




## STAFF REPORT TO THE CITY COUNCIL

**DATE:** Regular Meeting of August 8, 2017

**TO:** Honorable Mayor and Members of the City Council

**SUBMITTED BY:** Scott Buenting, Project Manager 

**APPROVED BY:** Lynne B. Filson, Assistant City Engineer II

**SUBJECT:** Update and Initiation of Environmental Process for the Brackish Water Desalination Project (P.W. 694)

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### **RECOMMENDED ACTION**

It is recommended that the City Council receive and file.

### **STRATEGIC PURPOSE**

This item supports Strategy K-1 in the Strategic Plan by ensuring well maintained public facilities and Strategy K-2 by delivering high quality water to our customers. By investigating and pursuing alternative potable water sources, especially in times of severe drought and to improve treated water reliability, this project is an important part of maintaining a highly functioning and reliable water system.

### **FISCAL IMPACT**

This action has no financial impact. The work associated with environmental documentation of this project is included in an existing contract with Carollo Engineers.

### **DISCUSSION**

As the purveyor of the Antioch water system, the City treats and distributes raw water obtained from two sources; the San Joaquin River and the Contra Costa Canal. The City's ability to divert water from the San Joaquin River is dependent upon the concentration of chlorides in the water. There are times in every year when the salt concentration in the river water rises and the elevated chloride levels cause the water to be unusable by the City's existing water treatment facility. At these times, the City relies solely upon the Contra Costa Water District through the Contra Costa Canal for our raw water.

With pre-1914 adjudicated water rights to divert water for the needs of Antioch from the San Joaquin River, the City is in a unique and fortunate position of being able to pursue alternative means for treating water with high chloride levels. Over the last three years the City has made significant progress developing a brackish water desalination project with a goal of continuing to provide a high quality and reliable water supply during times of fluctuating River water quality.

The City has obtained a \$1,000,000 low interest planning loan from the State Water Resources Control Board (SWRCB) Drinking Water State Revolving Fund Loan program

for pre-design activities related to the development of a Brackish Water Desalination facility. Utilizing these funds, a proposed location and layout of this facility has been established within the footprint of the City's existing Water Treatment Plant (WTP). An area on the southern end of the plant appears suitable for the construction of a 6 MGD, reverse osmosis, brackish water desalination facility with available area to expand the facility to 16 MGD if regional partnerships are developed. This setting would allow the brackish water desalination facility to utilize portions of the existing facility for pretreatment. The installation of a new pipeline segment that would connect the City's River Pump pipeline on Lone Tree Way to the WTP provides a cost effective means of conveying raw water to the new facility. A brine disposal pipeline within existing City rights of way is contemplated from the WTP to Delta Diablo located off of the Antioch/Pittsburg Highway. This pipeline would utilize existing underground pipelines to the extent possible to minimize cost and public disturbance. The brine could be discharged through the existing Delta Diablo outfall.

The next step in the development of the City's Brackish Water Desalination facility is environment certification. Staff will be drafting a Notice of Preparation (NOP) of an Environmental Impact Report and Scoping Meeting for this project. This document will be sent to the State Clearinghouse, Responsible and Trustee Agencies and other interested parties. The NOP will provide information describing the project and its potential environmental effects. The NOP is scheduled to be released in August with a scoping meeting to be held in September. Staff is also beginning to develop the draft Environmental Impact Report to be circulated following the expiration of the response period for the NOP. The Environmental Impact Report is scheduled to be considered by the City Council in May of 2018 and design activity is expected to commence shortly thereafter. Final design and permitting of the project are programmed to be completed in September of 2018. Construction is anticipated to begin in late 2018 and be completed in December of 2019.

#### **ATTACHMENTS**

None