



EXECUTIVE DECISION DOCUMENT

GENERAL MANAGER APPROVAL: <i>Robert M. Powner</i> 16 May 2019		GENERAL MANAGER ACTION REQ'D: Approve and forward to Board		
DATE: 3/1/2019		BOARD INITIATED ITEM: No		
Originator/Prepared by: Cameron Bauer Dept: Hayward Maintenance Complex	General Counsel <i>[Signature]</i> 5/16/19 []	Controller/Treasurer <i>[Signature]</i> 5/16/19 []	District Secretary []	BARC <i>[Signature]</i> 5/16/2019 []
Signature/Date: <i>[Signature]</i> 5-16-19				

Authority to Submit Grant Application for HMC Rainwater Catchment System, Bio-Retention Basins, and Solar Wastewater Treatment Project

PURPOSE:

To authorize the General Manager or designee, to prepare and submit a grant application to the California Department of Water Resources for Proposition 1 funding for the Hayward Maintenance Complex (HMC) Rainwater Catchment, Bio-Retention Basins, and Solar Wastewater Treatment Project for HMC. HMC staff have developed a grant application requesting \$5.4 million in Prop 1 funds.

DISCUSSION:

Proposition 1, Chapter 7 Regional Water Security, Climate and Drought Preparedness (Water Code § 79740 –79748) funding is intended to improve regional water self-reliance security and adapt to the effects on watersupply arising out of climate change. Eligible projects include those which involve "Water reuse and recycling for non-potable reuse, ... underground water storage, ...capture rainwater, ... (and) provide multiple benefits such as ... water supply, flood control, (and) wastewater treatment."

The HMC program includes the construction of large buildings suitable for collecting rainwater for on-site train cleaning purposes. The buildings could collect in excess of 3 million gallons of rainwater during a year of normal rainfall. The Hayward Yard Train Car Wash currently uses approximately 6,000 gallons of municipal water each day. With the expansion of the Hayward Yard fleet from 153 cars to 250 cars by 2022, this demand may increase to 9,800 gallons per day. The HMC Component Repair Shop (CRS) is projected to use 2,000 gallons of water daily to clean axles, wheels, gear boxes, and motors.

HMC consultants prepared a preliminary design for a rainwater catchment system to collect runoff from the CRS, Central Warehouse, and M&E Shop buildings. HMC staff worked with M&E staff to develop a consensus on a proposed system sufficient to develop a cost estimate and grant application. The system would store water in an underground modular storage tank near the Whipple Road entrance. Pipes would be installed to carry water from the buildings to the modular tank and from the tank to the Train Car Wash. Above ground tanks would be installed west of the CRS building to store water collected at, and used in, this building.

The HMC project also includes \$845,060 in costs for Bio-Retention Basins.

The CRS building also includes a thermal wastewater evaporation system to dispose of the oily wastewater generated each day by the cleaning of train parts. The evaporators are currently fueled by natural gas. The system is expected to evaporate 2,000 gallons of wastewater each work day. The project would convert one of the CRS's two existing evaporators to be fueled by a solar thermal system instead of natural gas. The other evaporator would remain gas-fueled for use during cloudy weather. In addition, the solar thermal system would capture condensate from the evaporator and return it to the CRS spray washers and parts washers. A solar thermal contractor and solar collector manufacturer developed a cost estimate for a solar thermal system to fuel the evaporation process. HMC and M&E developed a consensus on the system sufficient to develop a cost estimate and a grant application.

The California Department of Water Resources will be soliciting Prop. 1 grant applications in May 2019. Both the rainwater and solar wastewater treatment projects are eligible for Prop. 1 funding. The grant application form requires that the governing body of the applicant formally authorize a representative to prepare and submit the application.

FISCAL IMPACT:

It is anticipated that there will be no negative fiscal impact to the District.

The grant application requests approximately \$4.1 million in rainwater catchment equipment along with \$1.3 million for the solar thermal system.

Since the Hayward Yard falls completely within a state-designated Disadvantaged Community (DAC), the project is eligible for having a waiver of the 50% local match requirement. If the waiver is rejected, the \$845,060 cost of the Bio-Retention Basins will be used as credit for the local match.

During a year of typical rainfall, the rainwater catchment system would avoid \$20,000 in municipal water costs. Estimates for maintaining the system were solicited from local rainwater system maintenance companies. The highest estimate was \$1,500 for the projected

1 day per year expected to be needed to maintain the system.

The system would save BART about \$1,000 for each inch of rain.

The solar thermal system would save BART about \$220 in avoided natural gas costs during each day of full sun .

ALTERNATIVES:

Not pursue the grant application or pursue an application for a system of some fraction of that described here.

RECOMMENDATION:

Authorize the General Manager or designee to proceed with the grant application.

MOTION:

Resolved by the Board of Directors of the San Francisco Bay Area Rapid Transit District that proposal be made to the California Department of Water Resources to obtain a Round 1 Integrated Regional Water Management Implementation Grant pursuant to the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Water Code § 79700 et seq.), and to enter into an agreement to receive a grant for the: BART Hayward Maintenance Complex (HMC) Rainwater Catchment, Bio-retention Basin, and Solar Wastewater Treatment Project. The General Manager of the San Francisco Bay Area Rapid Transit District, or designee, is hereby authorized and directed to prepare the necessary data, conduct investigations, file such proposal, and execute a grant agreement with California Department of Water Resources.