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Worcestershire:
Archaeological excavations
of the Ha Ha

Volume 1



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LIST OF CONTENTS

INTRODUCTION.....	1
1 INTRODUCTION	3
1.1 The Overall Project.....	3
1.1.1. Background.....	3
1.1.2. Acknowledgements.....	3
1.1.3. Summary of Works	3
1.2. THE PARKLAND LANDSCAPE AND ITS DEVELOPMENT	4
1.2.1. Introduction	4
1.3.1. The Major Components of the Parkland Landscape.....	4
1.3.2. Outline Chronology of the Development.....	5
1.4. GEOLOGY AND TOPOGRAPHY	6
1.4.1. Topography.....	6
1.4.2. Geology.....	6
1.5. HA-HA REPORT	7
1.5.1. Aims and Objectives.....	7
EVERGREEN SHRUBBERY HA-HA	8
2. THE EVERGREEN SHRUBBERY HA-HA.....	9
2.1. BACKGROUND INFORMATION.....	9
2.1.1. Summary of work undertaken	9
2.1.2. Outline of Prior Work.....	9
2.1.3. Basic History.....	9
2.2.1. Aims and Objectives of works.....	10
2.2.2. Methodology	10
2.2.3. Condition Categories.....	10
2.3. RESULTS.....	12
2.3.1. Current Condition Summary.....	12
2.3.2. Description.....	12
2.3.3. Excavation	12
2.3.4. Discussion and Interpretation.....	13
2.4. MANAGEMENT AND CONSERVATION RECOMMENDATIONS	14
2.4.1. Current Condition Categories	14
2.4.2. Current Condition: Detail.....	14
2.4.3. Conservation and Restoration Issues.....	14
2.4.4. Suggested Course of Action	14
SOUTH PARK HA-HA.....	16
3. THE SOUTH PARK HA-HA.....	17
3.1. BACKGROUND INFORMATION.....	17
3.1.1. Summary of work undertaken	17
1.1.1 Outline of Prior Work.....	17
1.1.2 Basic History.....	17
1.1.3 Aims and Objectives of works.....	17
1.1.4 Methodology.....	18
1.1.5 Condition Categories	18
1.2 RESULTS.....	18
1.2.1 Current Condition: Summary.....	18
1.2.2 Description.....	19
3.2.3. Discussion and Interpretation.....	19
1.3 MANAGEMENT AND CONSERVATION RECOMMENDATIONS	20
1.3.1 Current Condition: Categories.....	20
1.3.2 Current Condition: Detail.....	20
1.3.3 Conservation and Restoration Issues.....	20
1.3.4 Suggested Course of Action.....	20

BIBLIOGRAPHY	23
1 METHODOLOGY	25
2 RESULTS: GENERAL.....	25
2.1 Location.....	25
2.2 Soils and ground conditions	25
3 RESULTS: DESCRIPTIONS OF DEPOSITS.....	25
3.1 Features and deposits.....	25
3.2 Finds.....	25
4 DISCUSSION AND INTERPRETATION.....	25
4.1 Reliability of field investigation.....	25
4.2 Analysis	26
5 ARCHAEOLOGICAL CONTEXT INVENTORY	26
APPENDIX B - TRENCH 15	27
1 METHODOLOGY.....	28
1.1 Presentation of results.....	28
2 RESULTS: GENERAL.....	28
2.1 Location.....	28
2.2 Soils and ground conditions	28
3 RESULTS: DESCRIPTIONS OF DEPOSITS.....	28
3.1 Features and deposits.....	28
3.2 Finds.....	29
3.3 Reliability of field investigation.....	29
4 DISCUSSION AND INTERPRETATION.....	29
4.1 Analysis	29
5 ARCHAEOLOGICAL CONTEXT INVENTORY	30

LIST OF FIGURES

Main Report

- Figure 1 Elevations of sample areas of primary build for both ha-has.
Figure 2 Location plan of earthwork associated with Evergreen Shrubbery Ha-ha.

Appendix

- Trench 14 Sections and Plan
Trench 15 Sections and Plan

INTRODUCTION

1 INTRODUCTION

1.1 *The Overall Project*

1.1.1. *Background*

- 1.1.1.1 In April 2001 the Oxford Archaeological Unit (OAU) was commissioned by the National Trust, with funding from the Heritage Lottery Fund (HLF), to undertake a programme of archaeological investigations at Croome Park, Worcestershire.
- 1.1.1.2. Croome Park was the first complete landscape designed by Lancelot 'Capability' Brown, who began work at the site in c.1751 and maintained a level of involvement until 1782. The landscape contains numerous architecturally significant buildings and structures including the Temple Greenhouse by Robert Adam (Grade I listed), the Park Seat by Robert Adam (Grade II* Listed), the Dry Arch Bridge by James Wyatt (Grade II Listed) and the Grotto by Capability Brown (Grade II Listed). The landscape design has survived relatively intact primarily due to the absence of any reworking of the parkland landscape since its completion in the early 19th century.
- 1.1.1.3. As stated in the project brief "*The National Trust is seeking to re-establish the landscape park to its condition described in the Croome Guide Book of 1824, and has adopted a policy of informing the restoration process through archaeological investigation and research.*" (National Trust 2001).
- 1.1.1.4. The archaeological programme was begun in May 2001 and the initial draft reports, as presented here, were completed in early August 2001. The final reports will be completed by October 2001, after a further stage of limited archaeological works in early September 2001.

1.1.2. *Acknowledgements*

- 1.1.2.1. The authors, and all the staff at OAU involved with the project, would like to thank Tom Oliver, Rob Woodside, Garry Webb and everyone at Croome park for their generous support and assistance throughout the project.

1.1.3. *Summary of Works*

- 1.1.3.1. OAU, in line with the original brief, undertook a series of nine tasks targeted at particular areas or features within the parkland landscape. These tasks are detailed in the Project Design (OAU 2001). The following is intended as a guide to enable the results presented in this report to be placed within the wider context of the project.
 - Task 1 - Water Supply to the Grotto. This involved excavating a substantial trench to the rear of the grotto with supporting survey and desk-based analysis.
 - Task 2 - Temple Greenhouse. This involved the analysis of the building accompanied by excavation of landscape features adjacent to and in the general vicinity of the structure.
 - Task 3 - Dry Arch Bridge. The assessment of this feature involved substantial excavation supported by an analysis of the standing fabric and desk-based analysis.
 - Task 4 - Evergreen Shrubbery Ha-Ha. The 650m long ha-ha was subject to a program of photographic recording and analysis, supported by archaeological excavation.
 - Task 5 - Evergreen Shrubbery Paths and Features. This task was focussed on locating the lost paths and boundaries linking the Church Hill Clump and

the Evergreen Shrubbery. This involved excavation and desk-based analysis (Fieldwork to be completed September 2001).

- Task 6 - Evergreen Shrubbery Boundaries and Features. This work was concentrated on the Church Hill Clump and involved excavation, survey and desk-based analysis.
- Task 7 - Punch Bowl Gates and Carriageway. The gates were subject to rapid building assessment and small excavations were undertaken at their base. A single trench was also cut across the carriageway.
- Task 8 - Park Seat. This feature was subject to a program of building assessment accompanied by archaeological excavation.
- Task 9 - South Park Ha-Ha. This short length of ha-ha was subject to photographic recording and analysis.

1.1.3.2. These nine tasks were divided into four reports, as outlined in the Project Design (OAU 2001). The contents of the four reports are outlined below;

- The Landscape Features Report contains information pertaining to the Main Carriageway, the area around the Temple Greenhouse and the Evergreen Shrubbery, which includes the Church Hill Clump and the Four Seasons Gap. Elements of Tasks 2, 3 and 5 and the whole of Tasks 6 and 7 are covered by this report
- The Grotto Report (as presented here) outlines the findings of the excavation and recording work undertaken during Task 1 of the project. This work was primarily focussed on investigating the water supply to the rear of the Grotto.
- The Building Assessment Report outlines the results of the work undertaken on the Temple Greenhouse, Dry Arch Bridge, Park Seat, Privy Block and Punch Bowl Gates. Elements of Tasks 2, 3 and 7 and the whole of Task 8 are covered by this report.
- The Ha-Ha Report covers the survey, excavation and analysis of the two Ha-Has. The report is presented in two volumes, with Volume 1 containing the text and analysis, whilst Volume 2 consists of the printed copies of the photographic record with overlain management and analysis information.

1.2. THE PARKLAND LANDSCAPE AND ITS DEVELOPMENT

1.2.1. Introduction

1.2.1.1. The history and development of the Croome Park landscape has already been covered by the Conservation Plan (National Trust 1998) and the Historic Landscape Survey (Phoenix Consulting 1997). It is therefore unnecessary to repeat this in any depth here, although it is necessary to outline the broad historical picture to give some context for this report.

1.2.1.2. Individual sections of this report will deal in more depth with elements of the historical record that particularly relate to the features being analysed.

1.3.1. The Major Components of the Parkland Landscape

1.3.1.2. Prior to beginning the analysis it is necessary to standardise names for areas and features within the park. These names have been developed through consideration of the Conservation Plan (National Trust 1998) and the Historic Landscape Survey (Phoenix Consulting 1997).

1.3.1.3. Figure 1 shows the location of the main areas of the estate referred to within the report. The work undertaken by OAU was concentrated within the bounds of the Evergreen Shrubbery, Greenhouse Shrubbery and the Lakeside Garden, although additional work

was carried out at the South Park Ha-Ha and the Park Seat (sometimes known as the Owl house). These terms will be utilised throughout the report.

1.3.2. *Outline Chronology of the Development*

- 1.3.1.1. The primary period of interest for this project covers the time span from 1747 to 1809 and to a lesser degree from 1809 to the present day. 1747 marks the year in which the 6th Earl of Coventry (then Lord Deerhurst) took full control of the estate and began the programme of works that was to result in the development of one of the finest late 18th century parkland landscapes in Britain, ending in 1809 upon his death (Phoenix Consulting 1997, 28).
- 1.3.1.2. Prior to this date the estate had already undergone extensive development including the creation of two deer parks, formal gardens and at least three phases of pre-Croome Court houses (Phoenix Consulting 1997, 28-29). These earlier remains have been largely removed or extensively remodelled by the post-1747 developments and are now virtually untraceable.
- 1.3.1.3. The period 1747 to 1809 has been divided into six phases based on the different landscape architects working on the site (Phoenix Consulting 1997, 29). These phases are outlined below, with key events highlighted in each one;

Dates	Architects	Key Events
1747-1752	John Phipps Sanderson Miller	Making the Serpentine 'New' River. Large-scale drainage work and extensive planting in the parks
1751-1758	Lancelot Brown Sanderson Miller(?)	Croome Court built, The four shrubberies, (Evergreen Shrubbery, Church Shrubbery, Greenhouse Shrubbery and Home Shrubbery) were laid out on earthwork terraces The River was lengthened Construction of the Church began The lake may have been laid out in this phase or in the early 1760s
1760-1765	Lancelot Brown Robert Adam	Church was completed Further work was carried out on the belts, shrubberies The Lake Pleasure Grounds were established Grotto construction began Dry Arch Bridge constructed Temple Greenhouse built Owl House (Park Seat) built The lake may have been laid out in this phase or in the previous phase
1770s	Lancelot Brown Robert Adam Henry Holland	Pier Gates (Punch Bowl Gates) were built at the entrance to the park from the Worcester entrance Island Pavilion was built on the Island
1780s	Robert Adam Barbara, Countess of Coventry	The Grotto was decorated with spars and shells Further drainage works were carried out to increase the supply of water to the lake
1792-c1801+	James Wyatt Coade & Sealy	Dry Arch Bridge rebuilt; Pier Gates altered to the Punchbowl Gates Wooden bridges to the island replaced with the Iron Bridges The Druid and other statues and urns were added Further drainage works were carried out to drain the land and increase the supply of water to the

Dates	Architects	Key Events
		lake and river

(Adapted from Phoenix Consulting 1997, 28-29)

- 1.3.1.4. After the death of the 6th Earl in 1809 the estate remained largely unchanged until c.1940. Although alterations were made these were largely aimed at maintaining the park whilst satisfying personal taste and minor changes in garden design fashions.
- 1.3.1.5. With the death of the 10th Earl in 1940 the estate entered into the latter half of the 20th century without a clear direction or focus. This resulted in Croome Court being sold, with 38 acres of land, to The Sisters of the Order of St. Vincent de Paul in 1948. The remaining areas of the estate were gradually dispersed over the next 30 or so years with Royal Sun Alliance eventually acquiring a significant portion of the estate.
- 1.3.1.6. Croome Court was sold again in 1979 to the International Society for Krishna Consciousness and underwent limited renovation and redecoration in “an unforgettable style”. (National Trust 1998, 44). The Court changed hands again 1986 and again in 1998, when the present owners, Montange Ltd, purchased the property.
- 1.3.1.7. The majority of land within the park was gradually denuded of its original planting schemes and converted from pasture to arable cultivation. Some of the shelter belts and shrubberies also suffered limited commercial forestry planting. A major impact on the estate occurred in 1962 when the western edge of the park was separated by the construction of M5 motorway.
- 1.3.1.8. A programme of stabilisation and renovation was begun in the 1970’s by the agent for the Croome Estate. This and later work included;
- The building of an Iron Bridge to replace the original ferry next to the Dry Arch Bridge in 1972
 - Repair to the other Iron Bridges (1970’s)
 - The ‘Brown’ casket being rebuilt in 1983
 - Extensive rebuilding and repairs to the Park Seat in 1986
- 1.3.1.9. The National Trust acquired the majority of the estate land in 1996 and acquisition of other areas continues at present. The National Trust is currently in the process of restoring the site to a condition similar to that described in the 1824 Guide Book (Dean 1824). This programme has involved the writing of a Conservation Plan (National Trust 1998) and a Management Plan (National Trust 1999) which provide the overall context for the archaeological works being reported here.

1.4. GEOLOGY AND TOPOGRAPHY

1.4.1. Topography

- 1.4.1.1. Croome Park can be divided into three broad topographical zones; the central low lying belt, the eastern scarp slope and the more gentle western hill slopes. The central area consists of low-lying (15-20m OD) relatively flat ground running roughly north-south. The eastern scarp slopes are relatively steep and rise to c. 33m OD and define the eastern horizon for the core of the park. The scarp slope then curves towards the west along the northern boundary of the park. The western hill slopes are gentler in form and rather less well defined than the eastern scarp slopes, the western hills rise to a gentle summit at c. 50m OD on Knights Hill.

1.4.2. Geology

- 1.4.1.2. The geology is broadly related to the topography, with each topographic zone being defined by a dominant geological type. The central valley area is based on mudstones overlain with occasional drift deposits of alluvium, gravel and clay. The eastern scarp

slopes mark the extent of the limestone plateau, this plateau also includes significant strata of shale and clay. Finally the western hills slopes are based on sandstone deposits.

- 1.4.1.3. The soils also vary across the site in approximate accordance with the geological areas. The central area is primarily covered with heavy clay soils although the gravel terrace areas contain lighter soils. The eastern slopes contain limey clayey shales whilst within the eastern area there are fine silty loams (National Trust 1999).

1.5. HA-HA REPORT

1.5.1. Aims and Objectives

- 1.5.1.1. The Ha-Ha report is focused on the Main Ha-Ha, which forms the eastern border of the Evergreen and Temple Greenhouse Shrubberies, and the smaller South Park Ha-ha in the south west belt which is situated east of the Menagerie. The aims of the work fell into three broad areas;

- Firstly to gain further understanding about the development and function of these features;
- Secondly to produce and 'as is' photographic record of the structures;
- Thirdly to undertake a condition survey which would help guide the management and restoration of the features.

EVERGREEN SHRUBBERY HA-HA

2. THE EVERGREEN SHRUBBERY HA-HA.

2.1. BACKGROUND INFORMATION

2.1.1. *Summary of work undertaken*

- Survey of wall line of ha-ha
- Photographic survey of wall elevation
- Rectification and stitching of photography
- Archaeological and condition survey of wall
- Final CAD presentation of all of the gathered information
- Trench 14 (archaeological investigation)
- Trench 15 (archaeological investigation)

2.1.2. *Outline of Prior Work*

2.1.2.1. The Evergreen Shrubbery Ha-Ha has not been investigated in any real detail by any previous study. It is mentioned in the Fabric Report (Rodney Melville & Partners 2000, 101), the Conservation Plan (National Trust 1998) and the Historic Landscape Survey (Phoenix Consulting 1997).

2.1.3. *Basic History*

- 2.1.3.1. The history of this ha-ha is linked with that of the Temple Greenhouse and Evergreen Shrubberies, both of which were laid out shortly after 1751 during Brown's first stage of works. The ha-ha was obviously intended to protect the ornamental planting within the shrubberies from the cattle or deer in the main part of the park. The shrubberies first appear on Broome's plan of 1768, and on all subsequent plans of the park.
- 2.1.3.2. The ha-ha is first shown on John Snape's plan of 1796, and is notable by its absence from the earlier plan by Broome produced in 1768. This does not necessarily mean a construction date of post 1768 for the ha-ha, since the 1768 plan includes no other form of boundary and the ha-ha may simply have not been of sufficient importance, to the purpose of the work, to be included by Broome.
- 2.1.3.3. The specific date for the construction of this ha-ha is not given by Phoenix Consulting (1991), however it is included in their list of Brown's second phase of works; the evidence for this inclusion is not included. Although the construction of the ha-ha does not appear to be listed in the accounts of the park (as detailed in Phoenix Consulting 1991), there are at least two entries for works to its fabric.
- 2.1.3.4. The first of these entries is for works by James Rose in 1774, this included; "*work on the sunk fence below the Church* (CEA: Family Box 25)" (Phoenix Consulting 1997, 76).
- 2.1.3.6. The second reference is by William Branston, who mentions the ha-ha along with works to the drainage of the Temple Greenhouse and shrubberies. His report noted that "*the drain from Horse Close pond to Croome River was too small and the water in the winter flooded the sunk fence on either side of Church Hill and overflowed on to North Lawn. As a result the mud was getting very high in the River.*" Branston suggested an additional iron grate in the sunk fence by North Lawn and a better grate in the sunk fence by the Greenhouse Shrubbery; the drains in the Temple [Greenhouse] shrubbery were stopped up by the roots of trees and shrubs, causing the lower part of the shrubbery "*to be at times under water and unpassable*". The drains needed taking up and replacing with something that was "*proof against roots*" (CEA: Estate Box 4 ES20)". (Phoenix Consulting 1997, 107).

- 2.1.3.7. There is one further reference to a Ha-Ha in the accounts which dates to 1752 when William Eltonhead was paid £52.10.00 “on account of building Stewards, Common, & Cart Stables, & Ha-Ha Wall” (Phoenix Consulting 1997, 59). There is unfortunately no way of ascertaining which of the several Ha-has is being referred to.
- 2.1.3.8. These references make it clear that the term ‘sunken fence’ was in use by 1774, however our misunderstanding of this term may be responsible for the lack of earlier references and for the difficulty in tracing any specific reference to the evergreen shrubbery ha-ha in the secondary sources.
- 2.1.3.9. Prior to 1800 the ha-ha was still a relatively new term, and the inwards facing was a rare inclusion in a park. It is likely that the terminology used to describe such a feature was very fluid. We know the terms ‘sunken fence’ and ‘ha-ha’ were connected with this type of feature, however there may have been several other earlier terms which were not so obvious in their associations.

2.2.1. *Aims and Objectives of works*

- 2.2.1.1. The aim of these works was the production of a photographic record of the ha-ha, primarily its wall, for both conservation and management purposes. This record was intended to show the walls’ phase and condition, and perform as document with which further works could be specified.
- 2.2.1.2. Excavation works were undertaken to ascertain the profile of the ditch and to determine the nature of the wall’s construction.

2.2.2. *Methodology*

- 2.2.2.1. A preliminary survey of the line of the wall was undertaken using a total station, this was tied into the present surveys of the site and included the locations of grid pegs inserted at 5m intervals along the length of the wall.
- 2.2.2.2. A photographic survey of the complete length of the ha-ha was undertaken; using both 35 mm colour slide and 35 mm black and white negative roll film.
- 2.2.2.3. Shots were taken at 5m intervals with approximately 1.5m overlap, along the length of the wall.
- 2.2.2.4. Each shot included two scales, one vertical and one horizontal, and a board with a site code and the number of the grid peg that was included in each view.
- 2.2.2.5. Every effort was taken to ensure that the film plane was parallel with the wall though due to distortion of the wall this proved impossible for some sections.
- 2.2.2.6. Having completed the photographic survey the results were stitched together to form a complete image, corrected for linear accuracy. This correction proved accurate to within 0.1% of the complete length of the wall; though errors were distributed unevenly along its length.
- 2.2.2.7. This photograph was then used on site to produce coloured interpretative elevations based upon condition and phase.
- 2.2.2.8. To augment the above works two elevations of half-meter lengths were drawn at 1:10, as examples of bond and phase.
- 2.2.2.9. Upon completion of the photographic and recording work a series of archaeological trenches were excavated at two locations along the wall.

2.2.3. *Condition Categories*

2.2.3.1. *Good Condition*

These sections of wall were deemed in sound condition with no significant problems. The defects they did have were not serious enough to effect their survival in the medium to long term. Some degree of pointing deterioration was acceptable, as was a slight lean well within the base of the wall.

2.2.3.2. Poor Condition

Sections of wall deemed to be in poor condition were those that it was felt were reasonably sound, but with defects such that their stability in the short and medium terms would not be compromised. These defects could include: a Lean close to the outside of the base of the wall, some missing fabric and some deteriorated pointing.

2.2.3.3. Very Poor Condition

These sections of wall were those that it was felt had serious faults, which would cause collapse and deterioration if surrounding conditions (soil moisture levels, tree root action / removal, animal damage, changes in weathering pattern etc.) should change. The levels of defects present would seriously affect the stability of the wall in the short term. The defects present could include: a lean outside of base of wall, missing fabric and very receded pointing.

2.2.3.4. Dangerous Condition

This material was not fixed to the main body of the wall and was deemed likely to collapse even if conditions remained constant.

2.2.3.5. Missing fabric

No fabric present.

2.3. RESULTS

2.3.1. *Current Condition Summary*

- 2.3.1.1. Where the wall is still present it is generally in good condition. At least 65% of the extant brickwork is sufficiently stable to allow retention.
- 2.3.1.2. The areas of missing masonry do not appear to be immediately adjacent to the structure, although some clearance of the ditch may reveal some of the missing fabric.
- 2.3.1.3. Where the fabric is still in tact and is not rebuilt with cementitious mortar the bricks themselves would be generally salvageable, subject to some 30% loss associated with their removal.
- 2.3.1.4. The main problems with stability are:
- Missing and loose bricks, which is destabilising sound material, and allowing excessive weathering.
 - Eroded pointing which in areas has reached some half a bricks depth.
 - Poor rear retaining materials, and vegetation growth within them.

2.3.2. *Description*

- 2.3.2.1. The main ha-ha is entirely of brick, and almost all of a single build type. There are a number of repairs, mostly consisting of works to the top five courses of brickwork, and patches of repointing. The repairs concentrate around two phases; an early 19th century phase of works, and a later set of repairs undertaken with machine made bricks and cement based mortar
- 2.3.2.2. The main build of the wall is made up of single thickness of brickwork backed occasionally by rubble or dry stone infilling. The bricks are typical for the mid 18th century, bonded in an English Garden Wall pattern with a pinkish lime based mortar.
- 2.3.2.3. The profile of the ditch is reasonably constant along its length, until the grate for the watercourse at the base of the steepest section of Church Hill. From this point onwards the profile becomes shallower and the wall lower until it disappears into the bank of Church Hill close to the church.

2.3.3. *Excavation*

- 2.3.3.1. A series of trenches were excavated in two separate locations along the ha-ha. The first set of trenches (Trench 14) were cut just south of the ha-ha gate and were designed to supply information on the ditch profile and the make up of the ha-ha's wall. The second trench (Trench 15) was situated at the southern terminus of the ha-ha and was positioned with the aim of determining the original extent of the ha-ha and its relationship with neighbouring paths and boundary features. Details of both trenches can be found in Appendix A.
- 2.3.3.2. Trench 14 consisted of two shallow trenches cut at right angles to the line of the wall. One of these trenches cut through the bank at the rear of the wall, through an area that had already suffered collapse, whilst the other extended up and over the ditch profile into the adjacent field.
- 2.3.3.3. Trench 14 confirmed that the ditch is close to its original profile, in this area, and is only covered by a thin topsoil layer (1401). The lack of any considerable build-up suggests that cleaning has taken place since its original cutting.
- 2.3.3.4. The trench cut through the wall revealed that the supporting structure to the rear of the wall (structure 1406) was poor in its build quality, consisting primarily of rammed

earth. Examination of other nearby areas of collapse shows that there are sections of loose stonework supporting the bank behind the wall in other places. The wall revealed in the excavation was identical to other areas of wall, made up of a stone foundation below fourteen courses of red brick in English garden wall bond.

- 2.3.3.5. Trench 15 examined the area around the current terminus of the ha-ha. The trench revealed that the ha-ha wall (1513) terminates at a 'butt' junction with a coarsely built brick revetment wall (1509), which continued under the ground surface. The course nature of 1509's build indicated that it was designed to be hidden from view.
- 2.3.3.6. The excavation also revealed a small 19th century drain (1516) and a possible small revetment wall (1507) at the base of the slope. All of these features indicated that the current layout, with the large open curved terminus ditch is probably accurate and represents the original layout of this area. Unfortunately no strong evidence for boundary features lining this terminus to the main carriageway (1501) and pathway (1503) was located.

2.3.4. Discussion and Interpretation

- 2.3.4.1. The ha-ha seems to date from the middle of the 18th century, although the exact date of construction has yet to be determined. It is likely that it was built shortly after, or during, the construction of the earthwork platforms for the shrubberies and hence it is currently felt that based on the available evidence the ha-ha was constructed between 1751 and 1768.
- 2.3.4.2. The profile of the ditch and height of the wall suggest that the ha-ha was intended to enclose grazing lands for cattle and sheep rather than more agile animals such as deer. This protective function was probably considered as secondary to its aesthetic role, namely to serve as an invisible divide between the viewer and the views. The wall of the ha-ha is unusual in this respect as it faces inwards with regards to the main house; containing livestock on the house side of the feature.
- 2.3.4.3. The ha-ha is relatively uniform in appearance and height along most of its length, although the two termini do differ. The north end of the ha-ha appears to be very badly denuded, however it is thought that the height at this point was considerably lower than the main body of the wall. Since this area would have represented the boundary of the evergreen shrubbery the presence of a ha-ha, in aesthetic terms, would have been unnecessary, as the thick foliage would have limited views out to the house.
- 2.3.4.4. The wall at this northerly point may have been topped by a set of railings, hedging or a timber fence, to provide protection for the shrubbery from livestock. This boundary would have been hidden by an earthwork bank (see Figure 2), which corresponds to the lower section of wall. This bank seems to run from the top of Church Hill nearly to its lowest point, some 5 meters away from the top of the ha-ha bank. If the vista is viewed from the church, or from the house, the wall and a considerable height above it are invisible. This earthwork strongly supports the idea of a fence or similar feature, i.e. palings, being in place along the top of the ha-ha wall.
- 2.3.4.5. Along much of the length of the ha-ha wall there are a number of drainage holes in the brickwork just above the base. These holes were to allow the retained soil to the rear of the wall to drain into the ha-ha's ditch, which acted as a drainage channel. These drainage holes may be later but are likely to have been constructed at the time of the original build.

2.4. MANAGEMENT AND CONSERVATION RECOMMENDATIONS

2.4.1. *Current Condition Categories*

2.4.1.1. The full graphical survey is included with this report as Volume 2, the categories used are shown in the table below. This table shows both the colour that is used for the condition within the CAD drawing, and the percentage of the total area of wall (extant and missing) that the condition occupies

2.4.2. *Current Condition: Detail*

2.4.2.1. The majority of the standing wall, 414.7m², is in good condition. This area is vertical enough to be stable, is relatively complete and solidly mortared. The next most stable area, 57.5m² is in poor condition, 14.3m² is in very poor condition, 127.5m² is in dangerous condition, while an estimated 166.9m² is missing and could be replaced.

2.4.2.2. It is felt that some 470m² of brickwork could be retained, and that around 100m² of the damaged sections of the wall could be salvaged for the reuse of bricks. These totals take account of possible losses due to breakage, but would need further assessment and trial removals to confirm.

2.4.3. *Conservation and Restoration Issues*

2.4.3.1. **Materials** - Interventions should be carried out using materials closely resembling the originals, however the lack of support to the rear of the wall may warrant a more modern solution behind the replaced areas.

2.4.3.2. **Height** - The majority of the wall can easily be restored to the height of surrounding material, since the top of the wall is present in several locations. The area close to the Church is a little more difficult and it may be that the eventual restored height will be conjectural.

2.4.4. *Suggested Course of Action*

2.4.4.1. A small archaeological excavation would be useful, cutting across the earthwork at the north of the ha-ha, and into the ha-ha itself. This excavation would confirm the presence of the earthwork, and associate it with the construction of the ha-ha, as well as investigating the height of the ha-ha, and depth of the ditch at this point.

2.4.4.2. If this excavation confirms the theories in this document then it is suggested that, eventually, the full course of action suggested in the charts below is taken. The whole of the wall need not necessarily be completed in one stage, the works could easily be divided into three stages.

2.4.4.3. **Stage one** – Vegetation should be removed, and the wall should be stabilised, loose materials should be removed and stacked in front of the wall. The material that remains should be re-pointed and where it could simply be achieved, the coping course could be reinstated.

2.4.4.4. **Stage two** – The areas adjacent to sound material could be reinstated in such a manner as to stabilise the original material and leave an edge which will be more resistant to weathering and mechanical action.

2.4.4.5. **Stage three** – The larger areas of wall should be reinstated following the example of the original materials. Where these areas are completed, either a modern or period engineering solution should be applied behind the face of the wall to prevent further collapse; the specifics of this solution are beyond the scope of this document.

CONDITION	DESCRIPTION	INTERVENTION	COLOUR	%
Good Condition	Stable and close to vertical (lean within the base of the wall), with little or no missing fabric.	No intervention other than repointing		53
Poor Condition	Lean close to the outside of the base of the wall, with some missing fabric, though generally stable.	No intervention, unless destabilised by further works, either to trees or to adjacent material.		8
Very Poor Condition	Lean outside of base of wall, with missing fabric, liable to collapse if conditions change.	Possibly repairable temporarily, but will require dismantling and rebuilding in the future. These areas are reasonably urgent, since their collapse will cause more fabric to become unstable.		2
Dangerous Condition	Loose material, liable to collapse imminently if not repaired.	Dismantle and replace		16
Missing fabric	No fabric present.	Replace fabric, this will stabilise adjacent brickwork, and will prevent water penetration to fabric below.		21

DEFINITION	DESCRIPTION	SUGGESTION	COLOUR	%
Pointing Visible	Areas of visible lime mortar pointing, assume pointing eroded unless shown.	Possibly use these areas as a model for repair.		4
Area of later intervention	Assume primary phase unless shown.	These areas are often cementitious mortars, and will eventually result in the loss of the brick faces, these areas are stable and are not threat to other areas of brickwork, and as such may be tackled when the rest of the wall is complete.		12

The percentages in this table are taken as a portion of the whole wall including an estimated quantity of missing masonry. This portion was estimated conservatively and can be seen on the CAD drawings in black. The last two definitions are calculated as percentages of the same are but are separate from the complete tally. These definitions are entirely based upon judgements of the savability of the brickwork.

SOUTH PARK HA-HA

3. THE SOUTH PARK HA-HA

3.1. BACKGROUND INFORMATION

3.1.1. *Summary of work undertaken*

- Survey of the ha-ha's wall line
- Photographic survey of wall elevation
- Rectification and stitching of photography
- Archaeological and condition survey of wall
- Final CAD presentation of all of the gathered information

1.1.1 *Outline of Prior Work*

- 1.1.1.1 The South Park ha-ha has not been investigated in any real detail by any previous study. It is mentioned in the Fabric Report (Rodney Melville & Partners 2000, 101), and in the Conservation Plan (National Trust 1998).

1.1.2 *Basic History*

- 1.1.2.1 This ha-ha is not referred to in any of the documentary or pictorial sources relating to the site. This may be a problem with terminology, since there is no set historic name for the area in which it falls. Although Old Ground and south west belt are regularly used they do not seem to universally apply to this particular area, making searches of the evidence difficult.
- 1.1.2.2 Despite the lack of evidence it is probable that the ha-ha is part of the circular design for the landscape that seems to have been a key concept in Brown's mid 18th century plans. This design encloses an area of landscape within a ring of shrubberies and pleasure gardens that form a route around the central parkland. This circular route makes up the main series of viewpoints from which the house, central parkland and key features such as the church, should be viewed.
- 1.1.2.3 The enclosing nature of the design makes the relatively small area of grazing and clumps within the ring far more important, and more tightly ornamental. The ha-ha's position at this point certainly relates it to the route towards the Park Seat, another mid 18th century feature, from the direction of the Lakeside garden, or vice-versa.
- 1.1.2.4 The Snape map of 1796 shows considerable remodelling of the shade and clumps in the area directly in front of the feature; however there already seem to be views of the house cut through from the position of the ha-ha on Broome's map of 1757.

1.1.3 *Aims and Objectives of works*

- 1.1.3.1 The aim of these works was the production of a photographic record of the ha-ha, primarily its wall, for both conservation and management purposes. To this end more detailed aims were prepared:
- The production of a semi-rectified photographic survey of the complete wall
 - The location of the photographic survey and thus the *ha-ha* spatially on a local grid.
 - The production of a graphical representation of the phases present in the wall
 - The production of an assessment of the condition of the wall
 - The use of the condition assessment to produce a graphical management plan for the wall, breaking it down into degrees of intervention and intactness

1.1.4 *Methodology*

- 1.1.4.1 A preliminary survey of the line of the wall was undertaken using a total station, this was tied into a local grid and included the locations of grid pegs inserted at 5m intervals along the length of the wall.
- 1.1.4.2 A photographic survey of the complete length of the ha-ha was undertaken, using both colour slide and black and white negative film. Shots were taken at 5m intervals with approximately 1.5m overlap, along the length of the wall. Each shot included two scales, one vertical and one horizontal, and a board with a site code and the number of the grid peg that was included in each view. Every effort was taken to ensure that the film plane was parallel with the wall though due to distortion of the wall, this proved impossible for some sections.
- 1.1.4.3 Having completed the photographic survey the results were stitched together, using photographic editing software, to form a complete image, corrected for linear accuracy. This correction proved accurate to within 0.1% of the complete length of the wall, though errors were distributed unevenly along its length.
- 1.1.4.4 This image was then used on site to produce coloured interpretative elevations based upon condition and phase, see Volume 2.
- 1.1.4.5 To augment the above works a reconstructed elevation of the primary phase of building was drawn at 1:10, this is reproduced as figure 1

1.1.5 *Condition Categories*

1.1.5.1 *Good Condition*

These sections of wall were deemed in sound condition with no significant problems. The defects they did have were not serious enough to effect their survival in the medium to long term. Some degree of pointing deterioration was acceptable, as was a slight lean well within the base of the wall.

1.1.5.2 *Poor Condition*

Sections of wall deemed to be in poor condition were those that it was felt were reasonably sound, but with defects such that their stability in the short and medium terms would not be compromised. These defects could include: a Lean close to the outside of the base of the wall, some missing fabric and some deteriorated pointing.

1.1.5.3 *Very Poor Condition*

These sections of wall were those that it was felt had serious faults, which would cause collapse and deterioration if surrounding conditions (soil moisture levels, tree root action / removal, animal damage, changes in weathering pattern etc.) should change. The levels of defects present would seriously affect the stability of the wall in the short term. The defects present could include: a lean outside of base of wall, missing fabric and very receded pointing.

1.1.5.4 *Dangerous Condition*

This material was not fixed to the main body of the wall and was deemed likely to collapse even if conditions remained constant.

1.1.5.5 *Missing fabric*

No fabric present.

1.2 **RESULTS**

1.2.1 *Current Condition: Summary*

1.2.1.1 The bank and ditch of the ha-ha are reasonably sound, however the wall is in a poor condition. Much of the wall's fabric is missing, and that which remains has mostly been repaired with cementitious mortar. Where original fabric remains it is in good condition, and could be retained if the more recent fabric around it were removed and rebuilt with care.

1.2.1.2 Overall, much of the upper section of the wall needs to be removed and replaced. The style of this replacement could easily follow the earliest phase of works, of which there are possible full height sections (reproduced in figure 1)

1.2.2 *Description*

1.2.2.1 The South Park Ha-Ha is much more dilapidated than the larger Evergreen Shrubbery Ha-Ha (see previous chapter), and seems to have been more extensively altered. The feature seems to have been constructed in three main phases of works:

- *The primary build* – Several courses of roughly squared lias stone blocks, topped with seven courses of brickwork, with at least a single course of lias stone above this. Possibly 18th century
- *The second phase of building* – The removal of damaged material, and the installation of sandstone copings and railings, the later of which have been removed for some time. Possibly mid 19th century
- *The third phase* – Repair of the copings with salvaged items from elsewhere, and reinstallation of most of the upper few course of brickwork. Early to mid 20th century.

1.2.2.2 The bricks within the wall are bonded in an English Garden Wall pattern with the primary phase having a white lime mortar, the second phase having a strongly hydraulic lime mortar and the last phase being bonded by cementitious brown mortar.

3.2.3. *Discussion and Interpretation*

3.2.3.1. This ha-ha has its stock side facing the main house. The feature possibly forms a stopping or viewing point for part of a walk or ride. The thicker and deeper planting behind the feature forming a backdrop to allow views out through the thinner planting between the ride and the Ha-ha.

3.2.3.2. The brickwork from the primary phase of the wall is similar to the bricks from the larger ha-ha, however they are somewhat smaller, and a little less regular. These slight differences suggest a somewhat earlier date than the main ha-ha.

3.2.3.3. There are no records that suggest a specific function for the ha-ha, however its proximity to the shade shown on Snape's 1796 map, and its relationship with the house suggest that this area may have been used for the display of ornamental livestock, probably cattle or deer. The vista from the ha-ha is also particularly interesting and it is possible to attain views of the main house, Church, Temple Greenhouse and Park Seat from this position. All of this attests to the features deliberate and planned location as an interesting part of the overall Brown plan.

3.2.3.4. Not only does the ha-ha occupy a significant viewing position within the landscape, its physical form is also particularly decorative. The walls polychromatic banding and good quality brickwork suggest significance beyond its present dilapidated state. This degree of decoration strongly suggests that it was intended that one should stop and come to the edge of the Ha-ha for some purpose, rather than riding or walking past at a distance, or that one should approach the stock side of the feature.

3.2.3.5. Considering its fabric and its location within the park it is probable that the original phase of the feature dates from the mid 18th century. The bricks suggest a date before the larger ha-ha, although stockpiling of bricks, particularly on large estates during

programmes of building, was a common procedure and hence this date cannot be confirmed.

1.3 MANAGEMENT AND CONSERVATION RECOMMENDATIONS

1.3.1 *Current Condition: Categories*

- 1.3.1.1 The full graphical survey is included as Volume 2. The categories used are shown in the table below. This table shows both the colour that is used for the condition within the CAD drawing, and the percentage of the total area of wall (extant and missing) that the condition occupies.

1.3.2 *Current Condition: Detail*

- 1.3.2.1 Much of this wall is missing, and in poor to very poor condition, this may mean that most of the top of the wall will have to be removed and rebuilt on the original foundations. The termini of the ha-ha have yet to be accurately identified and it is unclear whether the ditch profile is original or the result of extensive recent agricultural activity.
- 1.3.2.2 Since neither end of the Ha-ha finish at an abrupt end, both tapering away into the ditch, it is difficult to define extents without further excavation.
- 1.3.2.3 The majority of the base of the wall (around 12.8m²) is in sound condition and will mostly only need repointing. The area of sound vertical masonry will need to be revised as part of the works to stabilise the wall, as the lower extent of the wall was not encountered. The greatest area of the wall, around 25.3m², is in a poor condition. Although this portion of the wall is stable, it is badly damaged by root action, weathering and poorly executed repairs. The rest of the wall is in dangerous condition; that is to say, it is in danger of collapse. Much of this portion of the wall has been laterally displaced (the base has moved out over the top of the foundation), or has elements missing.

1.3.3 *Conservation and Restoration Issues*

- 1.3.3.1 **Extent** - The extent of the wall is also an issue, since the northern end peters out and does not suggest a limit. The height of the feature is uncertain, both because of possible filling of the ditch, and because of removal of material from the top. If the whole of the wall were to be rebuilt, further excavation would be required to find the extents of the feature.
- 1.3.3.2 **Period** - Because of the multiple phasing, and the loss of the upper courses of the primary phase during previous works, the period to which the wall is restored will have to be considered. This is not helped by the lack of evidence for its original purpose, and how it relates to rest of the landscape.
- 1.3.3.3 **Materials** - These interventions should be carried out using materials closely resembling the originals, however the lack of support to the rear of the wall may warrant a more modern solution behind the replaced areas.

1.3.4 *Suggested Course of Action*

- 1.3.4.1 The following outlines a suggested course of action for the restoration of the South Park Ha-Ha.
- 1.3.4.2 Firstly archaeological excavation is required at either end of the feature to determine the true extent of the wall and the character of the culverts and other features that

currently occupy the land adjacent to the termini of the wall. This would also allow an assessment of the vertical extent of the wall below ground.

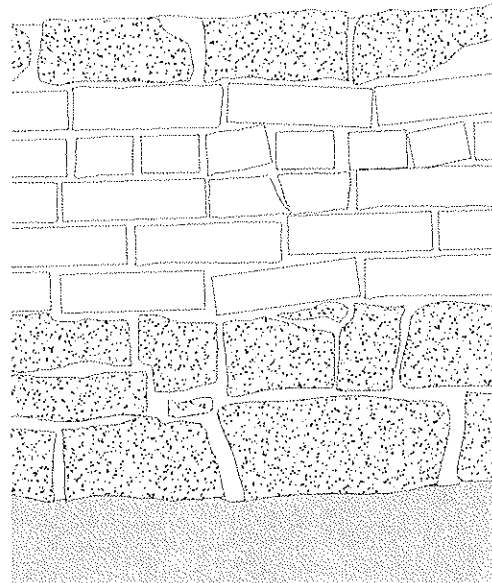
- 1.3.4.3 A period will then need to be determined to which the wall can be restored. At present, it is felt that the primary build, as identified above, would form the most suitable period on both historical grounds and in terms of limited disturbance to the current fabric of the wall.
- 1.3.4.4 Much of the later interventions are unstable and would require removal, and it would be reasonable to reinstate the coping stones as part of this scheme in the absence of any firm evidence as to the authentic capping.

CONDITION	DESCRIPTION	INTERVENTION	COLOUR	%
Good Condition	Stable and close to vertical (lean within the base of the wall), with little or no missing fabric.	No intervention other than repointing		22
Poor Condition	Lean close to the outside of the base of the wall, with some missing fabric, though generally stable.	No intervention, unless destabilised by further works, either to trees or to adjacent material.		0
Very Poor Condition	Lean outside of base of wall, with missing fabric, liable to collapse if conditions change.	Possibly repairable temporarily, but will require dismantling and rebuilding in the future. These areas are reasonably urgent, since their collapse will cause more fabric to become unstable.		44
Dangerous Condition	Loose material, liable to collapse imminently if not repaired.	Dismantle and replace		34
Missing fabric	No fabric present.	Replace fabric, this will stabilise adjacent brickwork, and will prevent water penetration to fabric below. This element has not been included since it was impossible to estimate the original line of the Ha-ha wall.		NA

DEFINITION	DESCRIPTION	SUGGESTION	COLOUR	%
Pointing Visible	Areas of visible lime mortar pointing, assume pointing eroded unless shown.	Possibly use these areas as a model for repair.		5
Area of later intervention	Assume primary phase unless shown.	These areas are often cementitious mortars, and will eventually result in the loss of the brick faces, these areas are stable and are not threat to other areas of brickwork, and as such may be tackled when the rest of the wall is complete.		36

The percentages in this table are taken as a percentage of the extant masonry, since it was impossible to extrapolate the extents and original height of the wall.

South Park Ha-ha Primary Phase



Stone Course
(No Primary Phase Material Survives
Above This Point)

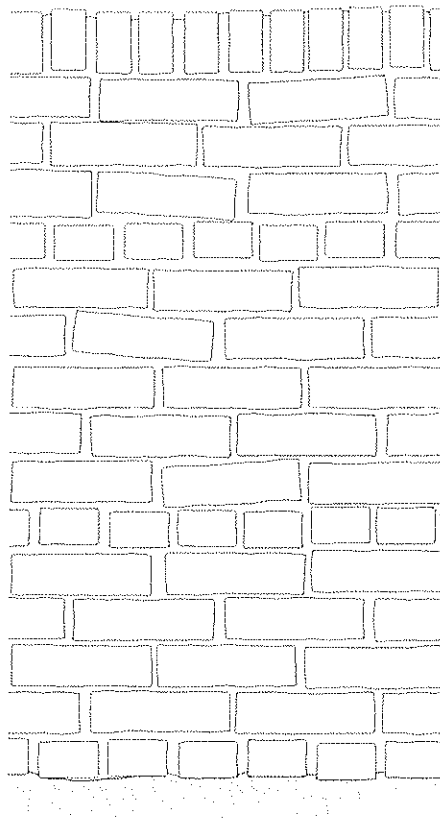
Brick Courses
(English Garden Wall Bond)

Stone Courses
(May extend Below The
Material Visible Here)

Present Ground
Surface

0m 0.5m

Evergreen Shrubbery Ha-ha Primary Phase



Brick Courses
(English Garden Wall Bond)

Present Ground
Surface

0m 0.5m

Figure 1: Primary Phase Elevatio

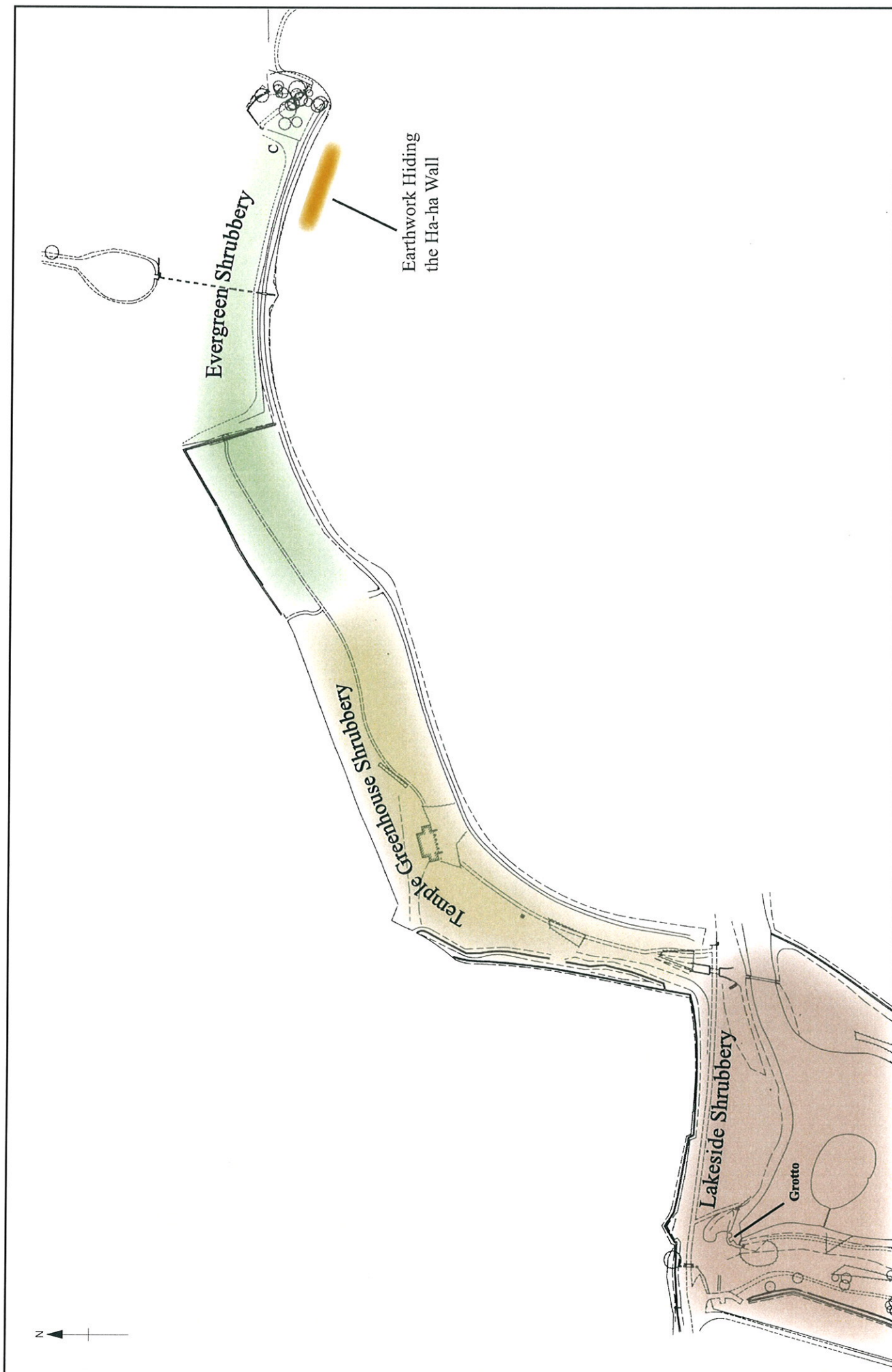


Figure 2 : Location of masking earthwork

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1 METHODOLOGY

1.1 *Presentation of results*

- 1.1.1 The soil and ground conditions for this trench are described below, followed by a brief description of the distribution of deposits.
- 1.1.2 Trenches are described according to their stratigraphic sequence from the earliest deposits reached in the trench upwards.
- 1.1.3 This is followed by a description of the finds and an interpretation and summary discussion of the results, a fuller discussion of the results in the context of the wider parklands landscape can be found within the main reports.
- 1.1.4 A table describing individual contexts can be found at the end of this section.

2 RESULTS: GENERAL

2.1 *Location*

- 2.1.1 These two machine excavated trenches were located just south of the Ha-Ha gate.

2.2 *Soils and ground conditions*

- 2.2.1 The underlying geology in this part of the site was a layer of reddish brown mudstone.
- 2.2.2 Ground conditions were soft and no problems were encountered.

3 RESULTS: DESCRIPTIONS OF DEPOSITS

3.1 *Features and deposits*

- 3.1.1 The earliest deposit located within the trench was a layer of reddish brown mudstone, (1404).
- 3.1.2 This layer was cut by the construction trench for the Ha Ha wall (1405).
- 3.1.3 Contained within the construction trench was the Ha Ha red brick wall (1402). This wall consisted of two courses of stone foundation below fourteen courses of red bricks.
- 3.1.4 The brickwork was bonded in English Garden Wall Bond with a pinkish white lime mortar.
- 3.1.5 The trench was also filled by a dark greyish brown silt loam fill (1406). The fill 1406 was sealed by a layer of brown clay loam topsoil (1401). A layer of plough soil was also uncovered in the ploughed field to the east of the Ha Ha ditch (1403).

3.2 *Finds*

- 3.2.1 No finds were recovered from the trench.

4 DISCUSSION AND INTERPRETATION

4.1 *Reliability of field investigation*

4.1.1 No factors affected the reliability of the field investigation.

4.2 Analysis

4.2.1 The excavation revealed that the wall is constructed upon two courses of stone foundation, using a pinkish lime mortar. There was little or no re-enforcing behind this section of wall, although in other locations where facing material has fallen away there is evidence of a dry stone backing wall. Nowhere is there evidence of considerable battering or careful preparations.

4.2.2 The investigation revealed the original depth and profile of the Ha Ha ditch, to be very close to the present profile. The ditch contained only one fill, a shallow accumulation of topsoil and vegetation.

4.2.3 The lack of multiple fills and considerable build-up of silt, suggests that either the banks of the ditch were well stabilised by the vegetation, or that the haha was well-maintained and cleaned as part of its early management.

4.2.4 Since the ditch would have acted as a drain, and in this function it would have collected a great deal of silt, it is more likely that the ditch has been cleaned.

5 ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Description	Depth (m)	Width (m)	Finds	Date
1401	Layer	Topsoil	0.26	8.0	No	-
1402	Structure	Ha Ha wall	1.22	0.50	-	-
1403	Layer	Plough soil	-	-	No	-
1404	Layer	Natural mudstone	0.32	4.20	-	-
1405	Cut	Construction trench	1.80	1.20	-	-
1406	Fill	Fill of construction trench	1.80	1.20	No	-

APPENDIX B - TRENCH 15

1 METHODOLOGY

1.1 Presentation of results

- 1.1.1 The soil and ground conditions for this trench are described below, followed by a brief description of the distribution of deposits.
- 1.1.2 Trenches are described according to their stratigraphic sequence from the earliest deposits reached in the trench upwards.
- 1.1.3 This is followed by a description of the finds and an interpretation and summary discussion of the results, a fuller discussion of the results in the context of the wider parklands landscape can be found within the main reports.
- 1.1.4 A table describing individual contexts can be found at the end of this section.

2 RESULTS: GENERAL

2.1 Location

- 2.1.1 The trench is located just east of the Dry Arch Bridge and extended from the base of the Ha-Ha Ditch, up over the main carriageway and slightly onto the verge to the south of the main carriageway.

2.2 Soils and ground conditions

- 2.2.1 The underlying geology in this part of the site was a layer of reddish brown mudstone.
- 2.2.2 Ground conditions were soft and no problems were encountered.

3 RESULTS: DESCRIPTIONS OF DEPOSITS

3.1 Features and deposits

- 3.1.1 The earliest deposit located within the trench was a layer of reddish brown mudstone, (1515). This layer was cut by the linear construction trench for the Ha Ha wall, (1514). The Ha Ha wall (1513) was constructed of red brick, 235mm x 110mm x 70mm. The wall, constructed using a English Garden Wall pattern, had a compact, white lime mortar, and stone foundation (1513). The pointing was flush with the face of the wall. The trench also contained a dark greyish brown silt loam fill (1512).
- 3.1.2 Layer 1515 was also cut by construction trenches 1508 and 1510. The construction cut 1508 contains a poorly built limestone and red brick drain (1507), size 235mm x 110mm x 70mm. A deposit of reddish brown mudstone,(1506), also filled the cut.
- 3.1.3 The construction cut 1510 contains a red brick wall (1509), 235mm x 110mm x70mm. The wall face was constructed, using a stretcher bond pattern and bonded with a compact, white, lime mortar. The wall 1509 was founded on one course of roughly hewn limestone.
- 3.1.4 The structure located at the northern end of the trench was a limestone drain, bonded with a pinkish white lime mortar (1516). A deposit of reddish brown, silt clay, (1505), contained within the Ha Ha ditch, has overlain the limestone drain 1516. Layer 1505 has also sealed the construction fills 1506, 1511 and 1512.
- 3.1.5

- 3.1.6 Within the centre of the trench, a path of well-sorted, rounded pebbles has been exposed (1503). The path has been constructed upon a foundation layer of brown silt clay (1504).
- 3.1.7 At the southern end of the trench, a carriageway (1501), constructed of rounded pebbles and larger pieces of flat limestone was also built upon a layer of brown, silt clay (1502). Both foundation layers directly overlie the natural mudstone layer 1515. A layer of clay loam topsoil seals the path (1503), carriageway (1501) and the Ha Ha ditch fill (1505).

3.2 *Finds*

- 3.2.1 No finds were recovered from the trench.

3.3 *Reliability of field investigation*

- 3.3.1 The drain structure 1516 was not fully exposed as the structure extended outside the area of investigation and consequently no stratigraphic relationships were established.
- 3.3.2 Extensive root action, attributable to a dead yew tree on the western limits of the trench, has truncated the sequence of deposits above and to the south of the drain structure 1507.

4 DISCUSSION AND INTERPRETATION

4.1 *Analysis*

- 4.1.1 The investigation revealed the original depth and profile of the Ha Ha ditch. The ditch, in comparison with the deposition noted within Trench 14, contained a substantial depth of accumulated material. This may be attributable to the greater surface area of the bowl shaped terminal of the Ha Ha ditch and also to the close proximity of the carriageway and a greater erosion of materials.
- 4.1.2 The positioning of the poorly constructed, probably 18th century, drain structure 1507 suggests that the terminal end required drainage. This drainage problem could account for some of the accumulation of materials. The drain abutted the eastern face of the Ha Ha wall and was constructed with mid-eighteenth century red bricks and bonded with the same mortar bond as the Ha Ha wall (1513). The structure also served as a low retaining wall to the southern end of the Ha Ha ditch terminal.
- 4.1.3 Situated beyond the trench's southern limits, was a limestone drain (1516). The structure was bonded with a compact, pinkish-white lime mortar and has been attributed to the early 19th century on this evidence alone. The bond is similar, to the lime mortar used within conduit structure 1708 (Trench 17) and suggests the two structures are possibly contemporary.
- 4.1.4 The Ha Ha wall was exposed within the base of the trench and consisted of two foundation courses of limestone, on which the outer face of red brick was built. The structure survived to a height of eleven courses, with the pointing flush with the wall face. This suggests that the brick work exposed in the trench originally sat above the 18th century ground surface. The Ha Ha terminated, approximately five metres from the northern end of the carriageway, 1501.
- 4.1.5 Abutting the southern end of the Ha Ha was a contemporary, 18th century, brick retaining wall (1509). The wall consisted of nine courses of regular red brick with roughly finished jointing. The rough bedding joints would suggest that the wall face would not have been exposed above the 18th century ground surface. The purpose of

the structure would have been to retain the ground surface above the southern end of the Ha Ha.

- 4.1.6 The trench also examined the path (1503) and carriageway (1501) to the south of the Ha Ha terminus. Both of these features followed the standard pattern for routeways identified during the works. They were both built on the same brown silt clay foundation layer (1502), and were covered with the same mixed rounded pebble surface (1501). The difference in width between the features probably indicates that the path leading to the Temple Greenhouse area was not designed for vehicular access.

5 ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Description	Depth (m)	Width (m)	Finds	Date
1500	Layer	Topsoil	0.65	18.88	No	-
1501	Structure	18 th century carriageway	-	4.08	No	-
1502	Layer	Foundation layer of the 18 th century carriageway	-	0.50	-	-
1503	Structure	Gravel path	0.08	2.10	No	-
1504	Layer	Foundation of gravel path	0.10	4.20	No	-
1505	Fill	Fill of the <i>Ha Ha</i> ditch	0.44	3.0	No	-
1506	Fill	Fill of 18 th century drain	0.40	0.30	No	-
1507	Structure	18 th century drain	0.65	0.70	No	-
1508	Cut	Construction trench for 18 th century drain	0.34	0.26	No	-
1509	Structure	Brick wall at end of <i>Ha Ha</i>	0.88	-	-	-
1510	Cut	Construction trench for Brick wall at end of <i>Ha Ha</i>	0.14	0.18	No	-
1511	Fill	Fill of construction trench 1510	0.14	0.18	No	-
1512	Fill	Fill of construction trench 1514	-	0.14	No	-
1513	Structure	18 th century <i>Ha Ha</i> wall	1.03		-	-
1514	Cut	Construction trench for 18 th century <i>Ha Ha</i> wall	-	0.14	No	-
1515	Layer	Natural mudstone	-	-	-	-
1516	Structure	19 th century limestone drain	0.65	0.32	-	-



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