

# HISTORY OF REGIONAL WATER QUALITY CONTROL PLANT

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## EARLY HISTORY (1894-1934)

Palo Alto incorporated in 1894. Palo Altans started public sewage improvements in 1898 by approving \$28,000 in bond money to fund construction of the City's first sewer network, which was completed in 1899. Private cesspools and privies were banned, and the City health officer had everyone hooked up to the sewer system within a few years. The sewer system served about 3,000 people and discharged untreated sewage from a twelve-inch diameter outfall pipe into Mayfield Slough (near the Environmental Volunteers Building) at the edge of South San Francisco Bay. Public health in town was improved but not in the Baylands. In the 1920s, a Baylands park and yacht harbor were being planned and City leaders feared health contamination to boaters and park enthusiasts. Also, tide-induced sewage overflows on City streets made population growth of the City and Stanford University impossible. The State Board of Public Health prescribed a solution that included a primary treatment plant and a new outfall discharging further from the shore. The planning of Palo Alto's first treatment plant began.

## THE PALO ALTO TREATMENT PLANT (1934-1972)

Plant operations began July 1, 1934, which made the Palo Alto Treatment Plant the first wastewater treatment plant on South San Francisco Bay. At a cost of \$63,324, the plant could treat three million gallons per day and served a cannery as well as 20,500 people in Palo Alto and Stanford. The plant discharged the wastewater 700 feet offshore. Solids were digested in an anaerobic digester, placed in sludge drying beds at the location of the current landfill, and used as park fertilizer in Palo Alto. Immediately after World War II, \$299,000 was spent to upgrade treatment capacity to five million gallons per day and deal with the seasonal Sutter Packing Company cannery wastes. To deal with the post-war boom, the plant upgraded again in 1957 to treat up to ten million gallons per day at a cost of \$528,000.

Meanwhile, the neighboring City of Mountain View constructed a primary treatment plant in 1951 which was expanded to enhanced primary treatment in 1961. The City of Los Altos constructed a primary treatment plant in 1957.

## FOUR DECADES OF PROGRESS - THE REGIONAL WATER QUALITY CONTROL PLANT (1968- PRESENT)

Over the years, people witnessed the increased signs of pollution and stress on the environment of shallow South San Francisco Bay. With increased public attention on water quality both locally and nationally, a larger effort was needed to clean up the Bay. In December 1962, the plant received its first discharge permit from the California Regional Water Pollution Control Board. In response, the plant built a new outfall in 1964 to stop periodic discharges near the now defunct Yacht Harbor. A 1966 long range plan recommended adoption of secondary treatment in anticipation of state regulations requiring disinfection of effluent and higher oxygen levels in receiving waters. The study also recommended possible consolidation with neighboring communities.



In October 1968, the Cities of Mountain View and Los Altos agreed to retire their treatment plants. They became partners with the City of Palo Alto to construct a cost-effective regional secondary treatment plant. The 1968 pact extended until July 1, 2035, set Palo Alto as the operator of the plant, and required Palo Alto, Los Altos and Mountain View and their sub-partnering sewer agencies, East Palo Alto Sanitary District, Stanford University, and Los Altos Hills to share in the proportionate costs of upkeep. The Regional Water Quality Control Plant was designed in 1969. During the mid-1960s, heavy metals from the electronics industries were causing digester upsets at the former plant. The digester upsets caused problematic odors. Incineration was not subject to these shock load upsets and odors. It was deemed that incinerator air pollution control technologies had evolved sufficiently to remove ash from the exhaust gases (i.e., wet scrubbers). Incineration had a small footprint on the Baylands. Furthermore, incinerator ash was much more easily disposed of than anaerobically digested sludge due to the large volume reduction caused by thermal destruction. Consequently, sewage sludge incineration was selected as the biosolids treatment technology.

Construction started in 1970 and was completed in October 1972 for a cost of \$11 million. Since 1972, the plant has provided complete secondary treatment of wastewater and complete incineration of the sewage sludge. The treated water has been discharged, after disinfection, to an unnamed slough near the Palo Alto Airport and thence to San Francisco Bay, some 1500 feet distant from the point of discharge. The plant has helped significantly reduce the amount of pollutants reaching the Bay.

In 1975, the Santa Clara Valley Water District constructed an advanced reclamation facility and operated it for a time before selling it to the RWQCP. In October 1980, to further protect the Bay, the RWQCP was upgraded to an advanced (tertiary) wastewater treatment facility to address ammonia removal through the addition of fixed film reactors and dual media filters at a cost of \$8.8 million. In August 1988, a capacity expansion project was completed to assure that the treatment plant effluent standards could be met during periods of heavy rainfall. Numerous other projects have been completed to optimize performance, safety, and reliability.

The RWQCP has been designed to remove most of the organic pollutants found in wastewater. The plant consistently removes 99 percent of these organic and solid pollutants. The removal of these pollutants has gone a long way to restoring the health of the South Bay.

Another important aspect of the RWQCP effort to clean up the South Bay is the removal of dissolved metals from the wastewater. In 1982, Palo Alto began an industrial monitoring program. To protect sensitive marine life and prevent the buildup of metals in the Bay environment, the RWQCP discharge must meet many quality standards higher than those for drinking water. Improvements to the wastewater treatment process coupled with industrial pretreatment at the source, water reuse, and public education, have greatly reduced the amount of metals discharged to the Bay. The past four decades have seen great strides in the protection of the South Bay as communities and businesses have established a partnership with the RWQCP to protect the environment. While starting to show its age, the regional plant is still serving us today.

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**SOURCES:** RWQCP. Miscellaneous Plant Documents.

Jenks & Adamson. *Long Range Plan for Wastewater Treatment & Disposal Facilities. Plant Report. 1966.*

Winslow, Ward. *Palo Alto: A Centennial History. Palo Alto Historical Association. 1993.*



REGIONAL  
WATER QUALITY  
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