

\$20MM TIC HYGIENIC RE-DESIGN & INSTALL OF A PROCESS WASTE SYSTEM

ABOUT THE CLIENT

EAD supports a world-leading food manufacturer and a member of one of the Fortune 500 largest corporations in the United States with project and construction management, engineering, and safety consulting to solve their most challenging wastewater issues. They must meet the rigors of maintaining a continuous 24/7/365 production schedule while ensuring the sanitation and safety of their facility.



SERVICES

Project & Construction Management
Multi-discipline Engineering
Safety Consulting - Standards Development

HIGHLIGHTS

- Diagnosed sanitary sewer system safety issues and developed and executed engineering and construction management solutions to remediate
- Executed replacement without interruption to client's 24/7/365 production schedule
- Developed sanitation solutions that became the new plant hygienic design standard across the company

PROBLEM TO SOLVE

Our client needed to quickly resolve a microbial contamination issue they feared could impact their manufacturing process. They entrusted EAD to investigate the root cause and quickly develop a plan to improve plant safety and prevent a possible health and public relations disaster. EAD performed a site investigation and discovered the 1960s era cast iron sanitary sewer pipe had been "eaten" away by chemicals and ingredients within the facility. As a result, sanitary sewer water had drained directly into the soil. Because of missing p-traps, the EAD engineering team was concerned that the facility may have been exposed to the contaminated soil and the contents of the sanitary sewer system.

Once we diagnosed the process waste system problem, the food manufacturer decided that rather than close their facility down and take millions of dollars in losses, they would instead collaborate with EAD to develop engineering and construction management solutions, including replacing their entire sanitary sewer system, to address the sanitation issues. It was important that the replacement not impact their 24/7/365 production schedule or contaminate open food streams. Leveraging our expertise in hygienic design, we went to work to protect the brand and market value of our client.

APPROACH & SOLUTION

EAD devised solutions to address the identified sanitation issues. One issue involved the use of acid-brick dairy tile. Many of the basins with sewer drains and piping that our client needed replaced were lined with acid resistant brick, once considered the "gold standard" in dairy facilities for hygienic design. We discovered that the tiles had not been maintained over time, allowing moisture to seep through and grout and black mold to develop under the brick.

In order to resolve the issue, we worked with multiple coating vendors to develop a new set of standard requirements for coating the basins to handle wet, wash-down environments. The standards were comprehensive, accounting for the concrete finish, moisture content, cure time, coating materials, and installation specifications.



\$20MM TIC HYGIENIC RE-DESIGN & INSTALL OF A PROCESS WASTE SYSTEM (CONTINUED)

Our client also did not have specifications or standards for exposing, removing, handling, or transporting contaminated soil, pipe, and concrete within an existing operating facility. EAD developed secondary containment standards, HACCP standards, sanitation standards, and construction standards that enabled their contractors to work in the operating facility and replace their sanitary sewer pipes in situ. This involved developing a double wall containment system constructed of metal studs that separated the construction area from the rest of the plant. We hygienically designed the construction area with negative ventilation and HEPA filtration to ensure the cleanliness of the air. Gowning rooms, travel route planning, and strict sanitation procedures were put in place to ensure our client's facility could continue operating as normal during the installation process. Finally, EAD worked with the local authorities having jurisdiction to develop new standards to ensure the sewer piping could tolerate the chemicals and ingredients frequently washed down the sanitary drains.

RESULT & BENEFIT

EAD managed the waste water system design and replacement, a seven-year, \$20MM TIC project, without a single safety incident. Many of our solutions ultimately became new plant standards for hygienic design across the entire company. Our investigative work and quick planning successfully identified the root cause of the urgent facility sanitation issue. Our engineering solution, a new sanitary sewer system design and set of plant standards, ensures the safety of our client's facility for years to come. We are proud to continue to serve as our client's trusted advisor, providing them with innovative safety, engineering, project management, and construction management solutions to this day.

