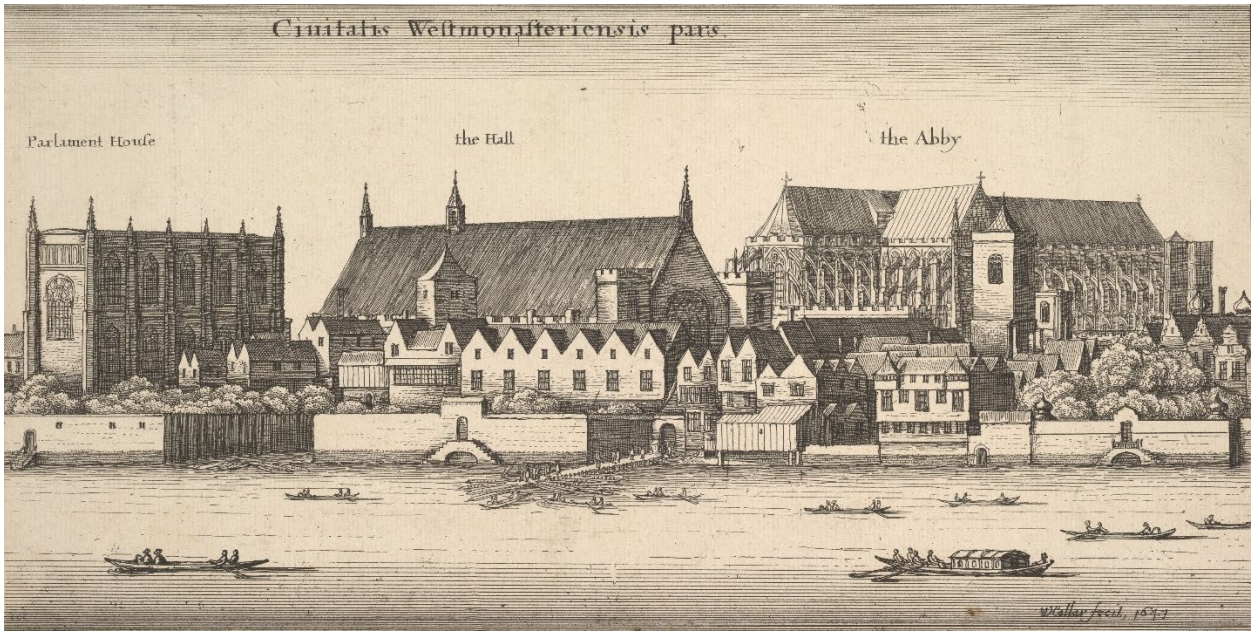
LONDON URBAN ARCHAEOLOGICAL DATABASE PHASE 3a:

WESTMINSTER AND WHITEHALL

Project 7912



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Cover: Wencelaus Hollar, 1648, View of Parliament House, West,minster Hall and Westminster Abbey

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Project 7912

1 Summary

The work undertaken for London Urban Archaeological Database Phase 3a Westminster and Whitehall (Project 7912) provides an integrated suite of GIS layers and interpretative text compatible for use by the Greater London Archaeological Advisory Service (GLAAS) and other stakeholders to ensure better understanding and management of the historic environment.

The Westminster and Whitehall area has served as a focal point for the state, monarchy and religion in England since Edward the Confessor built his palace and church on a low-lying island of dry-ground next to the Thames in the 11th century AD. Its significance as the symbolic heart of the country is recognised by its World Heritage Status. The Palace of Westminster, Westminster Abbey and St Margaret's Church still continue in their original functions and play an iconic role in society and government. To the north of the Palace of Westminster, the government buildings that make up modern Whitehall overlay the remains of Whitehall Palace.

Archaeological fieldwork has demonstrated the complexity of the buried archaeological remains, which together with the standing monuments and buildings, provide a tangible link to a past that dates to early prehistory.

2 Background

The National Planning Policy Framework (NPPF) states that planning authorities are expected to have up to date evidence about the historic environment in their area and use it to assess the significance of heritage assets and the contribution they make to their environment. The London Plan (2021) Heritage and Culture Policies recognise the significance of the historic environment to London. Policy HC1 states that Boroughs should develop evidence that demonstrates a clear understanding of London's historic environment. Development proposals should identify assets of archaeological significance and use this information to avoid harm or minimise it through design and appropriate mitigation. Where applicable, development should make provision for the protection of significant archaeological assets and landscapes.

Policy HC2 states that Boroughs with World Heritage Sites, and those that are neighbours to authorities with World Heritage Sites, should include policies in their Development Plans that conserve, promote, actively protect and interpret the Outstanding Universal Value of World Heritage Sites, which includes the authenticity and integrity of their attributes and their management. Development proposals in World Heritage Sites and their settings, including any buffer zones, also conserve and promote the Outstanding Universal Value of the site, and should be supported by a Heritage Impact Assessment. Up-to-date World Heritage Site Management Plans should be used to inform the plan-making process, and when considering planning applications, appropriate weight should be given to implementing the provisions of the World Heritage Site Management Plan.

This project was undertaken as an enhancement of the Greater London Historic Environment Record (GLHER) for the historic core of Westminster encompassing the Palace of Westminster, Westminster Abbey and Whitehall. The project was informed by other Urban Archaeological Databases (UAD) and characterisation projects. This project provides information to support:

- The London Plan (2021)
- Inform the policies of the Local Plan
- The Management Plan of the Westminster World Heritage Site
- Development management casework.

The project is built on the existing data held in the GLHER including the results of earlier stages of the UAD undertaken by Museum of London Archaeology (MOLA). The methodology is designed to be adaptable across London both in the inner and outer areas, being compatible with existing characterisation surveys. It is compatible with BIM Level 1.

3 Aims and Objectives

The project aims are:

- To raise awareness of the archaeological sensitivity of Westminster and Whitehall with key stakeholders and decision makers.
- To support Local Development Plans, World Heritage Site Management Plan and public bodies by providing a strong archaeological evidence base for managing Westminster and Whitehall's archaeological heritage.
- To provide a framework for consistently enhancing the Greater London Historic Environment Record (GLHER) across London to be delivered through the new Arches Platform.
- To inform archaeological recommendations on planning applications.

4 Location

The Project Area covers almost 92 hectares (Figure 1). It includes the entirety of the Palace of Westminster and Westminster Abbey including St Margaret's Church World Heritage Site. It stretches from Admiralty Arch in the north to Horseferry Road in the south and is bounded by the Thames to the east and St James' Park to the west.

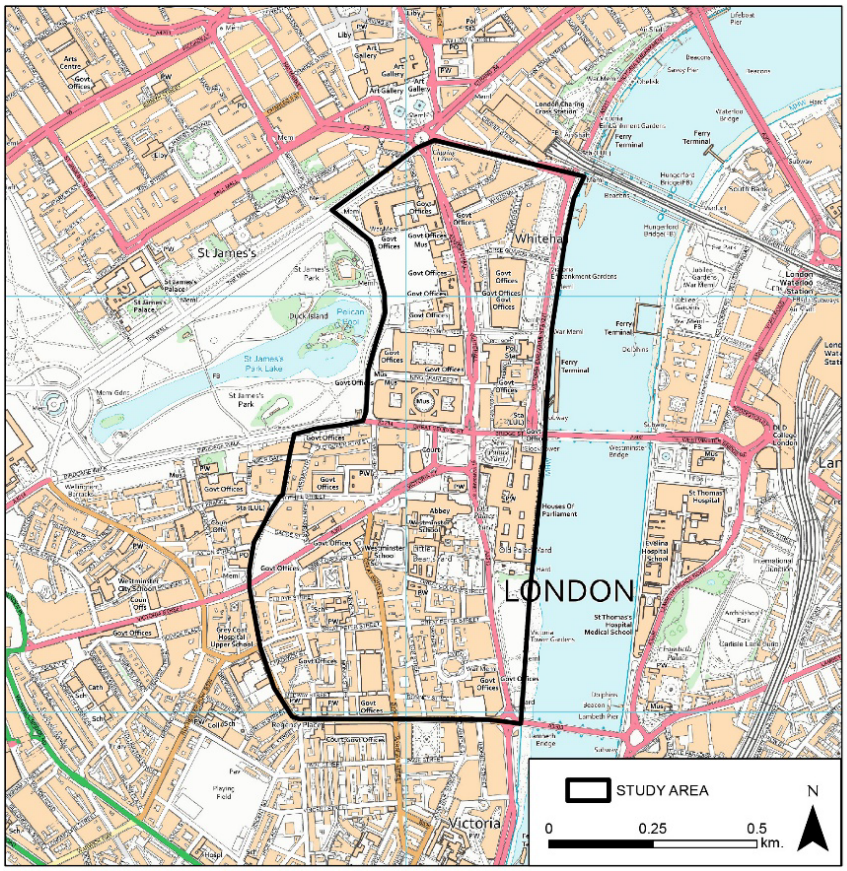

Figure 1 Location Map

5 Archaeological Evidence

The key data sources for the project comprised the Greater London Historic Environment Record (GLHER), the rectification of historic maps, geo-archaeological datasets, plans and reports held by stakeholders and archaeological contractors supplemented by site visits.

Documentary evidence

The key historic map data have been digitally rectified so that they can overlay the modern digital maps (Figure 2). This both allows the archaeologists and planners to better predict what may survive underneath the modern surface as well as enabling a better understanding of the development of the area over the centuries.

Figure 2 William Morgan's Map of the Whole of London, 1682. The map has been digitally rectified to overlay the modern map

Figure 3 The Jewel Tower, a medieval survivor of the Palace of Westminster

Physical evidence

The physical evidence for the project comprises both below-ground archaeological evidence and the surviving historic buildings, including Westminster Abbey, the Jewel Tower (Figure 3) and the Banqueting House.

There have been numerous archaeological excavations and watching briefs within the Westminster and Whitehall area (Figure 4), which have established the survival of significant archaeological deposits, despite the centuries of development and remodelling of the area. Their location has been plotted on a GIS layer. Notable excavations include the fieldwork in advance of the construction of the London Underground Limited Jubilee Line Extension Project between 1991-8, which found evidence for occupation of settlement on Thorney Island from the Bronze Age onwards.

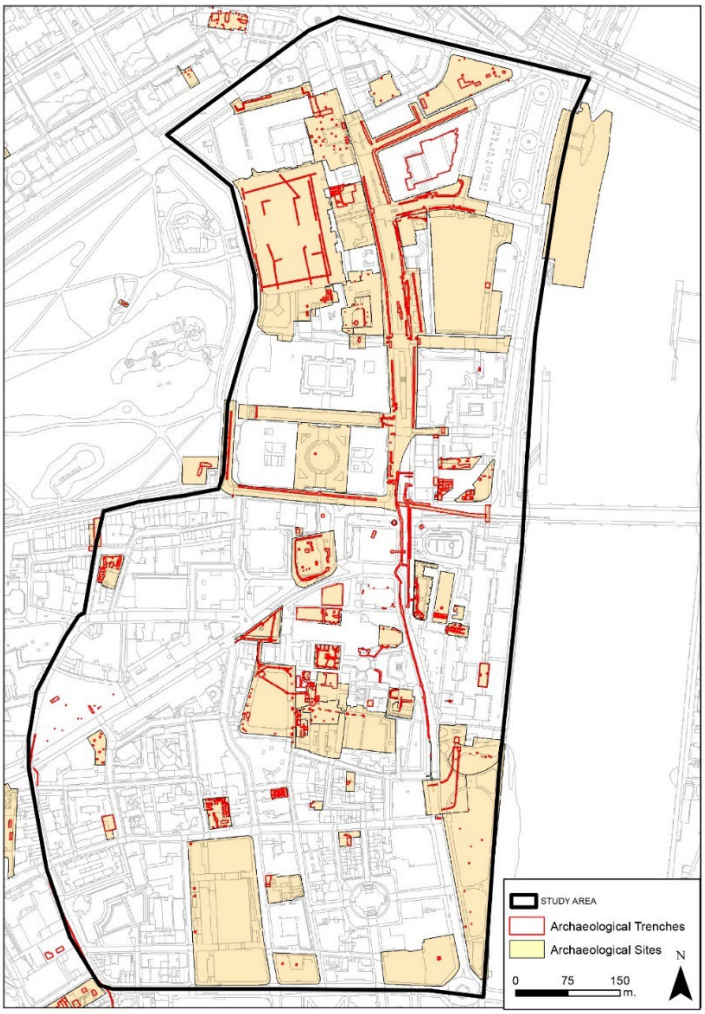

Figure 4 Archaeological fieldwork in Westminster and Whitehall

The depths of the excavations vary considerably (Figure 5). Some are located immediately beneath the modern ground surface, making them particularly vulnerable to modern disturbance, whilst others are up to 5m below modern ground levels. The depths, where known, have been mapped, but there are still large areas of the project area that have not been archaeologically investigated where it has not been possible to establish the likely depth of the archaeology with certainty. However, there is a correlation between the observed depths of the archaeology and what is known of the original topography of the area.

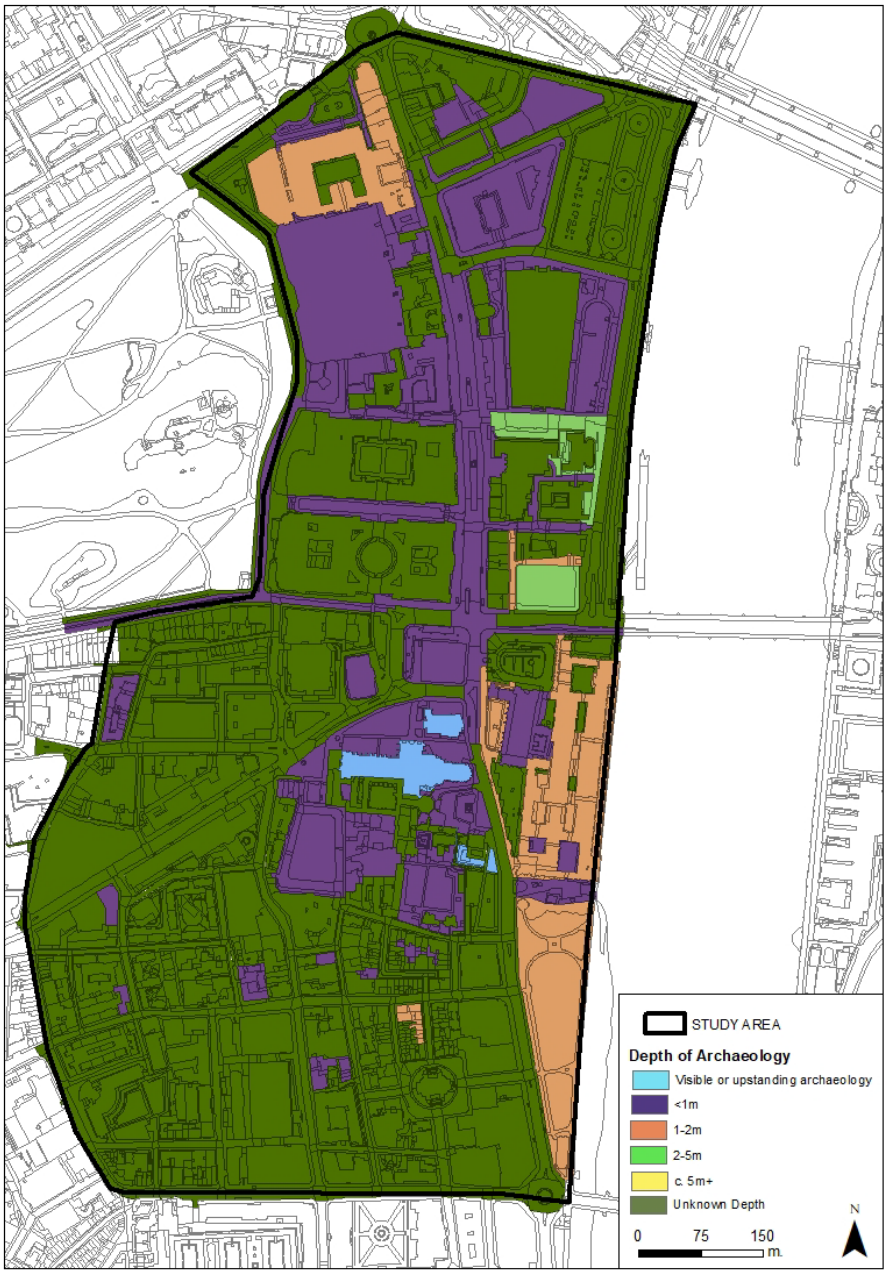

Figure 5 Depth of the archaeology below the modern ground surface

Figure 6 Excavation of part of Whitehall Palace, showing the location of archaeological remains immediately below the modern road surface ©Historic England

At the end of the last Ice Age the epicentre of Westminster consisted of a low island, now referred to as Thorney Island, located between two branches of the River Tyburn at the point where it met the Thames. There is ongoing debate about the precise location of the River Tyburn in this period, and it is probable that it frequently changed course as it meandered across the low-lying marsh flood plain. The Thames was also much wider and would have originally extended under what is now the Embankment and the Houses of Parliament. Thorney Island was only a few metres higher than the surrounding area, but as a relatively dry location at a crossing-point of the Thames it was to prove a magnet for subsequent settlement. Its isolated marshy surroundings would have been seen as a suitable location for an early medieval monastery, whilst its proximity to London became attractive to royalty. There was further dryland to the north and south of the Tyburn marshes. This underlying topography has been mapped

as a digital layer (Figure 7). It has a direct effect on both the depths of the overlying archaeology and its potential to hold significant waterlogged remains, including organic materials such as wood and leather. Excavation has demonstrated where waterlogged material can be anticipated to survive, and these have been mapped as part of the GIS Survival layer for the project (Figure 8).

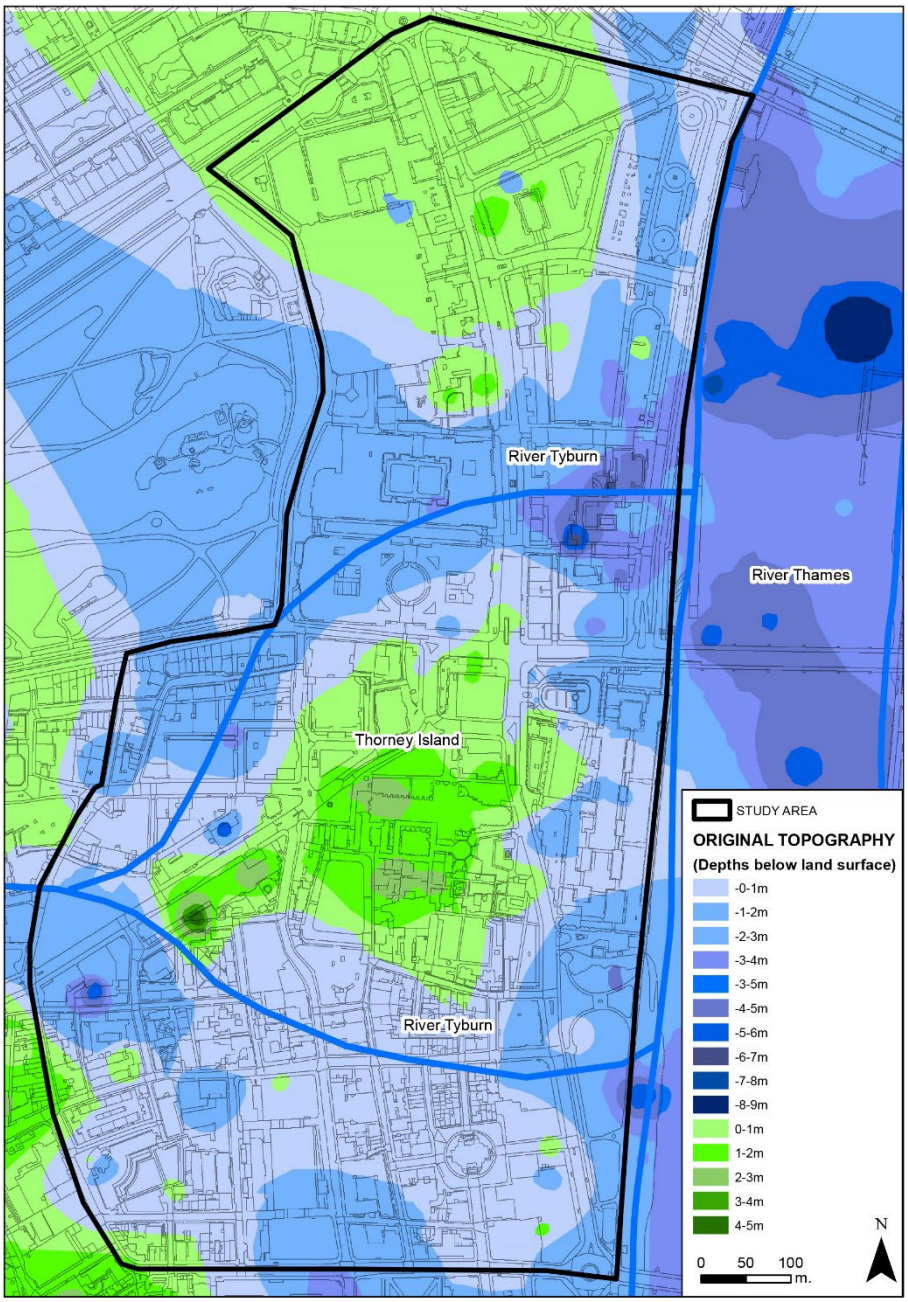

Figure 7 Original topography underlying modern Westminster and Whitehall

(based on the MOLA London's Lost River: the Tyburn website https://www.arcgis.com/apps/Cascade/index.html?appid=6b00daa1acac4df7a2fcde06104bac1a , BGS mapping and geotechnical borehole logs)

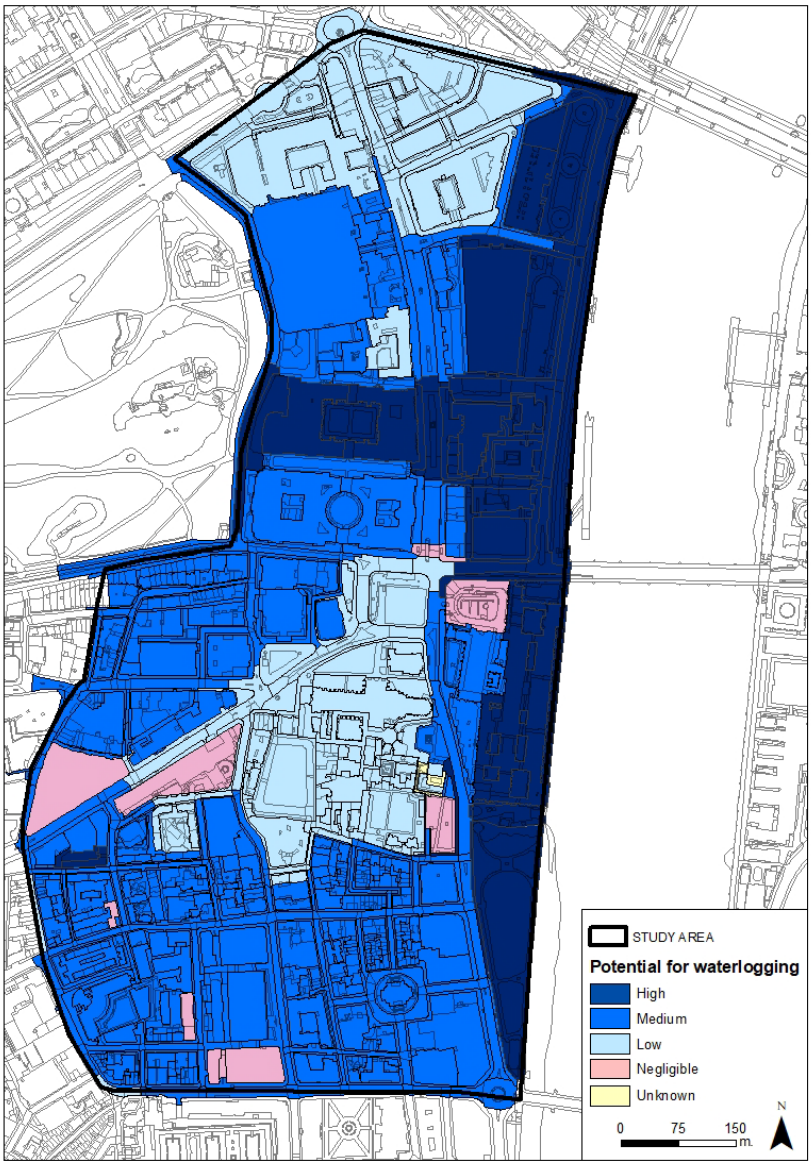

Figure 8 Potential for waterlogging, based on excavation evidence and the original topography of the area

Creation of GIS archaeological survival layers

GIS maps have been prepared of areas of potential archaeological survival and destruction, linked to an interpretative attribute table (Figure 9). The archaeological survival layer maps identify the areas of potential surviving archaeology beneath the modern cityscape. It identifies those areas where the archaeology is still upstanding, such as Westminster Abbey, those areas where there are known to be surviving archaeological deposits as demonstrated by excavation, and those areas where the archaeological deposits have been truncated by deep basements or other disturbance

(Figure 9). A second layer depicting the extent and severity of Second World War bomb damage was also created, based on The London County Council Bomb Damage maps.

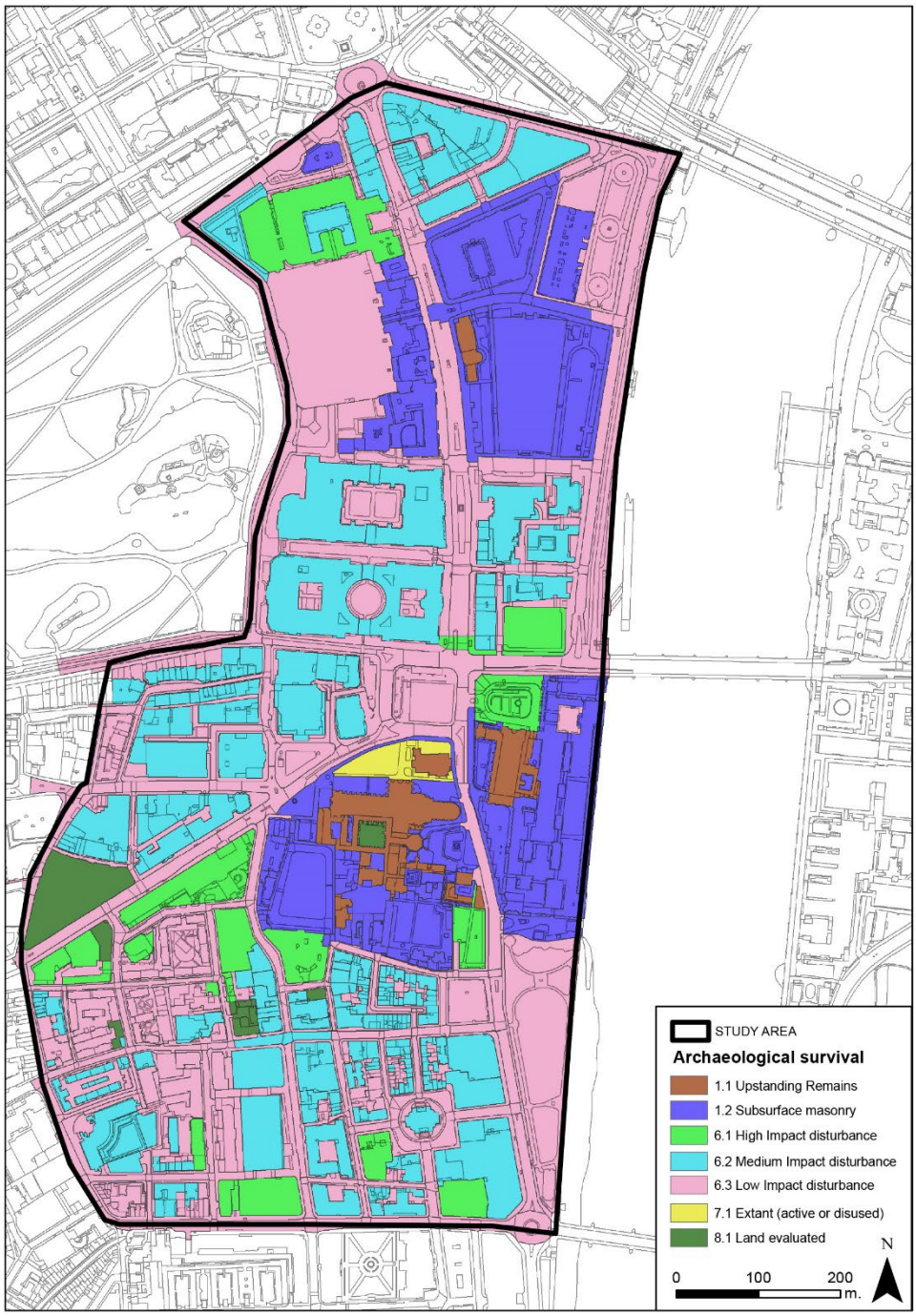

Figure 9 Archaeological survival map, showing degrees of disturbance

6 Historic Characterisation

A series of characterisation or interpretation maps have been created, mapping the evolution of the Westminster and Whitehall area over the millennia. The London Characterisation Epochs are based on six major 'Time-Depth Layers' (1 – Prehistoric (natural landscapes); 2 – Roman *Londinium*; 3 – Medieval London; 4 – Georgian Planning; 5 – Victorian Entrepreneurship; 6 – 20th century Modernity) and their respective epochs). These are then further sub-divided into 21 Epochs, each representing distinct time periods in the development of London (Table 1).

Table 1: Time-Depth Layers and Epochs

Time-Depth Layer	Epoch	Approx. Dates	Defining characteristics
6 - 20th Century Modernity	6.4	1980 - now	Globalisation and neoliberal free enterprise
	6.3	1945 - 1980	Post-war social state – council housing Greenbelt
	6.2	*1939 - 1945*	*World War 2 - Destruction*
	6.1	1919 - 1938	Interwar expansion
5 - Victorian Entrepreneurship	5.1	1835 - 1918	Victorian: Railways and Imperial Capital Expansion
4 - Georgian Planning	4.4	1667 - 1835	Georgian & Regency: Post-Fire rebuilding/expansion
	4.3	*1666*	*Great Fire - Destruction*
	4.2	1642 - 1665	Civil War, Commonwealth & Restoration
	4.1	1540 - 1641	Reformation: Dissolution to Civil War
3 - Medieval London	3.5	1349 - 1540	Late Medieval: Black Death to Dissolution
	3.4	1066 – 1348	Norman/High Medieval 'Londres': Tower, Cathedrals to Black Death
	3.3	886 - 1066	Late Saxon: Londonburh
	3.2	600 - 886	Middle Saxon: Lundenwic
	3.1	410 - 600	Early Saxon: Sub/Post-Roman
2 - Roman Londinium	2.4	200 - 410	Late Roman: Walled Londinium

	2.3	62 - 200	Early Roman: Londinium - Post – Boudican/Pre-Wall
	2.2	*60 - 61*	*Boudican Destruction*
	2.1	43 - 60	Roman Conquest: Pre-Boudican foundation
1 - Natural Landscapes (Prehistoric)	1.2	1500BC – AD 43	Later Bronze Age and Iron Age
	1.1	4000BC – 1500 BC	Neolithic and Early Bronze

Each characterisation map is in effect an interpretation layer illustrating the extent and nature of the archaeology within any given time-frame. The interpretations are based on current evidence and can be changed as further information is revealed through documentary research or excavation. The characterisation categories are derived from the London Historic Character Thesaurus and the time-depth layers from Allies and Morrison's 'Complex City' publication, this ensures consistency of approach across the Greater London area.
https://historicengland.org.uk/research/methods/characterisation/historic-landscape-characterisation/london-thesaurus/.
https://www.alliesandmorrison.com/books/complex-city

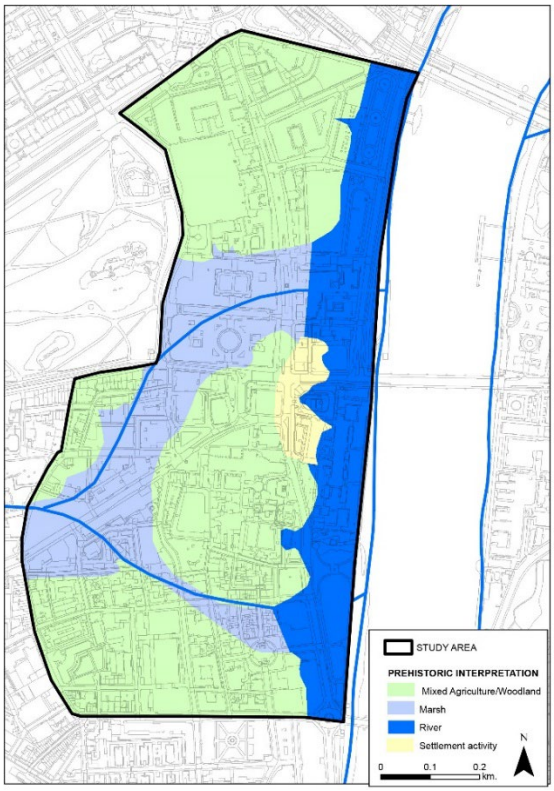

Figure 10 Characterisation Epoch 1.1 Neolithic and Early Bronze Age Westminster and Whitehall

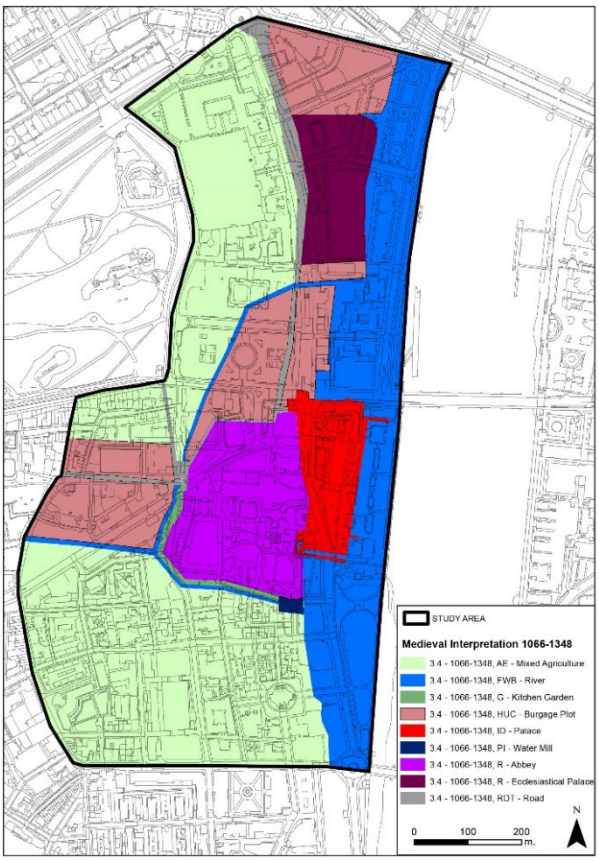

Figure 11 Characterisation Epoch 3.4 Medieval (1066-1348) Westminster and Whitehall

7 Sensitivity/Potential

The archaeological potential and its sensitivity to change has been mapped into broad sensitivity zones (Table 3 and Figure 12). This is based on a system of scoring by four criteria (Table 2). The Westminster Abbey and Palace area, which includes the area of the World Heritage Site, has been scored as being of the Very High Sensitivity, with Whitehall Palace and Westminster *vill* and Victoria Gardens graded as High Sensitivity.

Table 2 Sensitivity criteria

CRITERIA	SCORE	DESCRIPTION
PRESENCE	4	Known heritage asset of archaeological interest
	3	Favourable cultural and/or topographical situation: expected above average density of archaeological assets
	2	Neutral cultural and/or topographical situation: expected broadly average density of archaeological assets
	1	Unfavourable cultural and/or topographical situation: expected below average density of archaeological assets or site evaluated with low expectation of significant archaeology
	0	Site known to have been cleared of all archaeological interest
CONDITION	4	Exceptional information survival expected - amongst the best encountered in England broadly typical of wetlands, chalk downland and deep anoxic urban deposits
	3	Good information survival expected - above normal broadly typical of uplands, ancient woodlands, permanent pasture, earthwork monuments and urban deposits
	2	Fair information survival expected – broadly typical of agricultural landscapes and buried remains in historic settlements (small towns & villages)
	1	Poor survival expected – below normal – broadly typical of damaged modern landscapes, suburban areas and heavily cultivated land
	0	Degraded – little or no meaningful survival – typical of areas extensively impacted by modern quarrying, infrastructure and heavy industry
SIGNIFICANCE	4	Exceptional: Scheduled monuments or other asset formally identified as of National Importance
	3	High: Candidate NI sites and areas where archaeology is associated with designated assets, identified research priorities or having demonstrably high potential for new discoveries of nationally important assets.
	2	Baseline areas without known national importance indicators (but still some potential for such new discoveries)
	1	Low: Areas where survey has shown that non-designated archaeological heritage assets are likely to be sparse and fragmented or 'background signature'.
VULNERABILITY	4	Very high – any change is likely to have a significant impact on the archaeology present
	3	High – any change is likely to have an impact on the archaeology present
	2	Fair – potential for survival in some areas, making any surviving archaeology vulnerable to change

	1	Poor – archaeological heritage likely to be sparse or fragmented, unlikely to be severely impacted by change
	0	Negligible – little or no meaningful survival so will not be impacted by change

Table 3 Westminster and Whitehall Scoring of sensitivity zones

ID	NAME	Archaeological Character	PRESENCE	CONDITION	SIGNIFICANCE	VULNERABILITY	SENSITVITY SCORE	Implications
1	Whitehall Palace	Tudor palace	4 – Known heritage asset Whitehall Palace and its medieval precursors	3 – Good Banqueting House standing building, buried masonry structures and some waterlogged potential but significant loss and fragmentation .	3 – High Banqueting House and buried archaeology of national significance	3 – High Buried remains are just beneath modern road surfaces but they are robust structures	13 - High	A highly sensitive area damaged by excavation of basements for C20th government buildings. Street works have revealed in-situ structures and so all groundworks merit assessment and mitigation* unless in areas known to have been destroyed as would works in the basements of buildings where unrecorded fragments of Whitehall Palace are suspected to survive. Opportunities might be taken to mark out former buildings within public realm and provide interpretation at the Banqueting House.
2	Westminster Abbey and Palace	Medieval abbey and palace	4 – Known heritage asset The Anglo-Saxon and medieval abbey and royal palace	4 – Exceptional Standing medieval buildings, buried masonry structures and burials. Low waterlogged potential west of Abingdon Street but higher under and east of it.	4 – Exceptional World Heritage Site with listed buildings and scheduled monument	4 – Very high Standing medieval structures and below ground archaeology can be harmed by even minor interventions	16 – Very High	A very highly sensitive area, albeit damaged by excavations for C19/20th government buildings. All groundworks and works to standing historic buildings merit assessment and mitigation* unless in areas known to have been destroyed. Opportunities exist to build on the existing internationally significant heritage tourism offer.
3	Millbank	Post-medieval industrial waterfront	3 – Favourable location	4 – Exceptional	2 – Fair No identified archaeological	2 – Fair Archaeological interest mostly	11- High	A highly sensitive area expected to contain well-preserved buried remains but not necessarily of national significance.

ID	NAME	Archaeological Character	PRESENCE	CONDITION	SIGNIFICANCE	VULNERABILITY	SENSITVITY SCORE	Implications
		encroaching into Thames. Includes site of Abbey Mill.	Archaeological deposits expected along waterfront	Minimal C20th disturbance under park and high waterlogged survival	assets of national significance but potential for discoveries	at depths of over 1m. Waterlogged deposits vulnerable.		Shallow groundworks may have minimal impact, but deeper excavations (> 1m) could affect significant archaeology. Opportunities might be taken to interpret the historic waterfront within Victoria Tower Gardens.
4	Great Peter Street area	Post-medieval residential expansion	2 – Normally favourable location Post-medieval development over former marshland.	2 – Fair Fragmentation caused by post-medieval & modern development. Moderate potential for waterlogged remains.	1 – Low Area not currently expected to contain highly significant archaeology	2 – Fair	7 - Moderate	A moderately archaeologically sensitive but also less well understood area. Substantial groundworks should be assessed and mitigated. The eastern part currently in a tier 1 APA could be reallocated to tier 2.
5	Horse Guards	St James' deer park	1 – Less favourable location Low density of remains expected in former deer park	2 – Fair Horse Guards parade itself has had surface disturbance but basements to north. Cut features survive.	1 – Low Area not currently expected to contain highly significant archaeology	2 – Fair Archaeological deposits not expected to be deeply buried	6 - Low/Moderate	Likely to be less archaeologically sensitive because it was historic parkland but some buried medieval and post-medieval remains known. Anything more than minor groundworks should be observed. Currently in a tier 1 APA could be reallocated to tier 2.
6	Westminster Old Town	Medieval and post-medieval town over Tyburn	3 – Favourable location Archaeological deposits expected assoc with medieval town	3 - Good Fragmentation caused by post-medieval & modern development but potential for urban stratigraphy and waterlogged remains in	2 – Fair No identified archaeological assets of national significance but potential for discoveries	2 – Fair Archaeological deposits not expected to be deeply buried	10 – Moderate/High	A moderately sensitive area with potential for waterlogged deposits. Shallow groundworks might reveal buried structures in less disturbed areas, including parts of Parliament Square but generally the risk is lower than in the Abbey and Palace of Westminster and Whitehall Palace. All groundworks but minor should be subject to assessment and mitigation*. Consider extending tier 1 APA further west.

ID	NAME	Archaeological Character	PRESENCE	CONDITION	SIGNIFICANCE	VULNERABILITY	SENSITVITY SCORE	Implications
				Tyburn channel				
7	Victoria Embankment	Victorian encroachment into the Thames. River frontage of Whitehall Palace and Westminster town	3 – Favourable location Archaeological deposits expected along waterfront	3 – Good High potential for waterlogged remains unless disturbed by Victorian engineering	3 – High Significance enhanced by association with Whitehall Palace	1 – Low River deposits will be buried beneath C19th made ground	10 – Moderate/High	A moderately sensitive area with potential for significant waterlogged deposits. If remains have survived Victorian engineering operations, they are likely to be deeply buried beneath made ground. Shallow groundworks are unlikely to cause harm. Assessment and mitigation should focus on deep groundworks.
	Notes	The term mitigation* refers to applying the risk management hierarchy of avoiding, reducing and lastly offsetting harm. It does not imply that unacceptably harmful schemes should be permitted. Sensitivity scores: 15-16 = Very High, 14 = High/Very High (borderline), 11-13 = High, 10 = Moderate/High (borderline), 7-9 = Moderate, 6 = Low/Moderate (borderline), 3-5 = Low, 2 or less Very Low						

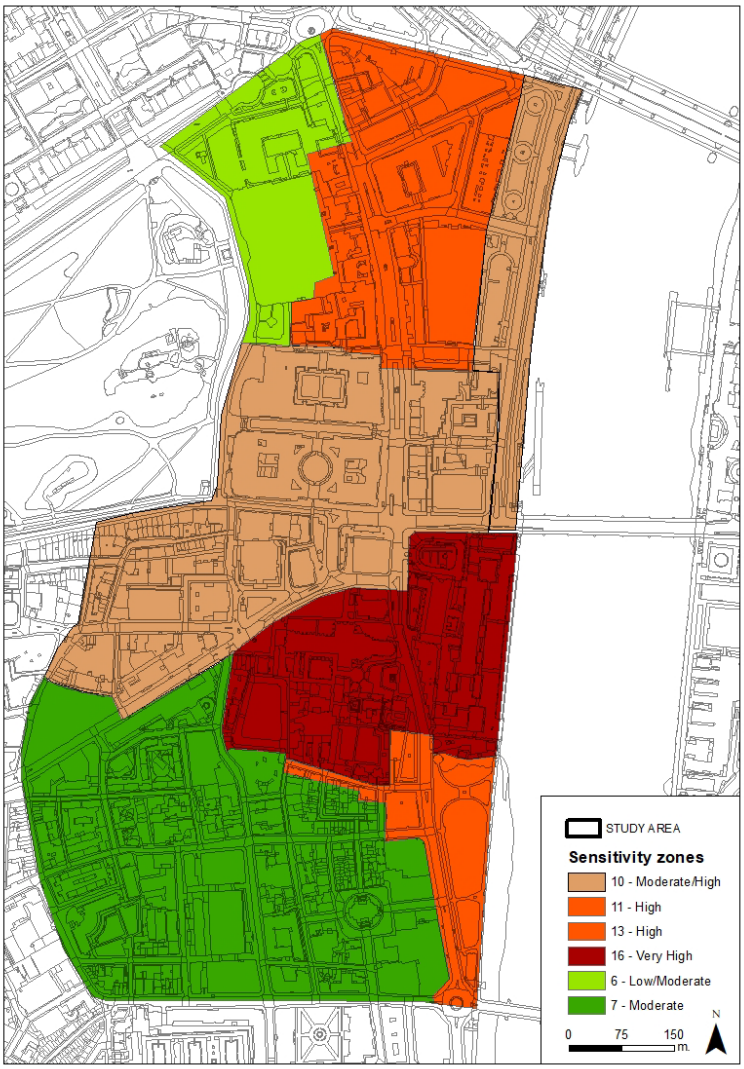

Figure 12 Sensitivity zones

8 Using the Urban Archaeological Database

This project aimed to bring together the numerous sources of information available on the nature and significance of the archaeological resource in Westminster and Whitehall in an easily accessible map-based format. It aims to raise awareness of the archaeological sensitivity of Westminster and Whitehall with key stakeholders and decision makers and to support Local Development Plans, the World Heritage Site Management Plan and public bodies by providing a strong archaeological evidence base. It also provides a framework for consistently enhancing the Greater London Historic Environment Record (GLHER) across London.

The full GIS dataset is available from the GLHER under its usual search arrangements. These datasets provide an overview of the archaeological resource, as currently understood, from readily available information. However, they are NOT a definitive statement of archaeological interest and should not be relied on for assessing potentially harmful development proposals without further refinement and validation.

Archaeology is a discipline where there is always something new to discover. Whilst the interpretative maps are based on our current best information it is likely that there will be changes as more fieldwork and research is undertaken. With the maps that indicate the degree of survival of underlying archaeology, these represent a broad-brush interpretation of what is highly complex stratigraphy. It is thus entirely possible that there are pockets of surviving archaeology in areas of otherwise high disturbance and conversely that there are other areas of disturbance that have not been recorded. For example, access to the information regarding the network of tunnels and bunkers underneath Whitehall has not been forthcoming and these have not been plotted.

The map layers should be reviewed on a regular basis and updated when new information is made available in order to ensure that they are fit for purpose. Opportunities should also be sought to further refine select elements of the archaeology of the area, such as the extent and nature of the remains relating to Whitehall Palace.

Archaeological consultancies conducting assessment or fieldwork in Westminster and Whitehall should obtain the GIS datasets from the GLHER as part of their data gathering. They should use the data to inform assessments of archaeological significance and potential and develop site-specific research objectives to guide investigations. They should check, validate and, where necessary, amend and return the datasets in consultation with GLAAS. Where new fieldwork is carried out, GIS-compatible geo-located site and trench data should be provided to the GLHER and the investigator should assess whether the results are consistent with the existing model or indicate a need to amend it.