

HAVANT BOROUGH COUNCIL

Town & Country Planning Act 1990

Consultation on Planning Application

MEMORANDUM

From:	Environmental Health	To:	Development Control
Our Ref:	CONS/22/00131	Your Ref:	APP/21/00200
EH Case Officer Extn:	44 6677	Date:	09 March 2022
DC Case Officer:	David Eaves		
DC Case Officer Extn:	44 6549		
Application Number:	APP/21/00200		
Site Address:	32 New Lane, Havant, PO9 2NG		
Proposed Development:	Demolition of existing buildings and redevelopment of site comprising erection of distribution warehouse (class B8) with ancillary offices and related facilities, vehicle storage deck, new access, landscaping and associated infrastructure (approved 22.10.21). Request to discharge conditions 11 and 19 (received 27.10.21). Request to discharge conditions 14, 15, 16, and 27 (received 10/12/2021)		

Observations / Comments:

I have now had opportunity to review the submitted documentation in connection with condition 11 (contamination), comprising the 3 prior Golder Associates Reports (19125953.600/A.0, 20137712.600/A.0, 20137712.602/A.0), the EPS Ltd. Supplementary Phase 2 site investigation report (UK20.5052F iss.4), and the revised EPS Ltd. Remediation Strategy & Implementation Plan (UK20.5052D iss.6).

These documents have been read alongside relevant historical reports, 1997 ERM Phase 2 Site Investigation Report, 2008 ERM Combined Phase 1 & 2 Environmental Site Assessment, and 2015 Delta Simons Phase 1 & 2 Geo-Environmental Assessment, for environmental context both on-site, and on adjacent land.

The site has been afforded careful consideration as the results & conclusions of successive investigations collectively amount to an incoherent collection of data that do not readily fit a unified conceptual site model for the site. For example, groundwater levelling data obtained at different points in time display significant variability, at times indicating fully opposed hydraulic gradients in different areas of the site. Similarly, while soil results generally return low concentrations of contaminants of concern, groundwater results consistently return sporadic and variable detections of those contaminants over a distance which exceeds the full north/south length of the development land boundary, around 350m or so. Both primary contaminants and their breakdown products (chemicals formed by reductive de-chlorination) are represented at a number of locations, including boundary locations, with the pattern of detections being inconsistent with a single contamination plume migrating within a broadly stable/consistent/predictable groundwater regime.

Vapour results return concentrations that would be both higher than expected given the level of

contamination detected in either groundwater or soils, and at levels that would be of concern at sensitive locations. These factors suggest that there is material contamination either at the site or at/on adjacent land in some form that is sustaining such concentrations, despite the activity that is expected to be the source of the volatile contaminants ceasing at the site some time ago (meaning that losses to air via vapour should be permanently reducing residual contamination).

Contaminants of primary concern are denser-than-water volatile organics, and I am mindful that the local geology is known to be variable and to comprise of interbedded cohesive & granular deposits which have the potential to harbour isolated pockets of free product sporadically in contact with perched groundwater; capable of contributing to both groundwater concentrations & sustaining levels of soil vapour in the long term. In the absence of any specific suspected point of contaminant release, such deposits could be difficult to locate, as has proven to be the case on similar sites.

The Supplementary Phase II report does not explicitly include the scenario described above within its illustrative conceptual site model, and there are some issues with the human health vapour assessment – most notably I do not feel that the presented assessment supports ERM's un-supported conclusion that (the assessment shows-) that the vapour risk to off-site receptors is negligible. For similar reasons, I am not comfortable with accepting the Golder associates quantitative groundwater risk assessment – the parameterisation of the model is based upon a site conceptual model that I do not feel adequately reflects the documented results.

I remain unclear as to the conceptual model that should apply to the site, but it would appear clear that in at least two locations the contaminant source would be associated with the development land and not 'imported' from an adjacent site, and also that there is likely to be a contribution from adjacent land (via a groundwater pathway).

Notwithstanding the above, I am mindful of the significant investigatory effort that has been expended at the site to date, as well as the precautionary approach to remediation which aims to achieve overall betterment through the targeting of 'known-contamination-impacted' but arguably 'sub-significant' soils (given the commercial site context, and sensitivity status of controlled waters). Given this, I have sought to address some of the uncertainty, in particular in respect of the vapour assessment for sensitive human receptors off-site to the East, noting that ERM levelling data indicates that groundwater conditions can give rise to an NW>SE hydraulic gradient.

Vapour assessment

I have undertaken a CLEA 1.07 assessment with equivalent baseline parameters to those used within the EPS Supplementary Phase 2 Report. Notably, repeating the presented assessment has returned values which differ to the results presented in Appendix J, indicating some form of calculation or presentation error. Notwithstanding the above, and that the maximum recorded vapour result has not been selected as an assessment-driver in all cases (probably due to the phased monitoring-); I have confirmed that the vapour exposure results may be confidently regarded to represent a negligible risk for a commercial human receptor.

Using that model as a base, I have applied the results to a residential receptor, using the vapour extraction results to inform the risk assessment. On this basis it is only possible to consider exposure via vapour intrusion to habitable spaces – the model does not generate a hazard index where additional pathways are included. Given the documented depth to groundwater, in practice this only excludes the minor contribution derived from outdoor vapour inhalation. Whilst returning elevated results relative to the commercial assessment, the assessment returned hazard indices which fall below the trigger value for the majority of contaminants, with the exception of EC6-EC7(Toluene).

In principle, EC6-EC7 represents a material risk, returning a hazard index value >7 (on a C4SL basis – an indicator for regulatory purposes), relative to a trigger value of 1. The index value was further elevated on the standard model basis. Given that the EC6-EC7 parameter has been used by ERM to represent toluene (whilst in fact representing a wider group of congeners), I have repeated the assessment for this substance using the CLEA default values for the specific contaminant. This is reasonable given that it is known that the storage and handling of pure-product Toluene has occurred at the site, and in the majority of cases (including the at the location of the maximum recorded concentrations) there is reasonably close agreement between reported EC6-EC7 & Toluene concentrations.

The primary difference in model parameterisation (between EC5-EC6 & Toluene) is the saturation limits which limit phase partitioning behaviour – this value differs by several orders of magnitude between these parameters, and using the CLEA default values returns a hazard index for a residential receptor that is significantly reduced (below trigger level).

I have undertaken some sensitivity testing, and it is notable that in order to generate residential hazard indices above the trigger level, vapour concentrations elevated greater than one order of magnitude above the maximum site-recorded values are required. On this basis, the uncertainties as to the risk assessment are resolved, and I am able to agree that the initially concerning soil vapour results do represent an acceptably low risk to the sensitive offsite receptors.

Groundwater / Controlled Waters Risk

I am mindful that soil concentrations identified within the development red-line area do not indicate gross soils contamination. The concern that a source might exist is driven by the concentrations detected across the site within groundwater monitoring, and that despite evidence of both natural degradation & likely significant losses to soil vapour, and the length of time since cessation of manufacturing activity at the site; concentrations of tetrachloroethene are still being detected sporadically across the site.

Whilst I am not clear on all aspects of the Golder quantitative groundwater risk assessment, it is clear that it shows that the *modelled source* is unlikely to represent a significant risk to the Lavant, but also that the dimensions of the modelled source do not reflect the extent of detected contaminants across the site (and/or beyond its current boundaries). For this reason, I'm not sure that it's reasonable to dismiss the aggregate risk to controlled waters on this basis.

I am aware that significant site preparation groundworks have now been completed under both a contamination watching brief (provided by EPS), and a programme of groundwater quality monitoring. Qualitatively, I understand that no significant soil contamination has been identified throughout the works, and I note that the 3 rounds of groundwater monitoring undertaken since the commencement of site preparatory works have not identified concentrations of the principal contaminants of concern above the limit of detection. This is somewhat surprising given the results of the 2020/2021 investigations, and might be influenced to a degree by seasonal groundwater conditions (current hydraulic gradient). I would accept however that this empirical data does lend significant weight to the conclusions of the Golder risk assessment, and lends weight to the assessment that it is unlikely that an as-yet-undiscovered residual source of significant contamination exists within the boundary of the development land.

Uncertainty & Policy Context

Given the hydrogeology of the site, the nature of the principal contaminants of concern, and the available results – it may not be possible to fully characterise the site (explain all of the results). On related sites, Environmental Health has accepted that reliance upon the contamination watching brief throughout groundworks amounts to a reasonable & proportionate

measure to manage this residual uncertainty.

As regards the interpretation of NPPF para.183, and in particular the minimum standard (after remediation... land should not be capable of determined as contaminated land...); rather than interpreting the wording to mean 'land should *never* be capable of being determined as contaminated land' (183 b)), I believe that it is possible to interpret the policy to mean in practice that 'development proposals should be supported by adequate information to show that the site is not *likely* to be determinable as contaminated land upon completion of the proposed development' (183 b) & c)).

Local Policy (DM17) provides that development on contaminated land will be granted where an appropriate investigation of potential risks has been undertaken and identified risks are mitigated, and that remediation measures must ensure that the development does not have a negative effect on the wider environment. This leaves room for an interpretation where the ability to determine land as 'contaminated land' falls within the bounds of reasonable un-certainty, and is not considered likely.

That precautionary remedial works have been proposed (and I understand have largely now been undertaken), it is certain that there will be a degree of site betterment as a direct result of the works. Losses of volatile organics to atmosphere will also reduce residual concentrations over time in the long term. In this sense, and under the interpretations given above, it is reasonable to regard the policy obligations to have been met, notwithstanding the residual uncertainty which means that the of determination of the land as contaminated land at some point in the future cannot be ruled out with absolute certainty (e.g. in relation to new information, or new physical factors which adversely impact the current Conceptual Site Model (CSM)).

Recommendations

I recommend that condition 11 be discharged. Please list the following documents on the decision notice:

- Golder Associates Divestiture Environmental Site Assessment 19125953.600/A.0
- Golder Associates Groundwater Investigation 20137712.600/A.0
- EPS Ltd. Supplementary Phase 2 site investigation report UK20.5052F iss.4
- EPS Ltd. Remediation Strategy & Implementation Plan (UK20.5052D iss.6)

Whilst I have referenced groundwater monitoring data received directly from ERM, there should be no need to list these as supporting information in connection with the discharge of c.11. This data has provided additional context to assist our independent assessment of the submitted reports (similar to our own use of the CLEA model to generate hazard indices), but does not form part of the investigation required by this condition. These results will be submitted with the verification report required by c.12, anticipated in the coming weeks.

Mr. Jonathan Driver
Environmental Control Officer