

# CASE

Manholes are an essential part of any municipal drainage system. Manhole covers date back at least to ancient Rome when they were square and made of stone. There are more than 20 million manholes in the US of which 4 million are over 50 years old and 5 million aged 30-50 years.

When in good order they keep the piping below secure from any influx of excess water which would otherwise overwhelm drainage system. But, over time these removable caps set in roadways and sidewalks lose their integrity and significant remedial work needs to be done.

## Problem

Aging manholes leak. Often old bricks and mortar ones have had their mortar eaten away by acids caused by Hydrogen Sulfide gas, or due to the damage caused by subsidence and road traffic pounding. Even more modern cast concrete or poured in situ manhole casings are not immune from these ravages of acid and wear and tear.

**The US EPA estimates that about 50% of the oldest and 30% of the 30-50 year old manholes (total about 3.5 million), are suffering serious structural decay and are in need of immediate replacement or remediation.**

## Solution

VOC-free, solvent-free has been used in seven locations in water and waste-water environments in Tennessee and Kentucky, including manholes for Harpeth Valley Utility District, the cities of Brentwood, Franklin and Portland, and settling basins for the Turney Center Maximum Security Prison and the City of Kingston Springs, and also for secondary containment for the Louisville Water Department.

The manholes were coated almost in their entirety from the trench to the top of the lid casing. The underside of the lid is not coated, just the top of the casting.



## Application Results

Ecodur proved to have major advantages over conventional epoxy remediation. They included:

The rapid cure time eliminated much of the sewer backup occurring due to line plugging, or costly bypass pumping being required. With Ecodur, the manhole was returned to service as soon as it was coated and the applicator person had left it. Epoxies typically took four hours.

The solvent-free, VOC-free Ecodur spray system meant no spray line flushing or capture of waste solvent, and no subsequent costly disposal issues of toxic liquid.

Far greater flexibility and overall coating integrity was achieved with Ecodur as the spray process could be stopped and started at will, unlike epoxy coating, as Ecodur totally bonds back on itself even after curing.

With no noxious vapors to contend with, it is considerably healthier for the applicator and eliminates the potential for complaints from people in the vicinity who no longer have obnoxious fumes to contend with as Ecodur is a totally non toxic, natural ingredient product.

The work was carried out by AquaBlocX, a full service infrastructure rehab and coatings contractor which has its headquarters on the Alabama Gulf Coast and a branch office in Nashville, Tennessee.

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