Yelland Quay – Contamination Comments

Ruddlesden Geotechnical

Date 13.05.20

Consultee/Individual	Nature of comment	Response
Environment Agency	General	Overall, the comments are only minor and amount to clarifications that can be satisfied with reference to work that has already been undertaken or will be undertaken as part of the planned further work; to be fair, the number and size of reports that have been undertaken over the years do not make reviewing them and finding the required content easy
	Regarding gaps within the reports and not defining areas of contamination on a site plan.	The potential sources outlined within the Phase 1 report (ref: JF/SB/SR/11352/PGCAR/05; dated: December 2018) are identified on the plan appended to this report (Existing Site Layout and Features Plan, Dwg. No. 11352/02 (Appendix C)) and evaluated within section 5.2 of this report, as well as the Pictorial Sketch Conceptual Site Model (Dwg. No. 11352/04), Main Potential On-Site Contamination Sources Plan (Dwg. No. 11352/04), Historical Map Features Plan (Dwg. No. 11352/05), all presented within the Phase 2: Exploratory Investigation Report (ref: CR/SR/11352/ECIEAR/04; dated July 2018). These potential sources of contamination were then the subject of targeted intrusive investigation (Phase 2: Preliminary Contamination Investigation and Environmental Assessment Report (ref: CR/JF/SR/11352/PCIEAR/02; dated July 2018) and Phase 2: Exploratory Investigation Report (ref: CR/SR/11352/ECIEAR/04; dated July 2018)).
	Proximity of Ash beds to Development proposal	The ash beds have become more significant as the proposed development has changed and moved eastwards,

		encroaching into them. As a result, they were the subject of the separate investigation: Phase 2: Additional Exploratory Contamination Investigation and Environmental Assessment Report (ref: CR/SR/11352/AECIEAR/01; dated: December 2019).
	Need for Cross Sections to review Ground Profile	Whilst the ground profile is relatively straightforward, due to the complexities and size of the site, including more than one sensitive receptor, for conservatism, groundwater flow is assumed to be directly towards the most critical receptors (on-site streams and River Taw estuary). Cross-sections are not therefore considered to be necessary or helpful.
	Ground water samples	In the first instance, for conservatism, the tested groundwater samples are assumed at the receptor, with no attenuation, dilution or dispersion having taken place. To date, targeted sampling strategies have been undertaken. Groundwater samples have been taken over preference to leachate testing, as leachate testing tests the quantity that is potentially leachable, whereas the groundwater tests the levels of contaminants actually present. If required, dioxins and furans could be analysed as part of the planned future, more intensive investigation.
	Controlled Waters	The risks to controlled waters in both the short-term (construction) and long-term (permanent) phases will be considered in all stages of the design of the development.
REP_Spencer_190104		Events at other sites by other developers should not be seen as a reason for this site to not be redeveloped. The risks of harm from asbestos at this site are well understood by Ruddlesden and the client. The risks from asbestos should be seen by all stakeholders as a reason to support and not object to the redevelopment of the site, as the

		redevelopment will result in a reduced risk of exposure (see below). Asbestos is only harmful to human health fibres are inhaled. Contamination risk assessment is underpinned by the source-pathway-receptor linkage model; whilst there might be a source of contamination and potential receptors, if the pathway is removed, there can be no risk of harm. When the site is redeveloped, it will be covered by around 2m of imported soil, thus removing the pathway and the risk of end users coming into harm from asbestos. The composition and age etc. of the concrete that encapsulates concrete in the area former pump house in the north of the site is not relevant, though it is noted that it could not be broken with a 21-tonne tracked excavator. The concrete acts as a physical barrier between the source (asbestos) and receptor (end users), removing the pathway (inhalation), thus breaking the source-pathway-receptor chain. If there is no source-pathway-receptor chain, there can be no risk of harm. The top of this concrete is approximately 2m below ground levels; an additional 2m of clean soil on top of this, will make it even less likely than asbestos fibres will be able to be become airborne (only then can asbestos be harmful). It is also noted that asbestos is not soluble in water. Notwithstanding the above, Mr Spencer's fears are very real, even if scientifically unfounded, and other local residents may have similar illogical concerns. To allay these worries, if considered necessary, the concrete could be encased further, by sheet piles, for example, and further concrete.

		It is acknowledged that construction workers may come into contact with asbestos containing materials (ACMs). However, appropriate mitigation measures carried out only by suitably qualified personnel will ensure that site workers do not come to any harm.
Comment (136) – Hilary Beechcroft		All imported soil will be verified as being suitable for use, most likely with the use of a Materials Management Plan (MMP), but also with in-situ testing on completion. The MMP will be signed off by a Qualified Person (QP) and the validation testing of imported soil in-situ following placement will be a planning condition and warranty provider requirement. The topsoil requirements are minimum requirements. Additional depths will be required for specimen trees etc., as advised by the arboricultural specialist.
20200210 App 60823 Objection – Love Braunton		Contamination risk assessment is underpinned by the source-pathway-receptor linkage model; whilst there might be a source of contamination and potential receptors, if the pathway is removed, there can be no risk of harm. When the site is redeveloped, it will be covered by around 2m of imported soil, thus removing the pathway and the risk of end users coming into harm from asbestos. The controlled waters risk assessments indicate that the levels of contamination are unlikely to cause significant pollution to the water environment.