

Erosion Threatens Parking Structure in Posh Downtown Dallas. Contractor Uses TerraThane™ to Save the Structure and the Owner Millions of Dollars.



PROBLEM

Erosion of the soil around in-ground parking garages causes major problems and can cost plenty to fix. A small case of erosion can quickly cause silt infiltration that overwhelms and clogs the drainage system, thus causing more and worse erosion until the entire structure is threatened.

Erosion around a three-story, in-ground parking garage in Dallas' "Uptown" area and home to some of the city's posh apartments, business addresses, shopping, hotels, restaurants and bars, created a large void in the soil surrounding the piers and gave the developer serious headaches.

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SOLUTION

David Edens, president of Edens Structural Solutions, Bixby, OK, says his company studied the problem and, "Our solution was to use a TerraThane™ geotechnical foam system. It's simple to apply, expands and cures in place, and is an excellent water and air barrier."

They:

- + Drilled a shaft down along the piers and soldier piles and lagging, to survey the problem and found the water had gone through the block wall and carved out what appeared to be a five-foot cavity.
- + Chose NCFI's TerraThane™ geotechnical foam
- + Used boroscope, ground-penetrating radar, to help determine the overall void and cavity dimensions
- + Ran a 3/8-inch vinyl tube behind the block and dropped in the TerraThane™ polyurethane foam

RESULTS

Edens says, "TerraThane™ gives us four products in one." It fills in large and small voids running both vertical and horizontal in the cavity, serves as a water and air barrier so it will impede future water and silt infiltration, it's amazingly strong, and it's light, so it won't add any weight to the block wall. We were in and out in two months with minimal disruption of the parking.

"TerraThane™ saved this one and the owners have asked us back for more work."

The alternative would have been to shut the entire structure down for a year-and-a-half as they removed the entire block wall, dug out the lagging, installing 26 gauge panels, then backfilled the cavity with gravel. That might have cost upwards of \$2 million or more, plus loss of parking revenue. TerraThane saved this one and the owners have asked us back for more work."



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