Providing Ground Solutions

Stanley Sidings Limited

Camden Lock site

Site investigation scoping

October, 2014

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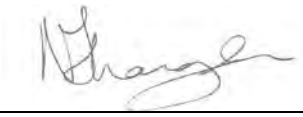
Author	Nick Langdon, Director *MSc BEng DIC CEnv CEng CMgr FICE FGS FCMI MIoD*				
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Contents

APPENDICES

1. INTRODUCTION

The following sets out the scope of the proposed investigation at the Camden Lock Site site subject to the current planning application (2012/4628/P) and the *Desk Study and Environmental Risk Assessment*, HLE14880/001R prepared by RPS for the Camden Lock development in 2009. The conclusions of which are noted to be that there is a low risk of an environmental liability associated with ground conditions but that intrusive ground investigation works are required.

2. BACKGROUND

For the purposes of the scoping of the investigation the site is divided into the following areas.

- Building W (west of the School Site subject to separate planning application 2014/2712/P
- Site A (currently forming the open air market adjacent to the canal)
- Site C and D (currently north of the railway viaduct and east of the market)

The site is currently occupied by various historic buildings with some residential use and active commercial activity particularly within the Camden Lock Market area, Site A. In addition the site is characterised by two railway viaducts at high level, the Grand Union Canal on the southern boundary and LUL tube lines to the east and west site boundaries. There is also electricity transmission infrastructure on Site C and Site A. All these features constrain locations for the siting of investigation boreholes and pits. To achieve commencement, which includes demolition, an investigation has to be undertaken.

The investigation strategy is designed to meet the investigatory requirements of the *Conceptual Site Model* set out in section 4.1 of the RPS 2009 report. A separate UXO assessment has been completed by 6 Alpha and the investigation will be subject to mitigation of risk tailored to specific parts of the site. The risk is considered to be generally extremely low and in effect negligible given the nature and location of the historic bomb damage in the area of this site which derives mostly from a single V1 strike and three identified bomb strikes. Further the surrounding communication infrastructure would have been strategically of vital importance to clear of any perceived risk of UXO during the war.

UXO mitigation for the SI on all areas of the site comprises:

- On site briefing from EOD to staff involved
- Emergency action plan for encountering UXO.

Specifically to Site C and D and to adopt a raised but ALARP (As Low as Reasonably Possible) approach:

- Use of magnetometer scanning within bores below Made Ground to a depth of some 6m bgl subject to their ability to provide anomaly detail in the sufficient detail to mitigate the perceived risk.

All works will be subject to CGL Site Specific Risk Assessments prior to mobilisation.

3. SCOPE OF INVESTIGATION

3.1 Field works

Investigation positions are located to minimise disruption to roads and access as far as possible and to provide the required data. The works will comprise the following field works which will also be informed by information and monitoring for the adjacent school site.

Exploratory hole locations are shown on CGL Drg No 18067 -00, Appendix A

Within the Camden Lock Site the following investigation fieldworks are provided:

Building W

Two cable percussive boreholes to 25m and 15m are to be constructed to provide deeper information on the underlying London Clay with the view to the development being a piled structure. This will be supported by three window sample boreholes to a depth of some 5m by hand held equipment to facilitate access around existing structures and minimise obstructions. Boreholes will provide disturbed and undisturbed samples for geotechnical and geoenvironmental testing and in situ SPT test results.

Sites C & D

Four cable percussive boreholes to between 25m and 40m are to be constructed to provide deeper information on the underlying London Clay with the view to the development being a piled structure and multi-storey basement. This work will be supported by four window sample boreholes to a depth of some 5m by hand held equipment to facilitate access around existing structures and minimise obstructions. Boreholes will provide disturbed and undisturbed samples for geotechnical and geoenvironmental testing and in situ SPT test results.

In addition, up to six foundation inspection pits adjacent to the railway viaduct structure have been scheduled for locations to be determined by the structural engineer. Contamination and geotechnical samples will be taken from these pits as instructed by an engineer from CGL.

Site A

Three rotary cored boreholes to 25m are to be constructed to provide deeper information on the underlying London Clay with the view to the development being a piled structure with single storey basement. Work will be done out of market hours and utilise quieter boring techniques and multiple mobilisations to allow commercial activities to run interrupted. Boreholes will provide disturbed and undisturbed samples for geotechnical and geoenvironmental testing and in situ SPT test results.

3.2 Laboratory works

Samples will be identified by a CGL geo-environmental engineer on site and consigned to i2 Analytical Ltd, a CGL preferred and suitably accredited laboratory for testing of contamination samples. Samples will be screened for a suite of metal, non-metal, hydrocarbons and asbestos to recognised EA testing thresholds and for interpretation against appropriate site end use criteria. Should groundwater be encountered and in sufficient quantities it will be sampled and tested in a similar manner.

3.3 Monitoring

Standpipe for soil gas and groundwater monitoring will be provided in each hole. Arisings will be recorded by a suitably qualified engineer from CGL who will also undertaken some geotechnical in situ testing and consign samples to laboratories as required. Locations will be cleared by a specialist service location contractor.

Soil gas and groundwater levels will be monitored on a regular basis and as atmospheric conditions allow during variable pressure conditions. However, it is not anticipated at this stage that significant gas concentrations or flow will be encountered.

3.4 Reporting

Geotechnical and geoenvironmental interpretative report(s) will be provided which will amongst other reporting make recommendations for remediation of the site appropriate for the encountered contamination, a discovery strategy in the event of hitherto

undiscovered contamination being revealed during demolition and requirements for disposal, site capping and gas protection as appropriate.

The report will be informed by concurrent works on the immediately adjacent site where one further borehole to 15m and three further window sampler holes will be done with similar levels of testing and investigation and monitoring.

APPENDIX A

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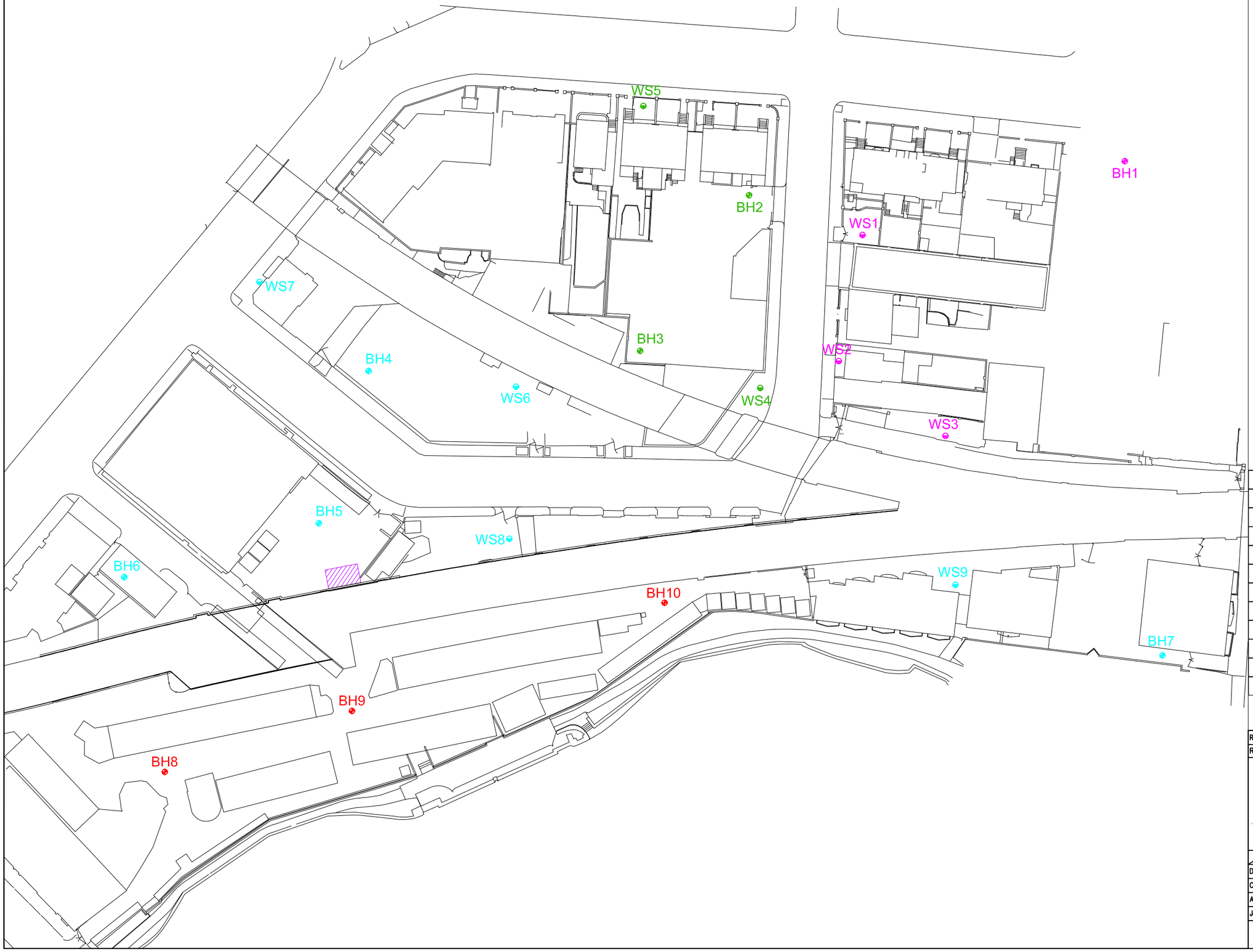

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Proposed location for skip, material storage and single vehicle parking.

Borehole ID	SI Phase	Maximum depth (m)
BH1	1	15
WS1 - WS3	1	5
BH2	1	30
BH3	1	15
WS4 - WS5	1	5
BH4 & BH6	2	25
BH5	2	40
BH7	2	30
WS6 - WS9	2	5
BH8 & BH10	3	25
BH9	3	30

REV			
Rev.		Date:	

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		Date:	Project: Camden Lock Village	Scale:
Dwn.	JMS	7/10/14	Client: Walsh Associates	NTS
Ckd.	NJL	7/10/14	Title: Proposed exploratory hole location plan	
Appr.	NJL	7/10/14		
Job No.:	CG/18067		Drw.no.: CG/18067-001	Rev.: A