

Croome Park Worcestershire

Archaeological excavations within The Grotto



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INTRODUCTION

1 INTRODUCTION

1.1 *The Overall Project*

1.1.1. *Background*

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

1.1.2. *Acknowledgements*

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

1.1.3. *Summary of Works*

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

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

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

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

1.2. THE PARKLAND LANDSCAPE AND ITS DEVELOPMENT

1.2.1. *Introduction*

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

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

1.3.1. *The Major Components of the Parkland Landscape*

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

1.3.1.3. Figure 1 shows the location of the main areas of the estate referred to within the report. The work undertaken by OAU was concentrated within the bounds of the Evergreen Shrubbery, Greenhouse Shrubbery and the Lakeside Garden, although additional work was carried out at the South Park Ha-Ha and the Park Seat (sometimes known as the Owl house). These terms will be utilised throughout the report.

1.3.2. *Outline Chronology of the Development*

- 1.3.2.1. The primary period of interest for this project covers the time span from 1747 to 1809 and to a lesser degree from 1809 to the present day. 1747 marks the year in which the 6th Earl of Coventry (then Lord Deerhurst) took full control of the estate and began the programme of works that was to result in the development of one of the finest late 18th century parkland landscapes in Britain, ending in 1809 upon his death (Phoenix Consulting 1997, 28).
- 1.3.2.2. 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 post-1747 developments and are now virtually untraceable.
- 1.3.2.3. The period 1747 to 1809 has been divided into six phases based on the different landscape architects working on the site (Phoenix Consulting 1997, 29). These phases are outlined below, with key events highlighted in each one;

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

(Adapted from Phoenix Consulting 1997, 28-29)

- 1.3.2.4. After the death of the 6th Earl in 1809 the estate remained largely unchanged until c. 1940. Although alterations were made these were largely aimed at maintaining the park whilst satisfying personal taste and minor changes in garden design fashions.

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

1.4. GEOLOGY AND TOPOGRAPHY

1.4.1. *Topography*

- 1.4.1.1. Croome Park can be divided into three broad topographical zones; the central low lying belt, the eastern scarp slope and the more gentle western hill slopes. The central area consists of low-lying (15-20 m OD) relatively flat ground running roughly north-south. The eastern scarp slopes are relatively steep and rise to c. 33 m 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. 50 m OD on Knights Hill.

1.4.2. *Geology*

- 1.4.2.1. 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.
- 1.4.2.2. 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 limey clayey shales whilst within the eastern area there are fine silty loams (National Trust 1999).

1.5. THE GROTTO REPORT

1.5.1. *Aims and Objectives*

1.5.1.1. The work at the grotto was aimed at dealing with a number of issues, these included;

- The nature of the water supply to Sabrina's Urn
- The survival of the water supply
- Phases of the Grotto's development

1.5.2. *Summary of Works*

1.5.2.1. The works were concentrated on a two phase excavation at the rear of the grotto near to its south-western end. The first phase comprised a small 2m by 2m hand dug trench located over the previous excavations undertaken by R. Cleary in 1999 (Cleary 2001a). This was then extended to the south with a larger machine cut trench measuring c. 8.5m by 1.5m.

1.5.2.2. Other works associated with this report include a digital survey of the footprint of the grotto and a rapid earthwork survey of the landscape to the west of the grotto. All these work were complemented with desk based analysis focussed on the known secondary sources and historic map sources.

THE GROTTA

2. THE GROTTO

2.1. *Background Information*

2.1.1. *Introduction*

2.1.1.1. The Grotto structure remains one of the most enchanting and mysterious features to adorn the Croome Park landscape. The rather Grand grade II listed structure perches on the north-west corner of the artificial lake, south-east of the Punch bowl gates. The Grotto was originally built in the later 1760's, probably to the designs of Brown, and was remodelled and extended in the 1780s, probably to the designs of James Wyatt.

2.1.1.2. The works were primarily targeted at determining the nature and character of the water supply leading to the 1780's Sabrina the Nymph statue at the south-western end of the Grotto.

2.1.2. *Summary of work undertaken*

2.1.2.1. The primary works involved a single hand excavated trench, measuring 2m x 2m, was excavated to the rear of the Grotto, at the structure's southern limits. A detailed written and drawn record was completed, prior to the extension of the trench to the south. The extended trench, measuring 8m x 1.5m, was excavated to recover further evidence relating to the water supply for the lake. Full details, including plans and sections, can be found in Appendix A.

2.1.2.2. Further work in the area included

- a digital survey of the Grotto's footprint to enable the accurate location of previous and current archaeological works, this will be supplied in a CAD format with the final report
- a rapid earthwork / contour survey of the earthworks to the west of the grotto aimed at determining the likely relationships between the excavated features and the visible remain of the area. The results of this will be supplied in a CAD format with the final report.

2.1.3. *Outline of Prior Work*

2.1.3.1. Previous works in the vicinity of the Grotto include work by Robert Cleary in 1999 (Cleary 2001a) which examined:

- The water supply to the statue of Sabrina (excavation)
- the Sabrina rock pool (excavation)
- The roof at the rear of the Grotto (excavation)

2.1.3.2. These were complemented by a front elevation of the Grotto and Grotto Cave's also completed by R. Cleary in 1999 (Cleary 2001a).

2.1.3.3. Other relevant works include the Croome Park Fabric Report (Rodney Melville & Partners, 2000), The Conservation Plan (National Trust 1998) and the Croome Park Historic Landscape Survey (Phoenix Consulting 1997).

2.1.4. *Aims and Objectives of works*

2.1.4.1. The primary goal of the Excavations to the rear of the Grotto was to determine, the nature and extent of the water supply to Sabrina the nymph. This work was enhanced by further excavation to the south aimed at locating and examining the 'Snape' culvert.

2.1.5. Basic History

- 2.1.5.1. The Grotto, as seen today, is the result of two principal phases of activity. The first of these occurred in the mid-1760's when a consignment of the Bath stone was delivered to Croome in 1765. This stone was destined for the construction of the Grotto and in 1767 Robert Newman, a mason, is recorded as having being paid for work on the grotto including transporting the stone to the site and construction of the structure (Phoenix Consulting 1997, 49).
- 2.1.5.2. The first phase of the Grotto design is likely to be attributable to Lancelot Brown, who constructed other Grottos at Packington and Rothley (National Trust 1998, 55). No references or architectural drawings of the Grotto structure have been found within the accounts of Robert Adam and it is unlikely the Grotto design is his.
- 2.1.5.3. The second phase involved a comprehensive reworking of the structure in the 1780's, probably under the direction of James Wyatt. The works are believed to have included:
- The construction of a new cave to accommodate a Coade stone nymph (possibly a predecessor of the current Coade stone Sabrina).
 - Extensive remodelling of the elevations to incorporate other Coade stone
 - The inclusion of 'grotto shells' and 'Derbyshire Spars' within the fabric of the structure
 - The inclusion of a Coade Stone plaque bearing an inscription from Virgil.
- 2.1.5.4. Small scale repairs were carried out to the Grotto in 1805 and 1810 (Phoenix Consulting 1997).
- 2.1.5.5. The 1824 Dean account describes the Grotto and its relationship with the lakeside Garden as follows; *"The stranger moving on...soon reaches a screen of rock work; and, next a spar-Grotto, near which on a tablet, are inscribed the well known lines of Virgil, (omitted). Beyond the grotto, appears the figure of a Water Nymph, reclining on a bank, and holding an Urn - through which, the waters, collected from a copious spring, at some distance, are made to flow, in a perpetual stream, falling among pieces of broken rock; and afterwards mingling, with the waters of the lake"*.
- 2.1.5.6. The last reference to the Grotto appears in the February 26th 1887 Gardening World (Phoenix Consulting 1997) and relates to the structures decline. Many of the Grotto's gem decoration had been robbed and subsequently most of the grounds were closed.
- 2.1.5.7. Restoration work in the 1970's was carried out on the grotto, this included the insertion of new pipes to the Nymph's water supply., including the Grotto structure.
- 2.1.5.8. Finally the National Trust has recently (July 2001) complemented a comprehensive cleaning and stabilisation programme on the structure which has markedly improved its appearance in comparison to the relatively overgrown and dilapidated form visible in photographs and description from the early part of the 1990's.

2.2. RESULTS

2.2.1. Excavations at the rear of the grotto

- 2.2.1.1. The excavations revealed a series of features and events associated with the development of the Grotto, they comprised:
- The early land drain
 - The 1780's extension to the Grotto
 - The Sabrina water supply
 - The 'Snape' culvert
 - The impact of the 1972 alterations.

2.2.1.2. These are detailed below and summarised in the Section 2.2.

2.2.2. *The early land drain*

2.2.2.1. It is unclear what phasing relationship the early Land drain (109) (see Plates 1 and 2 and Appendix A), a crudely built brick and limestone drain, has with the Grotto. No construction cut was observed for the first phase of the Grotto's construction, primarily due to previous excavation work in the northern end of the trench. This previous work (Cleary 2001a) also failed to record a primary construction cut for the foundation trench of the first phase of the Grotto. This lack of a direct relationship makes interpretation difficult. However the fact the drain respects the Grotto would lead to the conclusion that it is probably either contemporary or slightly later in date than the first phase of the Grotto.

2.2.2.2. Its relationship with the 1780's extension to the Grotto (see below) is also unclear due to the lack of a direct relationship between the construction cuts for the two features (113 and 108). This relationship was unfortunately destroyed by the later modern land drain (105), although it is felt that the grotto extension construction trench (113) does truncate the drain. The early land drain is however truncated by the later post-1797 'Snape' Culvert (119) (see Plate 2), giving it a date range of c. 1765 to c. 1797.

2.2.3. *The 1780's extension to the Grotto*

2.2.3.1. The development of an additional bay at the south-western end of the Grotto to accommodate a Coade Nymph, involved the extension of the grotto. The excavations clearly located the construction cut of the foundations of this extension (113) and identified its northerly extent (see Appendix A). The extension was very similar in the character of its build to the earlier phase but unfortunately extensive restoration works in the 1970's have interfered significantly with the relationship between the two structures. The belief that this extension was undertaken in the 1780s is based on several documentary references to work undertaken on the Grotto at this time, particularly the delivery of a very large collection of Grotto shells in 1785 (National Trust, 1997 Appendix 10). It has previously also been assumed that the current Coade nymph Sabrina formed part of these works but during the course of the current investigation the nymph was closely inspected by the National Trust and it was found that the date 1802 was stamped on the figure (discussion further in section 2.2 below).

2.2.4. *The Sabrina water supply*

2.2.4.1. The primary aim of the excavation was to investigate the water supply to the Coade Nymph. Previous excavation works in 1999 (Cleary 2001a) had revealed no evidence of the original form of the water supply and unfortunately extensive disturbance linked to the reestablishment of the water supply in the 1970's had truncated and removed all evidence of the original form of the water supply.

2.2.5. *The 'Snape' Culvert*

2.2.5.1. The extension of the excavation works to the south revealed the 'Snape' culvert (see Plate 2). This consisted of a limestone slab covered brick culvert running roughly east-west. This culvert cut the earlier land drain (109 - see above) and avoided the southern end of the grotto. The culvert gained its name from the man responsible for its planning, John Snape, who produced a section, plan and description of the culvert in 1797 (Volume 4: Phoenix Consulting 1997).

2.2.5.2. The culvert is in remarkably good condition and still supplies a significant quantity of water to the lake. Further excavations by the National Trust after the completion of the excavation works by OAU (see Plate 3), revealed that the culvert changed character just outside the eastern extent of the excavation trench where it reached the bank leading down to the path by the grotto. At the base of the slope the limestone slab layer ceased

and the brick culvert lining seems to disappear on the northern side. Tom Oliver believes that this is due to the culvert changing course and running north of the rock pool in front of the Nymph's cave. Further excavation will be required in this area to determine whether the culvert does in fact deviate from its direct course towards the lake at this point.

2.2.6. *The impact of the 1972 alterations*

- 2.2.6.1. The extensive works at the rear of the grotto and in the Coade Nymph's Cave during the 1970's 'restoration' works have drastically altered the historic fabric and character of the monument. These works, as previously mentioned, included establishing a new water supply pipe (context 101) to the Nymph's Urn which in effect removed all traces of the previous water supply and also extensively altered the fabric of the structure. The works seemingly also altered the terminus of the 'Snape' Culvert.

2.2.7. *Discussion and Interpretation*

- 2.2.7.1. Although the original water supply to the Urn was not located during the excavation various conclusions can still be drawn about its origin and course (see Figure 2). Presently the only known course runs from the reservoir in New Field down the 1972 ceramic pipe to the urn. This would have supplied a fall of approximately 9 ft 4 inches (c. 2.8m), according to Snape in 1797. The pool was constructed between 1763 and 1796, although reference in the accounts to the construction of a reservoir by Mr Weston in 1784 (Phoenix Consulting 1997: Appendix 16) probably refers to the creation of this feature.
- 2.2.7.2. This would relate well with the proposed dates for the extension of the Grotto (c. late 1780's), perhaps indicating a link. Further references in the accounts to the use of hollowed logs as pipes for carrying water from Pirton Pool to the reservoir in the 1790's (Phoenix Consulting 1997, 90) possible indicates how the water was moved, underground, from the pool to the Grotto.
- 2.2.7.3. Overall it is felt likely, based on current limited evidence, that the water supply for the grotto originated at the Pirton Pool and was supplied via the reservoir to the Urn in hollowed out tree trunks. The evidence would perhaps indicate a late 1780's / early 1790's date for this event.
- 2.2.7.4. The excavation works also revealed the Snape culvert in a form directly comparable to the feature described on the 1797 plan drawn by Snape. This still supplies a considerable quantity of water to the lake, although its course from the end of the open trench at the rear of the Grotto to the excavated section is still unclear.
- 2.2.7.5. Among the more interesting findings (although not directly found by the current works) is the date 1802 on the Coade stone nymph Sabrina. It has previously been assumed that the current Sabrina (a standard Coade figure formed from a model by John Bacon) formed part of an extension to the Grotto undertaken in the 1780s. The current works have confirmed that the Grotto was extended (by the identification of the construction cut of the extension) and documentary evidence does strongly suggest that this was undertaken in the 1780s. The date of 1802 on the nymph raises the possibility that the extension was undertaken later than previously thought but there is no documentary reference to works to the Grotto between 1785 and 1805 and the clearest documentary evidence of an extension is the order of a very large collection of Grotto shells in 1785. The design of the extension (and the water supply) has the coade nymph as its central feature and the extension must have had such a figure from its original construction. The most likely explanation is simply that the figure was replaced in 1802 either by a replica because that original had broken or by a new design for aesthetic reasons.

2.2.7.6. Other important developments noted during the excavation included the extent of the 1970's 'restoration' works and their impact and the location of the 1780's extension to the grotto.

2.3. MANAGEMENT AND CONSERVATION RECOMMENDATIONS

2.3.1. *Recommendations*

1. Sabrina's water supply should be reinstated using the line of the 1972 pipeline. This will involve minimal impact upon the known archaeological resource and is probably historically accurate.
2. In respect to Recommendation 1, further archaeological assessment of the pipeline's route from the rear of the grotto to the reservoir in New Field should be undertaken with the aim of locating any features possibly connected with the 1780 / 1790's development of this water supply.
3. The 'Snape' culvert should be maintained and cleaned.
4. An assessment of the fabric at rear and front of Grotto in the vicinity of the southern 'nymph' cave should be made to ascertain 1970's elements and determine the best way to restore the structure in light of these recent intrusions.

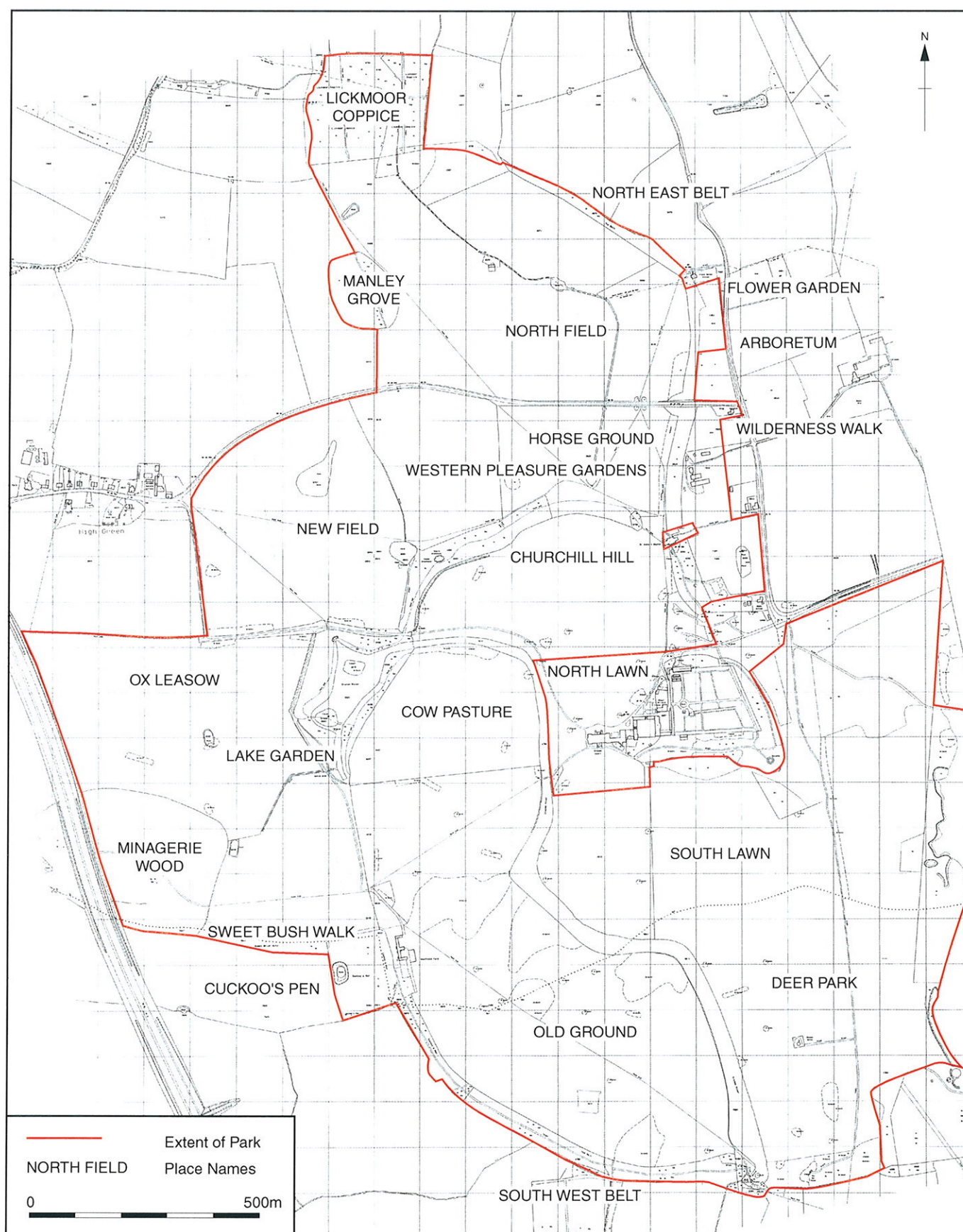


Figure 1: Location of landscape areas.

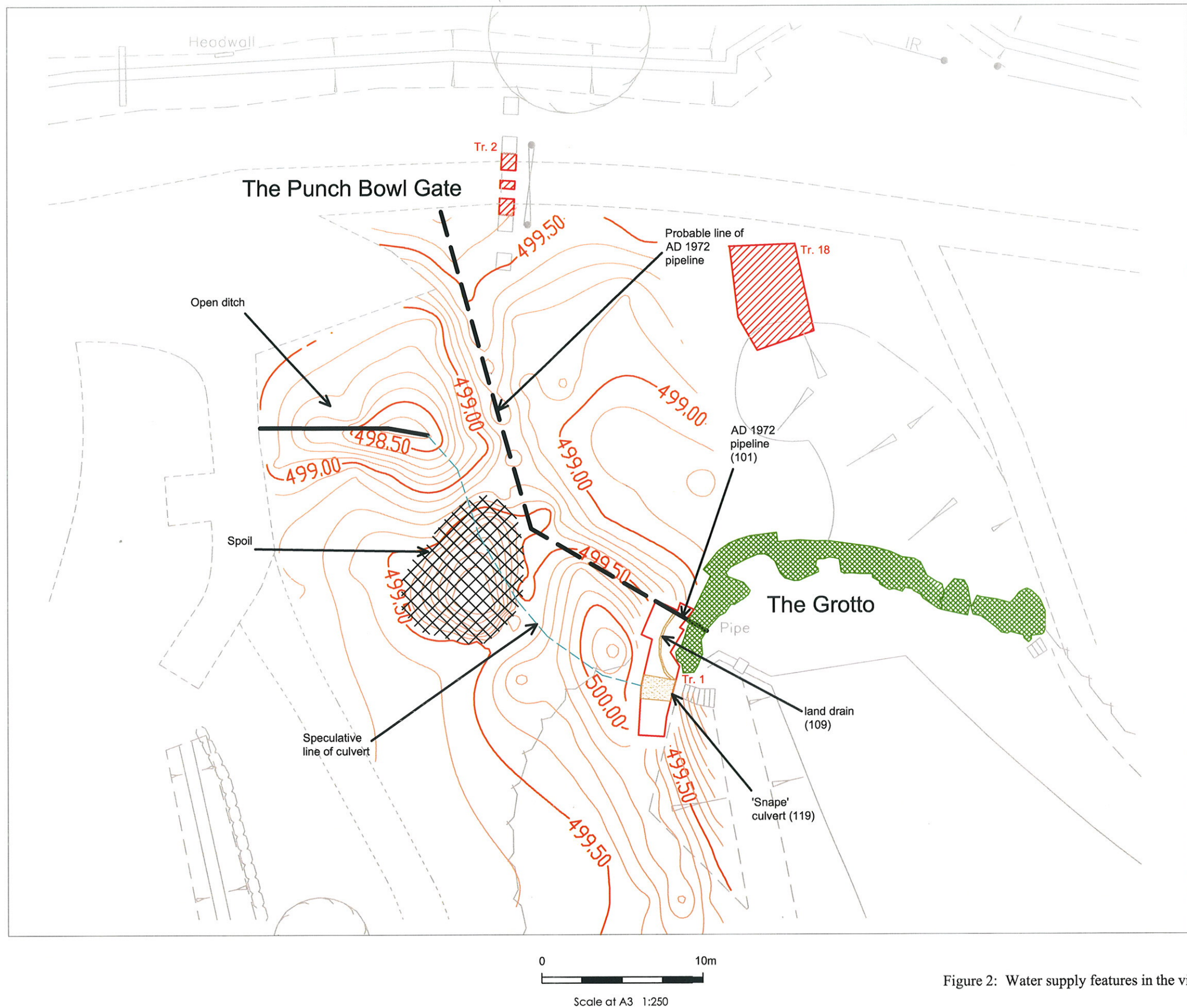


Figure 2: Water supply features in the vicinity of the grotto.

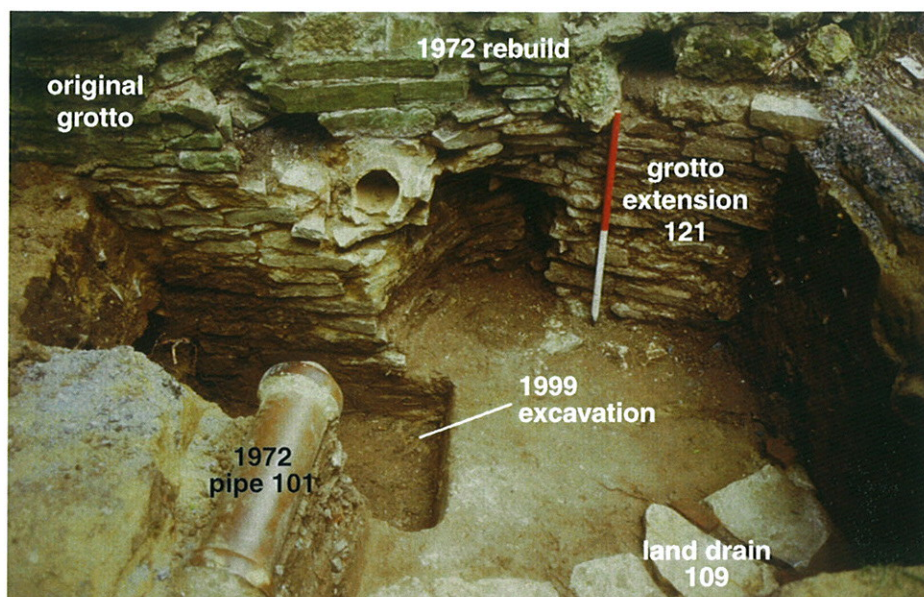


Plate 1: View of the first phase of excavations from the West.

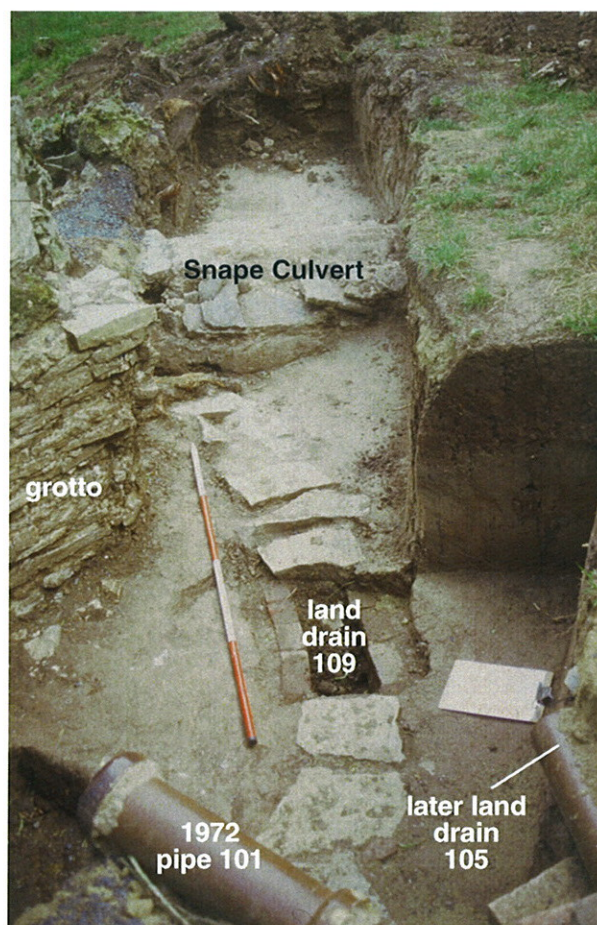


Plate 2: View of the land drain and later Snape Culvert from the North.

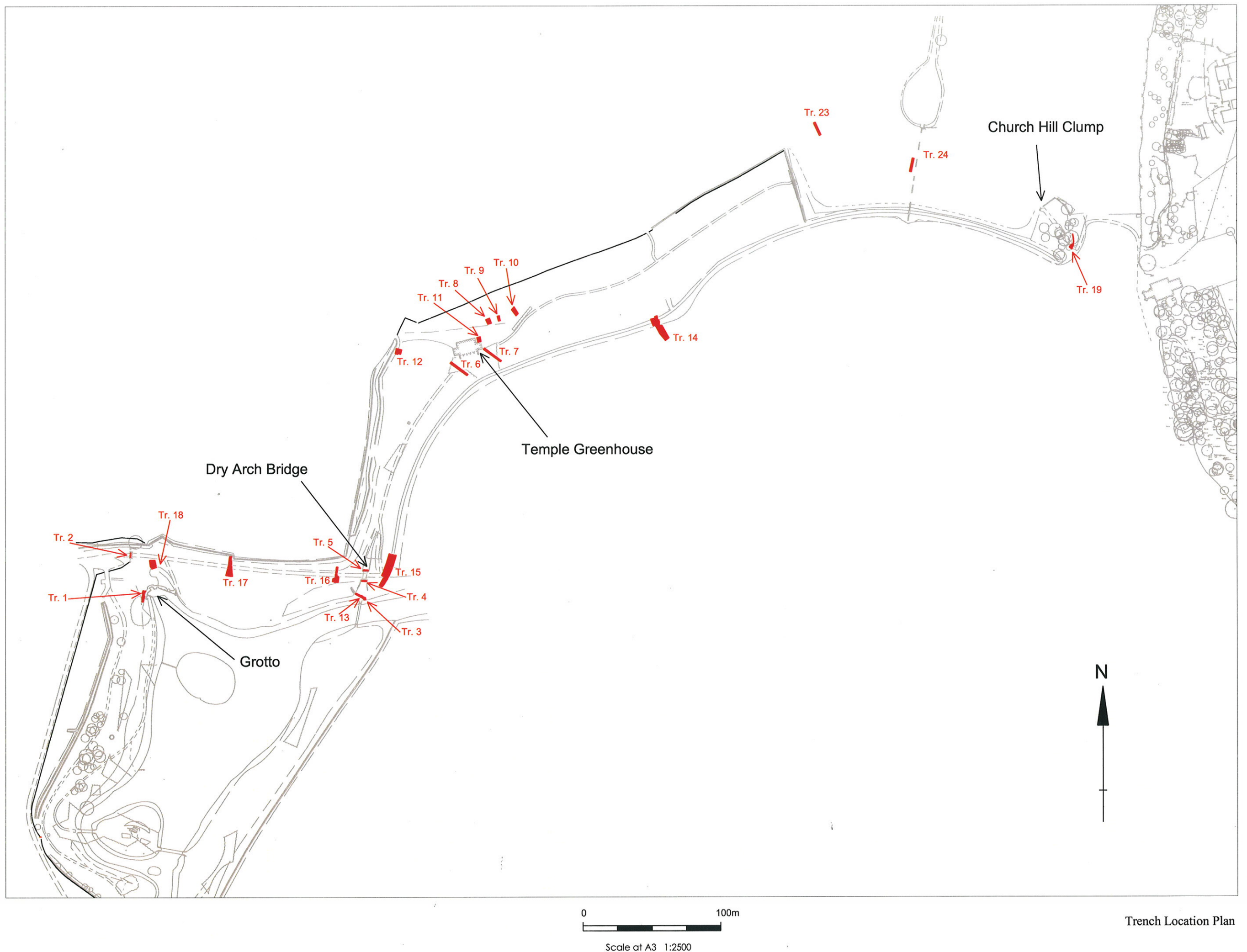


Plate 3: View of National Trust clearance at the eastern end of Culvert.

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APPENDIX A - TRENCH DESCRIPTIONS



1 METHODOLOGY

1.1 Presentation of results

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

2 RESULTS: GENERAL

2.1 Location

- 2.1.1 Trench 01 was located immediately to the rear of the grotto's south-western end.

2.2 Soils and ground conditions

- 2.2.1 The underlying geology in this part of the site is sandy clay.
- 2.2.2 Ground conditions were compact throughout, which inhibited rapid hand excavation.

3 RESULTS: DESCRIPTIONS OF DEPOSITS: TRENCH 1

3.1 Features and deposits

- 3.1.1 The earliest deposit observed in the trench was a natural brown clay (116). A mixed layer of brown sandy silt (115), which represents an earlier soil horizon, sealed layer 116.
- 3.1.2 Several features cut layer 115. Cut 110 represents the earliest of the interventions and consists of an linear shaped construction trench (110) for a limestone capped brick drain (109). Drain 109 was filled with brown sandy silt. The fill of the construction trench (110) was a reddish brown silt clay (108).
- 3.1.3 Fill 108 was cut by the construction trench (113). The trench was filled by reddish brown clay (112) and the limestone Grotto re-build (121). The re-build consists of regular courses of Lias limestone rubble, bonded with a soft, white lime mortar.
- 3.1.4 Cut 120 represents a construction cut for a brick and Lias limestone culvert (119). The construction trench 120 was filled by a reddish brown mudstone (118). Layers, of similar, reddish brown mud-stone, 107 and 111, sealed fills 113 and 118. These layers (107, 111 and 118) represent made-up ground associated with the construction of the conduit, 119.
- 3.1.5 Cut 106 represents the construction trench for a ceramic land drain (105) and is filled with a reddish brown mudstone (104). Fill 104 has been cut by a 1970's construction trench for a brick built inspection chamber (101), and associated ceramic pipe. The cut is filled with mixed rubble and mud-stone (102). Fill 102 has been sealed by a layer of modern topsoil (100).

3.2 *Finds*

- 3.2.1 One glass bottle was recovered from layer 101, along with a piece of ceramic building material. Both finds are can probably be attributed to the 19th century.

4 DISCUSSION AND INTERPRETATION

4.1 *Reliability of field investigation*

- 4.1.1 Extensive tree-root action has disturbed the stratigraphic relationship between the construction cuts 110 and 113.

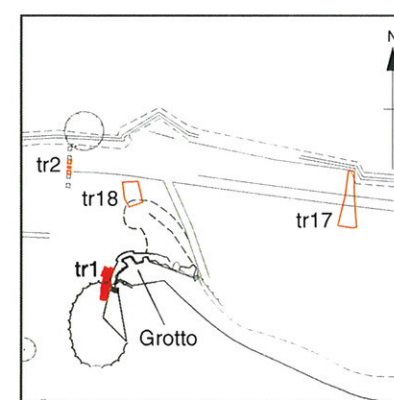
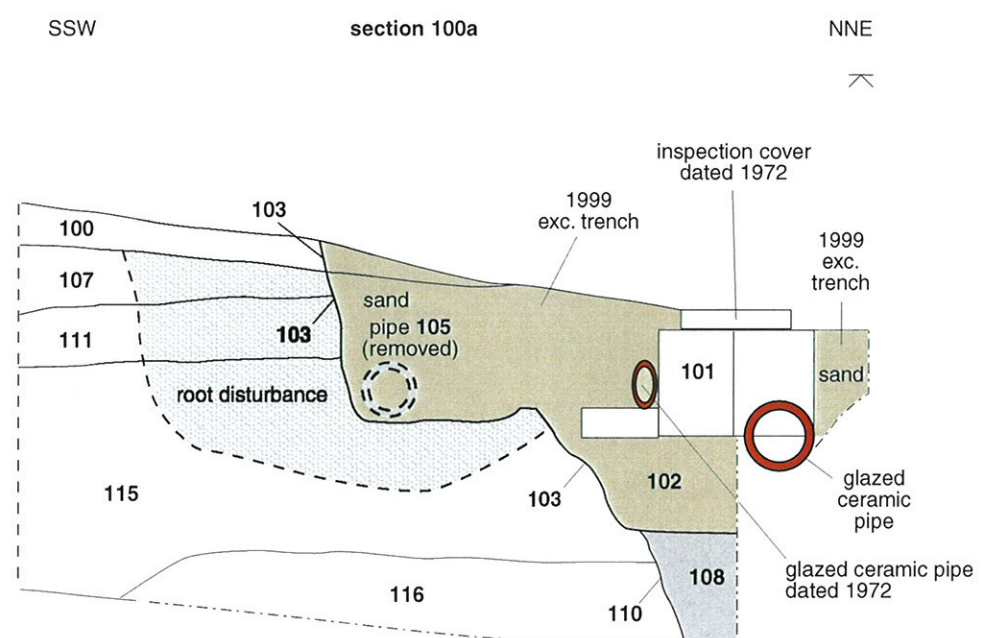
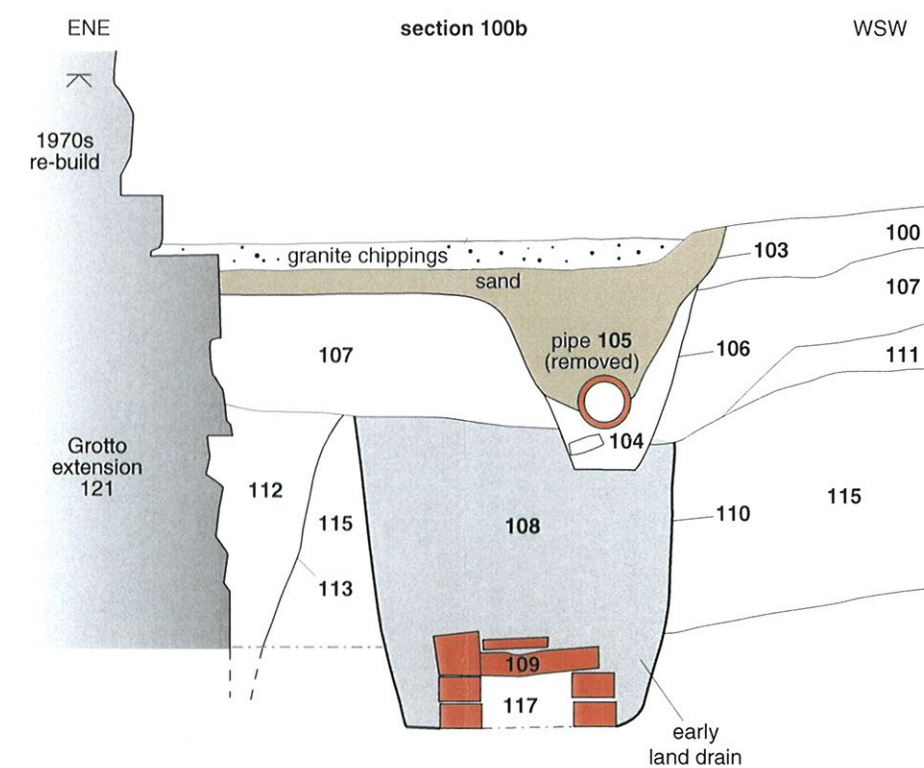
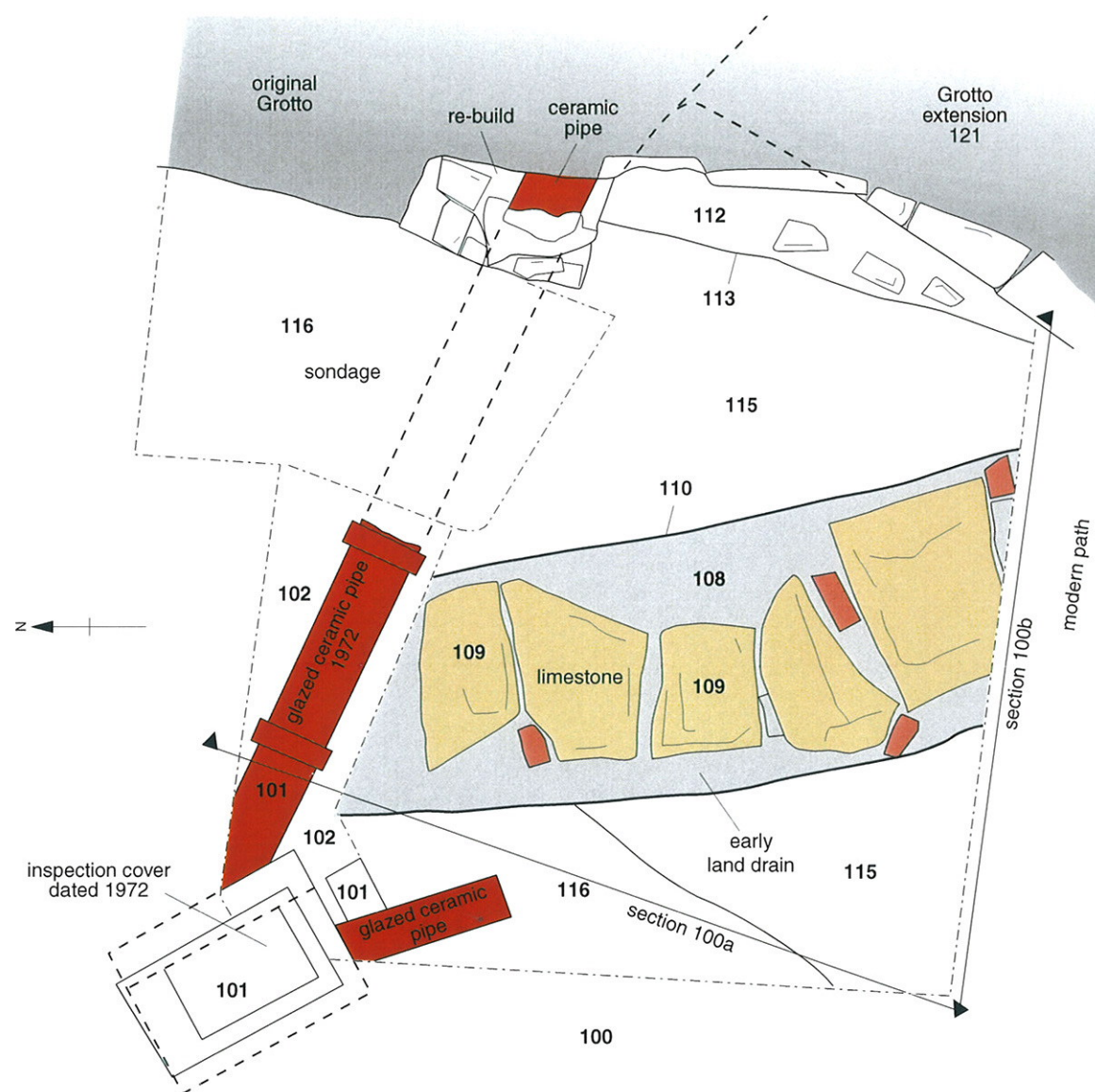
4.2 *Summary interpretation*

- 4.2.1 The earliest intervention within the trench consists of a linear construction trench (110) for the limestone capped brick drain 109. The drain runs approximately parallel to the outer face of the Grotto and is probably contemporary with, or slightly later in date than, the Grotto. Unfortunately no stratigraphic relationship between the original Grotto construction and the drain was located. Assuming a relationship does exist with the Grotto, this would date the drain to the period between the late 1760's when the Grotto was first constructed, through to the early 1780's when the Sabrina Nymph statue was added, because the construction of the Grotto extension (113 and 121) to accommodate Sabrina cuts the drain.
- 4.2.2 The extension to the Grotto, as revealed by construction cut 113 and the foundations of the grotto 121, was constructed in the 1780's to provide accommodation for the statue of Sabrina the Nymph. This necessitated the rebuilding of the Grotto and construction of a water supply to feed the small fountain that emerged from her urn. Unfortunately all evidence of the water supply has been truncated and removed by later, c.1970's, activity comprising structure 101 and cut 102.
- 4.2.3 The culvert structure, 119, is located just south of the southern terminus of the Grotto. Plans exist of the line and fall of the drain (Phoenix Consulting 1997) and these indicate that the feature was designed in 1797 by Snape. The culvert was intended to provide the main water supply for the ornamental lake to the east of the Grotto. Although the exact date of construction is currently undetermined the style of brick work and nature of construction would all lend themselves to a late 18th / early 19th century date. It is therefore likely that the culvert was built relatively soon after Snape's 1797 plan was drawn.
- 4.2.4 The later, mid 19th century ceramic land drain 105 has no relationship with the water supply to the ornamental lake.
- 4.2.5 Overall the trench failed to located any evidence of the nature and form of the original water supply for the Grotto due to recent truncation of the deposits. The work did however unearth the location of the post-1797 Snape drain which indicated that this did not feed the Sabrina water supply. The excavation also demonstrated that the later land drain (105) was not part of the Sabrina water supply.
- 4.2.6 The excavation also determined the extent of the extension to the grotto undertaken in the 1780's to accommodate Sabrina.

TRENCH 01

5 ARCHAEOLOGICAL CONTEXT INVENTORY

Context	Type	Description	Depth (m)	Width (m)	Finds	Date
100	Layer	Modern topsoil	0.16	-	Yes	19th Century
101	Structure	Modern Brick inspection chamber	0.28	0.46	-	
102	Fill	Fill of trench 103	0.39	-	No	
103	Cut	Construction trench for 101	0.42	0.60	-	
104	Fill	Fill of trench 106	0.48	-	No	
105	Structure	Modern Ceramic pipe	-	0.14	-	
106	Cut	Construction trench for 105	0.48	0.50	-	
107	Layer	Re-deposited natural	0.18	-	No	
108	Fill	Fill of trench 110	0.68	-	No	
109	Structure	18 th century Drain	0.16	0.70	-	
110	Cut	Construction trench for 109	0.84	0.70	-	
111	Layer	Re-deposited natural	0.14	-	No	
112	Fill	Fill of construction trench 113	0.64	-	No	
113	Cut	construction trench for 121 (Grotto extension)	0.64	0.28	-	
114	Layer	Clay & limestone rubble	0.22	-	No	
115	Layer	Original land-surface	0.68	-	No	
116	Layer	Natural silty clay	-	-	No	
117	Fill	Fill of drain 109	0.08	0.24	No	
118	Fill	Fill of construction cut 120	0.56	1.62	No	
119	Structure	Brick culvert. Late 18 th -century 'Snape' culvert	0.76	1.08	-	
120	Cut	Construction cut for 119	1.60	1.62	-	
121	Structure	1780's Grotto re-build	1.60	1.90	-	



Trench 1: 1st phase plan and sections 100a and 100b



Trench 1: Post excavation plan



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