

Small Capital Improvement Project: Pacheco Pumping Plant Electrical Current Limiting Fuse & HVOS Upgrades Engineer's Report



December 2020

Water Utility Capital Division



Valley Water

Clean Water • Healthy Environment • Flood Protection

Page 1 of 9

Attachment 2
Page 1 of 7

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SMALL CAPITAL IMPROVEMENT PROJECT: PACHECO PUMPING PLANT ELECTRICAL CURRENT LIMITING FUSE & HVOS UPGRADES

PROJECT NO. 91214010

ENGINEER'S REPORT

Prepared By:

Roderick R. Ramirez, P.E. Associate Engineer

Under the Direction of:

Emmanuel Aryee, P.E.
Engineering Unit Manager

Heath McMahon, P.E.
Deputy Operating Officer

Aaron Baker, P.E.
Chief Operating Officer

Enrico Callender
Chief Executive Officer

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



December 2020

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1. PROJECT DESCRIPTION

This project plans, designs, and constructs new electrical safety and reliability system improvements for the main facility building at the Pacheco Pumping Plant, Dinosaur Point, Merced County, CA.

- Current Limiting Fuses - Fused disconnects with current limiting fuses will be installed on the 480V station service transformers secondaries to reduce arc flash risk. This will include constructing new concrete pads to mount the disconnects adjacent to the existing transformers.
- HVOS Upgrade - The existing Hydraulic Valve Operating System (HVOS) Motor Control Center (MCC) and control panel was originally installed in 1987 and will be replaced in order to improve safety, troubleshooting, and operability. All work will take place within existing structures.

The objective of the project is to reduce the risk of an unplanned event that could result in an occupational injury (electrical arc flash); asset damage (pump motor failure) or pumping plant shutdown (HVOS controls systems failure).

2. ZONE BENEFITS

The proposed Project work will benefit the customers of Zone W-2 (North County), Zones W- 5, and W-7 (South County).

3. PROJECT RIGHT OF WAY

The proposed Project would be constructed on District property. The Project would require a permit from the United States Bureau of Reclamation (USBR).

4. MAPS AND FIGURES

Figure 1 - Project Location Map

5. PROJECT COSTS

The estimated cost to design and construct the proposed Project is \$550,000 (2020 dollars). The proposed Project would be funded by the Water Enterprise Fund; 8.0% cost will be allocated to Zone W-5 (South County), 9.7% cost will be allocated to Zone W-7 (South County) and the remaining 82.3% will be funded by Zone W-2 (North County).

6. PROJECT SCHEDULE

- Advertise for construction bids: Q4 FY2021
- Award construction contract: Q1 FY2022
- Complete construction: Q3 FY2022

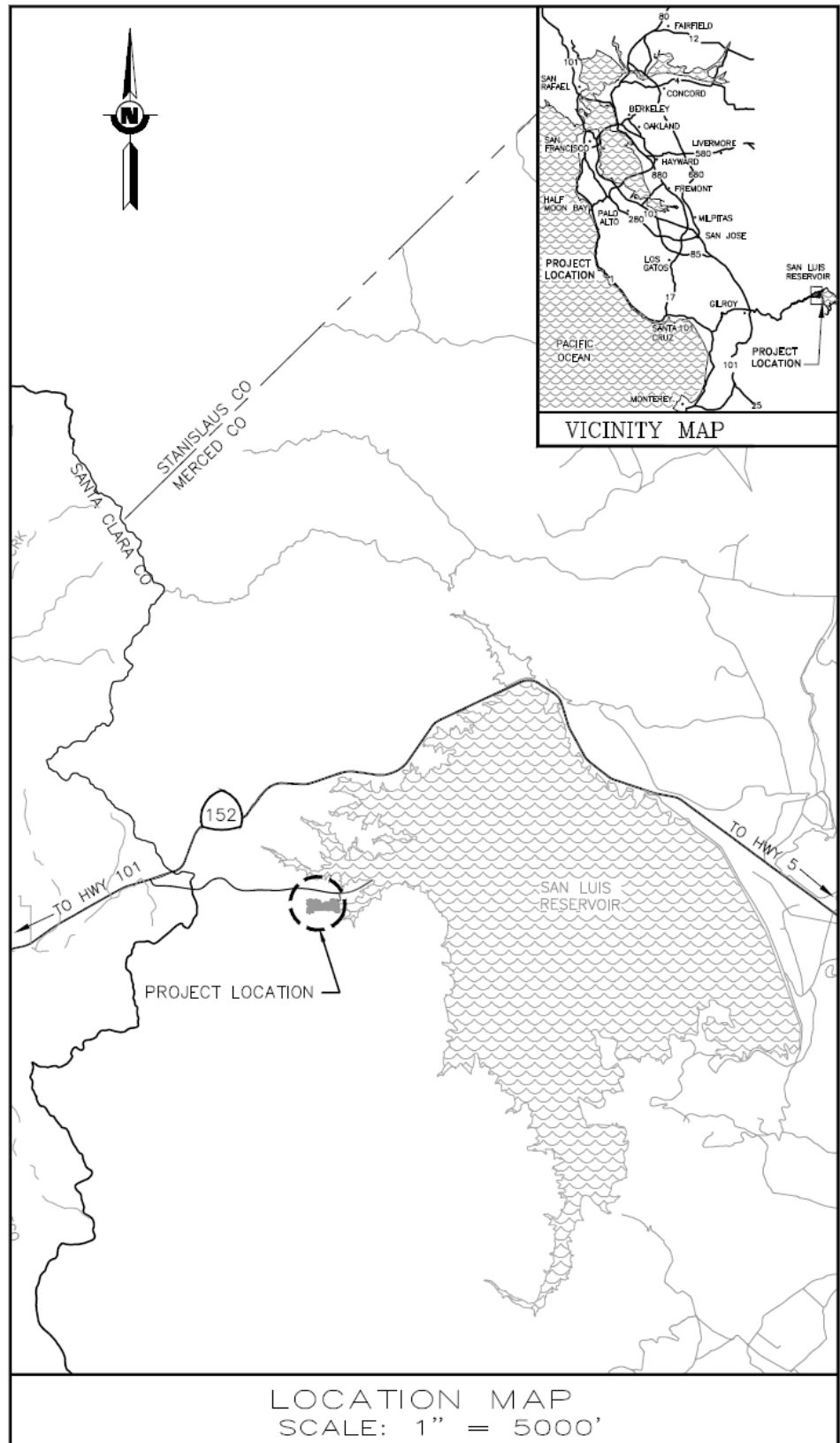


Figure 1 - Project Location Map

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