

INTERNATIONAL VISITORS OBSERVE INNOVATION AND PROBLEM SOLVING FIRSTHAND

Trenchless technology experts Interflow recently hosted a contingent of colleagues from Japan at the site of the NSOOS sewer renewal, which the company is completing for Sydney Water. The visitors – which included representatives from Interflow’s strategic partner and manufacturer of Rib Loc products, Sekisui – were on location to observe firsthand how Interflow delivers innovative solutions, world’s best practices and problem solving for its clients.

The Northern Suburbs Ocean Outfall Sewer (NSOOS) is one of Sydney Water’s most significant sewerage assets. Located in northern Sydney, it was only the third asset of its kind servicing the city when it was progressively constructed between 1916 and 1933.

The NSOOS, which is still vital in keeping Sydney’s waterways clean, is more than 28 km long and runs along the north side of the Parramatta River, collecting wastewater from as far west as Blacktown and transporting it to the North Head Wastewater Treatment Plant in Manly. The sewer collects approximately 25 per cent of Sydney’s wastewater, servicing an area of almost 420 km².

Last year, Interflow started rehabilitation and repair work in the NSOOS. The company has been contracted by the utility to remove silt and debris that has built up within the sewer, as well as resurfacing the walls and roof, which have deteriorated.

INTERNATIONAL VISITORS

Interflow is renowned in Australia and around the world as trenchless technology experts, using innovation and world’s best practice to deliver renewals for its clients. A contingent from Tokyo, Japan recently visited the company’s rehabilitation operations in the NSOOS to observe the company in action.

The group of 26 people included representatives of more than 19 companies, including Interflow’s strategic partner Sekisui, which supplies Interflow with the Rib Loc spiral wound liner through its subsidiary Sekisui Rib Loc Australia (SRLA).

The two companies have worked together since 1991 and signed an additional 20-year



Interflow crew coating NSOOS.

agreement in 2016. The visitors were led by Toru Kumagai, the Senior Managing Director of the Tokyo Metropolitan Sewerage Service Corporation, a subsidiary of the Tokyo Metropolitan Government’s Bureau of Sewerage. The delegation also included professionals involved in machinery and pipe manufacturing, sewer maintenance services and facility manufacturing.

Interflow Operations Manager – Product Development and Technical Services Ervin Hung says the Japanese visitors had heard about the NSOOS and were interested in the innovative solution Interflow has developed to renew the sewer.

“People in Japan’s sewer industry have heard of the NSOOS project and the group wanted to see firsthand the innovations Interflow has developed and is implementing on the project, as well as observing the collaboration between Interflow and the utility,” he says.

“There are quite a few differences between Australian and Japanese markets when it comes to sewer renewals, such as the condition between the sewers and the conditions which we are allowed to work in. For instance, in Japan, Sekisui is typically allowed to work in



Japanese visitors on site.



Remote machinery demonstration.

sewer flows that are the lesser of 30 per cent of host diameter or 600 mm, whereas the NSOOS is 700-1,500 mm.”

Paul Centofanti, Sekisui Rib Loc Australia’s Director, Operations and Market Development, said “We value the opportunity of working collaboratively with our strategic partners so that we are able to better understand our customer’s needs.”

PHASES OF WORK

Interflow’s work inside the NSOOS has been separated into phases with work sites situated at several locations throughout the

suburbs of Lane Cove and Riverview. Each site involves different types of work, so each is setup differently; however, the operation’s main work compound is located at the Burns Bay Aqueduct in Burns Bay Reserve, Riverview.

One of the technical innovations of particular interest to the visitors was Interflow’s custom-designed and manufactured Kubota excavator. The machine, which is remote controlled, can be driven through the NSOOS to collect the silt and debris that has built up on the tunnel floor.

Entering the tunnel at Burns Bay Reserve, the excavator scoops up the silt and debris – mostly consisting of small pieces of concrete tunnel lining that has fallen off the internal roof and walls – as it progresses through the tunnel.

Once the silt and debris has been removed, Interflow will clean the internal roof and walls of the sewer with high pressure water. This will help to dislodge any crumbling or failing sections of the concrete lining, before the company begins repairing the failed sections of the tunnel lining before giving the whole surface a new coating.

This second stage of debris and silt removal is to collect and remove any of the crumbling lining that dislodged during the high pressure water cleaning at the start of the rehabilitation phase. Other specific aspects of note for the contingent included Interflow’s spray coating process.

COLLABORATIVE APPROACH

The contingent was joined on site by Sydney Water Project Manager Glen Nelsen, as well as a group from Interflow, including NSW General Manager Peter Camilleri. The utility provided an overview of the problems inside the NSOOS and how the utility engaged with the industry to come up with a solution.

Interflow’s Project Manager, David Yostos, then presented an overview of the challenges of the delivery, which included identifying the issues in the sewer before the company could develop a bespoke solution.

As of this month, Mr Yostos and his team

continue to work inside the NSOOS.

The desilting and rehabilitation is a crucial project requiring careful and precise methods to ensure the safety of the public and the crew.

The operations involve encounters with progressively latent high risk conditions and site constraints including deep maintenance holes, up to 90 m; deep flow; high velocity flows; high levels of gas; and poor visibility. These constraints have led to Interflow innovating to keep its crews safe and productive.

This includes custom built machinery to travel within the tunnel to remotely remove debris from the invert, a maintenance hole fall prevention system, the use of Wi-Fi walkie talkies and an internal scaffolding system to work in live flows.

Interflow has also introduced a safety light indication system: a green light means it’s safe to work, while a red light means the sewer must be evacuated immediately. **T**

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