

HAVANT BOROUGH COUNCIL

Town & Country Planning Act 1990

Consultation on Planning Application

MEMORANDUM

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

Our Ref: CONS/21/03424 **Your Ref:** APP/20/00276

EH Case Officer Extn: 44 6677 **Date:** 22 November 2021

DC Case Officer: Tina Pickup

DC Case Officer Extn: 44 6461

Application Number: APP/20/00276

Site Address: Garage blocks, Willowdene Close, Havant, PO9

Proposed Development: Proposed change of use, conversion and extensions, including first floor addition to block B, of existing garage blocks to create 2No. three bedroom detached dwellings with associated car parking, bin and bike storage, reconfiguration of existing vehicular access, new gate and new fencing and boundary treatments.

[Note: Grampian Condition applies, contact LPA for details] (19.06.22). Request to Discharge Conditions 3,4,8,10 & 11 (11.02.21).

RECONSULTATION REQUEST for revised plans and/or documents received in respect of condition 8 (Contamination assessment)

Observations / Comments:

I have reviewed the 'c.8 & c.9 statement' and 'c.8 additional analysis' letter report Ref: 18189/Add. I have also reviewed the prior reports (18189/MIR Mar '20 and 18189/CIR Jan '21), the specific condition requirements and the detail of the policy context (Adopted Core Strategy 2011, Allocations Plan 2014, NPPF 2021 & LP2036 Submission Draft). The reason for such a comprehensive review is that the consistent approach taken by the applicant to the discharge of this condition has for various reasons not sought to respond to recommendations given in prior rounds of consultation, nor has it engaged with the overall objective of the condition, namely to *characterise any physical contamination on or affecting the site*.

The recent statement submitted by the applicant concludes that there are '*no traces of the site being contaminated*' and argues that the retention of a concrete slab should be taken to be sufficient to act as a barrier between the future occupants and the soils beneath. A further clarification has been given that conclusion / proposal is presented as a strategy which supersedes all previously proposed precautionary remedial/risk mitigation proposals.

The statement is contradictory in this respect – simultaneously arguing that there is no trace of contamination, and that the occupants will be separated from the soils which the authors argue are demonstrably uncontaminated, and that construction detailing & building control process will be sufficient to address any concerns about vapour pathways for organic contaminants that it should be reasonable to assume will not be present.

If the site were devoid of any trace of contamination *and* were there a high degree of confidence in the investigation works; no mitigation measures would be necessary and the authors would not need to refer to- or rely upon the barriers referenced.

This contradiction is an apparent acknowledgement that the results do identify signs of contamination at the site, and that the investigative strategy has not comprehensively characterised the potentially contaminated soils such that there can be only a low degree of confidence in the broad applicability of the conclusions to soils across the entire footprint of the site (or across areas of the site that are relevant to the human health risk assessment).

In addition, there has also been a dynamically evolving approach to the development described in the various submissions, leading to uncertainty as to the exposure pathways that might be active and the construction-based mitigation options that might be adopted to address the investigative / assessment uncertainty on a precautionary basis.

Collectively, this makes me very uncomfortable in accepting the conclusions of the submitted assessment, that depending on the readers interpretation of the submitted statement, might be characterised as either;

- i) 'no contamination & no further consideration of mitigation measures is necessary' or;
- ii) 'there is insufficient certainty as to the acceptability of risks at the site, so a scheme of exposure mitigation measures is proposed'

I would consider that there is insufficient data / coverage of the site to support the implicit conclusion i), and that there is insufficient detail to support the implicit conclusion that the precautionary mitigation (barriers) are likely to be sufficient to address exposure pathways where it is assumed (for reasons of data insufficiency) that soils are chemically unsuitable for a residential development. On this basis it is difficult to justify accepting the submissions *prima facie* and to recommend discharge of condition's 8 & 9.

I see little benefit in reiterating investigative recommendations. It is understood that the construction is underway, and it is clear that there is disagreement between myself and the geo-environmental consultant on the levels of information required to support robust conclusions in the human health risk assessment.

My aim in reviewing the prior submissions and is to establish whether on the basis of the factual information that has been presented there is an approach that the Council could reasonably take to the discharge of c.8 & c.9 which supports sustainable development, serves to regularise the development undertaken to date without placing a disproportionate burden upon the applicant, and which also meets the condition objectives & requirements.

Condition Requirements & Policy Context

The wording of condition 8 requires a limited scope of investigation & assessment relative to the standard wording which would normally be sought/applied, with the focus of requirements under the imposed condition restricted to future occupants of the development only. This wording is not fully compliant with the requirements of adopted policy DM17 or emerging policy E24, but is broadly compliant with adopted policies DM10, DM18, and NPPF para. 183.

The purpose of referencing policy is not to seek to expand the effect of the applied condition, rather it is to be explicit about the requirements of the relevant conditions (made under these policies) so as to serve as a guide to consideration of the sufficiency of the submission in support of a decision to discharge those conditions (conditions 8 & 9). These comments respond specifically to the limited scope of requirements of the bespoke condition applied; briefly paraphrased below:

- c.8(1) Requires intrusive investigation additional to & to complement/augment that presented in 18189/MIR (March 2020); to provide sufficient data and information to i) 'adequately identify & characterise any physical contamination on or affecting the site' and ii) to inform 'an appropriate assessment of risks to future occupiers'.
- c.8(2) Requires results from an appropriate risk assessment based upon the additional intrusive investigation, and a scheme of remedial or risk mitigation where 'unacceptable

risks are identified by the *adequate characterisation* of the site required by c.8(1)

- c.8 (3) Requires a plan for the verification of works, only where the requirements of c.8 (2) are triggered by the identification of unacceptable risks.

Contribution of submissions to the discharge of condition requirements

The 18189/CIR report (Jan '21) included the desk-based information from the Preliminary Investigation Report (18189/PIR_26 (Feb '20)). The 18189/PIR_26 report has not been submitted in connection with any planning application to the best of my knowledge. At this stage it is assumed that the preliminary report represents a desk-based assessment & site walkover (only), and did not include the advancement of any trial holes, or the collection of any environmental samples. No trial holes or samples additional to those reported in 18189/MIR were reported within 18189/CIR and in this way it did not contribute to satisfying the requirements of condition 8(1).

18189/CIR did introduce implicit amendments to the development plan, specifically in respect of the proposed means of supporting the building and the landscaping strategy for the site. The alterations are material to the site conceptual model but did not materially contribute to the requirements of condition 8(2); the requirements of 8(2) are subordinate-to (dependent upon) the site characterisation required by 8(1), and the changes to scheme plans therefore represented a neutral amendment which still relied upon the intrusive works presented in 18189/MIR.

The recently submitted condition 8 & condition 9 statement refers to some additional sampling (18189/Add, dated 03/08/2021) which does present additional data pursuant to the requirements of 8(1). This data is represented by the laboratory results from 5 no. soil samples collected by the applicant (not the environmental consultant, Soils Ltd.). The samples were taken from soils to the east of the slab proposed to be retained, on land adjacent to Sparshatts.

The Council is being asked to accept that the sample collection should be regarded as having been '*undertaken by competent persons*' using appropriate collection, storage & transport procedures (that would preserve in particular hydrocarbon fractions <C10), notwithstanding that collection of samples by the applicant introduces uncertainty in these respects and that the results are presented without the usual contextual information. Both of these factors undermine the value of the data against the requirements of condition 8(1).

As neither 18189/MIR nor 18189/CIR contribute to the requirements of condition 8(1), and the content of the recently submitted condition 8 & condition 9 statement is reported to supersede prior mitigation proposals; the relevant submissions for consideration comprise the submitted statement & 18189/Add. These submissions essentially rely upon the sampling reported within 18189/Add being considered sufficient, adequate and competent under the requirements of condition 8(1) (and NPPF para.183(c)).

Condition 8 & Condition 9 Statement

The '*Contamination Surveys and Reports*' section of the statement characterises the results of 18189/MIR as not having revealed any signs of contamination. It also refers to the second report (18189/CIR) as drawing the same conclusions, which is perhaps not surprising given that it did not report on any new intrusive investigation or sampling results. Additional testing is also referred to, apparently following the 18189/CIR, but said to have been undertaken by Soils Ltd.. This statement *may* refer to the samples referred to within 18189/Add, otherwise it must refer to a phase of work that has not been presented in support of this (or any prior-) application.

I would highlight that 18189/Add reports on samples submitted direct to the lab by 'the Client', and that the document does not report on fieldwork undertaken by Soils Ltd., albeit that Soils Ltd. are providing an assessment based upon the results of that sampling.

I would challenge the characterisation of the findings of the initial phases of investigation. Several generic assessment criteria (GAC) are exceeded in sample results, and several notes

recording visual/olfactory evidence of contamination. The conclusion of 'no signs of contamination' in practice refers to a judgement that the signs that *contaminants are present* do not amount to *contamination that should be regarded as significant in the context of the development* (my characterisation)

This conclusion relies upon some significant assumptions, including that;

- samples reported in 18189/Add are generally representative of made soils to 1m depth across the site
- that banded TPH soils results from 18189/MIR (&/CIR) determined by EPH Texas are taken representative of soils noted to be visibly impacted by hydrocarbons, and that the lab reported concentrations provide more reliable indication of prevalence than does the visual & olfactory observations
- that the (untested) perched groundwater noted at ~1.0m depth below ground level is not likely to be contiguous with the perched groundwater at the horizon between the made soils & alluvium (noted to be associated with hydrocarbon impacted soils), and that the shallow groundwater strikes don't indicate the vertical range of perched groundwater that is associated with the migration of hydrocarbon contamination, and perhaps most importantly;
- That there is a reliable & consistent association between elevated concentrations of PAH congener's and elevated soil organic matter

If the Council cannot agree that all of these assumptions have been adequately demonstrated to be representative of conditions at the site; then it must be concluded that the presented investigation is insufficient to support the conclusion of 'no significant contamination). Where this is the case, either some additional data collection is necessary, or some precautionary mitigation should be implemented specifically a *remedial or risk mitigation measure*.

The applicant has to date not sought to consider groundwater pathways in detail, to collect empirical data to inform the assessment of risks from vapour-phase contaminants, or to improve spatial coverage of soil-quality data to base decisions upon. The applicant has consistently referred to precautionary mitigation measures, and continues to do so even within a submission which argues that no mitigation measures are necessary. I would tentatively conclude (therefore) that the latter is preferable to the applicant than would be an additional phase of investigation & assessment.

Council's view of Site Conceptual Model (CSM)

I have considered the CSM for the development land that is compatible with the available data and with reasonable assumptions that can be drawn from contextual site information and the submissions against APP/20/00276.

CSM - Soil contamination & soil exposure pathways

I regard the available information to be insufficient to robustly demonstrate that made soils present within the CLEA-relevant zone* are chemically suitable to underlie soft landscaping within private garden areas (* the depth of soil generally relevant to human health risk assessment – generally taken to be 1 metre from the soil surface). Samples from the notably variable made soils have identified contaminants elevated above generic assessment criteria (GAC) appropriate to the average organic matter content of made soils (%SOM), and insufficient observations are available to conclude that either;

- i) Conditions within near-surface made soils are likely to be materially different across the site to those found at depth, where the majority of exceedances have been identified, or;
- ii) That elevated concentrations of PAH congeners are likely to be proportionately associated with %SOM *and* that the range of concentrations present are likely to fall below relevant GAC across the site.

It should be noted that results from shallow samples are reliant for compliance upon an

upward-adjustment to GAC that is dependent upon %SOM. Contaminants of concern generally relate to PAH congeners.

Given this, it is considered that the information submitted is insufficient pursuant to c.8(1) to support a soft landscaping scheme *that does not benefit from a durable system of clean cover*. In this way, the human health risk assessment is reliant upon the presence of the concrete hardstanding both as a barrier that prevents mobilisation of contaminants to relevant exposure pathways, and as a 'deter to dig' layer to minimise the risk that active pathways will be created in future. In this sense, the barrier is an element required for policy compliance, and should be regarded to be a remedial or risk-mitigation measures that should be subject to the provisions of condition 9.

CSM - Vapour-Exposure

None of the submitted investigation reports include any screening measurements to inform an assessment of vapour risk. The banded TPH analysis method used to derive soil concentrations also does not provide an indication of the proportions of aliphatic/aromatic compounds and may under-represent the lighter & more volatile hydrocarbon fractions, and sample collection/storage/handling is most important for volatile substances.

These factors introduces some uncertainty as to the appropriate degree of concern around vapour exposure risks, and means that we are necessarily reliant upon contextual information.

I have considered the CSM in relation to the most likely source of gross contamination likely to give risk to issues with hydrocarbon vapour (former retail sale of petroleum, site adjacent), and would note in particular the following;

- The topography of the original ground surface falls to the East, (natural hydraulic gradient likely to be West-to-East).
- Visual/olfactory evidence of hydrocarbon contamination is consistently observed at the boundary between made soils and alluvium, but is most strongly associated with the position of the channel of a former watercourse
- The height difference between water strikes, and the distance between observations would suggest that the observations that either i) shallow perched groundwater is separate from the deeper perched groundwater (related to variability of composition of Made Soils) or ii) that the level difference of ~1.0m over 20m is indicative of a relatively steep gradient between the trial holes, associated with the influence of the original topography & presence of a former watercourse.

The inferred hydraulic gradient would normally suggest that migration of contaminants to the development land from the former petrol filling station (located down-gradient, to the East) would not be likely. However, the hydrocarbon odours noted indicate that soils associated with an identified groundwater surface are impacted by hydrocarbons, and that a degree of liberation of hydrocarbons to the vapour phase is occurring that has not been captured within sampling to date.

The reasonable conclusion is that either;

- i) the hydrocarbons associated with the groundwater surface derive from another source – likely the development land (e.g. introduced at surface leaching from soils with vertical percolation of rainfall) or
- ii) that migration from the adjacent land is possible, and is occurring.

That there is no known bulk storage of hydrocarbons associated with the former use for the development land, and that the noted impacted soils are most strongly associated with a former watercourse at the Eastern boundary; it is considered reasonable to postulate that a shallow hydraulic gradient & low hydraulic conductivity (at the level of the redirected river channel) might be assumed to drive a process of migration of hydrocarbon contamination, against the assumed hydraulic gradient, from the assumed source site (Sparshatts, to the West) to the development land.

There is unlikely to be any significant upward vertical transfer of contaminants outside of the range of seasonal variability in the depth to groundwater surface, and up-gradient transfer of LNAPL's (substances less dense than water) from groundwater present at ~1.9m to shallow soils, to the groundwater surface noted at 1.0m depth, is similarly unlikely.

Contextual evidence would support the view that contaminants are likely to be concentrated within low points of the buried topography, generally at depths of >1.5m below current ground levels.

Given;

- the probable source substance represents a relatively low risk of volatilization (assuming mixed sources, probably predominantly weathered diesel, gasoil or kerosine, based upon TPH Texas results)
- the depth at which visual/olfactory evidence of gross-hydrocarbon contamination is generally noted, and;
- that concentrations captured in shallow soils at the Eastern Boundary are <50% those identified at depth-

- and in the absence of any preferential pathways being created (e.g. driven piles, or stone column supports): it is probably reasonable to rely upon both the stated construction method (pad & beam foundation, with suspended block & beam floor over) and the building control process (construction in general accordance with controlled document C, paragraph 4.19 in particular) to offer basic protection against vapour intrusion.

Based upon the above – vapour intrusion is not considered to be/a primary concern at this site, and no specific remedial or risk mitigation measures are considered to be necessary, and as such, there is no need to verify adherence to the Building Regulations as a component of the remediation strategy referred to at condition 8(2).

This notwithstanding, given the evolving approach to construction through from conception>approval>construction I would acknowledge that plans & indicated proposals may change, and I would therefore highlight the provisions of para. 184 of the NPPF 2021 (that responsibility for a safe development rests with the developer / site owner), and that this may inform any formal process under Part 2A (contaminated land) should this be necessary in the future.

Conclusions

- 1) the submitted site investigation information pursuant to condition requirement 8(1) is not considered adequate to support with an appropriate degree of confidence the presented conclusion (that the concentrations of contaminants present within soils at the site are insignificant relative to *any type of residential landuse*)
- 2) given conclusion 1), in the absence of improved availability of soils data from additional investigation; it is considered that the development (of residential dwellings with private rear gardens that are likely to attract families-) is dependent upon the 100% hard landscaping scheme for the private amenity spaces as a precautionary mitigation measure to make the development suitable, in compliance with adopted local policy DM17/emerging policy E24.
- 3) Given conclusion 2), the applicant has not submitted sufficient information against condition 8(2), or any (consequential) verification plan under condition 8(3) in relation to the landscaping barrier.

Recommendations

I cannot recommend to Development Management that condition 8 or 9 be discharged at this time.

(On the assumption that the applicant would prefer not to undertake additional intrusive investigation in line with prior recommendations-) Discharge of conditions 8 & 9 will be possible upon receipt of a submission which addresses the barrier system as a remedial measure – e.g.

- Considering appropriate spatial coverage of the barrier system (if not complete)
- Demonstrating the adequacy of the existing concrete barrier (it's thickness & integrity), and/or outlining the means of making the existing concrete surface adequate as a barrier (e.g. any required extensions, repairs, or increase in thickness, etc.).
- Addressing (and minimising-) the risk of future breach – e.g. by demonstrating that the landscaping scheme will accommodate the needs of a family occupant without need to convert to soft landscaping, and/or detailing other physical measures to deter conversion.
- A verification plan to show that the cover system is delivered as proposed.

As a note to the applicant, the Council acknowledges the wording of the NPPF para 183 ('after remediation', not 'after development' [...]), and as such the liability referred to in the section above does not extend to future conversion works which makes land determinable as contaminated land – the scope of condition 8 is to 'take reasonable steps to deter' (in this case-) 'relevant breach of a barrier system'. It is not necessary to construct a system which seeks as far as practicable to prevent a such a breach occurring.

Given this, and the issues noted with the efficacy of the previously suggested covenant – I would not favour reliance upon a covenant over & above the installation of physical measures.

In respect of the inherent adequacy of the existing barrier, I would acknowledge the argument that it is ~250-350mm thick & of reinforced construction, but would similarly note that this description is contrary to the trial hole logs, which indicate a more conventional thickness of 150mm standard mass concrete. The former could be agreed to be an inherent deterrent, the latter however is a feasible thickness for conversion of a relatively small private garden area to soft landscaping. My expectation is that any submission under condition 8(2) should either evidence that construction is closer to the presented description, or should consider a warning marker on the basis that the concrete is likely to be of insufficient thickness to deter removal.

Mr. Jonathan Driver
Environmental Control Officer