LIME AVENUE PONDS, LYME PARK, CHESHIRE

Archaeological Watching Brief

Matrix Archaeology

March 2018

LIME AVENUE PONDS,
LYME PARK,
CHESHIRE

Archaeological Watching Brief

Report No. 2018-06
(Project Code: MA672)

Client: The National Trust

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March 2018

REPORT CONTENTS

1. INTRODUCTION

1.1 An archaeological watching brief was undertaken by Matrix Archaeology in the area known as Calves Croft, in Lyme Park, Cheshire, during August 2017. The work comprised de-silting and repairs to the Lime Avenue Ponds.

1.2 During the 1980s, a team employed by the Manpower Services Commission (MSC) had undertaken some limited restoration works. A survey of the ponds had been undertaken in 2009 by Chris Burnett Associates, in anticipation of future restoration works.

1.3 For the 2017 watching brief, a WSI was produced and was submitted to Natalie Ward, Senior Conservation Archaeologist for the Peak District National Park Authority.

1.4 The watching brief was commissioned by Jamie Lund, Archaeology and Cultural Heritage Advisor for the client, the National Trust.

1.5 Acknowledgements

The watching brief was undertaken by Peter Middleton and the report was compiled by Peter Middleton and Mark Fletcher. Site access was facilitated by Lyme Park staff.

2. METHODOLOGY

2.1 The watching brief was undertaken in parallel with the groundworks to restore the ponds. Additional archaeological excavation or clearance was undertaken by machine, with further hand cleaning of features of interest. The recovered artefacts did not warrant a finds record.

2.2 The digital photos of the site include a 1m ranging rod for scale (Plates 1 – 35).

2.3 Site drawings were undertaken at 1:10, 1:20 and 1:50 scale. An overall site plan was produced, with feature numbers for cross-reference (Figure 2); and a number of inset plans and cross-sections were also produced (Figures 3 and 4).

3. SITE LOCATION AND DESCRIPTION

3.1 The Lime Avenue ponds are located in Lyme Park, about 260m to the south of Lyme Hall, and 10km south-east of Stockport, in Macclesfield District, Cheshire (OSNGR SJ 9644 8207). Lyme Park occupies the western edge of the Peak District Pennines, and the land rises within the south and west parts of the Park to over 350m OD. The southern part of the park is drained by a number of minor streams which flow either westwards or northwards, and one of these has been dammed to create a pair of ponds immediately on the west side of the north-south Lime Avenue, which extends southwards from Lyme Hall. At a height of about 250m AOD, the ponds are known as the 'Upper Pond' (south) and the 'Lower Pond' (north). They are each about 40m in length and 30m in width (Figure 2).

3.2 The Avenue itself appeared to have been raised as a linear earthwork where it crossed the line of this stream, and the excavation of the ponds and the forming of their retaining dams had modified the local landscape to a degree where it was difficult to envision how the area might have appeared before these interventions occurred.

3.3 The Upper Pond was retained by a dam comprising a low wall on the upstream face, and a timber sleeper edge on the downstream side, both put in place by the MSC team. The original outlet at the north-west corner was blocked when this work was done, and a central cascade replaced this, which has now partially collapsed. Trench 1, excavated in 2009, revealed an inner clay core dam, which had been raised and thickened by the 1980s work. At the south-east corner of the pond, a semi-circular masonry sluice allowed water to enter the pond, via a culvert which passed beneath the Lime Avenue.

3.4 The Lower Pond was retained by a dam with a masonry slab wall on the downstream side. There appears to have been a byewash which issued from the north-eastern corner, with a timber footbridge crossing this. The 2009 Trench 2 revealed a trackway of compacted sandstone across the dam, presumably allowing access from the Lime Avenue onto the land to the west. An outlet from the Lower Pond exists just downstream from the dam. The 2009 survey identified a 'promontory' on the west side of the pond; it is possible that this was originally intended to act as a 'midfeather', to flush silt through the pond, rather than allow it to accumulate. The only significant work intended for the Lower Pond in 2017 was desilting of the pond bed.

4. SITE HISTORY

4.1 The following is derived from the report by Chris Burnett Associates (2009), which provides a detailed history and interpretation of the ponds.

4.2 The earliest documentary reference to the ponds appears to have been written by the Revd. Marriot, who in 1810 was describing the Lime Avenue, and referred to *"A succession of ancient pits, one connected by sluices with the other, but now dry, and grown over with brush-wood and large tree, are, likewise, interspersed along each of the margins. Three of the most particular, however, bound the western side…"*.

4.3 Pollet's survey plan, undertaken in 1824, showed a single elongated pool in the approximate position of the existing ponds, with what may have been a dam and a stream outlet at the northern end.

4.4 The Tithe map of 1850 showed a pair of sub-rectangular ponds extending parallel to the Lime Avenue, as in the form of the existing ponds. However, the 1871 OS plan simply indicated an area of boggy ground at this location, as did the 1896 OS plan.

4.5 The 1907 OS plan appeared to represent the first cartographic source which showed the existing two ponds in any detail. The Upper Pond was shown as sub-rectangular in plan, and had an apparent overflow channel extending from its north-west corner, to meet the Lower Pond. The latter was more irregular in shape, including a circular feature to the south-east, which may represent the existing island. On cartographic evidence, it was suggested that the ponds were reinstated during the period 1896 to 1907.

4.6 The 1972 OS plan showed the ponds as they were previously indicated earlier in that century. During the 1980s, a Manpower Services Commission team undertook some restoration work within the Upper Pond. This included a limited amount of desilting, the construction of a silt-trap in the south-east corner of the Upper Pond, and the construction of a cascade on the downstream side of the Upper Pond dam.

5. WATCHING BRIEF RESULTS AND INTERPRETATION

5.1 General

To enable ease of cross-referencing between the text, figures, and plates, the landscape features were retrospectively allocated identifying numbers, from 1 to 19 inclusive.

5.2 The Upper (South) Pond (Feature 1)

This pond was sub-rectangular in plan and measured about 26m east-west by 37m north-south. Up to 0.9m of black organic silt and vegetation was removed by machine from the northern end of the feature. Much of the build up was relatively recent, although some of the material appeared to pre-date the previous de-silting works of the 1980s. Less silt (up to 0.4m) was cleared further to the south, and very little was noted in the pond's south-eastern corner.

The south-eastern corner of the pond contained a Pennine stone retaining wall, and a semi-circular silt trap (Feature 3). Both of these features were introduced in the 1980s, and the silt trap was completely removed by the 2017 works. The 1980s island in the centre of the pond (Feature 4) was also machined away in 2017. This 8m by 6m by 1.5m high feature appeared to have been constructed with a mix of stony topsoil and silt.

The banks of the fully excavated pond were at 30 to 40 degrees to the horizontal, and the base was flat with a gentle slope to the north. The firm, orange-brown to grey-brown clay noted throughout appeared to be a lining of redeposited natural material.

5.3 Upper Pond Retaining Dam (Feature 2)

The repairs to the upper dam included the removal of a central concrete and stone cascade built during the 1980s works. The cascade was machined away in 2017 to leave a 1.5m wide slot near the centre of the dam, which then allowed water within the Upper Pond to be drained away. The east-facing section was recorded contextually due to its relative complexity (see cross-section, Figure 4):

- The earliest unit comprised a clay core or 'stank', 3.5m thick by 0.75m high, formed of a mass of firm, grey clay [10] with rounded pebbles.
- Context [09] was a 0.67m spread of orange clay which overlay the northern flank of clay [10]. It contained a few rounded pebbles and fragments of coal.
- Clay [09] was in turn overlain by a 0.15m band of friable, orange-brown humic clay [08]. A thin, patchy layer of darker soil was also noted above.
- Next in the sequence was a 0.33m thick wedge of black-brown waterlogged silt [07]. It sat directly on the southern flank of clay [10].
- This was followed by a near vertical cut [06] to clay [09]. The intervention was clearly defined and around 0.72m deep.
- Cut [06] contained 1.05m deep Pennine stone and concrete wall [05] which formed the southern face of the dam. The 0.34m wide structure rose off clay [10] and was packed behind with stone rubble.

- Context [04] lay to the south, and included the remains of a working platform of timber pallets covered by a 0.3m thick capping of clean grey clay.
- A 0.35m thick deposit of sandstone chips [03] sat above unit [08] near the top of the dam.
- Contexts [03] and [08] were covered by 0.1m of topsoil [02].
- Context [01] comprised higher patches of silt within the upper pond.

Interpretation

The dam may originally have been constructed in the second quarter of the C19 or earlier (Chris Burnett Associates, 2009). Contexts [10], [09] and [08] appeared to be original to the structure. Clay [10] had clearly been chosen as an impervious material for the core of the structure. It was probably sourced relatively close to the site. The band of darker soil at the top of context [08] was a probable buried turf line which may have represented the pre-1980s ground surface at the back (north side) of the dam.

Silt [07] probably accumulated between the c.1900 restoration of the Upper Pond, and the renovation works of the 1980s. Contexts [06], [05], [04], [03] and [02] all related to repairs to the dam, undertaken in the 1980s. Context [01] was probably part of the post 1980s accumulation of silt.

The 2017 cross section was at least superficially similar to that recovered during the 2009 trenching by Chris Burnett Associates, at a location at the east end of the dam, but the poor quality of the drawing in the PDF report made it impossible to accurately compare the two cross-sections.

5.4 The Lower (North) Pond (Feature 5)

The Lower Pond was similar in dimensions and plan form to the Upper Pond, but proved to be significantly deeper. The organic silt and plant matter had accumulated to depths of up to 2.5m in the northern half of the pond. This accumulation reduced to around 1.0m deep towards the southern end where the island (Feature 7) was retained.

The base and side banking of the emptied pond were again probably lined with redeposited natural clay. The banks were angled steeply at about 40 degrees to the horizontal, and the base was slightly dished with a steady fall to the north.

It is not believed that any work was undertaken on this pond by the 1980s MSC team.

5.5 Lower Pond Retaining Dam (Feature 6)

This dam was shorter, but wider than the dam of the Upper Pond. On the downstream side, the dam was retained by a vertical wall of Pennine sandstone slabs. A pair of trenches was excavated on this dam by Chris Burnett Associates in 2009, they identified clear evidence for a metalled trackway traversing the dam crest, presumably allowing access from the Lime Avenue to Calves Croft, to the west of the ponds.

5.6 Channel between Upper and Lower Ponds (Feature 9)

This V-shaped cutting ran for approximately 30m, and originally conducted water from the Upper Pond to the north-western corner of the Lower Pond. A breach in the east bank (Feature 8) was repaired and the channel was generally cleaned up by machine.

A narrow slot excavated at the southern end of the feature revealed a 0.37m wide base of cobblestones set into gravelly clay. This surface was covered by a 0.17m build up of silty loam. The sides of the gully were angled at around 30 degrees and a long Pennine stone slab lay on the west bank, adjacent to the excavation (Inset 3).

Interpretation
A late C19 to early C20 date for the channel in the 2009 Chris Burnett Associates report was based upon map evidence alone. The watching brief provided no further information as to the age of this feature.

The cobblestones almost certainly represented a lined base to the feature which would have limited erosion from water flow. The stone slab seems more likely to represent a random element, rather than any remnant of a bank lining.

5.7 Outflow from Upper Pond (Feature 10)

The earlier outflow for the Upper Pond was reinstated during the 2017 works. The blocked channel was excavated by machine. The infill material comprised 0.7m of topsoil, mixed clay, sandstone chips, rounded pebbles and blocks/slabs of Pennine sandstone. Plastic bags and concrete slabs were also noted. A large block of cast concrete filling the mouth of the redundant sluice. There was no evidence for any stone lining to the feature.

Further excavation revealed two north-south orientated clay pipes set into the original clay core of the dam. The pipes had plastic connectors and were late C20 in date.

Interpretation
An outlet across the dam here was first depicted on the 1907 OS plan. It had clearly been infilled in the 1980s, with any putative stone lining possibly being robbed out for use in the dam's new south wall. The clay pipes encountered may have been acting as overflows in the event of a surge of flood water into the Upper Pond.

5.8 Outflow from Lower Pond (Features 11 and 12, Inset 4, Figure 4)

The existing outflow from the Lower Pond consisted of an underground ceramic pipe at the west end of the dam (Feature 12). In 2017, this pipe was infilled, and the water course (Feature 11) at the east end of the dam was reopened.

Silt and topsoil were removed from the latter channel which curved north-westwards, before entering an open gully leading to a suspected third pond (Feature 18). The channel was V-shaped in section and had a narrow flat base of grey clay with gravel patches and a few small stone slabs. The steep flanks cut through 0.5m depth of mixed orange-grey clay, and an uppermost 0.1m of topsoil and turf.

Many more slabs and blocks of Pennine stone were encountered near to the exit from the Lower Pond. The jumbled stones were up to 0.4m by 0.45m in size, within a matrix of gravel and grey clay.

Interpretation
The 2009 Chris Burnett Associates report suggested that the east channel (Feature 11) was constructed during the 1980s scheme of works; and that the western pipework (Feature 12) represented an earlier outlet for the lower pond.

However, more recent discussions held between past workers and NT Rangers appeared to cast some doubt upon the 1980s construction date for the eastern outlet (Feature 11). Hence this channel may represent an earlier feature with the stone slabs possibly forming the remains of a lining.

5.9 Culvert and Wall Remains in Upper Pond (Feature 13, Inset 2, Figure 3)

During desilting, the remains of a stone-built culvert running parallel to the Lime Avenue was partially excavated by hand and recorded, within the east side of the Upper Pond. The conduit was found near the junction of the bank and base of the pond and the exposed section was 10.2m in length.

Whilst the southern end of the feature was probably destroyed by the 1980s works, the north end was traced by probing southwards, all the way to the Upper Dam (Feature 2). This 20m length was sealed below the clay base of the pond.

Large Pennine flagstones capped the structure, and the flanks comprised rubble stone walls bonded with clay. Flagstones also formed the base of the channel. The enclosed channel measured 0.19m by 0.36m, and was almost entirely silted up. Several fragments of earthenware land drain were recovered from the grey-black organic silt. These components probably originated from the remains of a C19 land drain located to the east of the culvert. This east-west feature was probably intended to drain the Lime Avenue, but its relationship with the culvert was unclear.

The other notable structure was the base of a stone wall found near the southern end of the culvert. The north-south footing was in excess of 2.18m long and 0.46m wide. The un-worked blocks of Pennine sandstone were bonded with clay.

Interpretation
The culvert discovered below the base of the upper pond was both a surprising and initially unexplained feature. However, close study of the historical mapping may have provided a clue to its functionality.

The absence of the Upper Pond on the 1871 OS plan suggested that it had been silted up at this time. It may have been much drier than the Lower Pond, which was depicted as an area of wet grassland at that time. The culvert may therefore have been introduced as a byewash, allowing the boggy ground of the Upper Pond to be dewatered.

Another possibility was that the culvert was intended to divert the entire flow of water directly into the Lower Pond, thus allowing occasional de-silting of the Upper Pond, or repairs to the Upper Dam.

The wall footing may have formed the base of a former revetment to the Lime Avenue, of unknown date, but possibly of late C17 origin. Another possibility is that this walling represented the footing of the enclosing boundary feature, as shown on the 1907 OS plan. This boundary feature was not shown on any previous plans, and is assumed to represent an element of the post-1896 restoration works.

5.10 New Pond to East of Avenue (Feature 16)

A new pond/silt trap measuring about 10.5m by 16m was mechanically excavated to the east of the Lime Avenue. It replaced a smaller trap which was located in the south-east corner of the Upper Pond (Feature 3). Up to 1.3m depth of grey-brown silty clay with gravel patches was removed for the new feature.

The remains of a stone-built culvert (Feature 17, Inset 1, Figure 3) on the southern flank of the pond was discovered following excavation. The exposed section was 2.0m long and on a south-east to north-west alignment. Its base and capping were of Pennine sandstone slabs, and the sides comprised low rubble walls. The contained void measured around 0.23m square and the channel was open, save for a thick, brown organic deposit on the surviving base flags.

The moderate flow of water through the feature was entering the culvert via a man made 'sink hole' located some 3m to the south-east (Feature 14). The sink hole was a crude construction of large stone blocks surrounding a narrow central shaft. It was channelling a surface stream which emanated from low lying, boggy ground to the south-east.

The new pond was also fed by two other water courses, both of which ran parallel with the Lime Avenue. The larger input was from the V-shaped gully adjacent to the walkway. The smaller, square-cut channel was situated approximately 5.7m east of the Lime Avenue (Feature 15).

Interpretation
The original culvert probably continued in a north-westerly direction to feed the Upper Pond; the section which runs below below the Lime Avenue having been replaced with modern pipes in the 1980s. It is not known whether Features 17 and 13 are connected.

The two gullies parallel with the Lime Avenue (Feature 15) may originally have continued northwards over the top of the buried culvert (Feature 17). Water within

similar channels to the north was directed to the South Pond, within Lyme's formal gardens.

5.11 Area to South of Ponds

The large amount of silt removed from the ponds was spread over a 40m by 30m area of Calves Croft to the south of the ponds. The ground was stripped of 0.25m of vegetation and topsoil with some patches of MOT No.1, prior to the deposition. The subsoil was a uniform, firm orange-grey clay of glacial origin. It was interrupted by a series of land drains, spaced 5m apart and on a south-east to north-west alignment. The drains consisted of 0.15m wide linear cuts, filled with Pennine sandstone fragments.

A larger (0.95m wide) ditch, encountered to the south of the area, was roughly east-west aligned. It had clearly been cut into the natural clay with a mechanical excavator, and the fill of topsoil contained some rotten branches.

Interpretation
The land drain system was of uncertain date, but may not have been of modern origin. The larger east-west ditch and patches of MOT No.1 probably related to the use of Calves Croft as a golf course in the late C20.

5.12 The Putative Third Pond (Feature 18)

Good evidence for the existence of a third pond, lying to the north-west of the Lower Pond, was recorded during the works. A flat area of marshy ground measured about 18m by 30m, and probably comprised accumulated silt; and a heavily eroded bank downstream, appeared to be the remains of an earth dam (Feature 19). The putative dam was approximately 20m long and 6m wide, with a maximum height of 3m. A possible clay core to the structure was also noted.

6. DISCUSSION

6.1 The relationship of the ponds to the Lime Avenue cannot be determined with any certainty. They lie immediately to the west of the Lime Avenue, being located by the intersection of the minor stream which feeds the ponds. However, the ponds may pre-date or post-date the Avenue, or may even be contemporary with its construction. The Avenue has been suggested as of late 17th century origin (Banks, 1993).

6.2 There is a distinct paucity of available information on park landscapes within the north-west of England. The relevant regional research framework contains just a single paragraph on designed landscapes within the Resource Assessment (Brennand, 2006, 168); whilst the Research Agenda and Strategy (Brennand, 2007, 125-6) contains just two paragraphs.

6.3 The original function of the ponds is unknown, the fieldname 'Calves Croft' might suggest they were intended as stock-watering ponds. However, a more likely possibility would be that they were used as fishponds, or 'stewponds'. These tended to be of medieval or early post-medieval date, existed within a manorial or ecclesiastical precinct or park, and provided a reliable supply of carp on feastdays and Fridays, when meat could not be consumed. According to Muir (2004, 212):

"The forms of such ponds varied, but the most typical layout involved a rectangular or trapezium-shaped main pond, flat-bottomed and with water retained by earthbanks around 3-4 feet (1 metre) high, with an adjacent chain of two or three small stewponds, where young fish were raised. Often the main pond contained an artificial mound that served as a secure island roost for wildfowl".

6.4 At Chatsworth Park in Derbyshire, a number of post-medieval fishponds existed to the west of the house. As late as 1720 at Chatsworth, new stewponds were dug, nets purchased, and 'pease' brought in to feed the carp (Barnatt and Williamson, 2005, 76-7). According to Faull and Moorhouse (1981, 744), fishponds tended to be located on secondary streams, which gave a constant, 'but not too strong a flow of running water'.

6.5 The use of a chain of small ponds does not seem to be explained anywhere in detail, perhaps because such useage was rarely recorded in written form by contemporary chroniclers. The implication may be that it was necessary for fish of specific size and age to be kept within different ponds. Given that the ponds at Lyme appear to have been long disused as early as 1810 (Marriott, 1810), future investigation at Lyme might confirm that these ponds originated as stewponds, in the early or late post-medieval period.

7. RECOMMENDATIONS

Any future works on the putative third dam and associated pond should be recorded with an archaeological watching brief. The same applies to the gullies adjacent to the Lime Avenue where revetment walls of possible late C17 date may survive to a considerable depth.

As the putative third pond (18) may have silted up before the 19th century, any fills may contain palaeoenvironmental evidence related to the nature of the post-medieval landscape. This site may well offer some potential for a research project by an academic institution.

8. ARCHIVE DEPOSITION

(1) No small finds were recovered.
(2) The paper archive (drawn plans, sections, and context sheets) remain with Matrix Archaeology Ltd.
(3) The digital archive (Word, AutoCAD, and JPEG files) have been deposited with the National Trust.
(4) A copy of the digital archive remains with Matrix Archaeology Ltd.
(5) A PDF of the report will be submitted to the OASIS archive.

8. SOURCES

8.1 Bibliography

Banks E 1993 *Lyme Park Restoration Management Plan*, Elizabeth Banks Ltd, unpublished report for the National Trust.

Barnatt J and Williamson T 2005 *Chatsworth: A Landscape History*, Windgather Press

Brennand M (ed) 2006 *The Archaeology of North West England: An Archaeological Research Framework for North West England: Volume 1 Resource Assessment*, CBA

Brennand M (ed) 2007 *Research and Archaeology in North West England: An Archaeological Research Framework for North West England: Volume 2 Research Agenda and Strategy*, CBA

Chris Burnett Associates 2009 *An Archaeological Topographic Survey & Evaluation of the Lime Avenue Ponds, Lyme Park, Stockport*

CIfA 2014 *Standard and guidance for an archaeological watching brief*

Faull M L and Moorhouse S A 1981 *West Yorkshire: an Archaeological Survey to AD1500: Volume 3:The Rural Medieval Landscape*, West Yorkshire Metropolitan County Council.

Lee E 2015 *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* Historic England

Marriott Revd W 1810 *The Antiquities of Lyme and it Vicinity*, Stockport.

Muir R 2004 *Landscape Encyclopaedia: A Reference Guide to the Historic Landscape*, Windgather Press

8.2 Cartographic

Plan of Lyme Park in the County of Chester belonging to Thomas Legh Esqr. M.P., by Thomas Pollitt surveyor 1824 (GMCRO E17/210/167).

Plan of the Township of Lyme-Handley with Lyme in the Parish of Prestbury and County Palatine of Chester, c 1850 (CRO EDT 252/2).

OS 1:2500 Cheshire sheet XXIX.2, surveyed 1871.

OS 1:2500 Cheshire sheet XXIX.2 Second Edition 1897, revised 1896.

OS 1:2500 Cheshire sheet XXIX.2 Edition of 1909, revised 1907.

OS 1:2500 SJ 9682-9782, revised 1971, published 1972.

<**http://mapapps.bgs.ac.uk/geologyofbritain/home.html**>

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Figure 1. Site Location Map, derived from OS 1:25,000 series. Crown Copyright, OS Licence No.AL100032621.

0 50 Metres

LIME AVENUE

TRACKWAY?

TRACKWAY?

CALVES CROFT

LOWER (NORTH) POND (5)

UPPER (SOUTH) POND (1)

PROBABLE THIRD POND (18)

INFLOW TO SINKHOLE

INSET 1

INSET 2

INSET 3

INSET 4

REINSTATED

252.85 253.20 254.33 252.08 250.35 253.52 250.08 250.80 251.25 248.96 246.90 247.95 252.90 251.79 249.16 244.58

10 - LANDSCAPE FEATURE NUMBER

- 2009 EXCAVATION AREA

- INSET PLAN AREA (FIGS. 3 & 4)

- SUGGESTED CULVERT LINE

- EARLY C20 WATER EXTENT

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Site: LIME AVENUE PONDS, LYME PARK, EAST CHESHIRE

Title: SITE PLAN OF POND AREA, BASED UPON 2009 TOPOGRAPHIC SURVEY BY SITE SURVEYING SERVICES

Date: Feb. 2018

Field Recorder: P.M.

Sheet 1 of 3 Sheets

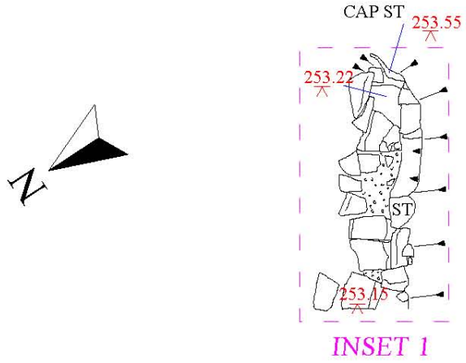
Scale: As for scale bar

CAD Illustrator: P.M. & M.F.

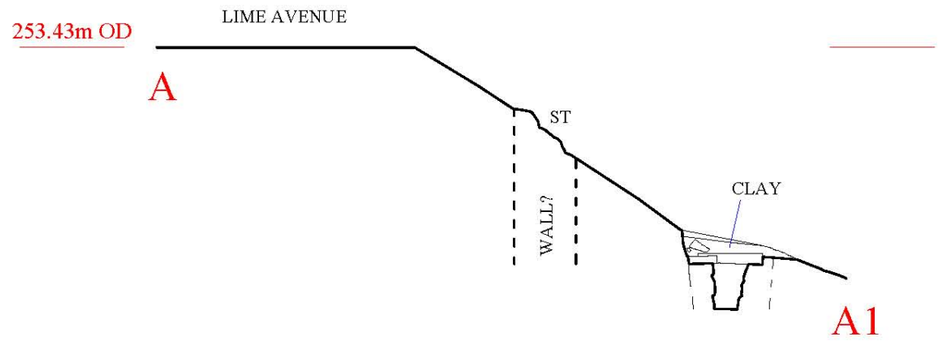
Figure 2

0 — 10 Metres

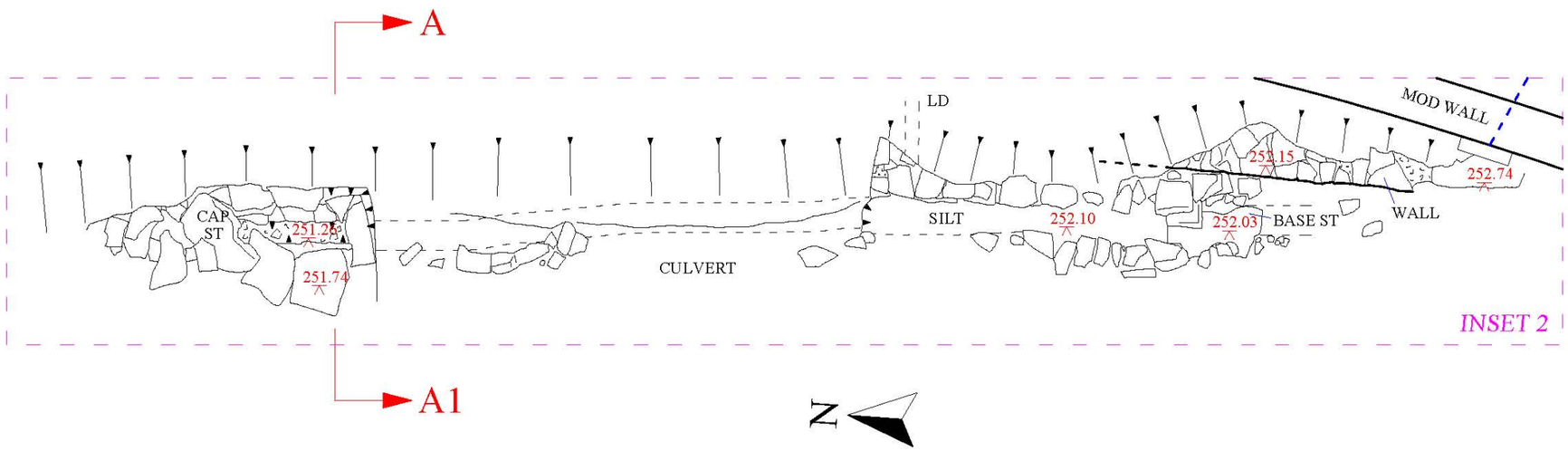
0 — 30 Feet



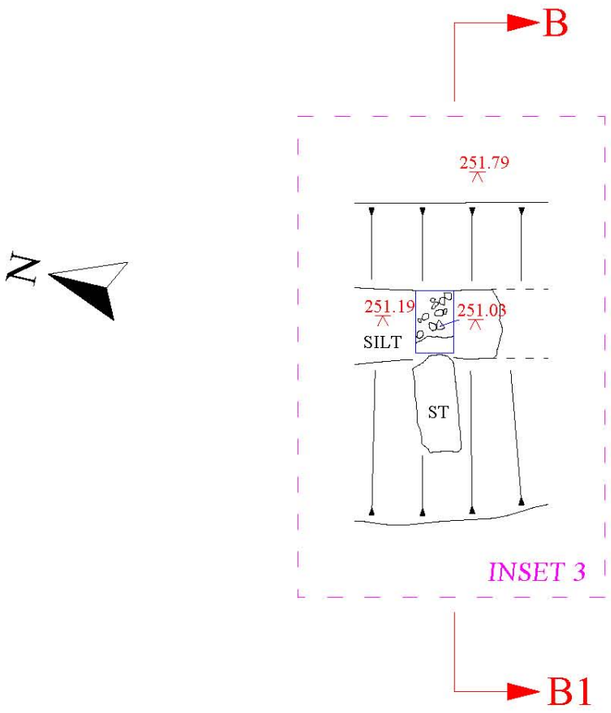
CULVERT (17) IN NEW POND/SILT TRAP TO EAST OF LIME AVENUE - PLAN

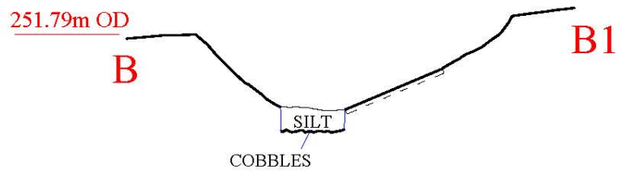


CULVERT (13) IN UPPER POND - PLAN & NORTH FACING SECTION

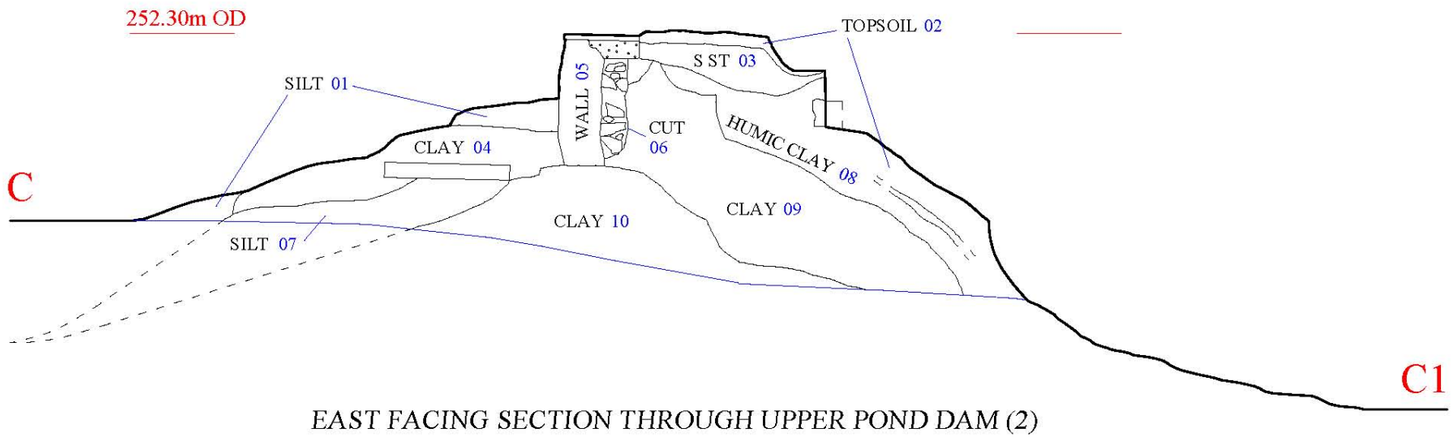


Matrix Archaeology Ltd 36 Highfield Road Stretford Manchester M32 8NQ matrixarch@btconnect.com	Site: LIME AVENUE PONDS, LYME PARK, EAST CHESHIRE	Title: CULVERTS (13) AND (17) IN VICINITY OF UPPER POND: PLANS AND CROSS-SECTION	Date: Feb. 2018	Field Recorder: P.M.	Sheet 2 of 3 Sheets
			Scale: As for scale bar	CAD Illustrator: P.M.	Figure 3

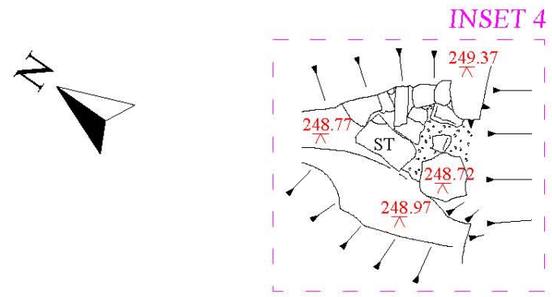




CHANNEL (9) BETWEEN UPPER & LOWER PONDS - PLAN & NORTH FACING SECTION



EAST FACING SECTION THROUGH UPPER POND DAM (2)



CHANNEL FROM LOWER POND (11) - PLAN

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Site: LIME AVENUE PONDS, LYME PARK, EAST CHESHIRE

Title: UPPER POND DAM (2), CHANNEL (9), AND CHANNEL (11): PLANS AND CROSS-SECTIONS

Date: Feb. 2018

Field Recorder: P.M.

Sheet 3 of 3 Sheets

Scale: As for scale bar

CAD Illustrator: P.M.

Figure 4

Plate 1. Silt removal from north end of Upper Pond (1), viewed from west.

Plate 2. Silt and island (4) being removed from centre of Upper Pond (1), viewed from north-west.

Plate 3. Silt removed from south-east part of Upper Pond (1), viewed from south.

Plate 4. Silt removed from south-west part of Upper Pond (1), viewed from south.

Plate 5. Silt removal from north part of Lower Pond (5), viewed from east.

Plate 6. Silt removed from around island (7) in south-east part of Lower Pond (5), viewed from west.

Plate 7. Probable remains of dam (19) to north-west of site, viewed from south.

Plate 8. Probable remains of dam (19), viewed from west.

Plate 9. Remains of outflow channel (11) for Lower Pond (5), viewed from east.

Plate 10. Remains of outflow channel (11), viewed from west.

Plate 11. Re-cut channel (11), between Lower Pond and putative third pond (18), viewed from north.

Plate 12. Channel (9), between Upper and Lower Ponds, viewed from north-west, trial pit (Inset 3), in foreground.

Plate 13. Channel (9), trial pit showing cobbled base, viewed from north.

Plate 14. Channel (9), trial pit showing depth of silt, viewed from north.

Plate 15. Blocked outflow (10) from Upper Pond, viewed from west.

Plate 16. Blocked outflow (10), viewed from west.

Plate 17. Blocked outflow (10), modern pipes below blocking, viewed from west.

Plate 18. Excavation through dam (2) of Upper Pond (1), viewed from south-east.

Plate 19. South end of dam (2) section (C-C1), viewed from east.

Plate 20. Centre part of dam (2) section (C-C1), viewed from east.

Plate 21. North part of dam (2) section (C-C1), viewed from east.

Plate 22. Culvert and wall remains (13) to east side of Upper Pond, viewed from south.

Plate 23. Northern end of culvert (13), viewed from south.

Plate 24. Northern end of culvert (13), viewed from east.

Plate 25. Northern end of culvert (13), viewed from north.

Plate 26. South end of culvert and wall footing (13), viewed from north.

Plate 27. South end of culvert and wall footing (13), viewed from south-west.

Plate 28. South end of culvert and wall footing (13), viewed from east.

Plate 29. Excavation of new pond/silt trap (16) to east of Lime Avenue, viewed from west.

Plate 30. Completed pond/silt trap (16), viewed from west.

Plate 31. Remains of culvert (17) within new pond/silt trap, viewed from north-west.

Plate 32. Culvert remains (17), viewed from north-west.

Plate 33. Sinkhole (14) to south of new pond/silt trap (16), viewed from south-east.

Plate 34. Topsoil strip and silt deposition to south of site, viewed from north.

Plate 35. Modern infilled ditch to south of site, viewed from south-west.#