Lessons From Latin America: An Innovative Approach To Wastewater Infrastructure

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Latin America has recently emerged as a new powerhouse for the use of wastewater treatment technology. The countries of Latin America were delayed in employing the new advances of the wastewater market due to other infrastructure priorities. However, growing populations and civic development has imparted a greater need for water treatment innovation than in the past.

Vast areas of land are being deforested to build new communities for the ever growing population. The catch-22 is that while this land is being developed for peoples' use, the deforestation is also causing harmful runoff to drain into the rivers and this is drastically impacting the peoples' clean water source. Industrial growth in Latin America is steadily growing as well and these industries and business need clean water to manufacture goods. These industries consume clean water at a significant rate as well. The collection, transportation and treatment of wastewater allows the use of reclaimed water for many needs.

Following are some of the advancements being made:

- Chile, Brazil and Colombia are working very hard to update and upgrade all wastewater treatment infrastructure.
- Mexico, due to its proximity to the USA, has embraced some of the same rules and regulations related to water and wastewater management that the USA uses (The Rio Bravo/ Rio Grande Water Treatment Treaty is an example).
- Panama has initiated a complete revamp of the sewer collection system to divert all the wastewater to treatment facilities in an attempt to clean all the shores and beaches.
- Aruba, one of the pioneers in wastewater treatment and reclaimed water re-use in Latin America, is in the process of building a second wastewater treatment plant.
- Puerto Rico and the USVI have been working very hard to repair and restore all the wastewater collecting systems, including pipelines, manholes, lift stations and treatment plants using state of the art technology and products.

Today, technology provides the opportunity to rebuild most of the old concrete and brick structures damaged by exposure to the very aggressive chemicals and acids present in the wastewater environment, including MIC (Microbiological Induced Corrosion). What most people do not realize is that a large amount of bacteria (Thiobacillus) lives in the wastewater environment and feeds on the gases resulting from decomposition of human waste. In this

process, S02 and S03 are segregated. When these gases condense with the humidity and moisture present in collection systems, Sulfuric Acid forms. Concentrations can reach 40%, damaging all concrete, steel and brick structures exposed to it.

Surface restoration products allow us to restore (instead of remove and replace) most of the concrete and brick structures existing today, saving not only time and money but disturbance to the citizens living in the areas where the restoration is done.

Many 100%-Solids, Resin-based products are not only friendly to the environment but for users as well. Today's more advanced materials add the versatility of being able to be applied in the specified thickness in just one coat. This eliminates the need to come back for two or even three re-applications to comply with specifications. Concrete, brick and steel can be protected with these resin-based products, stopping the corrosive attack and destruction of structures exposed to them.

Other related products help stop water inflow and infiltration (I/I), seal leaks and cracks, and protect the structures from stress movement. Such stresses include a disparity of coefficient of expansion between brick, concrete or steel when multiple construction materials are found together within the same structure.

Airless spray technology helps in the application of protective coatings in a very fast and accurate manner, ensuring a great penetration and bonding onto the surface. The end result is a longer service life to the municipality and/or owner of the facilities.

Sauereisen continues to innovate with materials and application methods for the municipal wastewater industry. Our materials prevent corrosion to potentially vulnerable concrete and steel infrastructure. In addition, Sauereisen products prohibit water inflow & infiltration, a prevalent problem in wastewater collection systems.

Since entering the wastewater market over thirty years ago, our credibility has grown steadily. Sauereisen is positioned to lead with economical, user-friendly underlayments, coatings & linings, and urethane technologies. These incorporate organic polymers specifically formulated for the municipal wastewater environment.

Whether it's restoration or new construction, Sauereisen has the substrate repair materials and corrosion barriers for you specific application. We provide products to rebuild the structural integrity of the structure and solve water inflow and infiltration problems.

Sauereisen's epoxy-based SewerGard 210 family of products is designed to exhibit low permeability. This enhances corrosion resistance and extends the longevity of underground infrastructure such as manholes and lift stations. SewerGard is available in several variations to accommodate desired thickness and methods of application. It is a critical element for municipal asset management.

Established in 1899, Sauereisen delivers the credibility that can only be attained by a history of success. From collection systems to treatment plants, Sauereisen offers the technology and experience to generate confidence.