



Our Reference: S2605/03/01

Mr. J Warner
Building Design Northern (BDN)
The Old School
Simpson Street
Sunderland
SR4 6DR

11th June 2026

Dear Joe

ACORNFIELD ROAD, KNOWSLEY – LAND CONTAMINATION ASSESSMENT

Thank you for the recent contact regarding the consultation response provided by the Environment Agency in relation to planning permission 25/00396/FUL.

Spire Geotechnical Ltd (SGL) have provided the following comments in relation to conditions 5 (contamination) and 8 (piling).

Condition 5 (Contamination)

It is SGL's understanding that Knowsley Metropolitan Borough Council's Land Contamination Team have accepted the findings of the three reports prepared; namely the Phase 1 Desk Study, Phase 2 Ground Investigation and Remediation Strategy.

The Environment Agency have current concerns relating to Controlled Waters, and prior to considering the Remediation Strategy, further supporting information has been requested in order to make a decision on this matter.

SGL have provided further information in this letter to address land contamination at the site.

Prior to completing our recent Phase 2 Assessment, the findings of the previous studies and information were assessed. These include:

-  Amec Foster Wheeler Letter Correspondence (08/06/2016, Ref38338/K003p/jge)
-  Environment Agency Correspondence (15/06/2016)
-  Amec Foster Wheeler Syntor Remediation Verification Report (November 2017)

SGL provided a review of this information within the Phase 1 and integrated some of the accepted Remedial Target concentrations (accepting the previous methodology) within the recent supplementary information.

What is known in some detail about the site and the underlying ground conditions is that land in the east of the site has been impacted by contaminants associated with the former use. In contrast, the western areas of the site are confirmed as low risk, and there is no evidence to suggest contaminants have spread.

Some remedial works in the area of concern were carried out (2017), and these included the creation of two remedial cells which were treated. At the time, it was acknowledged that some residual contamination would still be present at the eastern area of the site. This was confirmed through SGL's 2024 intrusive investigation.

In the context of controlled waters assessment, it should be noted that a series of samples were screening for a range of metals, inorganic chemicals, speciated PAH, speciated TPH, BTEX and VOC/SVOC within our 2024 investigation. With the exception of one slightly elevated arsenic concentration (TP08, 0.80- 1.00), there are no exceedances relating to concentrations of metals, inorganic chemicals, speciate PAH, speciated TPH, VOC and SVOCs.

The 2024 investigation and testing added to an already wealth of site investigation and test data. The 2024 investigation also acknowledged that whilst further testing and assessment has been completed, residual contamination would remain beneath the site, and to manage this, an Options Appraisal and Remediation Strategy was developed.

SGL have carefully considered the merits of revisiting the intrusive ground investigation, however would stress that further investigation, sampling and testing would conclude that remediation is required to manage the known contamination linkages.

As things stand, a variety of measures are being considered to offer betterment to the site and supporting ground. The observed contaminants were present in the made ground, and these are contained near-surface within soils and areas of trapped/perched groundwater sitting above the glacial till. The ground preparatory works by default will include the extensive removal of near surface materials from site. By doing so, some contamination source zone materials will be permanently removed. Within our Remediation Strategy, we have also requested that all excess/ponding surface waters within shallow excavation are tankered and removed from site. It is likely that these waters also contain source-materials; therefore, further reducing the risks.

The above being said, and in the absence of supplementary site tests and data, it is acknowledged that some residual contamination material will remain beneath the site surface.

On the above basis, SGL revert to the guiding principles of land contamination risk and management, and what underpins this; namely the contamination linkage theory.

SGL also consider both the nature of the development (i.e. commercial) and location of the proposed development which is a less sensitive use. Notwithstanding this, SGL acknowledge that it would be unacceptable where significant contamination linkages (not in the statutory sense) remain.

Whilst the proposed remediation methodology may be seen as “belt and braces” over more discrete remedial methods (such as treatment, bioremediation etc), we have the contamination linkages at the forefront of our recommendations.

For ease, we have provided further supporting information relating to the known linkages between the contamination source materials, realistic contamination pathways, and the controlled waters receptors (the latter considered both surface water environments and groundwater contained in the geology).

Whilst our remedial proposals offer betterment, and an improvement to those remedial works undertaken in 2017, we have considered the following contamination linkage relationships that are pertinent to this issue:

For Surface Water Receptors:

- There are no SW features present on the site.
- The closest SW environments relate to a series of drains (reference historical mapping) from 231m to the north east of the site.
- Given that extensive existing development is present between the site and these features, it is implausible that a contamination linkage exists between any residual contamination on site i.e and being able to migrate to the surface water feature/s.

- It is concluded that no contamination linkage exists between the site and the closest surface water environment/s.

For Groundwater Receptors:

- It is noted that the closest water abstraction is located 675m to the south west of the site. It is recognised that hydraulic flows are likely to be north westerly in direction throughout the area, and the site is not considered downgradient of the abstraction point (i.e. SGL do not see any plausible migration pathways from the residual contamination in the made ground on site to the upgradient abstraction point).
- Both drift and solid geology have their own respective aquifer classifications, with the sandstone (solid geology) containing a principal aquifer.
- The drift, given what is known from site data, is unlikely to contain significant quantities of groundwater. Areas of trapped/perched groundwater may exist, but these have not been observed. It is noted that surface waters accumulating within the upper made ground are perched/confined above the stiff cohesive drift geology.
- For the limited made ground (i.e. <1m in thickness), and the potential for residual contaminants present within the made ground, there is a significant head of stiff and practically impermeable clay glacial till present between the made ground and sandstone. Borehole data for the site confirms a minimum depth of 10m to the sandstone. Given this, and given no piling is being considered, it is implausible that a positive contamination linkage exists. Furthermore, given the previous remediation, and the currently tabled Remediation Strategy, betterment will be provided to the site, and the risks will be further reduced.
- It should also be recognised that the site will almost exclusively be capped by the proposed building footprint, with an engineered SUDS system capturing external surface waters. There is extremely limited potential for surface waters to be introduced into the ground and potentially interact/migrate with any residual made ground soils.

The above should be considered in context to all of the studies/reports and information (including testing) that is available for the site. Whilst extensive surveys have been completed by others, SGL have recorded one slightly elevated arsenic concentration when considering controlled waters.

We trust that the content of this letter is helpful in further clarifying the situation, baseline conditions and contamination linkages. We do have concerns that further site investigation and testing would further delay the scheme and won't provide any new information other than reconfirming that remediation is required at the site.

Condition 8 (Piling)

It is SGL's understanding that no piling work is being considered as part of the new development. The new structure will be supported on conventional strip and pad foundations.

With the above in mind, there is a negligible potential for the creation of new contamination linkages deep into the bedrock aquifer.

Your sincerely



Stephen Telford
Spire Geotechnical Ltd