



18 Frogmore Road

Hemel Hempstead

Hertfordshire

HP3 9RT

UK

Telephone: +44 (0)1442 437500

Fax: +44 (0)1442 437550

www.rsk.co.uk

Our Ref: 28957-L01(00)

31st March 2021

Thomas Homes Ltd
Arlington House
Curridge
Thatcham
RG18 9EF

For the attention of Chris Brotherton

Dear Chris

**RE: 13-21 CROWN STREET AND 22 SILVER STREET, READING
REMEDiation ACTION ADDENDUM CHANGING NOTE**

RSK Environment Limited (RSK) was commissioned by Thomas Homes Ltd (THL) to prepare an addendum changing note to the previously issued remediation action plan (RAP) for a new residential development on the corner of Crown Street and Silver Street, Reading RG1 2SE hereafter referred to as 'the site'.

This letter is subject to the RSK Environment Limited service constraints given in **Appendix A**.

1.1 PROJECT BACKGROUND

The site was the subject of previous investigations, reported in the following documents:

- Phase 1 Geo-environmental report by Haigh Huddleston & Associates (HHA), ref. E14/6083/R001 dated April 2014; and
- Phase 2 Geo-environmental Assessment by RSK, reference 28957-R01 (00), dated January 2017.

Based on the site investigation works a Remediation Action Plan (RAP) was developed by RSK in May 2017 and reported under ref number 28957- R02(01).

Since then, the former buildings on site were demolished and a new development constructed. RSK completed verification of the mitigation measures implemented on site and the results are report in the Verification Report 28957-R03(00).



RSK Environment Ltd

Registered office

34 Albyn Place • Aberdeen • Aberdeenshire • AB10 1FW • UK

Registered in Scotland No. 115530

1.2 OBJECTIVES OF THIS LETTER

The review of the Verification Report 28957-R03(00) by the Local Authority identified non-conformity between one aspect of the completed remedial works and the requirements outlined in the RAP report. The non-conformity is associated with the absence of a geotextile membrane in the clean capping layer.

It is understood that the geotextile membrane requirement was omitted from the site's groundworks specification drawings due to an oversight.

The verification works did confirm, however, that the thickness and quality of the placed capping layer conform with the remediation strategy specifications outlined in the RAP report.

The objective of this letter is to review available site investigation information in reference to the applied remedial measures and to confirm the site's suitability for its proposed residential use.

1.3 SITE INVESTIGATION DATA ASSESSMENT REVIEW

The initial PRA study identified no evidence of significant ground contamination on the site, however, given the site's historical mixed commercial/residential use, a potential risk of onsite contamination was assessed as low to moderate and a follow-on site investigation was recommended.

The site investigation works revealed that the site is underlain by a variable thickness of made ground over the Taplow Gravel Formation (TGF) with Seaford Chalk Formation and Newhaven Chalk Formation (Chalk) encountered at depth.

The made ground, ranging between 1.1mbgl and 2.8mbgl in thickness, generally comprised brown to dark brown slightly clayey gravelly sand. This was intermixed with occasional anthropogenic materials comprising fragments of brick, glass, mortar, concrete, metal, plastic, rubber, ash etc. No visible deleterious constituents containing asbestos were identified during the site investigation works.

The programme of ground gas monitoring works and follow on data assessment confirmed no requirement for ground gas protection measures in the new development.

In total, 10 soil samples were tested for various contaminants including asbestos, metals, total organic carbon, polycyclic aromatic hydrocarbons, petroleum hydrocarbons and leachable contaminants.

The results of laboratory tests were assessed against Generic Assessment Criteria for a residential without home grown produce end. On this basis, no potentially significant risks were identified considering direct exposure, ingestion and vapour inhalation pathways and therefore the site was assessed to be suitable for the proposed end use.

However, the laboratory screening for asbestos identified detectable asbestos fibres within one out of six tested sample of made ground. This sample was then further analysed and the presence of fibres of chrysotile were confirmed, with a maximum of 0.001% by weight present in the sample from WS3 at 0.5mbgl.

The assessment of leachate and groundwater results confirmed low risk to controlled waters.

1.4 RECOMMENDED REMEDIAL MEASURES FOR SOFT LANDSCAPING

Considering the localised presence of asbestos fibres in the historical made ground on site, a clean capping layer was recommended to mitigate risks. The recommended composition of the capping layer included placement of a geotextile membrane at formation level with a minimum 450mm thickness of a clean imported topsoil layer.

The localised asbestos on site was detected in the form of free chrysotile fibres with concentrations below 0.001% w/w. No visible asbestos containing materials were noted in soils during site investigation works and the follow-on construction works. Therefore no handpicking of asbestos containing materials was required, or conducted, during the groundworks.

1.5 REMEDIATION CHANGING NOTE - SOFT LANDSCAPING

The remediation measures in the soft landscaping areas applied in the new development included a 450mm thickness clean capping layer, however, the geotextile membrane at formation level was inadvertently omitted from the design.

Based on the review of the site investigation works and follow-on groundworks, the applied capping layer design without a geotextile membrane is deemed acceptable for the following reasons:

- Only localised (single location) low levels of asbestos concentrations were detected on site at a depth of 0.5mbgl;
- The area where asbestos was detected in the made ground currently comprises a bin store / car parking area covered with hardstanding;
- The applied 450mm layer of a clean topsoil would effectively mitigate the potential for any asbestos fibres in the made ground beneath the capping layer to become airborne;
- The quality and thickness of the applied topsoil conforms with the remediation action plan;
- There are no private gardens within the development and the soft landscaping comprises communal areas only. It is therefore unlikely that residents would potentially excavate soils to depth greater than 450mm.

In conclusion, the applied remedial measures without a geotextile membrane beneath the topsoil capping layer are considered suitable and would mitigate risks from any potentially remaining asbestos fibres in the made ground at depth.

We trust that the changes to the remediation action plan described in this letter are acceptable. Should you require further information or clarification, please contact undersigned.

A handwritten signature in blue ink, reading 'A. Landers', is positioned above the printed name.

Alena Landers

Principal Geo-environmental Engineer

Appendix A Service Constraints

APPENDIX A

SERVICE CONSTRAINTS

1. This report and the site investigation carried out in connection with the report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) for Thomas Homes Ltd (the "client") in accordance with the terms of a contract between RSK and the "client". The Services were performed by RSK with the skill and care ordinarily exercised by a reasonable environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the client.
 2. Other than that expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services.
 3. Unless otherwise agreed in writing the Services were performed by RSK exclusively for the purposes of the client. RSK is not aware of any interest of or reliance by any party other than the client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent or condone any party other than the client relying upon the Services. Should this report or any part of this report, or otherwise details of the Services or any part of the Services be made known to any such party, and such party relies thereon that party does so wholly at its own and sole risk and RSK disclaims any liability to such parties. **Any such party would be well advised to seek independent advice from a competent environmental consultant and/or lawyer.**
 4. It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date of this report, RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.
 5. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the report in the future shall be at the client's own and sole risk. Should RSK be requested to review the report in the future, RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.
 6. The observations and conclusions described in this report are based solely upon the Services which were provided pursuant to the agreement between the client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, RSK did not seek to evaluate the presence on or off the site of asbestos, electromagnetic fields, lead paint, heavy metals, radon gas or other radioactive or hazardous materials.
 7. The Services are based upon RSK's observations of existing physical conditions at the Site gained from a walk-over survey of the site together with RSK's interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The Services are also based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely. The Services clearly are limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the walk-over survey. Further RSK was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services. RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the client and RSK.
 8. The intrusive environmental site investigation aspects of the Services is a limited sampling of the site at pre-determined borehole and soil vapour locations based on the operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and RSK] [based on an understanding of the available operational and historical information,] and it should not be inferred that other chemical species are not present.
-

9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (boreholes, trial pits etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for setting out and should be considered indicative only.