

# Del Valle Water Treatment Plant Ozonation Project

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The Del Valle Water Treatment Plant (DVWTP), located in southern Livermore, was built in 1974, as a conventional treatment facility able to produce 18 million gallons per day (MGD). In 1988, the plant was expanded with a new treatment process, additional filters, and additional treated water storage. This expansion doubled the original treatment capacity to 36 MGD.

## Why is Zone 7 adding ozone treatment at the DVWTP?

The major source of raw water supply for the DVWTP is surface water imported through the Sacramento-San Joaquin River Delta and conveyed via the South Bay Aqueduct, along with local runoff from Del Valle Reservoir. In recent years, treating this water supply with currently installed treatment processes at the DVWTP has become increasingly difficult due to more frequent algae blooms that can cause taste and odor problems, blue-green algae blooms that can produce algal toxins, high levels of organic matter, diurnal fluctuations in temperature and pH, and high alkalinity.

As noted in Zone 7's mission statement, we are "committed to providing a reliable supply of high quality water... in a fiscally responsible, proactive, and environmentally sensitive way." Ozone has many benefits over chlorine, which is the current disinfectant used. Ozone is more effective at treating organic matter, which is naturally present in the source water for the treatment plant. Also, ozone treatment results in less potentially harmful disinfection by-products (DBPs) than chlorine. Other benefits of ozone treatment include reduction of other chemicals used in the treatment process, more effective treatment of taste- and odor-causing compounds, and providing the best technology for treating cyanotoxins produced by blue-green algae and other contaminants of emerging concern (CECs), such as endocrine disruptors and pharmaceuticals.

## What is the cost of providing ozone treatment at the DVWTP?

The capital cost of the ozone project at DVWTP is currently estimated at approximately \$49 million dollars. The construction cost of the project is anticipated to be funded through either Drinking Water State Revolving Fund (DWSRF) loans or bonds. The net annual cost to operate and maintain the ozone system is estimated at approximately \$1.1 million dollars per year (in 2017 dollars).

## What facilities will be constructed as part of the ozone project at the DVWTP?

The ozone project will include construction or modification of the following facilities:

- New ozone generation building, which will house the ozone generators and the electrical and mechanical rooms
- New ozone contactor structure, which is where the ozone will be applied to the incoming water
- New chemical storage facilities for liquid oxygen (from which ozone will be created) and carbon dioxide (used for pH stabilization, resulting in the lowest effective ozone dose)
- New utility water pump station, which will provide carrier water for the carbon dioxide and cooling water for the ozone generators
- Modifications to the existing filters and chemical systems, including the chlorine ammonia feed points

## What is the anticipated project schedule?

The following is a timeline of actions taken by the Zone 7 Board regarding the ozone project at the DVWTP and an anticipated schedule for project completion:

- The project has been included in the 10-year Capital Improvement Plan (CIP) since fiscal year (FY) 2006/07
- The project was included in the 2015 Cost of Service Study
- Contracts for the design phase awarded in May 2016
- Submittal of the funding application for the DWSRF authorized by the Zone 7 Board in November 2016
- Resolutions for the DWSRF application adopted by the Zone 7 Board in April 2017
- Contracts for pre-construction management support services awarded in July 2017
- [Initial Study/Mitigated Negative Declaration](#) adopted by the Zone 7 Board in October 2017
- Design completion anticipated in December 2017
- Construction to begin approximately May 2018
- Construction to be completed in early 2020

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