

# The 'Rain Leader Guys'

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I-LINE

The United States Capitol is the world-famous symbol of America's democracy. It's where the legislature convenes. It's where the nation's policies are decided, drafted and enacted. Millions of tourists visit the U.S. Capitol complex each year. Therefore, EMS regarded its recent restoration work on this historic site, a matter of international importance.

EMS Senior Operations Manager Bill Lepola says it was an extraordinary assignment. "It was quite awe inspiring. Walking through the halls evoked a sense of wonderment knowing the history of accomplishments that have taken place here," he said.

EMS was hired to fix rain leaders at the Cannon House Office Building, the oldest congressional office building on the Capitol complex. The Cannon Building was completed in 1908. It was modern for its time, constructed with telephones, electricity, forced air ventilation systems, steam heat and individual lavatories with hot and cold running water and ice water. It has a rainwater collection system that directs the water from its roof to a series of vertical rain leaders. When EMS first inspected the leaders, they were in an accelerated state of decay. "Over time, these 5 inch diameter, cast iron pipes have experienced corrosion. Cracks and pinholes have developed that allow water to leak into the Member's private offices, Speaker's rooms and general areas," says Lepola.

EMS was selected by the Office of the Architect of the Capitol (AOC), the division in charge of the maintenance, operation, development and preservation of the 16.5 million square feet of buildings and more than 450 acres of land, that make up the Capitol grounds. With this project, the AOC was especially concerned about disturbing members of Congress. The deteriorating pipes were embedded in plaster finished walls. Traditional replacement methods would have been very expensive and highly disruptive. The I-Line product, with its non-intrusive installation, became an attractive alternative.



I-Line refers to a collection of restorative technologies geared towards addressing corrosion and abrasion issues - sealing and protecting pipelines, conduits and structures. With regard to the Cannon Building, the I-Line Cured-In-Place Pipe repair was utilized. This technique involves the insertion of a resin impregnated lining tube, which is then cured to form a tight fit against the conduit wall.

"I-Line is unique in that we provide a tailored solution to address specific integrity issues. From our patented Vertical restoration System, to custom epoxy and reinforcement constructions, we will assemble the most cost-effective program to deliver value to our customers," says Lepola.

### CHALLENGES OF HISTORIC PROPORTIONS

This assignment came with a specific set of logistical challenges. Each day started with EMS staff gaining security clearance to Capitol Hill. EMS vehicles needed access passes to proceed through a parking lot checkpoint. To enter the Cannon Building, EMS employees needed to go through metal detectors, and their shoes and belongings needed to go through X-ray machines.

Inside the Cannon Building, EMS specialists were forced to improvise as problems presented

themselves. "When this building was built, there was obviously no consideration for future access," says Lepola. "Space constraints were the driving force here. We had to design special equipment and techniques for installation. The long lengths and complex piping geometries also required the use of flexible lining material and a unique tether guidance system to navigate the bends and offsets present. With great support from the AOC, we were able to safely and effectively conquer any condition presented."

In all, EMS technicians restored 15 rain leaders over 25 days. They primarily worked out of the basement, where materials and equipment were stored, including the resin impregnation line. A CCTV camera was used to determine liner length. The camera has a built-in footage counter, and when it was inserted from the roof down, it provided a digital read-out of the leader length. The average liner length installed was 90 feet – the measurement from the roof level to the connection with the main leader.

After the dry lining material was sized, a mixture of resin and hardener was evenly spread onto its entire length. The resin-saturated liner was essentially pressurized and pushed up the leader from the basement, using an installation canister, compressor and other equipment. Once in place,

the system was cured. The cured lining material was then trimmed off at the roof and basement levels. To conclude the work, the CCTV camera was propelled through each leader once again, to record a digital file of the completed condition.

### U.S. GOVERNMENT RELATIONS & THE FUTURE

The scope of the restoration expanded and evolved during the project. Because this was a government contract, there were vendor registration requirements and many required forms. "Susan Feagans was very helpful in championing this through, completing the requisite information and obtaining the necessary signatures," says Lepola. "Kenneth Cockrill was instrumental in authorizing approvals and expediting the process. Kim Fry handled all the expense and payroll issues. Crew-wise Brandon Stankevitz and Danny Romero provided excellent support to the on-site activities, rapidly assimilating the process and contributing to the overall success."

In fact, Romero, a Louisiana native, took the initiative to promote EMS with politicians from his home state. Romero spoke with Congressman Charlie Melancon and Congressman Charles Boustany, Jr. who are both representatives from Louisiana districts. "I introduced I-Line and the ways we could fix many of the problems that

are hampering these old historic buildings," says Romero. "We plan to be back in D.C., and I plan on setting up two separate meetings to give these two Congressman a full-blown brochure, and explain in more detail how we can assist in other areas."

Lepola says EMS staff took advantage of opportunities to educate lawmakers about I-Line. "On occasion, we did have the time to speak with passing members who had heard about the 'rain leader guys' or were just inquisitive as to our activities. After explaining the process, the reaction was always very positive. We hope to have made a good impression here that will propel I-line and EMS within the AOC".

It appears EMS made a very good impression. Already, the AOC is requesting quotes or the restoration of an additional 20 rain leaders at the Cannon House. The agency is also inquiring about possible services at the Library of Congress, which was built in 1815. The Library of Congress serves as the research arm of Congress, and is open to the public. It is the nation's oldest federal cultural institution. It is also the largest library in the world with millions of books, recordings, photographs, maps and manuscripts in its collections. It is yet another national treasure EMS may be able to help preserve!

