

Big Red Industries (Huddersfield) Ltd
SKA House,
St Thomas Road
Huddersfield
HD1 3LJ

Application No: 120149/FO/2018

Type: Full Planning Permission Decision Notice Dated: 19th March 2019

Applicant: Rain City Developments (Ducie Street)

Description: Erection of 7 to 8 storey residential building (Class C3) to provide 41 apartments (7 x 1-bedroom 1-person apartments, 6 x 1-bedroom 2-person apartments, 6 x 2-bedroom 3-person apartments, 22 x 2-bedroom 4-person apartments) with associated landscaping and other works

Ducie Street, Manchester

Risk Assessment of Possible Contamination of Aquifer with regard to discharge of Condition 13.

This risk assessment has been prepared by Big Red Industries acting as the Principal Contractor for the above development, in order to satisfy Condition 13 of the Planning Consent.

The piling methodology selected for Ducie Street is by Continuous Flight Auger (CFA) piling. The piles are constructed by boring to the full depth, currently envisaged to be circa 18m below existing ground level, using a long auger in one continuous downward movement.

The soil removed from the pile bore flights upwards as the auger rotates, with the flights kept full of spoil.

Once the required depth is achieved, concrete is pumped through the hollow stem of the auger to the toe of the pile where it is placed under pressure, as the auger is slowly withdrawn.

Therefore, with this type of piling there is no open bore at any time and the possibility of any water flowing down the auger is always minimised by the movement of soil upwards and the advance of the rising concrete. As concrete is placed from the base of the auger it promotes flushing of water and soil upwards.

With reference to the Environment Agency Document – Piling into contaminated sites and the National Groundwater and Contaminated Land Centre report NC/99/73 – CFA piles are considered the most suitable deep foundation necessary to support the proposed structure at this site. The creation of preferential pathways will not arise due to the close bond at the interface between the pile surface area and surrounding soil material. The downward movement of contaminated material is also restricted as the CFA pile is a replacement not a displacement pile type.

With reference to the Earth Environmental & Geotechnical Ltd – GeoEnvironmental Investigation. Ref: A4210/21/SI dated September 2021, it appears the general site risk is low with the following statements being made with regard to contamination levels:

Groundwater risk assessment (section 11.5)

- Based on the results of the chemical testing, no contaminant exceedances were encountered in the groundwater sample retrieved from WS2. Therefore, the risk is considered very low.

Soil contamination risk assessment (section 11.1)

- Based on the results of the chemical testing, an exceedance in Lead was encountered in one soil sample (WS1 at 0.60m). However, the contaminated soils are located beneath the proposed building footprint. Therefore, there will be a low risk, due to the removal of the pollutant linkage during development.

Given that the strategy for the preparation of the site is to excavate over the site & replace the existing made ground (demolition rubble from previously backfilled basements) with engineered fill to provide a safe working platform for the piling rigs, any trace contaminants such as that identified in WS1 will be removed from site prior to piling commencing.

Bearing in mind the above analysis, it can be concluded that the overall risk of any contaminants reaching the aquifer is **very low**.

We therefore would request that MCC consider this risk assessment to be sufficient to discharge the requirements of Condition 13 & approve the use of CFA piling for use on this site.

Risk assessment prepared by:

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Pre-Construction Manager
Big Red Industries