C261 ARCHAEOLOGY CENTRAL
Addendum to Method Statement
Archaeological General Watching Briefs
Pudding Mill Lane Portal
Excavation works for National Grid

Document Number: C261-MLA-T1-GMS-CRG03-50002

Document History:

Revision:	Date:	Prepared by:	Checked by:	Approved by:	Reason for Issue:
0.1	27.11.14	G. Laban	Ian Grainger	Nicholas Elsden	For PC Review (draft numbered v 3.1)
1.0	28.11.14	G. Laban	Ian Grainger	Nicholas Elsden	For CRL Review
2.0	01.12.14	G. Laban	Ian Grainger	Nicholas Elsden	Revised from CRL Review

2a. Principal Contractor (C350 Morgan Sindall) review required? YES ☒ NO ☐

(If NO, strike out sections 2a & 2b and go to section 3)

This document has been reviewed by C. BRIAN in the capacity of MORGAN SINDALL for coordination, compliance, integration, and acceptance as a safe system of work, output, control, sequence. This document is acceptable for transmittal to _Crossrail_ for no objection to the works being executed as described.

Sign: C. Brian Name: C. BRIAN Date: 27-11-14

2b. Review by Stakeholder (if required):

Stakeholder Organisation	Job Title	Name	Signature	Date	Acceptance
					☐
					☐
					☐

3. Acceptance by *Crossrail*

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☐	Code 2.	Not Accepted. Revise and resubmit. Work may proceed subject to incorporation of changes indicated
☐	Code 3.	Not Accepted. Revise and resubmit. Work may not proceed
☐	Code 4.	Received for information only. Receipt is confirmed

Reviewed/Accepted by:(signature)	Print Name:	Position:	Date:
	PP JAN CARVER	PROJECT ARCHAEOLOGIST	01.12.14

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1 Introduction

This document forms an addendum to the earlier method statement v2 for other works under the C350 Principal Contractor at Pudding Mill Lane, and should be read in conjunction with that document. Any information contained within this document takes precedent over the v2 method statement:

- MOLA, C261 Archaeology Early East *Method Statement: Archaeological Targeted Watching Briefs Pudding Mill Lane Portal (Doc. No. C261-MLA-T1-GMS-CRG03-50001)*.

The tasks from the C261 PMI 00040 which this method statement covers are:

Task	Principal Contractor	Provisional Programme
• **General Watching Brief** on ground reduction works (Fig 2).This includes: ○ The removal of the concrete layer. ○ The removal of contaminated soil from two initial 6.00m x 75.00m areas with reduction to a depth of 1.50m**.** ○ The further removal of contaminated soil from other areas of the site (outside the two initial 6.00m wide areas) as required to a depth of 1.50m. ○ This will include removal of contaminated features such as tanks etc, which may require localised removal of alluvial deposits.	C350 Morgan Sindall	**Start w/c 1st December 2014 or later** This is predicted to break down as follows: **2nd/3rd December to *c* 8th December:** monitoring the removal of the concrete slab. **9th December until removal is complete**: watching brief on the removal of the contaminated soil

The Principal Contractor's documents used in production of this method statement were:

- Morgan Sindall, *C350 – Pudding Mill Lane, WPP – Advance remediation works for National Grid Sub-Station, CRL Document Number: C350-MRG-C-GMS-CR094_WS111-50119, v1, 30.10.14*

1.1 Site Location

The Bulk Supply Point, Pudding Mill Lane, Bow, E15 1PW (NGR 537670 183270).

1.2 Topographical, Archaeological and Historic Background

The geological and topographical setting was covered in detail in the WSI v2, and a recent watching brief on the site on behalf of National Grid (MOLA, 2014 *WorleyParsons for National Grid, Fieldwork Report, Archaeological Watching Brief on Ground Investigations Bulk Supply Point, Pudding Mill Lane*, v1 10.11.14) has identified the following:

- A Holocene alluvial sequence, including low-lying marginal organic deposits adjacent to the previously-identified gravel island to the east of the site. The gravel island may extend into the north-eastern part of the National Grid site, as indicated by the rising surface of the gravel. The organic deposits could be contemporary with the Bronze Age activity previously located to the east of the site.
- Victorian to Edwardian remains of brick and cobbled surfaces, small gauge railway lines, and storage tanks, which may relate to either the late 19th-century lamp works at Oil Wharf, or a soap works.

1.3 Deposit survival

1.3.1 The Bulk Supply Point, Pudding Mill Lane

Recent results from a watching brief on 3 boreholes and 9 test pits (MOLA for WorleyParsons/National Grid 2014) have helped to identify the following broad sequence:

Depth below surface (m)	Level (top)	Interpretation
0–0.50m bGL	104.65m ATD	Concrete
0.50–1.60m bGL	104.15m ATD	**Victorian/Edwardian industrial activity and structures** (including brick and cobbled surfaces, small gauge railway lines, and storage tanks)
1.60–3.90m bGL	103.55m ATD	**Holocene alluvial sequence** with organics/peat (potentially Bronze Age) and timber (Alder trunk recorded in borehole), and potentially the edge of higher ground with potential for human activity
3.90m bGL (top)	100.24m ATD	Pleistocene gravels

2 Scope of Works

2.1 Fieldwork Objectives

The objectives of the investigation are:

- To record the archaeological sequence (as restricted by contamination), mitigating the impact of the works.
- To identify the rail lines and the associated industrial archaeological features, allowing them to be related to any future work on the site.
- To identify the levels and nature of the Holocene alluvial sequence (if exposed in this work).
- To compare the results of this general watching brief with those of the earlier and future archaeological fieldwork in and around Pudding Mill Lane.

2.2 Event Codes

The site code for the watching brief task is XSK10.

3 Site Management Plan

3.1 Resource Plan

3.1.1 Pudding Mill Lane

The Pudding Mill Lane general watching brief will be supervised by a MOLA Supervisor (Senior Archaeologist, Grade 4 or 5).

Archaeological specialists (Grade 8) may be called in if necessary, eg a photographer, geoarchaeologist or osteologist.

Staff will be drawn from the pool of CVs submitted to Crossrail for approval.

The named Supervisor will be confirmed to Crossrail and the Principal Contractor in advance. Other staff and specialists are to be determined when required.

3.2 Programme

The predicted start dates and durations for the work are contained in the table in section 1.

4 Fieldwork Methodology

4.1 General Watching Brief Methodology

Summary of methodology for General Watching Brief on ground reduction and contaminated soil removal at Pudding Mill Lane.

- The C350 Principal Contractor will break and remove the concrete slab by machine under the supervision of the MOLA Senior Archaeologist.
- The C350 Principal Contractor will reduce **the required parts of the site by** 1.50m below the ground surface (removing contaminated features such as tanks etc., which may require localised removal of alluvial deposits). This will **initially be done in two parallel 6.00m x 75.00m strips** under the supervision of the MOLA Senior Archaeologist. This will be done from a safe distance (as advised by the Principal Contractor) due to the contamination of the soil, and with the appropriate PPE.
- Records of archaeological features and deposits will also be made from a safe distance. Any finds will be collected only after consultation with the Principal Contractor and with appropriate Health and Safety advisor (samples will **not** be collected from this contaminated material).
- The watching brief will cease when all excavation is completed (or locally at the surface of the Pleistocene gravels).

A General Watching Brief consists of a basic monitoring presence to observe the works carried out either by the Principal Contractor or their sub-contractor without

constraint on their working methods (Crossrail 2009 Archaeology Specification for Evaluation & Mitigation (including Watching Brief) CR-PN-LWS-EN-SP-0001, version 3). This includes making a basic record of notes, measurements, drawings and photographs consistent with an observation role; eg depth, character, date and survival/truncation of deposit sequence, height of natural geology. Monitoring and recording during a general watching brief will generally be made by observation from ground level. During a general watching brief MOLA staff will only enter a trench or area of excavation by agreement with the Principal Contractor or their sub-contractor (providing that there is proper access and that it is safe to do). Generally, monitoring will only be undertaken when areas or trenches have been dug down the level of potential archaeological interest. For this reason, a flexible approach will be taken and kept under review. The monitoring presence may alternate between full and part-time depending upon the Principal Contractor's programme (eg the nature and intensity of ground works) and the archaeological results. For example, any areas where the Principal Contractor's works prove to be of insufficient depth to affect significant archaeological deposits will be scoped out of the Watching Brief. The MOLA Senior Archaeologist undertaking the monitoring will make an appraisal inspection during the Principal Contractor's initial breaking out, removal of overburden etc. in order to determine at what depth the relevant deposits (if present) occur.

4.2 Watching Brief Recording Methods

The archaeological remains will be recorded to best practice standards (as limited by contamination requirements), in order to achieve the archaeological objectives. The site recording will include as a minimum:

- The written record of individual context descriptions on appropriate pro-forma sheets.
- The drawn record: including, plans and section drawings of appropriate features, structures and individual contexts (1:10 1:20 or 1:50). Isolated archaeological remains (artefacts) may be spot located in plan and a height provided where possible. Deposits which are regular in plan (pits and ditches) may be located though co-ordinates, annotated with dimensions, and may be recorded digitally.
- A stratigraphic matrix of the sequence of deposits and structures encountered will be produced.
- The photographic record: photographs taken with a digital camera of resolution of 12 megapixels or greater, providing similar resolution to a conventional 35mm SLR. The photographic record will include photographs of archaeological features, appropriate groups of features, structures, and quaternary deposits. Each photograph will be recorded on site using a proforma photographic record sheet, showing image number, area/test pit, context number(s), subject/description, direction of view, and date. In addition, appropriate record photographs will be undertaken to illustrate work in progress.
- Levels on plans, sections and other fieldwork records shall be related to OS datum (although reporting to Crossrail will be to Tunnel Datum).
- Other appropriate drawn and written records will be produced (for environmental sampling etc).

5 Deliverables and Submission Programme

Unless requested otherwise by the Crossrail Project Archaeologist, the fieldwork results will be incorporated within a fieldwork report and a summary report to be produced after the completion of future site work.

6 Health and Safety Control Measures

The Principal Contractor will provide:

- Disposable contamination suits.
- Welfare facilities for 1 Senior Archaeologist.

7 Environmental Management – Contamination

MOLA will comply with the Principal Contractor's environmental requirements in relation to the contamination issues.

- MOLA will only retrieve and recover finds with the permission of the Principal Contractor.
- Soil samples will not be taken, unless the Principal Contractor advises that removal of this material, and subsequent wet sieving into pubic drains, is permissible.

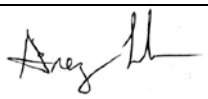
8 Health and Safety Method Statement – Contamination

MOLA will comply with the Principal Contractor's requirements in relation to the contamination issues.

- The Principal Contractor has indicted that ground contamination will be present on site.
- Due to the expected contamination, entrance into the trenches will not be permitted unless deemed safe by the Principal Contractor's Health and Safety advisor.
- Where ground contamination is present or suspected, the Principal Contractor will implement the measures required to protect those affected by the works, including provision of suitable additional PPE and adequate welfare facilities for the changed situation (PPE in addition to that included in section 21.8.3 of the method statement v2 will need to be provided by the PC, rather than MOLA).

9 Additional Specific Risk Assessments

Only the categories which have changed from the method statement v2 have been added here.

MOLA RISK ASSESSMENTS					**SITE:**			
APPROVAL (Name and Title)					**SIGNATURE**			**DATE**
Prepared by:	**Greg Laban**							**27.11.14**
Approved by:	**Ian Grainger**							**28.11.14**
RA N^{O}	**ACTIVITY**	**Hazards**	**RISK**	**Risk Class L/M/H**	**N^{o} at Risk**	**Control Measures**	**Final Risk L/M/H/I**	**Action by**
0017	CONTAMINATED LAND The Principal Contractor has specified that the soil to be removed during the watching brief will be contaminated	Ingestion and dermal contact	**Personal injury, illness damage to the environment**	H	1 staff member	**PC to provide disposable Tyvek overalls,** and if necessary respirators/P3 rated dust masks, wellington boots, rubber gauntlets Prohibit working within trenches from which contaminated soil is being removed. Provide washing facilities with hot and cold water, soap and towels. Avoid contact with water table/drainage High standard personal hygiene: wash hands before eating drinking smoking. No eating, drinking, smoking, in contaminated areas. Wear gloves in the contaminated areas. Conduct basic health surveillance. Report all ill health. Report all suspected contaminants – strange smells, strange looking deposits. Cease work area until contaminant is identified and safe system of work in place.	L	Supervisor and staff
All persons affected by these hazards must be made aware of the contents of this Risk Assessment								

10 Registers

HEALTH & SAFETY METHOD STATEMENT REGISTER

Date	Name of Inductee	Signature of inductee To: confirm that you have read this Method Statement and understood its contents and you will work in accordance with the method statement.	Confirmation Signature of Supervisor/Manager

MOLA INDUCTION REGISTER

Date of Induction	Name of Inductee	Signature of inductee To confirm that you have attended the induction and understood its contents and that you will work in accordance with the induction content, MS, Risk assessments and resulting safe systems of work and all legal and reasonable safety requirements and instructions	Confirmation Signature of MOLA inductor

For further names append more pages

11 Figures

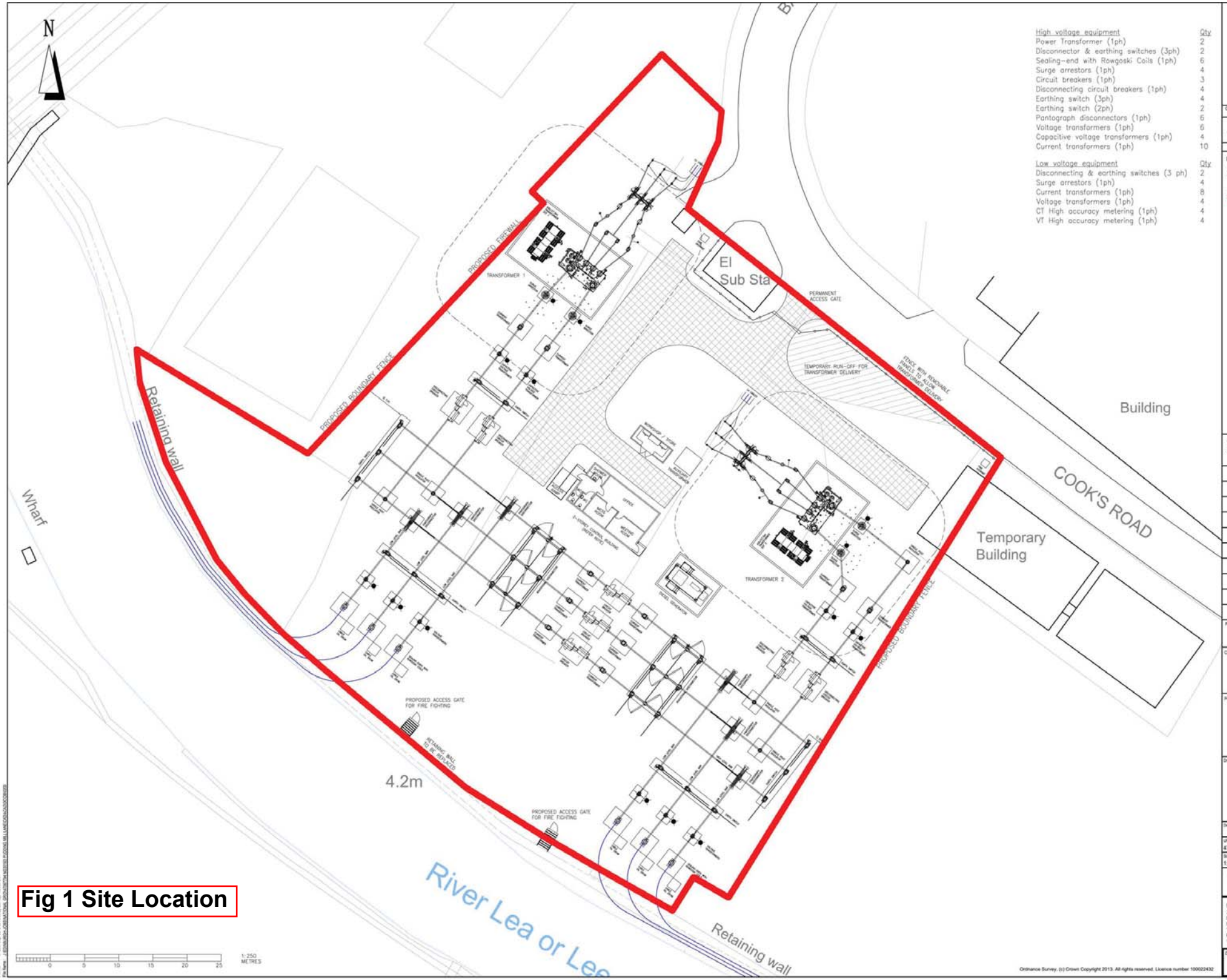
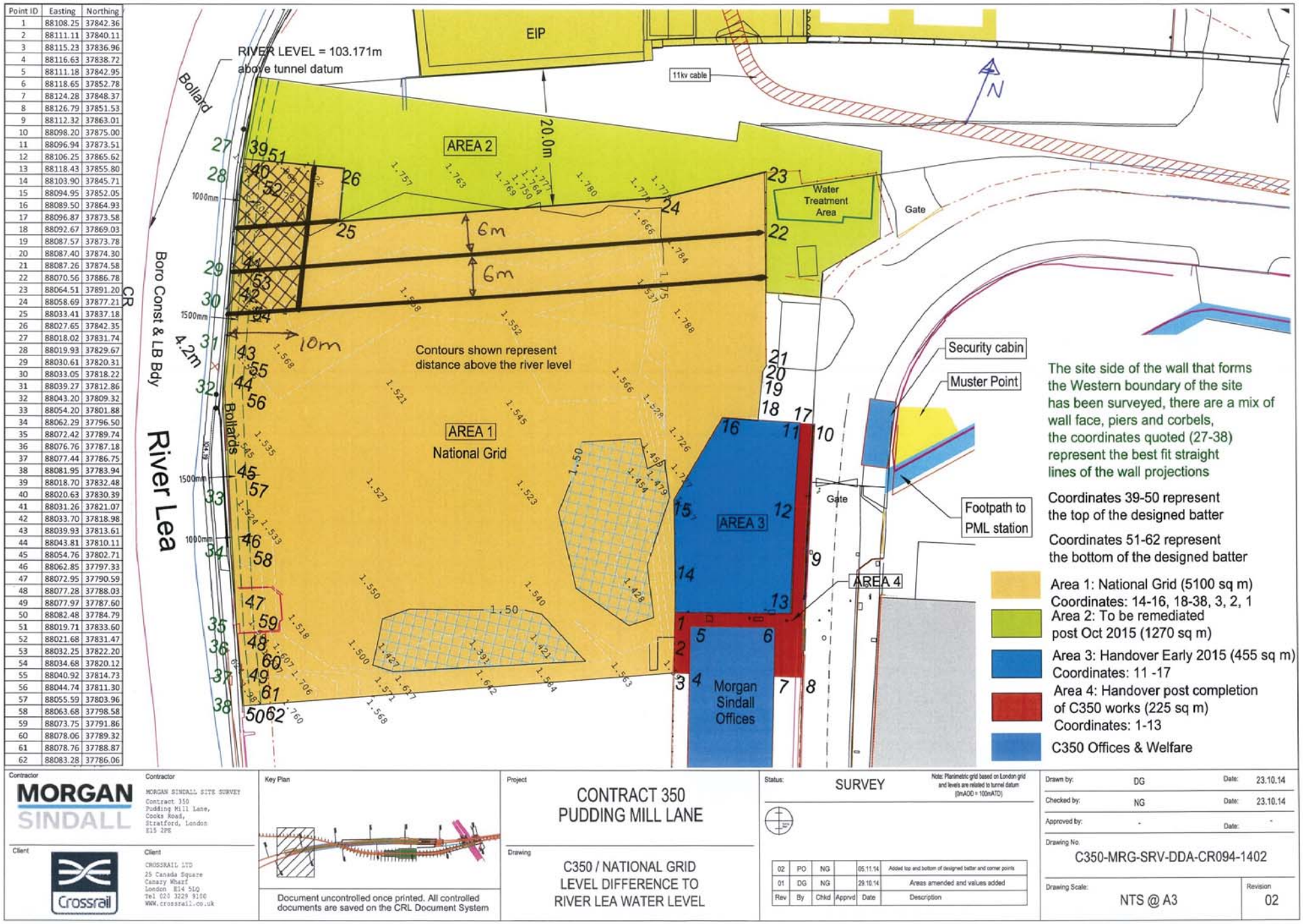


Fig 1 Site Location



Point ID	Easting	Northing
1	88108.25	37842.36
2	88111.11	37840.11
3	88115.23	37836.96
4	88116.63	37838.72
5	88111.18	37842.95
6	88118.65	37852.78
7	88124.28	37848.37
8	88126.79	37851.53
9	88112.32	37863.01
10	88098.20	37875.00
11	88096.94	37873.51
12	88106.25	37865.62
13	88118.43	37855.80
14	88103.90	37845.71
15	88094.95	37852.05
16	88089.50	37864.93
17	88096.87	37873.58
18	88092.67	37869.03
19	88087.57	37873.78
20	88087.40	37874.30
21	88087.26	37874.58
22	88070.56	37886.78
23	88064.51	37891.20
24	88058.69	37877.21
25	88033.41	37837.18
26	88027.65	37842.35
27	88018.02	37831.74
28	88019.93	37829.67
29	88030.61	37820.31
30	88033.05	37818.22
31	88039.27	37812.86
32	88043.20	37809.32
33	88054.20	37801.88
34	88062.29	37796.50
35	88072.42	37789.74
36	88076.76	37787.18
37	88077.44	37786.75
38	88081.95	37783.94
39	88018.70	37832.48
40	88020.63	37830.39
41	88031.26	37821.07
42	88033.70	37818.98
43	88039.93	37813.61
44	88043.81	37810.11
45	88054.76	37802.71
46	88062.85	37797.33
47	88072.95	37790.59
48	88077.28	37788.03
49	88077.97	37787.60
50	88082.48	37784.79
51	88019.71	37833.60
52	88021.68	37831.47
53	88032.25	37822.20
54	88034.68	37820.12
55	88040.92	37814.73
56	88044.74	37811.30
57	88055.59	37803.96
58	88063.68	37798.58
59	88073.75	37791.86
60	88078.06	37789.32
61	88078.76	37788.87
62	88083.28	37786.06

Contractor: MORGAN SINDALL

Contractor: MORGAN SINDALL SITE SURVEY
Contract 350
Pudding Mill Lane,
Cooks Road,
Stratford, London
E15 2PE

Client: Crossrail

Client: CROSSRAIL LTD
25 Canada Square
Canary Wharf
London E14 5LQ
Tel 020 3229 9100
WWW.crossrail.co.uk

Key Plan

Document uncontrolled once printed. All controlled documents are saved on the CRL Document System

Project: CONTRACT 350
PUDDING MILL LANE

Drawing: C350 / NATIONAL GRID
LEVEL DIFFERENCE TO
RIVER LEA WATER LEVEL

Status: SURVEY

Note: Planimetric grid based on London grid and levels are related to tunnel datum (0mAOD = 100mATD)

Rev	By	Chkd	Apprvd	Date	Description
02	PO	NG		05.11.14	Added top and bottom of designed batter and corner points
01	DG	NG		29.10.14	Areas amended and values added

Drawn by:	DG	Date:	23.10.14
Checked by:	NG	Date:	23.10.14
Approved by:	-	Date:	-

Drawing No.: C350-MRG-SRV-DDA-CR094-1402

Drawing Scale: NTS @ A3

Revision: 02

Fig 2 Location of Ground Reduction to 1.5m Below Ground Surface