



**DATE:** October 30, 2019

**TO:** Council Sustainability Committee

**FROM:** Director of Public Works

**SUBJECT:** Bay Area Water Supply & Conservation Agency (BAWSCA) Pilot Water Transfer

### **RECOMMENDATION**

That the Committee reviews and comments on this report.

### **SUMMARY**

The Bay Area Water Supply & Conservation Agency (BAWSCA) has proposed a one-time pilot water transfer under which BAWSCA would purchase up to 1,000 acre-feet of water from the Amador Water Agency (AWA) for delivery and use within the BAWSCA service area. Under the proposed project, the transfer water would be conveyed through the East Bay Municipal Utility District (EBMUD) water system and delivered to the City of Hayward, a BAWSCA member agency, through the Hayward Intertie, which connects the EBMUD water system to the San Francisco Public Utilities Commission (SFPUC) Regional Water System through Hayward. During the pilot water transfer, Hayward would switch its water supply and receive water from EBMUD, instead of SFPUC, which requires Hayward to modify water system operations and pump water in the reverse direction for delivery to customers. Transfer water that is not used by Hayward would be pumped into the SFPUC Regional Water System.

The pilot water transfer was scheduled to occur during a planned critical maintenance shutdown of the SFPUC Hetch Hetchy system in January 2020, which is consistent with the allowable uses of the Hayward Intertie during emergencies or planned critical work on EBMUD, SFPUC, or Hayward facilities. Over the last year, staff has been working closely with BAWSCA and other parties to prepare agreements under which the proposed water transfer could be implemented. However, staff was recently informed that EBMUD needs additional time to address unresolved water rights issues associated with the transfer water, and therefore the pilot transfer will need to be postponed. Staff has prepared this report to update the Committee on the status of the proposed pilot water transfer effort and the key terms and provisions of agreements for implementing a future pilot water transfer with BAWSCA.

### **BACKGROUND**

The purpose of the pilot water transfer is to (1) identify technical, financial and institutional issues associated with a potential water transfer and (2) test the ability to

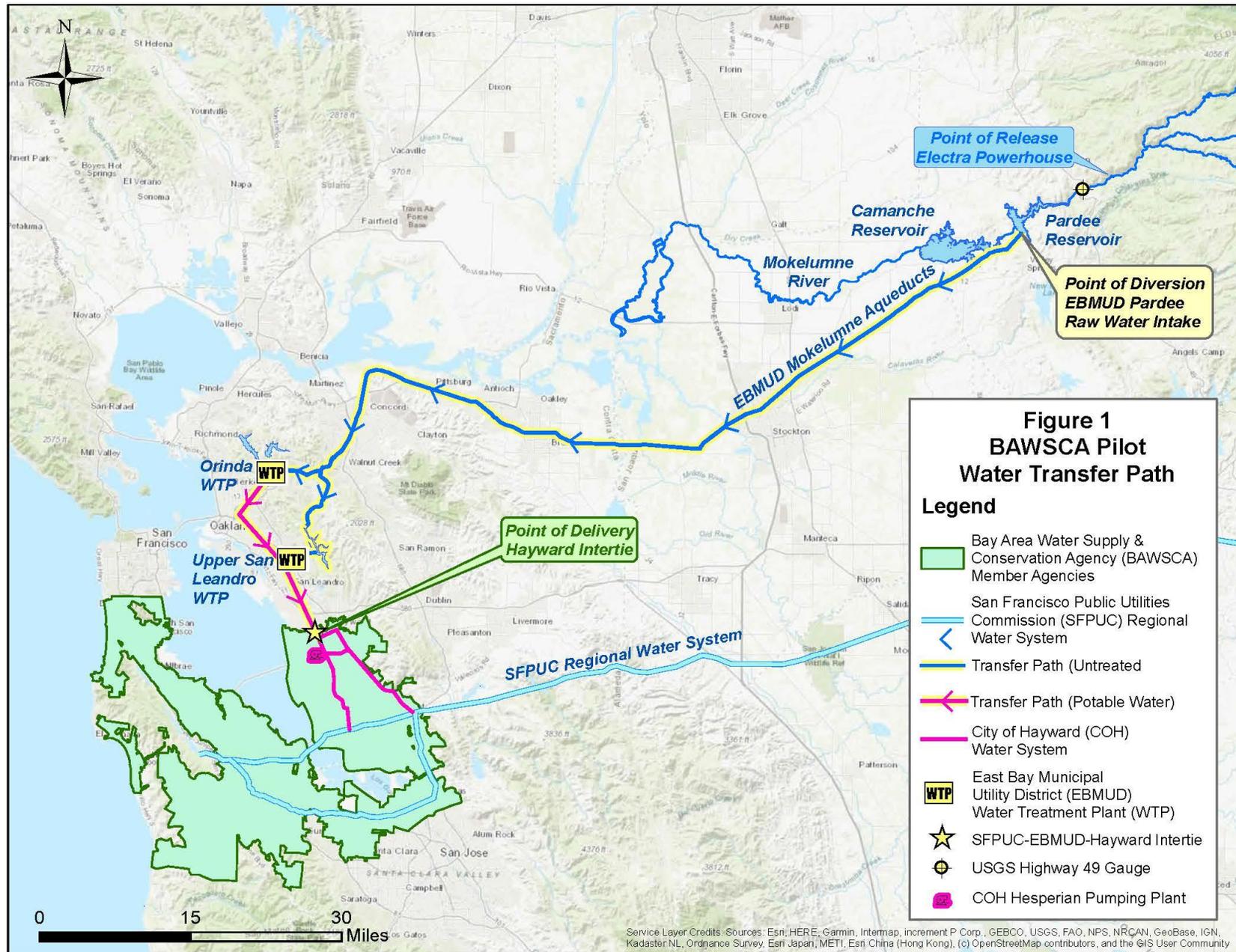
implement a water transfer by securing approvals needed to deliver transfer water for a limited duration during emergencies and planned critical maintenance work. Hayward has been working cooperatively with BAWSCA, EBMUD, and SFPUC on this effort.

BAWSCA initially planned to purchase Sacramento Valley water that could be delivered to BAWSCA's service by EBMUD using the Freeport Regional Water Project facilities, which include an intake located on the Sacramento River, pumping plants, pipelines, and the federally owned Folsom South Canal. As EBMUD is not planning to activate Freeport in the foreseeable future, BAWSCA negotiated with the Amador Water Agency (AWA) to obtain a limited supply of Mokelumne River water in order to implement the pilot water transfer. The Mokelumne River is EBMUD's primary water supply source and a transfer of Mokelumne River water would not require use of the Freeport Regional Water Project.

The transfer water would be conveyed through the EBMUD water system and the Hayward Intertie for delivery and use by the City of Hayward, a BAWSCA member agency, in lieu of supplies from SFPUC. The Hayward Intertie is a collection of facilities that are jointly owned by EBMUD and SFPUC and located in and operated by the City of Hayward. The Hayward Intertie is currently permitted for use during emergencies and planned critical maintenance work only. It was last operated in 2009-2010 when the parties performed a full test of the Hayward Intertie shortly after the project was constructed. For the proposed pilot water transfer, the parties would agree to allow BAWSCA a one-time use of the Hayward Intertie. Figure 1 shows the path of the pilot water transfer and facilities involved. As shown on the figure, operation of the Hayward Intertie to deliver transfer water outside of the City requires using City-owned assets and infrastructure.

Under normal conditions, Hayward receives water from the SFPUC Regional Water System (RWS) at two turnouts in the southern part of the City, and the water is delivered largely by gravity to customers. The terms of Hayward's 1962 Water Sales Contract with SFPUC expressly state that Hayward shall not receive water from any other water supplier or delivery points, other than the two turnouts off of SFPUC's RWS. The City's water system is designed and operated to take full advantage of receiving water from SFPUC's RWS, with approximately 85 percent of the City receiving water via gravity from the RWS, and only minimal pumping required to distribute water to higher elevations.

Further, Hayward customers, including sensitive water users, are used to and depend on a water supply that is of high quality in terms of taste, odor and mineral content. During the pilot, with SFPUC's agreement, the City's water system would be reoperated to receive water through the Hayward Intertie in the northern part of the City, relying entirely on a single pump station to deliver water to the City. Based on hydraulic computer modeling conducted by the City, the change in operations would affect water pressures throughout the City's service area and require continuous monitoring of operations by Hayward staff throughout the pilot water transfer. The diverted SFPUC water supplies that would normally be delivered to Hayward would be conveyed to other BAWSCA customers.



Staff briefed Council on the proposed pilot water transfer on September 17, 2013. Council expressed support for using the Hayward Intertie for its intended purposes. Given the potential alternative of having no water supply during an emergency or planned critical maintenance work, which could disrupt the normal supply of water to the City, Council was accepting of the potential risks of receiving delivery of water from EBMUD through the Hayward Intertie. Council directed staff to proceed with discussions with BAWSCA and other agencies regarding the pilot water transfer.

In April 2017, the City and BAWSCA entered into a cooperative agreement as the framework for cooperating and negotiating agreements to implement the pilot water transfer. The CSC was updated on this project on January 8, 2018. The Committee generally expressed support for implementing the pilot water transfer, if it could be developed within the context of the existing Intertie agreements. The Committee was not supportive of any efforts to expand the allowable uses of the Hayward Intertie. Concerns were also expressed regarding potential water quality and operational impacts to Hayward customers and staff was directed to ensure that these concerns are addressed, and that Hayward is adequately compensated for its role. Hayward is the sole BAWSCA agency that would be required to modify operations to implement the pilot water transfer.

During negotiations, Hayward staff prioritized the following principles:

- Water delivered to Hayward must meet all federal and state standards for drinking water
- Hayward customers would bear none of the costs for the operation of the Hayward Intertie
- Hayward would retain complete operational control, including the ability to discontinue the pilot transfer to protect the health and safety of customers and the water distribution system
- The pilot water transfer would be a one-time occurrence and would in no way commit Hayward to future water transfers
- Hayward's participation in the pilot water transfer shall in no way affect Hayward's rights under its 1962 Water Sales Contract with SFPUC

## **DISCUSSION**

### Key Aspects of the Proposed Transfer

Under the currently proposed plan, the pilot water transfer would convey about 1,000 acre-feet of water from AWA to EBMUD, of which 800 acre-feet, or 260 million gallons, would be delivered to Hayward. EBMUD would assess a twenty percent system loss through its raw water and treated water systems. The duration of the transfer would be about 20 days with an average of 15 million gallons per day (MGD) delivered to Hayward. The City's water demands are typically low at this time of year, and the 15 MGD was anticipated to be sufficient to meet Hayward's water supply needs. While the majority of transfer water would be used in Hayward, a small amount of surplus water would be pumped into the SFPUC RWS.

The pilot was scheduled for mid-to late January 2020 to coincide with SFPUC's temporary use of local water sources while the Hetch Hetchy conveyance system is shutdown for critical maintenance. For the past several years, SFPUC has asked EBMUD and SFPUC to ready the Hayward Intertie during planned outages of the Hetch Hetchy system. During this period, SFPUC relies entirely on local water supplies and local treatment plants to meet customer demands. The Hayward Intertie would only be activated if SFPUC experiences an event which affects its ability to meet customer demands from its local supplies.

### Reoperation of the Hayward Water System

The Hayward Water System normally receives water at the south end of Hayward. All of the base zone tanks, which serve the majority of customers, are filled by gravity, and the system has been engineered to ensure adequate water pressure based on gravity-fed distribution. As noted above, implementation of the pilot water transfer would require operation of the Hayward Water System such that water is delivered at the Hayward Intertie, near the Hayward Executive Airport, with reliance on mechanical pump stations to convey water to all customers, including a state university campus and a community college with a combined student body of over 25,000.

Risks to Hayward in implementing such a pilot would include changes to water pressure that could result in excessive water leaks and water loss, pipe breaks or lower water pressure at certain locations. Staff would continually monitor water flow and water pressures, and take appropriate actions where possible, to minimize the potential for damage. To mitigate some of this risk, BAWSCA would be required to purchase a limited term insurance policy to cover potential damage up to \$10 million.

During the pilot water transfer, the City would receive a blend of EBMUD's local and Mokelumne water sources EBMUD. The transfer water would meet all federal and state drinking water quality standards, but customers may detect a difference in the characteristics of the water. EBMUD would provide regular water quality updates and Hayward staff would perform separate water quality sampling, if needed. Staff maintains a list of sensitive customers and notifies them of any changes in water quality. The City also can alert the general population through the City's website and other outlets, if necessary.

Prior to the pilot water transfer, staff would take steps to prepare the water system. Key activities include flushing the water transmission lines to clear out debris and adjusting the Supervisory Control and Data Acquisition (SCADA) system, used to monitor and adjust water distribution throughout the system. Sufficient staff and resources would be assigned before and during the pilot transfer to minimize the potential for system damage and water quality issues.

### Cost Reimbursement

BAWSCA would reimburse the City a lump sum of \$60,000 for the costs of preparing the system, including bi-directional flushing and SCADA programming, and for shutting down the Hayward Intertie at the conclusion of the transfer. The City would also be reimbursed

\$160 per acre-foot of water delivered towards the City's cost of operating the Hayward Intertie, energy and water quality monitoring. For this one-time transfer, the City would not charge BAWSCA for the use of the City's water transmission mains and the Hesperian Pump Station, required to pump transfer water into the SFPUC RWS.

BAWSCA has estimated the total costs for implementing the pilot water transfer at approximately \$1.2 million. In addition to the operating costs, water needs to be purchased from AWA and EBMUD compensated for the cost of wheeling the water through its system. BAWSCA has proposed funding the pilot water transfer from the SFPUC Balancing Account, the primary purpose of which is to help smooth out wholesale water rate adjustments. This is the fund that is made up of excess revenues paid by all wholesale customers, including Hayward, to SFPUC. This particular use of the Balancing Account would not have an appreciable impact on wholesale water rates, or therefore the City's water rates. However, it is important to note that Hayward would be paying a portion of the implementation costs through the use of the Balancing Account. Also, given the short duration of the pilot, it was agreed that Hayward would pay the same wholesale water rate for transfer water as other BAWSCA agencies pay for SFPUC water, while receiving a different water supply, and through a system other than SFPUC's RWS.

### Pilot Water Transfer Agreements

A substantial amount of City staff time has been devoted to developing the necessary agreements among the various parties to implement the pilot water transfer. A total of seven draft agreements have been prepared, of which Hayward would be a party to three. The following are descriptions and key provisions of these three agreements:

1. **BAWSCA-Hayward Transfer Agreement.** This agreement specified the terms and conditions for Hayward's role in implementing the one-time pilot water transfer, including cost reimbursement. Key provisions include:
  - Agreement between the parties that the pilot water transfer is a one-time exploratory project and in no way obligates the City to future water transfers
  - Ability for the City to suspend or cancel the pilot water transfer for any reason
  - Cost reimbursement of \$60,000 for start-up and shutdown activities, and \$160 per acre foot of water delivered
  - Requirement for BAWSCA to purchase insurance to cover potential damage to the Hayward Water System up to \$10 million for the duration of the pilot transfer and for two weeks following the City's switch back to SFPUC supplies
  
2. **Hayward Intertie Side Agreement.** This three-party agreement between Hayward, EBMUD and SFPUC defined the terms for BAWSCA's one-time use of the Hayward Intertie. Key provisions include:
  - Confirmation that EBMUD, SPUC, and Hayward's use of the Intertie to supply water for emergencies will take precedence over the transfer

- Ability for any of the three parties to suspend or cancel the transfer
- Water transferred to Hayward to meet all standards for drinking water without further treatment of any kind, including residual disinfection and fluoride throughout the Hayward service area

3. **Hayward-SFPUC Pilot Water Transfer Agreement.** This letter agreement stipulated that per the terms of Hayward’s 1962 Water Sales Contract with SFPUC, the SFPUC would allow Hayward to receive delivery of water from EBMUD for a one-time transfer and that Hayward’s participation in the pilot water transfer in no way would affect Hayward’s Water Sales Contract with SFPUC.

Four other separate agreements among other participating agencies were developed, namely:

- BAWSCA-AWA Water Purchase Agreement for the purchase of water
- BAWSCA-EBMUD Wheeling Agreement for the wheeling of water through EBMUD’s facilities to the Hayward Intertie
- BAWSCA-SFPUC Agreement for the conveyance of transfer water through the San Francisco Regional System
- AWA-EBMUD Agreement related to Mokelumne water rights matters

Schedule

At this time, staff does not anticipate that the pilot water transfer will be implemented in January 2020 due to unresolved issues EBMUD has brought to staff’s attention regarding the transfer water source. While the pilot transfer will not be implemented this January, this effort provided an opportunity for Hayward staff to educate BAWSCA and other parties on Hayward’s water system operations and the constraints and risks of using the Hayward Intertie to deliver water to Hayward’s customers

**STRATEGIC INITIATIVES**

This agenda item does not directly relate to one of Council’s Strategic Initiatives.

**ECONOMIC IMPACT**

There would be no impact on Hayward ratepayers related to Hayward’s work to prepare the water system or operate the Hayward Intertie during the pilot water transfer.

**FISCAL IMPACT**

BAWSCA’s estimated cost to implement the pilot water transfer, including reimbursement to Hayward and costs to purchase and wheel transfer water, is estimated at \$1.2 million. BAWSCA proposes to fund the pilot water transfer via a transfer from the SFPUC Balancing Account, that allows for funds to be used for water supply projects administered by BAWSCA. Additional Hayward’s costs related to the pilot water transfer have been limited

to staff and legal time needed to develop plans and agreements. All operational costs directly related to Hayward's efforts to implement the water transfer would be reimbursed by BAWSCA from the funds to which the City has already contributed, with no impact on the Water Enterprise Fund. There would be no impact on Hayward's General Fund.

### **SUSTAINABILITY FEATURES**

Implementation of the pilot water transfer project may provide information regarding the use of the Intertie during emergency events and outages due to planned critical maintenance.

### **PUBLIC CONTACT**

The transfer water would meet all federal and state drinking water quality standards, but customers may have detected a difference in the characteristics of the water. Throughout the pilot water transfer, staff planned to directly notify select sensitive customers, of which staff maintains a list, to alert them of any changes in water quality and also to communicate information to the general population through the City's website and other outlets, if necessary.

### **NEXT STEPS**

Implementation of the pilot water transfer will not occur in January 2020. However, SFPUC has requested that EBMUD and City staff still proceed with readying the Hayward Intertie for the upcoming SFPUC Hetch Hetchy shutdown in January 2020. SFPUC would only deliver water to Hayward through the Intertie during this shutdown in the unlikely event that SFPUC cannot meet customer demands solely from its local water supplies.

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Approved by:



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