



NEFCO, INCORPORATED CASE STUDY

THE MONCLOVA EXPERIENCE



The Town of Monclova, Mexico found it necessary to increase the hydraulic capacity of its municipal wastewater treatment plant by 35% - from approximately 11.5 MGD to 15.5 MGD. The increase in flow was accomplished by upgrading the plant's biological treatment process. Once the modifications were completed, the flow through the plant was gradually increased. As the increased flow reached the plant's three 112-foot diameter clarifiers, the total suspended solids in the effluent of each clarifier increased as well. It soon became apparent that increasing the flow much beyond the pre-modification level threatened to drive clarifier effluent TSS to an unacceptable 10ppm, where 5ppm was the desired limit.

In order to solve this problem, plant management considered adding a fourth clarifier at a cost of nearly \$560,000. Before proceeding, however, plant representatives contacted NEFCO to determine whether the NEFCO Stamford

Baffle could aid in reducing TSS to acceptable levels. NEFCO personnel visited the Monclova site and proposed the installation of NEFCO's new, Stamford Baffle 2.0™ Density Current Baffle at a cost of \$50,000 for all three clarifiers. The new baffle features a more shallow 30-degree inclination angle and an increased horizontal projection. Plant management elected to install the Stamford Baffle 2.0 in one of the three 90 foot clarifiers.

The baffle was delivered and installed in mid-2009 and testing began immediately, with the full one-third of the total flow being sent to the clarifier with the new baffle system and sharply reduced flow sent to the other two clarifiers. Plant personnel monitored the performance carefully and frequent samples were processed in the facility's extensive laboratory. The results clearly showed that NEFCO's Stamford Baffle 2.0 reduced the effluent TSS in the clarifier from 10ppm to 2.2ppm, a dramatic reduction of 78%.

NEFCO recently shipped additional baffle systems to Monclova for the remaining two clarifiers. The total cost of the baffles for the three clarifiers = \$50,000, as compared to \$560,000 for a new clarifier.

NEFCO – we don't make clarifiers, but we do make clarifiers work better!