



Avoid A Water Crisis.



Moody Towers, University of Houston

CASE STUDY

Potential Water Crisis Averted – CuraFlo® Revitalizes Dormitory Piping at University of Houston

**Specialized CuraFlo
Solution Boosts Pipe
Durability and Water Flow
–in a Fraction of the Time
of Conventional Repiping**

When officials with the University of Houston were faced with the costly and time-consuming prospect of repiping the water lines of their largest dormitory complex, they turned to a qualified CuraFlo® professional

for answers. CuraFlo responded with a process that reinvigorated the eroded piping system, generated greater water flow and purity than ever before – and did so in less than half the time of conventional repiping.



Moody Towers, University of Houston

Situation Analysis

Located on the picturesque urban campus of the University of Houston (UH) in Houston, Texas, Moody Towers is the University's largest complex of residence halls. The two 18-story buildings were constructed in 1972 and house more than 1,100 students. With the exception of a four-week winter break, each room is occupied throughout the year.

Recently, UH facilities officials concluded that Moody Towers faced a potentially serious water crisis in the near future. After decades of patching and spot repairs to the towers' galvanized piping, these water lines had deteriorated to the point where additional repairs were no longer possible over a prolonged time frame.

Initially, they believed that a complete repiping of both towers was the necessary next step. But according to Craig Brodd, UH Maintenance Supervisor, repiping would take both towers off line for up to 14 months. "We didn't have a wide

enough window of time to repipe, because we couldn't close the buildings and displace the students," he says.

"Repiping would have been extremely time intensive and expensive."

*Craig Brodd, Maintenance Supervisor
University of Houston – 35-year master plumber*

Complicating matters was the design of the piping itself. As Brodd explains, much of it was inaccessible, meaning that walls, marble showers and other expensive fixtures would have to be ripped out in order to install new pipe. "A lot of the piping ran in places where we just couldn't get to it," he says. "Repiping would have been extremely time intensive and expensive."

Brodd and others sought an alternative – one that could be implemented with minimal disruption to the towers themselves – or the large student populations that lived within their walls. They also sought a solution that yielded high-quality, long-lasting pipes, alleviated future system leakage, enabled better water flow and ensured water quality and purity. On top of that, they needed to complete work in only three months.

Tough Challenge Demands Unique Solution

Brodd consulted with a colleague who recommended CuraFlo. Though he hadn't heard of the company, Brodd knew from his 19 years at UH and 35 years as a master plumber that a typical pipe restoration project takes less time and causes less disruption than alternative methods involving repiping or excavating. "The notion that this work could be done while the buildings remained occupied really caught my attention," remembers Brodd. "We considered several companies and different process alternatives, but we chose CuraFlo."

Consequently, CuraFlo's President, Brian LeMaire, sent Jeff Turner to meet with Brodd. Turner and the CuraFlo team then conducted a comprehensive assessment of the towers. CuraFlo professionals like LeMaire and Turner are water infrastructure specialists who are carefully trained to evaluate an entire water infrastructure, rather than just considering an isolated plumbing problem.

Often, complex projects require a blend of solutions: epoxy lining to mitigate property disruption and streamline costs;



Tuberculation or build-up of scale inside a galvanized pipe reduces internal pipe diameter, consequently affecting water flow and water pressure

repiping in cases where epoxy lining isn't recommended, or when rerouting is necessary; replacement of corroded valves and fittings; and repairs if leaks are isolated. In the case of Moody Towers,

LeMaire and Turner recommended a combination of epoxy lining and pipe replacement in areas where existing pipe was too eroded to line. Their recommendation ensured a sturdy, long-lasting solution for the towers – and a quick turnaround to meet UH's strict timetable.

The CuraFlo Difference

CuraFlo's epoxy solutions utilize innovative technologies and time-tested proprietary processes to restore copper, galvanized steel, lead, cement and cast iron pipes. The company offers two proven solutions: the CuraFlo Engineered Flow Lining System® for smaller diameter pipes (1/2" – 4" diameter) typically found in homes and buildings; and the CuraFlo Spincast System™ for larger diameter pipes (3" – 36" diameter) such as water mains and fire lines that often are buried underground.

Additionally, the company's CuraPoxy® epoxy is unmatched in the industry. It is certified by IAPMO (International Association of Plumbing and Mechanical Officials) to meet ANSI/NSF Standard 61 for commercial hot water, the highest standard established for potable water. It features short cure times, which enable CuraFlo professionals to provide a speedy return to service. The CuraFlo process has also been accepted as part of the Uniform Plumbing Code by IAPMO, as well as certified to the government's most stringent safety standards for drinking water.



CuraFlo uses state-of-the-art equipment to complete lining projects as effectively and quietly as possible.

Smooth Process From Start to Finish

The CuraFlo team began work at Moody Towers in the summer of 2008. Their first step entailed running temporary water lines from the basement to aid in repiping and lining each floor until the main lines were completed.

Workers then dried the pipes with pressurized hot air. Next, pipe interiors were "sandblasted" with specialized particles to remove all debris and mineral build-up and prepare the internal surface of the water pipe for bonding with the epoxy. From there, workers flowed epoxy into and through all pits, crevices, pinholes and fractures, bonding it to the cleaned and prepared walls of the pipes and creating a seamless, permanent, protective barrier. The inside of the pipes were coated with CuraPoxy at an average thickness of 16 mils. After the coating cured, a pressure test was applied at 120 psi to assure a leak-free system.

Starting at the top of the South Tower, CuraFlo professionals completed work on a floor, put it back in service and moved downward. Consequently, students on the floor being

served used restroom facilities on other floors only during work periods; all other students continued to use facilities on their floor. Once a floor was completed, CuraFlo professionals put it back in service.

In some cases, existing pipe was in such poor condition that it couldn't be lined – it had to be replaced. "The people at

CuraFlo are master plumbers – they're not just guys who do lining," explained Brodd. "They have the expertise to provide solutions we needed – from lining to repiping."

Turner and his team worked diligently to keep Brodd updated at each stage of the project. Daily reports detailed progress made to date, plans for the day ahead, and overall results. Weekly meetings addressed

pending issues and served as a forum for open dialogue. "Jeff was very proactive in letting us know about issues that could affect the schedule or the students," Brodd said. "Any concerns that we voiced during project meetings, he was quick to address and rectify. I'm very satisfied with the service we received throughout this project."

**"The people
at CuraFlo are
master plumbers."**

*Craig Brodd, Maintenance Supervisor
University of Houston – 35-year master plumber*

Tough Test Yields Impressive Results

Halfway into the three-month project, the CuraFlo team was ahead of schedule in completing nearly all work on the south tower. Water service to each floor of that tower was restored, and Brodd has not encountered leaks or problems of any kind. In fact, he estimates that water flow already has increased 45 percent – possibly more. With work on the north tower now underway, Brodd reaffirms his decision to select CuraFlo.

**“Water flow
already has
increased
45 percent –
possibly more”**

*Craig Brodd, Maintenance Supervisor
University of Houston – 35-year master plumber*

“I knew very little about CuraFlo before we started this project, but after watching the process and seeing what their people can do, I would highly recommend them to just about anybody,” he says. “I’m very pleased with the system, with the work,

and with the people who stand behind it. I was surprised that something like this was actually out there and could work as well as it does. But it’s been a life saver for us.”

Benefits of the CuraFlo Engineered Flow Lining System:

Faster and less costly than traditional repiping methods

Less disruption – residents can inhabit the property during work

Minimal outages – residents are never without water service

Improved water quality – bacteria and viruses don’t cling to epoxy

Better, more consistent water flow – corrosion won’t build up on epoxy

Eliminates traces of lead and copper from drinking water – epoxy barrier prevents water from reacting with metal surfaces

Easier compliance – CuraFlo helps pipes meet strict EPA standards

High quality – CuraPoxy is thicker and more reliable than competing products

Long-lasting solution with a 10-year warranty



About CuraFlo

Headquartered in Beachwood, OH, CuraFlo offers complete pipe restoration services through our corporate crew as well as a network of franchises. CuraFlo features a customer service culture and a commitment to quality that is unmatched in the industry. CuraFlo and its network of franchise professionals take time to consult with customers, understand their specific needs, then provide the best solutions to their water infrastructure challenges.

In 1996, CuraFlo became the first company in North America to provide epoxy pipe lining services in residential, commercial and multi-tenant buildings. Since then, CuraFlo has lined more pipe than any other company in North America. In addition to a full array of traditional plumbing services, the company’s epoxy pipe lining solutions are widely renowned for alleviating problems with

deteriorating pipes and plumbing systems. In many instances, this proves a highly effective alternative to pipe replacement. In fact, pipes restored with CuraFlo’s epoxy lining can gain an additional service life of 50 years or more.

Equally important, CuraFlo professionals are master plumbers who can diagnose complex problems quickly and accurately, and offer the best solutions for specific project challenges. Sometimes, CuraFlo epoxy lining proves to be the recommended alternative; in other cases, repiping may be necessary. Some problems can even be solved by fixing a single valve or section of the system. Only CuraFlo professionals are equipped to know which solution will best meet customer needs.