Rediscovering London's lost Lines of Communication

By David Flintham

Since 1945, the continual rebuilding, development and redevelopment of London has given archaeologists the opportunity to uncover the city's lost past. Indeed, the extent of this activity has led one archaeologist to comment "Roman London is now the most extensively excavated city of the period in Europe." There is, however, one major feature which continues to be elusive: the 18km circuit of fortifications constructed during the English Civil War to defend the capital.

These fortifications evolved from initial *ad hoc* construction in the autumn of 1642 to become, the following year, the largest, although probably not the most sophisticated, defensive system constructed during the entire Civil War period. Decommissioned in 1647, over subsequent years they have largely vanished from London's topography.

Except for a short stretch of rampart in Hyde Park, and vestiges that have been adsorbed into the landscape (and visible only to a 'trained' eye) it is just through archaeology that the fortifications can be rediscovered. Generally, however, remnants are encountered more often by chance than by design: the apparent scarcity of contemporary mapping makes targeted investigation difficult, and when potential features are encountered, they are easily misinterpreted. Nearly 50 years ago, David Sturdy lamented that a failure to properly identify traces has meant that valuable evidence has been lost[1]. This is not to say that there haven't been any detailed investigations (the British Museum site in 1999 and 2007, and Sebastian Street in 2016-18 both revealed probable elements of the defences), but sometimes other features encountered in the general vicinity of the fortifications (or where they are thought to be) are incorrectly interpreted.

Unlike several other towns fortified during the Civil Wars, there isn't a known contemporary plan of London's fortifications. Instead, virtually every study has been based on a plan drawn 90 years later: George Vertue's *Plan of the City and Suburbs of London as fortified by Order of Parliament in the years 1642 and 1643* (**figure 1**) which appeared in William Maitland's 1738 *History of London*[2]. The British Library holds a copy of Vertue's plan to which some notes have been added (very likely by Cromwell Mortimer) and dated 1746. The notes state that the plan was

> "copied from Wenceslaus Hollar's map of England in 6 sheets, and traced from the remains and footsteps of the works by Cromwell Mortimer, M.D., Secretary of the Royal Society."[3]

---

[1] David Sturdy, "The Civil War Defences of London", *The London Archaeologist*, (Winter 1975), Vol. 2, No. 13, p. 336.

[2] William Maitland, *The History of London from its foundation by the Romans, to the present time*, (London: Samuel Richardson, 1738). Norman Brett-James noted that when it came to the inclusion of Vertue's plan, Maitland "unlike his usual custom, gives no indication as to the source of his material" (see Norman Brett-James, *The Growth of Stuart London*, (London: George Allen and Unwin Limited, 1935), p.284).

[3] George Vertue, *Plan of the City of London as fortified by Order of Parliament in the years 1642 and 1643*, (1738), Amended by Cromwell Mortimer M.D. in 1746, Kings Topographical Collection, Vol. XX, No. 16.

Unfortunately, the original *Exact Surveigh of England in Six Sheets* is not extant (and may not ever have been completed). Hollar's 1667 two-plate reduction of the plan, *A new and exact map of Great Britannie[4]*, included a plan of London at its top right, and this was subsequently reprinted in 1675 as *Prospect of London as it was flourishing before the destrvction by fire[5]*. But this only features the remains of the fort by Southampton House, and doesn't indicate of any sort of fortified line south of the Thames, or east of the City. In 1935, Norman Brett-James concluded that Vertue's map could not be a copy of any contemporary plan, highlighting that "it indicates areas of London as being fully developed where in reality no building had yet occurred."[6]

Figure 1: George Vertue's *Plan of the City and Suburbs of London as fortified by Order of Parliament in the years 1642 and 1643*. This well-known map has been the foundation of nearly every study of London's English Civil War defences. However, the plan is in fact an eighteenth-century fake.

Vertue's plan differs from the official specification for the defences issued in February 1643[7], and there are differences between what he illustrates and the comprehensive eyewitness account written in May 1643 by a Scottish traveller, William Lithgow[8]. Closer inspection of the Vertue plan shows that its artistic style is deliberately coarse, perhaps mimicking a woodcut map. If this were not enough, he has also been implicated in several

---

[4] In 1982, Richard Pennington complied his catalogue of Hollar's works. Richard Pennington, *A descriptive catalogue of the etched work of Wenceslaus Hollar 1607-1677*, (Cambridge: Cambridge University Press 1982). Hollar prints in this paper are identified by their Pennington citation number – this one being P648.

[5] P1005.

[6] Norman Brett-James, *The Growth of Stuart London*, (London: George Allen and Unwin Limited, 1935), p.284.

[7] *Journals of the Court of Common Council*, Journal 40, folio 52

[8] The version of William Lithgow's *The Present Surveigh At London* referred to is that reproduced at Appendix A of Lieutenant-Colonel W.G. Ross, RE, in *Military Engineering during the Great Civil War, 1642-1649*, reprinted in the Ken Trotman Military History Monographs series (London: Ken Trotman, 1984), pp. 80-88

other forgeries, including faking panels of the Agas map[9]. It should be concluded, then, that the plan is a hoax, perhaps a deliberate attempt to mislead, and something it has been successfully doing for nearly 300 years, and I will freely admit to be one who has been taken in by it.

The need to recognise London's Civil War fortifications as an archaeological entity was highlighted during the Sebastian Street investigation. Subsequently, whilst researching a (non-ECW) site in the Whitechapel area it became clear to archaeologists [Mills Whipp Projects](https://www.millswhipp.com/)[10] (MWP - who had been involved in the Sebastian Street investigation) there was a major discrepancy between the suggested locations of the fortifications indicated by the Historic England Record (based on Vertue's map) and the other documentary evidence. Ultimately, MWP were engaged by Historic England to undertake a pilot study to ascertain whether the locations of the fortifications could be identified with more confidence.

The area for the pilot study was to the east of the City, the fortifications which stretched from Wapping on the Thames, northwards to Shoreditch, and was selected because of the Whitechapel anomaly, although in May 1643, Lithgow followed the same anti-clockwise route. His account has been considered unreliable in the past but whilst he may have embellished the strength of the defences (after all, he was writing with the City's tacit approval), when taken alongside other sources, his observations on locations and layout are sound.

The pilot study area is defined by the Court of Common Council resolution dated 23rd February 1643:

> "That a small Fort conteyning one bulwarke and halfe and a battery in the rear of the flanke to be made at Gravel [Wapping] lane end. A hornworke with two flankers to be placed at Whitechapell windmills. One redoubt with two flankers betwixt Whitechapell Church and Shoreditch. Two redoubts with flankers neere Shoreditch Church with battery."[11]

Free from the burden of the Vertue plan, MWP have undertaken a fresh analysis of the evidence, mixing a careful reading of contemporary documents and a re-examination of the archaeological records of excavations. The study has also tentatively quantified conceivable archaeological survival in the locations of the fortifications.

Whilst Hollar included sketches of the course of the fortifications in at least two of his etchings (**figures 2 and 3**)[12], there is no single contemporary detailed plan.

---

[9] The entry in the 1900 edition of the *Dictionary of National Biography* accuses Vertue of "taking unwarrantable liberties with the object of disguising the fraud".
[10] https://www.millswhipp.com/
[11] *Journals of the Court of Common Council*, Journal 40, folio 52
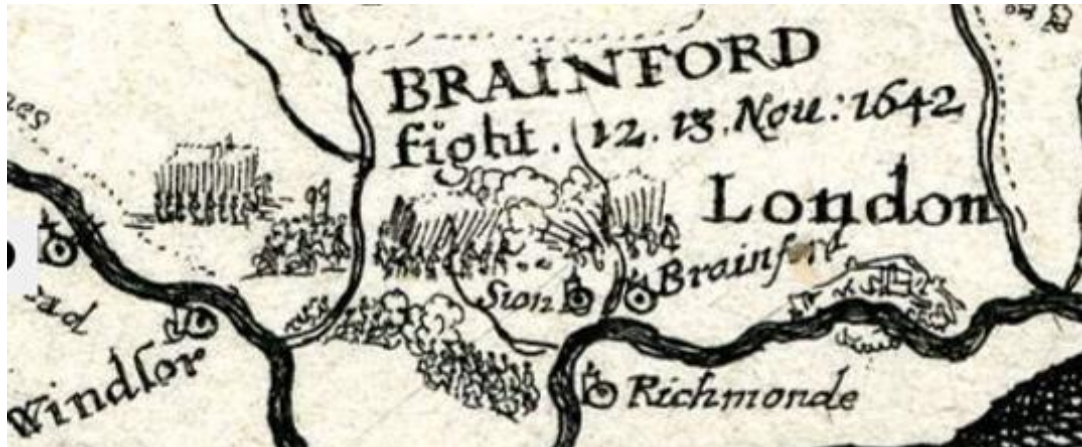[12] Earl of Essex on Horseback of 1643 (P1400), and his Quartermaster Map of 1644 (P654).

Figure 2: The Prague-born artist, Wenceslas Hollar produced an etching of the Parliamentary General, the Earl of Essex in 1643. Included with this was a sketch of London's fortifications. This is the earliest-know image of the defences.

Figure 3: A year later, Hollar's *Quartermaster Map* also included a sketch of London's fortifications. Given Hollar's Royalism, that he was able to depict London's defences in at least four works is curious.

However, sections of the fortifications were featured on several 'local' maps (these helped pinpoint both the British Museum and Sebastian Street investigations). The key breakthrough has been the discovery of a map produced in the aftermath of the Great Fire of London in 1666. Referred to as the 'Great Fire map'[13], in itself, the map is of no great consequence, but between 1666 and 1680, someone added a sketch line showing the Lines of Communication, as the fortifications became known, to the east and north of the City, indicating the location of some of the forts. As the lines were used as a physical definition of monetary liabilities for London during the latter years of the 17th century, it is

---

[13] In the text the term 'Great Fire map' is used as shorthand rather than referring repeatedly to '*the anonymous annotator's sketch lines on the map produced in 1666 showing the extent of damage in the Great Fire'*. For reasons of copyright and confidentiality, for the moment the details of the Great Fire map are not being placed in the public domain. This position has been accepted by Historic England which has viewed the original material.

presumed that the annotator was providing a visual aid for tax purposes. This map demonstrated the wide difference between the lines as visible in the last quarter of the 17th century and those shown by Vertue.
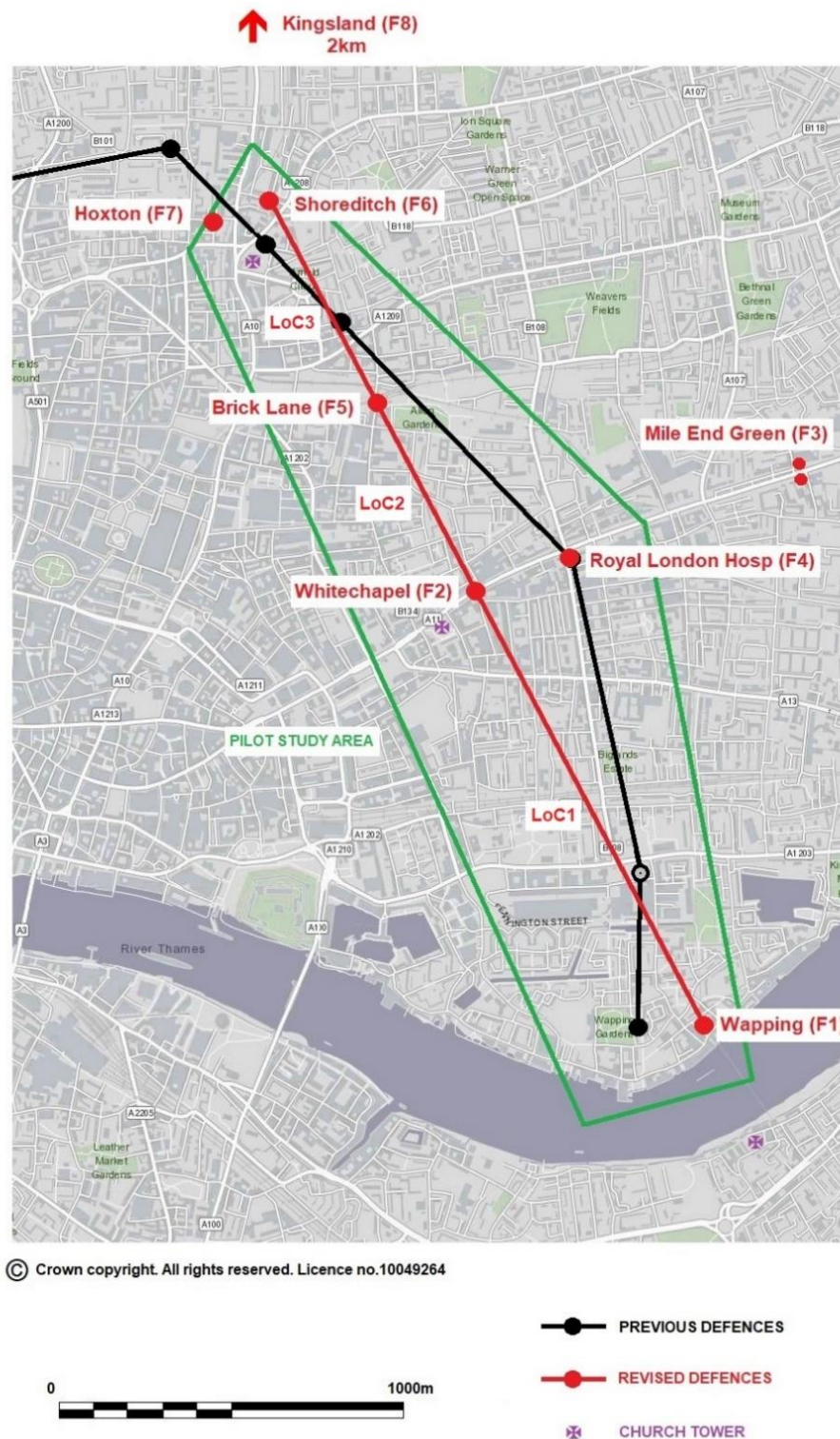

Figure 4: The boundary of the pilot study undertaken by Mills Whipp Projects is enclosed within the green line. The previously-thought course of the defences is shown in black, whilst the revised course is shown as a red line. The forts are signified as *F*-numbers (F1, F2, etc.), and the connecting lines as *LoC*-numbers (LoC1, LoC2, etc.).

Overall, the study has radically revised the location of the forts and the lines, and, for the first time, has identified archaeological evidence for several of them (**figure 4**).

But perhaps the most striking finding concerns the location of the fort in Whitechapel, where traditional thinking places it close to the Royal London Hospital. However, the location stated in the City Orders was for *"A hornworke with two flankers be placed at Whitechappell windmills."*[14] 17th century Whitechapel was a linear suburb between Aldgate and modern Fieldgate Street/Greatorex Street[15], with a windmill near the junction of modern Fieldgate Street and Whitechapel Road[16]. Evidence for the location of the fort being closer to Aldgate is provided by the 1658 map by Faithorne and Newcourt[17] which includes traces of the fort, and on the Great Fire map, according to which the fort is thought to have straddled the main road, its southern defences standing roughly on the site of the former Whitechapel Bell Foundry at Whitechapel High Street and Fieldgate Street (leading into Plumbers Row). John Rocque's 1747 map (**figure 5**)[18] depicts irregular boundaries, probably reflecting vestiges of the fort.

Figure 5: An extract from John Rocque's *A Plan of the Cities of London and Westminster and the Borough of Southwark* of 1747. The site of Whitechapel Fort is at the junction of Whitechapel Street, High Street, and Rope Walk (note the irregular property boundary – marked 'a') on the left side of Rope Walk, which could follow the line of a hornwork). Whitechapel Mount (the possible site of one of Fairfax's 1647 citadels) is just visible at the right edge of the map (marked 'b').

The site of the Whitechapel Bell Foundry has recently been archaeologically examined, where deep 17th century features have been found, indicating excellent archaeological

---

[14] *Journals of the Court of Common Council*, Journal 40, folio 52

[15] The area further east, near the Royal London Hospital, and now called 'Whitechapel', was called Mile End in the 17th century, having its own common, Mile End Green. This is an example of the migration of place names which is in a large part a fairly recent result of the Underground Stations being named from areas not necessarily immediately adjacent.

[16] The City Orders speak of "windmills". However, none of the maps show more than one windmill east of the City (the only multiple windmills at this time being north of the City, in Finsbury Fields). Therefore, the plural is a scribal error.

[17] William Faithorne and Richard Newcourt, *An exact delineation of the Cities of London and Westminster and the suburbs thereof, together wth ye Burrough of Southwark...*, surveyed in 1643–7 and published in 1658

[18] John Rocque, *A Plan of the Cities of London and Westminster and the Borough of Southwark*, (1747), reproduced as *The A to Z of Georgian London*, (London: London Topographical Society, 1982), p. 6.

survival. The repositioning of the fort at Whitechapel allows the line of fortifications between Wapping and Brick Lane forts to be straightened, reducing the overall length of the lines by approximately 290m.

So where does this leave the site known as Whitechapel Mount? There was certainly something substantial on this site, but this wasn't the 1643 fort. However, in the background of his 1647 *Long View of London from Bankside*[19], Hollar included a substantial fort which is on the site of the Royal London Hospital (**figure 6**). Despite versions of this panorama being publicly available for years, the fort has been overlooked. Could the answer be found in the events of the second half of 1647 when the New Model Army under Thomas Fairfax occupied London? In August 1647, Fairfax ordered the slighting of the London's fortifications, but, according to the Venetian Ambassador in October 1647:

> "Gen. Fairfax who, now the Fortifications of London are demolished, is laying the foundations of three Forts in different places which will be three citadels to bridle the city and all the people."[20]

It is quite likely that the fort at the Royal London Hospital is one of these citadels.
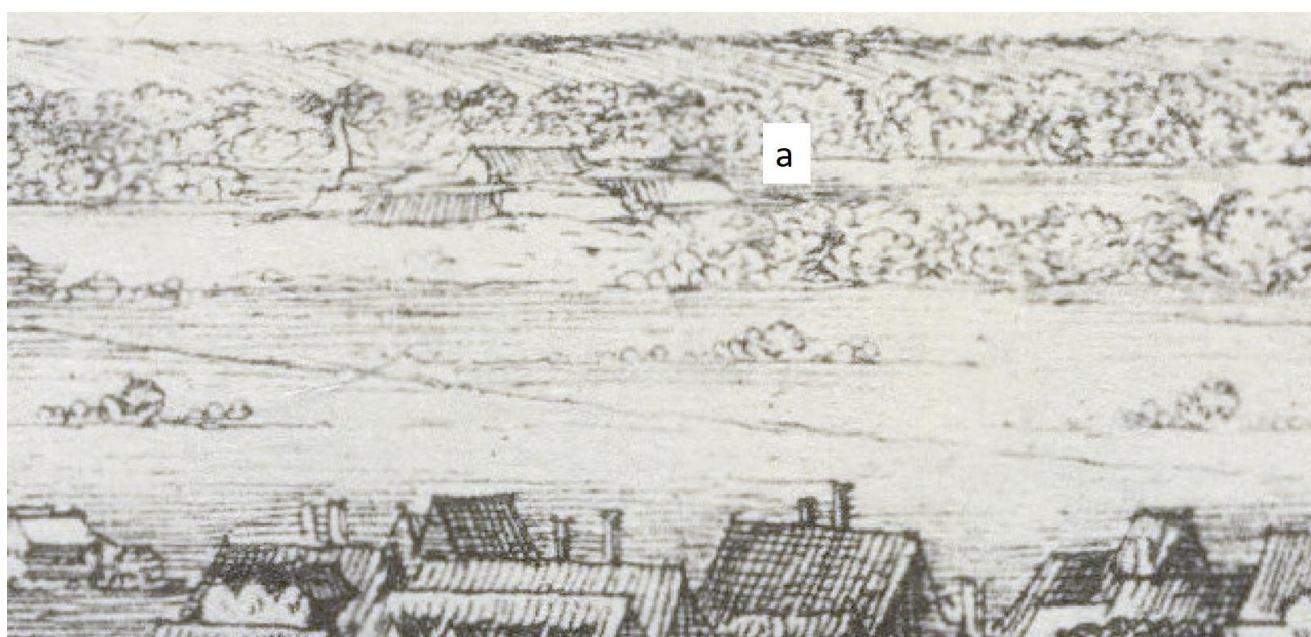

Figure 6: Following the New Model Army's occupation of London during the autumn of 1647, Sir Thomas Fairfax ordered the construction of "three citadels to bridle the city". The location of these citadels has thought to have been lost, but Hollar is now thought to have depicted one of them (marked 'a'), on the site of the Royal London Hospital, in the background of his 1647 *Long View of London from Bankside*. Hollar depicts what looks to be a quadrangle fort with four half-moon bastions.

In 1673, when obtaining planning permission in the area, Christopher Wren noted the presence of "a mud wall called the Fort"[21], and also mapped its location. By the 18th

---

[19] P1014

[20] A. B. Hinds (editor), *Calendar of State Papers Venice*, volume 28, (London: His Majesty's Stationery Office, 1927), p. 23.

[21] Daniel Lysons, *The Environs of London: Volume 3, County of Middlesex*, (London: T Cadell and W Davies, 1795), p. 444, https://www.british-history.ac.uk/london-environs/vol3/pp418-488 (accessed 07/10/2020)

century, the 'Mount', as it became known, was a major local landmark, its size considerably augmented through its use as a rubbish dump by the City. Although cleared during the 19th century, its remnants are still visible as a rise in the road at the junction of New Road and Whitechapel Road and the adjacent Royal London Hospital car park. This is a significant discovery, and sheds new light on the complex relationship between the New Model Army, Parliament and the City.

The 'norm' for Civil War fortifications was a rampart fronted by a ditch. It has long been accepted that London's defences followed this pattern, and this has influenced how Lithgow's eye-witness account has been interpreted. But he is quite precise in his description of what is he is actually walking along: between Wapping and Whitechapel he is walking "along the trench dyke", but north of Whitechapel, he "trenched along the trenches". He later "marched through Finebury fields along the trench", but closer to Islington, he is "footing along the trench dyke"[22]. Lithgow's description suggests an absence of a typical rampart in places: why else would he be walking along a trench? There are a number of other accounts which mention trenches, including "they are putting up trenches and small forts of earthworks"[23], and "for digging of trenches and casting up brest-works from one Fort to another"[24]. So together, the obvious conclusion then is that instead of London's forts entirely being connected by ditch-fronted ramparts, dependent upon the terrain (and the depth of the water table), they were connected by ramparts and ditches in some places, but in others, by trenches, probably fronted by a low parapet.

Lithgow's descriptions are enhanced when read in conjunction with David Papillon's *A practicall abstract of the Arts of Fortification and Assailing, etc*[25]. Papillon was a French-born engineer and his manual provides the technical insight for Lithgow's observations. For instance, Lithgow's double ditches[26] which fronted several forts are explained by Papillon as "these small double ditches, having a bank of earth some two foot broad left between them, turfed and erected about the London Redoubts."[27]. When Lithgow speaks of a "trench dyke", Papillon refers to them being "more like hedge-dikes, then [sic] of works and Fortifications".[28]

One of the key purposes of the project is to identify sites which should be designated as Greater London Archaeological Priority Areas (APA)[29], and it is expected that the research

---

[22] Lithgow in Ross, pp. 81-2
[23] *Calendar of State Papers Venice*, volume 26, p. 192.
[24] *Perfect Diurnall of Some Passages in Parliament, May 1643*, taken from Norman Brett-James, 'The Fortifications of London in 1642/3', *London Topographical Record*, (London, 1928), Vol. 14, p. 11. (3 May 1643 Tract / BJ 275)
[25] David Papillon, *A practicall abstract of the Arts of Fortification and Assailing, etc*, (London: 1645). Papillon was the great critic of the design and construction of London's fortifications. He settled in London sometime after 1588, and although he lived and worked in London, there is no record of him actually having been involved in the design of London's fortifications. During the Civil Wars, he proposed a defensive scheme for Northampton, and fortified Gloucester for Parliament.
[26] Lithgow in Ross, pp. 82, 83, 84.
[27] David Papillon, *A practicall abstract of the Arts of Fortification and Assailing, etc*, (London: 1645), p. 29
[28] Papillon, p. 56.
[29] Archaeological Priority Areas (APAs) are areas where there is significant known archaeological interest or potential for new discoveries. APAs are used to help highlight where development might affect heritage assets. For further information see https://historicengland.org.uk/services-skills/our-planning-services/greater-london-archaeology-advisory-service/greater-london-archaeological-priority-areas/

will form a significant addition to the planning tools used by Historic England's Greater London Archaeological Advisory Service (GLAAS) in assessing planning applications in sensitive areas. So, in conjunction with Historic England, MWP will publish a detailed report of the findings in due course. Some of the research material cannot be reproduced at present but Historic England feels the results are so significant that a precis needs to be in the public domain to assist developers in central London. So, in order to provide a planning tool to developers, planners and archaeologists, an outline of the conclusions has been published in the Winter 2021 issue of *London Archaeologist*[30]. As it is not possible to provide anything more than a summary of these conclusions here, the reader is advised to read this article.

The results of the research undertaken during this pilot study have been dramatic, and challenges, and even upends some of the conventional thinking about London's fortifications. But there is much more to be discovered, and many questions to be answered: What was the nature of Straws Fort/Fort Royal in Islington? What exactly was the arrangement of works in the north-western corner (in the vicinity of what is now Oxford Street)? How was the Thames protected? South of the river, there is even more to be discovered - the fortifications in Bermondsey/Rotherhithe were still under construction during Lithgow's visit, and early in the 18th century Daniel Defoe described what remained of the defences south of the Thames in his *A Tour Through the Whole Island of Great Britain*[31].

MWP's research to date has been outstanding, and it is a privilege for me to be able to assist with the project. As planning for phase 2 (Hoxton to Bloomsbury) gets underway, it is certain the findings of this and the other remaining stages of the project will be equally spectacular, and will significantly increase understanding of London's Civil War defences, providing a vital planning tool for the City's developers and archaeologists. Therefore, whilst applauding Historic England for this initiative, we should all urge them to ensure that this project is seen through to its conclusion.

---

[30] Peter Mills, 'The Civil War defences of East London reviewed: preliminary results', *London Archaeologist*, Volume 16, number 3, (London: Winter 2021), pp. 73-81

[31] Pat Rogers (editor), Daniel Defoe, *A Tour through the Whole Island of Great Britain*, (London: Penguin Books, 1986), pp. 178-9.