



RAMBOLL

Crossrail Archaeology Framework

C254 – Archaeology West
Archaeological Works at Paddington_XSD10
Eastbourne Terrace Wooden Sett Roadway Characterisation
CRL Document Number: C254-OXF-T1-RGN-CRG03-50109rev3
Contract MDL reference CXX.XXX

1. Contractor Document Submittal History:

Revision:	Date:	Prepared by:	Checked by:	Approved by:	Reason for Issue:
3.0	19-04-16	[REDACTED]	[REDACTED]	[REDACTED]	Acceptance
2.0	14-10-15	[REDACTED]	[REDACTED]	[REDACTED]	Acceptance
1.0	14-11-12	[REDACTED]	[REDACTED]	[REDACTED]	Acceptance

2a. Stakeholder Review Required? YES NO

Stakeholder-submission required: LU RfL Purpose of submission: For no-objection
 NR LO For information
 DLR Other: _____

This document has been reviewed by the following individual for coordination, compliance, integration and acceptance and is acceptable for transmission to the above stakeholder for the above stated purpose.

Sign: _____ Role: _____ Name: _____ Date: _____
 Sign: _____ Role: _____ Name: _____ Date: _____

2b. Review by Stakeholder (if required):

Stakeholder Organisation	Job Title	Name	Signature	Date	Acceptance
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>

3. Acceptance by Crossrail:

	Crossrail Review and Acceptance Decal			
	This decal is to be used for submitted documents requiring acceptance by Crossrail.			
<input checked="" type="checkbox"/>	Code 1.	Accepted. Work May Proceed		
<input type="checkbox"/>	Code 2.	Not Accepted. Revise and resubmit. Work may proceed subject to incorporation of changes indicated		
<input type="checkbox"/>	Code 3.	Not Accepted. Revise and resubmit. Work may not proceed		
<input type="checkbox"/>	Code 4.	Received for information only. Receipt is confirmed		
Reviewed/Accepted by (signature)	Print Name:	Position:	Date:	
[REDACTED]	[REDACTED]	YKOT AR(U)	20/4/16	
<small>Acceptance by Crossrail does not constitute approval of design, details, calculations, analyses, test methods or materials developed or selected by the designer/supplier.</small>				



SUMMARY

An archaeological watching brief has been maintained on Crossrail works carried out in the locality of Paddington Station. One element of the observation work has been the recording and characterisation of a wooden sett roadway in Departures Road. This document summarises that characterisation in order to inform the potential incorporation of salvaged blocks into the proposed paving design around the Crossrail station.

Introduction

The presence of an historic wooden sett roadway below the surface of Departures Road has been noted in MOLA report EWMA Padd 0122 (March 2010) and is addressed by the Crossrail written scheme of investigation for the site (C130-SWN-Z-RSI-B071-00001_Rev9.0 Paddington SS-WSI – latest revision).

Observations have been carried out on inspection trenches, guide wall excavations and the basement clash trench within Departures Road. The location of revealed Wooden Setts has been mapped and the setts photographed. An area of setts was lifted and reinstated and further setts have been retained as salvage items. These interventions were all carried out during the enabling works for the Paddington Station construction. Further watching brief observations were made during the commencement of bulk extraction during the main construction programme.

This report sets out briefly the character of the wooden sett roadway in order to inform the incorporation of salvage blocks into the paving design for Crossrail Paddington Station.

Date of the Wooden Sett Roadway

The technology of the roadway in comparison to the development of wooden roadways set out in Clow 2008 (From Macadam to Asphalt - The Paving of the Streets of London in the Victoria Era, London Industrial Archaeology 2008 p 3-7 - kindly supplied by David Keeley at Crossrail) suggests the roadway should be of a slightly later date than the terminus construction, perhaps in the 1870's. This coincides with more popular use of the material and some improvements in the construction (i.e. use of the impregnation of creosote to prevent rotting) but pre-dates other improvements such as the use of a bitumen soaked felt between the setts and the laying base as an additional safeguard against decay.

A layer frequently appearing below the wooden sett sub-base contained clay tobacco pipes and sherds of pottery which date from around 1860-1880 (See Crossrail Paddington Watching Brief Report C254-OXF-T1-RGN-CRG03-50262) reinforcing the typological dating proposed above. Further evidence is given by the recorded presence of the construction cut for the Macmillan House Block E basement construction, which was carried out in the 1880's (see PCA 2013) and cuts through the wooden setts, which were subsequently replaced.

Extent of the Wooden Sett Roadway

The roadway has been observed from the extent of Crossrail works towards Praed Street in the south east to the limit of the Departures Road Canopy to the north-west. It has been removed in

some locations by service trenches. It abuts the (below ground edge) of the Departures Road pavement and is constructed against the Eastbourne Terrace retaining wall.

Figure 2 illustrates the extent of the wooden setts. To the north west of Departures Road (at the top of Figure 2) the change to cobble setts is shown.

Character of Construction

Clow 2008 gives an image of typical roadway construction, this is very similar to that in Departures Road but there are some differences. These are noted below.

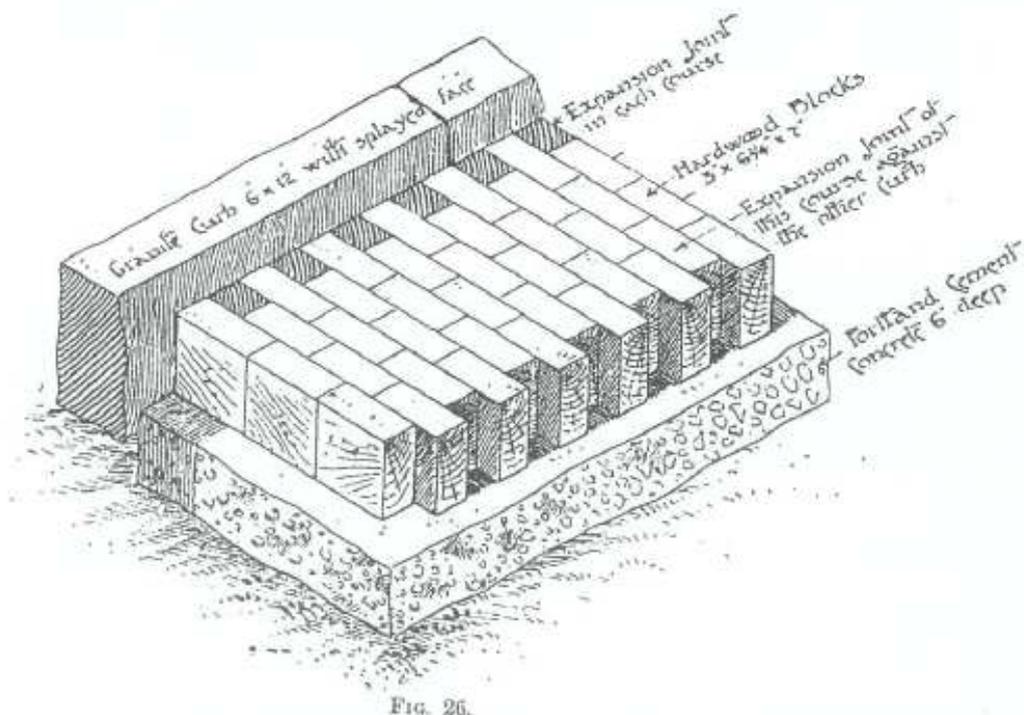


Figure 1. Typical construction using wood blocks

Illustration from Clow 2008

The average block size is 230 mm (length) x 75-80 mm (width) x 145 mm (laid depth). The blocks are probably of Deal (common in railway sleepers and telegraph poles) and laid in an alternating joint stretcher pattern (as illustrated above). The blocks are laid from the Paddington Station side of Departures Road with ends laid against a Portland cement ridge which in turn abuts the kerbstone. The sets were laid on a NE-SW alignment with their long sides at right angles to the face of the Eastbourne Terrace wall. The laying pattern is completed against Eastbourne Terrace wall by two rows of NW-SE aligned setts laid as stretchers (see Plate 2, Trench 2 below).

Joints are generally flush but there are intermittent soaked bark inclusions in the joints. These are c 1-2 mm thick and are presumed to act as expansion joints.



The setts are creosote soaked and laid directly on a Portland cement base. The soaking appears to have been carried out *insitu* as the bases of the setts are not fully protected and many are rotten.

A single seam is apparent running parallel to the Departures Road pavement in TPSW3. A section (see Plate 4 below) shows the roadway to be constructed in two phases relating to the lifting and relaying of setts for basement construction associated with Block E (note difference in colour of the Portland cement base).

Conclusion

The wooden sett roadway represented a reasonably well preserved example of a form of surfacing briefly popular in the late 19th century but rapidly outmoded. This use of this form of surfacing maybe both surprising and interesting to the public and of note to parties with specialist interest in early modern archaeology.

A representative sample of roadway was recorded and lifted and has been stored by Costain Skanska JV on behalf of Crossrail.



Plate 1: General character of wooden sett roadway seen in top of Basement Clash Trench looking towards the northwest



Plate 2: Detail showing setts set length ways against Eastbourne Terrace Wall Utilities Trench 2 (not illustrated)



Plate 3: Detail showing re-laying 'seam' in joint construction TPSW3



Plate 4: Section showing variation in cement base coinciding with basement construction cut and seam in roadway. TPSW3



Plate 5: Relaying of setts after initial trench investigations TPSW3



BIBLIOGRAPHY

PCA 2013 Report R11372 - Historic Recording of a number of Heritage Features at Paddington Railway Station, Praed Street, City of Westminster - Site Code PDG12

APPENDIX 1 SUMMARY OF SITE DETAILS

Client name: Crossrail

Site name: Paddington Departures Road/Eastbourne Terrace Watching Brief

Site code: XSD10

Type of evaluation: Watching Brief

Date of project: 2010 - 2014

Location of archive: The archive is currently held at Oxford Archaeology, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with LAARC in due course.

OASIS DATA COLLECTION FORM: England

[List of Projects](#) | [Manage Projects](#) | [Search Projects](#) | [New project](#) | [Change your details](#) | [HER coverage](#) | [Change country](#) | [Log out](#)

Printable version

OASIS ID: oxfordar1-226783

Project details

Project name	Crossrail Paddington Station Watching Brief- Wooden Setts
Short description of the project	During 2010 and 2011, Oxford Archaeology, in partnership with Ramboll (OA Ramboll, Crossrail contract C254) undertook a programme of watching brief at Paddington Station London, on behalf of Crossrail
Project dates	Start: 01-06-2010 End: 01-02-2014
Previous/future work	Yes / No
Any associated project reference codes	XSD10 - Sitecode
Any associated project reference codes	XSD10 - Museum accession ID
Type of project	Recording project
Site status	None
Current Land use	Other 3 - Built over
Monument type	RAILWAY INFRASTRUCTURE Modern
Significant Finds	CERAMICS Modern
Investigation type	"Watching Brief"
Prompt	Planning condition

Project location

Country	England
Site location	GREATER LONDON CITY OF WESTMINSTER WESTMINSTER Crossrail Paddington Station Watching Brief
Study area	2000 Square metres
Site coordinates	TQ 26557 81358 51.516454063847 -0.175844613262 51 30 59 N 000 10 33 W Point

Project creators

Name of Organisation	Oxford Archaeology/Ramboll (OAR)
Project brief originator	Crossrail Ltd
Project design originator	Crossrail
Project director/manager	R. Brown

Project supervisor	J Gill
Type of sponsor/funding body	Rail Company
Name of sponsor/funding body	Crossrail

Project archives

Physical Archive recipient	Museum of London
Physical Archive ID	XSD10
Physical Contents	"Ceramics"
Digital Archive recipient	Museum of London
Digital Archive ID	XSD10
Digital Contents	"other"
Digital Media available	"Images raster / digital photography","Text"
Paper Archive recipient	Museum of London
Paper Archive ID	XSD10
Paper Contents	"other"
Paper Media available	"Notebook - Excavation',' Research',' General Notes","Photograph","Report","Unpublished Text"

Project bibliography

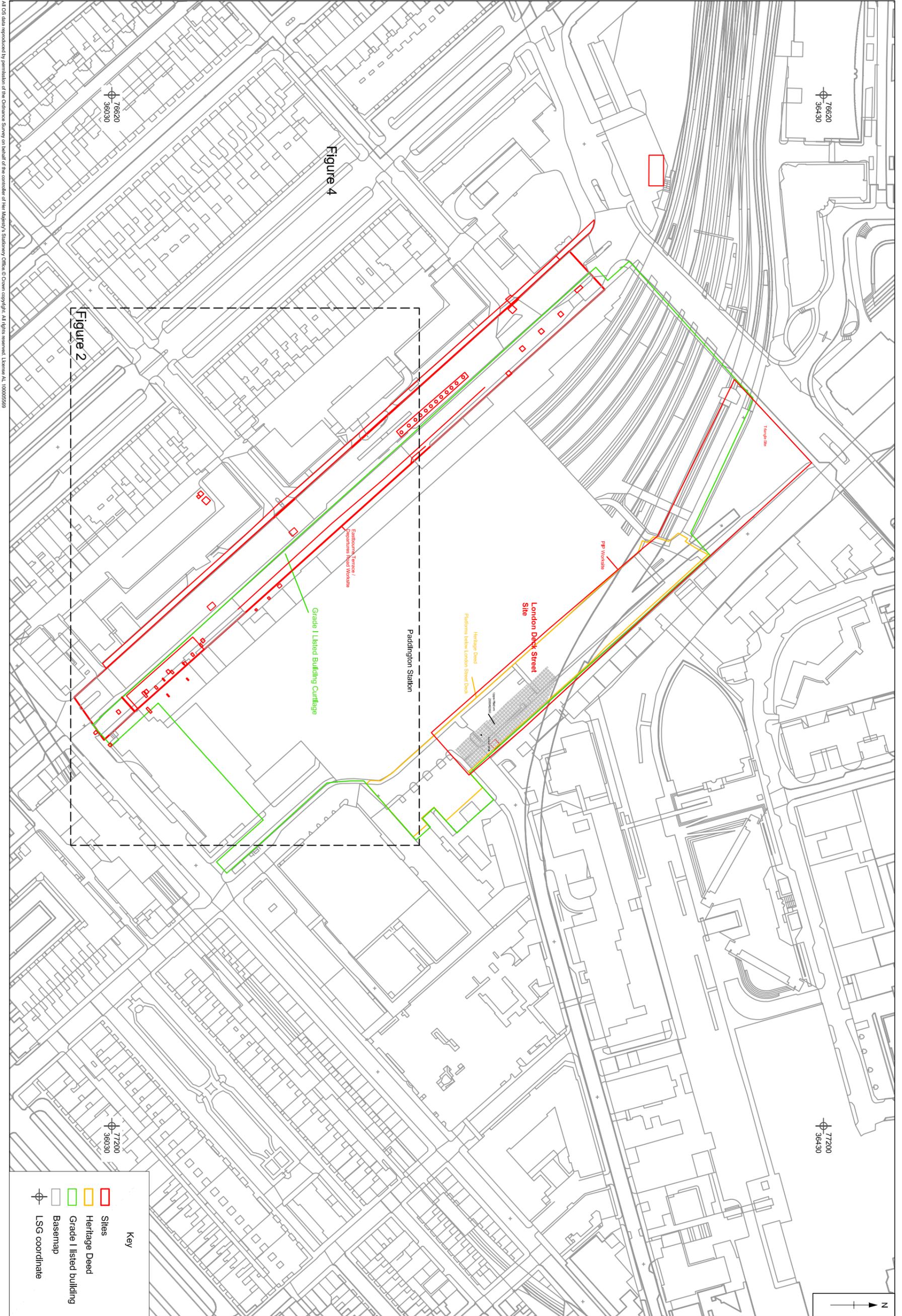
1	
Publication type	Grey literature (unpublished document/manuscript)
Title	Crossrail Paddington Station Watching Brief Wooden Setts Report
Author(s)/Editor(s)	OA/Ramboll
Date	2015
Issuer or publisher	OA/Ramboll
Place of issue or publication	Oxford
Description	Client report
Entered by	Nicola Scott (n.scott@oxfordarch.co.uk)
Entered on	16 October 2015

OASIS:

Please e-mail [Historic England](mailto:historical@oxfordarch.co.uk) for OASIS help and advice

© ADS 1996-2012 Created by [Jo Gilham](#) and [Jen Mitcham](#), email Last modified Wednesday 9 May 2012

Cite only: <http://www.oasis.ac.uk/form/print.cfm> for this page



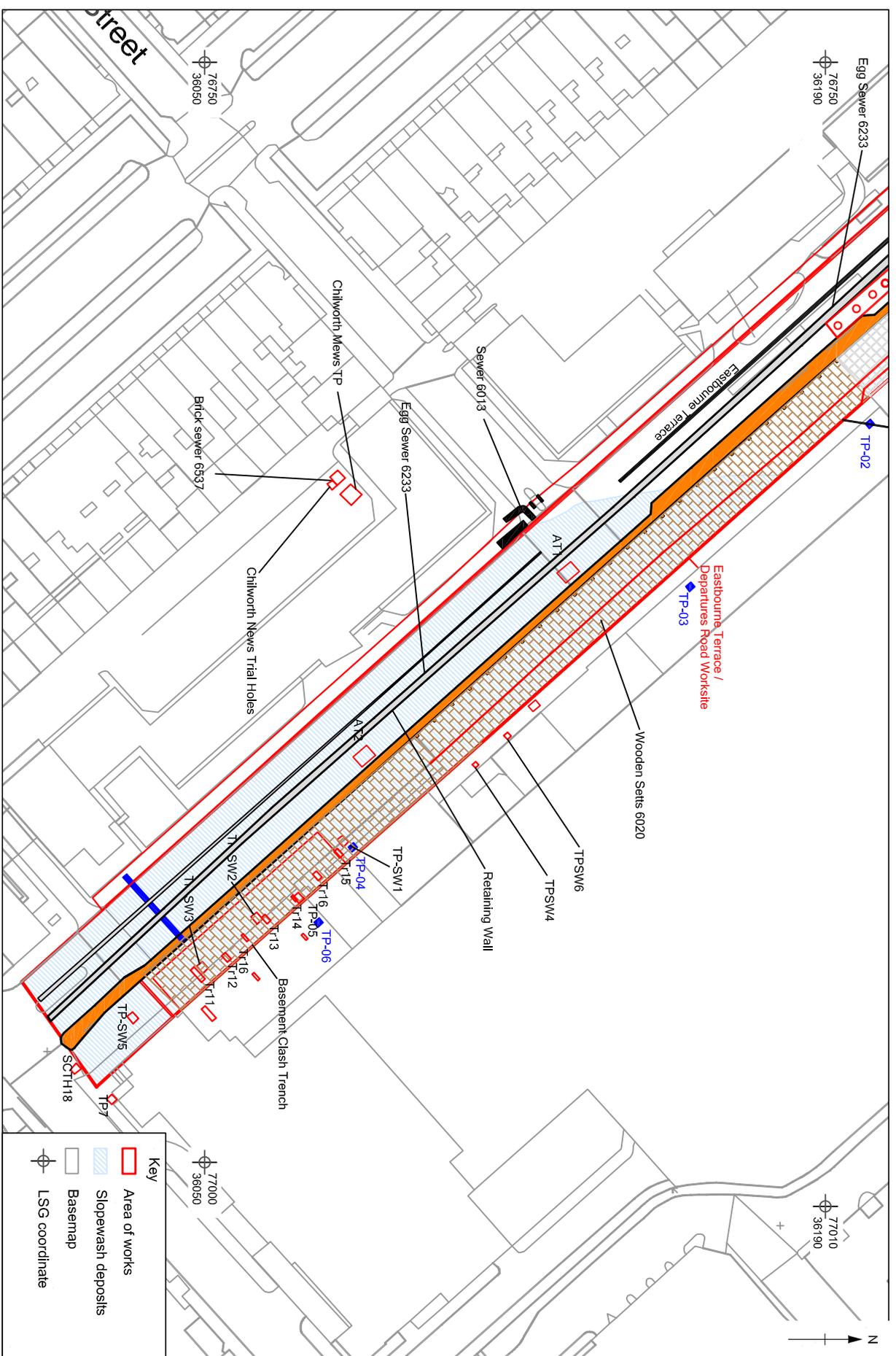


Figure 2: Wooden Setts

CHECKED BY: MB

Scale at A4 1:1250

50 m

0

All OS data reproduced by permission of the Ordnance Survey on behalf of the controller of Her Majesty's Stationery Office. © Crown copyright. All rights reserved. License AL10000559