



LOCATION
Portadown, Northern Ireland

CLIENT
Asda

VALUE
£250k

CAPACITY
Liquid: 10m³/hr

SOLIDIFICATION/STABILISATION OF IMPACTED SOILS AND TREATMENT OF CONTAMINATED GROUNDWATER, RUNNING ALONGSIDE THE CONSTRUCTION OF A SUPERMARKET

CHALLENGE

Solidification/stabilisation of the core of a hydrocarbon contamination plume within shallow soils on-site. This was combined with the design, supply, installation and commissioning of a full pump and treat system to treat contaminated groundwater.

GeoStream UK had early contractor involvement with Asda, enabling early discharge of contaminated land planning condition. This ensured remediation could run in parallel with store construction, allowing it to open in time for the busy Christmas trading period.

APPROACH

- Immediate solidification/stabilisation of the source area, using in-situ soil mixing processes in a space under the store car park.
- Drilled wells to suit contamination distribution, matching them to the required layout of the car park. Pipework was ducted underground, with wellheads contained in chambers so as not to impact use of the car park.
- Sited all plant within the landscaped area of the filling station, ensuring minimal disruption of construction works, supporting future use of the filling station and store.
- 10 GeoStream UK geopumps, manufactured in-house, were installed to recover the water and used on timed cycles. The pumps fed a buffer tank, oil water separator, and effluent was filtered

through a sand filter and two carbon filters prior to discharge

- Undertook data logging of flows and pressures, as well as daily cumulative treated effluent, enabling key data to be provided to both NI Water and NIEA without site visits. SMS alarm messages were sent directly to engineers in case of system failure
- Auto backwash system operated for the sandfilter, with a 1,000 litre auto-filled clean water tank and 10,000 litre dirty water tank. This eliminated need for site visits to manually backwash the sand filter when blocked, achieving significant cost savings over project duration

RESULTS

Store able to open and trade unhindered, thanks to strategic siting of plant and careful location of wellheads, chambers and ducting

800m³ of heavily contaminated soils solidified/stabilised, which didn't need disposing of off-site and were geotechnically suitable to be reused

216,840 litres of hydrocarbon-contaminated water were treated during the project



SERVICES

- Design & build services
- Process equipment
- Chemical & biological technologies
- Physical remediation

Your single source provider for remediation technologies

