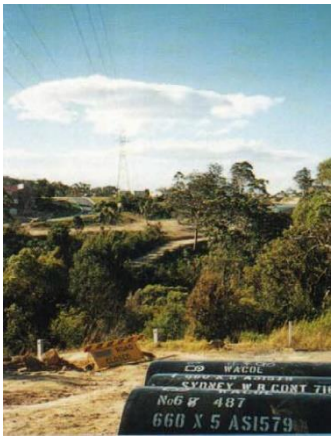
Lucas Heights Reservoir Outlet Main

A High Voltage Current Current Problem Overcome with Sintajoint®



Project Need

Augmentation of the water supply to one of Sydney's rapidly growing residential areas was complicated by the potential problem of induced electrical currents in the pipeline from nearby high voltage power lines.

The augmentation project was the latest stage of Sydney Water's Southern Region's ongoing water supply strategy to cope with the needs of the Menai Peninsula well into the next century.

Development of the Menai Peninsula on the southern outskirts of Sydney, commenced in the late 1960's. Over the years the area has attracted more than 20,000 residents, primarily because of the pleasant bushland environment of the Peninsula.

To carry the maximum design flow over the 2.2km route, a DN600 pipeline was required. In order to minimise disruption to other utilities, the most logical route for the pipeline followed an existing ELCOM 132kV transmission line easement.

To negate the likelihood of electrical currents being transmitted by the pipeline, the Electricity Authority stipulated that only pipeline materials exhibiting non-conducting characteristics could be used in its easement.

Project: Lucas Heights Reservoir Outlet Main

Principal: Sydney Water

Location: Lucas Heights, NSW

Completion: 1990

Supplied: 2.2km of 660OD Sintakote® Mild Steel Cement Lined with Sintajoint® Rubber Ring Joint

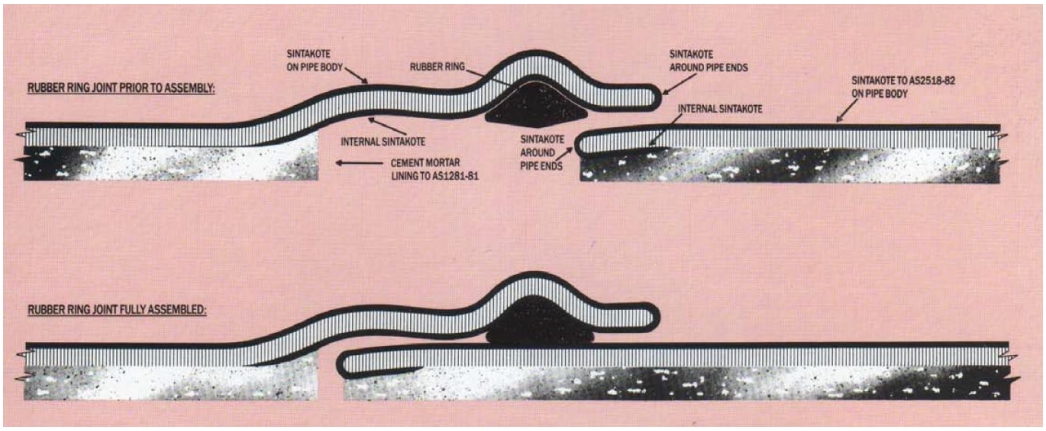
Solution

The solution was simple… Steel Mains SINTAJOINT® steel rubber ring joint with its fusion bonded SINTAKOTE® protection.

The SINTAKOTE (fusion bonded polyethylene coating) acts as a tough protective barrier, encasing the pipe exterior and wrapping around the pipe ends to be sealed beneath the cement mortar lining. As a result, each rubber ring jointed pipe is effectively insulated.

Tests carried out by ELCOM showed that the SINTAKOTE coating exceeded their required breakdown voltage by 50%. Consequently, Steel Mains was awarded the contract for the supply of SINTAJOINT pipe for the Lucas Heights augmentation project.

Cross sections of the SINTAJOINT rubber ring joint before and after assembly.



Achievement

Construction of the line commenced in June 1990 and was commissioned in November 1990. The work was carried out by Sydney Water Board's Southern Area General Works Branch.

The SINTAJOINT steel pipe has provided the ideal solution to an unusual problem at Menai. SINTAKOTE also offers unique resistance against a wide variety of aggressive soils, chemicals, compounds, solutions and marine organisms making it a versatile product for a wide range of applications.