



CASE HISTORY

24" CARBON FIBER BIDIRECTIONAL MESH

CITY OF HARPER WATER TOWER



Lamunyon Dry Out and Foundation Repair were given the opportunity to save one of the oldest existing Standpipe's in Kansas. Built during 1886 & 1887 and is a very unique example of late 19th century construction and is still actively used by the surrounding community. The tower base was originally made of brick. The brick base had been continually failing for years. The first attempt at a repair was to encase the brick in concrete. When that repair failed, metal rods were installed around it to try to keep the concrete from failing any further, but that didn't work either.





Lamunyon's solution was to use 24" bidirectional carbon fiber mesh to hold the base together. With a tensile strength that's nearly ten times more than steel and five times lighter. This is one repair that should hold up much longer. Two layers of the 24" carbon fiber bidirectional mesh were installed; one covering the surface oriented horizontally, and one covering the surface oriented vertically.

Scaffolding was set up to allow for preparation of the concrete and installation of the carbon fiber. The surface was ground to expose the aggregate so that the epoxy could create a strong bond with the existing concrete. The metal rods were then removed as the carbon fiber straps were installed. As a last step the outside of the structure was painted a bright blue to prevent ultra violet light from degrading the epoxy over time. The project was completed in June of 2020.



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