Penitencia Water Treatment Plant Residuals Management Project Project No. 93234044

Engineer's Report

February 2025

Water Utility Capital Division

Valley Water

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PENITENCIA WATER TREATMENT PLANT RESIDUALS MANAGEMENT PROJECT

PROJECT NO. 93234044

ENGINEER'S REPORT

Prepared by:

Donnalyn Steffani, P.E.
Assistant Engineer II

Reviewed By:

Katrina N. Jessop, P.E.
Senior Engineer

Under the Direction of:

Brandon Ponce, P.E.
Unit Manager – Treatment Plants
Project Delivery Unit
Water Utility Division

Emmanual Aryee, P.E.
Deputy Operating Officer
Water Utility Division

The Engineer's Report has been prepared under the direct supervision of the undersigned, who hereby certifies that he is a Registered Civil Engineer in the State of California

Katrina N. Jessop 02/04/2025

FEBRUARY 2025

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1. PROJECT DESCRIPTION

The proposed Penitencia Water Treatment Plant (PWTP) Residuals Management Project (Project) is located at the Santa Clara Valley Water District's (Valley Water's) PWTP at 3965 Whitman Way in San Jose, as shown in Figure 1. Constructed in 1974, the PWTP can treat and deliver up to 42 million gallons of potable water and is an essential part of Valley Water's water supply system.

The purpose of this Project is to address age, capacity, efficiency, and reliability issues with the PWTP's existing Residuals Management System (RMS) to ensure the plant efficiently and reliably provides potable water to water retailers in Valley Water's service area while meeting applicable regulatory standards. The plant's RMS is one of the major treatment components. It receives and processes recovered washwater and diluted sludge that is produced as part of the daily operations of the PWTP. At completion of the RMS process, clarified water is returned to the start of the treatment process and sludge solids are hauled to landfills.

The proposed Project includes the following major items of work:

a. Removal and replacement of an existing manually operated sludge withdrawal system with an automated system in all three (3) of the plant's sedimentation basins;

b. Constructing new washwater handling and treatment facilities to replace the existing washwater equalization basins;

c. Constructing new sludge handling and dewatering facilities, including state-of-the art centrifuge technology, to replace the existing sludge holding ponds and belt press; and

d. Installing associated mechanical, chemical, electrical, instrumentation and control systems.

2. ZONE BENEFITS

The proposed Project work will benefit only customers of Zone W-2 (North County).

3. PROJECT RIGHT OF WAY

Work on the proposed Project will occur within the PWTP site and neighboring parcel, both properties of Valley Water. No additional right of way will be required.

4. MAPS AND FIGURES

Figure 1 - Project Location Map

5. PROJECT COSTS

The estimated costs to plan, design, and construct the proposed Project is $95.36 million (with inflation). The Project is included in the Capital Improvement Program (CIP) Fiscal Year (FY) 2025-29 Five-Year Plan and in the FY 2024-25 Adopted Budget.

The proposed Project would be funded by the Water Utility Enterprise Fund, with 100 percent of the costs allocated to Zone W-2 (North County).

6. PROJECT SCHEDULE

- Advertise for construction bids: Spring 2025
- Award construction contract: Summer 2025
- Complete construction: Summer 2030

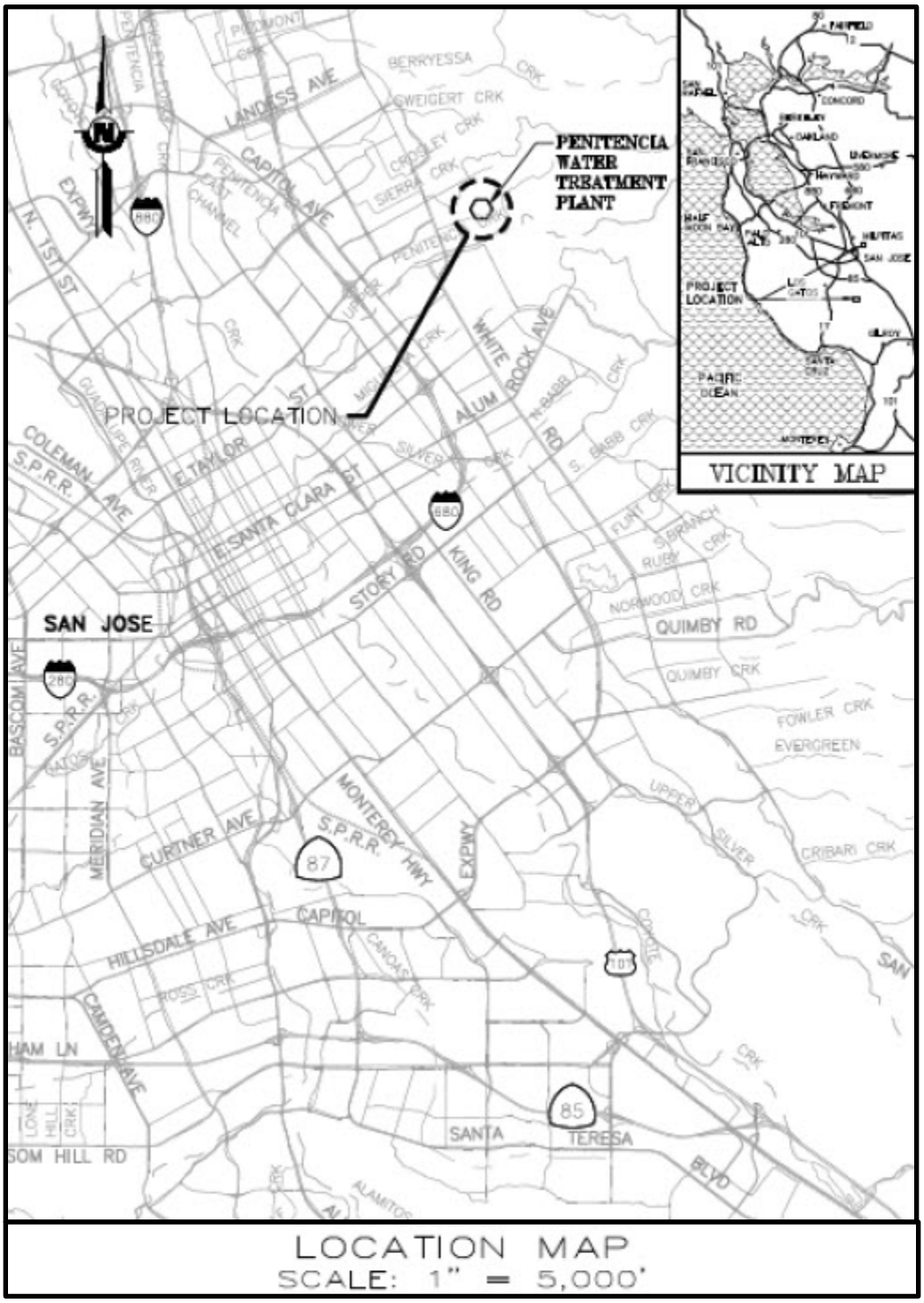

Figure 1. Project Location Map

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