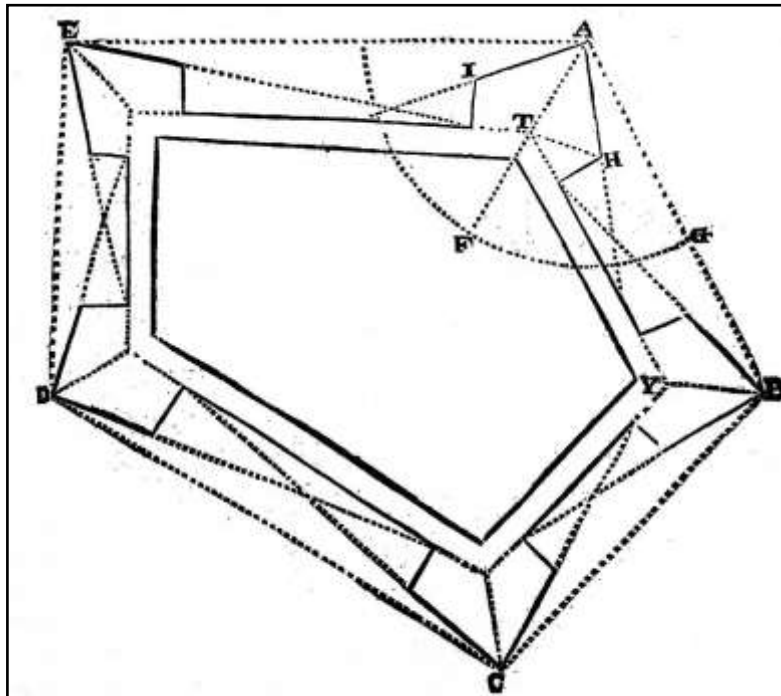


THE ROYAL FORT
AN ARCHAEOLOGICAL STUDY OF ITS SITING WITHIN THE
ENGLISH CIVIL WAR LANDSCAPE OF BRISTOL
(1642-45)



A DISSERTATION
Submitted to the University of Bristol in candidacy for the
Bachelor of Arts (BA) Single Honours Degree in Archaeology
RICHARD ISRAEL
April 2008

Table of Contents

Section	Page
List of Figures	3
List of Plates	4
Abstract	5
1. Introduction	6
2. The English Civil War	10
3. Bristol during the civil war	12
4. Civil war fortifications	18
5. Archaeological evaluation of the Royal Fort	30
6. Conclusion	59
7. References and Bibliography	61
8. Acknowledgements	66

Abbreviations used in text

c. = circa

km = kilometre

m = meter

List of Figures

Figure

Cover	Philip Stainred's 1669 plan of the Royal Fort
Figure 1	Georgius Hoefnagle's 1581 map of Bristol
Figure 2	The Royalist attack routes on Bristol in 1643
Figure 3	The Parliamentarian attack routes on Bristol in 1645
Figure 4	The Oxford defences of de Gomme in the 1936 landscape
Figure 5	A map of Oxford that was signed by Bernard de Gomme in 1644
Figure 6	'The Siege of Oxford' by Jan de Wyck
Figure 7	An earthwork survey of the Queen's Sconce
Figure 8	A Royalist plan of the area of Newark
Figure 9	Jacob Millerd's 1673 plan of the Royal Fort
Figure 10	A plan of the modern Royal Fort gatehouse
Figure 11	Extract of plan, illustrating that the bastion wall may have been part of a summerhouse as noted on Rocque's 1743 map
Figure 12	Extract of plan, illustrating that the bastion wall may have been part of a summerhouse as noted on Rocque's 1743 map
Figure 13	The 2001 fort plan, imposed on the 1785 plan of the Royal Fort
Figure 14	The possible still extant bastion circled in red
Figure 15	An extract of the geophysics results
Figure 16	An extract of the geophysics results
Figure 17	The full geophysical survey
Figure 18	A new location for the Royal Fort
Figure 19	New fort located imposed on Russell's plan
Figure 20	The new location of the Royal Fort in the modern landscape
Figure 21	Philip Stainred's plan of 1669
Figure 22	Seyer's plan of the Royal Fort
Figure 23	Skelton's plan of the Royal Fort
Figure 24	Parker's plan of the Royal Fort
Figure 25	Possible outline of the Royal Fort, following the revetted bastion remains noted by Rocque in his 1742 plan

- Figure 26 One of the most recent plans, noting the possible layout of the Royal Fort
- Figure 27 The geology of the Royal Fort, circled in red
- Figure 28 The topography of Bristol, with the 5 forts highlighted
- Figure 29 View-shed of the Royal Fort from its bastions, also highlighting the other fortifications and key roads in and out of the city, with contours visible
- Figure 30 View-sheds from the other forts and castle at a height of 1.75m

List of Plates

Plate

- Plate 1 The streets of medieval and civil war Bristol
- Plate 2 The 'remaining bastion wall'
- Plate 3 Wall located in 2001 excavation
- Plate 4 The Brandon Hill Bastion
- Plate 5 Below: The Royal Fort 'bastion'

Abstract

The English Civil War (1642-51) was a significant period in British history, as it changed irrevocably the relationship of Parliament and the King or Queen of Britain. While the war is famous for the battles Marston Moor and Naseby, along with the execution of a King, towns and cities throughout the country played a vital and largely overlooked role in the outcome of the war.

This paper is focused on the Royal Fort, one the largest fortifications constructed during this period in the city of Bristol (important largely because of its port) after the Royalists captured the city from the Parliamentarians in 1643. Comparisons to the contemporary fortifications at Oxford and Newark, and other sites in Bristol are examined to determine what elements were used in its original construction.

The exact location of the fort is not known; therefore using such archaeological techniques such as geophysics, cartographic and topographical analysis this work has placed the fort in the landscape of the 1640s. With this new location, Geographical Information System (GIS) and view-shed analysis has highlighted the significant position the fortification held during the 1640s civil war landscape of Bristol.

This work does illustrate how the English Civil War can be studied from an archaeological viewpoint, and why further examination of this period is necessary.

Keywords: English Civil War, Royal Fort, Bristol, Geographical Information System (GIS), landscape, Newark on Trent, Oxford, de Gomme.

1. Introduction

1.1 Historical Background

England had enjoyed relative peace and prosperity since the 15th century and the War of the Roses, with the only real significant threat coming from the Spanish Armada (1588), as well as the Gunpowder Plot of 1605. With James I intellectual view on his role as King (Divine Right of Kings), the start of social unease and tension within the country; it was to be 17 years into the reign of his son, Charles I, when civil war finally erupted in 1642.

The First Civil War lasted 4 years, involving a total 150,000 fighting men throughout the three kingdoms of England, Scotland and Ireland. After the Second Civil War of 1648 with the Parliamentarians under Oliver Cromwell won again, King Charles I was beheaded in 1649. Cromwell became Lord Protector over the Commonwealth, he died in 1658, and 2 years later Parliament invited Charles II to return to the throne. The King returned as Head of State, but needed Parliaments consent, and it having more power is the one constant throughout British lives in the last 300 years, so important that two world wars have been fought to protect this idea and way of life.

A general perception of the English Civil War is that it was fought purely in great open fields. While key battles such as Marston Moor and Naseby were indeed fought on such a canvas, this does a great injustice to the many men who battled and died in towns and cities throughout the three kingdoms.

Hastily constructed earthen defensive using basic tools, such as spades and pickaxes, formed a significant segment of the war. These constructions have been largely ignored by historians in favour of the battlefields, and by some archaeologists in favour of less 'historical' more ancient and prehistoric periods. Cities and towns were incredibly important for the manufacture of goods necessary for offensive and defensive operations.

Bristol was a key city for both the Royalists and Parliamentarians and was a provincial capital containing a population of 15,000. When the Royalists captured it in 1643, for the next two years they redeveloped the earlier fortifications, constructing one of the largest

fortifications in the country, the Royal Fort located next to St. Michael's Hill. There are two important questions that need addressing, firstly 'Where exactly was the Royal Fort?' Although the general location is known, an exact location of the 5 bastions is unknown. The second question involves landscape analysis, asking 'Was the Royal Fort in a suitable location in the landscape of 1640s Bristol?'

1.2 Aims, Objectives and Methodologies

Answering the questions posed in 1.1 will involve utilising techniques such as geophysical survey, cartographic analysis, and archaeological excavation results. In conjunction with this, discussion of what materials and tools were used to construct the fortification will also be examined; this will also involve comparisons to other fortifications constructed during this period.

To determine whether the fort was in a suitable location Geographical Information System (GIS) and view-shed analysis will be conducted. View-shed analysis involves analysis of whether points can be seen from other points and the implications of whether the points are visible or not. The point's position in the landscape is variable depending on the local topography of the area being sited. A suitable location for the fortification would have depended on the view of the other fortifications in the area and the road network leading in and out of the city.

1.3 Dissertation Chaptering

To answer the question(s) posed in 1.2, the chaptering below illustrates the main structure of the research (excluding Chapter 1 – Introduction and Chapter 6 – Conclusion):

a) Chapter 2: The English Civil War

This section will discuss the context of the wider political situations that affected the kingdoms of England, Scotland and Ireland during the 1640s and 1650s.

b) Chapter 3: Bristol in the civil war

This chapter discusses Bristol in the context of the civil war, focusing on its importance to both the Parliamentarians and Royalists, and providing a brief overview of the sieges of 1643 and 1645.

c) Chapter 4: Civil war fortifications

Chapter 4 will discuss contemporary fortifications, built by the engineer Bernard de Gomme, being the defences of Oxford and of Newark on Trent in Nottinghamshire. This chapter will also discuss the previous forts constructed by Parliamentarian forces and the artillery they used to defend their positions with. The final section of this chapter discusses the contemporary Royalist defences constructed at the same time as the Royal Fort, with a brief discussion of their artillery.

d) Chapter 5: Archaeological evaluation of the Royal Fort

This chapter examines the possible surviving remains of the Royal Fort, the most recent excavations conducted at the site, and its original construction material, while with evidence of the later additions to the fort, propose a new location for the 5 bastions. From this new location view-shed analysis determines whether the fortification was in a suitable location within the landscape of the 1640s. The final section of this chapter discusses some comparisons between the Royal Fort and the surviving fortification at Brandon Hill.

1.4 Literature Review

There has been some, but limited publication focusing on the site of the Royal Fort. It has been discussed in various antiquarian works examining Bristol as a whole, such as Barrett (1789); Turnor 1802; Seyer (1823); a large amount of work conducted specifically on the site by the landscaper Repton (1801; 1805a) and later Nicholls and Taylor (1881).

Parker (1929) published the first work focusing purely on the Royal Fort, attempting to locate the five revetted bastions in the modern landscape. More general works followed, such as McGrath (1981); Russell (1995; 2003a); and Lynch (1999) with the last focused work with Leech (2000).

Archaeological work on the site is relatively limited, but work has included unpublished geophysical survey by Leech in 1999 (2000) and excavations by Horton (2001) University of Bristol. Other work has included excavations by King (2003), a watching brief by Longman (2004), desk-based assessments by Townsend (2003; 2007a), with the most recent work conducted in 2008, with a resistance survey by Israel (2008) and further excavations by King (2008a).

2. The English Civil War

The English Civil War (1642-51) is a collective term for three different civil wars that occurred in the kingdoms of England, Scotland, Ireland, and the Principality of Wales during the 1640s and 1650s. The civil wars occurred because of a variety of short-term reasons, such as economic and political problems (Coward 2003, 186) however; in the case of the first (1642-46) the primary cause was religion.

The first civil war occurred during the period of 1642-46. However, to understand why war broke out, it is essential to examine what occurred in the spring of 1640. This year was the first since 1629 that Charles I needed Parliament and he required them because of two reasons - Scotland and religion (Russell 1996, 289). The King wanted Scotland to follow the Church of England and to do this he imposed a new Prayer Book, however to make matters worse this Proclamation came from Whitehall, England rather than via a Scottish Assembly and Parliament (Russell 1996, 290).

Thus the Scots with the co-religionists from England invaded northern England and occupied as far down to Newcastle. This forced Charles to call a Long Parliament in November 1640, and for a while, the Scots Army and key English politicians worked together, until it became clear that the Scottish wanted to impose Scottish Reformation on England. The English were unwilling to give up the Book of Common Prayer, and since the Elizabethan Settlement were unwilling to accept orders from Scotland (Russell 1996, 290).

The Scots left in September 1641, giving 60% of Charles revenue and enough power to Parliament, yet had given Charles a party of equal power, war was inevitable (Russell 1996, 290).

In January 1642, war moved closer, as the King attempted to stage a coup and arrested his opponents in both Houses of Parliament, which failed. Many people tried to stay out of the conflict and peace movements attempted to stop any violence. This war split families, fathers against sons, proprietors versus employers. Along with the English, the Irish started to fight between themselves, with 20,000 English and Scottish soon there

attempting to protect Protestant interests. Then the Scots entered the war themselves hoping to secure the future of the Presbyterian Church and a constitutional union, with Irish Catholics now entering Britain there was total war in the three kingdoms (Morrill 1996, 370 and 373).

A total of 150,000 men fought in England alone, 20 battles involved more than 10,000 men and 40,000 involved 5,000 men, along with another 50,000 fighting in the other kingdoms. The Parliamentarians won the war, winning the battles of Marston Moor 2nd July 1644 and Naseby 14th June 1645. When the summer of 1646 arrived, Charles had no more armies and supplies to raise new ones and he surrendered (Morrill 1996, 373).

Problems in the late 1640s such as failing harvests, debt and trade recession caused many to believe that change had created more problems than before. Therefore, in August 1647 and December 1648 the army went to London, cleansed Parliament and gave its demands to King Charles. However, between these two coups, the Second Civil War occurred. Generals and commanders of losing sides were not killed or court-martialled in the first war – they were in this one. Royalist commanders could be beheaded, shot or tried. Thus, by April 1648, many leaders of the Army labelled the King as a ‘Man of Blood’, and by January 1649, King Charles I was beheaded (Morrill 1996, 374).

The removal of Charles I also saw the destruction of the Stuart Monarchy in England and Ireland, in an attempt to exert control over Ireland, Cromwell secured the Kingdom, with a campaign in Drogheda in September 1649. Scotland crowned King Charles II King of Britain, resulting in war between England and Scotland, with the third civil war ending on the 3rd September 1651, with Cromwell defeating Charles II, and establishing the Commonwealth over the three kingdoms (Kishlansky 1996, 200; Morrill 1996, 376). Charles would return to the throne in 1660 after receiving an offer from Parliament, restoring the Monarchy although one very different to that of his father.

3. Bristol in the civil war

To understand the Royal Fort it is important to understand the city of Bristol and place it in the context of the 1640s, thus this chapter will focus on the importance of the city to Royalist and Parliamentary forces and what occurred during the battles in 1643 and 1645.

3.1: Importance

In the Stuart epoch, Bristol was an extremely important city. Its standing in Kingdom was high and thus it was described as its second city (Turnor 1802, 119). Bristol was a provincial capital with a population of 15,000 (Kishlansky 1996, 14; McGrath 1981, 3).

A wall that marked the city boundary follows the modern line of Temple Ways and Redcliff. The city was surrounded by high ground to the north in Brandon Hill and Kingsdown, and the south in Bedminster and Totterdown (Figure 1) (Plate 1) (Lynch 1999, 9).

Perhaps the main reason as to Bristol's importance lies in its geographical location. Bristol was significant, because it was the last major city from London and the north, while also providing an approach into Wales and the south-west region.

One of the cities vital assets was the port, which traded with France, Ireland, Holland, Denmark, and the Iberian peninsular (Lynch 1999, 127; McGrath 1981, 2). Bristol was also considered a safer destination than places like Weymouth or Scarborough, even though the journey was much longer. For example, on the 25th August 1643 the Royalist General of the Ordnance Lord Percy, ordered van Hecke, captain of a frigate to deliver supplies to Richard Marsh at Bristol. The supplies he delivered were of vital importance to the Royalist war effort, as it contained 6,000 muskets, 2-3,000 hand grenades and many other armaments. Later in the same year, the city received more supplies, this time supplying the King's army with among other items 140 barrels of gunpowder (Lynch 1999, 128).



Figure 1: *Georgius Hoefnagle's 1581 map of Bristol or Brightstowe as it was known then. Note the importance of the Rivers Avon and Frome, also the medieval wall surrounding the southern section of the city (Bristol Record Office)*

The civil war city of Bristol was small. The medieval nucleus surrounded by the Rivers Avon and Frome today includes Fairfax Street, the Centre and Castle Green. Towards the south of the city, at the curve of the River Avon between Redcliff Backs and Temple Meads, were the suburbs of St. Thomas, Temple and Mary Redcliff.

In 1641, King Charles I dispatched troops from England to Ireland in order to suppress a rebellion, and by September 1643, this was achieved. However, the situation now in Britain was much different to those two years earlier. The conflict had spread to Wales, and the harbours at Pembrokeshire, which now played a vital role. The Royalists now needed control of Pembrokeshire and the Irish Sea, and this is where Bristol became indispensable to their cause. This is because when Prince Rupert captured Bristol in 1643

he gained a small navy, which Lord Herbert planned to use to gain control of the Irish Sea and transport back a supply fighting men ready and willing to help win the war for the King (Hutton 1999, 69-70).

Bristol also acted as the assemblage and allocation focal point for supplies, which in turn were sent to other areas (sometimes via the port) in the south-west. For example in 1643, Bristol attempted to transport several demi-culverins to Berkeley Castle. After the Royalists, capture of city in 1643 Hopton announced that the city could supply 200 muskets per week (Lynch 1999, 129).



Plate 1: *The streets of medieval and civil war Bristol would have been small and cramped* (Lynch 1999, 27).

3.2: 1643

The defences started developing in late November 1642, which subsequently came under Parliamentary control and defensive work had continued under Colonel Essex and Colonel Fiennes (McGrath 1981, 19). However, Bristol was a divided city, so much so that the Royalists supporters decided to attempt to help make Bristol a city for the King. The main leaders of this plot were Robert Yeomans, who was the sheriff in 1642-3 and George Boucher who was a merchant (Lynch 1999, 45; Nicholls and Taylor 1881, 302). They established links with the King's army at Oxford. About 100 more Royalist supporters later joined them. However, the plot subsequently failed and Yeomans and Boucher were sentenced to death (Lynch 1999, 45, 47 and 54; Seyer 1823, 302).

With the first siege of Bristol approaching Colonel Fiennes was thought to have 1,500 men on foot and only 300 horses, while Royalist numbers were estimated between 14,000 to 20,000 (McGrath 1981, 20). Figure 2 illustrates the routes that the Royalists attacked from.

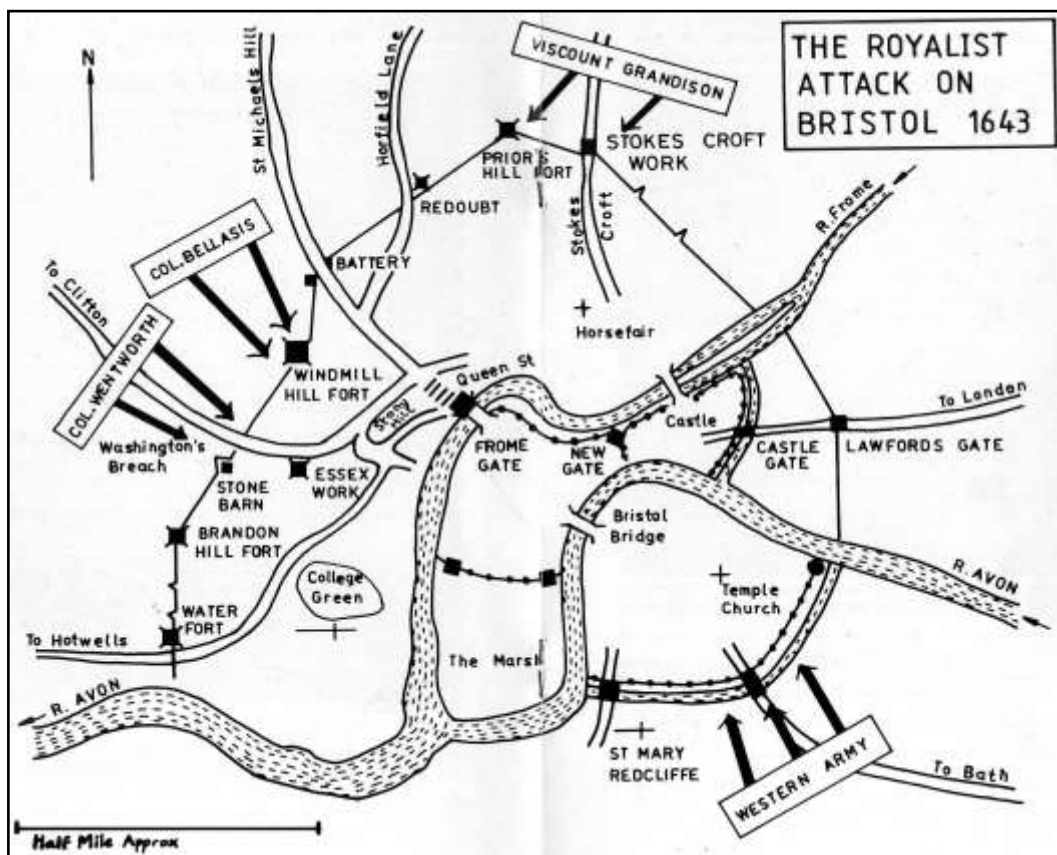


Figure 2: *The Royalist attack routes on Bristol in 1643* (McGrath 1981, 26-7).

A large concentration of forces focused on the fort at Windmill Hill and the ditch and curtain line between that and Brandon Hill Fort, deciding not to attack the fort itself directly, using what is now the main route into Clifton. The Royalist forces also attack at Prior's Hill Fort, and from the road to Bath, at the south of the city.

On the 26th July 1643, Nathaniel Fiennes agreed to surrender the city to Prince Rupert, on agreement on 10 conditions. These included, Fiennes, his officers on horse and foot march out of the city at 9 o'clock the following morning, with their arms and baggage and allowed uninterrupted movement for 3 days. The sick and injured soldiers were allowed supplies so that they could be treated. Perhaps the most important and an important gain for the Royalist forces was that all the artillery and ammunition found in the city now belonged to them (Ross 1887, 169-70).

3.3: 1645

When the New Model Army under the command of Sir Thomas Fairfax attacked Bristol on the 10th September 1645 at 2am, they found that many improvements had not been made to the majority of the outer wall and some forts were unable to resist the army. Hutton and Reeves (1998, 218) have described Bristol as "...a death-trap..." which although it was extremely significant to both sides, it was too expensive to properly secure. The subsequent battle lasted for less than 24 hours before Prince Rupert capitulated (Kishlansky 1996, 168).

Figure 3 demonstrates the Parliamentarians approach when attacking the city. The main focus appears to have been on the weaker works (compared to the Royal Fort), such as Prior's Hill fort and the work at Stokes Croft. While the forces of Pride distracted the attention of the forces at the Royal Fort and Brandon Hill. Other attacks occurred at places with fortifications such as Law ford's Gate and Temple Gate (McGrath 1981, 39).

The terms and conditions the surrender where drawn up on the 10th September 1645, included that Prince Rupert and all of his nobility inside the city and the castle, withdraw from the city, while the injured Royalist troops were allowed to remain in the city until

they had recovered from their injuries. The fortifications were to be abandoned by the Royalist forces, without damaging them, and the city was not to be damaged while the troops withdrew themselves from it (Ross 1887, 170-71).

The attack was swift and decisive with King Charles I distressed that Bristol had capitulated so easily, indeed it perhaps confirmed too many who disliked fortifications of how unnecessary they became in certain situations – the geology and geography of Bristol being a perfect example of difficulty in defending such a complex area.

Despite the main problem being lack of man power, Warburton (1849, 167) notes that one of the reasons given to the loss of the Royal Fort was an inadequate water supply with was not finished by September 1645, although the city was under the full control of the Royalists for over 1 year – indeed illustrating the lack of man power.



Figure 3: *The Parliamentarian attack routes on Bristol in 1645* (McGrath 1981, 39).

4. Civil war fortifications

Towns and cities were extremely important to the war effort, for securing ports, supplies and as centres for manufacturing goods. In this chapter, Oxford, the Royalists new capital and Newark on Trent will be examined, discussing the techniques used to construct fortifications and how they compare to the Royal Fort. Along with this descriptions of the Parliamentary and Royalist fortifications will be examined, with mention of the artillery used to defend the fortifications.

4.1: Oxford

By the time the war broke out in 1642, Oxford was a city of considerable size. A year later, a survey showed that there were 3,200 males aged between 16 and 60, thus estimating that the whole population was in the region of 10,000 people. During this time (like Bristol), the city was divided as who to support. The ordinary townsfolk supported the Parliamentary cause, while the university and its servants favoured the Royalists. In late 1642, however the Royalists became the dominant force in the city with King Charles I deciding to hold his court, mint and government at the city (Young and Emberton 1974, 49 and 50).

The landscape of Oxford made fortifying the city straightforward as it was protected by the rivers Isis and Cherwell, and if necessary, the rivers could be dammed. The only section of the city not to be surrounded by the rivers was the north (Figure 4) (Saunders 2004; 70; Young and Emberton 1974, 57).

The early defences of Oxford consisted of a log barricade at Magdalen Bridge, and rocks that could be dropped on people heads from a height. Improvements to the defences started in September 1642; however, a Venetian ambassador stated that:

“They are trying to set up earthworks as some defence for the city, which is not capable of resisting attack or of standing a long siege” (Harrington 2003a, 43).

Construction was started on a bulwark (wall, embankment or rampart) at St. Giles through to New Parks. A workforce of 16 to 60 people were ordered to attend ‘for the love of His Majesty’, once a week. The working involved long hours starting at 6am with a break between 11am and 1pm, from there working until 6pm with no pay. Problems with the workforce required the King to make everyone at the university help with the preparation of the defences one day a week; if they refused, they were fined 12 pence. This rule applied to all sections of society, with even women and privy councillors not exempt (Hutton and Reeves 1998, 216; Young and Emberton 1974, 57).

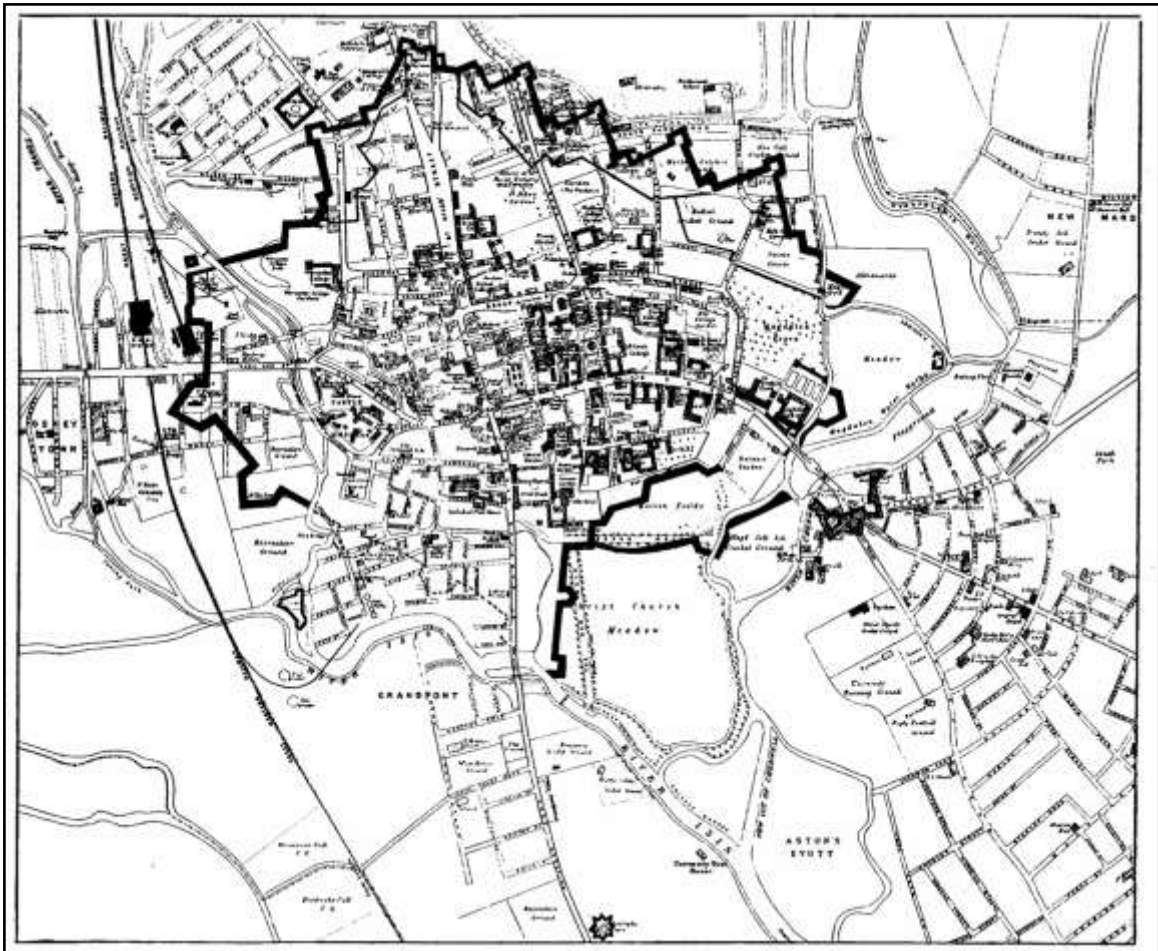


Figure 4: *The Oxford defences of de Gomme in the 1636 landscape, illustrating how much the north needed fortifications as the other sides were protected by the rivers (Lattéy et al. 1936, 165).*

Lattey *et al.* (1936, 161) notes only two plans for the defences constructed between in 1642-46 exist. Figure 5 which was originally dated to the 13th November 1645, although the date was subsequently changed to 1644, possibly due to de Gomme on the verge of gaining a knighthood, the map was also reused to plot the Parliamentary approaches in 1646.

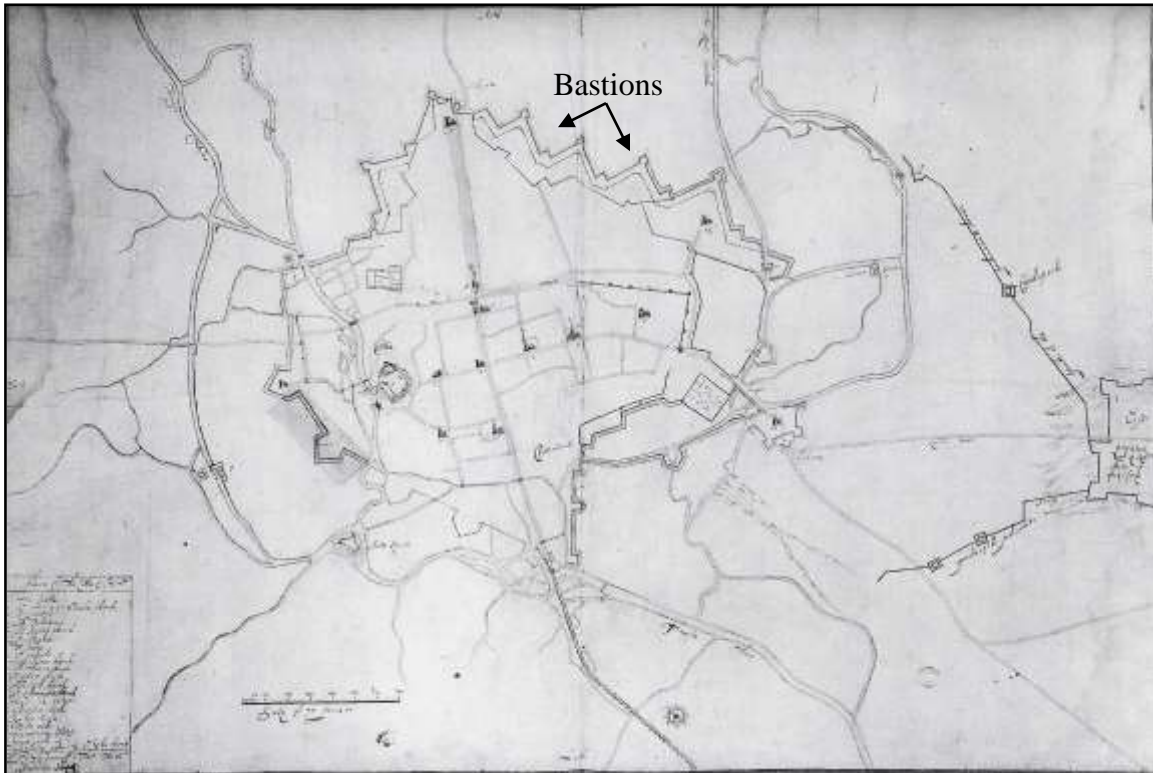


Figure 5: A map of Oxford that was signed by Bernard de Gomme in 1644 (After Saunders 2004, 79).

The focus on the plan is the new fortifications, the castle, the churches and the rivers which are named. From the north-west river, Evenlode to the Cherwell river, at Nappers Mill, which is situated on the east, there was a largely constant tenaille (a series of protruding small bastion heads) possibly connected to the backend of a rampart, which was beyond a series of spurs with a hornwork (a small curtain between two demi-bastions) (Harrington 2003a, 63), which was incorporated with the new enceinte. From Nappers Mill to Magdalen Bridge, a large bastion and smaller demi-bastion was constructed, using the river instead of a curtain for protection on the west side of

Addison's Walk. The works here, lead to the earlier outpost at Dovers Speare. To the east of Magalen's Bridge were a series of two demi-bastions and two bastions, which are small, suggesting that they were constructed before de Gomme's arrival. Ditches were dug to the south and in front of the city wall, with a large curtain, bastion and ditch linking Christ Church with the East Gate bridgehead, with smaller bastions connecting to Grandpont. The Grandpont was connected to west end of the Castle with bastions and ditches. Besides the Dover's Spear outwork, to the south-west a Sconce, a redoubt near the Osney powder mills, and at a village of Hinksey to the south a star fort were respectively constructed. Unfortunately, due to the amount of time it would have taken none the defences were, such as the complex tenaille, were ever completed, and what was constructed never saw action, even with 5,000 troops, and enough ammunition and food to last for 6 months (Saunders 2004, 70-2). The earthworks and tenaille can be seen in Jan de Wyck 1689 picture 'The Siege of Oxford' (Figure 6). It is not surprising however, that the fortifications were unfinished, because just as in 1643 on the 19th August 1645, an order stated that "... 'all strangers, inhabitants, and resident within this University and City' to work for several days on the fortifications..." (Harrington 2003a, 43-4). This does illustrates the apathy of the citizens of Oxford and shows the people of Bristol, were not alone in not wanting to get involved in the war.

It does not matter that the fortifications at Oxford, were never completed, what matters are the materials used - earthen bastions, demi-bastions, sconce and ditches, mostly the very same features that were used at the Royal Fort, thus providing more evidence the earthen fortifications were state of the art defensive and offensive components used during the English Civil War. The alterations that were made however, were impressive, with Waller noting on the 20th July 1644 that he found the defences much more formidable (Saunders 2004, 72).



Figure 6: *'The Siege of Oxford'* by Jan de Wyck (Saunders 2004, viii).

4.2: Newark on Trent

After leaving Shrewsbury, on the 14th March 1644 where he had adapted the fortifications there, de Gomme moved onto Newark. It was extremely important to the Royalists, as it was on a communication line with Royalists forces in the north. A strong army could keep communication with Newcastle, York and Oxford. It also blocked Parliamentary communication with its garrisons at Nottingham, Leicester and Derby, and Lincoln when it was under their control (Royal Commission 1964, 15-6). The town was not involved during the Second Civil War of 1648.

When he arrived, with Prince Rupert, (who only stayed 5 days) Newark was already under its second siege of the war (Saunders 2004, 64; Young and Emberton 1978a, 127). What he discovered was a series of earthwork lines built in 1642 on top of the remains of the medieval wall. John Twentyman noted that they were:

“Most pitiful works they were, very low and thin, and with a dry ditch which most men might easily leap on the east and south.”

(Brown 1879) (as cited in Saunders 2004, 65).

The earthworks were not bastioned and the covers were situated at unsuitable outcrops. However, after Meldrum's siege on the 21st March 1644, the town enceinte (the key defensive position other than the outworks) was re-vamped, using the most modern ideas, with bastioned trace and hornworks (a small curtain between two demi-bastions) (Harrington 2003a, 63) at the front of the entrances into the town. Beyond the line of defensive positions around the town, two great earthworks were constructed. At the north lies the King's Sconce (which remained unfinished by September 1645), and to the south the Queen's Sconce (Saunders 2004, 64-6 and 369).

The Queen's Sconce (Figure 7) is a testament to the importance of earthworks as fortifications during the war. It is a square earthwork feature. At four angles, large bastions protrude from the feature, which are at right angles from the curtain walls. The bastions are also attached to some ditch and bank ramps at the top. The insides measure 36.5m across, which enclosed a T-shaped pit, which could have contained a powder magazine. It also stands 3.6m above the flanking ground. The feature is encased within a significant ditch 21.3m wide and 3.6-4.5m deep (Saunders 2004, 66-7). Storm-poles would have been present on the ramparts and palisades past the ditch. The army would have lived in huts and tents inside the fortification (Hutton and Reeves 1998, 214).

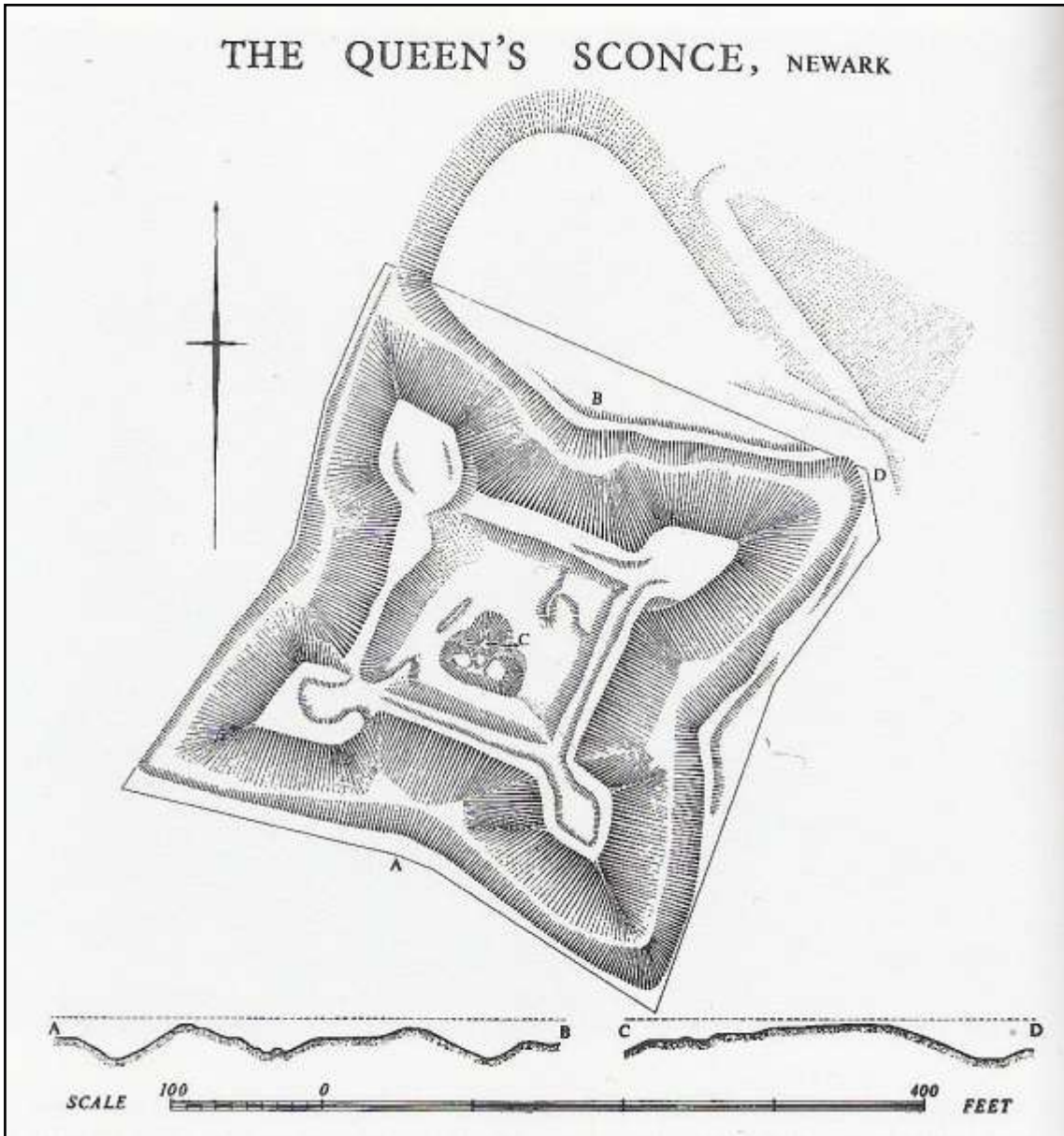


Figure 7: *An earthwork survey of the Queen's Sconce fortification at Newark* (Saunders 2004, 68).

Figure 8 illustrates the position of the sconce in the landscape. It is located in an excellent position as it is perched on an elevated spur of gravel, which gives it an excellent view of the surrounding meadows and north and west of the town itself (Royal Commission 1964, 31).

The key element from examining this fortification and the defences of Newark in general, is its construction using earth, banks and ditches with un-revetted bastions. Standing at a height of 3.6m above ground it is a formidable looking structure, with a great ditch stretching over 20m in length combined with timber palisades and wooden storm poles; these are the key ingredients for constructing fortifications during the first civil war, which were needed on the Royal Fort.

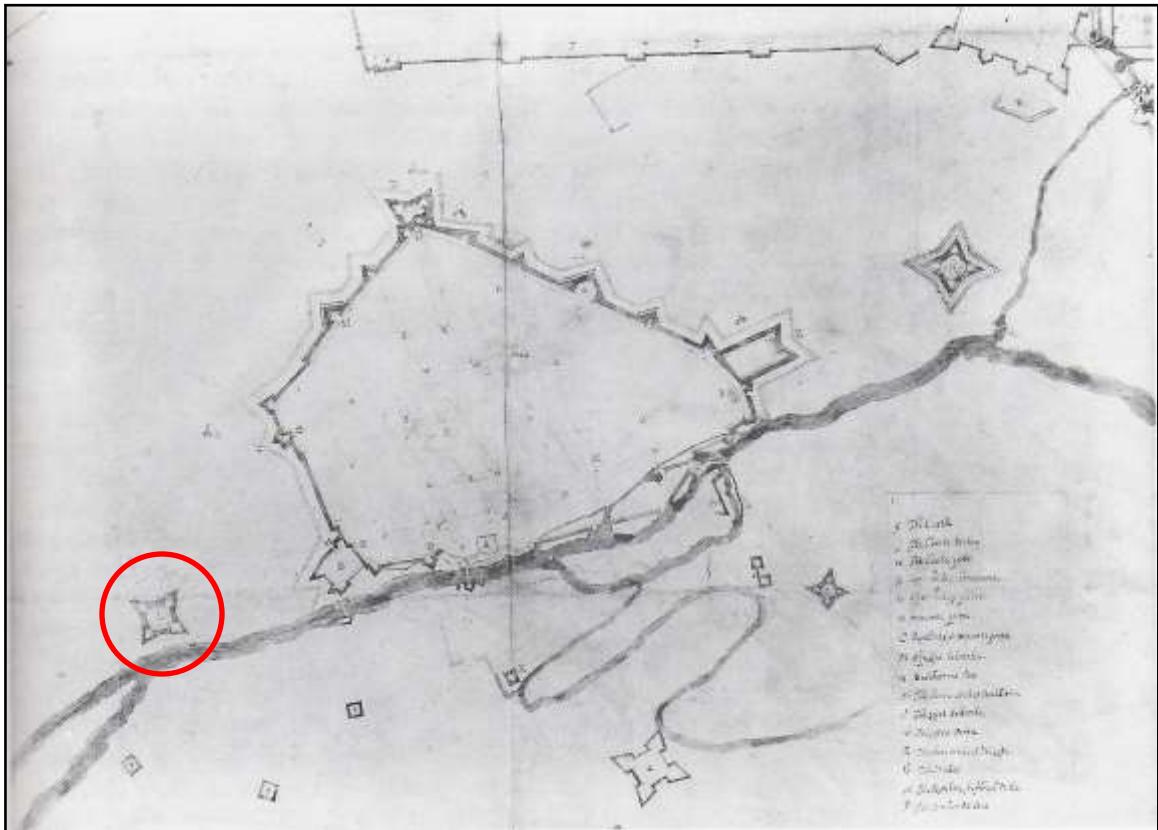


Figure 8: A Royalist plan of the area of Newark, showing the various fortifications present, with the Queen's Sconce circled in red (After Saunders 2004, 67).

Both Oxford and Newark demonstrate the importance, de Gomme felt in needing to incorporate regular bastioned fortifications, which can be clearly seen at the Queen's Sconce and the Royal Fort. Bastions are incorporated at Oxford, but would have probably suffered the same fate of Bristol in both sieges – not enough men to defend the works completely. The bastions if correctly utilised could have provided the controllers with

ability to completely flank the opponents and defend areas intensely if necessary (Saunders 2004, 75).

4.3: Forts in Bristol

4.4: Parliamentary Fortifications

It appears according to de Gomme (eds. Firth and Leslie 1925, 184) that the Water Fort was not important. It was however, in an excellent location in the landscape, flanked to the north by Brandon Hill, its purpose to overlook the River Avon. It would have been earthen construction (Russell 1995, 10 and 13).

Continuing northward, the next fort is Brandon Hill, which de Gomme (eds. Firth and Leslie 1925, 184) describes as being 18 foot square (c. 5.4m) with a rampart the same size, again like the Water Fort it was built of earth. Russell (1995, 10) questions the accuracy of de Gomme's work, but does not provide an alternative measurement, he also states that it may have been a circular fort rather than square – like all the others.

Within only 420 paces of Brandon Hill lies Windmill Hill Fort (de Gomme (eds. Firth and Leslie 1925, 184). Not much is known about this fortification, but Seyer (1823, 304) describes it as a "...small building....".

Further, northward is a redoubt, later known as Colston's Fort, this is described as being 18 foot square (c. 5.4m) by de Gomme (eds. Firth and Leslie 1925, 184).

The final fort, is Priors Hill Fort, described by de Gomme as being 24 paces square (c. 25m square) (eds. Firth and Leslie 1925, 184; Russell 1995, 10).

All of the forts are described as having "...pallisadoed...", but did not have any "...fauxbrayes..." (small walls or mounds in front of the main rampart) (de Gomme, eds. Firth and Leslie 1925, 184). According to Saunders (2004, 14) no bastions were constructed on any of the forts by the Parliamentarians. The curtain containing all the forts and running from river to river is at best six foot (c. 1.8m) high, with just less than 1

metre in width. The main ditch is described as being a minimum of 2 yards width (c. 1.8m), in some cases 3 to 4 yards, the depth is at most 5 feet deep (1.5m) however in most cases it rarely reaches this (de Gomme, eds. Firth and Leslie 1925, 184). De Gomme, also describes the forts as redoubts, which according to Saunders (2004, 370) are “Small enclosed work without bastions, sometimes in the form of a redan, either used as an outwork or placed inside a bastion or revelin”. Which is in contrast to his definition of a fort which is a “Position or building design primarily for defence” (Saunders 2004, 369), meaning that the Parliamentary works are by technical definition a mixture of a redoubt and fort. The ditches surrounding the redoubts are described as being 8 or 9 feet depth (c. 2.4-2.7m) in some places more (de Gomme, eds. Firth and Leslie 1925, 184). De Gomme (eds. Firth and Leslie 1925, 185) describes the entire defences stretching for 5 miles, this is an over estimation on his part, as it is described by others, such as Turnor (1802, 130) as “...four miles in circumference...” and Russell (1995, 10) that it was c. 3.16 miles.

4.5: Parliamentary Artillery

After the capture of Bristol, by the Royalist forces in 1643, a survey of the Ordinance was taken on the 28th July 1643 by Samuel Ffawcett (Roy 1975a, 261). A small section of what was found is listed below (Peachey 1993, 28; Roy 1975, 261-262):

“Upon Brandon Hill Redoubt	3 Minions, 1 Rabonett
Upon Windmill Hill Redoubt	2 Sakers, 1 Minion
Upon the Redoubt one prior hill	3 Sakers, 1 Murderer
Before Prince Rupert’s Lodging	1 Rabonett”.

In the total 98 guns were recovered by the Royalists Inference from list provides some interesting information regarding the Parliamentarians tactics. For example, the Minion guns are small calibre (3.25 inches) and are described as field guns, most suitable for the battlefield, not defending fortifications (Henry 2005, 9 and 16). The Sakers were also small calibre artillery (3.5 inches) with a maximum range of 3750 feet = 1143 meters that is c. 0.7 miles with point blank range of 500 feet (152m) (Henry 2005, 36) suggesting

that the artillery at Windmill Hill was designed for long range attacks, as enemy troops approach the city.

Another interesting piece of information that the list reveals is that Prince Rupert was not stationed at Windmill Hill, rather having his own personal lodging closer to the centre of the Old City, suggesting that the plans for Windmill Hill (the Royal Fort) were not created before the battle of 1643.

4.6: Royalist Fortifications

Some modifications were probably made to the earthwork line and ditch between the Water Fort and Brandon Hill Fort, although with little improvements to the ditch, which was increased to 4-5 feet deep and 6-7 foot wide (Lynch 1999,119).

Russell (1995, 11) believes that Brandon Hill Fort, was enlarged and revetted in stone. The first part is correct; it was modified to 45 yards long, 30 yards wide, containing 6 guns (Lynch 1999, 119; Turnor 1802, 126) by December 1644. He was also correct in stating the Fort was revetted in stone; but incorrect in stating that this work was probably de Gomme's, as only three works can be identified to him (Saunders 2004, 73). While there are a few cases, (Harrington 1987, 47) such as Port Wall in Bristol, of stone in civil war fortifications, the revetting of Brandon Hill probably occurred the same time the revetting of the Royal Fort (1650) occurred – in the Commonwealth (1649-1660).

Section 5.2 discusses the construction details of the Royal Fort in more detail, however, it is known that the site was heavily re-fortified, expanding its artillery compliment from 3 to 22 (Lynch 1999, 119; Turnor 1802, 126). According to Latimer (1900, 203) the Fort contained enough provisions for 150 men which would have been able to last 11 months.

The small redoubt described as being 18 foot square by Bernard de Gomme, was transformed into Colston's Fort, according to Russell (1995, 25). Speculation on whether the redoubt actually became a fortification with Turnor (1802, 126) referring to it as a redoubt. Whether it was or not, is not of vital importance, however what was, is that

Thomas Colston, the leader of the local trained bands, enlarged the redoubt and the compliment of guns was increased from 3 to 7 by November 1644 (Russell 1995, 25).

Prior's Hill Fort was extensive remodelled, with two floors, both containing artillery, however only 13 guns (Lynch 1999, 119).

4.7: Royalist Artillery

The Royalists gained 98 guns, after capturing Bristol from the Parliamentarians, and adding 53 guns by 1645, however no records of what guns the Royalists brought into the city to defend it (Roy 1964; 1975a), an examination of the artillery to determine possible tactics is impossible. A list of the artillery would have proved interesting for Geographical Information System / View-shed Analysis of the potential range and limitations of the artillery in the 1640s landscape.

Despite the lack of opportunity to perform view-shed analysis on the Royalist artillery, and despite the Royal Fort containing 22 guns, it appears it was largely ineffective, as Sprigg (1854, 100) explains, when commenting on the 1645 battle:

“This day the enemy’s cannon played from the great fort and Prior's fort, but hurt none but one dragoon, who had his thigh shot off.”

5. Archaeological evaluation of the Royal Fort

The following section focuses on the possible visible remains of the Royal Fort, also discussing its construction, geographical and topographical nature, with discussion on a possible new location for the fort in the landscape and how affective its position was in the landscape of the 1640s.

5.1: Visible Remains

In 1655-6 the partial demolition of the fort under the orders of Oliver Cromwell, signalled the beginning of the end of the Royal Fort; by 1673 Jacob Millerd's plan (Figure 9) details what further developments occurred on the site, it was "...being now demollished is converted into houses and pleasant gardens" (Saunders 2004, 59).



Figure 9: Jacob Millerd's 1673 plan of the Royal Fort (Saunders 2004, 59).

Due to the quarrying (c.1792) (Russell 1995, 18) and landscaping by Humphrey Repton, who comments in his 1801 *Red Book* that enough of the fort exists so that it “...might be restored to its original character...” what remained of the revetted fort was subsequently destroyed (Russell 1995, 18), apart from it seems, one small section of bastion and the gatehouse. Both are highly contentious issues, as Russell (1995, 22) states the current two storied Quartzitic Sandstone, gatehouse (Figure 10) building with some freestone facing dating to the 18th or 19th centuries. In addition, the lower section constructed of brick with the upper storey being restored after the Second World War, it is debatable if anything of the structure is of civil war date.

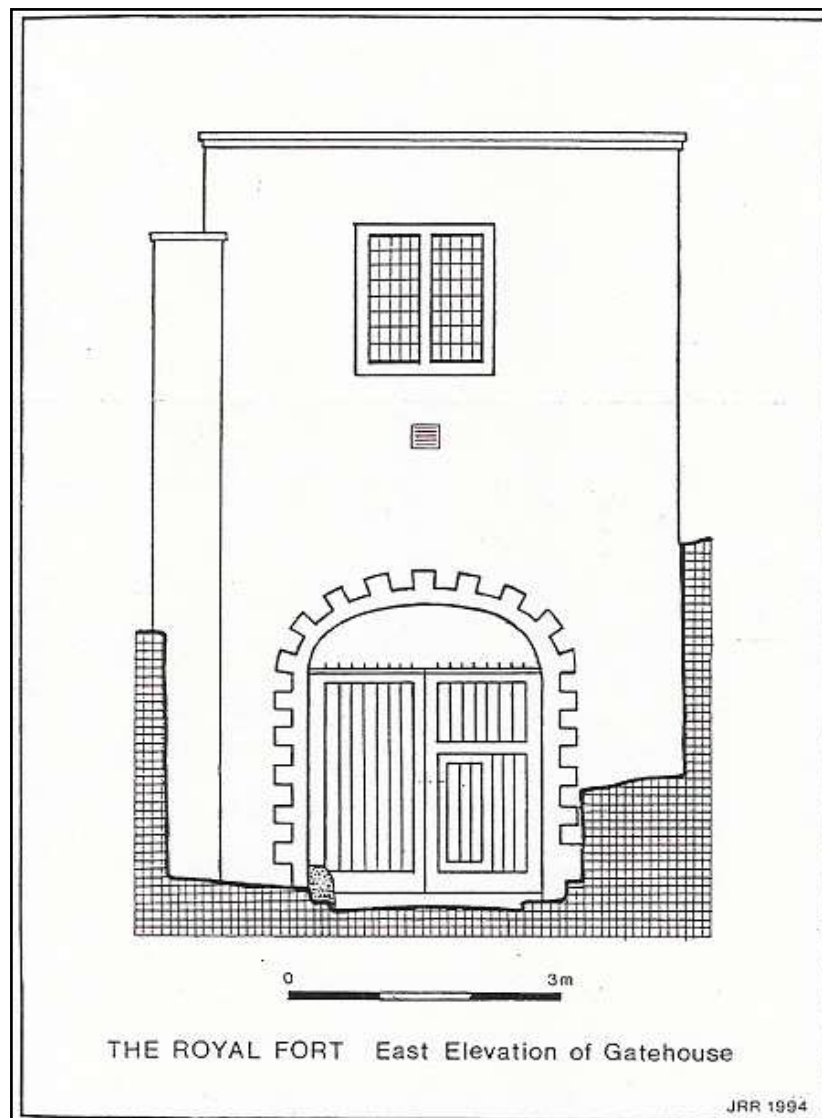


Figure 10: A plan of the modern Royal Fort gatehouse (Russell 1995, 21).

It was however, reported in *Post Medieval Archaeology* (1975, 240) that in:

“AVON: BRISTOL (GLOUCESTER) ST/58337341). The foundations of the gatehouse of the Royal Fort of the Civil War were observed by R. Price and M. W. Ponsford. A series of cellars probably representing the remains of 17th or 18th century houses built after the destruction of the Fort”.

Thus this evidence does suggest that the present gatehouse was constructed over the remains of the original civil war gatehouse that Prince Rupert fled from in 1645. The author has located no further information such as plans and contexts sheets to confirm independently what was actually found.

Price and Jackson (1972, 62) first reported the wall section that is believed to be a surviving fragment of the revetted stone bastion as:

“Royal Fort. ST 58287323. The remains of a bastion of this Civil War fort, built 1643-4, have been located”.

This view has been believed by various historians and archaeologists, such as Russell (1995; 2003a), Townsend (2007a) and Horton (2002) excavation plan. According to Russell (1995, 18):

“The bastion fragment in the gardens to the south of the Royal Fort House, consists of a section of revetting wall 4m long and approximately 90cm thick, with a battered outer face, constructed of blocks of Quartzitic Sandstone bonded with white mortar.”

Plates 2 is of a wall found in the 2001 excavation, and by comparing that to the remaining bastion (Plate 3), it can be suggested that both walls are not related to the Royalist Civil War fortification, but are the remains of a garden wall constructed for Thomas Tyndall which can be seen on the 1785 plan (see Figure 13).



Plate 2:

Right: Wall located in 2001 excavation (Horton 2001).

Plate 3:

Above: The 'remaining bastion wall' (North facing) (Author 2007)



Speculation, is further cased on the remaining bastion wall by Leech (2000) (Figure's 11 and 12) who notes that the wall, is possibly also that of a summerhouse as seen on Jean Rocque's 1742 plan. If it indeed was originally part of the revetted Fort, and was subsequently used and possibly altered to become part of the summerhouse, at what point does it stop being part of the Fort to become the summerhouse? Consider the analogy with the HMS Victory, a ship that survived the Battle of Trafalgar in 1805, and that is supposedly 203 years old. If the wooden decks of the ship and the hull are replaced due to age, is it still the same ship once all of the decks and the hull have been replaced? Answer: No. Therefore, the same principle could apply to the bastion wall, meaning it is no longer part of the civil war fortification.

The differences in colour between the blacken exposed wall, and the one found in the excavation could be due to weathering of the exposed stone; with the excavated stone being covered with earth after the Humphrey Repton's quarrying and / or landscaping in the late 18th and early 19th centuries.

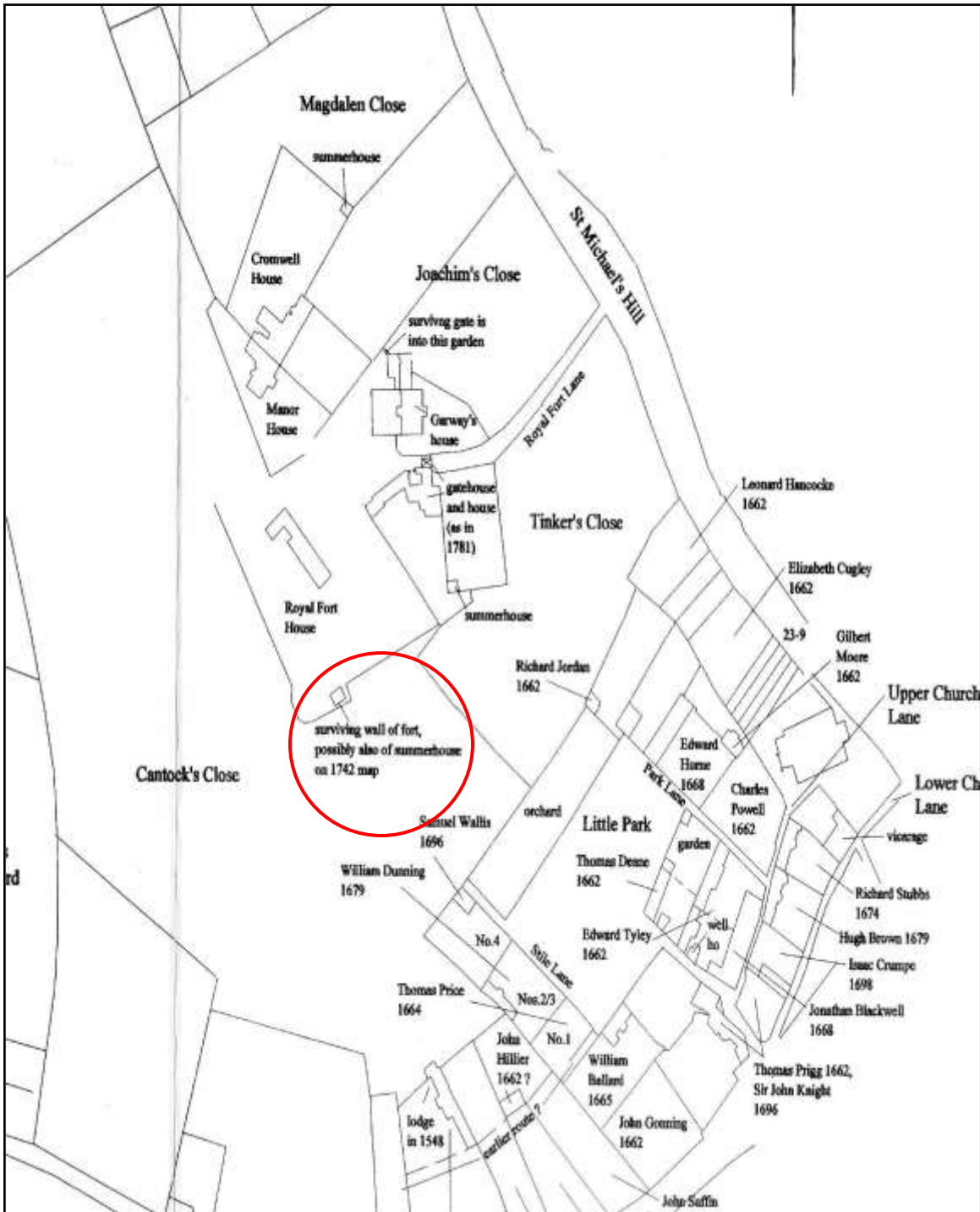


Figure 11: Extract of plan, illustrating that the bastion wall may have been part of a summerhouse as noted on Rocque's 1743 map circled in red (After Leech 2000, figure 12).

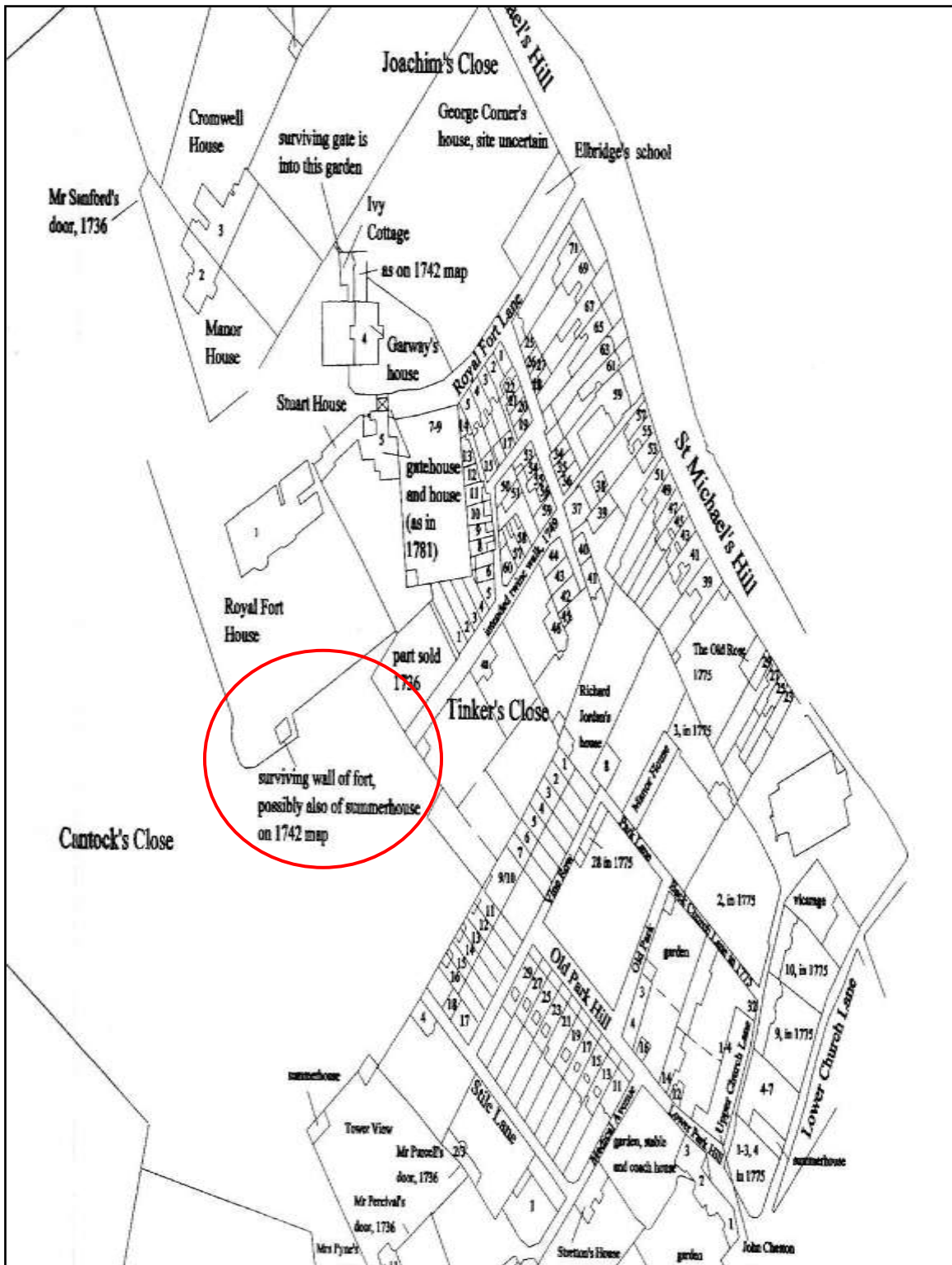


Figure 12: Extract of plan, illustrating that the bastion wall may have been part of a summerhouse as noted on Rocque's 1743 map, circled in red (After Leech 2000, figure 13).

Further evidence to confirm that the wall excavated in 2001, is established when Horton's plan is imposed on the 1785 plan (Figure 13). Andy King (A. King pers. comm. 6th March 2008) proposed the idea of the 2001 wall being part of the 1785 wall.

This theory does not mean to imply that the current wall was not once the location of the fortification revetted bastion wall simply that the current wall is not the remains of the civil war structure. It is possible, although unable to prove without excavation, that the current wall was constructed directly on top of the foundations of the bastion wall.

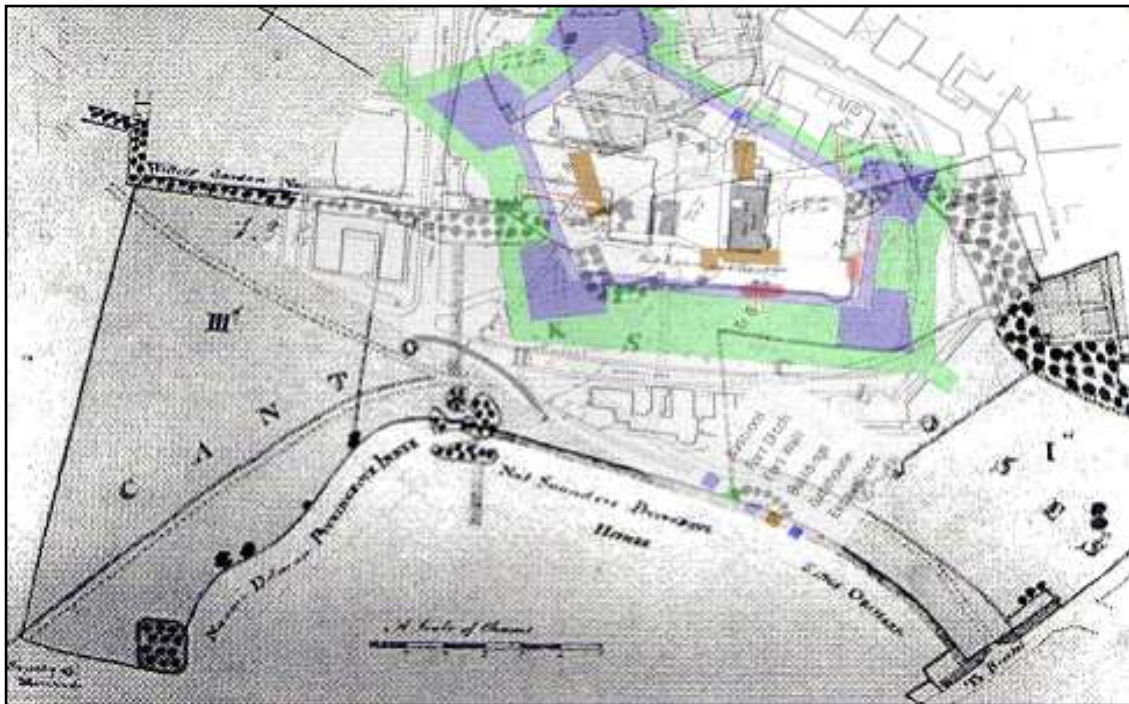


Figure 13: *The 2001 fort plan, imposed on the 1785 plan of the Royal Fort* (After Bettey 1997, 10 and Horton 2001).

5.2: Construction

Previous paragraphs in this chapter have continually referred to the Royal Fort as having revetted stone walls. However, when construction was started in 1643, and when the second siege of Bristol occurred in 1645 the Fort was built of earthen ramparts, probably with timber / earthen bastions and palisades, surrounded by a ditch. It is likely based on evidence from Newark on Trent (Harrington 2003a, 22-3) that internal buildings for ammunition storage were constructed of timber. Russell (1995, 18) and Leech (1999, 18)

both comment that the Fort was revetted in stone after siege of 1645. Thus, making any evidence of a stone fortification dating to the Parliamentary fort, not the Royalist Royal Fort. It should also be noted that if the Royal Fort were constructed from 1643 in stone, it would have been the only one in the country, being different to the major defences of London, Oxford and Newark. However, there is evidence of stone used during the civil war; an example in Bristol is the redoubt near the Portwall (Harrington 2003, 32). Thus, Bettey (1997, 6) writing that the site of Windmill Hill "...was reinforced with massive stone defences 10-12 feet in height together with a moat..." after the Royalists victory in 1643 must be erroneous until at least 1650. It is likely that the original gatehouse was of timber construction, with R. Price and M. W. Ponsford finding the foundations of the later stone gatehouse foundations, although without further information this cannot be confirmed.

Parker (1929, 131) must be mistaken when he refers to "...new walls...". He was however, probably correct when noting that new ramparts were constructed at a height of 10-12 feet, contained inside a moat and inside barracks, and storage centres for magazines were assembled.

The economic situation of Bristol, would have also made being in stone difficult. The refortification and staffing of Bristol after the siege of 1643 set the Royalists back £2000 pounds per week. The original force to defend Bristol was 4,280 men however; by the time of the Parliamentary attack in 1645, only around 1,000 men remained (Hutton and Reeves 1998, 218). Indeed, a shortage of workers required Lord Hopton in 1644 to issue this statement, that "threescore labourers out of your hundred next Thursday by 7 o'clock in the morning, with good and serviceable spades and pickaxes" (Harrington 2003a, 44) to work on the Fort. Bernard de Gomme noted many defects in 1645:

"The ditch of the Great Fort on the right hand gate beyond the face of the Bulwark was not four feet deep and eighteen feet broad, so that horses did go up and down into it. The highest work in the fort was not twelve feet high, the curtain but ten. Within 100 foot of the fort was a deep hollow way where the enemy might lodge

what numbers he pleased and might be in the graff the first night and in that part the fort was minable” (Rupert 1645) (as cited in Lynch 1999, 121).

Further evidence to support a theory of earthen walls and ramparts comes from Henry (2005, 40-1) who remarks that cannon would have made short work of even the most steadfast stone defences; by aiming at the inverted T section on the base of the wall, thus hoping that the wall would collapse on itself once the base weakens, earthen fortifications would largely absorb the cannon balls, minimising any damage.

The addition of stone to the Fort comes after the remit of this dissertation; however, money for repair was available in 1648 and 1650. A Parliamentary Survey that was conducted in 1649 noted the construction of bull works in the locus of the fort (Anon. 1649). While in 1650, according to William Barrett (1789, 691) the fortification was revetted in stone, as he states, “The walls about the Royal fort made by order of Parliament, who gave 1000l. towards it”. Samuel Seyer (1823, 303) also confirms the addition, stating that “...in 1650 during Cromwell’s Protectorate, walls were made about it by order of Parliament, who gave £1000 towards the work.” According to Parker (1929, 133) further work occurred on the fort in 1651, exactly what is unknown.

5.3: Geophysical Survey

An RM15 resistance survey was conducted by Israel (2008), its main purpose to locate any remains of the Royalist fortification. Given the landscaping and quarrying conducted by Humphrey Repton in the late 18th and early 19th centuries, Samuel Seyer’s comments, and Jacob Millerd’s map of 1673, the possibility for success was limited. Indeed, trying to find the original earthen fort of 1643-45 would be extremely difficult, although finding the foundations of the revetted later fortification could perhaps be an easier task.

Figure 14 illustrates where evidence of a revetted bastion relating to the fortification, part of which was probably located in the survey (Figure 15), with possible evidence of an internal ditch / cut, made due to the problematic economic and man-power situation. Another area of high resistance in Figure 16, with the possibility of it being the remains

of the fort wall is now believed to be the remains of the 1785 garden wall, although this was originally believed to be part of the fortification based on Horton's plan (Israel 2008, 6) (see Figure 13).

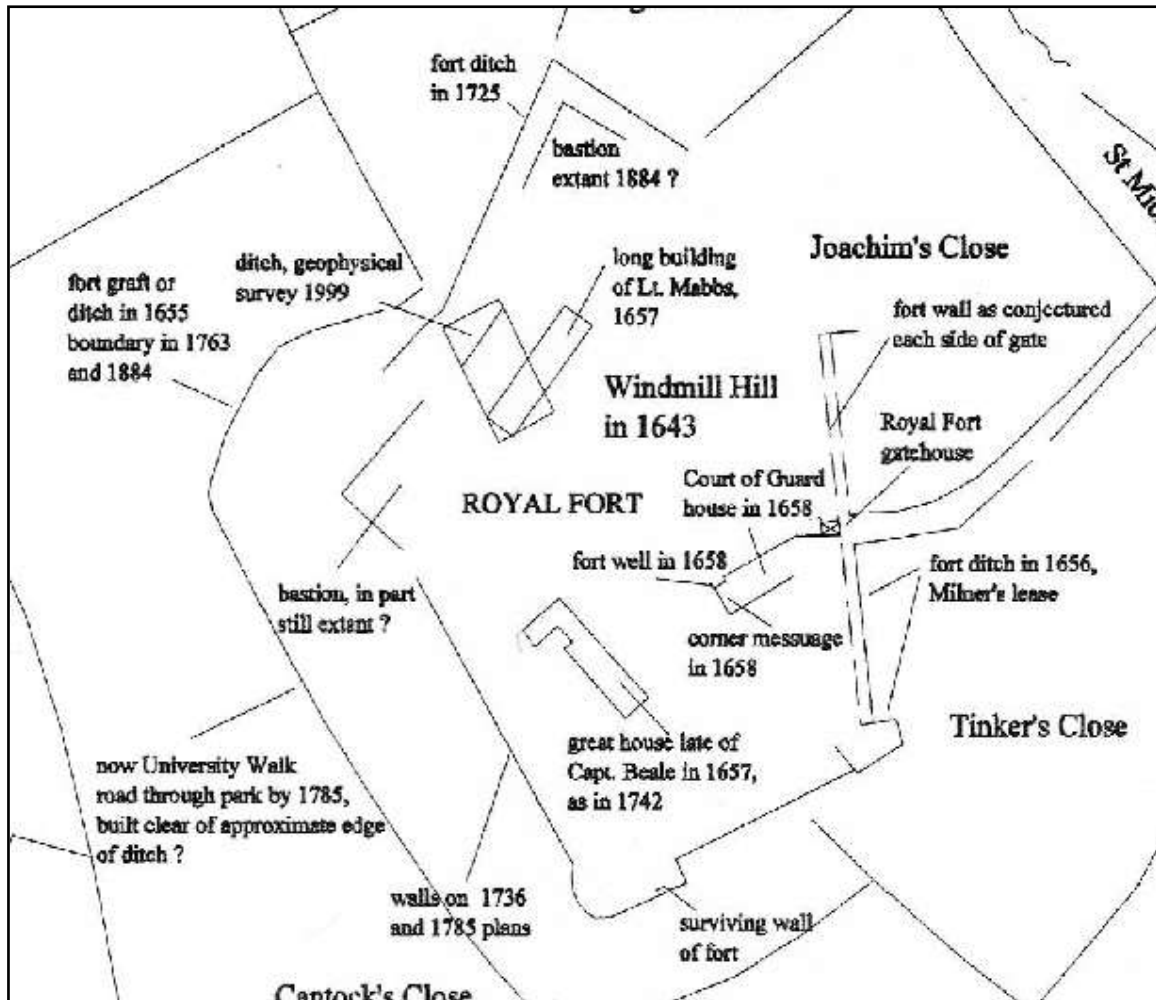


Figure 14: The possible still extant bastion circled in red (After Leech 2000, figure 10).

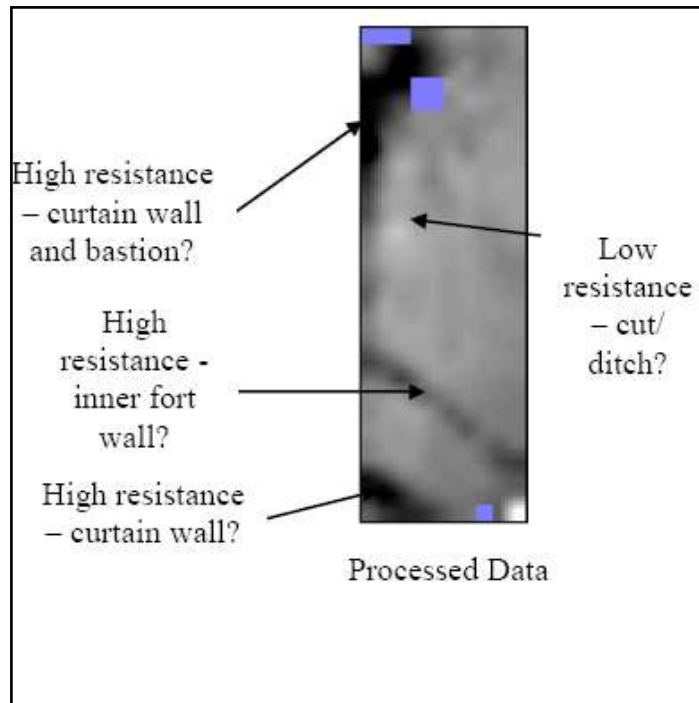


Figure 15: An extract of the geophysics results (Israel 2008, 13).

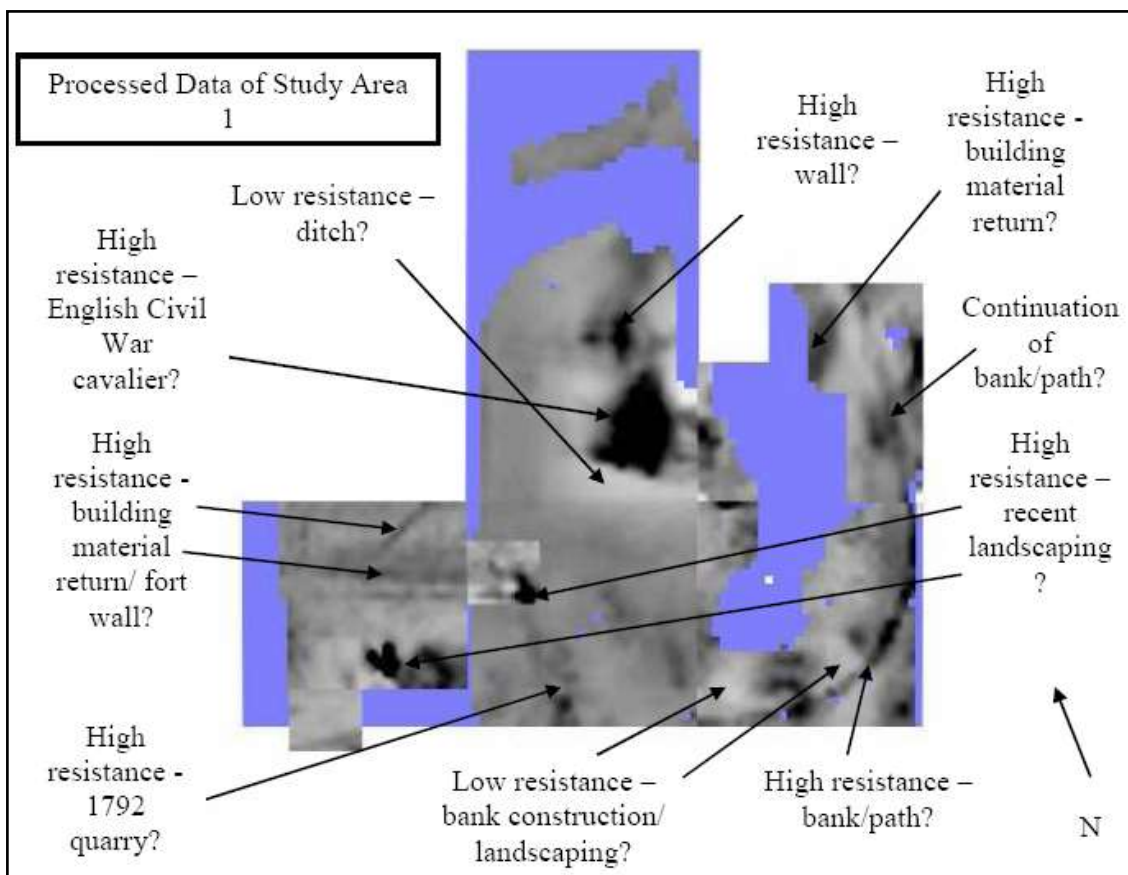


Figure 16: An extract of the geophysics results (Israel 2008, 13).

Thus, based on this geophysical and map regression evidence it is possible to largely confirm the inner edge of one of the Royal Fort bastion. However, only a full excavation will provide definitive answers.

The survey was possibly able to confirm later additions to the site, such as the aforementioned 1785 wall, Repton's quarry of c.1792, and other alterations, such as paths and landscaping conducted by the University of Bristol. Figure 17 shows the survey's full results.



Figure 17: *The full geophysical survey* (Israel 2008, 26).

5.4: New Royal Fort Location

Figure 18 illustrates a possible new location for the Royal Fort, (highlighted in red) which is based on a large variety of evidence. The first piece of evidence comes from the geophysical survey conducted by Israel (2008) noting the possible location of the north-west bastion, combined with evidence from Leech (2000, figure 10) and his work, suggesting that the bastion is still extant (Figure 14). This is combined with the evidence of Price and Jackson (1972, 62) who say they located evidence for the original gatehouse. Other evidence comes from Parker (1929, 131) who notes evidence of a gateway were located in the excavation for the Physics Department building, but does not give a precise location. More evidence comes from the work of Humphrey Repton, who notes that part of the western bastion was located while excavating a quarry in c. 1792, the plan of this fort does also include the possible piece of revetted stone wall (Leech 2000, figures 12 and 13; Russell 1995, 18) and possible evidence of a ditch located by Leech in 1999 (2000, figure 10) (see Figure 14) in unpublished geophysical surveys. The final piece of evidence comes from the most recent excavation conducted by King (2008a). These excavations revealed possible evidence of the Royal Fort ditch, although Figure 18 proposes that this is part of the ditch for a bastion, however it is impossible to confirm without further excavation. Thus, it should be noted that it is still conjectural and requires further archaeological evidence to confirm its location.

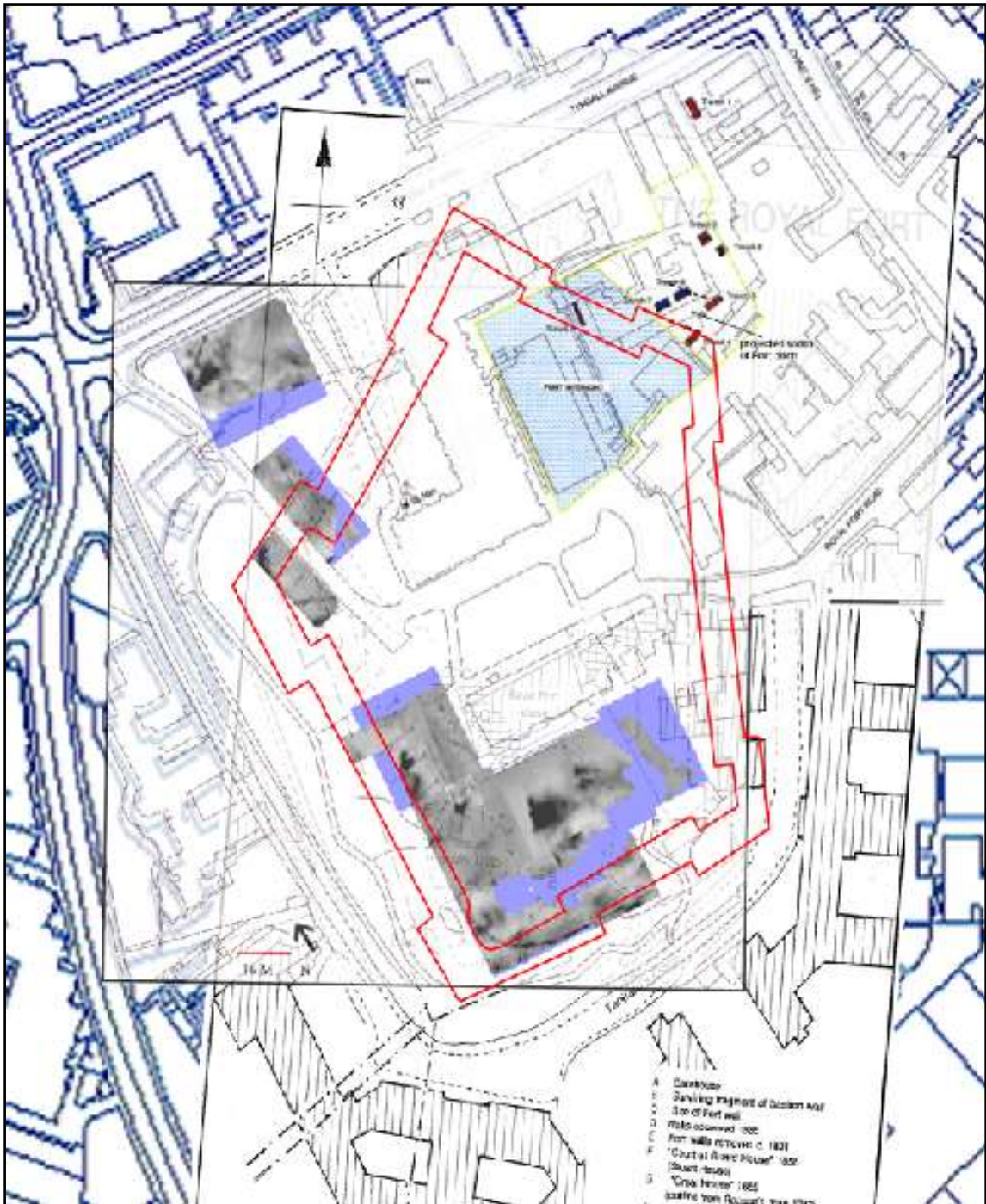


Figure 18: A new location for the Royal Fort (After Israel 2008, 26; King 2008a; Russell 2003a, 20).

Figure 19 illustrates the new location of the Royal Fort, imposed over Russell's (2003a) plan of the fortification, with the new plan proposing that the fortification is slightly smaller than previously thought.

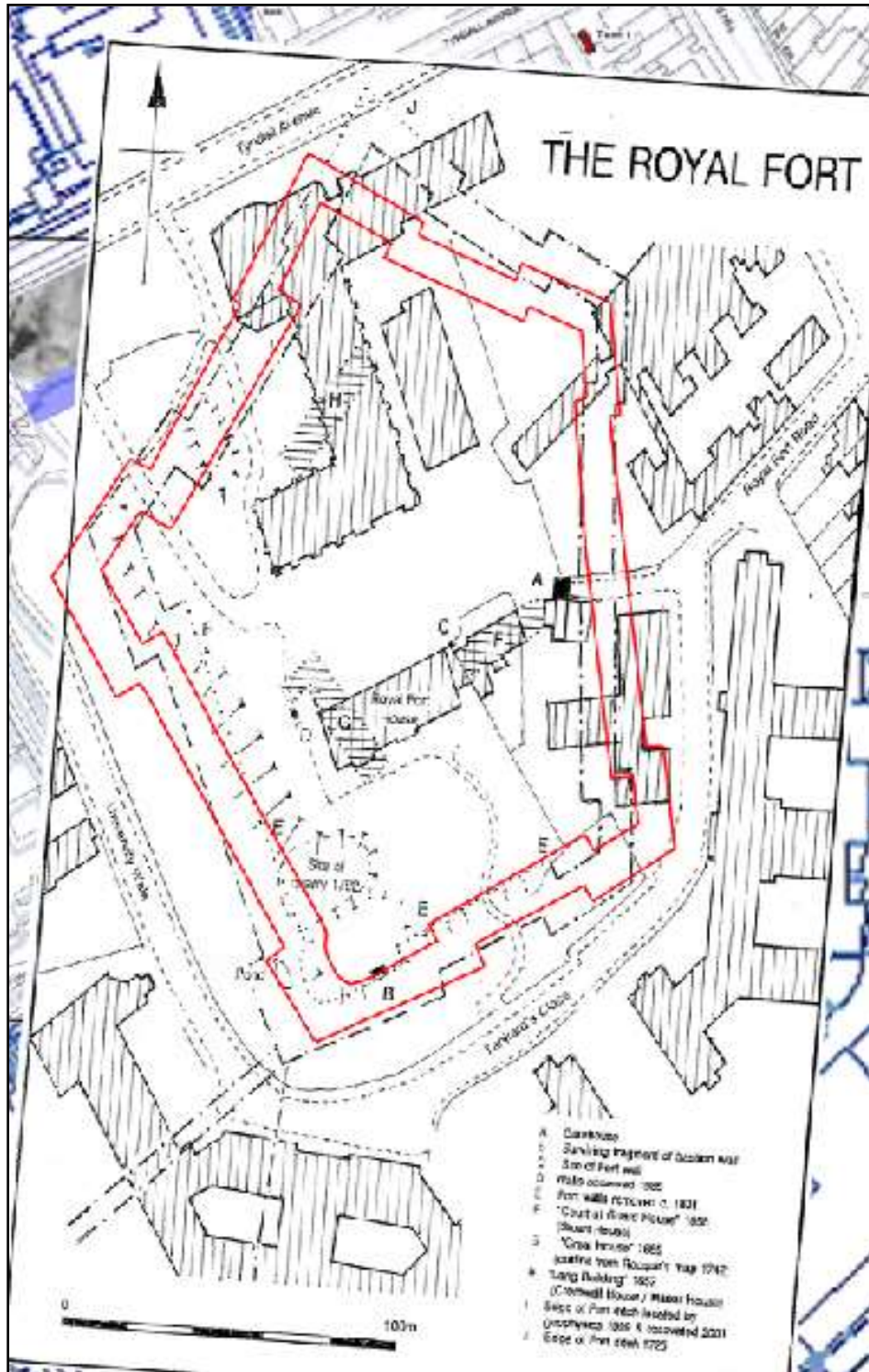


Figure 19: New fort located imposed on Russell's plan (After Russell 2003, 20).

Figure 20 demonstrates the fort's new location in the current landscape of Bristol.



Figure 20: *The new location of the Royal Fort in the modern landscape*

5.5: Cartographic / Topographical Analysis

No plans or maps exist of the Royal Fort, from the period of 1643-45, neither from the later additions made to the fortification, such as the revetting in stone during 1650. The first plan comes from Philip Stainred, who taught Mathematics at the University of Bristol, it is dated to 1669 (Figure 21) (Leech 2000, 19-20). The plan describes the fort as

“...an irregular Fort, containing 5 bastions...” and has no north arrow or compass bearing (Leech 2000, 20); interestingly Harrington (2003a, 25) doubts whether any civil war fortifications would have been constructed to such a precise framework. It can also be suggested that the precision comes from Stainred’s mathematical abilities; it is also doubtful whether the fort itself was built following similar guidelines, if so however, it may explain why the fortification was not constructed in time for the second siege of Bristol in 1645.

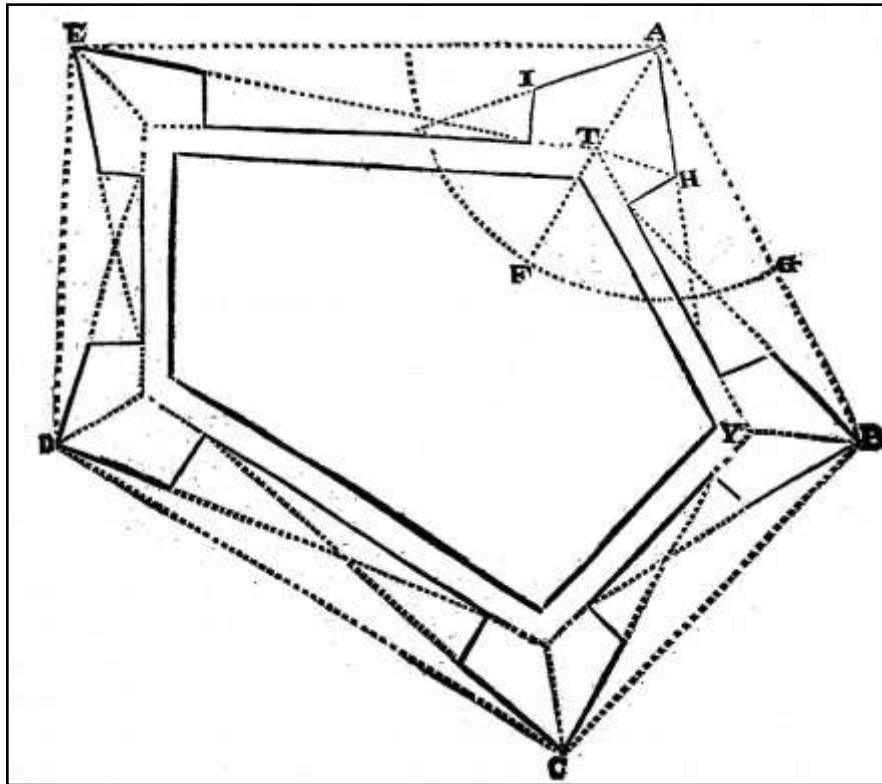


Figure 21: *Philip Stainred's plan of 1669* (Leech 2000, 20).

The next plan of the Royal Fort was produced in 1673 (see Figure 9), by Jacob Millerd, 2 years after his 1671 plan of Bristol. The Fort plan explains its location in the landscape, on the north side of Bristol, and that it was constructed by Prince Rupert in 1644. This plan also illustrates the later stone phase of construction on the site, like Stainred’s plan no compass bearing or scale is shown.

Samuel Seyer produced a plan of the fort in 1823 (Figure 22). Like Stained's and Millerd's before it shows the fortification with 5 bastions, however there is a small attempt to place it in the landscape, as St. Michael's Hill, Fort Lane, and a path (presumably part of Humphrey Repton's landscaping) are all shown. The Fort is at a disproportionate size to the surrounding roads and paths; further to this, no scale is present.

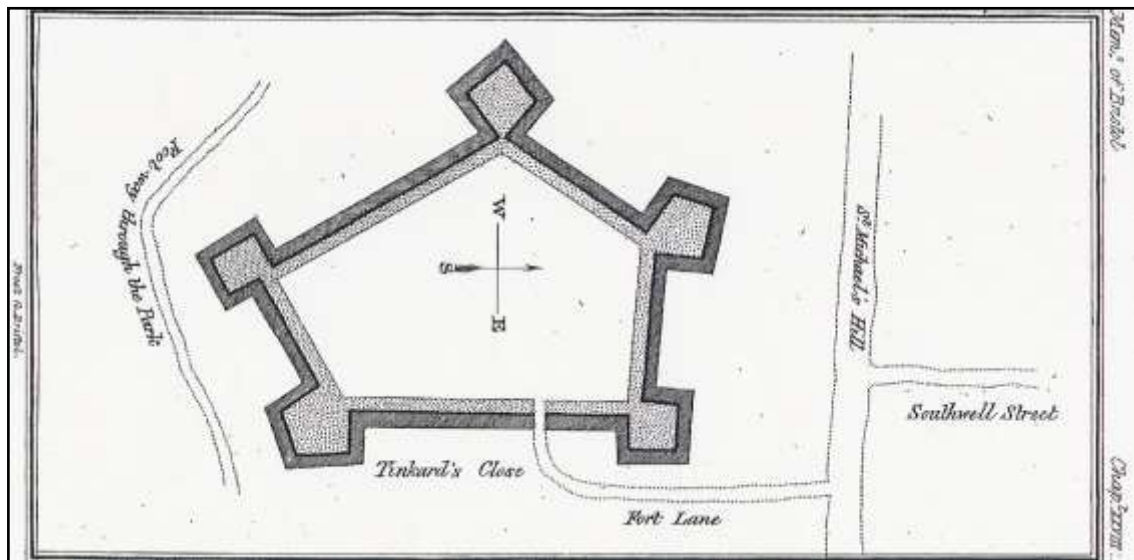


Figure 22: Seyer's plan of the Royal Fort (Bristol Reference Library).

2 years later, Skelton produced his own plan of the fortification (Figure 23). Like Seyer's plan of 1823, it highlights the road of St. Michael's Hill as a prominent feature in the landscape, perhaps also one reason to why the Windmill Hill Fort and the Royal Fort, were position in that location. The plan also illustrates part of the internal arrangement of the Fort with the circular structure most likely the remains of the well, with the other structures possibly being magazines and store houses (Lynch 1999, 120). A compass bearing is given, however no scale on the plan.

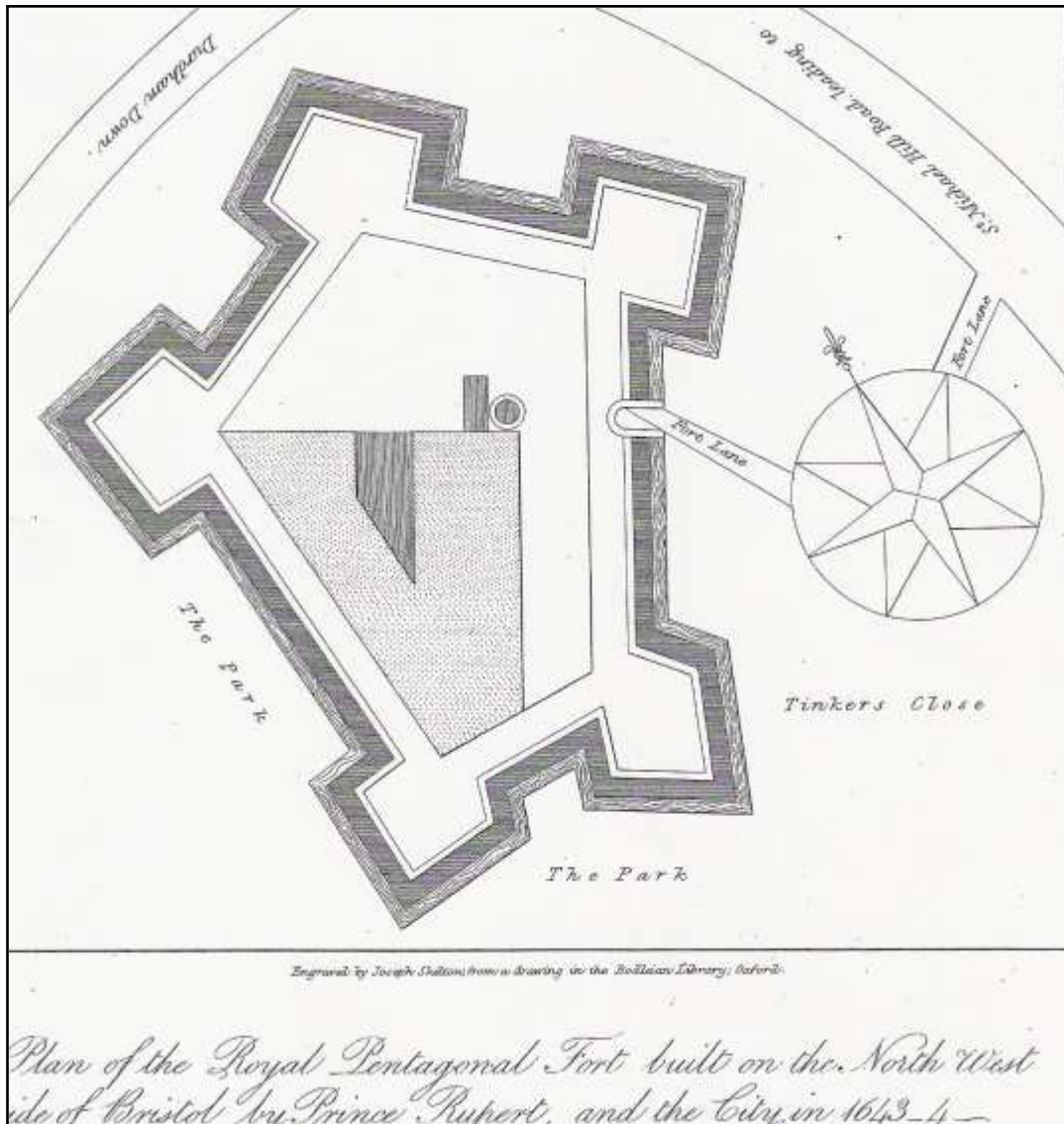


Figure 23: Skelton's plan of the Royal Fort (Bristol Reference Library).

Other plans, have been produced such as Parker (1929) (Figure 24), Russell (1995, 2003a) (see Figure 19); King (2003) (Figure 25) and Townsend (2007a) (Figure 26). With Russell (1995, 2003a) and Townsend (2007a) all using the possible section of the south-west bastion and the Royal Fort gatehouse as reference points; while King (2003) uses Jean Rocque's plan of 1742, showing three remaining revetted bastions.

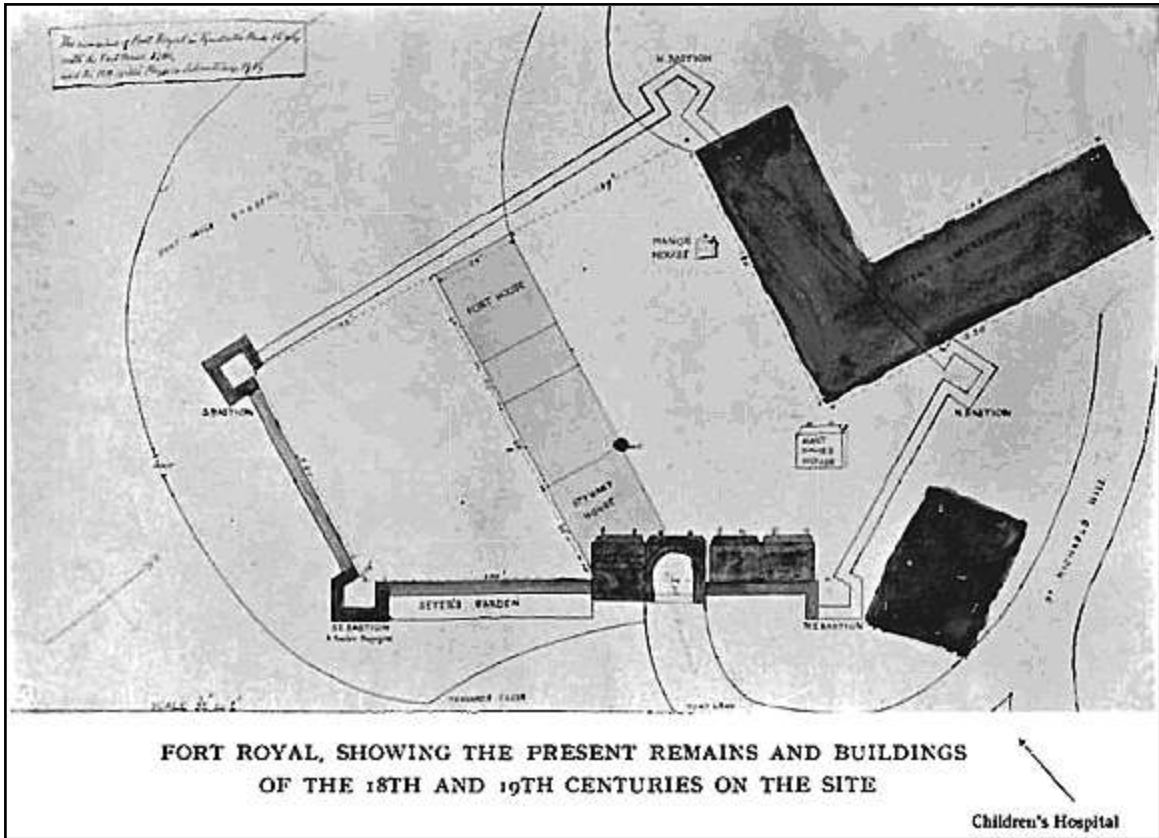


Figure 24: Parker's plan of the Royal Fort (Parker 1929, plate 3).

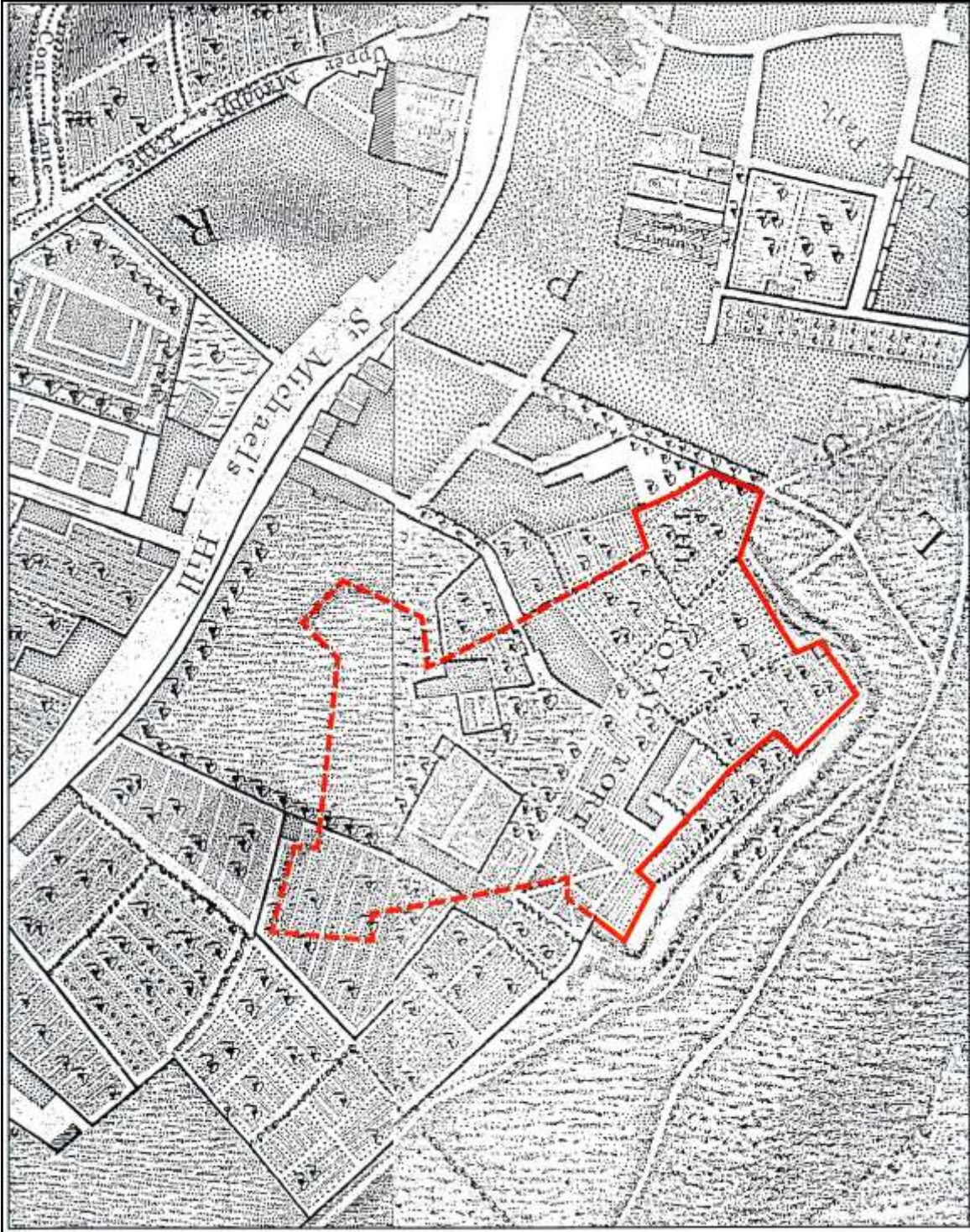


Figure 25: Possible outline of the Royal Fort, following the revetted bastion remains noted by Rocque in his 1742 plan (King 2003).

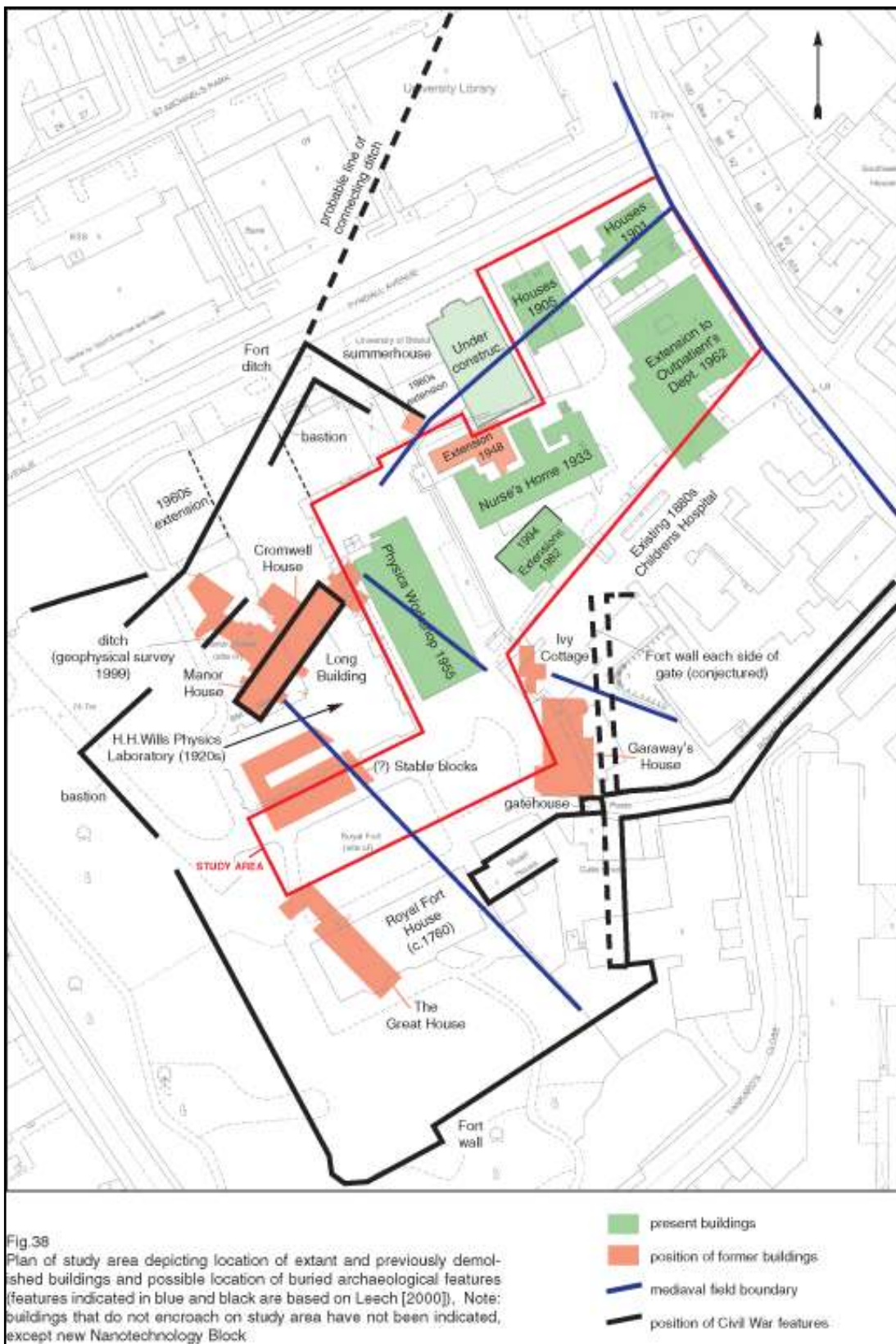


Figure 26: One of the most recent plans, noting the possible layout of the Royal Fort, the Fort being slightly larger than the location proposed in Figures 18- 20 (Townsend 2007a).

The geology nature of the Royal Fort is “...predominantly Quartzitic Sandstone Formation with grey mudstones, seatearths and thin carbonaceous or coaly beds, with a soil over burden of varying depths” and is c.78.16m a.O.D (Figure 27) (Israel 2008, 6).

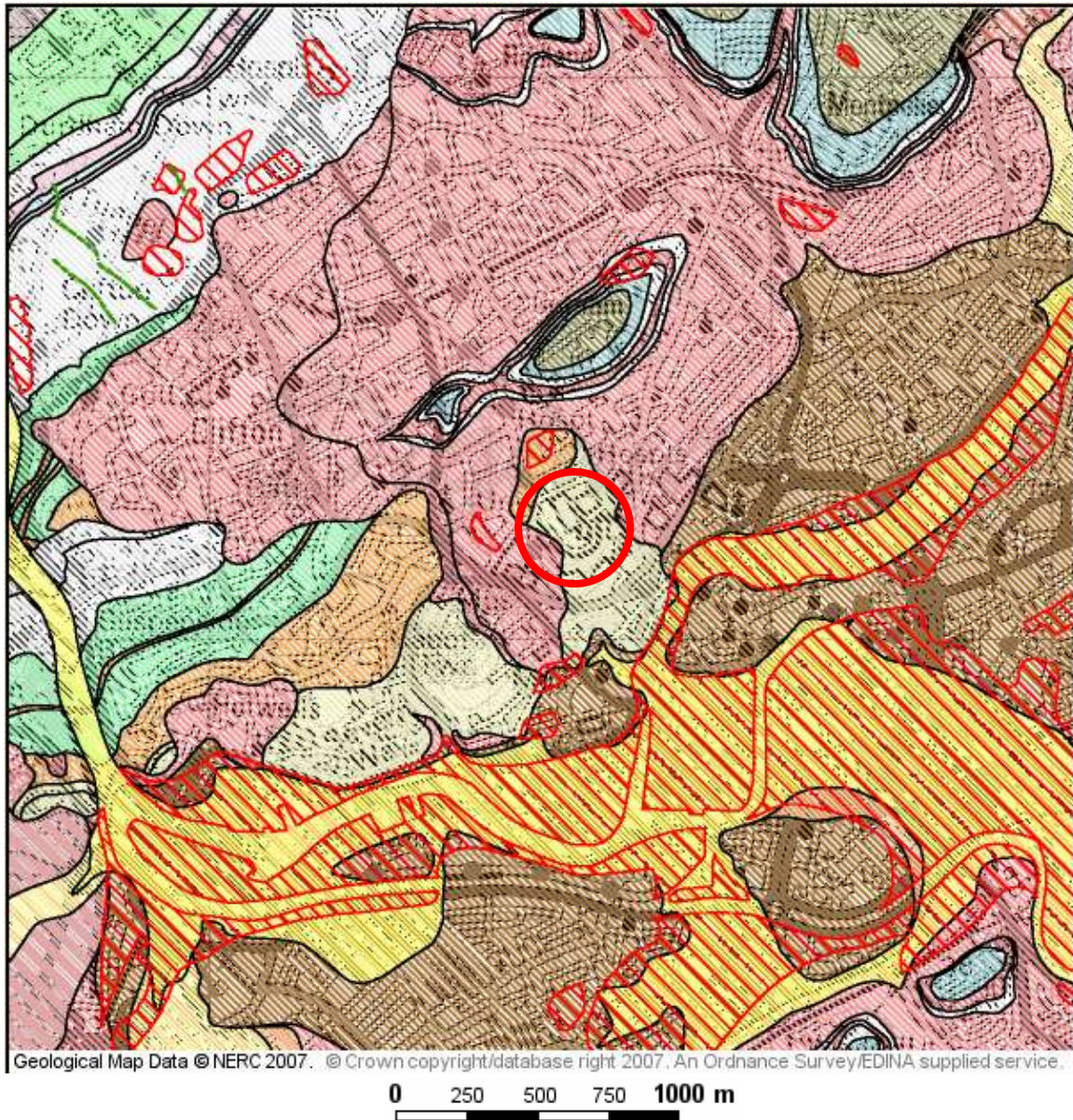


Figure 27: *The geology of the Royal Fort, circled in red (Israel 2008, 5).*

The topography of the area is varied. The Royal Fort would have sat upon a hill, situated on a small plateau, overlooking the city of Bristol. As demonstrated by Figure 28 a

gradual sloping hill to the south, south-east and south-west. In between the hills to the south-west and south-east would have been key routes into Bristol with the road to St. Michael's Hill and modern day Clifton.



Figure 28: *The topography of Bristol, with the 5 forts highlighted. 1=Water Fort 2=Brandon Hill 3=Royal Fort 4=Colston's Fort 5=Prior's Hill Fort (After Memory Map).*

5.6: Geographical Information System / View-shed Analysis

Based on the new location of the Fort, and evidence from de Gomme, view-shed analysis was performed from the 5 bastions at the same time from a height of 4.79m. This calculation was made because 10 feet = 3.04m + 1.75m (average human height). The view-shed visible areas are illustrated in yellow (Figure 29). Figure 29 illustrates that Brandon Hill Fort, the Redoubt / Colston's Fort / Redoubt and Bristol Castle are all visible from its position, but Prior's Hill Fort and the Water Fort could not have been seen. This means that the headquarters at the Royal Fort could not see exactly what was happening at each of the fortifications all the time, therefore people would be required to

report from Colston's Fort / Redoubt and Brandon Hill Fort on the status of Prior's Hill Fort and the Water Fort respectively. The Royal Fort would have seen most sections of Stokes Croft road, the roads to, Clifton, and St. Michael's Hill and Horfield Lane and significant sections of the road to London and Bath. The road to Hotwells is not visible until Brandon Hill Fort and the Water Fort have been passed.

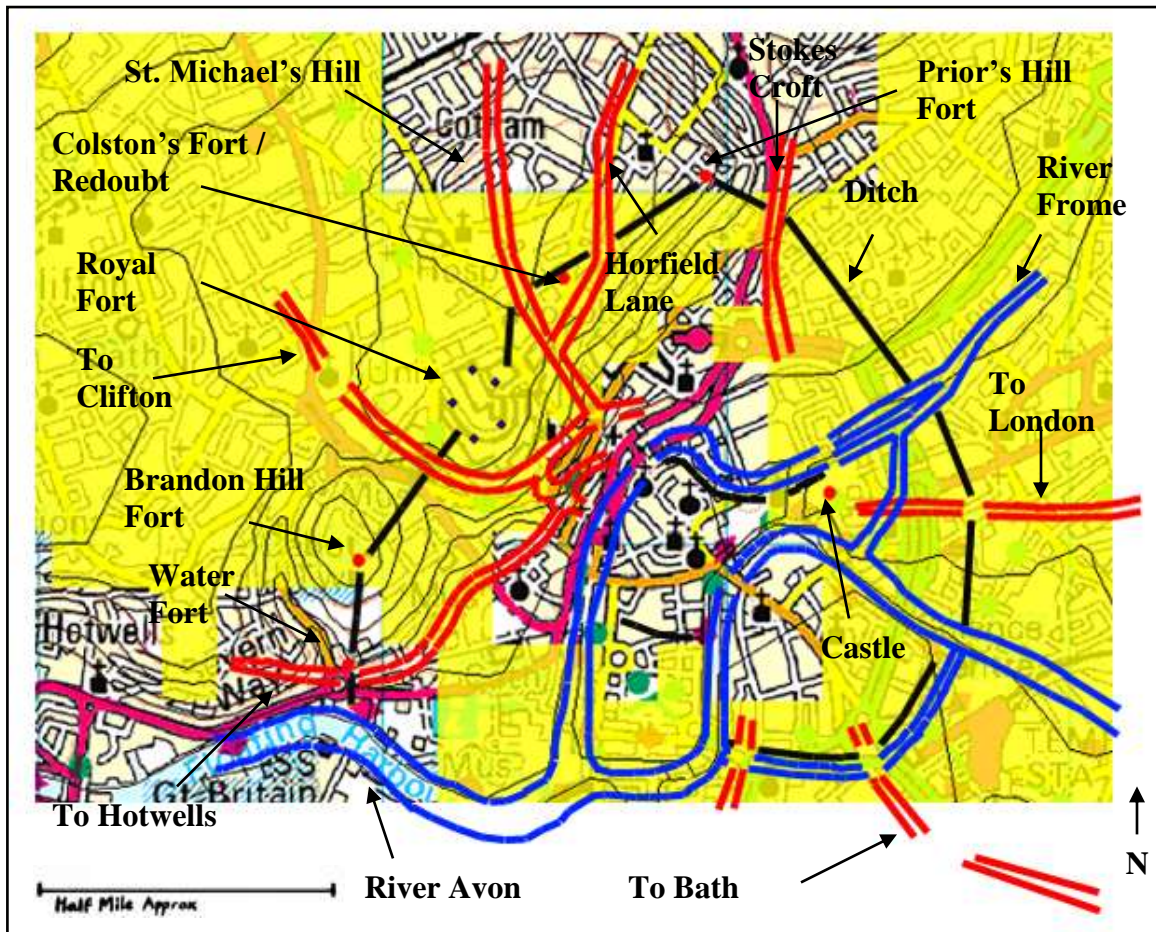


Figure 29: View-shed of the Royal Fort from its bastions, also highlighting the other fortifications and key roads in and out of the city, with contours visible (After McGrath 1981, 26-7).

Certain sections of Civil War Bristol would not have been visible to people at the Royal Fort, because of the geography of Bristol itself. The areas of the Old City including Wine Street, St. John's Gate and Marsh Street, are not visible because they are at a level of c. 10m a.O.D, while the Royal Fort is c. 78m a.O.D, meaning this landscape is too low to be seen.

The Royal Fort does appear to have occupied a significant locus in the landscape, while not all fortifications are visible, most of road networks leading in and out of city were. If the fortification were to be moved to the north, it would have been too close to the redoubt / Colston's Fort, while still providing the same visibility as from its actual location, also suggesting that the fort is situated on a small plateau. Moving the fort in a southerly direction would have lowered its position geographically, thus meaning less visibility of the roads St. Michael's Hill and Horfield Lane. Indeed any change in location would have required a considerable shift in the main ditch and curtain surrounding the north section of the city, which would have been impractical. However, the new location of the Royal Fort bastions would have required a slight alternation of the ditch from Clifton Road to the south-west bastion, which could have occurred if the economic / manpower situation was of sufficient quantities to cope, as it was not even the fort itself could be completed.

The Royal Fort was Prince Rupert and Lord Hopton's headquarters while the Royalists controlled Bristol. This choice can be explained by examining its geographical location, compared to other fortifications. By examining Figure 29, it clearly shows that the Water Fort is too far west and that it would have been pre-occupied with observing the activities on the River Avon. Brandon Hill did represent one possibility due to its height above sea level; however, it is at a disadvantage because it was not positioned next to any major roads leading in and out of the city for supplies for example. This leaves Windmill Hill and Prior's Hill Fort; Colston's is not counted as a fort because it was almost certainly a Redoubt / battery. While Prior's Hill Fort is close to Stokes Croft road and Horfield Lane it does not represent an ideal location for the Royalist commander to station himself because it would have been the first fort enemy troops would encounter when reaching Bristol from Gloucester to the north. Thus given its position and relative security (flanked by the battery at Colston and Brandon Hill Fort) it appears that the site of Windmill Hill was the logical choice at set-up HQ and the Royal Fort.

Comparing the above view-shed with one from the other fortifications and the castle at a height of 1.75m (this is because not enough information exists on the heights of the other

fortifications, except Brandon Hill under Parliaments control, which de Gomme states had 6 foot high ramparts), even from the average human height, all apart from a small section of Bristol can be seen, thus indicating that fortifications of some height combined with the view from the castle, meant that all of Bristol was overlooked by the forts during the 1640s (Figure 30).

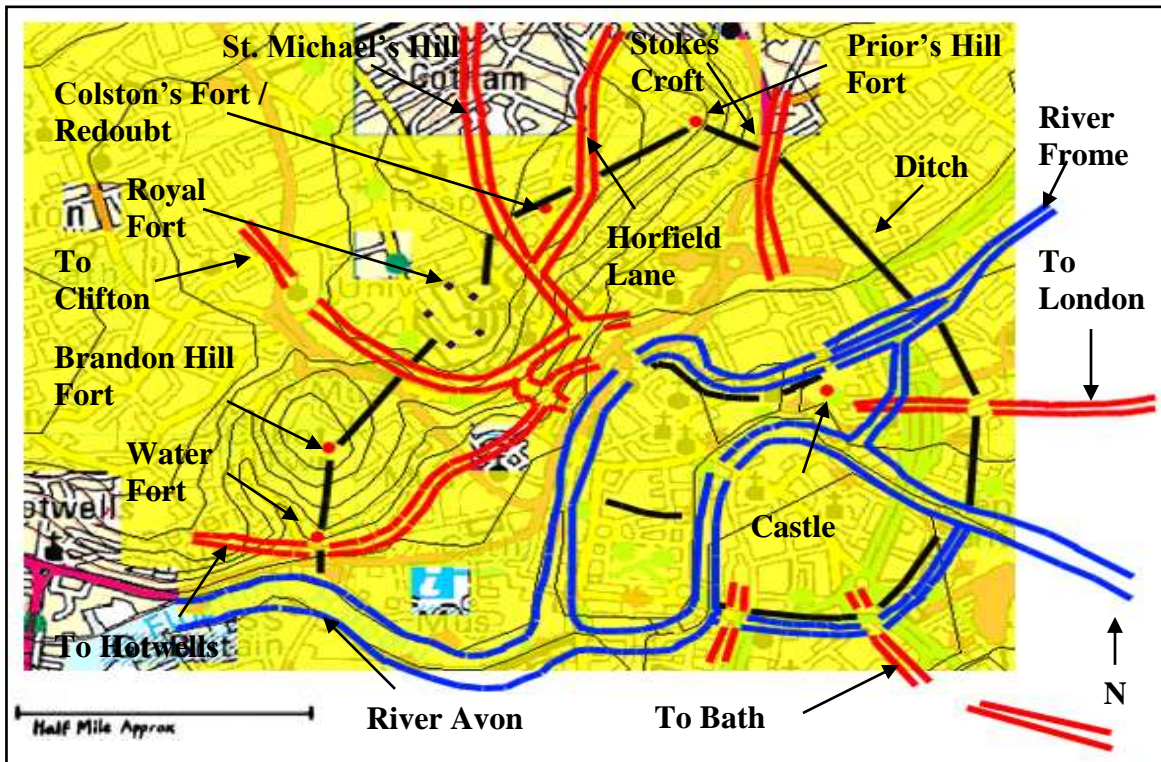


Figure 30: *View-sheds from the other forts and castle at a height of 1.75m* (After McGrath 1981, 26-7).

5.7: Comparisons to Brandon Hill Fort

As Russell (1995, 18) comments, the bastion fragment in the Royal Fort has a “...battered outer face...” this probably refers to the blackened state of the wall. However, this is in contrast to the state of the ‘cleaner’ revetted bastion remains of Brandon Hill Fort (Plates 4 and 5).



Plate 4: Above: The Brandon Hill Bastion (Author 2007).

Plate 5: Below: The Royal Fort ‘bastion’ (Author 2007).



Although Russell (1995, 13) notes that the bastion was constructed of the same material (Quartzitic Sandstone) as the wall visible at the Royal Fort, and that it has been the subject of repointing and refacing in the middle of the 19th century; the condition of the blackened Royal Fort wall suggests the possibility that it was built for a different purpose, such as a garden wall. Indeed, the evidence of Samuel Seyer (1823, 304) supports the view that nothing of the fort exists above ground, when he noted that “...although I dwelt in the gate-house for 20 years : so completely is it demolished, and the memory of it passed away”.

Because Brandon Hill is a bastion, de Gomme the Royalist engineer would have probably been extremely proud that a key ingredient of Dutch engineering, and something that he used at Oxford, Newark and the Royal Fort was also employed at Brandon Hill, and because of its height and position in the landscape it would have become a significant feature in that landscape.

6. Conclusion

The original fortification Windmill Hill Fort was part of a hurried series of redoubts or forts, designed to provide coverage of the immediate area surrounding, including the key roads in and out of city, which contained a population of 15,000. Given that this forts were un-bastioned, small earthen buildings they would have more in common with the pillboxes of the 1940s, than the Royal Fort that appeared only 1 year after the Royalists capture of the city in 1643.

Despite the ramparts of the Royal Fort being only 10 feet, 8 feet short of the ramparts of the Parliamentarian fort of Brandon Hill, the longest rampart was nearly 100 meters in length, and the fort was able to house 150 men for 11 months, making it a significant fortification, probably one of the largest constructed during the conflict, especially since Bristol of the 1640s, has since been described as a death trap and extremely difficult to defend.

Along with the great fortifications of Oxford and the Queen's Sconce at Newark, the Royal Fort epitomised Dutch engineer techniques, such as earthen bastions and pallisadoed, which were utilised by Bernard de Gomme, the Royalists' engineer.

The geophysical survey illustrated how much the landscape has changed since the 1640s; however it has also provided possible evidence for the location of at least one of the five bastions of the later revetted Royal Fort. The most likely piece of evidence relating to the earthen original Royal Fort is the possible find of part of a ditch, recently located in 2007. The new location of the fort bastions is still conjectural until further archaeological excavation of the site occurs, however, based on this evidence, the view-shed analysis of the site does illustrate that the position of the Royal Fort in the civil war landscape of the 1640s was a key location, as it presided over the two rivers of Bristol, and the key routes in and out of the city, such as St. Michael's Hill, and key sections of the roads to London and Bath.

Despite the Royal Forts good location in the landscape, and being surrounded by other significant Royalist defences, the key problem to both the earlier Parliamentary loss and the 1645 loss of Bristol, by the Royalists, was lack of man power to defend a large 4 mile perimeter, meaning Bristol was never a secure stronghold for either side, although the ambitious Royal Fort, was the most noteworthy attempt by either side to control the immediate landscape and thus the new landscapes that could be reached via Bristol's port in a difficult and constantly changing political landscape as the early 1640s.

To accurately confirm the location of the Royal Fort, and to highlight its importance in the archaeological, not just the historical record, excavation of the site needs to be conducted. The most pressing of issues, must be the 'bastion' noted by Russell *et al.* which requires excavation to prove its provenance, and along with this the section of bastion noted on the recent geophysical survey also requires confirmation.

Within the current landscape of Bristol, Brandon Hill Fort is the most surviving, visual feature of the civil war, and therefore does require further research, most likely being geophysical survey and / or building recording.

The English Civil War and the defences of Bristol deserve to be better known and it is hoped that this dissertation will help to achieve this goal.

7. References and Bibliography

Anonymous. (1649) *Parliamentary Survey of the capitular estates 1649* (Bristol Record Office)

Betty, J. (1997) *The Royal Fort and Tyndall's Park: the development of a Bristol landscape* (Bristol: Bristol Branch of the Historical Association)

Brown, C. (1879) *The Annals of Newark upon Trent* (London: H. Sotheran)

Coward, B. (2003) *The Stuart Age England, 1603-1714* (Harlow: Pearson Education Limited)

De Gomme, B. (eds. C. Firth and J. H. Leslie) (1925) The Siege and Capture of Bristol by the Royalist Forces in 1643. *Journal of Army Historical Research* 4: 180-203.

Harrington, P. (1987) English Civil War fortifications, *Fort* 15: 39-60.

Harrington, P. (2003a) *English Civil War Fortifications 1642-51* (Oxford: Osprey Publishing Ltd)

Henry, C. (2005) *English Civil War Artillery 1642-51* (Oxford: Osprey Publishing Ltd)

Hoefnagle, G. (1581) *Plan of Brightstowe* (Bristol Record Office)

Horton, M. (2001) *The Archaeology of the Royal Fort, Bristol* (Power-Point Presentation)

Hutton, R. (1999) *The Royalist War Effort 1642-1646* (London: Routledge)

Hutton, R. and Reeves, W. (1998) Sieges and Fortifications. In J. Kenyon and J. Ohlmeyer (eds.) *The Civil Wars a military history of England, Scotland and Ireland 1638-1660* (Oxford: Oxford University Press) 195-233.

Israel, R. (2008) *Geophysical Survey Report for the Royal Fort, Bristol* (Report No. Israel 01/2008) (Bristol Urban Archaeological Database No. 4432) (Unpublished Report)

King, A. (2003) *Archaeological Evaluation of land at the H. H. Wills Physics Laboratory Car Park, Tyndall Avenue, Bristol for the University of Bristol* (Report No. 1224/2003) (Unpublished Report: Bristol and Region Archaeological Services)

King, A. (2008a) *Archaeological evaluation of land off St. Michael's Hill & Tyndall Avenue, Clifton, Bristol for the University of Bristol* (Report No. 1946/2008) (Unpublished Report: Bristol and Region Archaeological Services)

Kishlansky, M. (1996) *A Monarchy Transformed Britain 1603-1714* (London: Penguin Books)

Latimer, J. (1900) *The annals of Bristol in the seventeenth century 1600-1900* Vol. 1 (Bristol: William George's Sons)

Lattery, R. T. and Parsons, E. J. S. and Philip, I. G. (1936) A Contemporary Map of the Defences of Oxford in 1644, *Oxoniensia* 1:161-172.

Leech, R. H. (2000) *The St. Michael's Hill Precinct of the University of Bristol: medieval and early modern topography* (Bristol: J. W. Arrowsmith Ltd)

Longman, T. (2004) *Archaeological Watching Brief on land at H. H. Wills Physics Laboratory, University of Bristol, Tyndall Avenue for the University of Bristol* (Report No. 1368/2004) (Unpublished Report: Bristol and Region Archaeological Services)

Lynch, J. (1999) *For King and Parliament Bristol and the Civil War* (Stroud: Sutton Publishing Ltd)

McGrath, P. (1981) *Bristol and the Civil War* (Bristol: Bristol Branch of the Historical Association)

Memory-Map Inc - © Crown Copyright Ordnance Survey 2006 License No: PU100034184

Morrill, J. (1996) Politics in an Age of Revolution 1630-1690. In J. Morrill (ed.) *The Oxford Illustrated History of Tudor and Stuart Britain* (Oxford: Oxford University Press) 361-396.

Nicholls, J. F. and Taylor, J. (1881) *Bristol Past and Present* Vol. 1 (Bristol: J. W. Arrowsmith)

Parker, G. (1929) Tyndall's Park, Bristol, Fort Royal and the Fort House therein, *Transactions Bristol and Gloucestershire Archaeological Society* 51: 123-141.

Peachey, S. (1993) *The Storming of Bristol 1643* (Bristol: Stuart Press)

Price, R. H. and Jackson, R. G. (1972) Royal Fort. In *Archaeological Review* (1973) P. Fowler (ed.) (Council for British Archaeology Group 12 (Wessex) and Group 13 (South West)) 7: 62.

Repton, H. (1801) *Red Book* (Unpublished)

Repton, H. (1805a) *Observations on the theory and practice of landscape gardening* (London: Bensley)

Ross, W. G. (1887) Military engineering during the Great Civil War 1642-9, *Professional Papers of the Corps of Royal Engineers* xiii.

Royal Commission on Historical Monuments (1964) *Newark on Trent: the civil war siegeworks* (London: Unwin Brothers Ltd)

Roy, I. (1964) (ed.) The Royalist Ordnance Papers 1642-1646 Part 1, *Oxfordshire Record Society* 43.

Roy, I. (1975a) (ed.) The Royalist Ordnance Papers 1642-1646 Part 2, *Oxfordshire Record Society* 49.

Rupert (1645) *A declaration of his highness Prince Rupert with a narration of the state and condition of the city and garrison of Bristol when his highness came hither* (London)

Russell, C. (1996) The Reformation and Creation of the Church of England, 1500-1640. In J. Morrill (ed.) *The Oxford Illustrated History of Tudor and Stuart Britain* (Oxford: Oxford University Press) 258-292.

Russell, J. (1995) *The Civil War defences of Bristol: their archaeology and topography* (Bristol: Author).

Russell, J. (2003a) *The Civil War defences of Bristol: their archaeology and topography* (Bristol: Author).

Saunders, A. (2004) *Fortress Builder: Bernard de Gomme, Charles II's Military Engineer* (Exeter: Exeter University Press)

Seyer, S. (1823) *Memoirs historical and topographical of Bristol and its neighbourhood, from the earliest period down to the present time* Vol. 2 (Bristol: John Mathew Gutch)

Skelton, J. (1825) *Plan of the Royal Pentagonal Fort built on the North West side of Bristol by Prince Rupert, and the City in 1643-4* (Bristol Reference Library)

Sprigg, J. (1854) *Anglia Rediviva* (Oxford: Oxford University Press)

Turnor, E. (1802) Remarks on the Military History of Bristol in the Seventeenth Century, with a Sketch of the Outworks, *Archaeologia* 14: 119-131.

Townsend, A. (2003) *Archaeological Desktop Study of land at H. H. Wills Physics Laboratory, Tyndall Avenue, Bristol for the University of Bristol* (Report No. 1136/2003) (Unpublished Report: Bristol and Region Archaeological Services)

Townsend, A. (2007a) *Archaeological desk-based assessment of land off St. Michael's Hill and Tyndall Avenue, Clifton, Bristol for the University of Bristol* (Report No. 1809/2007) (Unpublished Report: Bristol and Region Archaeological Services)

Warburton, E. (1849) *Memoirs of Prince Rupert and the Cavaliers* (London: Richard Bentley)

Young, P. and Emberton, W. (1974) *The Cavalier Army its organisation and everyday life* (London: George Allen and Unwin Ltd)

Young, P. and Emberton, W. (1978a) *Sieges of the Great Civil War 1642-1646* (London: Bell and Hyman Ltd)

8. Acknowledgements

The author would like to extend his thanks to Mark Horton and Philip Rowe of the University of Bristol, Andrew King and Andrew Townsend of Bristol and Region Archaeological Services, the staff of the University of Bristol Special Collections, the Bristol Record Office, the Bristol Reference Library, the Royal Engineers Museum, and the National Monuments Record for their grateful assistance during this work. Apologies to anyone not mentioned.