



Lidl, Latvia

On-site Remediation of
28,900 m³ Polluted Soil

52,000 tonnes
of soil diverted from landfill

324,000kg
of CO₂ saved

104,000km
in lorry trips avoided



Lidl, Latvia

Retailer Lidl planned to build a store on a site in Riga city centre.

The land, however, was heavily contaminated with petroleum hydrocarbons and heavy metals. It was also close to a canal and contaminants must be prevented from entering the canal and groundwater.

ATG Group, in partnership with VentEko, carried out remediation on the site. It was concluded that the optimal design was a permeable reactive barrier combined with impermeable surfacing on site to prevent infiltration.



The Challenge

The 150m x 90m site was bounded by an asphalt car park to the east, a road to the north and the Sarkandaugava canal on the south and west sides.

The land was historically contaminated with widespread high soil concentrations of total petroleum hydrocarbons (TPH). Eleven samples exceeded the citral limit of 5,000 mg/kg. There was also an excess of heavy metals.

The groundwater was also significantly impacted with both hydrocarbons, Heavy metals and surfactants and these contaminants were impacting the Sarkandaugava Canal.

From the site investigation, there were 28,900 m³ of polluted soil (waste) that required treatment in case of alternative methods
VentEko were instructed by Lidl to carry out investigations initially and a remediation strategy was designed by them. They worked with Riga University, which carried out hydrogeological modelling.



The Solution



This project included installing:

- A barrier in a corridor along the site boundary immediately adjacent to the canal to avoid disruption to the development design.
- Barriers via a soil mix design using augers due to the high water table and unstable ground conditions. Bench testing was required in advance of deployment to optimise the mix designs and ensure the design would be effective.
- A 52 m x 8.5 m deep permeable reactive barrier along the primary groundwater flow path in the southwest of the site. The barrier is required to have a Remediation Working Plan 7 permeability greater than that of the surrounding soils to capture the impacted groundwater.
- An impermeable barrier of 128 m length x 8.5m depth along the remainder of south and west boundaries to prevent contaminant migration on to the site.
- Drainage design for the new store incorporating impermeable hard standing and minimal infiltration of precipitation.

The Outcome

By applying ATG Group's remediation solutions, this project intercepted more than 25,000 m³ of contaminated groundwater from leaving the site to the canal – enough to fill almost 12 Olympic-sized swimming pools.

In total, Lidl avoided the need for over 52,020 tonnes of soil being sent to dig and dump and avoided 3,468 lorry round trips.

Removing the need to transport this soil resulted in a reduction in CO₂ of 312,000kgs – equal to 189 flights from London to Los Angeles.



Get in touch



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