

WATER
MATCH



CH2MHILL®

Atotonilco Wastewater Treatment Plant and Agricultural Irrigation Reuse Project

Atotonilco, Hidalgo, Mexico

Municipality: Metropolitan Area of Mexico City

Company: Mexican Federal National Water Commission (CONAGUA)

Project Fast Facts

Flowrate: 555,555 gpm (126,000 m³/hr)

Industry: Agriculture

Use: Irrigation

Conveyance: 37 mile (60 km) pipeline

For the past 80 years, Mexico City has been redirecting excess wastewater flows and stormwater runoff to the Tula Valley watershed to the north. These combined waters transformed an arid land area into a highly productive irrigation district; however, the untreated waters led to sanitary and environmental problems. To preserve the agricultural water reuse benefits while eliminating the deleterious effects, the National Water Commission (CONAGUA) unveiled a \$1.4 billion long-term sustainable water management program to address water supply, stormwater management, wastewater reclamation and

reuse.

A key plan component is the Atotonilco Wastewater Treatment Plant (WWTP), located 40 miles (64 km) north of Mexico City. This 800-million gallon-per-day (mgd) wastewater treatment plant (WWTP) will be the largest facility of its type in the world, cleaning almost 60 percent of the wastewater produced by the Metropolitan Area of Mexico City (with a population of over 20 million). Treated water will then be used to safely irrigate about 80,000 hectares (198,000 acres) of agricultural land in the Tula Valley.

Design components include state-of-the-art odor control systems and large-scale disposal of dewatered sludges. The plant will have a 526 mgd secondary treatment process train year round and a side 274 mgd CEPT treatment for the rainy season. It will be capable of treating a sustained flow of 960 mgd during the rainy season. The sludge produced by the plant will be stabilized by anaerobic digestion and the gas produced will be used for power cogeneration; the installed capacity of 32.4 MW will provide 60 percent of the plant's electricity requirements. The stabilized sludge will be disposed of onsite in a dedicated land disposal operation.



The Atotonilco WWTP is being delivered as a Design-Build-Operate-Transfer (DBOT) project with a 20-year operating period. As Owner's Engineer, CH2M HILL performed the technical review of the DBOT bids, evaluating proposers' preliminary designs against comprehensive design criteria; reviewed the detailed engineering; and is providing technical advisory services. Agreements were signed in 2010, and the CEPT phase of the WWTP will be complete in September 2013. Completion of the second phase, which includes secondary treatment, is anticipated by the end of 2014, with commercial operation will start in early 2015.

**Our motive is simple: to promote beneficial wastewater reuse around the world today.
Join us and help make matches happen. Because no water should be wasted.**

