Case Study: Application of Mainstay Composite Liner FR for Protection Against Freeze/Thaw

Contractor: Culy Contracting, Inc.
Location: Parker City, IN
Structure: concrete clarifier
Date: May 2017

Culy Contracting, Inc. performed an application of the Mainstay Composite Liner FR on a concrete clarifier in need of repair. The above ground portion of the structure had degraded after experiencing numerous freeze/thaw cycles and long term exposure to the elements. Fragmented pieces of concrete were found stuck in sludge pumps resulting in unnecessary maintenance and decreased efficiency. The Mainstay FR system was used to restore the concrete surface and protect the structure from cracking and future deterioration.

Culy began by removing dirt both six inches down and six inches out from the exposed concrete to allow enough space to terminate the system. They performed surface preparation by pressure washing the concrete to remove loose and contaminated material. Then, Mainstay ML-72 Sprayable Microsilica Restoration Mortar was used to build back the surface where concrete had been removed. The mortar was left to cure overnight.

Culy's crew came back the next day to apply Madewell 927 Penetrating Epoxy Primer to the cured mortar. The primer was allowed to tack, and the crew applied a thin coat of Mainstay DS-5 100% Solids Epoxy Coating. The fiberglass reinforcement was then installed using fiberglass mat and cloth laid onto the wet epoxy and saturated with Madewell 1312E Epoxy Saturant. The material was left to cure overnight.

Upon returning the next day, the crew sanded the fiberglass layer to prep the surface for an epoxy topcoat and to remove any fiberglass strands sticking up from the surface. Lastly, a topcoat of Mainstay DS-5 Epoxy was applied to seal the fiberglass system, provide a smooth, continuous surface, and prevent any future concrete deterioration.

To learn more about Mainstay Composite Liner FR, visit our website at www.madewell.net.