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DATE.
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OUR REFERENCE.
PO95BQ001-PRA-ISSUE 1

SUBJECT.
DUNSBURY WAY, HAVANT

**PILING RISK ASSESSMENT FOR PILES TO SUPPORT PROPOSED PILED RAFT FOUNDATIONS
FOR DUNSBURY WAY, HAVANT**

This statement should be read in conjunction with the site investigation reports and remediation proposals presented under planning condition 7 of planning approval 18/01109

The relevant Site Investigation Reports are:

- 5012199-RDG-XX-ST-DOC-C-00SIR01---Site Investigation Report
- 5012199-RDG-XX-ST-DOC-C-00SIS02---Site Investigation Report

This Piling Risk Assessment has followed the guidance of document 'Piling and penetrative ground Improvement methods on land affected by contamination: Guidance on pollution prevention' published by the National Groundwater and Contamination Land Centre (report NC/99/73).

On this site, a Source Water Protection Zone 1c is located in the Bognor Sand Formation at covering the eastern part of the site Further site investigation is required in order to determine the depth and extent of the SPZ on site. The superficial deposits on site consist of Made Ground over Head consisting of Clay, Silt, Sand & Gravel.

We have elected to undertake a Continuous Flight Auger method of piling as this is the least ecologically intrusive method of piling available due to the following reasons:

- Low vibration and noise during pile installation.
- The pile bore is supported continuously during the whole installation process, either by augured soil or wet concrete. The concrete is then pumped down the hollow stem of the augers to the tip of the lead auger. The string of augers is slowly withdrawn to the ground surface as the pile is filled with concrete. The soil is flighted up the augers and disposed of and as such, there is a very low risk of contaminated soil migrating down the augers into the aquifer. (Displacement Piles Such as PreCast Driven or Continuous Helical Displacement Piles will displace the soil laterally and downwards which may lead to contaminants being drawn down into the SPZ)
- The pile bore is constantly supported through the installation process. Therefore, there is no possibility of contaminated soil falling into the bore and down to the aquifer, nor contaminated ground water flowing down to the aquifer.
- The concrete is placed under pressure and against a soil surface which is roughened or disturbed by the passage of the augers as they are withdrawn, there is a localised interstitial mixing of soil particles with the wet concrete at the soil/pile interface. There is no 'contamination pathway' created for water migration down the pile shaft.

- The contamination pathway is the same after the installation of the piles as before the installation of the piles.

Based on the above we believe that it is clear that CFA Piling is the most optimal, least disruptive, deep foundation solution available when constructing in ecologically sensitive areas

Yours Faithfully
SPEEDECK Foundations Ltd

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