RAMONA MUNICIPAL WATER DISTRICT

AGENDA MEMO

Agenda Item No. F.1.
Regular Board Meeting of October 11, 2022

James Hickle, President
and Members of the Board of Directors
Ramona, CA 92065

RE: INFORMATIONAL ITEM: KENNEDY TANK WEST CONVERSION TO TREATED WATER SERVICE

Members of the Board:

Purpose

To provide information to the Board of Directors regarding the use of Kennedy Tank West to facilitate water storage requirements identified in the 2022 Water Master Plan Update.

Background

The 2022 Water Master Plan Update (WMPU) evaluated the performance of the Ramona Municipal Water District's (District's) water distribution system and water facilities under existing and future conditions through the year 2035 and system build-out. With the State of California implementing more requirements for water retailers, including potential per capita use thresholds, the WMPU serves as a comprehensive planning document to assist the District in identifying, budgeting, and implementing capital projects throughout its water distribution system. The WMPU considers existing conditions and future anticipated conditions, with the objective to serve as a strategic planning guide for upgrading, improving, and expanding the District's water system.

After the commencement of the WMPU project, the Board of Directors evaluated and directed decommissioning of the District's untreated water system. As such, untreated water customers have the option of eliminating their untreated water service or relocating their existing service to the treated water system. Resulting from the untreated water system decommissioning, the WMPU recommendations for the treated water system included three specific improvements:

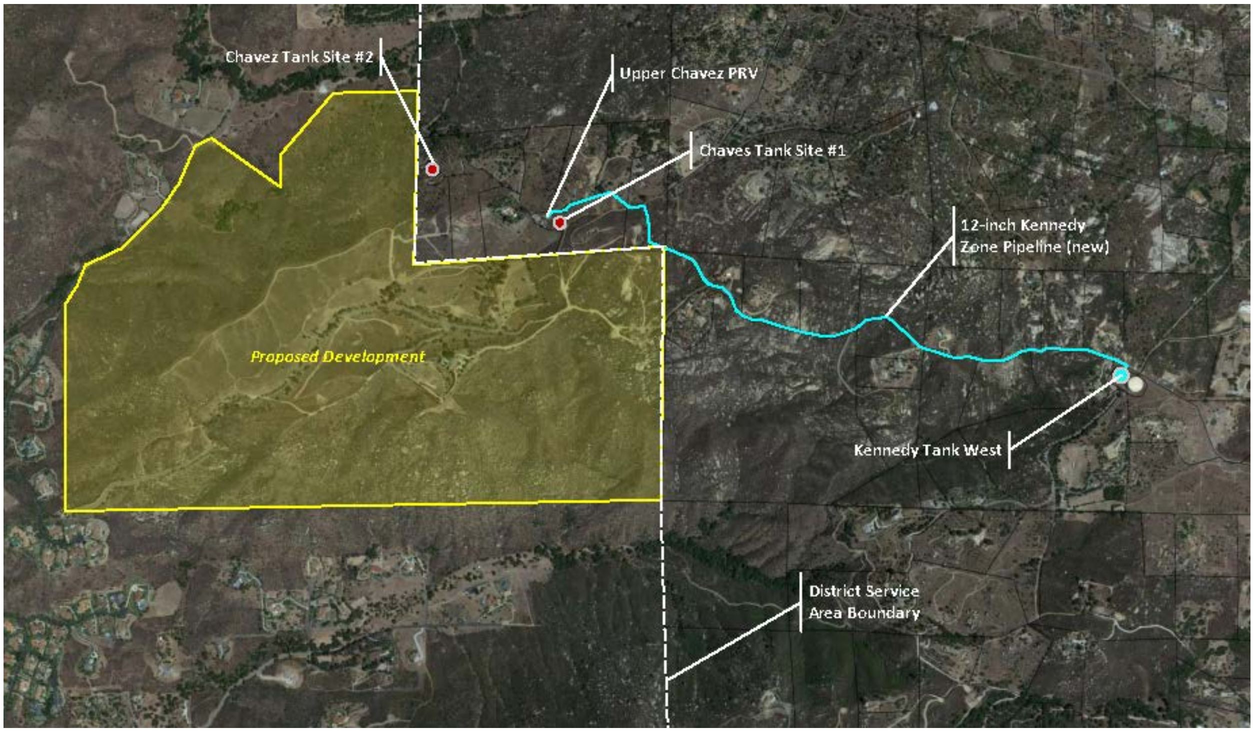
- Snow Loop - Installation of a new 1,330-foot, 8-inch pipeline to create a loop in the Snow Zone water distribution system.
- Chavez Loop - Installation of a new 1,360-foot, 8-inch pipeline to create a loop in the Woodson-Barger Zone water distribution system.
- Chavez Tank - Installation of a new 0.5-million-gallon tank in the Woodson-Barger Zone.

  These three projects are necessary to meet structural fire flow requirements for existing customers. These projects are proposed to be completed prior to final conversion of untreated customers to the treated water system.

Discussion

Consistent with the WMPU recommendations and Board approval, District staff has proceeded with implementation of the Snow and Chavez Loops and the Chavez Tank. The WMPU recommended that the Chavez Tank be reinstalled to provide improved structural fire flow to the Snow Zone. Staff met with the property owner for Sites 1 and 2 (shown on Figure 1), but after much evaluation, these sites were not determined to be appropriate for various reasons.

Figure 1. Proposed Kennedy Tank West Rehabilitation and 12-inch Pipeline



While completing ongoing investigations, District staff continued to identify options for siting of the Chavez Tank. One option investigated included converting Kennedy Tank West to a treated water facility. As the tank and property belong to the District, significant cost savings would be realized by avoiding land acquisition costs and geotechnical investigations for tank construction. Based on discussions with the State Division of Drinking Water, the tank can be sand blasted and rehabilitated for treated water use. However, the Division of Drinking Water recommended that the pipelines into and out of the tank not be reused for potable water service. Since 2007, ongoing reductions in water sales (reduced volume) through the untreated system means both Kennedy Tanks are no longer required to serve the untreated water system, even if decommissioning of the untreated water system was halted.

Various alternatives were evaluated regarding use of Kennedy Tank West to increase structural fire flow to the Snow Zone. The Chavez Tank and Kennedy Tank West sites are below the elevation of the Woodson Reservoir (1800 feet). As such, a tank connected to the Woodson Zone pipeline in Eagles Crest Road or Camino Del Aguila would have minimal turnover during normal operation, providing water primarily for structural fire flow events. Mixing and chlorination would be required, as is provided to other existing tanks within the District system.

During these evaluations, property owners approached the District regarding the potential for development of existing property located adjacent to and outside the District water service area. The developer was required to contact the City of Poway to determine if they would support an interagency agreement for the District to provide water service to the development. The City was generally agreeable to establishment of an interagency agreement. The proposed development would connect to the District water system, requiring increased water conveyance capacity and storage. This development was not identified at the time of the WMPU.

Use of Kennedy Tank West is consistent with the findings of the WMPU. The WMPU recommends a new tank, and Kennedy Tank West is a viable option that provides the same intent of the proposed Chavez Tank. Considering the needs of existing and future customers, use of Kennedy Tank West was determined to provide the best long-term solution.

Figure 1 illustrates the proposed facilities to be constructed, including:

- Rehabilitation of Kennedy Tank West (elevation = 1,640 feet) to provide up to 5.0 million gallons of structural fire flow storage to the Snow Zone for emergency situations.
- Construction of 7,200 feet of 12-inch pipeline from Kennedy Tank West to the Upper Chavez PRV, also improving structural fire flow to the Snow Zone and properties along the alignment within the Woodson Zone. This pipeline can also provide service to the new development when completed, and the developer would be required to participate in the cost of construction.

With this construction, the District can meet water demand (both daily flow and structural fire flow) within the Snow Zone and the potential new development, without impacting the water service of existing customers along Eagles Crest Road or Camino Del Aguila. The Chavez Loop increases structural fire flow to customers on the Woodson Zone along these alignments, as would hydrants from the new 12-inch pipeline. As shown in Table 1, the planning level cost to construct the Chavez Tank or reuse Kennedy Tank West is comparable. More accurate costs would be determined following design and at the time of bidding.

Table 1. Planning Level Cost Comparison

Description	Chavez Tank	Kennedy Tank West
Tank Construction / Rehabilitation	$1,500,000	$1,600,000
Water Quality Management	$50,000	$50,000
Pipeline Construction	$400,000	$2,100,000[1]
Environmental Compliance	$250,000	$25,000
Land Acquisition	$200,000	$0
Subtotal	$2,400,000	$3,775,000
Design Cost (8%)	$192,000	$302,000
TOTAL	**$2,592,000**	**$4,077,000**

[1] *Development cost participation included (~$1,000,000)*

Further consideration of the Chavez Tank option involves structural fire flow storage for the previously discussed new development, when constructed. Under the Chavez Tank option, the Chavez Tank site would not be capable of providing required storage to the development. As such, an additional tank would be required, paid for by the developer. This additional tank would be dedicated to the District, becoming a future operation and maintenance requirement for the District. Reusing Kennedy Tank West does not require construction of a second tank for the development, resulting in one less tank for the District to operate and maintain over time.

The WMPU identified the need for an additional tank to provide structural fire flow to the Snow Zone. Use of Kennedy Tank West accommodates the WMPU recommendation, while providing greater fire flow storage and meeting the needs of both existing and future District customers. The District, thereby, capitalizes on past investments by reuse of existing infrastructure.

Construction of the Chavez Tank was identified in the WMPU in support of decommissioning of the untreated water system, with the long-term goal of replacing the existing undersized waterlines between Woodson Reservoir and the northwest portion of the distribution system. Construction of the proposed 12-inch pipeline allows use of Kennedy Tank West for Snow Zone demand and fire flow, as well as potential service to the new development. In the future, when pipelines are upsized between Woodson Reservoir and Kennedy Tank West, the upsized pipelines will be capable of serving demand and fire flow for both Woodson and Snow Zone customers, as well as the new development. At that time, Kennedy Tank West could be abandoned, and water services moved from the 6-inch pipeline to the 12-inch pipeline.

In summary, constructing a 0.5 MG facility at Chavez Tank Site #2 meets the structural fire flow demand of the Snow Zone. Repurposing of Kennedy Tank West and constructing the proposed 12-inch pipeline accomplishes the same goal, with the added benefit of meeting water demand and structural fire flow within the local Woodson Zone, the Snow Zone, and the proposed new development. The cost to repurpose Kennedy Tank West is higher because of the added benefit, with the availability of partial reimbursement from the new development. Both options follow the long-term direction identified in the WMPU.

Fiscal Impact

Use of Kennedy Tank West results in higher cost than installation of the Chavez Tank (Table 1), with greater long-term flexibility and benefit to the District and local water customers.

Recommendation

No action required. Presented for informational purposes only.

Prepared by: Mike Metts, PE, District Engineer

Submitted by: Erica Wolski, General Manager