

# Southend Bathing Water Improvements

**Client:** Anglian Water

**Location:** Southend

**Value:** £2.7m

**Duration:** 7 Months



22m deep shaft with two timber heading connection to existing Sewers



Carlow Tank Riviera Drive-Installation of internal walls



Woodgrange Drive – Exposure of existing services

## In Brief...

The bathing waters at Southend were at risk of failing the revised bathing water directive. So we undertook a scheme to improve the waters by reducing sewer overflows and keeping urban pollution out of the sea.

Kos Assadi, Site Manager, said: "More than 50 employees have helped to deliver the project, which stores excess rainwater during storms, diverting it to Southend Water Recycling Centre (WRC)."

"We've been working around Southend's combined sewage overflows (CSOs) in Woodgrange Drive, Southchurch Road and Riviera Drive, which can cause pollution during storms."

## Constraints and Solutions...

The design and construction teams managed to develop solutions within ever-challenging constraints.

**Southchurch Road:** a 22m-deep, 3m-diameter shaft with connection to existing trunk main with high connection to the existing CSO.

Miner Martin Gaffey said: "Me and two miners dug the hole for the shaft and then tunnelled to the side to make the connection with the existing main. It wouldn't have been such a big job if we could have dug straight above the main, but we couldn't because there were BT cables and gas mains in the way."

**Woodgrange Drive:** 36 cubic metres of storage pipe and parallel sewer connecting to existing CSO all in highways.

General Foreman Viadas Kuprys said: "The tank can hold over 8,000 litres of surface water, which now won't flow on the streets, dragging pollution into the sea. It'll run directly to the town's WRC instead."

**Riveria Drive:** 580m<sup>3</sup> Carlow storage tank located under an existing playground, 4m diameter pumping station, 700mm and 900mm diameter auger bored and micro-tunnelled sewer connecting two CSOs to the new storage tank.

Engineer Bill Manchester said: "The tank will store foul water during storms - then the pumping station takes it along the sewer network, rather than into the bathing waters."

## Challenges...

The site team also had to contend with the discovery of a World War 2 anti-aircraft shell uncovered during the excavation of the storage tank.

"The site team is to be commended for their diligence and reaction in dealing with this matter," said Liam Boyd, Project Delivery Manager.

"We've had a lot of challenges with Southend's sewerage network but this scheme will give Southend's infrastructure the support and resilience it needs."