



## **EASTERN MUNICIPAL WATER DISTRICT PURIFIED WATER REPLENISHMENT PROJECT ENVIRONMENTAL IMPACT REPORT**

### **Purified Water Replenishment Project Description**

Eastern Municipal Water District (District) is proposing to implement the project that would replenish the San Jacinto Upper Pressure Groundwater Management Zone aquifer with a combination of recycled water and advanced treated water to reduce reliance on imported water sources, provide improved drought resiliency, and potentially improve the quality of the groundwater basin utilized by the District. The proposed project would include: (1) construction of an Advanced Water Treatment (AWTF); (2) construction of a brine management system; (3) construction of Alessandro Blending Station facilities; (4) reline an existing 18-inch-diameter conveyance pipeline; and (5) construction of a new 36-inch-diameter conveyance pipeline.

The proposed AWTF would be constructed on an approximately five-acre site located adjacent to the northern boundary of the existing San Jacinto Valley Regional Water Reclamation Facility (SJRWRWF). The AWTF site would initially (during Phase I) include an approximately 20,800-gross square foot (GSF) Process and Control Building that would be divided into two main areas: a control area and a process area. The control area would contain a public area and a District administrative staff area. The public area would include an entry lobby, an education/exhibit area, a conference and public meeting room, restrooms, and a private District outreach staff person's office. The administrative staff area would contain an operations supervisor's office, control room, break room, server room, storage room, and mechanical/rise room. Within the process area, the major process area would house a membrane filtration (MF) system and a high-recovery reverse osmosis (RO) facility that would be used for the advanced treatment of recycled water. The ancillary facilities area would contain the electrical, MF compressor, and building mechanical rooms. The chemical pump area would include the AWTF's chemical pumps. Upon implementation of Phase II of the project, the process area would accommodate a 10,400-GSF expansion. Other proposed facilities at the AWTF site outside of the Process and Control Building would include a chemical storage facility, emergency generator, standby generator, transformer, four new pump stations, paved access with parking, and two stormwater bioretention basins.

During operation of the AWTF, the tertiary recycled water produced at the SJRWRWF would be further treated through the new MF/RO process, which would reduce total organic carbon (TOC), total dissolved solids (TDS), and nitrogen concentrations creating advanced treated water, or what is referred to as "RO permeate".

Concentrated brine generated during the RO process would be managed and stored using a system of five interconnected evaporation ponds that would have a total surface area of approximately 20 acres and be located north of the proposed AWTF site. The ponds would be lined with a containment and monitoring system to prevent leaks and would include the use of mechanical spray evaporators to enhance natural evaporation.

Advanced treated water from the AWTF site and tertiary recycled water from the SJRWRWF would be conveyed, via two separate pipelines (one of which would be sliplined as part of the project), to the Alessandro Blending Station where they would be blended in-pipe before the combined flow is conveyed to the Mountain Avenue West Recharge Basin, via a new pipeline to be constructed as part of the project. The blending facility pipes, including the two inflow pipes, connection pipes, and one outflow pipe, would be located on an approximately 48-foot by 34-foot concrete equipment pad southeast of the existing pressure regulating station downstream of the

Alessandro Pump Station. A pressure regulating valve would be provided at the blending facility for the option to discharge advanced treated water into the adjacent existing Alessandro Ponds forebay for operational storage.

The project would require pipelines to convey advanced treated water from the AWTF to the Alessandro Blending Station as well as blended water from the Alessandro Blending Station to the Mountain Avenue West Recharge Basin. Advanced treated water would be conveyed from the AWTF to the Alessandro Blending Station via an existing 4.1-mile (21,700-linear foot) 18-inch-diameter recycled water pipeline that extends east from the southern side of the SJVRWRF to approximately the intersection of Alessandro Avenue North and Ramona Expressway. The existing cement-mortar-lined steel pipeline would be sliplined with new 16-inch-diameter high density polyethylene (HDPE) pipe. Blended water from the Alessandro Blending Station would be conveyed to the Mountain Avenue West Recharge Basin via a new approximately 2.7-mile (14,200-linear foot) 36-inch-diameter HDPE pipeline that would be constructed within the eastern shoulder of Ramona Expressway.

Combined flows from the Alessandro Blending Facility would be conveyed, via the above-mentioned proposed 36-inch-diameter pipeline, to the District's existing Mountain Avenue West Recharge Basin, where the water would be stored, would percolate into the belowground aquifer, and would eventually be recovered for use as potable water.