



North & South Basin Groundwater Cleanup Update

SINCE 1933

April 2022

The Orange County Water District (OCWD; the District) manages and protects the Orange County Groundwater Basin that underlies north and central Orange County, from which 19 cities and water agencies draw their water supply. OCWD implements a proactive groundwater and surface water monitoring program to protect the quality of the groundwater basin and ensure the water it provides meets all state and federal drinking water standards.

Industrial chemicals have impacted areas in the northern and southern parts of the groundwater basin: North Basin (near Fullerton, Anaheim, and Placentia) and South Basin (near Santa Ana, Tustin, and Irvine). OCWD is proactively seeking ways to clean up the pollution in a united effort with state and federal regulatory agencies.

Below is an update on activities in and around the North and South Basin sites. OCWD will continue to update stakeholders as the need arises.

North Basin

- With oversight from the United States Environmental Protection Agency (EPA), OCWD is conducting a Remedial Investigation/Feasibility Study (RI/FS) to further characterize areas with elevated contaminant concentrations (the RI) and develop and evaluate alternatives (the FS) for an Interim Remedy to remediate parts of the plume that contain the highest VOC concentrations.
- OCWD has submitted several draft reports that make up the RI Report. EPA has reviewed those reports and provided comments, and OCWD and its consultants are preparing a Final RI Report. Revisions to the Draft RI Report are expected to be submitted to EPA in April. The Final RI Report is expected to be completed in May or June 2022, depending on when EPA completes its review of the revisions.
- OCWD and its consultants have identified practical remedial technologies that could be applied to the North Basin Interim Remedy, combined those technologies into remedial alternatives, and evaluated those alternatives using seven criteria, including effectiveness, implementability and cost. Because of the large area and depth of the VOC plume that will be remediated as part of the Interim Remedy (approximately five square miles and over 400 feet deep), a practical alternative to keep the contamination from spreading further is to use a network of extraction wells, treating the extracted groundwater to remove the contaminants, and then recharging the treated water back into the aquifer or directly using it. OCWD and its consultants are currently working on a Draft FS Report, expected to be completed in May or June 2022 for EPA and state agency review.
- Two state agencies, the Santa Ana Regional Water Quality Control Board (RWQCB) and Department of Toxic Substances Control (DTSC), are overseeing the investigation and

remediation of sites where releases of contaminants occurred. The RWQCB and DTSC oversee the work by responsible parties to investigate and eliminate sources of contamination, which is key to addressing the problem.

- EPA is conducting a Comprehensive RI to investigate parts of the plume that are outside the Interim Remedy Containment Area, where additional data are needed to delineate the extent of the contamination and determine if the Interim Remedy will need to be augmented by additional remediation. The initial work being conducted by EPA includes three to five adjacent monitoring wells (each completed at a different depth) at five locations (a total of 19 wells). To date, the EPA has installed 16 monitoring wells at four locations. Drilling and construction of three wells at a fifth location is expected to be conducted this summer. These monitoring wells will help define the boundaries and depth of the leading edge of the contaminant plume. EPA received additional funding for the Comprehensive RI and plans to install approximately five additional monitoring wells at two or three locations in late 2022 and early 2023.
- North Basin documents may be accessed via OCWD's website (see link below).

South Basin

- The remedial investigation phase of the South Basin Remedial Investigation/Feasibility Study (RI/FS) is complete, and the process has moved to the FS phase. Engineering Analytics, Inc. (EA), the District's RI/FS consultant, is conducting the FS to identify, develop, and evaluate potential remedial alternatives to address groundwater contamination in the South Basin area. The following activities have been completed in support of the FS:
 - Technologies for potential interim remedial measures were evaluated, and a draft technologies screening technical memo was prepared and submitted to the Technical Advisory Committee (TAC), including staff from the RWQCB, State Water Board Division of Financial Assistance, and DTSC, for review in the first quarter of 2021. Review comments were received and incorporated in the draft FS Report.
 - A numerical groundwater flow model of the South Basin area was developed and used to evaluate remedial alternatives.
 - A detailed evaluation of selected remedial alternatives technical memo, which included the groundwater modeling of alternatives, was completed and submitted to the TAC for review in the fourth quarter of 2021. Review comments were received and incorporated in the draft FS Report.
 - The draft FS report was reviewed by the TAC and approved for release to the Stakeholder Advisory Group (SAG).
- OCWD submitted the [draft FS report of the South Basin Groundwater Protection Project, Operable Unit 2](#) in April 2022 for SAG review and comment.
- OCWD plans to host a South Basin SAG Meeting in late May/early June 2022 (date to be announced).
- South Basin documents may be accessed via OCWD's website (see link below) and are also available for public review at the following repositories:
 - Santa Ana Public Library, 26 Civic Center Plaza, Santa Ana, CA 92701
 - OC Library - Heritage Park, 14361 Yale Avenue, Irvine, CA 92604
 - Tustin Public Library, 345 East Main Street, Tustin, CA 92780

Additional Information

For additional information, please contact Roy Herndon, chief hydrogeologist at rherndon@ocwd.com or (714) 378-3260.

- EPA North Basin website: <http://www.epa.gov/superfund/orange-county-north-basin>
- North Basin general information: <https://www.ocwd.com/what-we-do/water-quality/groundwater-cleanup/north-basin/>
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