

METAL PLATING SHOP ACHIEVES ZERO DISCHARGE

Metal plating shops coat surfaces with special metals and typically discharge rinse water containing those metals to the sanitary sewer. Although the Regional Water Quality Control Plant (RWQCP) is able to remove some of the metals, metals remaining in the wastewater are discharged to the San Francisco Bay.

Peninsula Plating Works is a local metal plating shop specializing in antique repairs and restoration, special finishes, and polishing. The metals of concern handled by Peninsula Plating include silver, copper, nickel, and lead. Cyanide, which is also a pollutant of concern, is present in some plating bath solutions (such as copper cyanide and silver cyanide).

In 1990, Peninsula Plating Works was awarded special recognition from the RWQCP for completely eliminating its discharge to the sewer. This was accomplished by modifying plating rinse procedures. Rinse procedures were modified so that upon removal from a tank, each piece of equipment being treated by Peninsula was spray rinsed over the tank from which it came so that any dragout pollutants are rinsed back into that bath. Then the piece is either spray rinsed again over an empty tank to catch the water or dipped into a post-rinse tank. This collected water is then used to replenish the appropriate plating tank, which would otherwise have steadily decreasing solution volume due to evaporation. These procedural changes allowed elimination of the drain to the sanitary sewer.

Peninsula Plating Works has not only eliminated its pollutant discharge to the sanitary sewer, but it has also significantly reduced its water consumption. The process changes described above resulted in a decrease in water use from approximately 10,000 to about 2,000 gallons per month. This demonstrates that pollution prevention and water conservation complement one another.