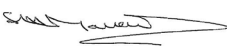


Design Note

Project Co-op Live
Subject Interim Statement
Project no 0042841 – BRA-BHE-XX-XX-DN-CG-0004
Date 29 January 2021

Revision	Description	Issued by	Date	Approved (signature)
P01	For Information	FG 	29/01/2021	HM / NP 

1 Introduction

1.1 Overview

This Note has been completed to provide an interim statement on the grouting work activities in relation to the Groundwater Risk Assessment (GWRA) and Remediation Strategy submitted to the Environment Agency (EA) on 25th September 2020. The EA agreed to the commencement of the grouting work without the need for an Environmental Permit, providing all works were done in accordance with these documents. The EA's letter response was provided on the 2nd October 2020.

2 Summary of factual information up to 27th January 2021

2.1 Grout work activities

Cementation Skanska Ltd have carried out the grouting work. Drilling works commenced on 17th November 2020 and the main phase of grouting work is now finished and full records are expected to be made available for review during week commencing 01/02/2021. During these works three areas of 'soft ground' were encountered. These locations were subsequently investigated using inclined probe drilling. Vertical probing is currently being carried out to further determine the nature of these 'soft spots'. If required, further grout treatment will be carried out at these locations.

Grouting across the site was completed on an initial 21m grid, this was then reduced to 7m and 14m. Where grout takes were in excess of 1.5tonnes, the grid was reduced to 3.5m.

2.2 Monitoring activities

Groundwater monitoring and visual inspections of the River Medlock were carried out twice a day, on a daily basis throughout the grouting works, in line with the GWRA, Remediation Strategy and the approval letter from the EA. These records were provided to Buro Happold for review on a day by day basis to ensure any anomalies were picked up immediately. A total of nine monitoring locations were used across the site and two locations on the River Medlock visually inspected, upstream at the entrance to the culvert and downstream at the exit of the culvert.

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Groundwater readings were recorded daily between 19th October and 16th November 2020 to form the baseline groundwater level. The average groundwater level across the site during this period ranged between +37.3mAOD and +37.7mAOD.

Once the probing and grouting works began on the afternoon of the 17th November 2020, groundwater levels were taken twice daily whilst the work took place. Generally, groundwater levels did not exceed +39mAOD with an average reading (using 684 recorded levels) of +37.9mAOD across the entire monitoring period.

3 Interim Statement

Based on the data available up to 27th January 2021, the recorded groundwater levels have not shown any potentially significant rise as a result of the grout works. Photographs from the River Medlock have been reviewed daily and no signs of any visual impact have been recorded. On the basis of all of the monitoring information to date, no change is required to the current Remediation Strategy for any ongoing works.

Going forward, a comprehensive review of the complete set of data and the Contractor's completion report will be carried out and included within a Verification Report to be prepared by Buro Happold. This will include all those activities still ongoing associated with the three 'soft spots', where possible treatment (further grouting) may still be required.