DESIGN PACKAGE C134
TOTTENHAM COURT ROAD STATION

ADDENDUM TO WSI: DETAILED EXCAVATION PHASE, NORTHERN BLOCK, TCR WEST

Document Number: C134-OVE-T1-RGN-N105-00022

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☐	Code 1.	Accepted. Work May Proceed
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1.0	15-07-10	Filename	Excavation_Phase_Northern_Block_TCR_WestVer4.doc		
		Description	Specification for archaeological contractor – for review		
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		Notes	Appendix A (drawing C134-OVE-G-DDH-N105_1-00001) updated Appendix B (Designers Risk Control Log Summary)		
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Contents

1 Introduction

This document provides details of the archaeological excavation required to mitigate the impact of construction of TCR West Station on archaeological finds located during the Trial Pit Evaluation phase. It sets out the location and recording activities required at Tottenham Court Road Station Western Ticket Hall following demolition works in the northern block.

It is proposed that the *Main Contractor* will level existing basement walls and break out the concrete floor slabs in the area identified on Figure 1 (Appendix A). The archaeological works are required to be carried out post-demolition in order to provide a larger working area and safe environment for the archaeologists.

This document is an addendum to the Written Scheme of Investigation for TCR Station (C134-OVE-T1-RGN-N105-00017) and should be read in conjunction with that document. The background to the archaeological works carried out at TCR West can be found in that document.

This document outlines the requirements of the *Main Contractor* (Section 3) and the requirements of the *Archaeological Contractor* (Section 4).

2 Scope of Works

2.1 Aims of the proposed investigation

The overall aim is to refine the understanding of the post-medieval occupation of the site (as uncovered during the evaluation phase) and potentially to discover earlier features and deposits, which would be removed by the Western Ticket Hall construction works.

2.2 Site Specific Aims

1. To record the post-medieval development of this part of central London, including evidence for the absorption of the rural landscape into the urban one through domestic and industrial structures.

2. To determine the nature/chronology of the 17th to 19th-century urbanisation, particularly the nature of the structure identified in TP6 (see figure 1).

3. Conversely, the aim should determine whether or not natural deposits are truncated, and if truncated whether this indicates widespread quarrying for brickearth and/or gravel.

3 Specific Requirements for the Main Principal Contractor

3.1 Archaeological Excavation

The *Main Contractor C208* shall undertake to break out an area measuring 15 x 15m (see Plan 1 for location). This investigation area is required to mitigate the impact of Crossrail's Western Ticket Hall construction on archaeological features found in TP 6 (see figure 1) during the earlier evaluation phase (event code: XRX10).

A clear operating area will be defined for use by the archaeological contractor, without adjacent demolition or construction. The Archaeological Contractor shall be consulted before the

Principal Contractor undertakes any activity in the area, except those essential activities required to enable the archaeological investigation

Modern overburden will be removed by the *Main Contractor* by machine under archaeological supervision by the *Archaeological Contractor (C254)* to expose the urbanisation horizon: buried cellar walls of former 17th to 19th-century buildings, located approximately 0.50m below basement slab. Following the removal of the overburden, the building remains will be recorded and sampled by the *Archaeological Contractor* with provision for more detailed sample investigation and recording of any features of particular interest identified during this stage. After this stage, the site level will be further reduced by the *Main Contractor* by machine (under archaeological supervision) to determine if any earlier archaeological features survive beneath them, e.g. brickearth quarries. If present, these features will be again planned, recorded and sample investigated in order to establish character, function and date.

3.1.1 Archaeological Excavation Procedure

The *Main Contractor* shall after demolition of all walls and removal of posts:

- Ensure no live underground services exist in the area identified for excavation;
- Remove, under supervision of *Archaeologist Contractor*, basement floor slab and modern overburden, to the predicted level of post-medieval structural remains (as established during archaeological trial pitting). This was established as being approximately 0.5m below current basement (c.123.4mOD). Underlying natural was found at a depth of 1.25 m below the basement slab surface (122.14 m OD);
- Prepare and undertake breakout, removal and storage on site of 19th and 20th Century, or other, structures and soils with the agreement of, and under the supervision of, the *Archaeological Contractor*;
- Place excavated material in spoil heaps at an agreed safe distance from the site of the trench, as agreed with the *Archaeological Contractor*;
- Provide temporary works to support excavations where personnel access for the investigation is required;
- Allow suitable access from ground level to bottom of excavated area for archaeologists to work;
- Excavate in stages/steps to the bottom of archaeology to aid archaeological excavation by localised machining of areas of recorded soils or structures between the underside of slab and the top of natural soils (a zone shown in TP6 to be approx. 1.25m deep);
- Use of excavators or other plant within the excavation area shall only be undertaken with the agreement of and under the supervision of, the *Archaeological Contractor*;
- Allow for providing the following services and facilities:
    - Power;
    - Lighting;
    - Water;
    - Administration;
    - Safety, Health and welfare;
    - Small plant and tools.

- Allow safe access for archaeological operatives into the site and any required temp works.
- Allow for up to 10 archaeologists to be on site at any one time; and
- Provide further technical advice to the *Archaeological Contractor* as maybe required to safely complete the works

3.1.2 Site Accommodation and Facilities

The *Main Contractor* shall provide the following site accommodation facilities for the use of archaeological operatives, inclusive of any hardstanding and services required

- Toilets, with drying and washing facilities;
- First Aid;
- Temporary office for the use of archaeologists complete with furniture; and,
- Secure storage facilities for tools, finds etc.

3.1.3 Healthy by Design

Additional considerations for provision of a safe working environment are given in Appendix B – Designer's Risk Control Log Summary, in accordance with the Crossrail Standards:

Healthy By Design: A guide for Crossrail Design Teams

(Document reference: CR-XRL-Z7-XCS-CR001-0001)

4 Instructions to Archaeological Contractor and Specification

4.1 Archaeological Excavation

The archaeological excavation will be carried out at TCR West, Northern Block (see Figure 1). Further background information on the general scope of work and requirements on the *Archaeological Contractor* are to be found in the Site Specific Written Scheme of Investigation for TCR Station, document reference number: C134-OVE-T1-RGN-N105-00017.

The Archaeological Contractor shall:

- Provide a suitably qualified archaeologist, experienced in archaeological site excavation and the nature of archaeological deposits which are expected on this site;
- Provide a method statement inclusive of risk assessment and safe method of working;
- Following the initial overall strip and clean, individual features are to be hand cleaned and defined: sufficient to determine type, plan form and relationships (e.g. for structures and rebuilds); and recorded. Sufficient archaeological features/structures are to be sample excavated (see guidance in SS-WSI) either using a smaller machine with graded digging bucket (by the *Main Contractor* under archaeological supervision) or hand cleaned if appropriate;
- When this initial investigation is completed, a second strip will be undertaken by the *Main Contractor* under archaeological supervision to the level of pre-urbanisation features and sampling and recording, as described above will be repeated at this level.

4.2 Deliverables

Within 7 days of completion of a fieldwork event the Archaeology Contractor shall submit an Interim Statement to the Project Archaeologist.

The required deliverables, including Archaeological Contractor's Method Statement, Site Monitoring and Progress Reports, Site Archives, Interim Statement, Survey Report, Fieldwork Report, SMR Report, Summary Report and Post-Excavation Assessment are set out in Sections 8 and 9 of the Written Scheme of Investigation for TCR Station (C134-OVE-T1-RGN-N105-00017) and in the C254 contract requirements.

5 Programme

A provisional start date for preceding activities required prior to archaeological site excavation has been set for the week commencing the 27th September 2010.

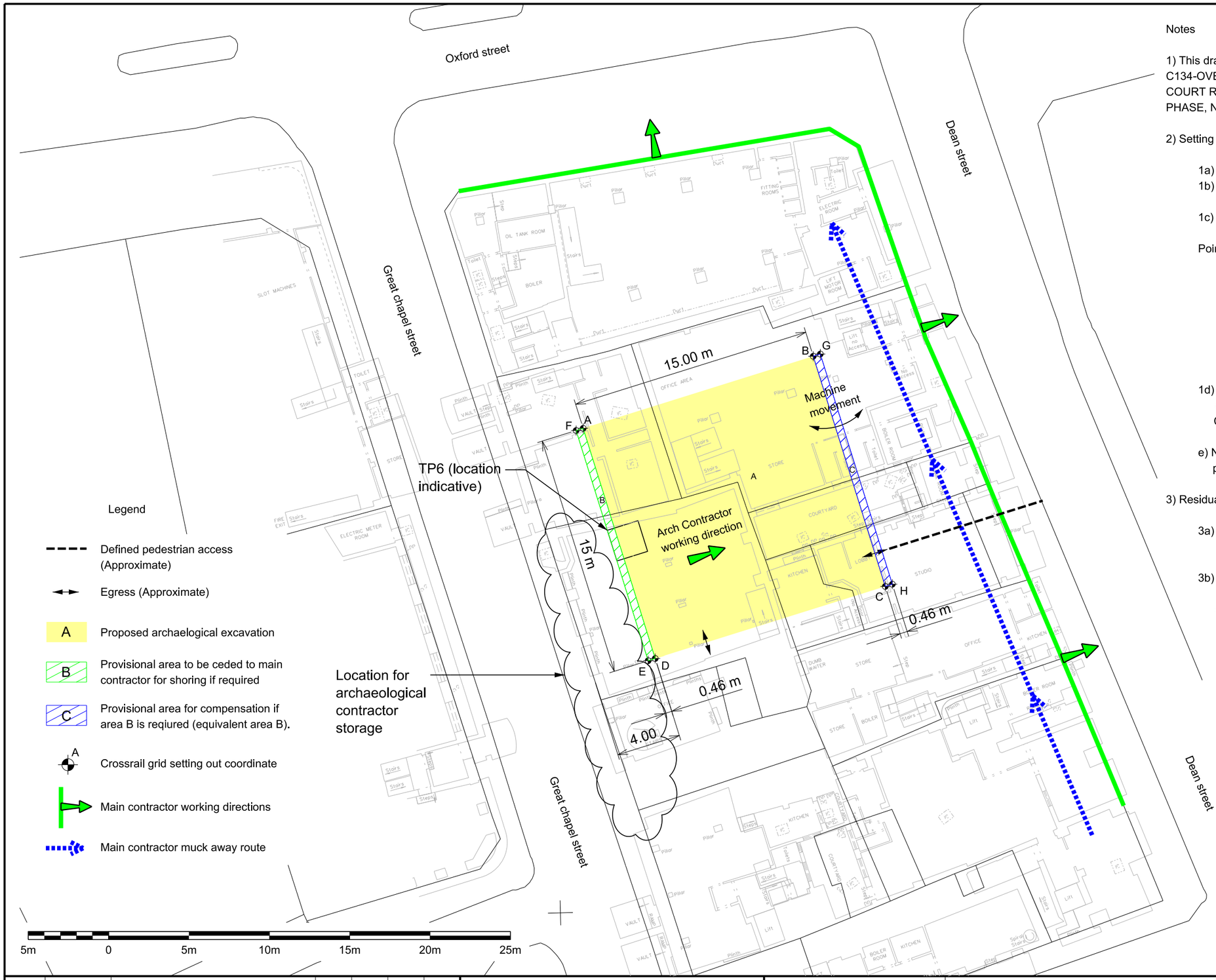
The timetable involved in the archaeological excavation is set out as:

- Preceding activities: Once building has been demolished and rubble cleared, breaking out of concrete basement slabs will commence under archaeological supervision;
- Archaeological Excavation activities: Machine stripping by *Main Contractor* under archaeological supervision to depth as instructed by the supervising archaeologist. This will be followed by archaeological investigation.
- Post excavation activities: This will involve interim reporting after seven days and post-excavation reporting and analysis as required.

The maximum duration for site works is four to five weeks.

Appendix A – Archaeological Mapping Information

Drawing C134-OVE-G-DDH-N105_1-00001 Site plan including strip, map and sample location across the TCR West northern block.



Notes

1) This drawing is to be read in conjunction with Crossrail Document C134-OVE-T1-N105-00022: DESIGN PACKAGE C134 TOTTENHAM COURT ROAD STATION ADDENDUM TO WSI: DETAILED EXCAVATION PHASE, NORTHERN BLOCK, TCR WEST

2) Setting Out

1a) No Scaling from this drawing
1b) Setting out is to be undertaken in relation to Crossrail Grid only. OS grid coordinates are not to be used
1c) Setting out coordinates are as follows:

Point A - 79886.199, 36079.735
B - 79900.513, 36084.218
C - 79904.995, 36069.903
D - 79890.681, 36065.421
E - 79890.242, 36065.283
F - 79885.759, 36079.598
G - 79900.952, 36084.355
H - 79905.435, 36070.041

1d) Any alterations to the proposed trench location are to be undertaken only through prior written agreement with the FDC Archaeologist and Crossrail's Project Archaeologist

e) No responsibility is taken for inaccuracies in Third-Party information provided for the purposes of producing this drawing

3) Residual Hazards

3a) No risks outside of those normal risks which should be recognized and addressed by a competent contractor have been identified.

3b) The residual risks to be addressed by the Main Contractor and the Archaeological Contractor in their respective method statements should include, but may not be limited to, the following:

i) General site working
ii) Deep excavation, falls from height (objects or people)
ii) Safe Access
iii) Spoil location, removal and muck- away
iv) Plant and machinery operation
v) Site traffic
vi) handling and lifting
vii) Power and lighting
viii) Potential for containment/disease
ix) Multiple contractors (conflicts in working practices)
x) Safe storage

Rev.	Date	Description	By	Chkd	App	Auth
P01	19/08/2010	First Issue	RH	SF	ST	
P02	20/08/2010	First Issue	RH	DB	SR	
P03	10/09/2010	Revised for Issue	NM	TB	SR	

Notes:

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Contract : Tottenham Court Road Station Design
Originator : Ove Arup & Partners Limited
Location : Tottenham Court Road Stn
Title : Western Entrance
Archaeology Excavation Area
Northern Block
By : N.MOORE
Chk : T.BEVAN
App : S.READING
Scale : 1:250 @ A3
Drg No : C134-OVE-G-DDH-N105_1-00001
Rev : P03
Suit : S4
Auth :---

Copy Approved for Design - Created: 10-SEP-2010

Fit for authorisation

RESTRICTED

Appendix B – Designer's Risk Control Log Summary

Activity	Health Risk	Possible Control Measure	Responsibility
General Site Working	All following	Site Specific Induction, toolbox talks etc.	Main Contractor
		Contractors' Method Statements and Risk Assessments to be approved in writing prior to working. All site staff to confirm that they have read and understood MS and RA	Designer Main contractor Archaeological Contractor
	Contact with plant/machinery, trips, falls,	Minimum PPE to be worn at all times to include Hi-Visibility clothing, Hard Hats, site safety boots, safety glasses, gloves.	Main Contractor Archaeological Contractor
	Contaminated land/disease etc	Appropriate PPE to be provided by archaeological contractor as required.	Archaeological Contractor
		Staff required to wash hands before ingestion of food/drink etc.	Main Contractor Archaeological Contractor
	.	Welfare for hygiene etc. is to be provided by Main contractor at No 1 Dean Street. To include washing facilities	Main Contractor
Deep excavation	Archaeological contractors will require access to deep excavations. Falls from height, tripping etc. Objects falling from height.	Dedicated Egress – ramping with edge guard is preferred option. Edge Guards/Heras fencing to be specified to provide barrier to deep excavation and prevent falls from objects into trench. Deep excavation signs	Main contractor

Activity	Health Risk	Possible Control Measure	Responsibility
	Burial from spoil or loose material falling into the trench	Working direction is to be controlled from West to East, with spoil delivered to one defined area within the trench to be removed by machine directly into muck-away vehicles	Designer Main Contractor Archaeological Contractor
		Two routes are specified into trench (specific locations to be determined by Main Contractor)	Designer Main Contractor
Plant and Machinery	Proposed Archaeological contractor's working route towards proposed location of plant. Risk of contact with excavating machine arm, crushing etc.	Ensure dedicated pedestrian routes away from arc of machine working	Main Contractor Archaeological Contractor
		Employ banksman	Main Contractor
Site Traffic	Risk of injury or death from contact with moving vehicles	Proposed working and storage area for archaeological contractor to be located away from site traffic routes	Designer Main Contractor
		Controlled crossing points and separation of pedestrian/site traffic routes	Main Contractor
Use of hand tools	Possible injury resulting from use of hand tools, e.g. mattocks, trowels, spades	Appropriate training and PPE to be provided	Archaeological Contractor
Adverse Weather	Changeable ground conditions leading to trips and falls etc.	Use of Youngmans boards is to be specified for the transportation of spoil where appropriate	Archaeological Contractor
		Appropriate finishing to egress ramps (e.g. compacted hardcore/rubble to provide sufficient purchase, edge guard etc.)	Main Contractor

Activity	Health Risk	Possible Control Measure	Responsibility
		Appropriate PPE to be provided for adverse weather working	Archaeological Contractor
	Adverse weather conditions may require use of electrical equipment powered by generators (e.g. pumps, temporary lighting etc), with accompanying associated risks for electrocution etc.	Energy Supply methods and risk assessment to be detailed in Contractor's method statements Only staff with appropriate training are to operate generators and other electrically operated equipment (for example pumps)	Main Contractor Archaeological Contractor