

Birthplace of Rock ‘n Roll Makes Sweet Music With OBIC Manhole Lining System

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Memphis, Tenn., ran into a particular infrastructure rehabilitation challenge on the 1,420-foot Jack Carley Causeway line, serving President’s Island. A run of 15-inch VCP sewer main with eight manholes was compromised by age and H₂S gas.

Deep Problems

One 50-foot-deep brick manhole required immediate remediation, for which Steve Lindsey of Jacobs Engineering Group oversaw a new approach. It was in catastrophic failure, mortar mostly gone and the bench missing.

Cured-in-place pipe lining company Granite Inliner, unable to move their jetter through the bottom of this 48-inch diameter manhole, discovered the missing bench. They deemed this a safety concern, forbidding technicians re-entry until stabilized.

Troy Reed of CTR Coatings was called in to examine the structure, documenting a huge problem. “We decided to reconstruct the bench with a fully structural repair method,” remembers Lindsey, “so CIPP crews could complete lining.”

Unusually Difficult Conditions

The location, just six inches from a truck loading dock in a floodplain just 3,000 feet away from the Mississippi River, created access problems and water inflow from high groundwater hydraulic pressure. This was a huge problem.

The chosen structural solution—OBIC Armor 1000—uses a three-layer installation process, requiring all active leaks stopped before application. It was chosen for its structural enhancement, protective properties, quick application and return-to-service. But to perform properly, proper prep was critical.

Critical Prep

CTR technicians pressure-washed the manhole, injecting OBIC Hyper Seal grout in any leaks, then dried it with a blower. Prep took an entire day, then hard rain events created constant groundwater inflows, which also had to be dried.

Once the rain stopped, Reed installed reinforcing mesh on the manhole bottom, then sprayed enough OBIC Armor foam-based structural material to fill the missing bench void. The first layer of the OBIC Armor 1000 System, the moisture barrier, was sprayed on, setting

in ten seconds. The second layer, an uncommonly dense, structural, closed-cell polyurethane foam, was applied, drying in 20 seconds.

The third corrosion barrier layer was the same orange-hued polyurea as the first. Able to withstand up to a thirty percent concentration of sulfuric acid, it passes the ASTM G210-13 SWAT. Impermeable and non-reactive to most industrial compounds, its total dry time was about two minutes, compared to cement, which can take 28 days. Finally, a spark test was performed to ensure even coating.

Worth The Difficulty

Lindsey is thrilled. “Both the liner and manhole turned out great.” He gives credit to CTR for sticking with a difficult job, and to the new OBIC Armor 1000. “It meets our physical properties and corrosion barrier requirements.” He now specs OBIC as an “or equal,” and believes there’s a place for OBIC products in Memphis’s underground structure future.

To learn more about how OBIC products can rehabilitate even the most difficult water or wastewater rehabilitation issues, [contact our team online](#) or call us at 866-636-4854.

