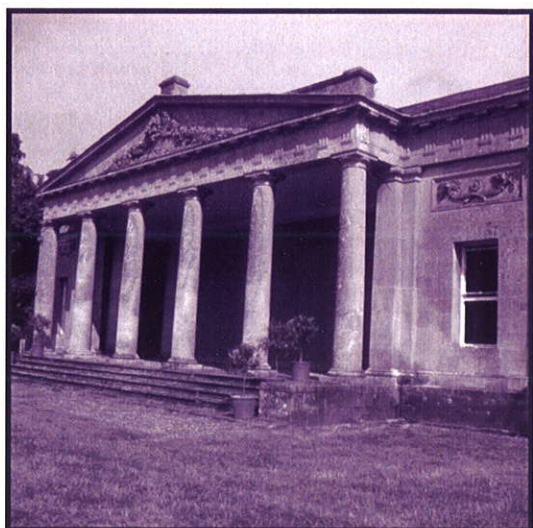




Croome Park Worcestershire

Building Assessment Report



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LIST OF CONTENTS

INTRODUCTION.....	1
I INTRODUCTION.....	2
1.1 The Overall Project.....	2
1.2 The Parkland Landscape and its Development.....	3
1.3 Geology and Topography.....	5
1.4 The Building Assessment Report.....	6
1.5 Summary of Works.....	6
DRY ARCH BRIDGE.....	9
2. dry arch bridge.....	10
2.1 Background Information.....	10
2.2 Results.....	22
3.3. Lean-to.....	24
3.4. Archaeological trenching.....	26
3.5. Discussion and Interpretation.....	26
3.6. Management and Conservation Recommendations.....	26
3.6.1. Recommendations.....	26
TEMPLE GREENHOUSE.....	20
3. Temple Greenhouse.....	21
3.1. Background Information.....	21
3.2. Results.....	22
3.3. Lean-to.....	24
3.4. Archaeological trenching.....	26
3.5. Discussion and Interpretation.....	26
3.6. Management and Conservation Recommendations.....	26
3.6.1. Recommendations.....	26
PRIVY BLOCK.....	32
4. The Privy Block.....	33
4.1. Background Information.....	33
4.1.1. Introduction.....	33
4.1.2. Specific aims and objectives.....	33
4.1.3. Summary of work undertaken.....	33
4.1.4. Historical Background.....	33
4.1.5. Current Condition.....	33
4.2. Results.....	33
4.2.2. Description.....	33
4.2.3. Discussion and Interpretation.....	34
4.3. Management and Conservation Recommendations.....	34
4.3.2. Recommendations.....	34
PARK SEAT.....	36
5. The Park Seat.....	37
5.1. Background Information.....	37
5.1.1. Introduction.....	37
5.1.2. Specific aims and objectives.....	37
5.1.3. Summary of work undertaken.....	37
5.1.4. Historical background.....	37
5.1.5. Current Condition.....	37
5.2. Results.....	38
5.2.1. Description.....	38
5.2.2. Archaeological trenching.....	39
5.2.3. Discussion and Interpretation.....	39
5.3. Management and Conservation Recommendations.....	40
5.3.1. Recommendations.....	40
PUNCH BOWL GATES.....	44

6	<i>The Punch Bowl Gates</i>	45
6.1.	<i>Background Information</i>	45
6.1.1.	<i>Introduction</i>	45
6.1.2.	<i>Specific aims and objectives</i>	45
6.1.3.	<i>Summary of work undertaken</i>	45
6.1.4.	<i>History</i>	45
6.1.5.	<i>Current Condition</i>	46
6.2.	<i>Results</i>	46
6.2.1.	<i>Description</i>	46
6.2.2.	<i>Excavation</i>	46
6.2.2.	<i>Discussion and Interpretation</i>	46
6.3.	<i>Management and Conservation Recommendations</i>	47
6.3.1.	<i>Recommendations</i>	47
BIBLIOGRAPHY		49
APPENDIX A - TRENCH DESCRIPTIONS		51

LIST OF FIGURES

Figure 1:	Plan of the park showing structures assessed and other principal structures
Figure 2:	Dry Arch Bridge elevations
Figure 3:	Dry Arch Bridge portal elevations
Figure 4:	Dry Arch Bridge trench plan
Figure 5:	Temple Greenhouse plan
Figure 6:	Temple Greenhouse elevations
Figure 7:	Temple Greenhouse elevations II
Figure 8:	Temple Greenhouse trench I I plan
Figure 9:	Privy plan
Figure 10:	Park Seat elevations
Figure 11:	Park Seat trench plan
Figure 12:	Punch Bowl Gates trench plan

Appendix

Trench Location Plan

Trench 02
Trench 03
Trench 04
Trench 05
Trench 11
Trench 12
Trench 13
Trench 20
Trench 21
Trench 22

List of Photographs

Plate 1:	Southern approaching to tunnel showing retaining wing walls and portal
Plate 2:	Coad stone Bacchus keystone with southern portal
Plate 3:	Interior of brick-vaulted tunnel
Plate 4:	Dry Arch Bridge, south side, Trench 4
Plate 5:	Dry Arch Bridge, north side, Trench 5
Plate 6:	Pedimented front of Temple Greenhouse
Plate 7:	Interior of Greenhouse
Plate 8:	Small holes in floor which formerly held sash posts
Plate 9:	Interior of lean-to to rear of greenhouse
Plate 10:	Roof truss above bothy with secondary ceiling abutting
Plate 11:	Primary front of Park Seat
Plate 12:	Park Seat, southern side
Plate 13:	Urn fragments from feature 2104. Part of base
Plate 14:	Urn fragments from feature 2104. Ornamental rims
Plate 15:	Urn fragments from feature 2104. Partly reconstructed rims
Plate 16:	Punch Bowl Gates

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.

1.1.3.2

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.

1.1.3.3

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.

1.1.3.4

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.

1.1.3.5

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.

1.1.3.6

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).

1.1.3.7	Task 6 - Evergreen Shrubbery Boundaries and Features. This work was concentrated on the Church Hill Clump and involved excavation, survey and desk-based analysis.
1.1.3.8	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.
1.1.3.9	Task 8 - Park Seat. This feature was subject to a program of building assessment accompanied by archaeological excavation.
1.1.3.10	Task 9 - South Park Ha-Ha. This short length of ha-ha was subject to photographic recording and analysis.
1.1.3.11	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;
1.1.3.12	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
1.1.3.13	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.
1.1.3.14	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.
1.1.3.15	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	<i>Introduction</i>
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.
1.2.2	<i>The Major Components of the Parkland Landscape</i>
1.2.2.1	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).
1.2.2.2	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.

1.2.3 Outline Chronology of the Development

1.2.3.1 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).

1.2.3.2 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.

1.2.3.3 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 Groto 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 The Groto was decorated with spars and shells Further drainage works were carried out to increase the supply of water to the lake
1780s	Robert Adam Barbara, Countess of Coventry	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 lake and river
1792-c1801+	James Wyatt Coade & Sealy	

(Adapted from Phoenix Consulting 1997, 28-29)

1.2.3.4. 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.

1.2.3.5. 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.

1.2.3.6. Croome Court was sold again in 1979 to the International Society for Krishna Consciousness and underwent limited renovation and redecoration in "an forgettable style". (National Trust 1998, 44). The Court changed hands again in 1986 and again in 1998, when the present owners, Montange Ltd, purchased the property.

1.2.3.7. 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.

1.2.3.8. 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

1.2.3.9. 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.

1.3. *Geology and Topography*

1.3.3. *Topography*

1.3.3.1. 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.

1.3.4. *Geology*

1.3.4.1. 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.

1.3.4.2. 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 limy clayey shales whilst within the eastern area there are fine silty loams (National Trust 1999).

1.3.5. Geology

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1.4. The Building Assessment Report

1.4.3. Aims and Objectives

1.4.3.1. The primary aim of the works outlined in this report was to supply detailed information on the nature, character and development of the buildings and their immediate environs which could be used to guide and inform the restoration of the parkland landscape by the National Trust.

1.4.3.2. Among the other objectives was to provide recommendations for further archaeological work. Previous surveys have been undertaken which have highlighted the structural condition of the buildings and made recommendations for their repair, therefore it is not the intention here to make an assessment of what structural work should be carried out but rather what archaeological monitoring should be carried out during any such works.

1.4.3.3. Another aspect of the work was to highlight specific areas of the buildings where some limited exploratory investigation would be likely to prove useful in improving our knowledge of the structures, particularly where such investigation would not prove destructive to the historic fabric of the buildings.

1.4.3.4. Following the issuing of the first draft of the current report some investigative and repair works have been undertaken on the buildings and the findings of these works have been integrated into this final report.

1.4.4. Previous studies

1.4.4.1. Each of the buildings and structures included in this report have been included in several previous studies of the buildings and landscape of Croome Park. These studies have included Croome Park Historic Landscape Survey (Phoenix Consulting, 1997), Croome Park Conservation Plan (The National Trust, 1998), Croome Park Restoration and Management Plan (The National Trust, 1999), Croome Park Worcestershire Fabric Report (Rodney Melville & Partners, 2000), Paint analysis report (James Finlay 2001). Relevant information from each of these reports has been incorporated into the current study. Of particular value are the large number of surviving historical documents including park maps, illustrations showing various park structures and original architects drawings.

1.5. Summary of Works

1.5.1. The works covered in this report include;

- Building analysis at the Dry Arch Bridge, Park Seat, Temple Greenhouse and Punch Bowl Gates
 - Excavation works at the Dry Arch Bridge, Park seat, Temple Greenhouse, Punch Bowl Gates and Privy Block
- 1.5.2. All of these works have been supported by documentary analysis involving the main secondary sources and historical map sources.



Figure 1: Plan of the park showing structures assessed and other principal structures.

DRY ARCH BRIDGE

2. DRY ARCH BRIDGE

2.1. Background Information

2.1.1. Introduction

2.1.1.1. The Dry Arch Bridge is one of the more important garden features at Croome carrying the main approach to the house from the west over the garden walk which links the Lakeside Garden and Greenhouse Shrubbery. It is located c.175 m to the east of the Punch Bowl Gates and immediately before the West Drive emerges from the shrubbery to approach Croome Court following the curve of the River. It was originally constructed in the 1760s, probably to the designs of Brown, and was remodelled in 1797 by James Wyatt using Coade Stone rustication. It is listed Grade II.

2.1.2. Specific Aims and Objectives

2.1.2.1. The general aims of the current survey of the Dry Arch Bridge were the same as for the other structures and outlined above in the general introduction to the project.

2.1.2.2. The more specific objectives were to

- Determine the age of the different sections of the bridge, approach walls and balustrading
- Locate any remains from the original 1760s Dry Arch Bridge.
- Examine the extent to which the construction of the 1970's Iron Bridge altered ground levels on the southern approach to the Dry Arch Bridge
- Locate and record the Ferry Steps
- Investigate the steps west of the Dry Arch Bridge marked on the Laser Survey plan
- Locate and record any architectural fragments that may shed light on the original construction of the balustrades and other features of the Dry Arch Bridge

2.1.3. Summary of work undertaken

2.1.3.1. The work consisted of a non-intrusive assessment of the above ground structure with associated intrusive archaeological excavation. The above ground work concentrated on interpreting visible evidence relating to the development and history of the structure and was based on an existing survey of the structure. Some repair works have been undertaken to the above-ground structure since the assessment was undertaken and although these works were not monitored by the OAU the findings have been discussed with the National Trust and the results incorporated into this final report.

2.1.3.2. The programme of archaeological excavation was focussed on exploring two discrete areas. The first group of two trenches (Trenches 4 and 5) were opened adjacent to each entrance portal of the bridge, whilst the other two trenches (Trenches 3 and 13) focussed on investigating the relationship between the Dry Arch Bridge and the Ferry Steps to the South. Features revealed within the trenches were drawn in plan. Additional notes and a photographic record (black and white prints and colour slides) were made during both elements of the recording programme.

2.1.3.3. Full details of the trenches can be found in Appendix A

2.1.4. Historical Background

2.1.4.1. The first documentary reference to the Dry Arch Bridge dates to 1768 when the painting of the house gate under the Dry Arch is reported (Phoenix Consulting 1997, 215). John Broome's map of the same year also appears to show the drive crossing over the path. Although Robert Adam produced a number of designs for buildings at Croome in the 1760s there are no Adam drawings of the Dry Arch or references to it in the Adam

accounts and it is therefore assumed that it was a Brown design constructed in the early to mid 1760s.

2.1.4.2. Although relatively little is known of the form of the original Dry Arch Bridge it is apparent that the drive was flanked by wooden paling as it passed over the path. There are references to the paling twice being painted green in 1783, being repaired in 1788 and being put up (possibly extended or repaired) in 1794 (Phoenix Consulting 1997, 215).

2.1.4.3. In 1797 the Dry Arch Bridge is known to have been substantially remodelled to the designs of James Wyatt using the famous artificial stone produced by Coade of London and used widely both at Croome and elsewhere in this period. The work included the partial dismantling of the original Dry Arch Bridge, the shortening of the subterranean passage carrying the path and the facing of both of the entrance portals to the arch in rusticated Coade stone voissorts. The date of the alterations are confirmed by *COADE LONDON 1797* being stamped on the underside of the two keystones with druid's faces on each portal.

2.1.4.4. The keystones are known to have been standard products in the Coade stone catalogue (No. 439) but the voissorts and vermiculated blocks were custom designed for the Dry Arch. William Stephens, (a mason) was paid in 1797 for work at the Dry Arch and J Sealy was paid for the Coade stone in 1798 (Phoenix Consulting 1997, 91).

2.1.4.5. There is a reference to steps being formed by the Dry Arch in 1807 which could either refer to the Ferry Steps or the supposed line of steps running up the steep bank to the south-east of the Dry Arch. There are also two references to the forming of a stone baluster at the Dry Arch Bridge. Forest spar stones were supplied for the Dry Arch in 1808 and in the same year the mason Stephens is reported to have been setting the baluster and spar stones at the bridge (Phoenix Consulting 1997, 91).

2.1.4.6. A stone balustrade on the Dry Arch Bridge (presumably the same one referred to in 1808) is known to have been severely damaged or destroyed by RAF personnel in the 1940s. This was subsequently replaced by the existing wooden balustrade prior to the RAF departing Defford in 1957.

2.1.5. Current Condition

2.1.5.1. The overall condition of the Dry Arch Bridge is moderately good. The brick-vaulted tunnel together with the entrance portals, particularly the Coade voissorts and rusticated quoins, is in good condition. This sadly contrasts with the Coade Baccus keystones which are in poor condition having been partially lost and heavily patched in modern render.

2.1.5.2. The condition of the wing walls flanking the approaches to the passage is also uneven. The upper half of the west wall to the north of the bridge has been lost (possibly only partially) and rebuilt unsympathetically in rendered brick. The lower half of this wall, however, together with the other three wing walls is in relatively good condition and appear to be structurally sound although there are some cracks and areas of structural alteration.

2.1.5.3. The historic balustrades flanking the drive over the bridge have been lost and replaced by modern structures.

2.2. Results

2.2.1. Description of existing structure

2.2.1.1. The Dry Arch Bridge consists of an underpass with retaining walls to each side which support a brick-vaulted bridge carrying the main West Drive over the path between Lakeside Garden and Greenhouse Shrubbery.

2.2.1.2. The two **northern retaining walls** are c.12 m long and are roughly parallel. The slope of the path down to the passage mirrors the slope of the coping up to the drive suggesting that the spoil from the cutting for the passage was used to build up the banks of the drive.

2.2.1.3. The **west wall** (north of bridge) has had significant repair works in the later 20th century and appears to have also been substantially rebuilt in an earlier (probably 19th-century) phase. When the assessment was undertaken the upper two-thirds of the wall (above the 'natural' ground level) was covered in a modern cement render with scouring to give the appearance of ashlar and it had partially come away towards the northern end to reveal red brickwork behind. The condition of the render was very poor with large cracks and hollow areas where it had ballooned away from the wall behind and it was therefore removed by the National Trust after the site work of the current assessment to allow the restoration of the wall. This revealed that behind the render the entire wall was constructed of red brick of probable 19th-century date bonded with lime mortar. The brickwork was of a rough quality, incorporating rat-trap bond in parts, and in parts it suffered from vegetation damage. The brickwork incorporates drainage pipes (probably added in 1970s/80s) which crudely discharge water from the embankment through openings in the render. Beneath the 'natural' ground level the wall is faced in dressed limestone with mason's scouring visible.

2.2.1.4. The **east wall** (north of bridge) is of fine-jointed ashlar to the upper half (above the 'natural' ground level) and dressed limestone with mason's scouring to the lower section.

2.2.1.5. The two **southern retaining walls** are c.8 m long and flare outwards to form a fan-shaped opening to the tunnel. There is an interesting distinction in the construction of the two retaining walls south of the bridge, in that while the east wall is of dressed limestone similar to the lower sections of the two walls north of the bridge, the west wall is of ashlar. The dressed limestone is again decorated or textured with numerous small vertical grooves formed with a chisel. A small piece of facing stone has come away to reveal rubble behind.

2.2.1.6. The two **entrance portals** at each end of the tunnel are of identical design with two pilasters flanking an shallow arch formed of vermiculated Coade stone voissors with a moulded Coade stone impost band and beneath this the vertical walls are faced in similar vermiculated rustication. As referred to above the keystones are clearly stamped with the date 1797 but many of the quoins are also stamped COADE LONDON on their chamfered corners.

2.2.1.7. In a recent study of the Dry Arch Bridge James Finlay, a specialist in historic paintwork, states that he believes the Coade Stone rustication would have originally been painted with limewash to blend it with the rest of the stonework (Finlay 2001, 3).

2.2.1.8. The pilasters support an ashlar entablature, cornice and balustrade plinth. The balustrade itself is of wood and of mid 20th-century date. The balusters are painted a mushroom colour and the only paint layer beneath this is reported to be an aluminium primer applied direct to the wood (Finlay 2001, 3).

2.2.1.9. The tunnel is formed of a shallow red brick vault bonded with white mortar and supported by non-dressed limestone blocks. Traces of a pale paint are visible (presumably a limewash) on the arch suggesting that the interior was originally painted white to unify the stone walls with the brick arch (Finlay, 2001). The floor is cobbled with small pebbles. Repair works undertaken after the site work of the current assessment have shown that the arch is three brick courses deep.

2.2. Archaeological trenching

2.2.2.1. Two pairs of archaeological trenches were opened. The first pair lay adjacent to the portals of the Dry Arch Bridge (see Figure 4): one immediately outside the southern portal (Trench 4) extending the full width of the passage and one immediately to the north (Trench 5) again the width of the passage. The second pair trenches lay south of the Dry Arch Bridge in the vicinity of the 1970's Iron Bridge

2.2.2.2. **Trench 4:** The investigation revealed the extent and form of the 18th century path (403) to the south of the Dry Arch Bridge. The path was 3.74m wide, consisting of well-sorted rounded pebbles. Several pieces of flat limestone were recovered from the overlying layer (402) but no recognisable architectural fragments were noted.

2.2.2.3. A deposit of plaster was also noted within the modern topsoil (401). This was fragmented due to tree root action and hence in an extremely poor condition. It was however possible to discern that there was an impression within the plaster surface of remnants of wood and a small sample was recovered for further analysis. Unfortunately the plaster could not be related to any part of the Dry Arch Bridge but it is possible that it originally belonged to the balustrades along the upper level of the bridge.

2.2.2.4. The most significant feature revealed within Trench 4 was what appears to have been the foundations of the longer primary tunnel (Structure 404). These foundations are formed of compact mortar and limestone, which differ in character from the later Dry Arch Bridge structure and also from foundation layers for paths and carriageways examined during this project. The foundations can therefore be attributed to the earlier c. 1760's bridge.

2.2.2.5. This would indicate that the southern part of the structure was truncated by at least 1.5 m. It also appears that the original tunnel was wider, as well as being longer, than the current structure because although the western foundation (404) aligns with the western face of the tunnel the eastern foundation is c. 0.8m outside the line of the eastern wall of the tunnel. This also suggests that the eastern retaining wall to the south of the passage may survive from the original structure.

2.2.2.6. **Trench 5:** No foundations were revealed in the trench north of the bridge suggesting that the original structure did not extend further to the north than the current bridge. The trench revealed that the extent and form of the 18th century path (502) to the north of the bridge was broadly similar to that to the south. The path was 3.45m wide, again consisting of well-sorted rounded pebbles and again several pieces of flat limestone were recovered from the overlying topsoil layer (501) but with no recognisable architectural fragments. The limestone deposit contained similar material to the limestone layer 402 in Trench 4, and was similarly fragmented and unstratified.

2.2.2.7. Located immediately below the bridge, is a surface of regular sized and linearly arranged cobbles. The surface's extents correspond exactly with the dimensions of the current Dry Arch Bridge indicating that it was laid after the reconstruction of the bridge in c. 1797. This is also confirmed by the lack of a cobbled surface in relation to the earlier foundations in Trench 4 (404).

2.2.2.8. The uniform cobbles of the surface had been truncated down their centre line by a construction cut for a limestone drain related to the drain covers revealed in Trench 5 (502). The cobbles have been re-laid in a less regular pattern and the cut can be clearly

traced running through the bridge. Unfortunately the shallow excavations in Trench 4 failed to locate this cut. A probable continuation was however noted in Trench 13 (see below) where a limestone drain of a similar character to 502 was recovered (1310).

2.2.2.9. The other pair of trenches, 3 and 13, (see Figure 5) were located south of the bridge. The first of these, Trench 3, was placed over the recently uncovered Ferry Steps. This revealed two limestone steps and an additional larger step below the water surface. These steps mark the location of the original 18th century Ferry Steps. Unfortunately truncation caused by the 1972 construction of the Iron Bridge removed any trace of associated paths or features.

2.2.2.10. Trench 13 ran from Trench 3 in a north westerly direction, cutting across the line of the original path leading from the Dry Arch Bridge to the Lakeside Garden. The trench revealed that ground levels in the area have been significantly altered due to the 1972 construction works. The bridge abutment and associated drainage pipe (1307) had severely truncated the archaeology of the area and in places raised the ground surface by c. 0.5m. This alteration in ground level has radically altered the southern approach to the Dry Arch Bridge.

2.2.2.11. The trench also revealed the location of the 18th century pathway (1312) which runs on a different course to the current layout, and lies approximately 0.5m below current ground surface. This pathway corresponded in style and character with other paths examined during the project.

2.2.2.12. Another interesting detail recovered during the excavations was the limestone drain (1310) mentioned above. Unfortunately truncation by the later ceramic pipe (1307) removed any evidence of the interface between the path (1312) and the drain (1310). The evidence does however seem to indicate that the drain post-dates the path.

2.2.2.13. Finally, Trench 13 also examined the steps marked on the Laser Plan just west of the Dry Arch Bridge on the slope leading up to the carriageway. The steps (1314) were found to be of wooden construction and of a style in keeping with a late 20th century date. The material used in their construction was paralleled by wooden boards used to retain a layer (1305) dated to the 1972 works in Trench 13. The steps seem to have been connected to the main carriageway in the vicinity of Trench 16 where a layer of pebbles (1604) were recorded leading towards the top of the steps.

2.3. Discussion and Interpretation

2.2.3.1. The Dry Arch Bridge is among the more significant structures at Croome and the current assessment has shed light on the origins and development of the structure. The original structure is known to have been constructed in the 1760s and that it was substantially altered in 1797. It was previously known that the subterranean passage was shortened and the foundations (404) uncovered in the southern trench appear to confirm that it was the southern end of the passage that was truncated. They also suggest that the passage may have been wider than that existing and that the structure was substantially or entirely rebuilt. This would be in keeping with work recorded as being carried out by William Stephens, the mason, in 1797. His work at the Dry arch bridge included: pulling down the walls, shortening the arch, unpacking Rock Work and setting Rock Work. (Phoenix Consulting 1997, 91).

2.2.3.2. The balustrades were flagged early on in the project as being of particular interest to the National Trust in terms of their restoration programme. The current wooden balustrades are obviously not original and it is hoped that some evidence of the earlier features would be recovered in the form of architectural fragments from Trenches 4 and 5. Unfortunately no architectural fragments were recovered although a small section of plaster with a wood backing may have originated from these features, but this cannot be verified.

2.2.3.3. The relationship between the Dry Arch Bridge and the Lakeside Garden and Ferry Steps has been severely compromised by the intrusion of the 1972 Iron Bridge. This structure and its associated drain has truncated numerous archaeological deposits and considerably raised the ground level. It has also removed any evidence of the path that may have originally run from the Ferry Steps to the West Drive east of the Dry Arch Bridge. A small section of limestone block was noted within the root system of a yew tree on this slope perhaps indicating part of the line of the earlier pathway.

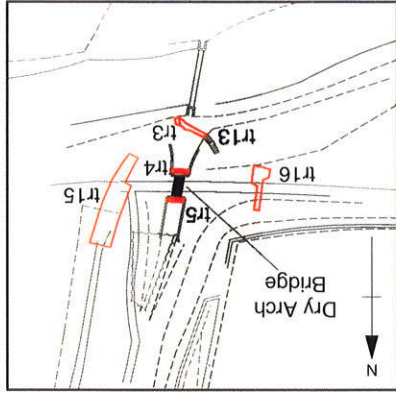
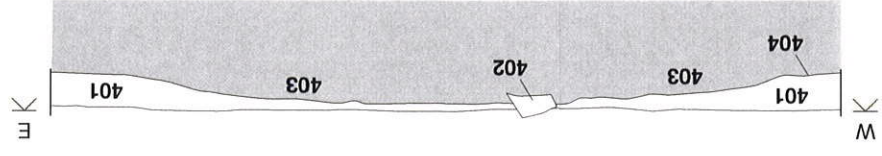
2.2.3.4. The recent work to remove the render from the western retaining wall on the north side of the bridge has revealed brickwork of a form which suggests that the wall was substantially rebuilt in the 19th century and only rendered (rather than rebuilt) in the 1980s.

2.3. Management and Conservation Recommendations

2.3.1. Recommendations

1. The west wall to the north of the bridge is in a poor condition and it is anticipated that it will be rebuilt or repaired in a more sensitive manner than the modern render. The removal of the render has shown that the brickwork behind is of probable 19th-century date and it is therefore of some historic value in its own right. It may therefore be decided to retain the brickwork or to replace it with stonework similar to that on the east wall which would be aesthetically closer to the original form of the structure. The drainage pipes should be removed from the west wall and the drainage redirected to fall away from the Dry Arch Bridge towards the north-west.
2. It is also anticipated that the existing timber balustrading will be replaced by more appropriate stone balusters and all attempts should be made to determine the historic form of the balustrade to allow this. This may be possible from early to mid 20th-century photographs showing the Dry Arch Bridge which are likely to survive either in a public archive or a private collection to which it may be possible to arrange access. It is likely that the existing wooden balusters are replicas created using the surviving previous stone balusters as models and it should be possible to confirm the previous number of balusters from the holes within the plinth which should be visible when the wooden balusters are removed.
3. The ground surface of the south of the Dry Arch Bridge is artificially high and should be lowered to original ground levels when the Iron Bridge is removed. This work should be archaeologically supervised to prevent unnecessary impact on buried 18th century deposits.
4. The original paths running from the Dry Arch Bridge to the Ferry Steps and the Lakeside Garden should be reinstated upon removal of the modern ground surface. It should be possible to reuse the paths lines revealed during the excavation where they survive. Other areas will need to be re-established using the correct surfacing and foundation materials.
5. The wooden steps located on the bank, east of the Dry Arch Bridge southern approach, are contemporary with the 1970's Iron Bridge. The path from the Ferry Steps to the West Drive has not yet been located. Exploratory work should commence on the bank to the east of the Dry Arch Bridge to locate this path. This work should be archaeologically supervised.

section 401



section 501

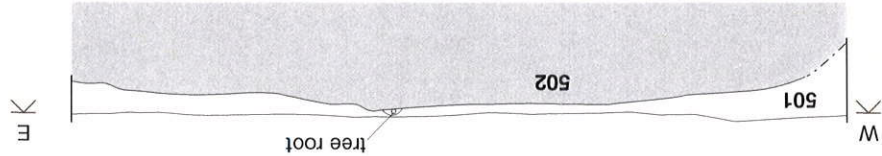
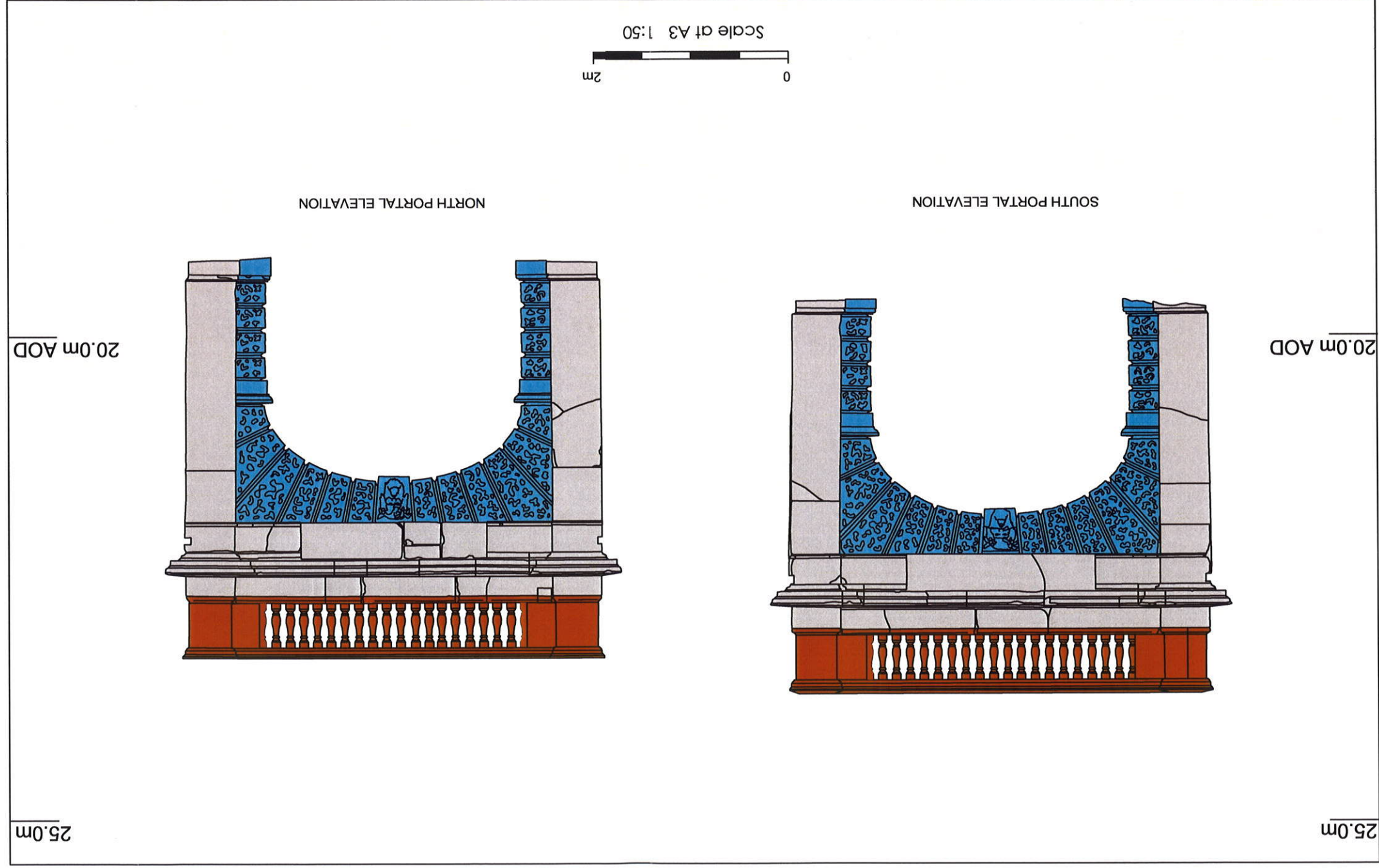


Figure 4: Trench 4 and 5 plan and sections

Figure 3: Dry Arch Bridge Portal Elevations.

Key

ashlar	Soft wood	Coade stone
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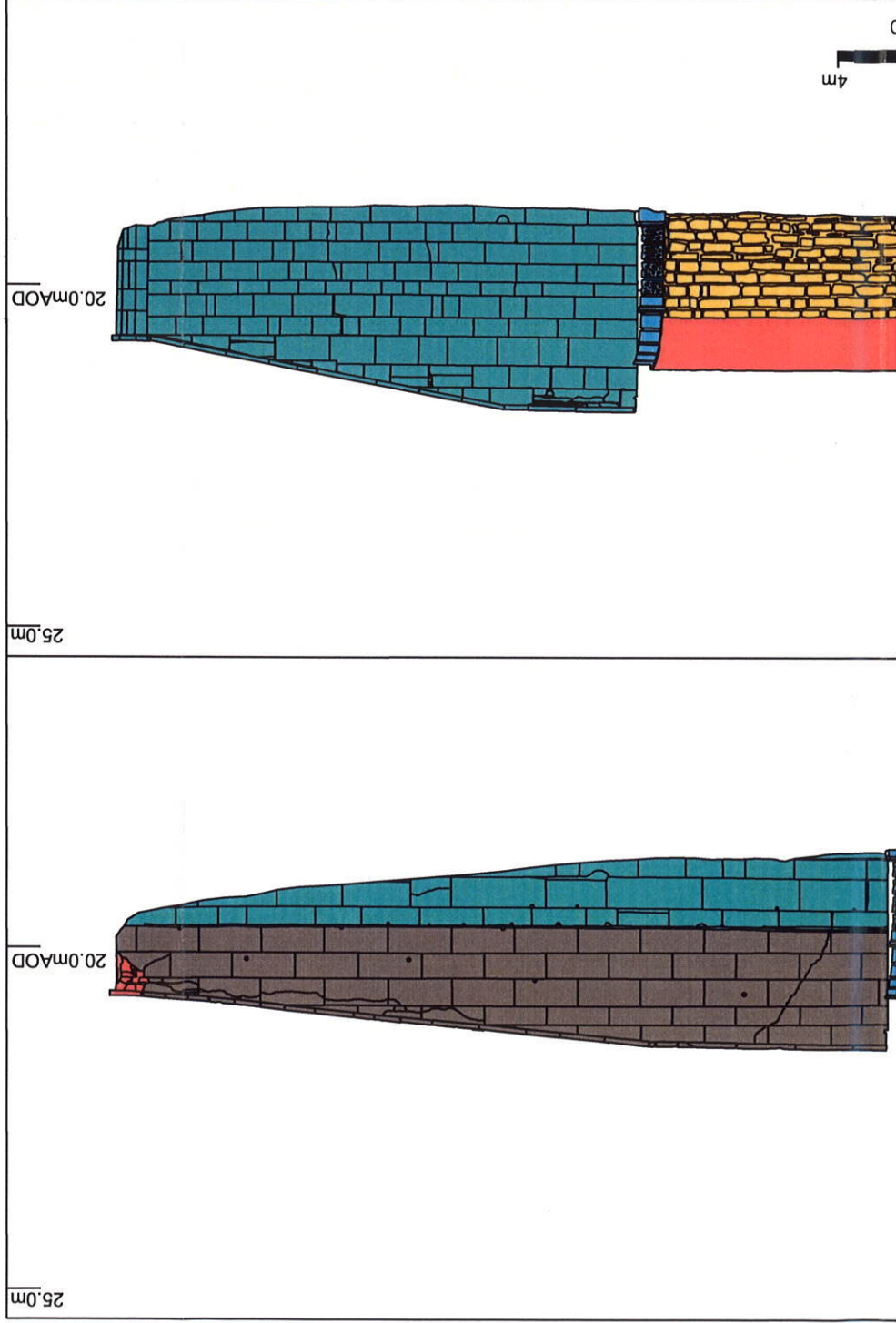
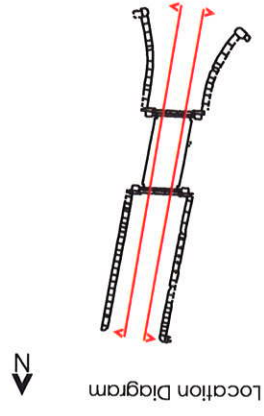
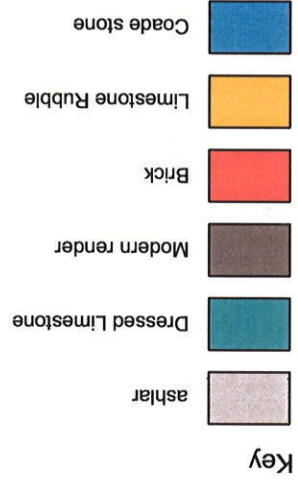


Figure 2: Dry Arch Bridge Elevations.



TEMPLE GREENHOUSE

3. TEMPLE GREENHOUSE

3.1. Background Information

3.1.1. Introduction

3.1.1.1. The Temple Greenhouse is one of Croome's most important and impressive park buildings having been constructed in the early 1760s to the designs of Robert Adam. It was Adam's first building at Croome and forms part of the third main phase in the development of the Croome Park landscape. It is of particular importance due to its prominent location within the Greenhouse Shrubbery, which links with the Lakeside Garden, and due to its sightlines to the Church and Croome Court. Its significance is reflected in its Grade I listing.

3.1.2. Specific aims and objectives

3.1.2.1. The overall aim of the current works undertaken on the Temple Green is the same as that undertaken on the other structures and detailed in the general introduction above. More specific objectives included;

- Investigating evidence relating to the former sash windows
- Examining evidence for the heated floor or hypocaust.
- Examining the evidence for pathways at the rear of the structure

3.1.3. Summary of work undertaken

3.1.3.1. The programme of work consisted of a non-intrusive building survey and the opening of a single trial trench adjacent to the north-east corner of the building. The building assessment was based on an existing survey of the structure (surveyed by The Downland Partnership) and both elements of the archaeological work consisted of the creation of a photographic record (black and white prints and colour slides). Subsequent to the issuing of the first draft of the current document some investigative works were undertaken inside the Temple Greenhouse. This principally consisted of lifting several stone floor flags and although the work was not monitored by the OAU the results have been discussed with the National Trust and incorporated into this final document.

3.1.4. Historical Background

3.1.4.1. The Temple Greenhouse was Robert Adam's first design for a building at Croome and his original drawings survive dated 1760. The design is shown with five pairs of large sash windows with each sash having 30 lights. The plan is shown with a large open area immediately behind the portico and two separate ante rooms, one to each side, divided from the main greenhouse by solid walls. This contrasts to the current building in which the interior is a single open space with the two side rooms only divided by pairs of columns. The Adam drawings shows that the main access to each of these rooms was to be via a pair of short external staircases at each end of the building.

3.1.4.2. Although building on the Greenhouse probably started in 1760 it was only completed in c.1765. The columns are known to have been installed in 1763 and in 1764 John Hobcroft was paid for work on the pediment mouldings together with the sashes and sash frames with brass pulleys, a plant stand and for five seats. The Adam drawings show statues of Ceres and Flora in the niches to each side of the portico (where there are now sash windows) and these statues are known to have been supplied by John Cheere in 1763. The decoration of the pediment, including a basket of flowers and festoons is shown on the original Adam drawing as broadly similar to that existing today and Seffrin Aiken is known to have been paid for this work in 1765 (Phoenix Consulting 1997).

3.1.4.3. The drawings also show the lean-to at the rear of the greenhouse added later in pencil and an invoice is known to have been made in 1763 for works including "adding a shed behind for the sashes". Thus it appears that the lean-to behind the greenhouse was added principally to house the large sash windows during the summer months and that the structure was added before construction on the main greenhouse had been completed. However the lean-to abuts the rear wall of the greenhouse confirming that it was added after the rear wall was built and that it was not part of the original design for the Temple Greenhouse (Croome Phoenix Consulting 1997 Vol. 1 p.64). William Dean's *Descriptive Account of Croome* (1824) confirms some of the details of the Temple Greenhouse and particularly that it was 'In summer an apartment and in the winter, a greenhouse, with the sashes installed'.

3.1.4.4. Photographs of the greenhouse appeared in two early 20th-century editions of *Country Life* (1903 and 1915) and these confirm that in this period the sashes remained in-situ and the greenhouse remained in use. The sashes are shown to have had 24 lights each (in contrast to the 30 lights shown on Adam's plan) and there are shown to have been smaller sashes to each side of the portico with six over six lights (contrasting with the current four over four) with statues (Ceres and Flora) on the sill immediately in front of them.

3.1.4.5. The greenhouse is reported to have been restored by the Historic Buildings Council in the 1970s at which time it is understood the large sashes were removed and lost (National Trust 1998).

3.1.5. Current Condition

3.1.5.1. The current condition of the building is relatively good with the main greenhouse appearing to be structurally sound and retaining something close to its primary form. The main areas in which the condition of the main building is worse is in relatively superficial and less significant areas such as the small 20th-century windows to either side of the front. The lean-to is in a worse condition with the body and partition requiring significant repairs. However the primary roof structure of the lean-to appears to be structurally sound.

3.2. Results

3.2.1. General Description

3.2.1.1. The Temple Greenhouse consists of two main elements: the main orangery itself and the lean-to which was not part of the original design but was added before construction of the main greenhouse had been completed. Although the principal original function of the lean-to was to store the sashes in the summer months a small body was created at one end of the structure which housed the boiler and provided accommodation for the greenhouse keeper or the man who stoked the boiler.

3.2.2. Greenhouse

3.2.2.1. The main greenhouse is a rectangular plan ashlar building (probably ashlar-faced brick) with a brick rear wall and a gabled roof.

3.2.2.2. The *front elevation* (south) is dominated by a projecting portico with pediment supported by six Tuscan columns and entablature (Plate 4). The pediment is decorated with a carved basket of overflowing fruit which is shown on the original 1760 Adam drawings and there is a small chimney (possibly ornamental) at the apex of the pediment. There was formerly a glazed screen of large sash windows immediately behind the columns which were still in-situ in 1915 (*Country Life* article) but have now been lost. The portico is reached by a small flight of steps between low flanking pedestals (the upper courses of which have been reset), and there are several small notches in the upper faces of the steps (c.15 cm x 10 cm) which are deliberately cut

rather than due to damage. Two of these are on the first step up and towards each pedestal (although not equidistant from the centre) and they may have supported the base of an upstanding structure(s).

3.2.2.3. To either side of the portico are recessed ashlar walls incorporating a high panel with carved garlands between Tuscan pilasters and beneath entablature. Beneath each of the panels are sash windows (four over four) which appear to be of early to mid 20th-century date and are reported to have been inserted in the 1940s (National Trust 1998, 170). Sash windows are shown on the 1903 and 1915 photographs but these are six over six sashes and they had statues of figures on the window sills. The statues (of Ceres and Flora) are also shown on the original Adam drawing (possibly the same statues) in the same location but in front of blind panels or niches. It appears likely that there was an alteration in the design before construction works started and the blind panels were replaced by sashes at that stage.

3.2.2.4. A watercolour by EF and TF Burney (*Green House at Croomb*, 1784. Phoenix Consulting 1997, Fig 26) appears to show openings at the location of the windows and as the illustration depicts the building in summer (the large sashes having been removed) it is likely that the small side sashes had also been removed for the season. There are no statues on the sills and they had presumably also been temporarily removed. A further illustration (C Turner after J Pitman: *View of the Temple [Greenhouse]* 1824. Phoenix Consulting 1997, Fig 43) shows the building with statues on the sills and the sashes apparently in-situ.

3.2.2.5. The *west elevation* (side) has two Tuscan pilasters supporting entablature and a plain pediment. Beneath the entablature is a plain horizontal panel above a semi-circular headed full height recessed panel above ashlar plinth and beneath that a rubble base only towards the rear where the ground level lowers. The original Adam drawing shows a short staircase up to a doorway where the arched panel is now situated. It may be that the doorway has been blocked and the stairs removed. One small piece of evidence suggesting this are two central stones within the plinth which have been replaced but there is no other evidence suggesting a blocked door or former stairs and it is much more likely that the doorway and staircase were never built. Particularly suggesting this is the illustration of the greenhouse dated 1784 (EF and TF Burney *Green House at Croomb*, 1784) which clearly shows that there were no stairs or doorway in the west elevation at that date.

3.2.2.6. The *east elevation* (side) is very similar to the west with Tuscan pilasters, entablature, horizontal panel and semi-circular arch-headed panel. Again the arched panel is shown as a doorway in the 1760 Adam drawing together with a short flight of stairs up to it but there is no archaeological evidence to suggest that this was ever built. Also suggesting this is the 1824 illustration (C Turner after J Pitman: *View of the Temple [Greenhouse]* 1824) which shows that there was no doorway or stairs at this date.

3.2.2.7. The *north elevation* (rear) of the greenhouse is now largely obscured from the outside by the brick lean-to (see below) which was not part of the original design of the greenhouse and was added in c.1763 after construction of the rear wall but before the completion of the greenhouse. The greenhouse rear wall is visible inside the lean-to and is constructed of red brick in English garden wall bond (four courses of stretchers to one of headers) laid with relatively soft lime mortar. The brickwork is set on a rubble stone plinth and the eaves are decorated by a projecting dentil course. As detailed below the formerly external dentils enclosed by the later lean-to have been knocked off. One feature worth noting in the rear wall of the greenhouse is the small brick chimney towards the eastern end of the building which projects above the slope of the roof between the greenhouse and the lean-to. The particular significance of this is that it is likely to have formed part of the greenhouse heating system creating a draft to pull heated air around the ducts beneath the floor of the building.

3.2.2.8. The *plan* of the greenhouse is now a single open space with the main area immediately behind the portico only divided from the two smaller side rooms by two pairs of columns (Plate 5). Adam's original drawings show the two side rooms physically separated from the central area by walls and there is a door opening between the west room and the central area. The plan also appears to show a void within the two dividing walls together with the rear greenhouse wall which may potentially have been a heating duct.

3.2.2.9. As has been detailed above it is known that the greenhouse as built differed to Adam's drawing particularly to the sides and it is possible that the greenhouse was always a single open space. However in his *Descriptive Account of Croome*, written in 1824, William Dean describes the greenhouse as being 'open in the centre, and closed at each extremity, where two interior rooms of good size are formed' (Phoenix Consulting 1997, 157). This would suggest that the two ante rooms were physically separate as shown on the Adam drawing although no conclusive evidence for this has been identified in the current non-intrusive assessment. In addition to this the fact that windows appear to have replaced the originally intended blind panels in the front elevation (possibly as a consequence of not incorporating the intended end doorways) may also suggest that the end rooms were separate and would have been too dark without windows.

3.2.2.10. Immediately behind each of the four inner columns at the front of the portico are two small holes (3.5 cm diameter, 9 cm behind column base) which would have supported the base of the frames for the sash windows (Plate 6). There is no visible evidence of the how the upper ends of the frame would have been supported and the holes are immediately beneath an internal cornice. It may be that the upper frame was supported by the heads of the columns which project beyond the inner face of the lintel beneath the cornice.

3.2.2.11. The floor of the greenhouse is formed of stone flags diagonally set. The floor is generally fairly uneven and although this is largely due to wear and minor subsidence there appears to be a distinct shallow dip across the full width of the floor towards the rear of the building which may be indicative of a heating duct beneath the floor. In several areas the floor shows areas of patching and replaced stones. This is particularly apparent in the north-west corner where several bricks and later stones have been added. Although these may just have replaced damaged stonework they may relate to a feature of the under-floor duct and they could be lifted without damaging the original floor to see what evidence may be beneath.

3.2.2.12. After the site work for the current assessment had been undertaken several stone flags were lifted by the National Trust and although these works were not observed by the OAU it is understood that they revealed a brick-arched duct beneath the floor, presumably for heating. The location and orientation of the feature suggested that the duct extended along the spine of the building and that further branch ducts may have extended across the building.

3.2.2.13. A tall primary stone skirting extends around the interior of the greenhouse together with a plaster dentil cornice which also appears to be primary.

3.2.2.14. After the site work for the current assessment was completed The National Trust opened a small exploratory hole within the greenhouse ceiling to provide some indication of the form of the roof above. Although the OAU was not present when the hole was opened and it is not known what exact form the roof structure takes it is understood from The National Trust that the trusses appear to be primary. The roof space was also reported to house a large number of bats.

3.3. Lean-to

3.3.1.1. **Exterior:** The lean-to is constructed in a similar style to the rear wall of the greenhouse, with a red brick English garden wall bond (four courses of stretchers to each header course) with a relatively soft lime mortar. Each wall is set on a rubble stone plinth and there is brick dentilwork at the eaves which matches the main greenhouse. Although the external construction is very similar to that of the rear wall of the greenhouse it is clearly of a later date because it abuts the greenhouse wall rather than being keyed-in. There are tall arch-headed doorways in each end elevation beneath fan lights and high quality rubbed brick semi-circular arches with fine jointing. The west door and fan light are historic and potentially primary but there is cement mortar to the jambs of the east door suggesting it is later and the fanlight has lost its glazing bars.

3.3.1.2. Among the more interesting features of the lean-to is a small, low arched opening in the east elevation immediately above ground level between the door and the rear of the greenhouse. The opening leads into a brick flue which curves around into the rear wall of the greenhouse and was almost certainly part of the greenhouse's heating system. It presumably connected with the boiler immediately within the bothy and provided an inlet of fresh air which was heated and carried beneath the greenhouse floor and possibly within the rear wall of the building. As referred to above recent works by the National Trust have identified a brick-arched under-floor heating duct along the spine of the greenhouse.

3.3.1.3. There are three sash windows in the north elevation beneath square-headed rubbed brick lintels. Each of the window openings are primary but the windows themselves are largely later (probably 20th century) although some historic glazing bars (possibly original) survive. Little of the glazing survives. Immediately beneath the sills of each of these windows is an area of brickwork with cement mortar but this strongly appears to be repointing rather than rebuild.

3.3.1.4. **Interior:** The interior of the lean-to is divided into two areas: a three and a half bay wide area to the west, open to the roof, in which the large greenhouse sashes were stored during summer (along with other garden paraphernalia) and a one and a half bay wide storied area to the east which provided accommodation for the greenhouse keeper (Plate 7).

3.3.1.5. The roof is supported by four trusses all of which survive from the original construction of the building. Each truss comprises a tie, a central post with jowled head, a principal rafter and a strut between the jowled head of the post and the upper face of the tie immediately adjacent to the greenhouse wall. The truss members are of regular softwood (probably pine) and are tenoned (pairs of pegs at each joint). Each tie is roughly inserted into the primary rear wall of the greenhouse further confirming that the lean-to was a secondary addition. Each post supports a single purlin which in turn supports the common rafters (six to each bay) which are also largely original with some secondary additional supports added.

3.3.1.6. The walls of the larger room are all of unpainted brick and the floor is of red pavers laid on edge. The primary dentil bricks which project from the eaves of the original external rear wall of the main greenhouse have been crudely knocked off to allow the sloped lean-to rather tops to rest on top of the greenhouse wall. The room is divided from the smaller bothy by a simple nailed stud partition of probable 19th-century date from which much of the plaster has been removed.

3.3.1.7. The bothy at the east end of the lean-to appears to be a secondary alteration and that in the original building the open room was four full bays wide with a smaller single bay room at the east end. This is principally suggested by a distinction in the floor surface in which the red pavers found in the open room continue up to the line of the first truss from the east while the eastern half is formed of blue pavers.

3.3.1.8. At the south-east corner of the bothy is an upstanding brick structure (c. 1 m high) which incorporates and encloses the brick flue previously referred to which curves from the external east wall of the bothy into the rear wall of the greenhouse. It is likely that the structure also incorporated a hearth or a small fire box to heat the air passing into the greenhouse but the evidence is not currently visible to confirm this. However the upper section of the structure has been recently rebuilt and it would be possible to remove some of this later brickwork to investigate the heating system without damaging the primary structure.

3.3.1.9. Immediately to the west of this is a plain fireplace which abuts the rear wall of the greenhouse. The flue to this fireplace rises against the greenhouse wall up to a point just above first floor level and then curves into the wall to link with the vertical flue within the wall which exits through the small chimney visible externally above the roof. The fireplace is historic (18th - or possibly early 19th-century date) although as the lean-to is known to have been a secondary addition to the greenhouse it must be later than the rear wall of the greenhouse.

3.3.1.10. At the north-east corner of the bothy is a plain curved staircase dating to the insertion of the upper floor to this end of the building (probably later 18th century). The first floor consists of a north-south principal joist directly beneath the truss with east-west common joists tenoned into the principal (Plate 8). The first floor is covered in large old (possibly reused) boards and there is a lath and plaster ceiling (now partially collapsed) which is supported by east-west common joists and a north-south principal joist immediately adjacent to the roof truss but independent to it. The first floor joists and first floor ceiling joists all appear to have been inserted into both the rear wall of the greenhouse and the walls of the lean-to rather than incorporated into its construction, suggesting that the first floor was a secondary addition.

3.4. Archaeological trenching

3.4.1.1. A single trench (Trench 11) was opened immediately to the east of the rear lean-to. This revealed a significant build up of deposits in that area. These probably relate to construction debris associated with the building of the Temple Greenhouse and Lean-to. No evidence for established paths was recorded. The excavation also revealed a layer of poorly sorted pebbles which were interpreted as the remains of a small makeshift soak away feature which extended 0.6m out from the Greenhouse Walls. It would appear that this would have served as a drain in place of high level guttering.

3.5. Discussion and Interpretation

3.5.1.1. The programme of non-intrusive building assessment and excavation has been able to shed some light on the construction and development of the Temple Greenhouse, although the evidence collected has unfortunately not been able to provide definitive answers to the main questions regarding the sash windows and heating system. The building has already been the subject of several studies and it will only be possible to fully interpret these features when intrusive works are undertaken and observed archaeologically (see below).

3.5.1.2. The main findings of the current work has been to identify the location of the holes for the sash posts, to confirm the order of construction of the building with the lean-to added before the completion of the greenhouse, to confirm that the roof trusses in the lean-to are primary 1760s features and to show in what areas the structure as built differs from the original Adam drawing.

3.6. MANAGEMENT AND CONSERVATION RECOMMENDATIONS

3.6.1. Recommendations

3.6.1.1. Although the condition of the main greenhouse is relatively good it is likely that a number of repairs will be undertaken which have the potential to add to the understanding of the building. It is recommended that any such works are archaeologically monitored. The works are likely to include the replacement of the existing windows to either side of the front of the building which replaced the previous windows some time after 1915. The original side windows appear to have been removed in the summer months and evidence of them may remain in-situ beneath the existing frames. Other repairs which may be undertaken include the possible repair of the stone greenhouse floor and works such as this should be observed archaeologically and any features recorded.

3.6.1.2. Other than repairs to the existing structure the main works to the greenhouse are likely to be investigations to aid the interpretation of the building and restoration works to enhance its character. This would principally involve the investigation of the heating system and the large sash windows and subsequently the possible reinstatement of the sash windows to allow the greenhouse to return to its original use.

3.6.1.3. The reinstatement of the windows would greatly enhance understanding of the greenhouse as although the existing structure is architecturally impressive it requires some imagination to see it as a greenhouse and returning it to an orangery would help bring it alive. The holes for the lower fixings of the windows remain visible and exploratory works should concentrate on the upper fixings. From the early 20th-century photographs it strongly appears that there would have been an upper horizontal beam beneath the lintel soffit supported by posts immediately behind each column. As there is no evidence immediately apparent of such a fixing the horizontal member must have been structurally relatively independent from the columns but close inspection of the lintel and column heads may reveal the trace of a former frame.

3.6.1.4. Although it is unlikely that the original heating system will be reinstated, exploratory works in this area would assist greatly in the interpretation and understanding of the building. These works would be concentrated in the bothy together with the greenhouse floor and rear wall. As referred to above some stone floor flags have been lifted since the site work of the current assessment was undertaken and these have confirmed the existence of brick-arched under-floor duct. The exact arrangement of the ducts is not known (although it appears to include a duct along the spine of the building) and further areas of the floor could be lifted to confirm this.

3.6.1.5. Among the first tasks which could be undertaken, due to its non-intrusive nature, would be to send a CCTV probe into the duct which exits in the east wall of the bothy. It is possible to see that the duct curves into the rear wall of the greenhouse and if this is not blocked it should be possible to determine whether the duct extends beneath the greenhouse floor or into the rear wall. Another possibility (which may already have been attempted) may be to carefully attempt to pass some smoke into the passage to see whether it exits through the chimney.

3.6.1.6. Perhaps the main area of the Temple Greenhouse where understanding is currently limited is in the heating system within the bothy. The small curved duct carried air from the outside into the greenhouse and it was presumably heated by a small boiler in the bothy. There is an area of modern brickwork to the upper courses of the boiler and these could be removed without damaging historic fabric to investigate the construction beneath.



Plate 1 : Southern approach to tunnel showing retaining wing walls and portal



Plate 2: Coade stone Bacchus keystone within southern portal



Plate 3: Interior of brick-vaulted tunnel



Plate 4: Dry Arch Bridge, , south side, trench 4. Possible fallen Balustrade and gravel surface



Plate 5: Dry Arch Bridge, north side, trench 5. Gravel surface and drains

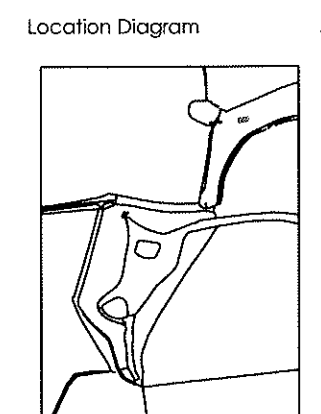
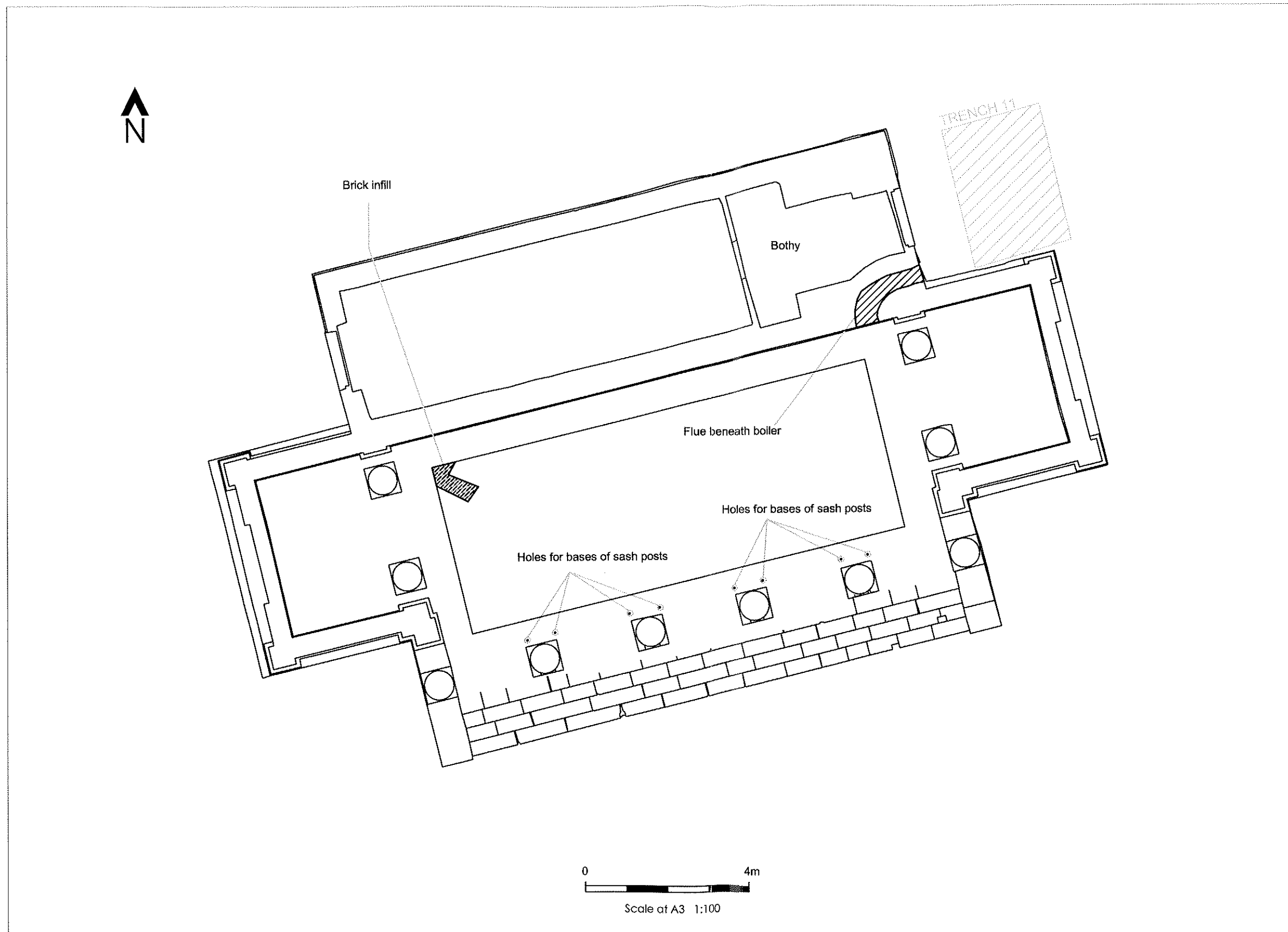
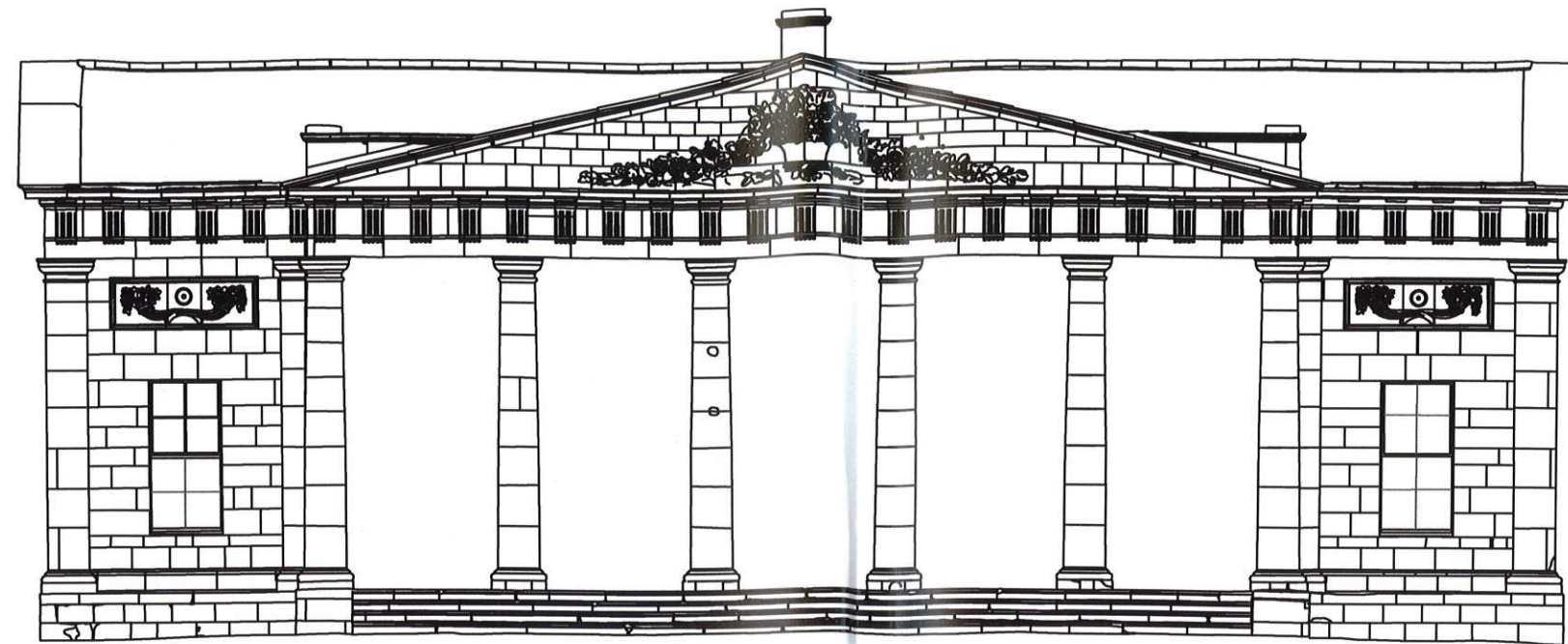
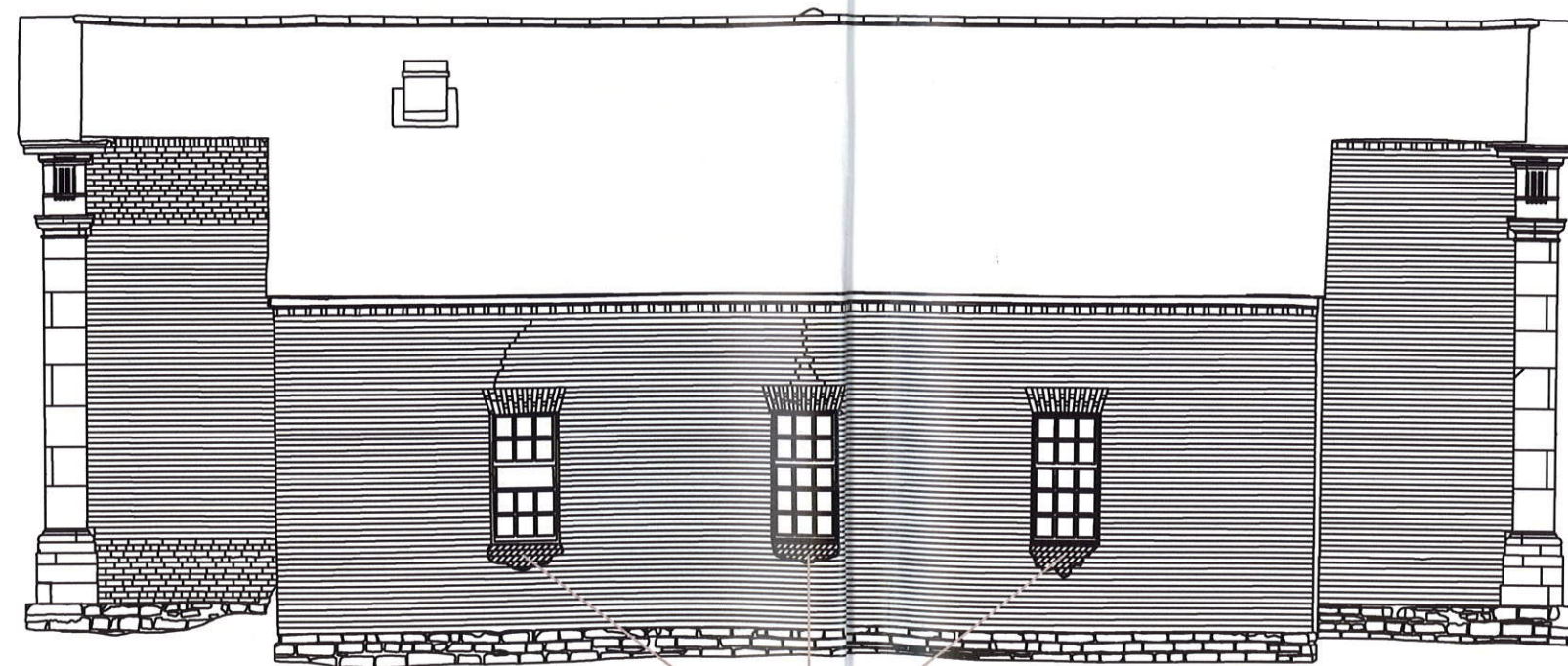


Figure 5: Temple Greenhouse Plan.



Exterior South Elevation



Repointing beath
window:
Exterior North pvation



Scale at A3 00

Location Diagram

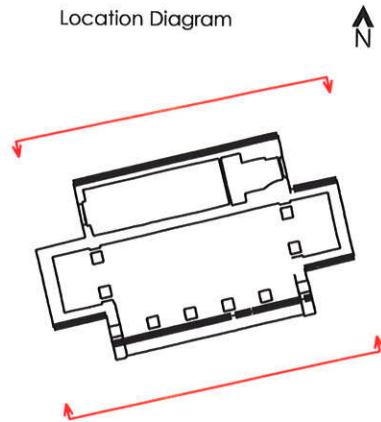


Figure 6: Temple Greenhouse Elevations.

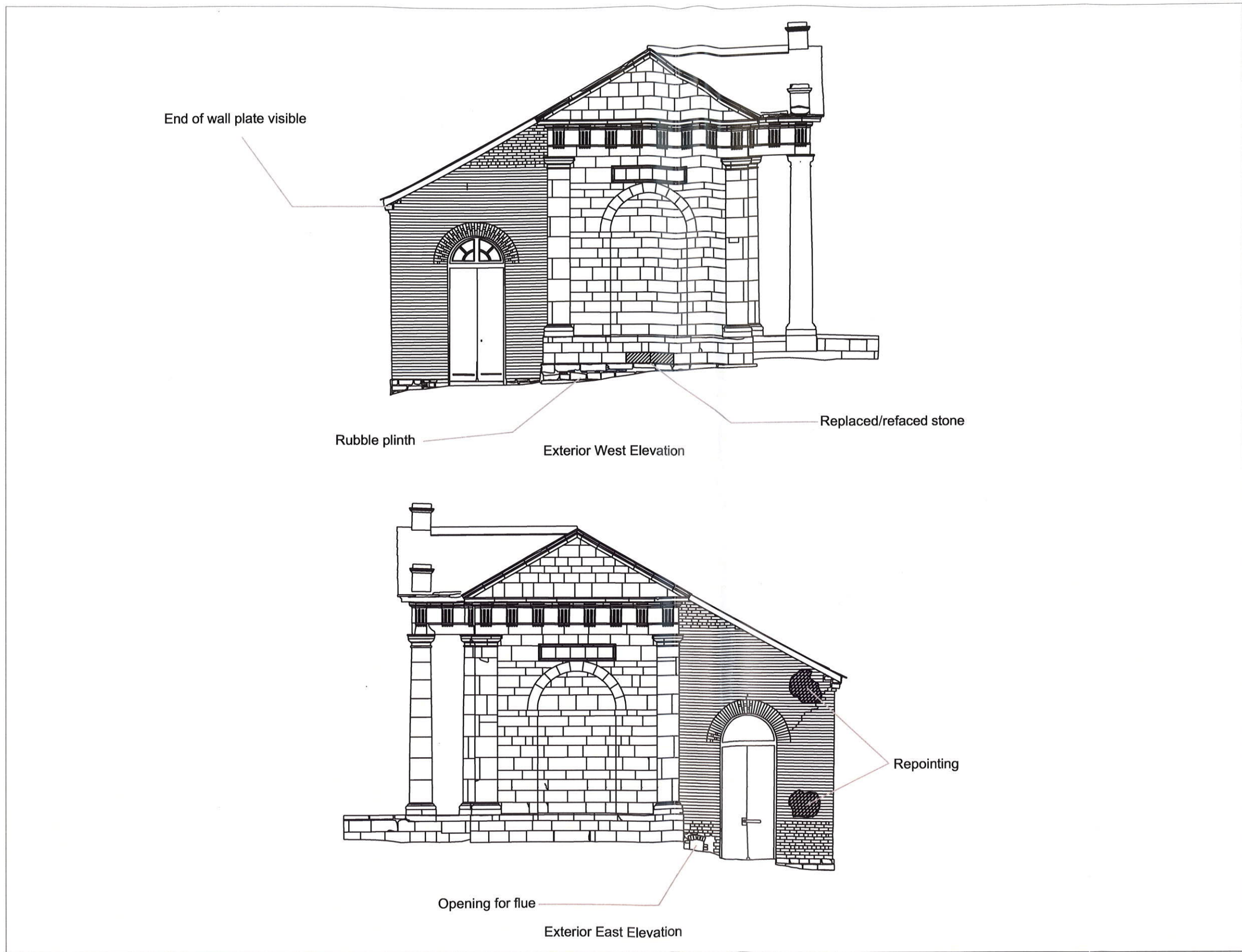


Figure 7: Temple Greenhouse Elevations II.

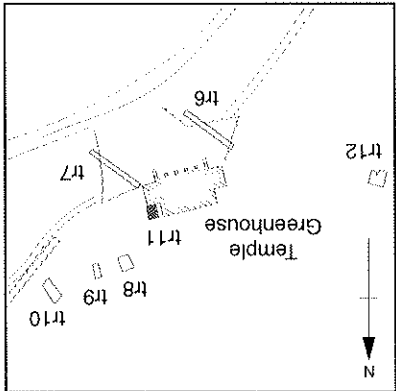
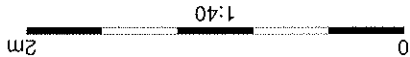
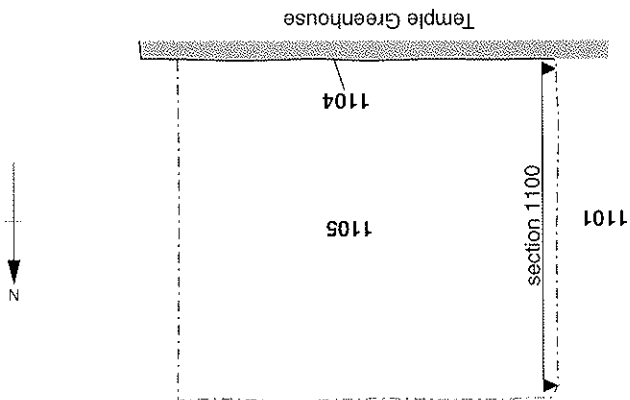


Figure 8: Trench 11 plan



Plate 6: Pedimented front of Temple Greenhouse



Plate 7: Interior of greenhouse



Plate 8: Small holes in floor which formerly held sash posts



Plate 9: Interior of lean-to to rear of greenhouse



Plate 10: Roof truss above bothy with secondary ceiling abutting

PRIVY BLOCK

4. THE PRIVY BLOCK

4.1. BACKGROUND INFORMATION

4.1.1. Introduction

4.1.1.1. To the south-west of the Temple Greenhouse there survives the small brick foundation of a former privy block which documentary evidence suggests was built before 1788 (detailed below). Relative to the other structures at Croome it is of limited importance but its survival adds to the understanding of the functioning of the 18th-century park beyond the public well-known monuments.

4.1.2. Specific aims and objectives

4.1.2.1. The aim of the work was to reveal and record any surviving evidence of the former privy block. The archaeological recording of the privy block is particularly important because for a small utilitarian structure such as this archaeological techniques represent the only means of obtaining significant information on the structure. Whereas with high-profile buildings such as the Temple Greenhouse much can be learnt about the structure from original architects drawings, historic illustrations, plans of the park, photographs and other documentary sources but none of these will cover the privy.

4.1.3. Summary of work undertaken

4.1.3.1. The recording consisted of clearing away vegetation from the structure and partially excavating the remains, full details can be found in Trench 12: Appendix A. The structure was drawn in plan and recorded photographically (black and white prints and colour slides).

4.1.4. Historical Background

4.1.4.1. The first evidence of the existence of the Privy comes from Broome's plan of 1765 which appears to show the structure. The first documentary reference to the privy block occurs in 1788 when the Croome Accounts include a reference to Robert Newman involving for repairing the paving at the Privy door in the Shrubbery (Phoenix Consulting 1997, p.82). The structure also appears to be shown on Snape's 1796 plan of Croome.

4.1.5. Current Condition

4.1.5.1. The current condition of the privy block is clearly very poor with only low footings surviving. It is situated in an area of scrub woodland and was prior to the excavation works covered in dense vegetation.

4.2. RESULTS

4.2.2. Description

4.2.2.1. The privy structure stands to a height of two courses at the eastern end and seven courses towards the west, where the structure has been terraced into the bank of a ditch. The structure has been divided in two by a centrally placed north-south brick wall, with the latrine situated at the western end in close proximity to the external ditch. The construction cut for the foundation of the structure probably cut layer 1203, although no evidence for a cut was noted. The entrance to the privy was to the east and was represented by two centrally placed stone blocks. There was no evidence for external

surfaces on either the eastern or southern sides of the structure. An internal layer of lime mortar, 1201, has abutted the eastern wall and is the only evidence for an internal surface or surface foundation.

4.2.3. Discussion and Interpretation

4.2.3.1. The Privy is a rudely built structure designed to satisfy a purely functional purpose. Its location would have made it accessible but also relatively invisible. The entrance to the structure seemingly lay to the east, whilst the latrine was situated on the western side over the steep trench. The two stone blocks marking the entrance, see Figure 10, were probably installed in 1788 when Robert Newman invoiced for; repairing paving at the Privy door in the Shrubbery (Phoenix Consulting 1997, 82). The rest of the structure is earlier in date and is probably contemporary or slightly later in date than the Temple Greenhouse. It is likely that the brick courses encountered during the excavation may have supported a flimsier superstructure, such as a wooden hut.

4.3. MANAGEMENT AND CONSERVATION RECOMMENDATIONS

4.3.2. Recommendations

4.3.2.1. Although the Privy Block is of limited significance in the overall Croome Park landscape it is an 18th-century structure which adds to the understanding of the park in its early development and also adds a flavour of the reality behind the grand sculptured facade of the landscape.

1. The Privy should be conserved in its current form and should be included as an archaeological feature within the overall interpretation of the park to the public (ie briefly referred to in guidebooks, marked on site plans etc).

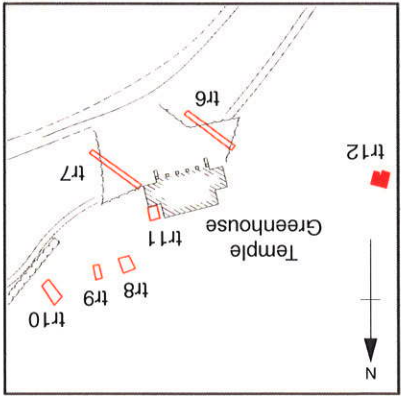


Figure 9: Trench 12 plan

PARK SEAT

5 THE PARK SEAT

5.1. BACKGROUND INFORMATION

5.1.1. Introduction

5.1.1.1. The Park Seat (also known as the Owl House) is one of the main eye catchers at Croome Park, located on raised ground at the southern end of the artificial Croome River. It is the southernmost structure within the current National Trust Croome Park, well outside the main Lakeside Garden area, and therefore adds a particular importance to the wider Croome parkland. It is also of importance as one of Adam's designs, having been built in c.1770, and this significance is reflected in its Grade II* status, despite much of the structure having been rebuilt in 1986.

5.1.2. Specific aims and objectives

5.1.2.1. The general aims for the work on the Park Seat are the same as for the other buildings and are detailed above in the introduction. The building is among those structures at Croome most in need of restoration works and among the specific objectives of the work are to determine how much of the original fabric survives and whether any other evidence remains of the original form of the building. Another objective is to suggest steps which could be taken to determine more evidence of the original building.

5.1.3. Summary of work undertaken

5.1.3.1. The programme of works consisted of an above-ground, non-intrusive building assessment, analysing the existing fabric of the building and a programme of trial trenching around the outside of the building. The building assessment was based on an existing survey of the structure and both elements of the work included photographic coverage (black and white prints and colour slides).

5.1.4. Historical background

5.1.4.1. Robert Adam prepared designs for a *Seat for the Pleasure Ground at Croome* in 1766 at the current location of the Park Seat (Phoenix Consulting 1997, Fig 19). The structure was to have a three-apsed plan and a classical facade with fluted Corinthian columns supporting a pediment with entablature incorporating animal skulls. In the same year Adam prepared designs for an alternative *Smaller Seat for the Pleasure Ground* and in the following year (1767) he prepared more detailed designs for the execution of the *Park Seat*. It was presumably decided at this stage to pursue the simpler design because building works started in 1770 on the existing plainer structure. The building is recorded as having been plastered in 1772 (Phoenix Consulting 1997, 69).

5.1.4.2. There are no further significant documentary references to the Park Seat but it had clearly fallen into very poor condition by the later 20th century and a major refurbishment was undertaken in 1986 which included retaining the Adam front but largely or entirely rebuilding the rest of the structure. The work was clearly undertaken with a limited budget and is insensitive to the original building.

5.1.5. Current Condition

5.1.5.1. The building is stable and appears to be structurally sound but much of the structure dates to poor restoration works undertaken in the 1980s and only a relatively small proportion of the original building survives. The two side and rear walls are covered internally and externally in modern cement render and appear to have been rebuilt in

modern brick. The front retains something close to its original form although it too has had some late 20th-century restoration particularly the replacement of the lintel.

5.2. RESULTS

5.2.1. Description

5.2.1.1. The Park Seat is a single storey rectangular plan structure with an open front (to the north-west) and a modern flat roof which replaced the previous, probably, pitched roof.

5.2.1.2. It has a pedimented ashlar front designed to give the distant appearance of a small temple in the landscape reflecting the structure's principal purpose as an eye catcher. The pediment is supported by two non-fluted Corinthian columns and the lintel beneath was clearly replaced in the 1986 refurbishment, possibly in concrete or with stone facing around an steel lintel. The columns themselves appear to be original although they may also have been partially reset. The pediment is plain, with brackets beneath it, and it has also been rebuilt with some stones replaced. The rear of the columns are partially built into the main front wall of the building which has a full height semi-circular arched door opening. The slightly recessed arch is of ashlar and is supported by Tuscan columns with moulded impost the detailing of which extends the full width of the elevation and returns around the corners. There are several small areas where the stonework has clearly been patched up and other larger areas where the stone has been replaced or refaced. It is likely that in the 1986 refurbishment much of the elevation, particularly the upper half, was taken down and reset.

5.2.1.3. The two sides are each very similar with the ashlar extending one or two blocks in from the front and the rest of each of the walls covered in modern render dating to the 1986 work with scour marks made in the render to give the superficial appearance of stone. A small part of the render to the south-west elevation (adjacent to the rear of the pediment) has come away and revealed red brickwork behind which appears to be modern.

5.2.1.4. It is not known whether the entire side walls have been rebuilt in brick beneath the render or whether much of the original wall survives. It would be usual for the side walls to have been originally constructed of ashlar even if the rear was of a cheaper material such as brick at the Temple Greenhouse. In addition to this the fact that the plinths beneath the side walls are of ashlar, rather than rubble as beneath the rear wall, also suggests that the side walls were of ashlar. It seems surprising that the ashlar to the side walls was not reused, particularly because the condition of the stone to the front is relatively good but it may be that by 1986 the structure was ruinous with much of the ashlar lost of badly damaged. It would probably then have been too expensive to replace all the lost ashlar to the sides and may have been felt to be more consistent to rebuild and render the whole side walls rather than retaining some of the ashlar in a partially rebuilt wall.

5.2.1.5. The rear wall is entirely covered in the same modern render as found on the side walls and the wall is set on a rubble plinth. It is likely that the wall was largely or entirely rebuilt in the 1986 works and that the original rear wall was either of brick or rubble stone.

5.2.1.6. The internal plan of the Park Seat is of a single plain room with apsidal ends (as opposed to the three apses on the original larger Adam plan) and there is a plain bench against the rear wall dating to the 1986 works. The bench is inscribed Restored 1986 Tong & Ludlow Ltd. Each of the internal faces of the walls is covered in modern hard cement render and this obscures any evidence of the original walls which may survive. The render has stained badly with damp and the negative impression this creates detracts substantially from the apparent significance of the building.

5.2.1.7. Also detracting from the historical integrity of the building are two steel square-section bracing rods which secure the front wall to the rear. These are visible towards the roof and there is a further steel rod between two piers immediately behind the front wall of the building. The existing flat roof also entirely dates to 1986 and consists of simple softwood joists spanning the building and supporting a boarded ceiling with felt covering. The original roof probably followed the line of the pediment and it is likely that there would have been a vaulted ceiling within the building.

5.2.1.8. The three primary stone steps up to the park seat remain in-situ, although in a poor condition, together with the stone flag floor set in a diagonal pattern similar to that of the Temple Greenhouse. There also remains the base of a central post between the Tuscan columns with a lead surround and a similar feature immediately inside the west column. The post bases appear to be secondary and holes have been broken in the stones around them to allow their insertion rather than being laid around the post bases if they had been primary.

5.2.2. Archaeological trenching

5.2.2.1. Three archaeological trenches were opened immediately adjacent to three sides of the Park Seat to reveal the relationship between the building and the surrounding ground surface. Trench 20 to the east, Trench 21 was to the south and Trench 22 to the north. A layer of topsoil (2000, 2100 and 2200) was uncovered within all three trenches which had been laid after the 1986 restoration. Beneath this a contemporary layer of building debris from the restoration (2001, 2101 and 2202) was also recorded within and this sealed the original construction trench for the Park Seat in Trenches 20 and 21 (2004 and 2104).

5.2.2.2. The fill of this construction trench (2104) within Trench 21 contained a substantial amount of broken decorated stonework and ceramic material. This included a moderate amount of ceramic building materials and significant quantities of deliberately fragmented decorated stone objects. The large quantity of finds within the fill of Trench 21 on the western side of the building contrasted with Trench 20 to the east from which no stonework fragments were recovered, although it did contain a moderate amount of ceramic building materials. A large sample of the stonework from Trench 21 was retained for analysis.

5.2.2.3. The Park Seat construction trench in Trenches 20 and 21 cut into the natural clay and extended to a maximum of 0.60 m from the foundations of the building on all sides. The foundation exposed in Trench 20 (2003) consisted of a stepped plinth stone built foundation consisting of two regular courses of squared limestone rubble, this was exposed to a depth of 0.50m.

5.2.2.4. The final trench, Trench 22, was cut in front of the Park seat and was primarily aimed at locating paths leading to and from the structure. No evidence for a path was recovered from the trench. A third buried step was identified but this was coarsely built and probably never intended to be visible above the ground surface.

5.2.2.5. Overall the trenches revealed little significant archaeological evidence although they did confirm that the Park Seat was built without the side annexes originally designed by Adam. This would conform with the documentary evidence which indicates that the simpler structure was built.

5.2.3. Discussion and interpretation

5.2.3.1. Interpreting the origin and development of the existing Park Seat structure is relatively straightforward. It was originally constructed in c.1770-2 to the final simpler designs of Robert Adam, a fact amply demonstrated by the evaluation which demonstrated that the building was built without the side annexes (this was further underlined by the

evaluation trenches which demonstrated most clearly visible and the existing front survives from the primary building, although the elevation (particularly the upper part) has been restored in the later 20th century. The rear three walls have been very heavily restored and apparently fully rebuilt in the same 1986 works.

5.2.3.2. The challenge facing the National Trust in relation to the Park Seat is in determining the original form of the building and returning it to something approaching that form by undoing the 1986 works. The current non-intrusive building assessment and trial trenching has been able to add little of substance to the understanding of the original form of the building.

5.2.3.3. The excavation uncovered a large amount of 18th-century decorated stonework now believed to be the remains of approximately four large garden urns, that probably originated from the gardens of Croome Court. Initial analysis and partial temporary reassembly of the material would indicate that they probably date from the late-17th century through to the mid-18th century. It is likely that the pieces were buried at the rear of the Park Seat to improve drainage.

5.3. MANAGEMENT AND CONSERVATION RECOMMENDATIONS

5.3.1. Recommendations

5.3.1.1. The Park Seat is a Grade II* listed building and is among Croome Park's more important structures. This is despite the ill-conceived and insensitive refurbishment undertaken in 1986. How best to return the structure to a state reflecting its historic form is among the main challenges of the park's restoration. The key lies in determining to what extent the building was restored in 1986 and what form the building previously took. It is believed that the plan of the building was not significantly altered in the restoration but that the two side walls and the rear were rebuilt in modern materials and the front restored. The front was probably faithfully restored but some evidence confirming this would be valuable.

5.3.1.2. A first step (which may already have been explored) should be to contact the builders who undertook the 1986 works (Tong & Ludlow Ltd) to see if they have any photographs or drawings showing what the building was like before the start of the works or to show what work was undertaken. The company may no longer exist but it may be possible to trace the individuals if other avenues of research are unsuccessful and they may hold an archive of drawings or photographs themselves.

5.3.1.3. It is understood that most of the historic photographs of the park buildings have been studied as part of the National Trust's research at Croome. However there are reported to be various photographs of Croome garden buildings taken in the 1930s and 1950s at the National Monuments Record in Swindon (C38/385; AA56/3837; C38/400) and these may include the Park Seat. Any such photographs, dating to before 1986, could provide a valuable insight into the pre-restoration appearance of the structure.

5.3.1.4. Another approach would be to appeal for photographs either from local people or National Trust members. A guide to the Croome grounds (A Tour of Croome Court) was produced in 1983 when the park was in the ownership of the International Society for Krishna Consciousness and the grounds were open every afternoon. This was before the restoration of the Park Seat and it seems likely that photographs were taken by visitors of the probably ruinous Park Seat.

5.3.1.5. One of the few pieces of evidence identified by the building assessment suggesting the structure's previous form are the holes in the floor at the front of the building indicating former gate posts. However as the holes strongly appeared to be secondary insertions restoring the gates would not appear to be desirable.



Plate 11: Primary front of Park Seat



Plate 12: Park Seat, southern side. Feature 2104 and associated architectural fragments

Urn fragments from feature 2104



Plate 13: Part of base



Plate 14: Ornamental rims



Plate 15: Partially reconstructed rim

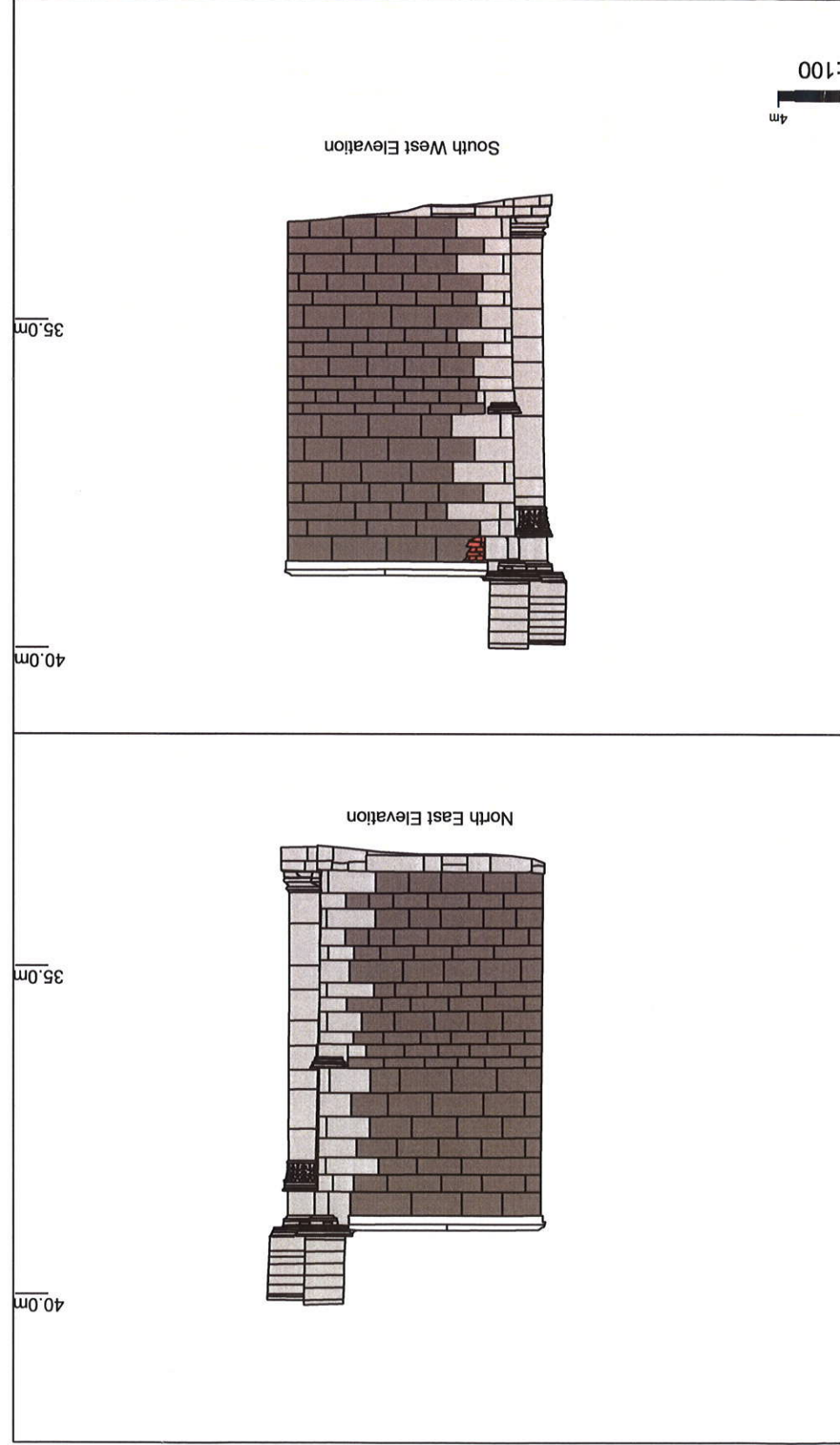


Figure 10: Park Seat Elevations.



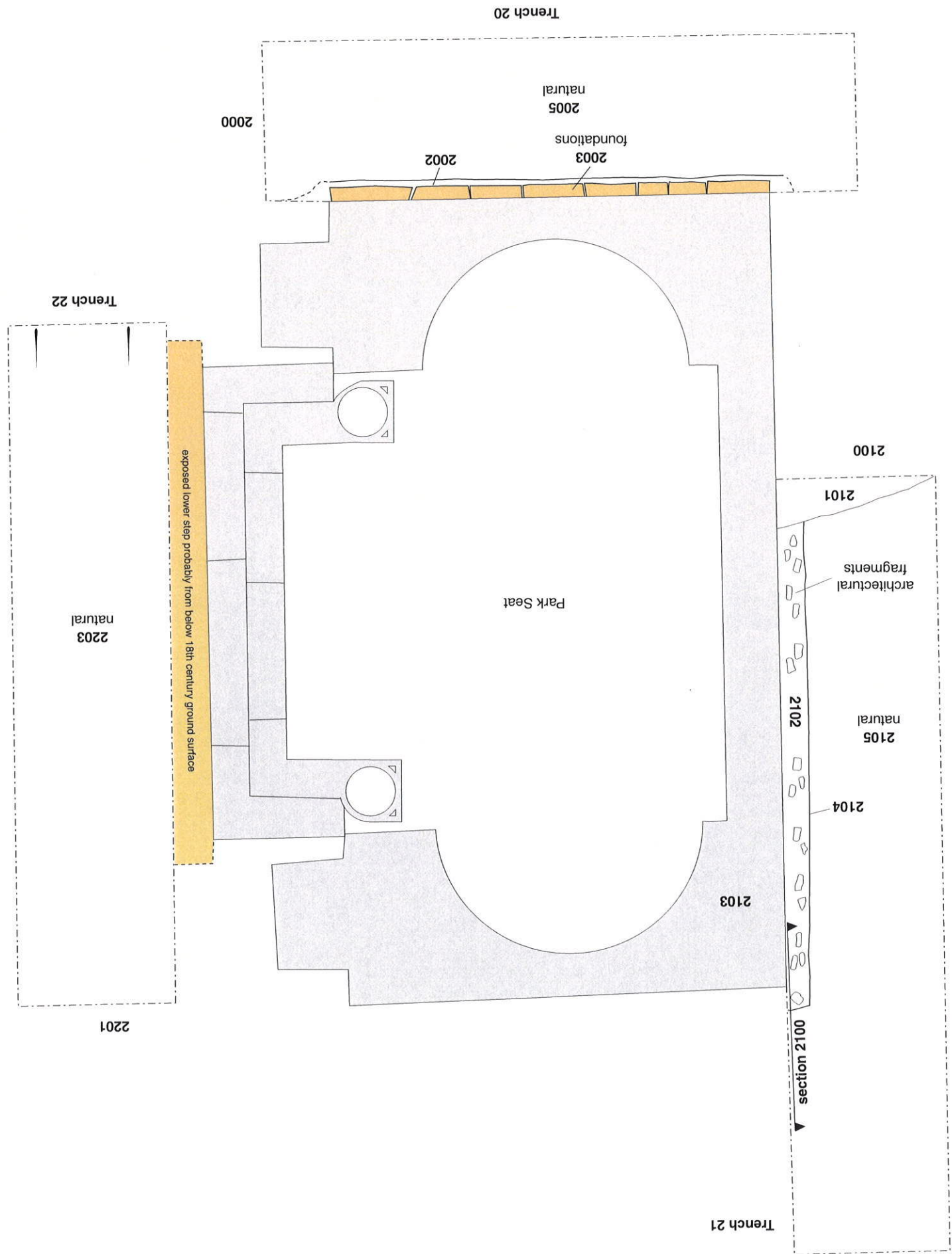


Figure 11: Trench 20, 21 and 22 plans

PUNCH BOWL GATES

6 THE PUNCH BOWL GATES

6.1 BACKGROUND INFORMATION

6.1.1 Introduction

6.1.1.1. The Punch Bowl Gates are located to the north-west of the Grotto and formed the main entrance to the lakeside garden and the heart of the park from the west. They are listed Grade II and despite their currently poor condition they will be among the park's more impressive and significant structures when restored and when the Coade stone punch bowls, which are currently in store, are reinstated.

6.1.2 Specific aims and objectives

6.1.2.1. The general aims of the current study of the Punch Bowl Gates are the same as for the other structures and are detailed above in the overall introduction. The principal specific objective is to determine how much of the structure survives from the original 1777-8 gates and which parts were added in James Wyatt's 1793-4 alterations. It has also been suggested that the gates may have been moved at the time of Wyatt's work and another of the specific objectives was to look for any evidence supporting this.

6.1.3 Summary of work undertaken

6.1.3.1. The work consisted of a programme of trial trenching in the area between the piers and a non-intrusive analysis of the above ground structure.

6.1.4 History

6.1.4.1. The Punch Bowl Gates (then simply called the Piers Gates) are believed to have been constructed in 1777-78 from when the Croome accounts include a reference to iron gates at the new piers. Although it is not known who designed the gates it is likely to have been Robert Adam who designed many structures at Croome between 1760 and 1792. The accounts also include an entry for altering the iron gates at the piers (probably the punch bowl gates) from 1780.

6.1.4.2. The form of the original gates is shown in one of several Burney Watercolours of features at Croome dated 1784 (see Fig 29 Croome Phoenix Consulting 1997). These gates were relatively plain with four separate piers (compared to the existing two linked pairs). Each one had a pyramidal coping, carved festoons ornamenting the upper panel and simple gates formed of vertical iron railings between each pier to allow pedestrian access to each side and vehicular access between.

6.1.4.3. Probably due to their relatively restrained design (particularly compared to the much larger and more flamboyant London gates) Robert Adam prepared a proposal to enhance the gateway in 1791 (Fig 32, Croome Phoenix Consulting 1997). His proposal included removing the pyramidal copings from the four piers and creating two linked pairs of piers with each pair supporting a vase on a lintel. The plain iron gates would have been replaced with wooden double doors to each side for pedestrian access and ornate iron gates with a semi-circular design to the centre for carriages.

6.1.4.4. Adam died in 1792 before the alterations to the gates had begun and in 1793-94 a slightly different scheme was undertaken to the designs of James Wyatt. In this refurbishment the piers were linked together by two lintels with arched underside and they were surmounted by wide shallow punch bowls of Coade stone. Both Wyatt and Coade were paid for the work in 1794 (Croome Phoenix Consulting 1997 p.86).

6.1.5. Current Condition

6.1.5.1. The overall condition of the stone is generally moderately poor with several areas of patching and infill but the piers are basically intact and the garlands are in relatively good condition.

6.2. RESULTS

6.2.1. Description

6.2.1.2. In their current form the Punch Bowl Gates have a plain appearance and are relatively unimpressive due to the Coade stone punch bowls having been taken down and put into storage and none of the three gates or doors remaining in-situ.

6.2.1.3. The four original piers (from the 1770s structure) each remain standing together with the two arched lintels from Wyatt's alterations. Each pier is constructed of fine-jointed ashlar and incorporates a low stone plinth and carved garlands towards the top between a moulded cornice and a three-quarter height string course. There are full height projections to each of the pier jambs which would have been immediately behind the gate posts and which support a stone segmental arch lintel.

6.2.1.4. Above the cornice is a raised central pedestal on which the punch bowl would have stood and one of the iron rods (to the northern piers) on which the punch bowls sat remain in-situ. From comparing the 1784 Burney watercolour of the gates with the existing structure it appears that each of the four piers survives from the original structure together with the garlands, the string course and most of the hinge blocks. The arches, cornice and pedestal were each added by Wyatt in the 1790s. There is no clear archaeological difference in the stonework of the two phases. There is also no apparent evidence of hinges within the stone jambs suggesting that the hinges were probably set on wooden posts against the jambs

6.2.2. Excavation

6.2.1.1. Three small trenches (each one forming part of Trench 2) were opened between the two main gate piers: immediately adjacent to the inner face of each pier and at the central point. The trench adjacent to the northern pier revealed a substantial limestone block foundation (204) for the gates consisting of two roughly-hewn parallel limestone blocks with a central recess for a third adjustable, stone block. The central recessed block incorporated a central iron gate socket. The trench adjacent to the southern pier revealed a similar foundation (201) consisting of a stepped limestone block with a central, rigid iron Gate socket.

6.2.1.2. The evidence strongly suggests that the Punchbowl Gates would have had iron gates hung upon them in their current location although there is no evidence to confirm that they are in their primary location. Extensive 20th century carriageway activity has extensively truncated the earlier 18th-century carriageway to such an extent that the relationship, between the carriageway and the Punchbowl gates was difficult to determine.

6.2.1.3. Two parallel, closely positioned, trenches were excavated to the south-east of the Punchbowl gates in order to determine if the gates has been moved. Trench 18 revealed no evidence for any foundation, relating to the gates or any other structure.

6.2.2. Discussion and Interpretation

6.2.2.1. One of the main questions which the current assessment of the Punch Bowl Gates hoped to answer was whether there was any evidence to support the theory, based on some documentary evidence, that the gates have been moved from their original location.

This theory is based partly on the 1784 watercolour by EF and TF Burney 'Entrance to the Park at Croome' which shows a glimpse of the church in the distance; a view which is not possible in the gate's current location and which suggests that the gates may originally have been located to the east of their present site (Oliver pers. comm.). However, it is quite possible that some artistic licence was taken by Burney and that the location of the church was moved to include it in the view.

6.2.2.2. The relevant early maps (Broomie (1763), Snape (1796), Snape's 1797 culvert plan, Hopcroft (1810) and Branstion (1847)) are each somewhat inconsistent in their location of the gates but they do broadly indicate a location directly north of the Grotto, near a wider carriage way for turning and parking, and hence slightly east of the gate's current position. However this may be due to the inaccurate nature of the mapping undertaken. 6.2.2.3. No archaeological evidence was uncovered to support the theory that the gate piers have been moved although the trenching was only undertaken in and around their current location and therefore would not have identified any possible previous location to the east. The trenches all revealed evidence to strongly suggest that the gates themselves were hung on the piers in their current location.

6.2.2.4. Whether the Punch Bowl Gates have been moved or not it is apparent from comparing the 1784 illustration with the existing structure that the piers survive from the original structure (late 1770s) and that the lintels were added in the mid 1790s alterations.

6.2.2.5. Overall the evidence, even after the works undertaken, remains inconclusive. Further intrusive groundwork may prove useful in determining the former position of the gates, if there was one, but other avenues of enquiry may need to be explored.

6.3. MANAGEMENT AND CONSERVATION RECOMMENDATIONS

6.3.1. Recommendations

6.3.1.1. There are two major issues regarding the restoration of the Punch Bowl Gates;

1. The form of the gates or doors. The piers remain substantially intact and the Coade stone punch bowls are in store awaiting conservation and reinstatement but there appears to be no conclusive evidence of the form of the gates although their location has been confirmed by the trenching. It is not known when the gates were removed but it is likely to have been in the mid 20th-century (possibly when the RAF was at Croome) and it is likely that photographs survive either in a public archive or private collection showing the gates. If it proves impossible to determine the form of the gates there would be some justification in reproducing new gates using Robert Adam's 1791 proposal as a model.
2. The location of the original gates. As referred to above this is still open to debate with some documentary evidence suggesting that the gates may have been moved some distance from the east. However the evidence is tentative and no archaeological evidence has been identified in the current survey to support this. There would currently be no historical justification in moving the gates and even if conclusive archaeological evidence for a previous location were located this would still be debatable. For a greater understanding of the development of the park however determining the previous location of the gates (if they have been moved) would be of value and when resources allow should be undertaken. A programme of geophysics and/or archaeological trenching in the area to the east of the gates could determine this.

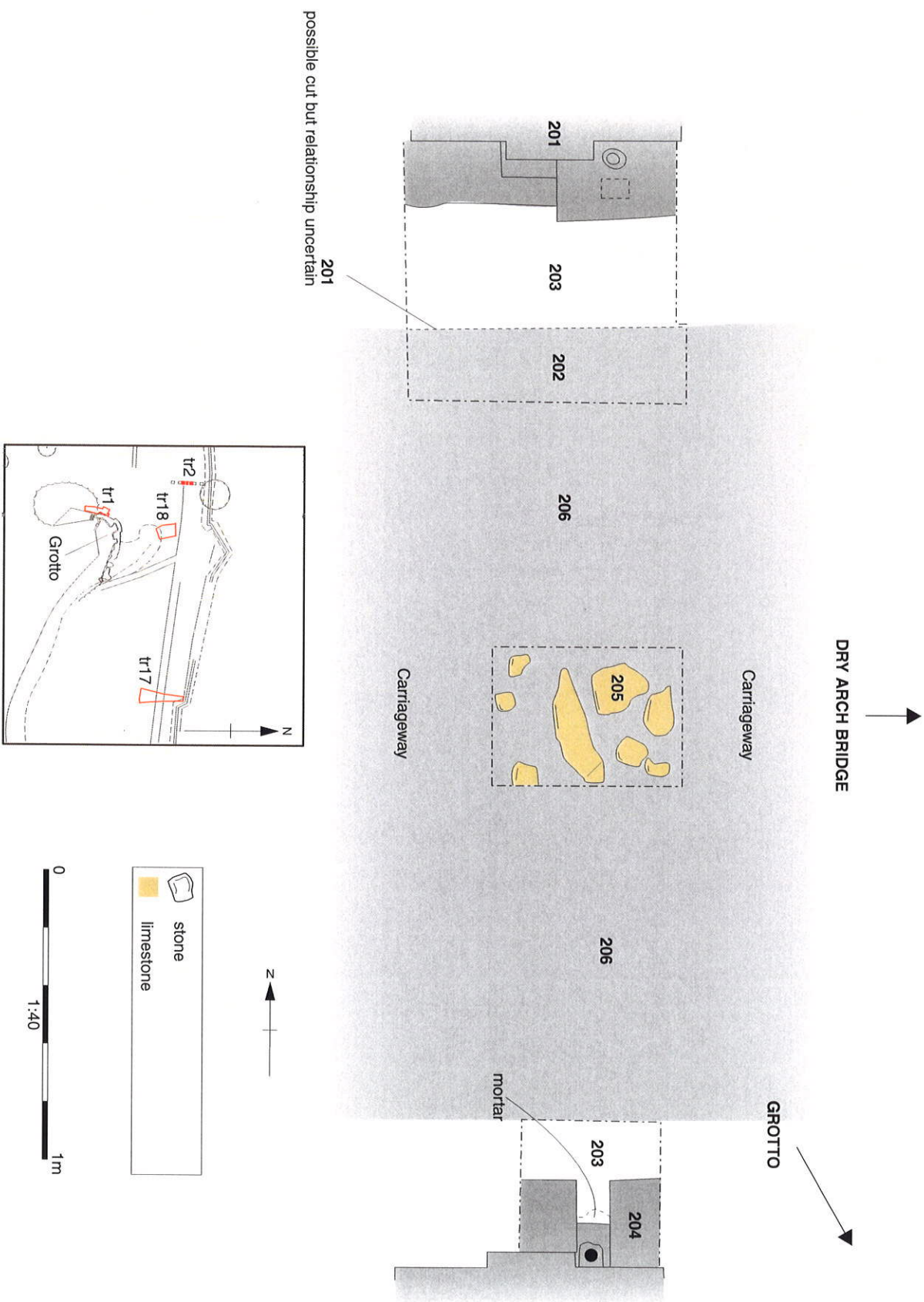


Figure 12: Trench 2 plan

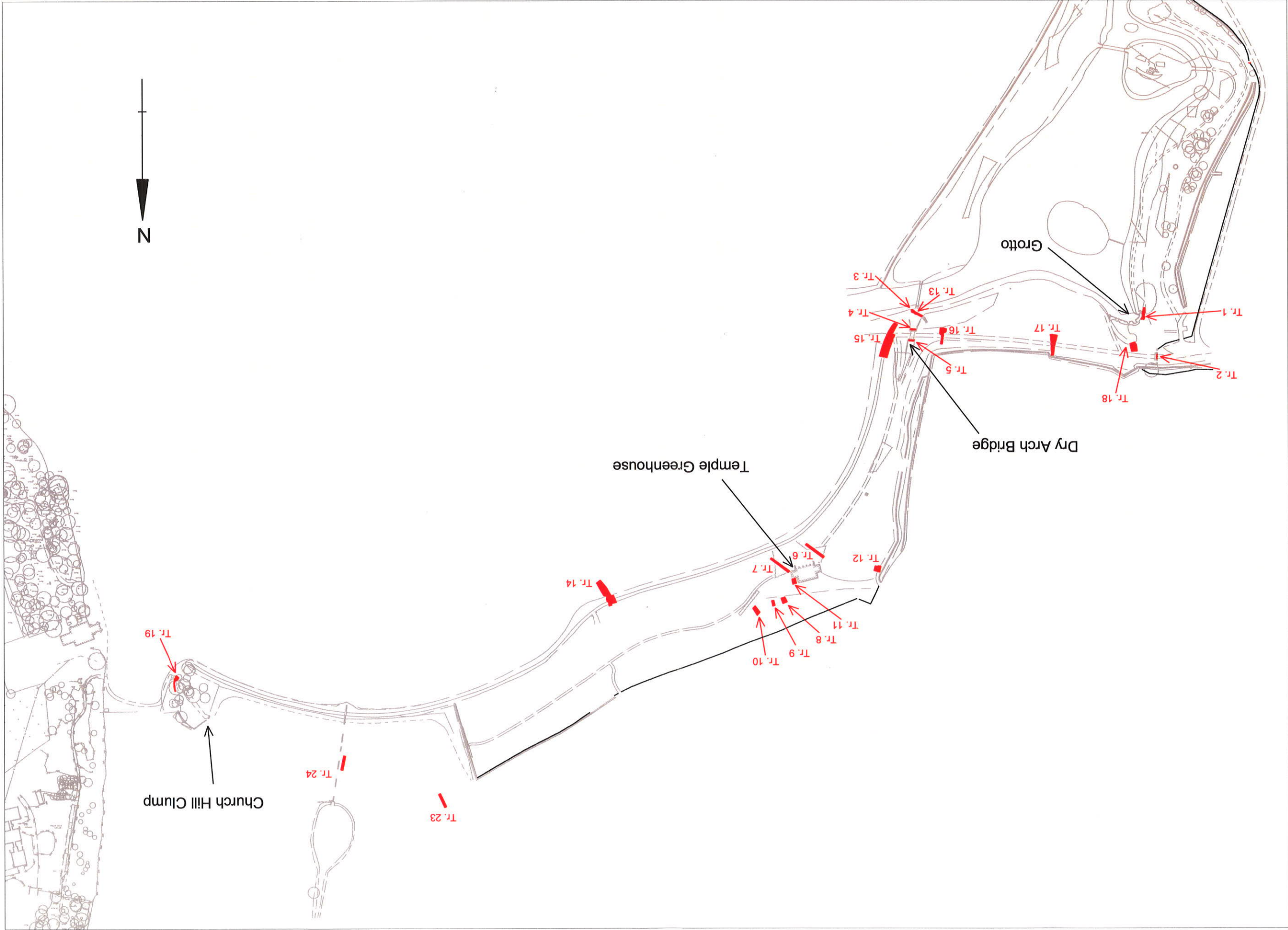


Plate 16: Punch Bowl Gates

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APPENDIX A - TRENCH DESCRIPTIONS



Scale at A3 1:2500
0 100m



Trench Location Plan

TRENCH 02

1	METHODOLOGY	
1.1	<i>Presentation of results</i>	
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	<i>Location</i>	
2.1.1	Trench 2 consists of a series of three small exploratory trenches at the foot of the Punch Bowl Gates.	
2.2	<i>Soils and ground conditions</i>	
2.2.1	The underlying geology in this part of the site was not located.	
2.2.2	Ground conditions were compact throughout which hampered rapid hand excavation.	
3	RESULTS: DESCRIPTIONS OF DEPOSITS: TRENCH 2	
3.1	<i>Features and deposits</i>	
3.1.1	The earliest deposits located within the trench were the foundations for northern and southern piers of the Punchbowl gates (201) & (204). These included Iron Gate sockets on which gates were designed to be hung.	
3.1.2	Abutting the gate foundations was a layer of brown silty clay (203). This represents the make-up layer for the overlying metalled carriageway surface (202). The surface 202 consists of well sorted, rounded pebbles and small pieces of limestone.	
3.1.3	This carriageway (202) is overlain by a deposit of roughly hewn, displaced limestone (205) which could have been part of the gates central locking mechanism. A modern road surface layer of limestone, rounded pebbles and red brick (206) has overlain this deposit.	
3.2	<i>Finds</i>	
3.2.1	No finds were recovered from the trench.	
4	DISCUSSION AND INTERPRETATION	
4.1	<i>Reliability of field investigation</i>	
4.1.1	Truncation from the modern road surface has disturbed the earlier carriageway deposits.	

TRENCH 02

4.2 Summary interpretation

4.2.1 The trench revealed a significant limestone block foundation for the Punchbowl gates, but not the accompanying construction cut. The Pier foundation (204) consists of two, roughly hewn, parallel limestone blocks with a central recess for a third adjustable stone block, that incorporated a central Iron Gate socket.

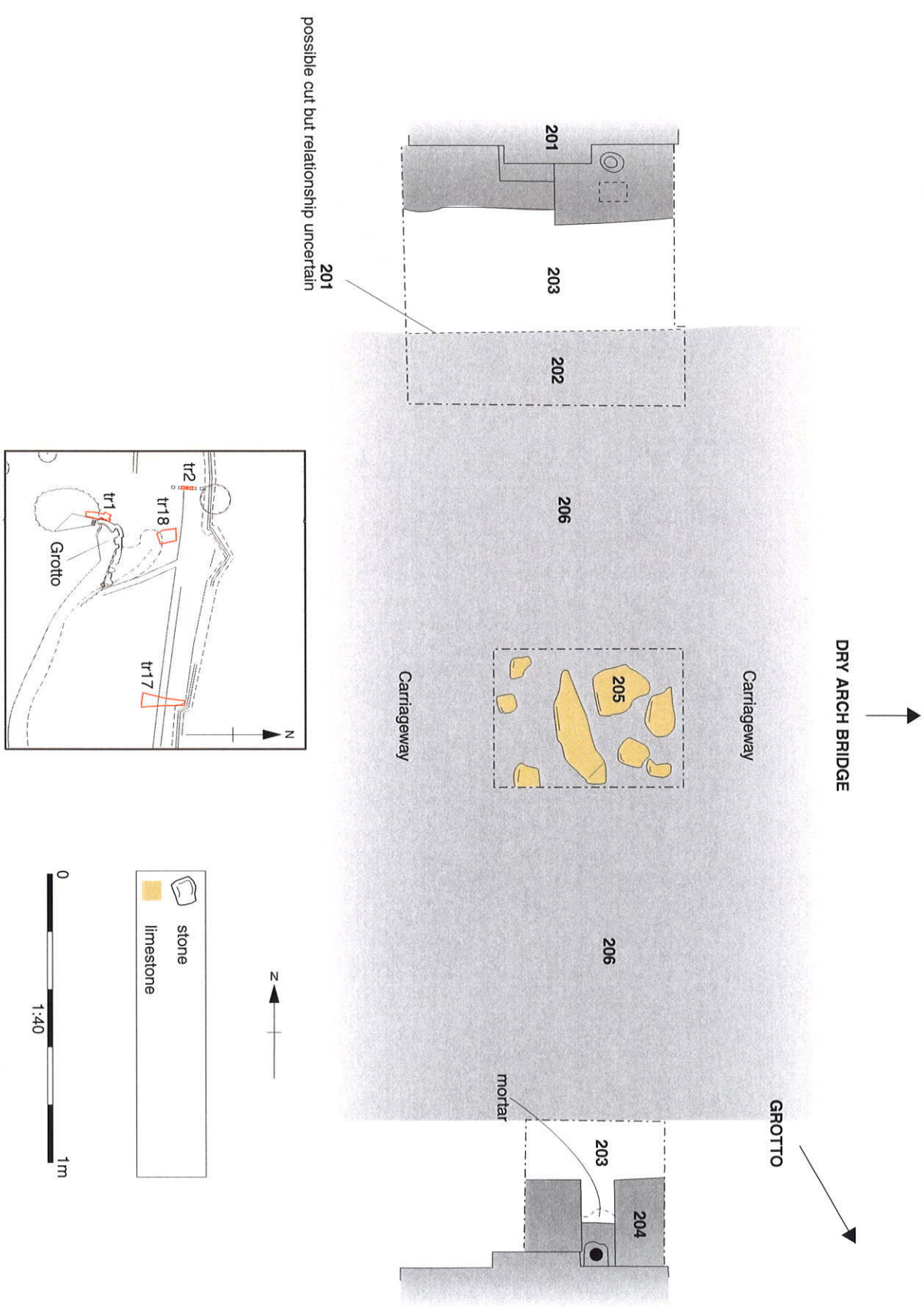
4.2.2 The other Pier foundation (201) consists of a similar stepped limestone block foundation with a central, rigid Iron Gate socket. In the centre of the carriage way an isolated block of limestone (205) probably represents the remains of a central locking block for the gates.

4.2.3 The evidence suggests that the Punchbowl gates piers would have had gates hung upon them in their current location.

4.2.4 Extensive 20th century carriage way activity has extensively truncated the earlier 18th century carriage way to an extent, that analysis of the form and character of the surface was difficult to determine.

5 ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Description	Depth (m)	Width (m)	Finds	Date
201	Structure	Northern pier of the	0.32	0.28	Yes	19 th Century
202	Surface	18th Century carriage way	0.16	-	No	
203	Layer	Make-up for carriage way	0.23	-	No	
204	Structure	Southern pier of the	0.36	0.31	-	
205	Layer	Re-deposited stonework	0.12	0.40	No	
206	Layer	20th century surface	0.36	-	No	

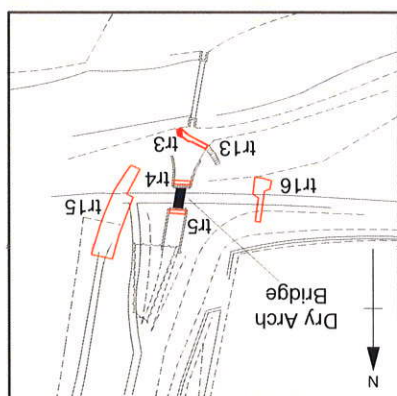


Trench 2 plan

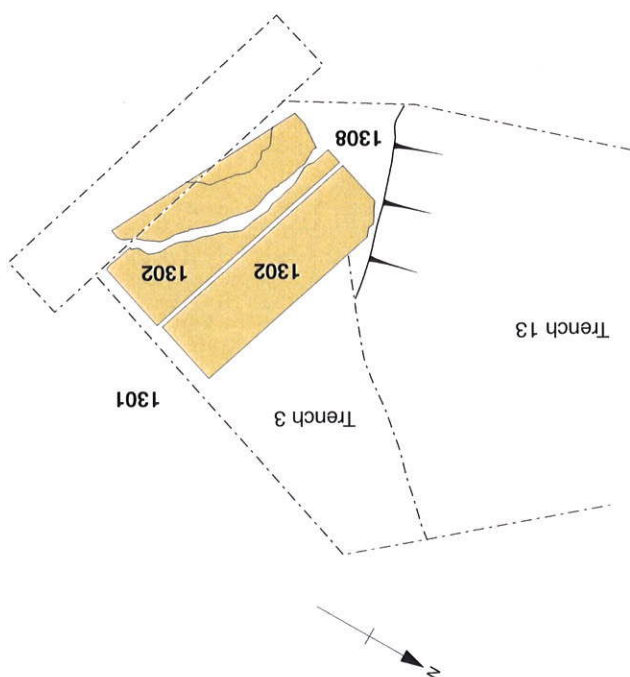
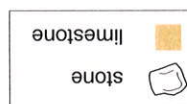
1	METHODOLOGY	
1.1	<i>Presentation of results</i>	
1.1.1	The soil and ground conditions for this trench are described below, followed by a brief description of the distribution of deposits.	
1.1.2	Trenches are described according to their stratigraphic sequence from the earliest deposits reached in the 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	<i>Location</i>	
2.1.1	This small trench was located on top of the Ferry Steps, just east of the modern iron bridge located south of the Dry Arch Bridge.	
2.2	<i>Soils and ground conditions</i>	
2.2.1	The underlying geology in this part of the site is brown silt clay.	
2.2.2	Ground conditions were compact throughout which hampered hand excavation.	
3	RESULTS: DESCRIPTIONS OF DEPOSITS: TRENCH 3	
3.1	<i>Features and deposits</i>	
3.1.1	The earliest deposit located within the trench was a brown silt clay (303). Two stone steps overlay this layer (302), with a third, larger step located below the ground level. The steps were directly overlain by a modern clay loam topsoil (301).	
3.2	<i>Finds</i>	
3.2.1	No finds were recovered from the trench.	
4	DISCUSSION AND INTERPRETATION	
4.1	<i>Reliability of field investigation</i>	
4.1.1	Truncation from the latter 1970's bridge, to the south, has truncated any paths, which may have led from the Ferry steps to the Dry Arch Bridge.	
4.2	<i>Summary interpretation</i>	
4.2.1	The trench revealed two of the limestone steps, which relate to the original 18 th century ferry crossing, with an additional larger step located to the south, below ground level.	
4.2.2	The evidence could be taken to suggest that a rise in the water table has occurred since the 18 th century, probably due to the gradual silting of the ornamental lake. The addition of below water level steps could also have been deliberately designed to accommodate changing water levels throughout the seasons.	

TRENCH 03

Context	Type	Description	Depth (m)	Width (m)	Finds	Date
301	Layer	Modern topsoil	0.15	3.0	No	
302	Structure	18th Century ferry steps	0.16	-	-	
303	Layer	Brownian made-ground	0.24	3.0	No	



1:40
0 1m



1	METHODOLOGY	
1.1	<i>Presentation of results</i>	
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	<i>Location</i>	
2.1.1	The trench was located at the southern side of the Dry-Arch Bridge, just outside of the cobbled surface that marks the interior of the bridge.	
2.2	<i>Soils and ground conditions</i>	
2.2.1	The underlying geology in this part of the site was not located.	
2.2.2	Ground conditions were soft and no problems were encountered.	
3	RESULTS: DESCRIPTIONS OF DEPOSITS: TRENCH 4	
3.1	<i>Features and deposits</i>	
3.1.1	The earliest deposit located within the trench was a foundation of compact, pink mortar and has limestone (404), which has been attributed to an earlier, shortened bridge. Above this foundation lies a path of well-sorted pebbles, size 10mm-80mm (403). A layer of fragmented, randomly placed limestone (402) overlies the path. The modern topsoil layer 401 has overlain layer 402.	
3.2	<i>Finds</i>	
3.2.1	Finds recovered from the trench include two 18th century lead objects (small finds 1 and 2), and one 18th century iron object, (small find 3). One large piece of soft, fragmented plaster was also recovered.	
4	DISCUSSION AND INTERPRETATION	
4.1	<i>Reliability of field investigation</i>	
4.1.1	The small sample of the potential bridge foundation, 404, limits the reliability of the interpretation of this feature. Also tree root action disturbed the 18th century path 403. The deposit of plaster noted within layer 401 was fragmented due to extensive tree root action.	

TRENCH 04

4.2 Summary interpretation

4.2.1 The investigation revealed the extent and form of the 18th century path to the south of the Dry Arch Bridge. The path was 3.74m wide, consisting of well-sorted rounded pebbles. Several pieces of flat limestone were recovered from the overlying Layer 402 but no recognisable architectural fragments were noted. The central part of the surface has probably been truncated by the construction trench of the drain structure in Trench 5 (503), although there is physical evidence to support this hypothesis.

4.2.2 A deposit of plaster was also noted within layer 401 but was fragmented due to extensive tree root action. There was an impression, within the plaster surface, of remnants of wood. It is possible that this small fragment originally came from the balustrade on the upper level of the bridge, however there is no direct evidence to support this. A sample was recovered for further analysis.

4.2.3 The investigation revealed a structural deposit at either end of the trench, 404. The majority of the structure was obscured by the 18th century metalled surface 403. As only a small proportion of the structure was uncovered the structure it is difficult to interpret accurately. At present it is felt that it either represent the bridge foundation (prior to the Coade Bridge) or an earlier path surface.

4.2.4 However it is most likely that structure 404 represents the foundation of an earlier, and subsequently shortened, bridge. This bridge predates the construction of the Coade facing on the later 1797 bridge. The use of the compact, mortar and limestone within the structure (404), differed from any of the path or carriageway foundations found elsewhere on the estate and, therefore, can be attributed to the earlier bridge structure.

5 ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Description	Depth (m)	Width (m)	Finds	Date
401	Layer	Modern topsoil	0.10	4.0	No	
402	Layer	Layer of limestone	0.08	0.60	Yes	18 th century
403	Layer	18 th century Path	0.18	4.0	No	
404	Structure	18 th century bridge foundation	-	1.0	-	

TRENCH 05

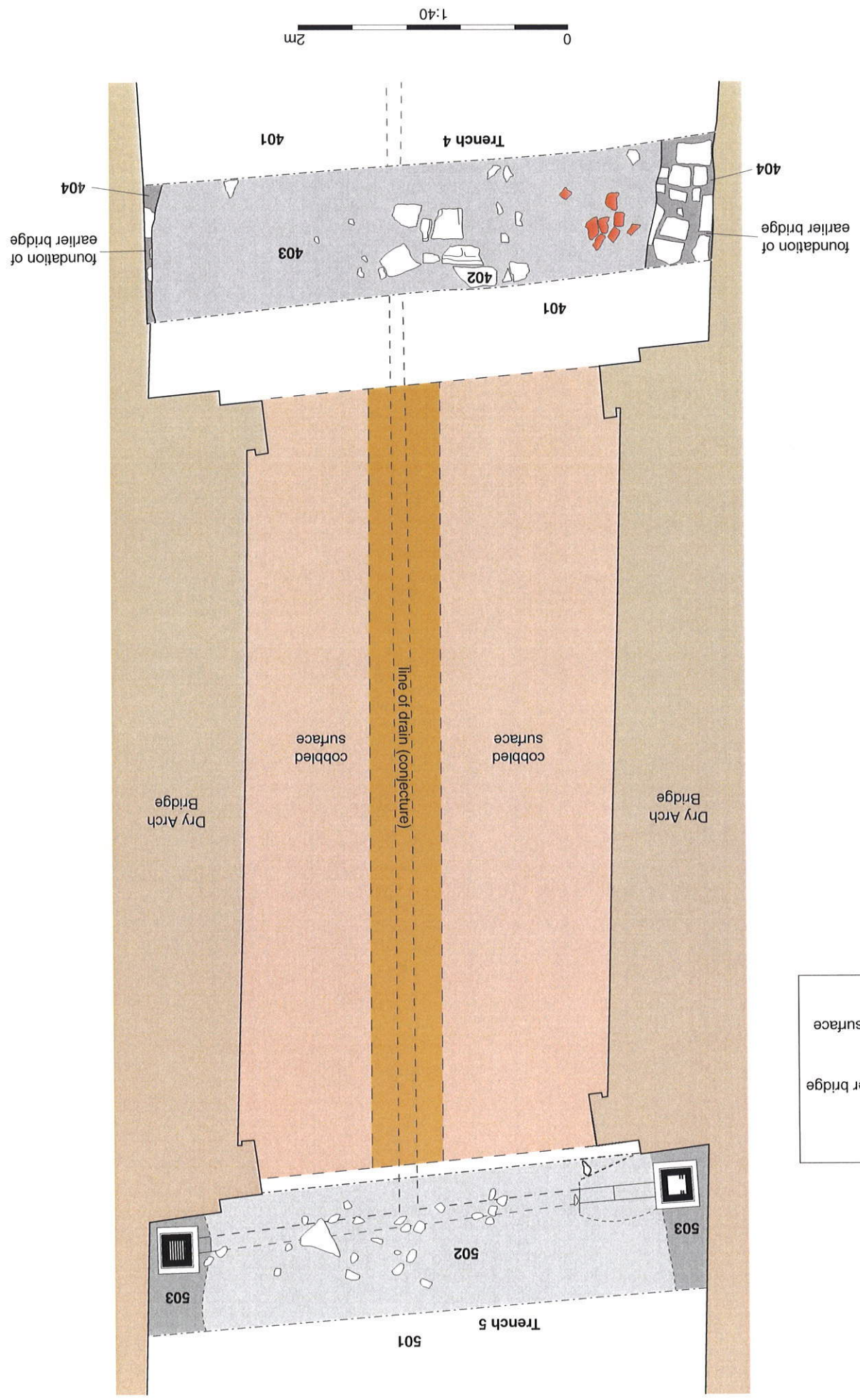
1	METHODOLOGY	
1.1	<i>Presentation of results</i>	
1.1.1	The soil and ground conditions for this trench are described below, followed by a brief description of the distribution of deposits.	
1.1.2	Trenches are described according to their stratigraphic sequence from the earliest deposits reached in the 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	<i>Location</i>	
2.1.1	The trench is located just north of the Dry Arch Bridge, just outside the extent of the cobbled surface under the bridge.	
2.2	<i>Soils and ground conditions</i>	
2.2.1	The underlying geology in this part of the site was not located.	
2.2.2	Ground conditions were soft and no problems were encountered.	
3	RESULTS: DESCRIPTIONS OF DEPOSITS: TRENCH 5	
3.1	<i>Features and deposits</i>	
3.1.1	The earliest deposits located within the trench were two, contemporary stone drains with cast iron grills (503). These were located on either side of the path (502) and were related to a central clay land drain situated between the two. Overlying the drains (503) was a layer of well-sorted pebbles, size 10mm-80mm, and representing path (502). A layer of modern topsoil, which contained occasional fragmented, limestone, overlies the path.	
3.2	<i>Finds</i>	
3.2.1	One piece of architectural stonework was recovered from the topsoil layer 501.	
4	DISCUSSION AND INTERPRETATION	
4.1	<i>Reliability of field investigation</i>	
4.1.1	Tree root action disturbed part of the 18th century path (502).	
4.2	<i>Summary interpretation</i>	
4.2.1	The investigation revealed the extent and form of the 18th century path to the north of the Dry Arch Bridge. The path was 3.45m wide, consisting of well-sorted rounded pebbles. One piece of architectural stonework was recovered from the topsoil layer 501 but no primary location for the object could be established. Several pieces of flat limestone were recovered from the overlying topsoil Layer 501 but none had	

TRENCH 05

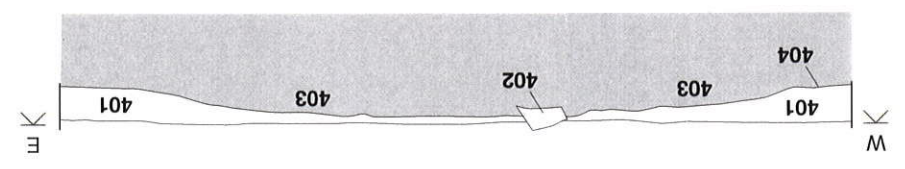
- recognisable architectural features. The limestone deposit contained similar material to the limestone layer 402, Trench 4, but was fragmentary and not stratified.
- 4.2.2 Located below the Dry Arch Bridge, is a surface of regular sized cobbles, set in straight lines. As this cobbled surface was not noted extending into Trench 4 to the extent of the probable earlier foundations of the original bridge (404) it is felt that the surface probably relates to the secondary phase of the Dry Arch Bridge when the Coade structure was built.
- 4.2.3 The uniformed cobbles within the centre of the surface have been re-laid in a less regular fashion. This probably relates to a central, linear construction cut associated with the stone drain structures 1502. The cut was not recorded within Trench 4 and probably extended below the path 403. The limestone drain structures are therefore probably later than the secondary, Coade phase, and were constructed to drain the northern side of the Dry Arch Bridge.
- 4.2.4 The unrecorded drain structure associated with 1502 is related to the limestone drain located within Trench 13, structure 1310.

5 ARCHAEOLOGICAL CONTEXT INVENTORY

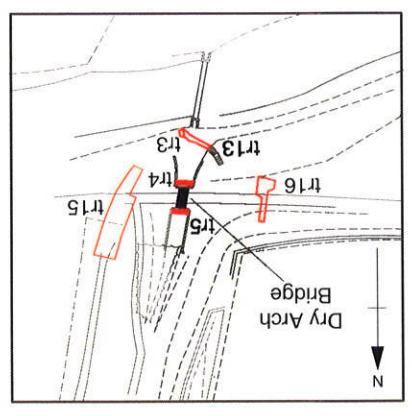
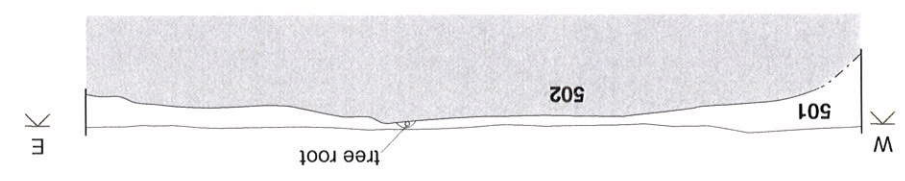
Context	Type	Description	Depth (m)	Width (m)	Finds	Date
501	Layer	Modern topsoil	0.10	4.0	Yes	18 th Century
502	Layer	18 th century path	0.18	3.48	No	
503	Structure	18 th century drains	0.20	0.32	-	



section 401



section 501



TRENCH 11

1	METHODOLOGY	
1.1	<i>Presentation of results</i>	
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	<i>Location</i>	
2.1.1	Small trench located at the rear of the Temple Greenhouse just east of the Bothy entrance.	
2.2	<i>Soils and ground conditions</i>	
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: TRENCH 11	
3.1	<i>Features and deposits</i>	
3.1.1	The earliest deposit located within the trench was a layer of reddish brown mudstone (1105). The construction trench for the Temple Greenhouse foundation (1104) probably cut layer 1105, although no evidence for a cut was noted.	
3.1.2	The Temple Greenhouse foundation plinth (1104) consists of five courses of squared limestone rubble, bonded with a soft, pinkish lime mortar with 15% lime flecking. Foundation 1104 was abutted by a mixed horizon of brown silt clay (1103). A layer of mixed rubble and mortar construction debris (1102) overlay layer 1103. A layer of mixed brown silt loam and poorly sorted pebbles sealed layer 1102, size 20mm-60mm, (1101). Layer 1101 was overlain by a layer of brown clay loam topsoil, (1100).	
3.2	<i>Finds</i>	
3.2.1	Two hand-made bricks were recovered from layers 1100 and 1102. Layer 1100 also contained some ceramic building material.	
4	DISCUSSION AND INTERPRETATION	
4.1	<i>Reliability of field investigation</i>	
4.1.1	Tree root action has truncated any evidence of a construction cut, within layer 1105, at the rear of the Temple Greenhouse.	

TRENCH 11

4.2 Summary interpretation

4.2.1 The trench revealed a significant build up of deposits at the rear of the Temple Greenhouse. Layer 1101 would appear to be a mixture of buried topsoil and a roughly constructed pebble path or a makeshift soak-away. The feature was localised to within an area of 0.60m from the Temple Greenhouse and located on the northern and western limits of the building.

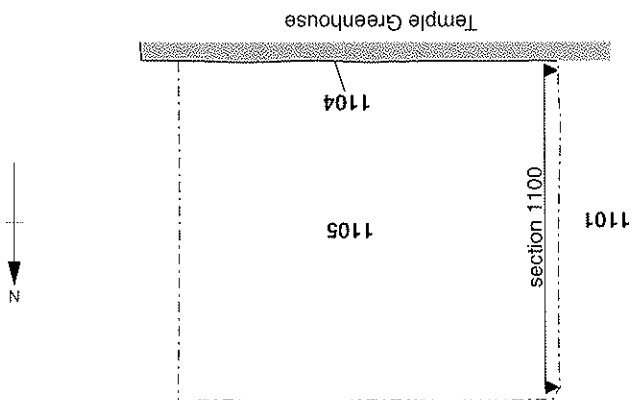
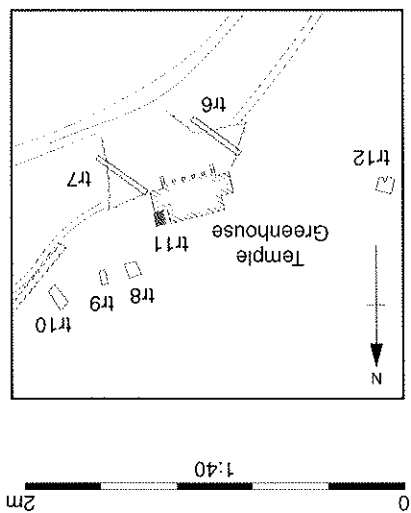
4.2.2 Layer 1102 could represent construction debris associated with the Temple Greenhouse build. A layer of re-deposited, natural mudstone, probably also represents material deposited during the construction phase. Hand-made, 1760's, red bricks were recovered from layers 1100 and 1102 and relates to the mixed nature, noted throughout these layers.

4.2.3 Although slightly confused, the various layers of construction debris probably relate to the original building of the structure and also the later construction of the associated Bothy at the rear of the structure.

4.2.4 No evidence for a structured path was located, although the construction debris layers may have served as informal paths at the rear of the Greenhouse.

5 ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Description	Depth (m)	Width (m)	Finds	Date
1100	Layer	Modern topsoil	0.30	2.0	Yes	18 th century
1101	Layer	Buried topsoil	0.25	2.0	No	-
1102	Layer	Construction debris	0.20	2.0	Yes	18 th century
1103	Layer	Re-deposited mudstone	0.15	2.0	No	-
1104	Structure	Temple G. foundation	1.0	2.0	-	-
1105	Layer	Natural mud-stone	-	-	-	-



TRENCH 12

1	METHODOLOGY	
1.1	<i>Presentation of results</i>	
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	<i>Location</i>	
2.1.1	The trench was sited on the Privy which is located west of the Temple Greenhouse.	
2.2	<i>Soils and ground conditions</i>	
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 during machine and hand excavation.	
3	RESULTS: DESCRIPTIONS OF DEPOSITS: TRENCH 12	
3.1	<i>Features and deposits</i>	
3.1.1	The earliest deposit located within the trench was a layer of reddish brown mudstone (1203). Layer 1203 was overlain by a square red brick privy structure (1202). The privy structure is constructed of red brick laid in a stretcher bond pattern, bonded with a compact white lime mortar with 15% lime flecking. The structure was abutted by an internal layer of loose light brown mortar (1201). Layer 1201 and structure 1202 was sealed by a clay loam topsoil (1200).	
3.2	<i>Finds</i>	
3.2.1	No finds were recovered from the trench.	
4	DISCUSSION AND INTERPRETATION	
4.1	<i>Reliability of field investigation</i>	
4.1.1	Tree root action has truncated any evidence of a construction cut, within layer 1203 and has caused extensive damage to the privy structure 1202	
4.2	<i>Summary interpretation</i>	
4.2.1	The privy structure stands to a height of two courses at the eastern and seven courses on the western extent, where the structure has been terraced into the bank of the ditch. The structure has been divided in two by a centrally placed brick wall, with the latrine situated at the western end in close proximity to the external ditch. The	

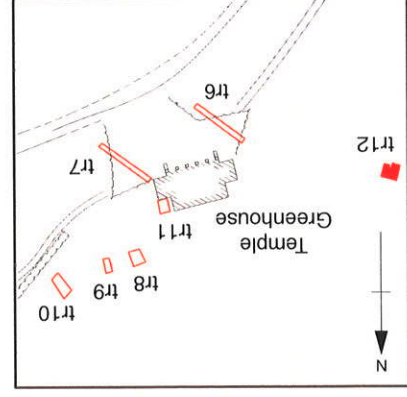
TRENCH 12

construction cut for the structure's foundation probably cut layer 1203, although no evidence for a cut was noted.

4.2.2 Two, centrally placed stone blocks in the eastern brick wall represent the entrance to the privy. An internal layer of lime mortar, 1201, has abutted the eastern wall and is the only evidence for an internal surface.

5 ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Description	Depth (m)	Width (m)	Find	Date
1200	Layer	Topsoil	0.38	2.0	No	-
1201	Layer	Mortar surface	0.04	1.46	No	-
1202	Structure	Red brick privy	0.54	2.44	-	-
1203	Layer	Natural mudstone	-	-	No	-



TRENCH 13

1	METHODOLOGY	
1.1	<i>Presentation of results</i>	
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	<i>Location</i>	
2.1.1	A large machine cut trench running roughly north-west south-east across the current path just south of the Dry Arch Bridge.	
2.2	<i>Soils and ground conditions</i>	
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 compact throughout which hampered the rapid excavation by machine.	
3	RESULTS: DESCRIPTIONS OF DEPOSITS: TRENCH 13	
3.1	<i>Features and deposits</i>	
3.1.1	The earliest deposit located within the trench was a layer of reddish brown mudstone (1313). A path of well-sorted pebbles (1312), size 10mm-60mm, overlay layer 1313. Layer 1313 has also been cut by Construction trench 1311. The cut (1311) contained a stone drain, with an iron grill (1310) and a reddish brown clay fill (1309).	
3.1.2	Construction trench (1308), containing a ceramic drain (1307) and a reddish brown clay fill (1306) has truncated the drain structure (1310). Fill 1306 has been sealed by a layer of mid brown silt clay (1305). Layer 1305 has been overlain by a layer of well-sorted pebbles (1304), size 30mm-60mm. Layer 1304 has been overlain by a layer of reddish brown silt clay (1303).	
3.1.3	A layer of localised, compact mortar and concrete (1302), overlies layer 1303. The concrete layer has been sealed by a layer of buried, clay loam topsoil (1301). Modern topsoil layer 1300 has overlain layer 1301.	
3.1.4	A series of two wooden steps, held in place by wooden pegs, were also noted cut into the raised bank at the northern extent of the trench (1314).	
3.2	<i>Finds</i>	
3.2.1	No finds were recovered from the trench.	

TRENCH 13

DISCUSSION AND INTERPRETATION

4

4.1 Reliability of field investigation

4.1.1 The construction of the 1970's bridge abutment has truncated the earlier pebble path and associated drain (1310). Any physical relationships between the ferry steps located in Trench 3 (302), and the path (1312) have been lost. The stratigraphic relationships between the stone drain and the path have also been lost and it is not clear whether the two features are contemporary.

4.2 Summary interpretation

4.2.1 The investigation discovered that a substantial alteration in the ground surface had occurred when the 1972 bridge was constructed. Up to 0.5m of overburden has been deposited within the abutment construction area which directly overrides the original 18th century path and ground levels. This has serious implications for the appreciation and understanding of the relationship of the Dry Arch Bridge with the Ferry Steps and lakeside walks.

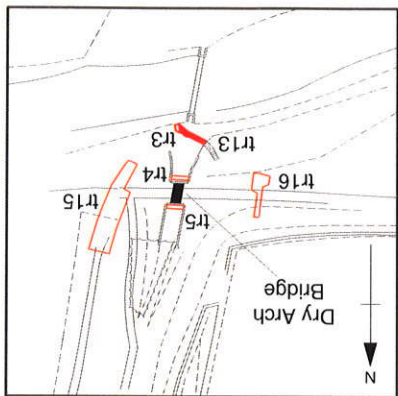
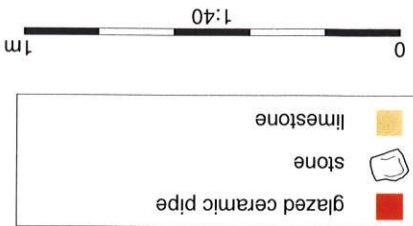
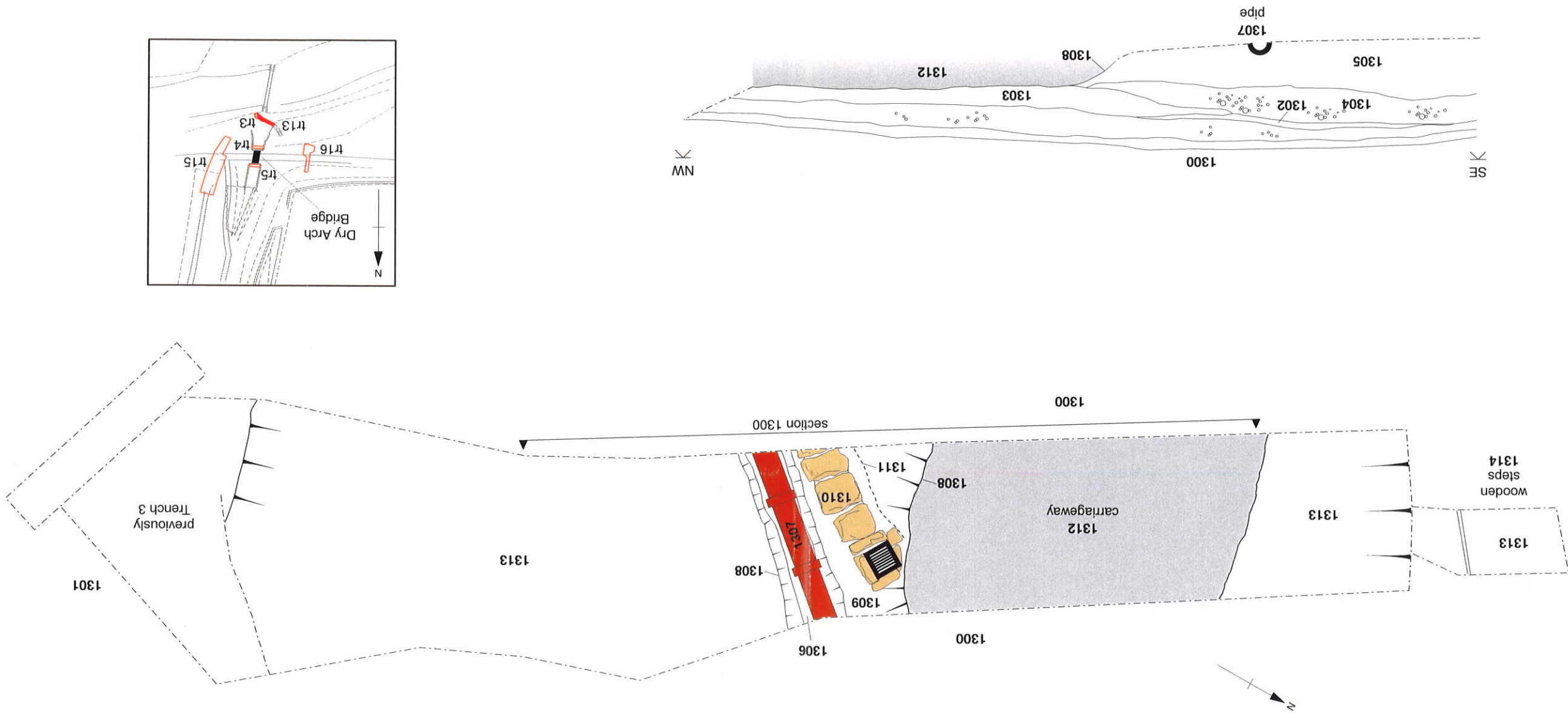
4.2.2 The work also revealed the position and extent of the Brownian pebble path between the lake and the raised bank to the north, although a significant extent of the path had been truncated by the drainage works associated with the construction of the bridge.

4.2.3 A limestone capped drain, with a cast iron cover, was also uncovered within the trench (1310). This followed the same construction design to the stone drains located within Trench 05. The drains are contemporary and almost certainly and relate to the same structure. No stratigraphic relationships could be established between the drain and the 18th century path, but the drains are probably contemporary with the second phase 1797 Dry Arch Bridge and not the original path.

4.2.4 The other deposits within the trench are contemporary with the construction of the 1972 bridge over the ornamental lake. The courses of the steps marked on the original laser survey were also revealed. These steps (1314) are also contemporary with the 1972 bridge abutment as similar wooden boards were used to retain layer 1305 at the layer's northern limits.

5 ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Description	Depth (m)	Width (m)	Finds	Date
1300	Layer	Topsoil	0.38	2.0	No	-
1301	Layer	Buried topsoil	0.04	1.46	No	-
1302	Layer	Construction debris	0.54	2.44	-	-
1303	Layer	Re-deposited silt clay	-	-	No	-
1304	Layer	Layer of pebbles	0.32	4.20	No	-
1305	Layer	Layer of silt clay	0.52	5.40	No	-
1306	Fill	Fill of construction trench	0.56	5.40	No	-
1307	Deposit	Ceramic pipe	0.20	0.20	-	-
1308	Cut	Construction trench	0.56	5.40	-	-
1309	Fill	Fill of construction trench	-	0.60	No	-
1310	Structure	Stone drain	0.20	0.32	-	-
1311	Cut	Construction trench	-	0.60	-	-
1312	Structure	Pebble path	0.12	2.78	No	-
1313	Layer	Natural geology	-	-	-	-
1314	Structure	Wooden steps	0.12	0.53	-	-



Trench 13: Plan and section

TRENCH 20

1	METHODOLOGY	
1.1	<i>Presentation of results</i>	
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	<i>Location</i>	
2.1.1	A machine cut trench located on the east side of the Park Seat	
2.2	<i>Soils and ground conditions</i>	
2.2.1	The underlying geology in this part of the site was a layer of mottled grey and brown clay.	
2.2.2	Ground conditions were soft and no problems were encountered.	
3	RESULTS: DESCRIPTIONS OF DEPOSITS: TRENCH 20	
3.1	<i>Features and deposits</i>	
3.1.1	The earliest deposit located within the trench was a layer of mottled grey and brown clay (2005). Layer 2005 was cut by the construction trench of the Park Seat structure (2003). The construction trench was filled with a tenacious mid brown clay fill (2002). The fill 2002 was sealed by a layer of greyish white and brown silt clay, which represents a layer of construction debris (2001). A layer of brown, clay loam topsoil overlay layer 2001.	
3.2	<i>Finds</i>	
3.2.1	Two lead objects were recovered from the topsoil layer 2000 (small finds 4 & 5).	
4	DISCUSSION AND INTERPRETATION	
4.1	<i>Reliability of field investigation</i>	
4.1.1	No factors effected the reliability of the field investigation.	
4.2	<i>Summary interpretation</i>	
4.2.1	The trench revealed the relationship between the Park Seat and the surrounding ground surface. Layer 2000 represents a deposit of modern topsoil, which was probably deposited after the 1986 restoration of the Park Seat and is contemporary with the layer of construction debris 2001. Two lead objects were recovered from the topsoil layer 2000 (small finds 4 & 5). Both pieces probably represent displaced	

TRENCH 20

- roofing lead. Other finds recovered from layer 2001 include hacksaw blades and 20th century building debris.
- 4.2 Layer 2001 sealed the Park Seat construction trench fill 2002. The fill contained moderate amounts of ceramic building materials but no other finds were recovered.
- 4.2.3 The Park Seat construction trench was located on the southern and western sides of the Park Seat, clearly cut into the natural clay, extending to a maximum of 0.60 from the structure on all sides. The lower, stepped plinth foundation, was exposed to a depth of 0.50m and revealed two regular courses of squared limestone rubble.

Context	Type	Description	Depth (m)	Width (m)	Finds	Date
2000	Layer	Modern topsoil	0.28	2.50	Yes	18 th and 19 th century
2001	Layer	Restoration debris layer	0.16	2.50	Yes	20 th century
2002	Fill	Fill of construction trench	0.30	5.60	Yes	18 th century
2003	Structure	Park Seat structure	-	-	-	-
2004	Cut	Construction cut for Park Seat	-	-	-	-
2005	Layer	Natural layer of clay	-	-	-	-

TRENCH 21

1	METHODOLOGY	
1.1	<i>Presentation of results</i>	
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	<i>Location</i>	
2.1.1	A machine cut trench located south of the Park Seat.	
2.2	<i>Soils and ground conditions</i>	
2.2.1	The underlying geology in this part of the site was a layer of mottled grey and brown clay.	
2.2.2	Ground conditions were soft and no problems were encountered.	
3	RESULTS: DESCRIPTIONS OF DEPOSITS: TRENCH 21	
3.1	<i>Features and deposits</i>	
3.1.1	The earliest deposit located within the trench was a layer of mottled grey and brown clay (2105). Layer 2105 was cut by the construction trench of the Park Seat structure (2103). The construction trench was filled with a tenacious mid brown clay fill (2102). A layer of greyish white and brown silt clay, this represents a layer of construction debris (2101) sealed the fill 2102. A layer of brown, clay loam topsoil overlay layer 2101.	
3.2	<i>Finds</i>	
3.2.1	Moderate amounts of ceramic building materials and numerous 18 th century architectural pieces were recovered from the construction fill deposit 2102.	
4	DISCUSSION AND INTERPRETATION	
4.1	<i>Reliability of field investigation</i>	
4.1.1	No factors effected the reliability of the field investigation.	
4.2	<i>Summary interpretation</i>	
4.2.1	The trench revealed the relationship between the Park Seat and the surrounding ground surface. Layer 2100 represents a deposit of modern topsoil, which was probably deposited after the 1986 restoration of the Park Seat and contemporary with the layer of construction debris 2101. Layers 2101 sealed the Park Seat construction	

TRENCH 21

trench fill 2102. The fill contained moderate amounts of ceramic building materials and numerous 18th century architectural objects.

4.2.2 There was a noticeable disparity between the finds recovered from the construction trench, on eastern side of the structure, within Trench 20 and the western side, within Trench 21. No pieces of 18th century architectural stonework were recovered from the eastern construction trench.

4.2.3 The Park Seat construction trench was located on the southern and western sides of the Park Seat, clearly cut into the natural clay, extending to a maximum of 0.60 from the structure on all sides. The lower, stepped, foundation of the Park Seat structure was uncovered. This revealed two regular courses of squared limestone, exposed to a depth of 0.50m.

5 ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Description	Depth (m)	Width (m)	Finds	Date
2100	Layer	Modern topsoil	0.26	2.50	Yes	19 th & 20 th century
2101	Layer	Restoration debris layer	0.14	2.50	Yes	20 th century
2102	Fill	Fill of construction trench	0.30	5.60	Yes	17 th & 18 th century
2103	Structure	Park Seat structure	-	-	-	-
2104	Cut	Construction cut for Park Seat	-	-	-	-
2105	Layer	Natural layer of clay	-	-	-	-

TRENCH 22

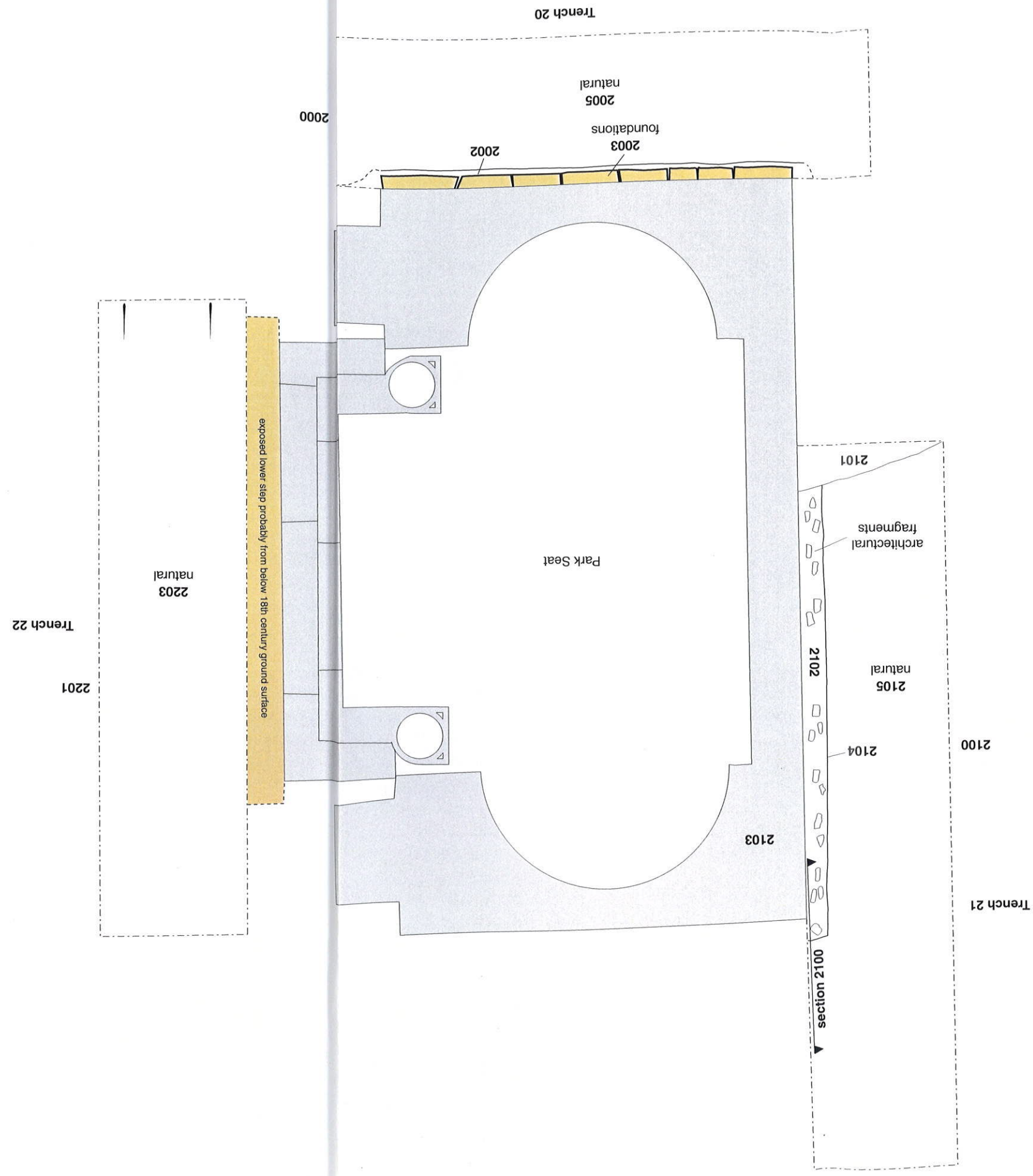
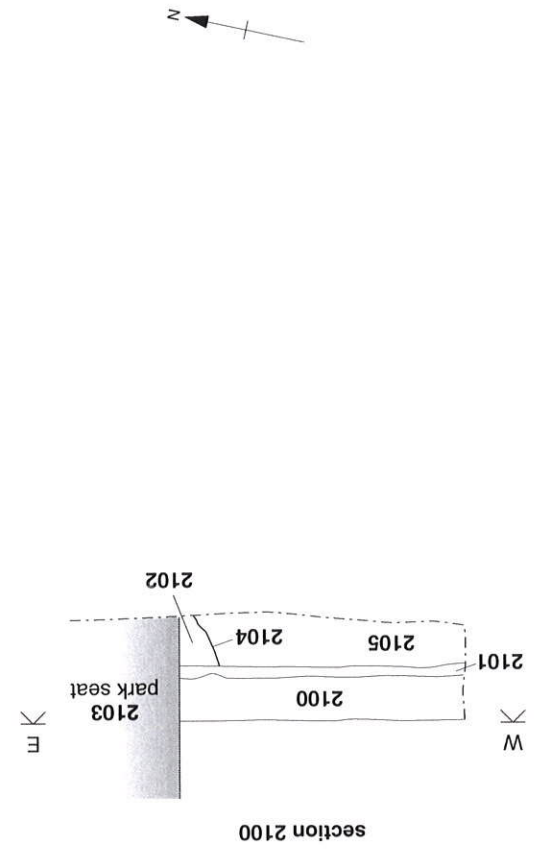
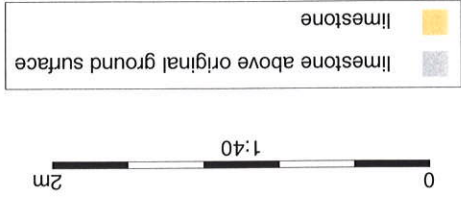
1	METHODOLOGY	
1.1	<i>Presentation of results</i>	
1.1.1	The soil and ground conditions for this trench are described below, followed by a brief description of the distribution of deposits.	
1.1.2	Trenches are described according to their stratigraphic sequence from the earliest deposits reached in the 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	<i>Location</i>	
2.1.1	A machine cut trench located just north of the Park Seat.	
2.2	<i>Soils and ground conditions</i>	
2.2.1	The underlying geology in this part of the site was a layer of mottled grey and brown clay.	
2.2.2	Ground conditions were soft and no problems were encountered.	
3	RESULTS: DESCRIPTIONS OF DEPOSITS: TRENCH 22	
3.1	<i>Features and deposits</i>	
3.1.1	The earliest deposit located within the trench was a layer of mottled grey and brown clay (2203). Layer 2203 was overlain by a layer of greyish white and brown silt clay (2202). A layer of brown, clay loam topsoil (2201) overlay layer 2202.	
3.2	<i>Finds</i>	
3.2.1	No finds were recovered from the trench.	
4	DISCUSSION AND INTERPRETATION	
4.1	<i>Reliability of field investigation</i>	
4.1.1	No factors effected the reliability of the field investigation.	
4.2	<i>Summary interpretation</i>	
4.2.1	The trench revealed the relationship between the Park Seat steps and the surrounding ground surface. Layer 2200 represents a deposit of modern topsoil, which was probably deposited after the 1986 restoration of the Park Seat and contemporary with the layer of construction debris 2201.	
4.2.2	The excavation revealed no evidence of any contemporary paths, north-west of the Park Seat structure. The three primary stone steps, leading to the entrance of the Park Seat remain <i>in-situ</i> . A fourth step constructed of roughly hewn limestone, was	

TRENCH 22

exposed on the southern limits of the trench. The poorly constructed appearance would suggest that the step was never exposed above the 18th century ground surface. 4.2.3 No evidence was located within the natural clay layer 2203 of a construction relating to the Park Seat steps. Layers 2200 and 2201 abutted the steps on the northern edge of the Park Seat structure.

5 ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Description	Depth (m)	Width (m)	Find	Date
2201	Layer	Modern topsoil	0.14	-	No	-
2202	Layer	Restoration debris layer	0.18	-	No	-
2203	Layer	Natural layer of clay	-	-	-	-



Trench 20, 21 and 22: plan and section 2100

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