the production of bioplastics, energy storage, and hydrogen production. In 2021, the District supported a successful grant application for a hydrogen fueling station adjacent to the MWWTP.
- **COVID-19 Wastewater Epidemiology:** Since March 2020, the District has been supporting local, state, and national efforts to advance the use of wastewater as a tool to track COVID-19 rates in the community. The District's work was instrumental in helping leading researchers develop ground-breaking detection methods. Results have been used by local, state and national public health agencies to understand virus prevalence in the hundreds of thousands of individuals within the wastewater service area.
- **Climate Change:** The District has participated in studies regarding carbon sequestration via land application of biosolids, which may lead to marketing of carbon credits to potentially offset the District's greenhouse gas emissions.

In addition to internal research and innovation efforts, the District strategically participates with professional organizations, other agencies, and technology groups to have a greater impact on setting the direction of technology in the water industry and to pool funding resources. The District actively participates with AWWA, California Water Environmental Association, the Coalition of Leaders in Engineering, Asset management, and New capital delivery (CLEAN-17), and other organizations to advance research such as the Water Research Foundation.

### Strategic Research and Innovation

The District's research and innovation efforts have led to many improvements. However, the District could realize even greater benefits by taking a more strategic approach with a structured program and action plan that prioritizes needs and implements efforts in a methodical and coordinated fashion. Ultimately this will be formalized into an Office of Research and Innovation, with a team of District staff to collaborate, provide leadership and funding support, and assist with strategies for effective deployment. Successful programs also require partnerships and collaborations between utility owners, academia, private consultants, regulators, and information and technology experts. By bringing together parties with different expertise, an

innovation ecosystem can be created that not only finds the right innovations to pilot but yields valuable results and influences market creation. The District is proposing a collaboration with UC Berkeley and other water utilities to create a Center for Smart Infrastructure Center, which builds on the District's tradition of forging academic partnerships.

### Center for Smart Infrastructure

The Center will be an academic partnership to develop and test emerging technologies such as intelligent systems and networks, remote sensing and monitoring, and data analytics for decision-making. Integral to development of this facility will be relocating an existing split-basin large-scale fault rupture testing apparatus at Cornell University to the UC Berkeley Richmond Field Station. The testing facility will assist with developing intelligent water infrastructure system components and trial smart construction and maintenance methods using remote monitoring and robotics technologies. The Center will also have a computer simulation and data analytics facility to examine the resiliency of water networks in terms of aging, energy management, climate change and cascading failures using state-of-the art big data and artificial intelligence tools. Researchers in the Center will also investigate the potential contribution of smart roads (with intelligent underground utilities) as part of the smart city initiatives.

The first phase of the proposed Center will bring together the District and other utilities to create a holistic collaboration environment in the areas of: infrastructure maintenance, renewal, and replacement; water and wastewater systems operations; water supply and natural resources; emergency/community preparedness; and sustainability and resilience. The first phase will also include development of a sponsored undergraduate course on smart infrastructure. The Center will be part of a collaboration at UC Berkeley among members of the Civil and Environmental Engineering Department, Pacific Earthquake Engineering Research Center, Simcenter, Lawrence Berkeley National Laboratory, Berkeley Water Center, and Global Metropolitan studies.

Subsequent phases involve engagement with other infrastructure sectors (such as tunnels, roads, flood defense, and power).

The total estimated cost to complete the planning and creation of the Center is \$1.5 million. The District is working with other California water utilities to develop a larger partnership to assist with funding startup costs. The goal of the Center is to be financially self-sufficient by 2024.

### **NEXT STEPS**

The first step in establishing the partnership between the District and UC Berkeley is to formalize an agreement that outlines specific tasks and deliverables in creating the Center. UC Berkeley is in the process of assembling multiple pipeline testing apparatuses as part of building their large-scale pipeline testing facility. Key next steps also include scheduling and holding workshops with other California water utilities and UC Berkeley staff to discuss, align, and prioritize a business plan for future research and innovation, begin curriculum development for an undergraduate course on infrastructure operation and management in collaboration with

Research and Innovation at EBMUD  
Planning Committee  
August 5, 2021  
Page 4

District staff, and to develop community engagement opportunities that are consistent with the District's Diversity, Equity, and Inclusion Strategic Plan.

The District is also formalizing its research and innovation program for evaluating, deploying, and funding innovation efforts, and will update the Board on these efforts later in Fiscal Year 2022.

CCC:OOY:ezb

I:\SEC\2021 Board Related Items\Committees 2021\081021 Planning Ctte\ECD – Research and Innovation at EBMUD.docx



## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: August 5, 2021

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager *CCC*

FROM: Michael T. Tognolini, Director of Water and Natural Resources *MTT*

SUBJECT: Groundwater Sustainability Plan Update

### SUMMARY

As the Groundwater Sustainability Agencies (GSAs) for the East Bay Plain Subbasin (Subbasin), the District and City of Hayward (Hayward) must adopt and submit a Groundwater Sustainability Plan (GSP) to the Department of Water Resources (DWR) by January 31, 2022. The GSP will establish sustainable management criteria and actions to protect the Subbasin while ensuring local groundwater resources are available for current and future beneficial uses. An update on the GSP development will be presented at the August 10, 2021 Planning Committee meeting.

### DISCUSSION

In response to extreme drought and unprecedented historic low groundwater levels, Governor Jerry Brown signed three bills (AB 1739, SB 1168, and SB 1319) into law on September 16, 2014, that together are referred to as the Sustainable Groundwater Management Act (SGMA). SGMA consists of three phases: (1) GSA Formation; (2) GSP Development; and (3) GSP Implementation.

#### GSA Formation – Completed

In 2016, the District became the GSA for the portion of the Subbasin underlying the District's service area, while in 2017, Hayward became the GSA for the portion of the Subbasin underlying Hayward's service area. The District and Hayward are working together under a Cooperating Agreement approved in 2018 and authorized under Board Motion No. 077-18.

#### GSP Development – In Progress

SGMA requires that GSAs adopt and submit a GSP based on a schedule set by DWR's priority assignment (i.e., Critically Overdrafted basins first, followed by High and Medium Priority basins). DWR designated the Subbasin as Medium Priority; consequently, the District and Hayward must adopt and submit a GSP for the Subbasin to DWR by January 31, 2022. The District and Hayward have been developing a GSP under a contract with Luhdorff & Scalmanini Consulting Engineers (LSCE) authorized under Board Motion No. 019-19 which is being partially funded by a \$1 million Proposition 1 grant from DWR. The primary purpose of SGMA and the GSP is to prevent the following six negative effects (also known as sustainability indicators):

- Chronic Lowering Groundwater Levels
- Reduction in Groundwater Storage

- Seawater Intrusion
- Degradation of Water Quality
- Land Subsidence
- Depletion of Interconnected Surface Water

Each GSP must define the undesirable results that occur for each of the six sustainability indicators and the sustainable management criteria (SMC) that will be used to determine whether an undesirable result has occurred. The GSP must also identify the implementation actions necessary to monitor and meet the SMC and fill data gaps. The SMC developed for the Subbasin were based on the best available data and science; however, the SMC will change over time as significant data gaps are filled (e.g., insufficient historical groundwater levels). The GSP will also evaluate a future scenario relative to the SMC that accounts for climate change, land use changes, and future groundwater pumping.

The SMCs were developed with significant public input obtained through a series of stakeholder meetings open to the general public and with a Technical Advisory Committee (TAC) consisting of experts from Lawrence Berkeley National Laboratory, local groundwater users, cities, and non-governmental organizations. A total of four stakeholder and five TAC meetings were held between February 2018 and July 2021.

#### GSP Implementation – Future

The GSP will include ongoing management actions the District and Hayward will be responsible for implementing to monitor the Subbasin and ensure that SMC are met to avoid undesirable results. Key management actions include:

- Installing new groundwater monitoring wells and stream gauges as necessary
- Monitoring groundwater levels, groundwater quality, and local stream flow
- Conducting habitat surveys to confirm and monitor groundwater dependent ecosystems
- Completing annual reports and a publicly accessible data management system
- Updating the GSP every five years to account for new data and regulations
- Coordinating with local stakeholders, and as necessary, enforce SMC to protect the Subbasin

#### **FISCAL IMPACT**

The estimated cost for the District to implement its GSP over the next five years is \$2.5 million. The first two years (\$675,000) is funded in the FY22/23 adopted capital budget for the Supplemental and Regional Planning Project. Staff may recommend considering pumping fees in the future once key data gaps are filled and costs to implement the GSP are better defined by actual monitoring activities.

#### **NEXT STEPS**

The draft GSP is targeted for public release in September and is currently scheduled for consideration by the District's Board of Directors on December 14, 2021. Following adoption, the District will submit the GSP to DWR for approval and begin implementing management actions.


CCC:MTT:dec


## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: August 5, 2021

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager 

FROM: Olujimi O. Yoloye, Director of Engineering and Construction 

SUBJECT: Dam Safety Program Annual Report

### SUMMARY

This report is provided in accordance with Policy 9.07 – Dam Safety Program, whereby the District's Chief Dam Safety Engineer (CDSE) provides an annual update on dam safety issues, actions from the previous year related to dam safety, upcoming activities, and an assessment of the adequacy of the budget to cover the safety needs. These items will be presented at the August 10, 2021 Planning Committee meeting.

### DISCUSSION

The Dam Safety Program is overseen by the District's designated CDSE, Olujimi O. Yoloye, in collaboration with the District's Dam Safety Steering Committee. The program covers 26 dams. Regulatory oversight of 20 dams is provided by the California Department of Water Resources Division of Safety of Dams (DSOD). The Federal Energy Regulatory Commission (FERC) has joint jurisdiction over two dams, Pardee and Camanche, as they are power-generating facilities. Six District dams are not regulated by DSOD or FERC based on their relatively small size. Based on this past year's dam-safety related activities and inspections, the District's dams are considered safe for continued operation.

### NEXT STEPS

Progress will continue on all dam-safety related capital improvements, as detailed in the attached report, and the Dam Safety Steering Committee will continue to meet quarterly. In addition, an audit of the FERC Owner's Dam Safety Program will take place in September 2021. Dam inspections will continue monthly, annual inspections will be conducted with DSOD and FERC, and Emergency Action Planning and Response drills and activities will be scheduled. Updates will be reported in the next annual report in accordance with the Dam Safety Program Guide.

CCC:OOY:EZB

Attachment

## **DAM SAFETY PROGRAM ANNUAL REPORT**

The Chief Dam Safety Engineer (CDSE) concludes the District's dams are considered safe for continued operation based on the CDSE's knowledge and review of dam-safety-related reports and activities and regular inspections of all facilities and specific engineering studies that were completed throughout the year. Notable accomplishments this year include continued design of the seismic upgrades to Briones and Lafayette Towers, with Briones Tower construction scheduled for 2022 and Lafayette Tower construction scheduled for 2023. Spillway evaluations are a continuing point of focus, with completion of the first phase of assessments, responding to the California Department of Water Resources Division of Safety of Dams (DSOD) and the Federal Energy Regulatory Commission (FERC) comments, and preparing for additional field investigations and engineering evaluations in coming years. The District completed the technical modules of the Dam Safety Training Program and completed the inundation maps for all reservoirs. Despite COVID-19 restrictions, the District continued to conduct emergency preparedness drills and seminars virtually with staff and outside stakeholders.

### **EMERGENCY RESPONSE AND PREPAREDNESS**

District Policy 7.03 requires an active Emergency Preparedness Program that includes an Emergency Operations Plan (EOP) to manage the District's critical functions during an emergency and protect people, property, and the environment. The EOP guides the District's response in the event of an emergency. Dam-specific Emergency Action Plans (EAPs) are part of the EOP and contain more detailed instructions for staff response.

These EAPs are overseen by the California Governor's Office of Emergency Services and DSOD. FERC also oversees the EAPs for Pardee and Camanche. The District regularly updates these plans and conducts emergency preparedness drills. The following emergency response and preparedness activities took place last year.

- District staff responded to the July 8, 2021 6.0 magnitude Smith Valley earthquake. Because of the distance of the Smith Valley earthquake from District facilities, no formal inspections were required. As a precaution, inspections of the relief well areas at Camanche were performed since shaking was felt in the area. No damage was observed.
- The District conducted its Annual Notification Drill for the FERC EAP on October 21, 2020 at Pardee Center and virtually. Participants included all internal and external EAP holders.
- The District conducted its Annual Seminar for the FERC EAP as a virtual webinar jointly with Jackson Valley Irrigation District, Calaveras Public Utility District, and Pacific Gas and Electric Company on December 2, 2020. Over 80 attendees participated, representing county and state emergency service agencies, local and regional law enforcement, local fire departments, National Weather Service (NWS), US Army Corps of Engineers, California Department of Water Resources, and the four hosting agencies. Presentations on the project facilities, EAP highlights, and general topics on dam infrastructure, EAP importance, NWS winter forecast and warning alert system were given.
- In March 2021, the District completed a five-year reprint of the EAP as required by FERC and mailed the reprint to all participants. Staff also revised the FERC EAP to make it consistent with the District's EAP.

## **DAM SAFETY STUDIES AND IMPROVEMENTS**

The following are key highlights from the District's current and upcoming dam safety capital projects and studies.

*Briones Tower Modifications* – DSOD approved the design concept for the \$10 million tower seismic strengthening retrofit and provided review comments in July 2021. The modifications will prevent damage to the tower in an earthquake and will outfit the valves with an onshore operating system to improve response time in an emergency. The 90 percent design review is underway and a separate request for proposals was issued to pre-purchase eight hydraulic power units to be used for the retrofit of the tower valves. Design is scheduled to be completed in calendar year 2021 with construction anticipated to begin in 2022.

*Lafayette Tower Modifications* – The District continued to perform detailed design evaluations of the Lafayette Reservoir Tower and conduit. Structural modifications of the tower are needed in addition to repairs to gate valves and controls. Analyses indicate that additional strengthening of the conduit lines may be needed to ensure the reservoir can be safely drained in an emergency. The District submitted an evaluation of additional potential failure modes to DSOD in April 2021 in response to comments on the preliminary design report. Upon DSOD approval, the District will complete California Environmental Quality Act (CEQA) documentation, permitting, and public outreach for the project, followed by design. Construction is anticipated to begin in 2023.

*USL Tower Modifications* – The construction portion of the project was completed in June 2019. Monitoring of the revegetation of the reservoir bank disturbed during the construction and annual reporting on the revegetation will continue through 2023 under the requirements of the permits. The 2021 revegetation monitoring report was submitted to the California Department of Fish and Wildlife and the San Francisco Regional Water Quality Control Board in July 2021.

*Chabot Dam Seismic Upgrades* – The project to stabilize the dam and retrofit the outlet works was completed in October 2017. The post-performance monitoring and reporting requirements for the \$5 million Proposition 1E Stormwater Flood Management Grant have been satisfied for the project, and the terms of the grant are complete.

*San Pablo Dam Seismic Upgrades* – The District submitted the Final Ten-Year Mitigation Monitoring Report for the Scow Canyon and Pavon Creeks wetlands mitigation for the San Pablo Dam Seismic Improvement Project to regulatory agencies in January 2021. The final site walk with the regulatory agencies is planned for September 2021, and the site will transition into the Long-Term Management Plan.

*Dam Spillway Condition Assessments* – DSOD commented on the Camanche Dam Spillway assessment in October 2020 and the District responded by the due date of July 31, 2021. In support of the response, the District performed a spillway slab joint inspection in February 2021, and completed the CEQA Notice of Exemption and environmental permit applications in the spring for underdrain cleaning and concrete coring work to occur in Summer 2021. DSOD also

commented on the Chabot and Upper San Leandro Spillway assessments in April 2021, and the District is preparing a response by the due date of August 31, 2021.

*Dam Breach Inundation Mapping Project* – The District completed dam breach inundation maps for all reservoirs. DSOD approved and posted the maps for the jurisdictional terminal and open-cut reservoirs to their public website in September 2020, and for Pardee and Camanche Reservoirs in May 2021. The District issued a press release regarding the Pardee and Camanche inundation maps on May 5, 2021. The maps for the in-service non-jurisdictional open cut reservoirs were finalized in June 2021.

*Camanche Relief Well Cleaning* – The District cleaned and performed video inspection of the interior of nine relief wells at the downstream toe of Camanche Main Dam in June 2021. These wells were installed after the construction of the dam to relieve hydraulic uplift pressures in the underlying bedrock. The cleaning process involved mechanical removal of organics and sediments. After cleaning, the flow initially increased slightly, but soon returned to normal within a few weeks. This indicates that the wells were performing satisfactorily prior to cleaning and functioning as designed.

*Dam Safety Training Program* – The District completed the technical modules of the dam safety training program for all staff. Training on emergency communication, the EOP, and the EAP is under development. Live training updates are planned for every two years, with webinar-style training available for new employees who are hired between updates.

*Dam Safety Program Guide* – The District revised the Dam Safety Program Guide in November 2020 to incorporate FERC review comments. Revisions included an updated organization chart, minor text changes, and clarifications to current dam safety practices, policies, and procedures.

## **DAM INSPECTIONS, SURVEILLANCE, AND REPORTING**

Staff performs monthly dam inspections, including the appurtenances and surveillance instrumentation. Geotechnical engineers review the inspections and issue maintenance work orders or develop capital projects as necessary, and evaluate the instrumentation data to ensure there are no concerns about dam performance. In addition, the District conducts annual inspections and submits annual reports to DSOD and FERC.

The dates for the DSOD inspections, valve exercises, and report for the last year are shown in Table 1, and the dates for the FERC inspections and report are shown in Table 2. FERC did not perform inspections this year due to COVID-19 concerns and requested the District perform a self-inspection, which the District performed concurrently with the DSOD inspection. Except for routine maintenance such as vegetation clearing and concrete patching, no major problems were identified. Following the inspection, and at the request of DSOD, the District submitted a plan to remove, replace, or repair redundant or malfunctioning instrumentation at Pardee and Camanche.

## **AGENCY MEETINGS**

The District participated in a bi-annual Owner's Dam Safety meeting with DSOD in September 2020, which included the DSOD's Chief and the District's CDSE. The purpose was to review the status of the District's dam safety program, including the inspection summary, spillway program, inundation mapping, seismic upgrades to Lafayette and Briones Towers, and the five-year capital project outlook. DSOD provided information about their organizational changes, regulatory outlook, and fees. DSOD indicated that they are satisfied with the District's dam safety surveillance and capital program activities.

The District participated in an annual coordination meeting with FERC staff in October 2020, which included FERC's San Francisco Regional Engineer and the District's CDSE. During this informal meeting, the District and FERC discussed current and future issues, including the status of proposed FERC Part 12 regulation revisions.

## **UPCOMING ACTIVITIES**

In addition to the work at Briones and Lafayette Towers, the upcoming activities for the next year will be largely focused on spillway evaluations. Projects include the evaluation of the post-tensioned anchors at Pardee spillway and the seismic evaluations of the Camanche spillway walls and bridge. The District will also perform an aerial drone survey of the unlined Pardee spillway as part of an on-going erosion study. The concrete-lined spillways at the terminal reservoirs and Camanche will undergo a second phase of detailed field reconnaissance, investigations, and engineering evaluations to build upon the findings from the first phase of work. This work will include cleaning of the stilling basins at San Pablo, Chabot, and Briones and inspection of the underdrains.

As part of its innovation efforts, the District established partnerships to test dam assessment technologies that are in the research and development phase with universities, and that have been used successfully by other dam owners. The District will work with Engineering Innovation, LLC, in partnership with Harvey Mudd College, to evaluate the performance of the Pardee Dam South spillway post-tensioned anchors using a performance-based test that has been successfully used at the US Army Corps of Engineers Bluestone Dam in West Virginia. The District will also work with Niricson Software Inc., in partnership with Gonzaga University, in a pilot program to assess spillway defects at USL and Camanche spillways using acoustic, thermal, and optical data in a method that was successfully used at BC Hydro's Alouette and Mica Dam spillways in British Columbia. If the Niricson Software pilot program is successful, it would be used for the remaining terminal dam spillway evaluations.

In compliance with FERC license requirements for Pardee and Camanche reservoirs, the District retained GEI Consultants Inc. to perform an independent audit of the District's Dam Safety Program, which is required every five years. The purpose of the audit is to evaluate the District's Dam Safety Program through inspections, staff interviews, and document reviews, and to document the findings in an audit report.

## FISCAL IMPACT

Funds from ongoing capital and operating budgets have sufficiently supported the efforts of the Dam Safety Program to date. The Dam Safety Program Steering Committee reviews the budget as part of its ongoing work and will recommend adjustments as needed.

**Table 1: FY21 DSOD Dam Inspections, Reports, and Valve Exercises**

<b>Dam Name</b>	<b>DSOD Inspection Date</b>	<b>DSOD Report Date<sup>(a)</sup></b>	<b>DSOD Valve Exercise<sup>(b)</sup></b>
Almond	3/16/2021	8/31/2020	3/16/2021
Argyle #2	3/8/2021	8/31/2020	3/8/2021
Briones	12/9/2020	8/31/2020	
Camanche	11/12/2020	6/10/2020	
Central	3/11/2021	8/31/2020	3/11/2021
Chabot	12/8/2020	8/31/2020	
Danville	3/11/2021	8/31/2020	3/11/2021
Dunsmuir	3/16/2021	8/31/2020	3/16/2021
Lafayette	12/10/2020	8/31/2020	
Leland	3/17/2021	8/31/2020	3/17/2021
Maloney	3/10/2021	8/31/2020	3/10/2021
Moraga	3/17/2021	8/31/2020	3/17/2021
North	3/10/2021	8/31/2020	3/10/2021
Pardee	11/12/2020	6/10/2020	
Piedmont	6/16/2021	8/31/2020	(c)
San Pablo CW	(d)	8/31/2020	(d)
San Pablo	12/9/2020	8/31/2020	
Seneca	6/16/2021	8/31/2020	(d)
Sobrante CW	3/8/2021	8/31/2020	3/8/2021
USL	12/8/2020	8/31/2020	

**Notes:**

- a) The annual DSOD reports for local and upcountry dams are planned for August 2021.
- b) Valves are required to be exercised every three years. The valve exercise program is up to date.
- c) Reservoir is out of service and is empty. Inlet pipe valve is currently lock-closed, and outlet pipe valve is currently lock-opened.
- d) Reservoir replacement or demolition project is underway. When construction is complete, the District will submit documentation to DSOD to remove the facility from jurisdiction.

**Table 2: FY21 FERC Dam Inspections and Reports**

<b>Dam Name</b>	<b>Inspection Date</b>	<b>Report Date</b>
Camanche and Pardee	11/12/2020	3/30/2021



## EAST BAY MUNICIPAL UTILITY DISTRICT

---

DATE: August 5, 2021

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager *CCC*

FROM: Michael R. Ambrose, Manager of Maintenance and Construction *M.A.*

SUBJECT: Dump Truck Services

### SUMMARY

The District uses dump trucks to remove trench soils and asphalt for recycling and to bring backfill material and hot asphalt to job site locations. This service is necessary for the repair, installation, and replacement of water distribution pipelines and appurtenances. Agreements with vendors for dump truck services are required to meet workload peaks. In 2020 and 2021, there were additional resource needs due to COVID-19 related impacts to District staffing and recruitment. This topic will be presented at the August 10, 2021 Planning Committee meeting.

### DISCUSSION

The District's efforts to install, repair, and replace water distribution infrastructure in the public right-of-way requires excavation and proper backfill and paving. The District employs Truck Driver IIs, Heavy Equipment Operators, Heavy Transport Operators, and Water Distribution Plumber IVs to operate dump trucks.

There are many factors that drive the amount of dump truck resources needed including the type and size of pipe, the specific construction activity (e.g., pipe installation versus service transfers), backlog of applicant installations, haul route/length, planned/unplanned staff leave, and vacancies. The Fully-Maintained and Operated (FM&O) dump truck services are used to supplement District staff, primarily for pipeline replacements and applicant work.

In Fiscal Year (FY) 2021, FM&O dump truck spending increased compared to FY20 due to increased workload and extended vacancies during the pandemic. Social distancing requirements delayed recruitment for a few months and quarantine requirements limited District resources. Over the next year, annual spending will decrease and return to near FY20 levels as many vacant positions have now been filled, including two new Heavy Transport Operator positions added in FY22.

Dump Truck Services  
Planning Committee  
August 5, 2021  
Page 2

## **NEXT STEPS**

At its August 24, 2021 meeting, the Board will be asked to consider amending agreements for FM&O dump truck services to increase the amount by \$3,700,000 to a total amount not to exceed \$10,550,000 and extend the agreement terms for one additional year.

CCC:MRA:sd

I:\Sec\2021 Board Related Items\Committees 2021\081021 Planning Ctte\OMD\Dump Truck Services.docx