



**Client Name**

United Living

**Type of Works Completed**

Phase II investigation, Detailed Vapour Intrusion Risk Assessment and Mitigation Design, remedial strategy and verification services.

**Project Overview**

We were appointed to assess and manage vapour intrusion (VI) risks at a technically complex brownfield site proposed for residential redevelopment. The site was formerly host to one of the largest dyeing and dry-cleaning operations in the world, placed strategically near to Liverpool docks so to clean fabrics from the city's transatlantic liners.

The site had a long industrial history, including use of chlorinated solvents in the dry cleaning process, and was subject to heightened regulatory scrutiny due to the sensitivity of the proposed end use and proximity to off-site receptors. Achieving regulator confidence without over-engineering the solution was critical.

**Our Approach**

We undertook a detailed vapour intrusion risk assessment using a lines-of-evidence methodology, combining intrusive investigation, soil vapour and groundwater monitoring, flux testing, and quantitative modelling. Sensitivity analyses were completed to test the robustness of assumptions and to clearly demonstrate how risks were controlled.

We led extensive liaison with the Local Planning Authority, Environmental Health, and their appointed technical reviewers, responding to detailed technical challenges and participating in multi-party meetings to agree an acceptable path forward. Independent third-party review was incorporated to further strengthen the assessment.

**The Solution**

A proportionate mitigation strategy was developed, integrating VOC-resistant membranes, passive sub-floor ventilation, clean cover systems, and groundwater control measures. The design was fully aligned with current UK guidance and supported by a clear verification framework to ensure long-term performance.

**Outcome**

The approach enabled discharge of planning conditions and provided a clear, defensible route to construction. The project demonstrates our ability to manage vapour intrusion risks on complex sites, deliver regulator-approved mitigation designs, and guide clients through technically demanding and highly scrutinised planning environments.

