Case Study: Application of Mainstay Composite Liner Reinforced with Steel Wire Mesh

Contractor: H&R Underground
Location: Davis, CA
Structure: 4' diameter 14' steel lift station
Year: 2017

H&R Underground performed an application of the Mainstay Composite Liner reinforced with steel wire mesh on a deteriorated steel lift station in the basement of a facility at UC Davis in California. Sections of the lift station were so badly corroded that the steel surface had been completely eaten away, exposing the surrounding soil. This presented a challenge in regards to creating a strong between the Mainstay ML-72 Sprayable Microsilica Mortar and the steel substrate.

To begin, H&R Underground performed surface preparation by dustless abrasive blasting to remove any contaminants and produce a surface profile. The areas of missing steel were then filled using a combination of Mainstay ML-72 Mortar and Mainstay ML-10 Hydraulic Cement Mortar. The combination of these materials produces a rapid-setting material with strong physical properties. After filling these gaps, Stanley steel wire mesh was placed around the inside diameter of the lift station, leaving a 1/2" space between the mesh and the steel substrate. Mainstay ML-72 Mortar was shot onto the steel mesh at 1" to encapsulate the mesh and restore structural integrity. Finally, a 100 mil application of Mainstay DS-5 100% Solids Epoxy Coating was sprayed onto the Mainstay ML-72 Mortar to protect the lift station from future deterioration.