



Point Loma Wastewater Treatment Plant

Opened in 1963, the Point Loma Wastewater Treatment Plant is managed and operated by the City of San Diego's Public Utilities Department. The plant treats approximately 175 million gallons of wastewater per day generated in a 450-square-mile area by more than 2.2 million residents in the San Diego region. Located on a 40-acre site on the bluffs of Point Loma, the plant has a treatment capacity of 240 million gallons per day.

Treatment Process

Wastewater moves from Pump Station 2 on Harbor Drive to the top of Point Loma. From there, gravity takes hold and the wastewater (called "influent") flows into the headworks of the treatment plant. The foul air from the influent passes through an odor control system, which "scrubs" the foul smelling air with a bleach solution. The scrubbed air then passes through carbon filters before being released. There are 11 other odor control systems throughout the treatment plant that operate during every stage of the treatment process. The wastewater then passes through screens, which act as giant rakes to remove materials that would interfere with the treatment process. These materials, called "rags," are a diverse assortment of paper, plastic, pieces of wood, toys, vegetable matter and other items.

The wastewater then flows into grit removal tanks, where heavy inorganic particles such as sand, gravel, coffee grounds and eggshells settle to the bottom. "Rags" and grit are dewatered and trucked off site for disposal.

Following grit removal, the wastewater is pumped into sedimentation tanks where organic solids settle to the bottom of the tanks and "scum" (primarily cooking grease and oil) float to the surface. Chemicals such as ferric chloride and organic polymers are added to the wastewater to help waste particles bond together in large enough mass to settle out. At this point, approximately 80 percent of the total suspended solids in the water have been removed. After a final screening, the treated wastewater, called "effluent," is now ready to be discharged to the ocean through the Point Loma Ocean Outfall.

The scum is skimmed off the surface of the water, dewatered and taken off site for disposal. The organic solids ("sludge") which have settled out of the wastewater are pumped into one of the eight digesters on site where they are reduced in volume through a heat and bacterial process similar to human digestion. After about two weeks, this digested sludge is pumped from Point Loma through a 17-mile pipeline to the Metropolitan Biosolids Center for further processing.

Meeting Federal and State Regulations

In 1995, the City received a modified permit from secondary treatment requirements of the federal Clean Water Act. This modified permit was renewed in 2002, and again in 2010. Through a combination of factors, including industrial source control, advanced primary treatment of wastewater, a deep ocean outfall and comprehensive environmental monitoring, both the U.S. EPA and the San Diego Regional Water Quality Control Board agreed that the treatment plant fully protects the ocean. The plant has received many Gold Awards from the Association of Metropolitan Sewerage Agencies for complete compliance with all federal and state regulations.



Renewable Energy

One of the by-products of the wastewater treatment process is methane gas, which is collected at the treatment plant. The methane fuels two continuously running generators that can each produce up to 2,235 kilowatts of electricity. Using the methane produced on site, the plant has not only become energy self-sufficient, it is also able to put excess power it generates to the utility energy grid and receive credits on other Public Utilities selected facilities' energy bills. Thermal energy produced by the generators is used to heat the plant's digesters. In addition, through a public-private partnership excess digester gas from the plant is treated to natural gas standard and injected into utility natural gas pipeline for other use. This was the first biogas cleaning and injecting project into utility pipeline in California.

Pure Water

The City's future Pure Water Program will direct wastewater flows away from the Point Loma Wastewater Treatment Plant and use cutting-edge treatment processes to produce safe, high-quality purified water. Instead, wastewater will be treated to recycled water standards at the North City Water Reclamation Plant and then treated at a new [Pure Water](#) facility, resulting in purified water. By 2035, Pure Water will provide one-third of the City's water supply and reduce the City's ocean wastewater discharges by more than 50%.

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