



C132 - BOND STREET STATION

ADDENDUM TO WSI: WATCHING BRIEF & DETAILED EXCAVATION - ARCHAEOLOGY EXCAVATION PHASE DAVIES STREET WORKSITE

Document Number: C132-WSP-T1-RGN-C125-00014

Document History:

Revision:	Date:	Prepared by:	Checked by:	Approved by:	Reason for Issue:
1.1	23/08/10	[REDACTED]	[REDACTED]	[REDACTED]	Revisions as per PDP comment sheet
		[REDACTED]	[REDACTED]	[REDACTED]	

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Print Name:	Date: 4/2/13
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Document History Continued:

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1.0	19/08/10	██████████	██████████	██████████	For PDP Acceptance

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Record of Document Amendments

Version No.	Section No.	Description of Revision	Items Removed	Items Incorporated	Date
1.1	Table 1	Updated contract number for Primary Contractor.	N/A	N/A	23/08/10
1.1	Table 3	Remove reference to “General Watching Brief” and replace with “Targeted Watching Brief”.	General Watching Brief	Targeted Watching Brief	23/08/10
1.1	Table 4	Remove reference to “General Watching Brief” and replace with “Targeted Watching Brief”.	General Watching Brief	Targeted Watching Brief	23/08/10
1.1	Appendix A	Updated figure providing coordinates for setting out, identify any residual hazards and make excavation area clearer.	N/A	N/A	23/08/10
1.1	Sections 3 - 6	Remove reference to “General Watching Brief” and replace with “Targeted Watching Brief”.	General Watching Brief	Targeted Watching Brief	23/08/10
1.1	Section 3.3.1	Clarification of welfare requirements and numbers.	N/A	Bullet points 3 - 6	23/08/10
1.1	Section 3.4	Updated archaeological excavation procedure.	Section 4.2	Section 3.4	23/08/10
1.1	Section 4	Confirmation of sample excavation size and what sampling will be undertaken	Section 4.2	Section 4.1.2 – 4.1.3 & Table 2	23/08/10
1.1	Section 5.1.2	Revised instructions to archaeological contractor and specifications.	Bullet point 3	N/A	23/08/10



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1 Introduction

1.1.1 This document provides details of the programme of archaeological investigation required to evaluate and mitigate the impact of the removal of the basement slab and other obstructions which may affect the installation of piling at the Western Ticket Hall (WTH), Bond Street Station (BOS) on archaeological deposits. It sets out the location and recording activities required at the worksite during the demolition and enabling works and provides an indication of archaeological mitigation works that may be required during the main works phases.

1.1.2 This document is an addendum to the Written Scheme of Investigation (WSI) (C132-WSP-T1-RGN-C125-00009) and should be read in conjunction with that document.

1.1.3 This document outlines the requirements of the McGee Group Ltd. (*Principal Contractor*) (C207) and the requirements of the *Archaeological Contractor* (C254).

2 Scope of Works

2.1 Aims of the proposed investigation

2.1.1 The overall aim is to clarify the extent and survival of archaeological deposits which have to date been identified at the worksite, in particular those relating to the medieval/post medieval and earlier deposits associated with a relic river channel, all of which would be removed by the station box construction works. This will be achieved through a programme of archaeological mitigation works, a summary of which is set out in **Table 1** below.

Table 1: Summary of archaeological events at the WTH worksite

Event Type	Event Code	Archaeology Contractor	Principal Contractor	Addendum Specific Requirements Section
Targeted Watching Brief (removal of basement concrete slab and archaeologically sterile material)	XSC10	C254	C207	4.1.1
Archaeological Excavation	XSC10	C254	C207	5.1

2.2 Site Specific Objectives

2.2.1 The objectives of the archaeological mitigation programme are set out below.

1. Ensure that the minimum possible impact occurs upon archaeologically sensitive resources during the process of removing the basement floor concrete slab through the maintenance of an archaeological watching brief.
2. Clarify the form, extent and condition of deposits within the archaeological excavation area which have been defined as being of later medieval date, and have not been characterised during previous evaluation.
3. Investigate the location, form and orientation of the river channel as identified during the previous evaluation.



3 Specific Requirements for Principal Contractor (C207)

3.1 Archaeological Targeted Watching Brief

3.1.1 Refer to the Generic WSI (CR-PN-LWS-EN-SY-00001) for definition of Targeted Watching Brief.

3.1.2 Targeted Watching Brief is required during the removal of the concrete floor and associated make up layer of the basement of 65 Davies Street.

3.1.3 The maximum area of concrete slab removal is illustrated within Appendix A.

3.2 Archaeological Targeted Watching Brief Procedure

3.2.1 The method of working for the *Principal Contractor (C207)* during the removal of the concrete floor shall allow for:

- The removal of modern material and made ground (defined as material which is archaeologically sterile) will be carried out under archaeological observation.
- Safe access for archaeological operatives into the site and any required temp works;
- The machinery in use to achieve the removal of non archaeological material will be supervised by the *Archaeological Contractor (C254)* and under normal circumstances will be equipped with a toothless bucket;
- Up to 2 archaeologists to be on site during groundworks; and
- Provision of further technical advice to C254 as maybe required to safely complete the works.

3.3 Site Accommodation and Facilities

3.3.1 For the excavation phase The *Archaeological Contractor (C254)* will require the following site accommodation facilities as provided by *Principal Contractor (C207)*, inclusive of any hardstanding and services required:

- Male and female toilets, with drying and washing facilities;
- First Aid;
- Mess / space for the use of up to 20 No. archaeologists;
- Desk space for 2 No. Supervising archaeologists;
- 20 scaffold boards and fixings for safe wheelbarrow routes; and
- Other equipment / services as specified in C254 method statement / resource plan.

3.4 Archaeological Excavation Procedure

3.4.1 The *Principal Contractor (C207)* shall provide following attendances

- Ensure no live underground services exist in the area and provide a safe working environment for archaeological works;
- Provide excavators and mini diggers / small dumper and sufficient operatives to support works as required by the *Archaeological Contractor (C254)*;



- Remove, under supervision of the *Archaeological Contractor* (C254), archaeological deposits which are considered to be of low archaeological importance;
- Prepare and undertake breakout, removal and storage of 19th and 20th Century, or other, structures and soils agreed in liaison with the *Archaeological Contractor* (C254);
- Place excavated material in spoil heaps at an agreed safe distance from the site of the excavation area;
- Provide all support works if required to the excavations area, whose depth is estimated at 2m beneath concrete slab level;
- Provide suitable access from ground level to bottom of excavated area for archaeologists to work;
- If required machine excavate in stages, as directed by the *Archaeological Contractor* (C254) to remove materials once they have been archaeologically recorded until the full sequence of archaeological deposits is identified;
- Use of excavators or other plant within the area shall only be undertaken with the agreement and under the supervision of the *Archaeological Contractor* (C254);
- Provide the following services and facilities:
 - Power;
 - Lighting;
 - Water;
 - Administration;
 - Welfare; and
 - Small plant and tools.
- Provide safe access for archaeological operatives into the site and any required temp works;
- Allow for up to 20 archaeologists to be on site;
- Provide further technical advice to the *Archaeological Contractor* (C254) as maybe required to safely complete the works;
- Secure storage for tools and wheel barrows such as 20ft lockup container; and
- Other equipment / services as specified in C254 method statement / resource plan.

4 Specific Requirements for Archaeological Contractor (C254)

4.1 Archaeological Excavation

4.1.1 Archaeological excavation will take place following the completion of the Targeted Watching Brief described above (section 3.1).

4.1.2 As detailed within Appendix A, it is intended that this phase of excavation will comprise a maximum area of c60m x c25m. Archaeological excavation procedure will conform to standards as outlined within the Site Specific WSI C132-WSP-T1-RGN-C125-00009. A sufficient amount of any archaeological feature encountered will be excavated to enable it to be characterised (**Table 2**). As a guide, this typically will result in the following:



Table 2: Archaeological excavation procedure

Archaeological Resource Type	Strategy
Linear feature	Typically 15-20% by length. May require additional investigation to termini or interfaces if presence.
Circular feature (pits and similar scale)	Initial excavation sample of 50%. May require completed excavation dependant on results of initial sample.
Circular feature (post hole and similar scale)	100%

4.1.3 Environmental samples (for either ecofactual or artefactual material) will be taken from archaeological features and layers to enable them to be characterised with greater accuracy during the post excavation phase. The *Archaeological Contractor* (C254) method statement will be expected to contain additional information with respect to sampling strategy and aspects of archaeological scientific techniques which are likely to be utilised.

4.1.4 This investigation area is required to mitigate the impact of the construction of the WTH station box.

4.1.5 Should deposits of low archaeological importance remain following the completion of the Targeted Watching Brief, these can be removed by the *Principal Contractor* (C207) by machine under archaeological supervision of the *Archaeological Contractor* (C254) to expose Medieval/Post Medieval deposits (anticipated to survive approximately 0.5m beneath the existing basement slab). Following the removal of this class of deposit, the underlying archaeological deposits will be recorded and sampled by the *Archaeological Contractor* (C254) with provision for more detailed sample investigation and recording of any features of particular interest identified during this stage.

This phase of work should aim to fulfil the objective of clarifying the form, extent and survival of later medieval deposits identified during the archaeological trial pit evaluations previously completed. Where this can be facilitated by the use of machinery, this will be permissible following discussion with the Crossrail Central Archaeologist and confirmation that a robust archaeological record exists of the deposits to be removed.

4.1.6 Either in parallel or following this stage, the investigation should assess and directly test the presence and orientation of the relic river channel as identified by the completed archaeological trial pit evaluation. If present this feature will be again planned, recorded and sample investigated in order to establish character and date.

This phase of work should aim to fulfil the objective of clarifying the form, extent and survival of the relic river channel. Where this can be facilitated by the use of machinery, this will be permissible following discussion with the Crossrail Central Archaeologist and confirmation that a robust archaeological record exists of the deposits to be removed.

5 Instructions to Archaeological Contractor and Specification

5.1 Archaeological Evaluation; Watching Brief and Excavation

5.1.1 It is proposed that a programme of archaeological investigation comprising a Targeted Watching Brief and archaeological excavation be carried out at the Davies Street worksite. Further details on the requirements of the *Archaeological Contractor* (C254) are to be found in the Site Specific WSI C132-WSP-T1-RGN-C125-00009.



5.1.2 The *Archaeological Contractor* (C254) shall:

- Provide a team of suitably qualified archaeologists, experienced in archaeological site evaluation and the nature of archaeological deposits which are expected on this site;
- Provide a method statement incorporating risk assessment and health and safety plan for carrying out the works;
- During Excavation and Targeted Watching Brief, 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 either using a smaller machine with graded digging bucket (by the *Principal Contractor* (C207) under archaeological supervision) or hand cleaned if appropriate.

5.2 Deliverables

5.2.1 **Table 3** summarises the deliverables required per fieldwork event:

Table 3: Deliverables for each fieldwork event

Fieldwork Event	Deliverables			
	Weekly Progress Report	Interim Report	Deposit Model	Fieldwork Report
Targeted Watching Brief	Yes	N/A	N/A	N/A
Archaeological Excavation	Yes	Yes	Yes	Yes

5.2.2 Refer to the following sections of the Site Specific WSI (C132-WSP-T1-RGN-C125-00009) for further information regarding the report types.

5.3 Site Archives

5.3.1 Refer to Section 8.2 in the Site Specific WSI C132-WSP-T1-RGN-C125-00009.

5.4 Post-excavation

5.4.1 Refer to the detail set out within the Crossrail Central Archaeological Contract and the Site Specific WSI.

6 Provisional Timetable

6.1.1 **Table 4** summarises the provisional timetable for completing archaeological investigations.

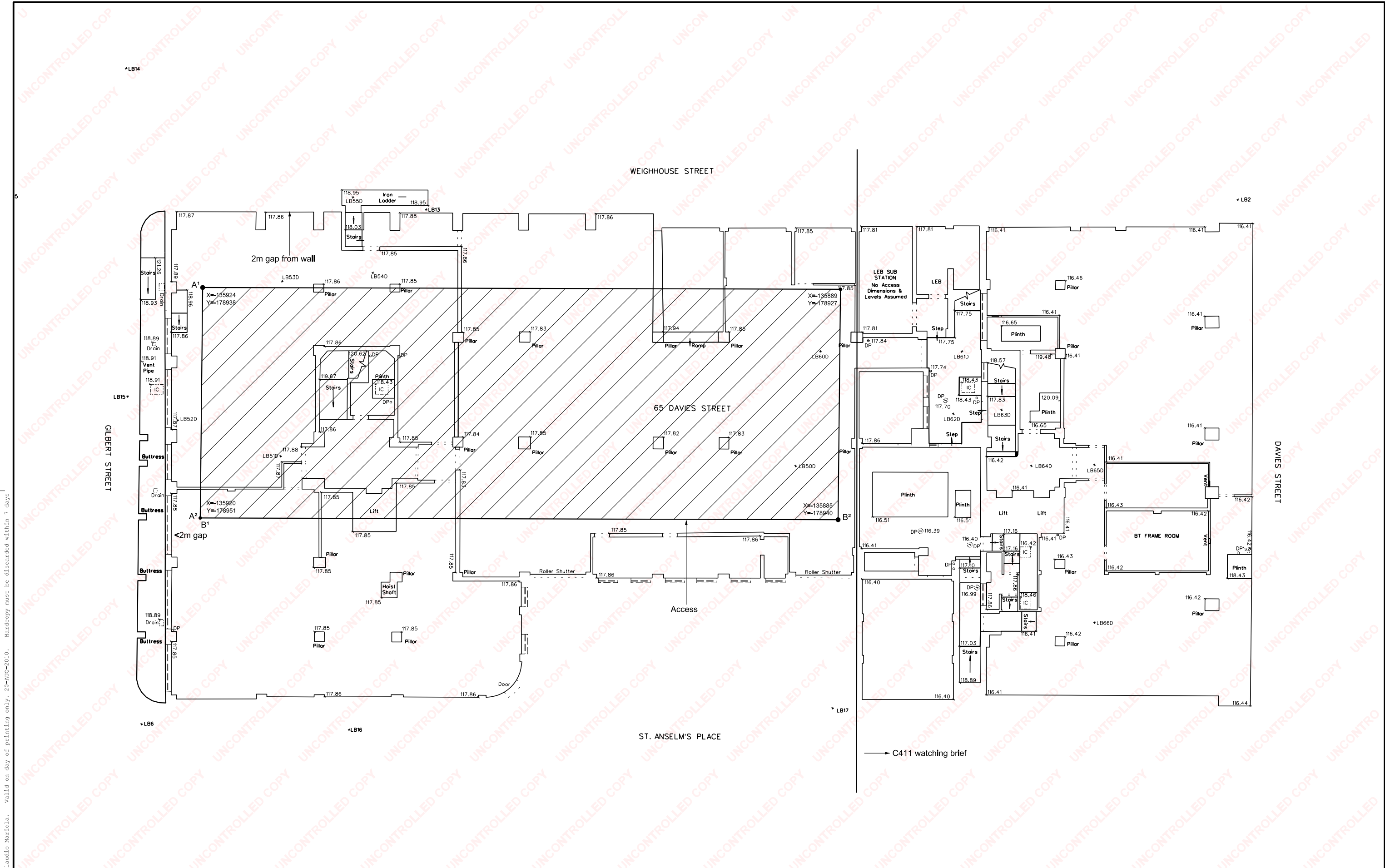


Table 4: Provisional Timetable

Activity	Principal Contractor C207	Construction Phase
Targeted Watching Brief	Archaeological Contractor (C254)	Demolition (w/c 23 August 2010)
Archaeological Excavation	as above	Following completion of above for 2 weeks minimum duration



Appendix A – Area of Archaeological Investigation



Rev.	Date	Description	By	Chkd	App	Auth
P01.1	19/09/2010	First Issue				

Notes

Area for archaeological excavation:

→ A¹ A² c. 25m

→ B¹ B² c. 60m

Safety, Health and Environmental Information

There is no SHE box shown on this drawing as the designer has reviewed the relevant risks and consider that there are no significant or unusual, location specific risks which are not obvious to a competent contractor or other designers, or likely to be difficult to manage effectively, at this time.

Key to Health and Safety Symbols

- Indicates a residual risk requiring a compulsory action
- ⓘ Indicates a residual risk for information
- ⊘ Indicates a residual risk requiring a prohibitive action
- ⚠ Indicates a residual risk as a warning

Legend

Area for archaeological excavation

Contract: Bond Street Station Design
Originator: WSP UK Limited
Location: Bond Street Stn

Title: Archaeological Excavation Phase
 Davies Street Worksite

By: B.KWOK
Chk: —
App: —
Auth: —

Scale: 1:100 @ A1
Drawing and CAD file No.: C132-WSP-Y-DDA-C125-21090
Rev: P01.1
Subst: S0

Contract: Crossrail Limited
 25 Canada Square
 London
 E14 5LQ

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Work in progress

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Document Review Sheet
Response Sheet No. C132-WSP-T1-XCS-C125-00003

Originator: Ian Barnes	Contract Number: C132	Review Sheet Document Number: C132-PDP-T1-XCS-C125_WS086-00001	Revision:1.0
Document Title: <i>Addendum to WSI: Watching Brief & Detailed Excavation – Archaeology Excavation Phase Davies Street Worksite</i>		CRL Document Number: C132-WSP-T1-RGN-C125-00014	Revision:1.0

Reviewer Details		Originator Details	
Lead Reviewer: Jay Carver	Reviewers Initials: JJC	Name: Ian Barnes	Date: 23 August 2010
Company: PDP	Date: 20 August 2010	Company: WSP	Signature:
Position: Project Archaeologist	Recommended Action: Objection <input type="checkbox"/> No Objection <input type="checkbox"/> No Objection(Revise as indicated below) <input type="checkbox"/>	Position: Environmental Manager	

Reviewer Comments				Originator Response	
Comment Code Legend: A = action required on this issue B = action required for next issue C = advisory comment				Status Code Legend: i = incorporated ii = open/under review iii = evaluated/not incorporated	
Comment number	Comment Code	Document Reference	Review Comment	Status Code	Originator Comments
1.	A	General	Review and accept changes made in marked up file copy : <u>C132 WSI - BOS Addendum Final DRAFT_CKap_JJC comments</u>	i	Changes accepted and final report issued
2.	A	Table 1.1	Correct contractor numbers for PC and x-references?	i	Table updated to reflect correct contract number for Principal Contractor and cross referenced in text.
3.	A	3.1/3.2	This should refer to TWB as that is what you describe is required in previous section.	i	All reference to "General Watching Brief" removed and replaced with "Targeted Watching Brief"
4.	-	-	-	-	-
5.	A	3.3.1	Clarify welfare requirements and numbers.	ii	Contact to be made with C254 regarding their Method Statement
6.	A	4.1.4	Confirm sample excavation size and what sampling will be undertaken – confirm contractors method statement will include approach to archaeological science for this task	i	Section 4.1.2 – 4.1.3 and Table 2 inserted to provide additional information.
7.	A	4.3	Delete. Just set out all requirements in 3.3 as mark up comments on attached copy of document	i	Accepted
8.	A	4.2	Move to 3.3 so that all requirements of PC are in one place	i	Section 4.2 removed and incorporated into Section 3.4.

Reviewer Comments				Originator Response	
Comment Code Legend: A = action required on this issue B = action required for next issue C = advisory comment				Status Code Legend: i = incorporated ii = open/under review iii = evaluated/not incorporated	
Comment number	Comment Code	Document Reference	Review Comment	Status Code	Originator Comments
9.	A	5.1.2	Combine 2nd and 3rd bullet as indicated	i	Accepted
10.	A	4.2	Bullet 2. Just say : provide excavators and mini digger/small dumper and sufficient operatives to support works as required by C254 to meet programme (avoid specifying actual numbers in this document here - TBC)	i	Section 4.2 removed and incorporated into Section 3.4. Section 3.4.1, second bullet point amended.
11.	A	4.2	C254 also need scaffold boards / secure storage	i	Reference to scaffold boards and secure storage in Section 3.3.1, fifth bullet point and Section 3.4.1, fourteenth bullet point respectively.
12.	A	5.1	Isn't this TWB?	i	As response 3.
13.	A	Table 2	Isn't this TWB? Accept changes made to marked up copy.	i	As response 3.
14.	A	Table 3	As point 12 above	i	As response 3.
15.	A	Drawing	Correct dimensions, provide coordinates for setting out, identify any residual hazards as required, make excavation area clearer	i	Updated figure providing correct dimensions coordinates for setting out, residual hazards and highlighted excavation area.
16.			END		