

Refilling the Orange County Groundwater Basin — Inch by Inch

OCWD Works Collaboratively with Army Corps of Engineers to Take Advantage of Recent Storms



Due to drought conditions in California, OCWD requested the USACE evaluate a temporary deviation from the Prado Water Control Manual to capture additional storm water above the 498 feet amsl. In anticipation of a storm, the USACE's Los Angeles District expedited approval of a Planned Minor Deviation on December 23 to allow water conservation up to elevation 503.9 feet amsl during the flood season. This deviation allowed OCWD to capture an additional 3,500 acre-feet of storm water from December 24 to 25 and 1,700 acre-feet (AF) from January 1 to 9. On January 19, 2017, the Corps' South Pacific Division Commander approved a Planned Major Deviation to allow water conservation up to elevation 505 feet through September 2017. This deviation, together with the Minor Deviation approved in December, allowed capture of an additional 4,000 acre-feet of storm water through February 11.

Since July 2016, the start of the Orange County Water District's (OCWD) "water year," north and central Orange County has received 17.12 inches of rain. Storm events from December 15 through February 11 alone brought in 14.99 inches. Rather than big flashes of heavy rain, slow and steady rainstorms, spaced out by one to two weeks are optimal, since this allows temporary capture of storm water behind Prado Dam in Riverside County and subsequent release of the captured storm water to flow down the Santa Ana River and be diverted into groundwater recharge basins in Orange County, owned and managed by OCWD.

A key component to capturing storm water is OCWD's close collaboration with the U.S. Army Corps of Engineers (USACE), which operates Prado Dam for flood risk management and water conservation. The water conservation program at Prado has been extremely valuable to the Orange County region in capturing water that would otherwise flow to the Pacific Ocean. The existing water conservation program allows for capture of storm water up to elevation 498 feet above mean sea level (amsl) during the flood season, which is from October 1 to February 28, and up to elevation 505 feet amsl during the non-flood season.

Except for required flood control releases, OCWD has been able to capture 100 percent of Prado Dam release flows since it began raining in November 2016 and has put the water back into the Orange County Groundwater Basin. Without the deviation, the water would have been lost to the Pacific Ocean. There is still 16,800 AF stored behind the dam, bringing storage to 31,000 AF so far. Without the minor and major deviations to capture additional water from the recent rains, 15,000 AF would have been lost to the ocean. That is enough water for approximately 120,000 people.

"The capture of storm water behind Prado Dam and recharge of this water into the groundwater basin is the most economical way for us to replenish local water supplies," stated Denis Bilodeau, P.E., OCWD President. "We are very grateful to have a long and productive relationship with the Army Corps to maximize the capture of this water, which helps the region become less dependent on imported water supplies from Northern California and the Colorado River."

The District and the Corps are currently working on a long-term plan called the Prado Feasibility Study that, if successful, could lead to permanently changing the Prado Water Control Manual to allow water conservation up to 505 feet amsl year-round. In



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addition, the plan would restore ecosystems in Prado Basin which has been critical to the OCWD's successful recovery of the endangered Least Bell's vireo, a native California songbird, and the Santa Ana sucker.

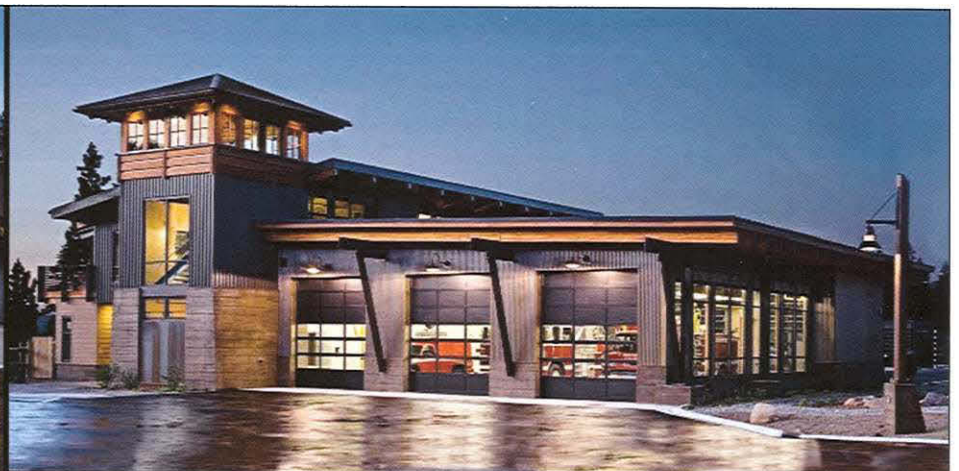
OCWD uses storm water as one source of water to fill the groundwater basin it manages. Other sources used to replenish the Orange County Groundwater Basin, which provides 2.4 million people in north and central Orange County with 75 percent of their water supply, include

recycled water from the Groundwater Replenishment System, Santa Ana River water, and imported water. In addition to storm water, the rains bring incidental recharge, which is rain that falls on OCWD's service area (229,000 acres) and percolates naturally into the basin through permeable surfaces. Over the years, OCWD has managed the basin in a sustainable manner to ensure the region's water future and has more than doubled its annual output. OCWD's primary responsibility is to protect basin water quality, manage pumping and replenish what is taken out.

Average annual rainfall for Orange County is 14 inches. It will take years of above-average rainfall to recover from current drought conditions. By maximizing storm water capture, expanding its

recharge system, enhancing groundwater management, building water infrastructure projects, and increasing the production of recycled water, the Orange County Water District has helped to strengthen water reliability for the region. The district also continues to explore all possibilities for alternative water supplies to help the region weather future dry-spells.

For more information about the Orange County Water District, call (714) 378-3200 or visit www.ocwd.com. ■



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