

RCP RENEWED

Using 2 Spiral Wound methods in Fulton County, GA



PROJECT SCOPE

Fulton County, GA has a series of RCP line segments in close proximity to the Chattahoochee River. Recently, these segments have witnessed infiltration when river overflows occurred. The decision was made to fully renew these segments, however a trenchless technology was necessary due to the busy suburban location.

Spiral Wound liners were chosen as the best trenchless pipe lining method for this project. The two diameters required different Spiral Wound methods; SPR™ and SPR™TF.

SPR™ was utilized to line the 60" segments. Once the pipe was lined from manhole to manhole, the annular space would be grouted. SPR™TF would be used for the 42" segment. The SPR™TF lining system boasts a traversing machine with hydraulically powered arms. These arms line the PVC tightly against the host pipe wall, meaning no annular space grouting was required.



Spiral Wound is a fully structural solution with a limited construction footprint above ground; an appropriate choice for the area. It also allows the contractor to install with flow present in the pipeline. This proved critical as managing the flows became a substantial challenge from the start.

Kemi Construction Co. of Atlanta, currently operating with Fulton County under a repair and rehabilitation contract, chose Spiral Wound installer, Ruby-Collins Inc. from Smyrna, GA to perform the rehabilitation work.

1,500 FT
Project Length

42" & 60"
Pipe Diameters

2

Spiral Wound Methods

www.sekisuispra.com

email: sekisui.info@sekisui-spr.com office: 678-510-1820 sales: 1-866-627-7772

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PROJECT CHALLENGES AND INSTALLATION

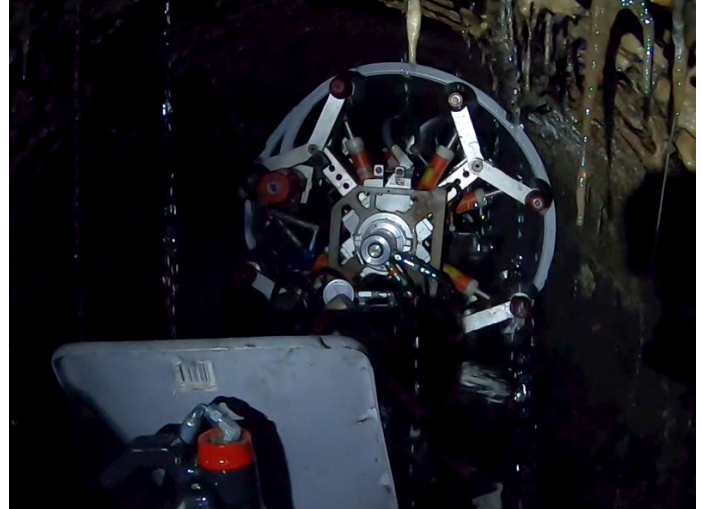
The contractor for the project, Ruby-Collins Inc., witnessed some challenges due to extremely high flow rates as well as ground water infiltration from the river after rain events. Although Spiral Wound liners can be installed in live flow, this typically means up to 30% low velocity flow within the pipeline. This is largely due to safety concerns.

At the project's onset, the pipelines were running higher than 30% flow at high velocity. This led Ruby-Collins to increase the bypass pumping operations to reduce the flows to a manageable level. Although some delays occurred, lining pressed forward with the flows at a controllable level.

Another challenge was Ruby-Collins' familiarity with the SPR™TF technology. Ruby-Collins has a great deal of experience with SPR™, the Spiral Wound method for pipelines between 36" – 200"+. This is owed to their successful installation of over 10,500 LF of SPR™ liner a year prior for the City of Atlanta; the largest Spiral Wound project in the United States. With some slight variations, the 60" liner installation was familiar to the crew.

Both SPR™ and SPR™TF incorporate machines that traverse the pipe while constructing the liner. SPR™TF, however, is a different winding machine and process. Instead of winding the SPR™ liner with a gap between the liner and host pipe, the SPR™TF liner is wound directly against the pipeline wall. Another factor is the limited space to work within the 42" section. The machinery and process vary enough to where SEKISUI SPR needed to properly train the installer prior to installation.

This training proved challenging with the SPR™TF technicians located overseas and the installation set to occur mid-May; at the height of the COVID-19 pandemic. At this point international travel was banned, requiring the solution to be digital. The SPR™TF training sessions resulted in a coordinated digital strategy that included video modules and teleconferencing with Spiral Wound technicians.



Ruby-Collins completed the 60" portion in May 2020, lining over 1,100 LF of RCP. They immediately transitioned to SPR™TF virtual training and prepared to line the 42" section. With all the delays and the challenge of virtual training, they were able to successfully line the 400 LF section of 42" RCP in June. The combined effort from Kemi Construction, Ruby-Collins Inc, SEKISUI SPR Americas, and Fulton County officials pushed the project to completion.

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Riverside was an extremely challenging project due to the river being so close & the heavy rainfall we experienced during project. The SPR lining was ideal for this type of project allowing us flexibility with the conditions out of our control & minimize the disturbance to the community around us.

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- Mike Lawson, Project Manager, Ruby-Collins Inc.