

Landscape Evolution in the Middle Thames Valley

Heathrow Terminal 5 Excavations Volume 2

by Framework Archaeology

Principal authors

*John Lewis, Matt Leivers, Lisa Brown, Alex Smith, Kate Cramp,
Lorraine Mephram and Chris Phillpotts*

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The Free Viewer CD-Rom

The volume is accompanied by a CD-Rom containing the Framework Free Viewer, specialist reports, tables and illustrations. The Free Viewer GIS viewing software has been developed to enable readers to have access to more data than would be possible in a traditional publication. The monograph and Free Viewer are designed to be used together so that if more data is required in order to view the evidence supporting a particular argument presented in the text, it will be possible to consult the particular dataset via the Free Viewer. Filters can be applied to show different distributions of finds material by date, and a list of queries that are available within the Free Viewer may be found in the CD Contents section below.

Please note that much of the data within the Free Viewer is essentially primary data, in that it represents material and ideas generated on-site.

- This is particularly the case with the written record of the archaeological deposits which has been edited for spelling and other typological errors only.
- Sections and photographs are as scanned / photographed with a digital camera on-site. However some publication photographs of objects represented by plates in the monograph have been included.
- Phasing decisions (i.e. 430 Late Iron Age) are as up-to-date as possible. These data are firstly interpretative in nature (and sometimes uncertainly so) and secondly you should take into account the publication processes that the database has supported. Therefore when judging these data, it is useful to understand that authors have typically used the phasing recorded in the database (either on-site or amended in post-excavation analysis) as the starting point for making final decisions as described in the monograph text.
- In practice it became necessary during the post-excavation process to record phasing at two levels. The primary phasing decision is made for every archaeological feature and stratigraphic group identified during the excavations. However to help manage post-excavation it was found to be useful to assign a summary phasing decision for the construction of each entity. You should be aware that the Landscapes section of the Framework Free Viewer will display both the primary and summary decisions simultaneously and that you can toggle between the primary and summary phasing decisions by ticking or un-ticking the Features and Detailed Entities layers as appropriate.
- Within the database, the description of objects is provided in a unified manner including as far as possible the latest identifications made by specialists during post-excavation.

Because of this there may be the occasional discrepancy with the data as presented within this volume.

In addition to the Free Viewer, the CD-Rom also contains the finds and environmental reports together with tables and illustrations in Adobe Acrobat Reader .pdf format.

Instructions for installing the Freeviewer

1. You will require Administrative rights on Windows Vista and either Power User rights or Administrative rights on Windows 2000 and Windows XP to install both the data and the software. If you do not have sufficient rights please see your local administrator.
2. Insert the CD-Rom in your CD Drive.
3. If Autoplay is enabled then the Framework Archaeology Installer will start. Otherwise double-click on the CD-Rom Drive letter in My Computer or select Autoplay from the right click pop-up menu.
4. Once the Framework Archaeology Installer has started, you may install the data for the *Terminal 5 monograph volume 2* (Menu option 1).
5. Click the **Install Data** button to continue. This starts an installation wizard for the data on the CD-Rom. Follow the instructions of this installer which will provide you with the opportunity to choose the location where you would like to install the data.
6. If you wish to use the Framework Free Viewer to explore the data click the **Install Software** and follow the prompts to install the software. If you choose not to install the software you will find that you will need specialist Geographic Information Software (GIS) to open many of the files included with the data.
7. Once you have installed the data you can then exit the Framework Archaeology Installer by clicking the exit button.
8. Now you can start to explore the data using the Framework Archaeology Free Viewer. You will find a short cut on your desktop to start the program.

The Framework Archaeology group within the Programs section of your Start Menu will also contain a folder called Framework Archaeology which contains two short cuts to start the program. You can choose to start the program with map labelling enabled or disabled. You may find that the map labelling is initially useful in getting to know the data but becomes less important with time. The desktop shortcut will start the Free Viewer with labelling disabled.

An additional short-cut links to the help file for the program. Help can be accessed within the Framework Free Viewer by pressing the F1 key or by using the Help option on the pull-down menu.

Finally you will find a short-cut to the location where you installed the data.

Specialist Reports

As specialist reports have been included on the CD, there is a third option in the Framework Archaeology installer allowing you to browse to their location. Click the **'Specialists'** button (menu option 3) to browse to the specialist reports on the CD-ROM.

If you do not intend to install the data (Install Data) or the Free Viewer (Install Software) you will need to copy these files to a suitable location manually.

System requirements

- The Framework Free Viewer application runs on Windows 2000®, Windows XP® and Windows Vista® and Windows 7® operating systems only. Installation on Windows Vista® and Windows 7® operating systems requires administrative privileges.
- The application requires 11MB of disk space to install.
- The data included with the second volume of the Terminal 5 monograph requires 1.1GB of free disk space to install.
- You will require as a minimum a Pentium IV processor or equivalent and 512MB or greater memory is recommended.
- The program is designed to run on a minimum screen resolution of 1024 by 768 pixels on a fifteen inch monitor. However since the program includes a Geographic Information System, it is better where possible to run at a higher resolution or to use a larger monitor.
- If when installing the data on Windows Vista® and Windows 7® operating systems you accept the default installation folder, the data will be installed to the Public Documents folder. On Windows 2000 and Windows XP, the default installation folder for the data will be found in All Users\Shared Documents.
- To run the software user rights only are required on all supported operating systems provided that the user has read and write access to the folder where the data has been installed.

Data formats

The data is presented using the following data formats:

" Database attribute data is in Microsoft Access 2000® format (.mdb) and stored in the AttributeData folder under the project folder, T5 Volume 2.

" The mapping data is stored in ESRI® shapefile format (.shp) and stored in the SpatialData folder under the project folder, T5 Volume 2.

" Supporting images such as sections and digital photographs are in .jpg format and stored under Sections and Photos folders under the project folder, T5 Volume 2.

" Specialist reports are in Adobe Acrobat PDF/A format and stored in the SpecialistReports folder under the project folder T5 Volume 2. The specialist reports can also be accessed directly from the CD-Rom without installation. To do this browse to the folder SpecialistReports on the CD-Rom.

" A data dictionary describing the included files and their structure can be found in the DataDictionary folder under the project folder, T5 Volume 2.

The data can be directly accessed using your preferred Geographic Information Software if required.

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Uninstalling the Software

1. On the Windows start menu click Control panel.
2. Select Add/Remove programs.
3. In the list of currently installed programs select Framework Archaeology Free Viewer Software then click Remove or Add/Remove. If a dialog box appears, follow the instructions to remove the program.

Uninstalling the Data

1. On the Windows start menu click Control panel.
2. Select Add/Remove programs.
3. In the list of currently installed programs select Excavations at Heathrow, Volume 2, T5 then click Remove or Add/Remove. If a dialog box appears, follow the instructions to remove the data.

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Summary

This volume presents the results of excavations at Heathrow Airport, London Borough of Hillingdon, between 1996 and 2007, which were carried out in advance of the construction of an additional passenger terminal complex ('Terminal 5'), together with associated facilities. The excavations were undertaken as three main phases of work. In 1996 the Museum of London Archaeology Service excavated c 4 ha of sludge stockpile areas (site code POK96), while in 1999–2000, Framework Archaeology excavated approximately 21 ha in the Perry Oaks sludge works (site code WPR98) and adjacent airport sites. The results of these phases of work have been described in Volume 1 of this series (Framework Archaeology 2006). In 2002–2007 further excavations were carried out by Framework Archaeology as part of the construction of Terminal 5. The results of these excavations (site codes PSH02 and TEC05) have been integrated with those presented in Volume 1, and are the subject of this volume.

The earliest evidence for human activity revealed in the Terminal 5 excavations comprised a number of pits

excavated by hunter-gatherers in the 7th or 6th millennia BC at a location on the edge of the Colne floodplain, as well as a complex of stakeholes of similar date on the floodplain itself. During the first half of the 4th millennium BC a posthole complex and a possible settlement were located along the alignment of the subsequent C1 Stanwell Cursus, which we believe to have been constructed in the latter half of the 4th millennium BC. Remnants of at least three other cursus monuments were also excavated, that together with a possible fifth example and a small circular enclosure, clearly demonstrates the transformation of this particular location into a major ceremonial centre. In the space of a few centuries, people had transformed the landscape from one defined by memories of ancient locations to one defined by the architecture of earthen banks and ditches. However, by the latter half of the 3rd millennium, new monuments and practices of artefact deposition signal a change in the way people inhabited the landscape.

By 1700 BC this change was to lead to the replacement of a system that apportioned land and resources through ceremony to one of physical demarcation: the first land tenure and field divisions. Settlements became archaeologically visible and developed within a landscape of small and large fields forming identifiable 'farmsteads', which were traversed by double-ditched trackways. A multitude of differing farming units developed within two distinct landscapes, with evidence for a mixed arable / pastoral agricultural economy, supplemented by resources from the innumerable hedgerows which divided the fields. Within these landscapes, people maintained links with the past through ceremonies resulting in particular artefacts being deposited in the base of waterholes. Identifying the abandonment of the Bronze Age agricultural system is very difficult, though there is little specific evidence for any Early Iron Age activity at Terminal 5, beyond a small number of isolated features. However, major elements of the Bronze Age agricultural landscape appear to have persisted in some form well into this period and beyond.

In the Middle Iron Age we see the emergence of a nucleated settlement of roundhouses, four-post structures and live-stock enclosures, practising an entirely subsistence-based agricultural regime that was apparently biased towards a pastoral economy. This settlement in turn became a focal point for continuing occupation through into the later Iron Age and early Roman period, although parts of the landscape were radically altered at this time, with new alignments of field systems largely overwriting the previous land divisions. While pastoralism remained a fundamental part of the agricultural economy, the evidence suggests an increasing emphasis on cereal crops from the Late Iron Age onwards. The settlement complex appears to have been continually modified on a somewhat ad hoc basis into the later Roman period. At this point radically new styles of structure and wholesale changes to the eastern field systems were introduced, resulting in a substantial 'ladder' enclosure system, surrounding a major central driveway. This was part of the wider social, political and economic changes of

the later Roman Empire. It cannot be proved that occupation continued at Terminal 5 beyond the end of the 4th century AD, although elements of the field and enclosure systems may well have persisted for some time.

The remains of an early Saxon settlement were revealed to the north-west of the main Roman settlement, although there is little indication of any interaction between the two. Instead, the evidence from the Saxon features provides a picture of a drifting settlement within a sparsely occupied land with limited evidence for arable cultivation. An apparent desertion of the landscape is noted during the mid Saxon period, with no further definitive evidence for activity until the 11th or 12th century. New field systems were established across much of the landscape at this period, and a complex of enclosures and post-built structures, possibly related to stock management, was constructed at Burrow Hill within Stanwell parish. The post-medieval landscape included some elements already in place by the late Saxon period, while from the 15th century, further developments of the medieval field system largely took the form of enclosure of the common fields.

The character of the Heathrow area remained predominantly rural well into the 20th century, until the Perry Oaks sludge works were constructed in 1934 and the first phase of Heathrow airport was built between 1944 and 1946.

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