

HAVANT BOROUGH COUNCIL

Town & Country Planning Act 1990

Consultation on Planning Application

MEMORANDUM

From: Environmental Health **To:** Development Control

Our Ref: CONS/19/00900 **Your Ref:** APP/18/00380

EH Case Officer Extn: 44 6677 **Date:** 04 June 2019

DC Case Officer: Gill Glover

DC Case Officer Extn: 6534

Application Number: APP/18/00380

Site Address: Proposed Development site at the former Southmere Farm, The Mallards, Havant

Proposed Development: Outline application for the construction of 3No. two storey detached dwellings, following demolition of existing buildings (Approved 13/09/2018). Request to discharge Condition No's 4, 5 (1-4), 7, 8, 9, 10, 12, 13, 14 and 15 (30/11/2018).(Approved 28.03.19).
Request to Discharge Condition No.5 (2), (3), (4) 10.05.19 (Contamination Assessment)

Observations / Comments:

I have reviewed the Phase 2 Site Investigation Report and Phase 3 Remedial Strategy documents (Your Environment Report Number's YE6611 & YE7106, respectively).

Notable omissions from submitted reports;

- The engineers log for Trail hole (borehole) SA101 is not included in Appendix C to YE6611. The text indicates this to be presented within a Geotechnical Report (YE6610), which has not to the best of my knowledge been submitted to the Council.
- The Phase 3 Remedial Strategy omits the Appendices. These are largely duplicates of those appended to the YE6611 report, other than Appendix E (Asbestos Consultant Report / Comments), which is material to proposals, and should be submitted.

Contamination Assessment (CA);

The Phase 2 site investigation was designed in consultation with Environmental Health, and aimed to provide general site coverage, and to intercept groundwater.

CA - Soils

Elevated concentrations of Lead, Poly-aromatic Hydrocarbons, and >C12 hydrocarbons of both Aliphatic & aromatic structure were identified in TP01 & TP04.

Contamination was limited to made soils, and descriptions of those soils indicate that they are variable in nature and in depth across the site.

It is acknowledged that no PAH species or Hydrocarbon group exceeds any generic human health screening value (GAC). The elevated results may (however) be significant as regards risks to controlled waters.

The report acknowledges a single 'max value' exceedance of Pb (lead) at TP04, and suggests that this be treated as an isolated 'hot-spot'. Treating the result in the manner proposed assumes that the trial hole intercepted the centre of a discrete deposit of made soils of a given character (separate & distinct from that recorded in other trial holes), returning the maximum Pb concentration likely to be present. Whilst it is possible that these assumptions reflect the actual ground conditions, it is not considered to be the most likely scenario. It is typical to consider strata encountered as a single unit until a reason emerges to regard results as belonging to statistically different sample populations.

I have undertaken a max & mean value test upon the submitted results and find there to be no outliers (indicating all made ground should be treated as a single, albeit variable- deposit), and have found the US95% (estimate of the 'true' sample mean for the material) to marginally elevated relative to the selected screening value (110% of the cf. 200 mg/kg GAC).

This suggests that the proposed remedial work is inadequate in scope, and that (if we concluded that made ground is unacceptably contaminated), all made ground should be removed from sensitive areas of the site. Alternatively, we could conclude that only a single location actually returned values elevated above the GAC, and that additional sampling (already proposed as part of the remedial strategy) is appropriate in order to either limit the extent of works, or dismiss the need for them altogether.

It is noteworthy that the maximum recorded soils concentrations for Pb, PAH & TPH were all associated with made soils overlying an obstruction (assumed concrete). The nature of the obstruction is not given specific consideration in the report, and may be significant to the conceptual model for the site. The results from this trial hole may be significant as regards controlled waters, as this trial hole is adjacent to the controlled water (the Lavant).

CA - Groundwater

Groundwater obtained from SA101 at a standing water level of ~1.1m below ground level returned concentrations of >C12 Aliphatic hydrocarbons 5 orders-of-magnitude greater than the theoretical solubility for these compounds (assuming ambient temperatures and a source comprising a hydrocarbon mixture for a common fuel), alongside elevated Nitrate, Pyrene & Fluoranthene. Pyrene & Fluoranthene also exceeded theoretical solubilities by an order of magnitude.

The report recognises the TPH result to be an exceedance of a generic screening level, as well as two nitrate results. The screening benchmark applied is a drinking water standard, which I would agree is overly precautionary; Environmental Quality Standards (EQS) are more relevant to the conceptual model for this site.

There is no specific adopted EQS for TPH. The indicative EQS is 10 ug/l, against the 597 ug/l recorded for SA101. It is recognised that the indicative EQS is a PNEC (predicted no-effect) value which is highly conservative, and which applies directly within the receiving water, and does not necessarily apply to pore-water within the aquifer. Use of the indicative EQS is subject to a footnote signposting Environment Agency Guidance for more specific consideration.

This guidance sets an overall 'low' risk for each of the elevated carbon bands (with the exception of Aro. C12-C16, which is marginally elevated at the site), but also notes that risk is a function of solubility, and that concentrations in excess of theoretical solubilities may occur for a number of reasons - including 'co-solubility' in association with dissolved organic carbon - also found to be elevated in the sample from SA101.

The EQS for Fluoranthene is 0.12 ug/l (max allowable, at receptor), against a measured value of 2.3 in groundwater. Pyrene has no specific EQS, available values are based upon a WHO drinking water standard (0.04 ug/l against a measured 2.3 ug/l).

Application of the above groundwater results to the conceptual model for the site is difficult in the absence of the trail hole log for the borehole sampled. The hole is adjacent to TP03, which had shallow made ground and no concentrations of Hydrocarbon or Poly-aromatic Hydrocarbon species were identified above the limit of detection - implying that the identified concentrations are not likely to be absolutely local to the trail hole and may be representative of mobile contaminants from a source elsewhere on the site (e.g. fuel impacted soils). Whilst the conceptual significance of these results is acknowledged to be uncertain, there is considered to be sufficient grounds to regard the water result(s) as being of potential concern. The adjacent watercourse is a statutory main river (Controlled Water), and is a relevant receptor as regards contamination from the site.

Phase 3 Remedial Strategy

The strategy proposes a source removal in the vicinity of TP04 to comprise less than 1 cubic metre. The proposal is to 'delimit' the extent of unacceptable made soils (distinguish those requiring removal from those that may remain) by means of sampling. Screening for Lead concentrations cannot be undertaken in-situ during excavation, so this implies that successive phases of excavation must be allowed for.

Given this, and given the marginal statistical exceedance of the GAC (which may be a product of low sample size as much as anything), it may be more productive to engage in an additional round of investigation of made soils (only). This should serve to either;

- confirm the small extent of necessary works (i.e. give certainty to the need for- & efficacy of- the proposed strategy), or
- confirm that the identified exceedance is not significant over any relevant averaging area (i.e. show that remediation is not required, avoiding the need for monitoring and verifying remedial work.).

A Phase 2B intrusive investigation could also be used as an opportunity to consider the water results in more detail, and address the conceptual model as regards the source, pathways, and destination of dissolved phase contaminants - with a view to determining their significance to the development. This is at present unclear.

Conclusions

I would conclude that the remedial strategy is premature in light of the Phase 2 results, which may be regarded as;

- indicative of 'no significant contamination' being present at the site, as such supporting a conclusion that no remediation is required, or;
- indicative that the scope of the remediation strategy should be expanded to include all made soils, liquid fuel impacted soils in the vadose zone

Either way, it is not clear that the proposed strategy is necessary, or adequate. On this basis, I cannot support discharge of condition 5, and would recommend that the above comments are passed to the applicant for further consideration by their Environmental Consultant.

I would be happy to discuss the scope of further works at the site with the applicant (or their consultant) in order to help ensure that the proposed delineation work (and the content of the

related report) is likely to provide sufficient information to discern between the two competing scenario's above, and prove decisive as to the appropriate way forward.

Mr. Jonathan Driver
Environmental Control Officer