



## PROJECT SCOPE

The Carolina Sewer Repair Project involved the rehabilitation of over 750 feet of 51" cast-in-place monolithic concrete sewer located along S Macadam Avenue between S Mitchell Street and S Sweeny Street in the City of Portland, Oregon. SEKISUI SPR Americas worked with the City of Portland and their consultant Brown and Caldwell during the design phase to review the project scope, project challenges and the key objectives of the rehabilitation method to be specified. This involved the review of CCTV and other condition assessment reports, understanding the various constructability challenges including flow conditions and radius bends within the host pipe. The key drivers for the project were to verify that hydraulic capacity would be maintained post rehabilitation and that the liner would provide a fully structural repair solution.

Based on the review, SEKISUI SPR recommended the SPR™TF/RO lining system for this project. SPR™TF/RO is a tight fit liner for 40" to 60" gravity pipelines and does not require annular space grouting.

With standard profiles having steel reinforced ribs, the SPR™TF/RO liner met both the hydraulic and structural requirements for the project. With a small construction footprint and the ability to install our liners in live flow typically without the need for temporary bypassing, the city sole sourced this project using Spiral Wound liners.

Equally important to the success of this project was to identify the right contractor who could partner with SEKISUI on this as well as future opportunities in the Pacific Northwest. That partner was James W. Fowler Co. With years of experience working with the City of Portland and a proven track record working with trenchless technologies, JW Fowler was the right partner for this project. The project was competitively bid in February 2021 and was awarded to JW Fowler in April 2021.

**+750** FT  
Project Length

**51"**  
Pipe Diameter

SPR™TF/RO

- 40" - 60"
- Tight fit
- Circular shapes



# TRAINING AND LINER INSTALLATION

Construction challenges were not the only challenges on this project. With the COVID-19 pandemic impacting global supply chains, shipping transit times coupled with long port delays, shipping material and installation equipment from Australia to the US proved to be more challenging than expected. With Portland coming into their rainy season, there were concerns about potential high flow levels in the host pipe. Bypass pumping had not been factored into the project equation; therefore, time was of the essence.

Additionally, SEKISUI technicians who would typically travel internationally to train and support new licensees were restricted. To meet this challenge, SEKISUI technicians developed web-based modules to conduct classroom training via the internet, which was then supported by US based technicians for the field training component.

After completing the requisite contractor training, JW Fowler crews demonstrated a quick grasp of the technology and were prepared to mobilize once the new licensee training was complete. With the support of our US based technician, JW Fowler ran a 24/7 operation and was able to install over 750 feet of liner within the 51”.

The biggest installation challenge on this project was how the SPR™RO machine would negotiate the bends. The specifications required that the liner must be wound in at a diameter no smaller than 46” ID. This was required to maintain hydraulic capacity. As the SPR™RO machine can adjust in line to wind through the bends, the operator installed a tight fit liner that did not require any annular space grouting.

Though there was concern about potential wet weather conditions and project delays, the crews mobilized on schedule. Working 24/7 shifts allowed the contractor to improve productivity and they were able to complete the lining portion ahead of schedule. In the end, it took the team less than a week working around the clock to mobilize, set up, install the liner, and complete the finishing details.

