Audley End, Saffron Walden, Essex

Archaeological Monitoring



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AUDLEY END, SAFFRON WALDON, ESSEX:

Archaeological Monitoring

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Summary

The Cambridge Archaeological Unit (CAU) undertook the archaeological monitoring Of enabling works within the gardens and yards at Audley End House, Saffron Waldon, Essex, between the 12th November 2009 and 23rd March 2010. The initial phase of works were carried out by contractors ISG Jackson and T Butler & Son. A second phase of works involved the construction of an equestrian arena within the Barn Yard between the 15th Febuary 2011 and 24th February 2011. The works were carried out by contractors T.M. Swayne Ltd. A third phase of works involving the refurbishment of an old drainage network to alleviate the flooding of parkland to the east of the Barn and Stable yard complex took place between 13th June and 25th July 2011. Audley House occupies the site of the Benedictine Abbey of Walden founded in 1139, becoming an abbey in 1190. The Abbey was rebuilt and new buildings added in the 13th and 14th centuries. After dissolution in 1538 the buildings were remodelled to form a private house. Major phases of construction and remodelling followed in the early 17th Century and in the late 18th Century. The works were carried out within the Mill Yard, Lion Lodge Yard, Cart Yard, Stable Yard and Stable Block of Audley End House. Within the Cart Yard remnants of late post-Medieval horticultural structures were recorded. Within the Stable Yard and Barn Yard an extensive net work of late post-Medieval brick drainage culverts was revealed. Within the Stable block possible interior walls dating to the earlier period of construction of the 17th century Stable Block were revealed.

INTRODUCTION

The Cambridge Archaeological Unit (CAU) undertook the initial phase of archaeological monitoring of enabling and contractors main works within the grounds of Audley End House, Essex, between the 12th November 2009 and 23rd March 2010. The works took place within the Lion Lodge Yard, Mill Yard, Cart Yard, Stable Yard and within the Stable Block building. The second phase of archaeological monitoring of the construction of an equestrian arena within the grounds of Audley End House, Essex, between the 15th February 2011 and 24th February 2011. A third phase of archaeological monitoring of the improvement of drainage of land to the east of the Stable Yard took place between 13th June and 25th July 2011. The works took place within the Barn Yard to the North of the Coach House, the Cart Yard, Stable Yard and the Park land to the east of the Stable complex. The monitoring was commissioned by English Heritage with the aim of establishing and recording the presence, date, condition and significance of any archaeological remains. The monitoring was carried out in accordance with specification produced by the CAU (Standring 2009). The project was approved and monitored by English Heritage.

Location and Topography

The areas of works are located within the yards and gardens (Figure 1) of Audley End House (TL 523 380). The Audley End estate is located on the chalk escarpments of North Essex with the house, grounds and ancillary buildings being situated in the base of the Cam valley. The river Cam flows northwards at this point forming a narrow alluvial silt plain with adjacent outcrops of poorly sorted gravels on higher ground (British Geological Survey Sheet 205). The slopes of the valley are formed by chalk deposits. The northward flow of the Cam at this point may have been the result of glacial action during the last ice age altering the southwards flow of the river network at this point towards the River Stour (Sparks 1957) to a northerly flow.

Archaeological and Historical Background

The area of works lies within the grounds of the English Heritage property of Audley End House (SAM 84, HER 401). A full description of the archaeological potential of the Audley End site is given in the conservation plan (OAU 2001); further details of the Gardens, Yards and associated outbuildings are given in Standring and Williams (2005). A brief summary only of the archaeological background is given here.

The earliest activity recorded for Audley End in the Essex HER records is a Mesolithic tranchet axe (HER 400). Cropmarks recorded to the north of the Audley End Gardens are possibly that of a Bronze Age ring-ditch, although they have not been tested by excavation (HER 7308). In the vicinity of the ring-ditch, field walking has recovered lithic scatters (HER 6749, 6750), indicating the potential of the Camside gravels for prehistoric settlement and ritual activity. Later prehistoric settlement is evidenced by Ring Hill Camp (SAM 20726, HER 151), an oval hillfort c. 0.6km to the west of the site, thought to date to the Early Iron Age. Iron Age pottery was also recovered during field walking in the 1980s by T. Williamson (Way 2004) c. 300m to the north of the hillfort (HER 6734, 6735, 6736) and thought to indicate the presence of nearby settlement.

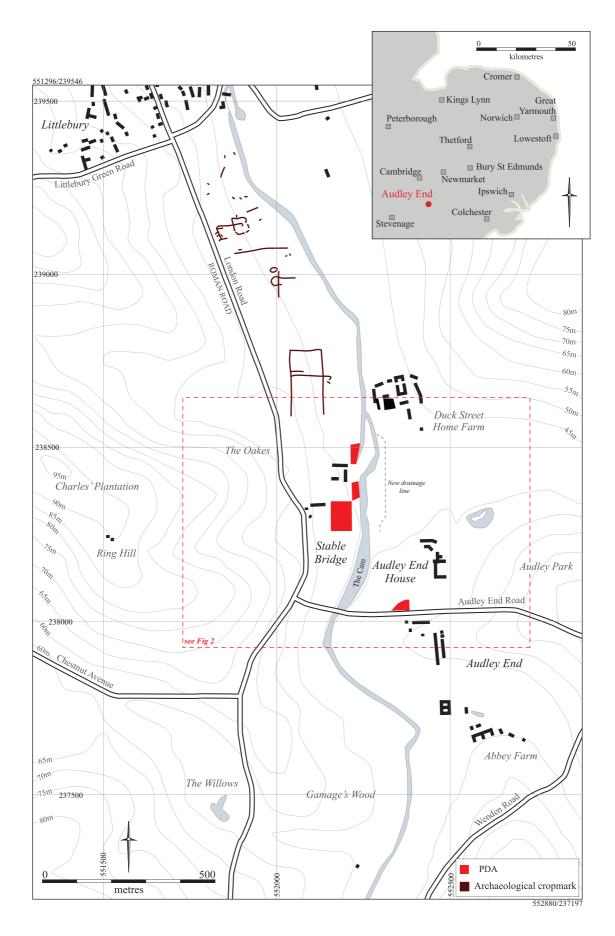


Figure 1. Location map

The Yards and Gardens of Audley End lie just to the east of the projected route of a Roman road (HER 17338). Fieldwalking to the west of the road at TL 5160 3870 identified scatters of Roman pottery thought to relate to a settlement (HER 6737, 6738, 6739). Undated crop marks c. 300m to the north of the Mill Yard may also date to the Roman period (HER 7308), indicating the potential for encountering roadside activity to the east of the projected road course. Roman activity on the east bank of the river Cam in the vicinity of the Lion Lodge is evidenced by the discovery of coins, pottery and possibly a pottery kiln in the immediate vicinity of Audley End House (HER 399). Although no remains of the Saxon period are recorded nearby, the floodplain of the River Cam is known as an area of high potential for Early Saxon settlement.

Audley End house occupies the site of the Benedictine Abbey of Walden, originally a priory founded in 1139, becoming an abbey in 1190. The Abbey was rebuilt and new buildings added in the 13th and 14th centuries. Following the dissolution in 1538 the buildings passed to Sir Thomas Audley who remodelled the buildings to form his private house. The building passed to his grandson Thomas Howard (first Earl of Suffolk and Lord Treasurer) who rebuilt the structure to allow for entertaining James I. At this point the house was on the scale of a great royal palace. In 1668 the house was purchased by Charles II for his use when attending the races at Newmarket. After neglect by the King the house returned to the Suffolks in 1701. Major phases of remodelling followed involving demolition of the outer courtyard reducing Audley End to a manageable country house rather than a palace. In 1762 Sir John Griffin inherited the house and employed Robert Adam to do works on the house and some garden monuments, largely creating the grand house seen today. Despite the changes, it is known that parts of the house rise from the walls of the Benedictine church and cloister, suggesting continuity between the Abbey and both phases of the house. The extensive grounds and gardens have seen many phase or remodelling including formal 17th century gardens, the creation of the extensive parkland by Capability Brown in the 18th century, and the construction of the Victorian Parterre gardens.

Within the vicinity of the Mill Yard, the Barn Yard contains buildings from the 17th century and the Kitchen Garden was constructed in the 1750s. The Mill Yard derives its name from a Mill building that is probably that first shown astride the river on Sargeant's Map of 1666 and shown on Estate plans of 1753 and 1758. On the latter plans, the Mill appears to be associated with a building and yard area. On the south side of the Stable Yard, the Stable Block may date from the mid or late 16th century (HER 406) before the remodelling of the main house in the Jacobean style by Howard; however, Smith (2008) suggests the date of its construction is more likely between 1608 and 1616. On the north side of the present stable yard the Coach house is a later addition constructed in 1875.

The Lion Gate situated to the south of the main house dates from 1616 and appears to have been a significant entrance to the property from at least this time. The Lion Lodge house is a latter addition being built in 1834 by Thomas Rickman.

The route of the River Cam/Granta was fortified during World War Two as part of the *GHQ* stop line which was designed to halt mechanized invasion. Bridges across the river at Audley End were fortified and mined, including the Tea Bridge to the immediate west of the Mill Yard (HER 10220, 10221). The HER records concrete anti-tank blocks that would have been used to block Duck Street. The House was used as the headquarters of the Polish Section of the Special Operations Executive with the Stable Block being employed as an explosives store.

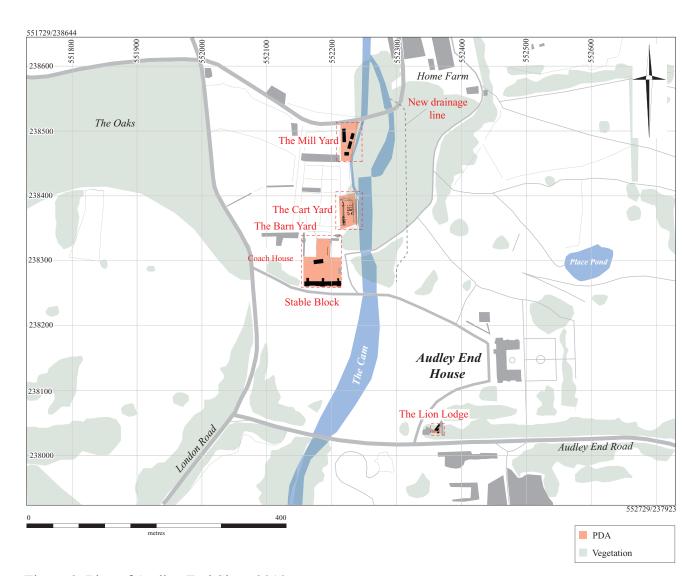


Figure 2. Plan of Audley End Sites, 2010.

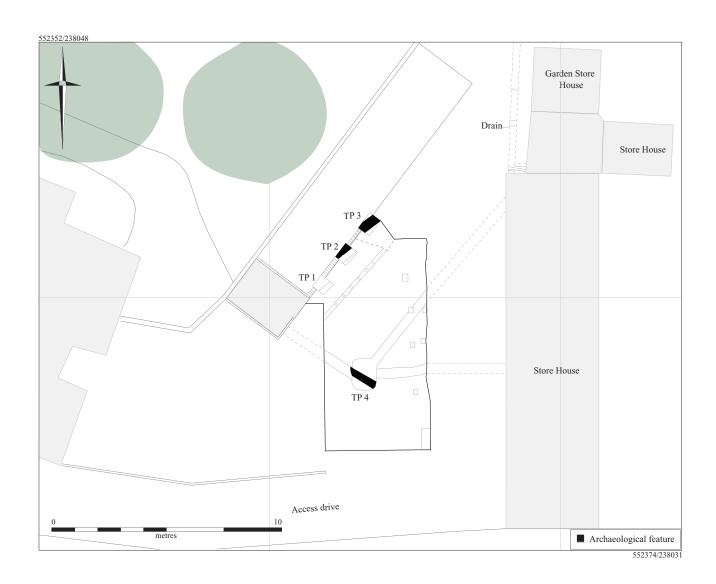


Figure 3. Plan of the Lion Yard

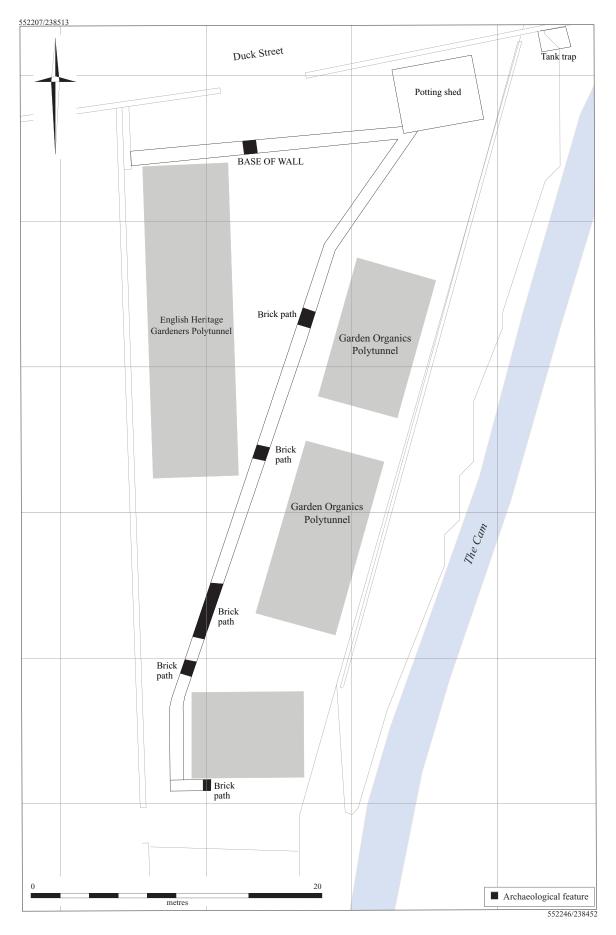


Figure 4. Plan of Mill Yard

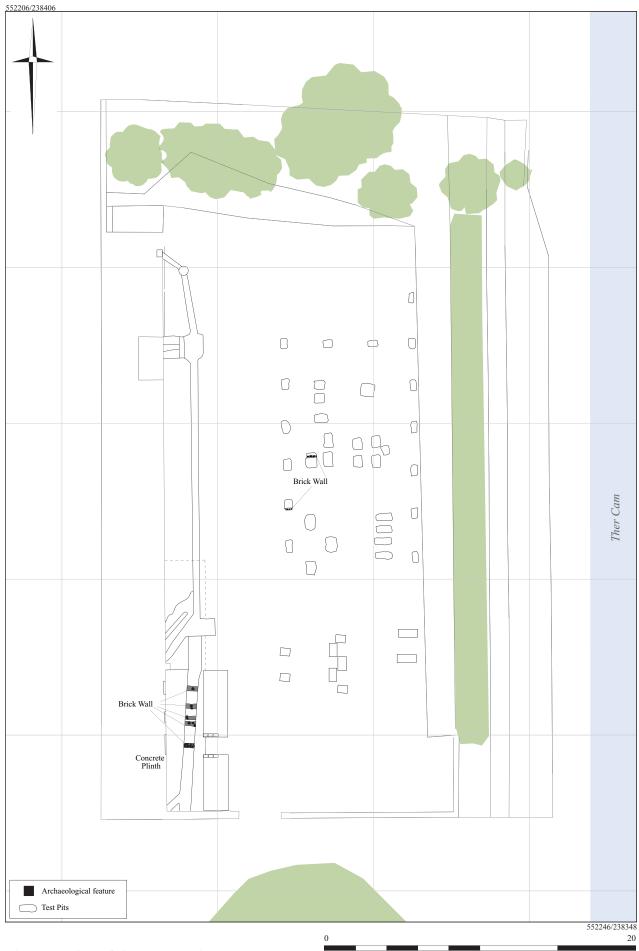


Figure 5. Plan of the Cart Yard.

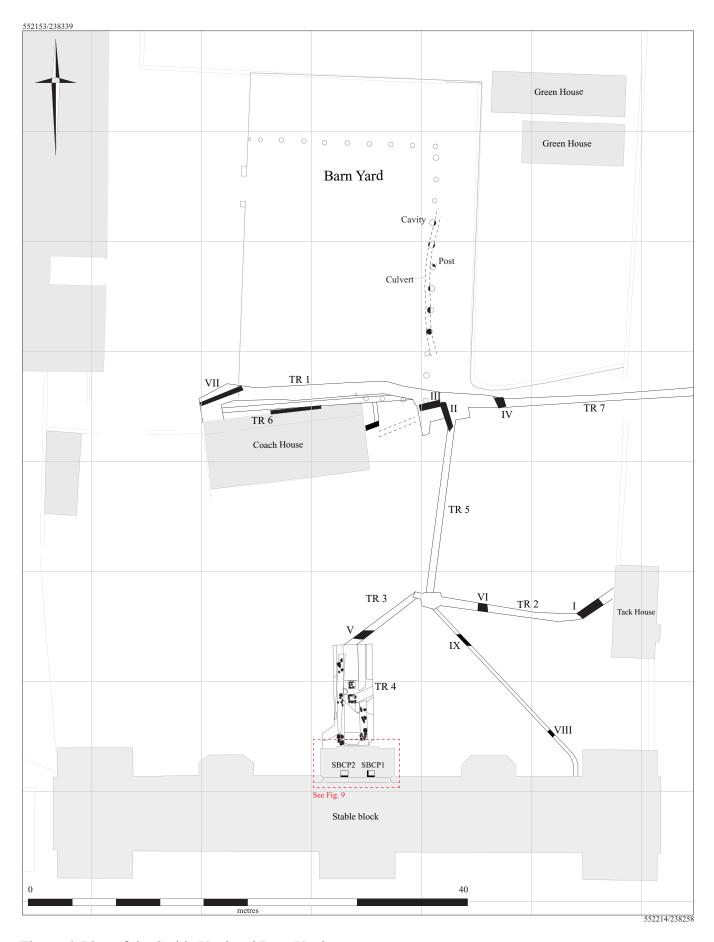


Figure 6. Plan of the Stable Yard and Barn Yard.

Methodology

The objective of the watching brief was to determine the presence or absence and character of any surviving archaeology within the area of works. The pits and trenches were mainly excavated by a 360° machine with a 0.5m toothed bucket. When required due to potential archaeological or limited work space excavation was conducted with hand tools. All work in archaeologically sensitive areas was carried out under archaeological supervision by CAU staff. Any potential archaeological features were investigated and treated in concordance with the specifications drawn up by the CAU (Standring 2009). The recording was carried out following the CAU modified MoLAS system (Spence 1990) of archaeological site recording. All work was carried out in accordance with statutory Health and Safety legislation and with the recommendations of SCAUM (Allen & Holt 2002). In total an area of approximately 650 square meteres was monitored.

The site code is AUD09

RESULTS

The monitoring of enabling and contractors main works took place within the Lion Lodge Yard, the Mill Yard, the Cart Yard, the Stable Yard, Barn Yard (Phase II of works) and within the Stable Block building (Figure 2). The results are as follows;

Lion Lodge Yard

The first works to be monitored were carried out in the yard (Figure 3) to the rear of the Lion Gate Lodge House. The works were instigated ahead of the installation of a Tractor store and new services within the yard. Initial clearing of the central part of the yard by a mini digger revealed an accumulation of debris from gardening activities and the dumping of building material within the area. The material had built up over previous yard surfaces. Four construction pits and several shallow service trenches were excavated as part of the enabling works.

Three construction pits (LYCP 1, LYCP 2 and LYCP 3) were excavated adjacent to the brick edged concrete plinth that ran parallel with the north-west wall of the yard (Figure 3). The square pits (approximately 1.0m x 1.0m) were dug in a north-east to south-west alignment approximately 1.00m apart. The cutting of the construction pits revealed several layers of the former yard surfaces and the profiles of several cut features were exposed. Directly beneath the recent layers of garden debris and dumped building material, three features (features LY 1, LY 2 and LY 4) were identified cut from a level [LY 1] contemporary with the concrete base of the brick edged concrete plinth. Feature no. LYF 1 was a near vertical sided sub rectangular feature with a dark humic fill and a lens of sand in the base of the cut. Feature LYF 2 and LYF 4 were only seen in section and had steep sides with flat bases, the features were most likely small pits. All three features contained material of 19th century or more recent origin. The above features were cut into a layer containing 19th century rubble and domestic debris. This layer continued beneath the brick edged plinth and sealed a further linear feature (feature LYF 3) aligned north to south. The steep straight sided linear feature appeared in both construction pits LYCP 2 and LYCP 3. No dating material was recovered from the fill of the linear feature.

The lower strata observed in the construction pits were comprised of layered gravels. Although a sharply defined inclined interface between these lower strata of gravels was suggestive of a large ditch, it would seem most likely that the feature was the remnants of a natural drainage channel rather than that of a cut linear feature.

The fourth construction pit (LYCP 4) was a located in the centre of the yard (Figure 3). The cutting of the pit revealed a linear feature (feature LYF 6) aligned in a northwest to south-east direction. The feature was sealed beneath a layer of material containing 19th century rubble and domestic debris. The steep straight sided feature no LYF 6 had a similar fill and profile as feature LYF 3 and may have formed part of the same ditch system.

The excavation of several shallow trenches to accommodate new service (Figure 3) only revealed the earlier yard levels seen elsewhere and recent service pipes.

Mill Yard

Within the mill yard the enabling works resulted in the stripping of an area 5x5m square for the installation of a new potting shed and the excavation of approximately 64m of service trenches (Figure 4). The first trench ran parallel with the north wall of the Mill yard for approximately 18m. The second trench bisected the yard on a north-west to south-east alignment and was approximately 48m in length. The stripped area in the north-east corner of the Mill Yard was only cut to a depth of 0.30m and exposed a rich near black humic top soil combined with 19th and 20th century domestic and horticultural debris. The two trenches were cut to a maximum depth of 0.65m and only exposed further layers of made up ground combined with 19th and 20th century domestic and horticultural debris. In places the trench cuts exposed buried pathways constructed of brick rubble. Adjacent to the Root Shed at the south end of the Mill Yard the trench cut exposed a spread of construction rubble around the building. Adjacent to the stripped area, the remains of a large concrete block "tank trap" (Essex HER no 10220) were also noted in the north east corner of the Mill Yard. No dating material earlier than 19th century was recovered from the Mill Yard area.

Cart Yard

Part of the works within the Cart Yard (formerly the Frame Yard) involved the cutting of numerous small pits to provide footings for the construction of a new children's play area (Figure 5). Although it had been suggested that the foundations of the cultivation frames might still be in situ, only two segments of upstanding red brick wall were noted in the northern half of the playground area. A thick lens of brick rubble was noted throughout the area and it is assumed that the cultivation frames had largely been demolished.

A trench was cut adjacent to the gardener's rest and storage rooms to accommodate the installation of new service pipelines. The trench was aligned in a north to south direction and ran parallel with the structures on the west side of the Cart Yard. The area in front of the rest room was comprised of a raised plinth with two raised flower beds to the east. The new service trench cut through the concrete surface of the plinth exposing a lens of dumped material [CY 7] overlying the remnants of four sections of

walling (Figure 7c). The dumped material was comprised largely of red brick rubble, mortar, occasional flint nodules, roof slates and horticultural debris. The four wall sections bisected the trench at 90° and were in a parallel arrangement with an east to west alignment, being spaced approximately 1.50m apart. The walls were comprised of large fragments of brick rubble, cobbles, flint nodules and other stone. The lower courses were somewhat irregular whilst the remaining upper courses were more regular with an increasing use of bricks in the wall. The remnants and imprints of the missing upper layers suggest that demolished segments of the walls would have been constructed of courses of regular brickwork. The exposed sections within the trench (0.40m in width) were insufficient to suggest any form of bonding pattern. Between two of the walls a service trench had been cut [CY 14] with a ceramic pipe running parallel with the wall. The pipe trench was overlain and sealed by the dumped material [CY 7]. The pipe trench cut through a layer [CY 11] of compacted material with frequent large flint nodules that occupied the space between the two walls [CY 8 and CY 17].

To the north of the plinth, the cut for the service trench continued from the level of the current Cart Yard surface. Adjacent to the plinth the trench cut through an area heavily disturbed by modern services. The trench continued northwards to the north end of the cart yard, cutting through a layer of dark brown silty clay material (depth 0.60m), no other features or material were noted. No dating material earlier than 19th century was recovered from the Cart Yard area.

Stable Yard and Coach House

The enabling works within the Stable Yard and adjacent to the Coach house involved the cutting of seven trenches for the installation of services and the stripping of an area in front of the entrance to the 17th century Stable Block (Figure 6).

Trench 1

Trench 1 was cut eastwards from the north-west corner of the rear of the Coach House and after an initial step out, ran parallel with the rear of the Coach House before turning southwards into the Stable Yard at the east end of the Coach House. The initial cut exposed a segment of the rear wall of the Coach House (Figure 7a). The upper courses of the rear wall were of a red brick (215 × 102.5 × 65 mm) and were arranged with an English bond. The bond pattern was largely consistent although occasional spacers disrupted the regular pattern. The mortar was a pale grey, slightly sandy with chalk inclusions. The lowest course of brickwork was arranged as rowlocks (edge on). Beneath the regular courses of brickwork for the Coach House rear wall was a foundation of irregular brickwork, flint and other stone [SY14]. The upper irregular courses of bricks in the foundation were largely of the same dimensions as the rear wall although a couple of examples of smaller abraded bricks were incorporated in the foundation. These smaller bricks were similar in dimensions and fabric to those used in the Stable Block building. Beneath layers of recent made up ground and cinder material a layer of compacted chalk [SY 9] butted up to the lowest course of regular brickwork (the course arranged as rowlocks). The compacted chalk layer was seen in other trenches throughout the stable yard.



a) North facing section of Coach House wall.



b) Structure to the rear of Coach House

c) Segments of wall in Cart Yard adjacent to Gardner's Rest Room

Figure 7.

As the trench ran parallel to the rear of the coach house a brick built culvert (culvert no. VII) was noted running in a south-east to north-west alignment. The culvert was comprised of two parallel red brick ($215 \times 102.5 \times 65$ mm) walls, each four courses in height and set on a single brick course plinth foundation. The wall courses were laid in a stretcher bond. The sandy mortar was a pale greyish brown with occasional chalk flecks. The upper course of the walls were constructed with a course of plinth stretcher bricks laid with the sloped side inwards to provide support for the arched roof span of the culvert. The arched span was comprised of four courses of stretcher bricks with fragments of tile inserted into the upper dividing mortar to strengthen the span and help form the arch. The interior floor space of the culvert had been laid with a concrete surface. A later feeder tributary had been cut into the culvert. The tributary was constructed with a course of shaped bricks (270 x 200 x 130 mm) with a semi-circular cut out section forming a pipe for the waste material to flow through. A second inverted course of shaped bricks were positioned over the first course to complete the pipe. The bricks were only placed and not mortared into position.

Between 3.00 to 6.00 metres from the western end of the trench two small sub circular pits feature no's SYF 5 and SYF 6 were exposed. The pits were approximately 0.50m in diameter and were cut from the top of the chalk layer. The fill contained occasional 19th century domestic and horticultural debris but with no other obvious indicators of the function of the pits.

As the trench continued around the west end of the Coach House the remains of a brick wall feature no. SYF 5 was exposed aligned in a south-east to north-west direction (width 0.35m). The upper four courses of red brick were laid in a slightly irregular English bond. The top course of brick work was similar in dimensions to that of the Coach House ($215 \times 102.5 \times 65$ mm); however, the lower courses appeared to vary more widely (length 140-170mm. width 100-120mm. depth 50-65mm). The precise dimensions were difficult to ascertain due to the liberal application of mortar. The mortar was a very pale greyish brown, slightly sandy with chalk inclusions. The lower foundation courses stepped out slightly to form a foundation plinth. The foundation was comprised of irregularly laid brick rubble and stone fragments including some clunch stone bonded with liberal application of mortar. At the east end of the exposed segment of wall a large hole had been drilled down through the structure possibly for a fence or gate post.

Trench 2

Trench 2 commenced from a point adjacent to the doorway of the Tack Room (located on the east side of the Stable Yard) and continued in a southwest direction for a short distance before turning in a westerly direction towards the centre of the stable yard. The trench joined the south end of Trench 5. At the eastern end of the trench, the trench cut exposed a segment of north-east to south-west aligned brick culvert (culvert no. I). The cut of the trench only exposed a partial profile of the culvert. The side wall of the culvert was comprised of three courses of red brick (215 \times 102.5 \times 65 mm) arranged in a stretcher bond and set on a stepped out foundation plinth of a single course of red bricks. The steeply curved roof arch was comprised of similar bricks with tile (10mm depth) spacers inserted between the upper courses to strengthen and form the arch. The sandy mortar was a pale greyish brown with occasional chalk

flecks. Parts of the culvert had been extensively damaged by the roots of an adjacent tree.

A second brick culvert (culvert no. VI) aligned north to south was recorded further to the west. The side walls were comprised of three courses of red brick ($215 \times 102.5 \times 65$ mm) arranged in a stretcher bond. The top course was slightly stepped out to provide support for the shallow brick arch forming the roof of the culvert and set on the top edge of the second course. Tile spacers (10mm depth) were inserted between the courses of bricks to strengthen and form the arch. The side wall courses were supported on a stepped in foundation plinth of a single course of brickwork. The sandy mortar was a pale greyish brown with occasional chalk flecks.

Towards the centre of Stable Yard a second chalk layer (SY 51) was noted beneath the compacted chalk layer that had been recorded elsewhere in the Stable Yard. The layer was thinner and more irregular than the latter layer.

Trench 3

The cut of Trench 3 commenced at the junction of Trenches 5 and 2, continuing in a south-west direction towards the north-west corner of the area stripped in front of the Stable Block (Trench 4) and then proceeded along the west side of the stripped area and terminated at the façade of the stable block. Adjacent to the north end of the stripped area, the trench cut partially exposed a large east to west aligned brick culvert (culvert no. V). The full extents of the culvert were not exposed as they lay beyond the limits of the cut required for the new service installation. The exposed north side wall of the culvert was comprised of three courses of red brickwork (brick dimensions $210 \times 115 \times 58$ mm), the arrangement of the bonding was not clear from the limited segment that was exposed. The mortar was a pale greyish brown, slightly sandy with chalk inclusions. The south side wall was comprised of two courses of red brickwork (brick dimensions $210 \times 115 \times 58$ mm) set on a stepped out course of red brick. The roof span of the culvert was comprised of nine courses of similar brickwork with liberally applied mortar, no tile spacers were observed.

Trench 4

The controlled removal of the cobbled surface (the cobbles were to be restored after the completion of works) in front of the Stable Block main entrance exposed elements of an earlier yard surface with a reinforced cart trackway (Figure 8a). The area stripped was 3.00 x 7.00m and initially stripped to a depth of 0.30m. The strip exposed two centrally located square brick (brick dimensions 215 × 102.5 × 65 mm) drains feature no's SYF 11 and SYF 12 served by a network of ceramic pipes. The network had been refurbished on several occasions. Although truncated in places by the cuts for the pipe network, a reinforced cart trackway leading to the stable-block was still *in situ*. The overall width of the trackway was 2m and was comprised of two reinforced tracks 0.5m in width and spaced a metre apart. The top layer of the tracks was comprised of a course of sandstone flags of varying dimensions (approximately 0.20 x 0.20m). The flagstones were bedded on a compacted layer (depth 0.50–0.60m) of mortar and flint nodules. The trackway cut through the remnants of the compacted chalk surface that was widespread throughout the stable yard.



a) Exposed chalk surface and trackway in front of Stable Block



b).Mortar Spread in front of Stable Block

Figure 8.

Trench 5

Trench 5 continued across the stable yard in a north-south alignment from the junction of Trenches 1 and 7 towards the centre of the stable yard. The compacted chalk layer seen elsewhere was noted; however, no other structures or archaeological material was noted within the trench.

Trench 6

Trench 6 was cut to the rear of the Coach House and was aligned parallel with Trench 1 and between the rear wall of the Coach House. The trench cut exposed a segment of a sunken rectangular structure (Figure 7b) joined to the rear of the Coach House. The exposed walls of the sunken structure were comprised of a double wythe (width) of seven courses of red brick (215 × 102.5 × 65 mm) in an English bond with occasional spacers and a further two courses comprised of a course of rowlocks (edge on) capped by a course of half round capping bricks. The top course of half round bricks had only survived in close proximity to the rear wall; however, impressions of the bricks remained in the mortar of the rest of the structure. The structure appeared to be bonded to the rear wall. The upright walls were set on a plinth of brickwork aligned at 90° to the rear of the coach house and arranged in a stretcher bond pattern. The complete excavation of the structure was outside of the remit for the watching brief and was not attempted. The structure was 1.20 by 3.20m with the longer wall aligned parallel with the rear of the Coach House. No access point or steps to the structure were exposed and no other distinctive features were noted. Domestic and horticultural debris dating to the 19th and 20th century was recovered from the feature. The function of structure could not be ascertained from the limited excavation.

Trench 7

At the east end of Trench 1 adjacent to the east end of the Coach House a construction pit was cut for the placement of a man hole, Trench 7 continued eastward from this point towards the east gateway of the stable yard. The cut for the man hole exposed a collapsed segment of a north to south aligned brick culvert (culvert no. II). The culvert appeared to be only shallow, being only two courses of red brick ($215 \times 102.5 \times 65$ mm) in height, the side walls were supported on a plinth comprised of a single course of brickwork. The wall courses appeared to be arranged in a stretcher bond although this could not be defined with certainty from the little remaining of the structure. Between the sidewalls the drainage channel had tiles (10mm thick) laid in the base as a floor surface. The roof arch was comprised of four courses of red brick ($215 \times 102.5 \times 65$ mm) with tile spacers to help form and support the low arch. The mortar was a pale grey, slightly sandy with small chalk inclusions.

Further to the east, the cut of Trench 7 exposed another collapsed culvert (culvert no. IV) aligned north to south. The culverts side walls were comprised of two courses of red brickwork ($215 \times 102.5 \times 65$ mm). The surviving brickwork appeared to be arranged in a stretcher bond. The mortar was a light cream and gritty in texture. The side walls were supported on a thick spread of mortar, the central drainage channel consisted of gravel and flint nodules. At the point that the trench cut exposed the culvert, the roof section appeared to have been extensively repaired, with the original brick arch roof having been replaced with two courses of stone slabs of irregular

dimensions. Details and dimensions of the original arched roof could not be ascertained as they lay outside the trench cut.

Trench 7 continued through the gates of the east entrance to the Stable Yard and crossed the roadway leading to the Cart Yard. The trench was cut to a depth of 1.00m at this point. An accumulation of road construction material reached a depth of 0.30-0.40m. Beneath this was a brown silty clay layer [SY 85] overlying the yellowish brown silty clay natural at a depth of 1.00m.

Trench 8

A short trench (length 3.00m width 0.40m) was cut parallel with the east end of the Coach House and aligned north to south. The trench cut exposed a short segment of red brick wall. The size of the bricks used in the exposed segment varied; however, the range of sizes was similar to that of the segment exposed in Trench 1. The precise bonding pattern was not discernible due to the liberal application of mortar and the limited length of wall exposed. The mortar was a very pale greyish brown, slightly sandy with chalk inclusions. The overall appearance and the alignment of the wall was the same as the segment exposed in Trench 1 and is most likely a continuation of the same wall. A similar segment of wall with a circular drilled hole (as seen in Trench 1) was also visible in the brickwork.

A short exploratory extension of the trench was made to see if the wall was bonded to the Coach House at this point. The extension revealed that the Coach House foundation trench truncated the wall at this point.

Trench 9

Trench 9 commenced in the south eastern corner of the Stable Yard adjacent to the doorway to the Stable Block residence, the trench continued in a north westerly direction for approximately twenty meters before joining the manhole linking Trenches 2, 3 and 5. Adjacent to the Stable block the cut of the trench exposed a spread [SY 88] of yellowish brown mortar (Figure 8b) with chalk flecks and occasional brick rubble, tile and flint nodules (depth 0.15m). The construction material was similar to that used in the stable block. The mortar spread butted up to the wall of the Stable Block at this point.

Further to the north-west the trench exposed a segment of culvert (culvert no. VIII). The side walls were comprised of at least two courses of red brick (230 x 110 x 65mm approx.) bonded with pale yellowish grey mortar with chalky flecks. The roof of the culvert was formed by large slabs of sandstone, slightly overhanging the vertical brick walls. The upper edges of the stone were slightly chamfered. The precise dimensions of the structure and brickwork could not be ascertained due to the limited area of excavation. The flat stone slabs of the culvert were flush with a layer of gravel [SY 93] overlying a thick layer of compacted chalk [SY 94]. The compacted chalk butted up to the brick walls of the culvert with no trace of a foundation cut. The gravel surface was presumably an old yard surface with the stone slabs forming an integral part of the surface.

Closer to the junction with Trenches 2, 3 and 5 the top of a second brick culvert (culvert no. IX) was exposed by the trench cut. The roof arch of the culvert was capped by sandstone slabs (width 0.40m, depth 0.08m). The cut of the trench only revealed a small segment of the lower structure of the culvert. The roof arch was low gentle curve with the red brickwork bonded with a pale greyish brown chalky mortar. The culvert brickwork and its alignment were similar to that of culvert no. V (located to the west at this point). The stone capping may have been the result of a repair to the culvert at this point.

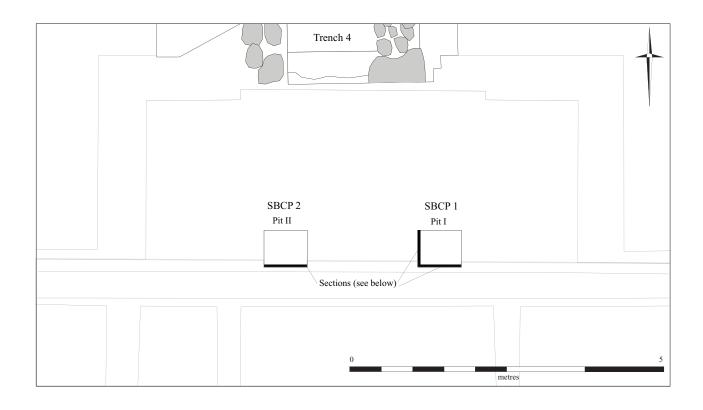
Stable Block

Within the northern end of the central crosswing of the Stable Block (Figure 9) two small (0.55 x 0.55m) construction pits (construction pit no's SBCP 1 and SBCP 2) were excavated to enable the insertion of a new glass screen structure. The part of the Stable Block that the works took place in had previously functioned as a Coach House. The pits cut through the brick flooring of the coach house, exposing a north facing, east to west aligned segment of wall and an east facing, north to south aligned segment of wall. The east to west segment of wall was aligned with the moulded arch of the northern section of the central crosswing.

The east to west segments of wall seen in both construction pits underlay the brick floor of the central crosswing and the floors cement foundation layer. The overlying cement concealed some of the brickwork. In the east construction pit (SBCP 1) five courses of brickwork [SB 3] were visible, the lower two courses were arranged in a stretcher bond with the next course arranged in a header bond, the upper two visible courses were again arranged in a stretcher bond. The segment of wall exposed in the west construction pit (SBCP 2) had a similar pattern of brick work [SB 6], although only four courses of brickwork were visible with further upper courses being concealed by the cement foundation layer [SB 2]. The two segments of wall were composed of similar red bricks bonded with a pale grey mortar with chalky flecks. The size of the bricks varied slightly (200-215 x 90-100 x 55-60 mm). The bricks and mortar were similar in dimensions and composition to the brickwork of the Stable Block main walls.

The east facing segment of wall [SB 5] in the east construction pit also underlay the cement foundation [SB 2] and brick floor. Five courses of brick work were exposed arranged in an English bond and composed of red brick (200-215 x 90-100 x 55-60 mm) bonded with a pale grey mortar with chalky flecks. The segment of wall was aligned at 90° to the east to west segment. The brick courses butted up to the east to west aligned wall but did not appear to be bonded in to it. The bricks and mortar were similar in dimensions and composition to the brickwork of the Stable Block main walls.

All three segments of wall were based on a plinth of at least two courses of brickwork. The plinth was covered in a liberal application of mortar, concealing the bonding pattern. The headers visible on the north edge of the plinth were of similar dimensions to the rest of the brickwork and the mortar was of a similar composition to that used elsewhere. The fill [SB 4] adjacent to the segments of wall contained large quantities of brick rubble similar in dimensions and composition to the bricks and mortar used in the construction of both walls.



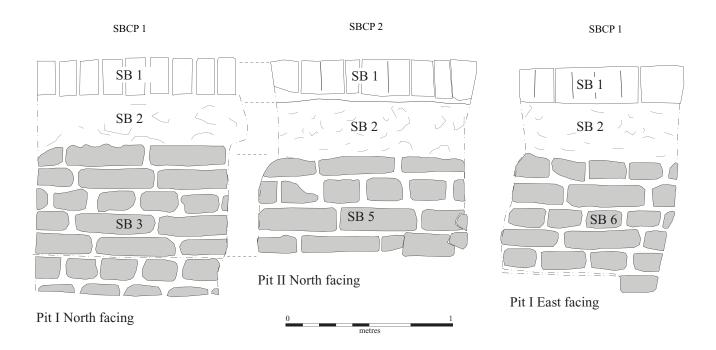


Figure 9. Section of wall SB 3, 5, 6 and Plan of SBCP 1 and 2

Barn Yard (Phase II)

The works within the Barn Yard and adjacent to the Coach House involved the levelling of an area of ground 16m x 23m immediately to the north of the Coach House and the installation of a new fence to form the equestrian enclosure. The levelling required the ground on the west side of the enclosure being reduced by 0.30m whilst the ground on the east side had to be raised by the redistribution of the spoil from the west side and the addition of 16 tons of aggregate from an outside source. The installation of the fence required the cutting of 25 postholes for the fence and a further three for a gate installed in the existing fence line on the west side of the enclosure. The groundwork for levelling revealed a layer of made up ground of varying composition including frequent deposits of building material and re-deposited material from recent works. Modern material had extensively contaminated the made up ground.

The sequence of postholes cut for the arena fence only gave a restricted view of the underlying strata (see Appendix 1). The postholes cut on the north side of the arena for the fence and gates revealed an expanse of recent made up ground overlying a remnant of a compacted chalk layer on the west side and an underlying natural over the remaining ground. The postholes on the east side largely followed the course of a Victorian culvert and showed little other than the backfill of the culvert trench and the brickwork of the culvert. The culvert was in poor condition and had collapsed in several places. The area to the south had been extensively disturbed by the recent works taking place adjacent to the north side of the Coach house, the sequence of post holes at the south end of the arena largely cut into the made up ground and backfill from the recent works.

The culvert exposed on the east side of the arena was comprised of two parallel red brick $(215 \times 102.5 \times 65 \text{ mm})$ walls at least four courses in height (the cuts for the postholes did not reveal the full extents of the structure). The walls were set on brick course plinth foundation. The wall courses were laid in a stretcher bond. The sandy mortar was a pale greyish brown with occasional chalk flecks. The upper course of the walls were constructed with a course of plinth stretcher bricks laid with the sloped side inwards to provide support for the arched roof span of the culvert. The arched span was comprised of four courses of stretcher bricks. No material earlier than the 19^{th} century was noted during the monitoring of the works.

Monitoring of postholes for signage. (Shannon Hogan)

The monitoring was designed make sure that any disturbance caused during the erection of new visitor signage within the site of Audley End House and Gardens (Figure 12) was archaeologically observed. Most of the signs were either wall mounted, re used existing fittings or outside the boundary however the digging of 8 new postholes was observed. No archaeology was found within any of the postholes (see Appendix 7).

Monitoring of Drainage Pipe Replacement

No archaeology was found within the new drainage trench (see Appendix 9).

CONCLUSIONS

Lion Yard

The monitoring of the strip of the central yard area only revealed recent levels of made up ground and yard surface. The cut features observed within the test pits appeared to be of 19th to 20th century origin. The only feature that may have been earlier than the 19th century was the segment of ditch underlying the concrete and brick plinth and sealed by a layer containing 19th century debris. A second similar segment of ditch was exposed in the central construction pit (LYCP 4) and was aligned at 90° to the other segment; this may have been a component of the same ditch system. No dating material was recovered from either of the features but the alignment does suggest that the ditches would have predated the construction of the Lion Lodge in 1846.

Mill Yard

Recent usage of the yard has allowed a substantial build up of material forming a rich humic top-soil within the yard. The recent works did not penetrate to any archaeologically sensitive layers.

Cart Yard

The segments of red brick walling seen in the northern half of the Cart Yard are most likely the remnants of earlier cold frames or other horticultural structures that have been demolished leaving a substantial layer of brick rubble over much of the site. The 1877 Ordnance Survey map (also appearing on the 1921 O.S. maps) shows four rectangular structures in the northern end of the cart yard that would match the pattern of features and material observed. The walls exposed adjacent to the Gardener's Rest room are probably pairs of walls forming rectangular structures. The quality and style of construction suggests that a function as horticultural beds or frames is more likely than a function as a building. The layer [CY 11] of flint nodules might be remnants of reinforcement for a path between the structures, with the pipe trench cut in at a later date. The proximity and position of these structures suggests that they were most likely in use prior to the construction of the structures on the west side of the Cart Yard; however, no structures matching these features could be identified on any of the available maps and plans of the Audley End Estate.

Stable Yard and Coach House

The extensive network of trenches cut within the Stable Yard and adjacent to the Coach House revealed a network of brick built culverts. Although constructed of similar materials most of the culverts were not of similar dimensions or employed similar techniques in their construction. Culverts IV and VIII did have similar profiles having flat slabs as a roof as opposed to a brick roof arch; however, the slabs used in culvert IV may have been a repair to a brick arch roof. Were it could be discerned the culverts appeared to have been cut from the upper chalk layer or immediately beneath it (with the exception of culvert no. VIII). Although the culverts seem to have been installed over the same period there would not appear to have been a co-ordinated scheme of implementation in the planning of the drainage network.

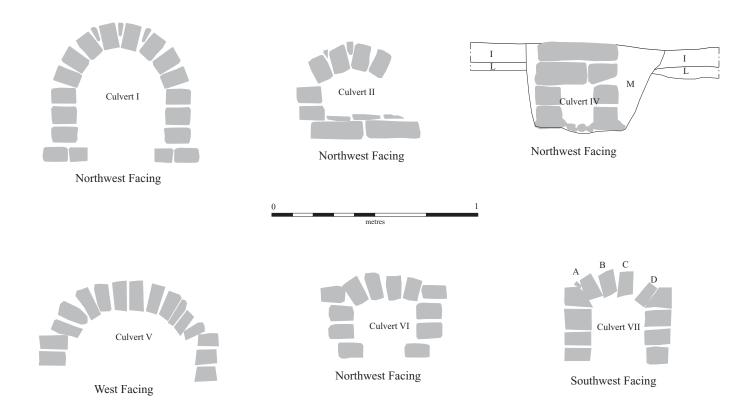




Figure 10. Profiles of Culverts in Trench 2 and Photograph of Culvert in Stable Yard.

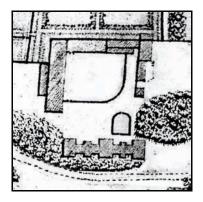
Culvert no. VII was constructed of identical brickwork to the Coach House and probably served a water trough adjacent to the wall at the west end of the Coach House built in 1875, suggesting a similar date of 1875 or soon after for the culvert. The stone capped culvert (no. VIII) close to south-east end of the Stable Block appeared to be integrated into the lower chalk layer [SY 94] and yard surface suggesting that this was one of the earlier culverts.

The excavation to the rear of the coach house revealed the presence of an additional structure feature no. SYF 13 to the rear of the Coach House. Due to the limited nature of the excavation, however, the function of the structure still remains unclear.

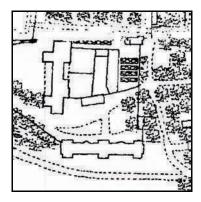
The segment of wall (Figure 11e) exposed to the east of the Coach House in Trench 1 is probably the remnants of an earlier wall dividing the Stable Yard from the Barn Yard. There are several possibilities for the origin of the wall at this point. The 1783 (Figure 11a) survey by T. Warren shows a wall in approximately the correct position. However, at the point where the wall was exposed, the wall was still aligned in straight direction as opposed to the wall illustrated by Warren that is curving as it changes alignment from east-west to north-south. An 1828 (Figure 11b) plan of parishes shows a small rectangular structure in the location now occupied by the Coach House. Adjacent to this structure an enclosed area is illustrated occupying the same area as that enclosed by the wall seen on the Warren's 1783 map. The enclosing wall, however, is recorded as a straight section rather than a curving section. The alignment of the wall is in a more north easterly direction than the wall segment exposed in Trench 1. The Coach House was constructed in 1875, the 1887 (Figure 11c) Ordnance Survey map shows a wall aligned east to west along the rear wall of the Coach House and following a course similar to that now occupied by the current wall bounding an enclosed area to the south of the Head Gardner's house. The closest match to the alignment of the segment of wall exposed by the works is that seen on the 1887 map extending from the east of the Coach House. However, the exploratory section of Trench 8, adjacent to the east end of the Coach House, revealed that the wall was not bonded to the Coach House but truncated by the construction of the building. The relationship with the Coach House and the alignments on the available plans suggests the wall was constructed between 1828 and 1875. The 1897 (Figure. 11d) 25" Ordnance Survey map shows a large gap between the coach house and the enclosed area to the south of the Head Gardner's house, suggesting that by this period the upper courses of the wall had been demolished.

The extensive chalk layer seen throughout the Cart Yard, most likely served as a foundation for an earlier yard surface. Both the trackway and chalk layer are extensively cut through by later services however in places they overlay services that are no earlier than mid 19th century. The manner in which the chalk layer butts up to the Coach House without any evidence of a foundation trench for the structure suggests that they were contemporary. This would give the layer and trackway a construction date of around 1875. A second earlier chalk layer [SY 94] was seen in the southern half of the yard with a similar make up to the upper layer. The layer was thicker than the upper layer and had a similar overlying gravel surface. Degraded and broken up traces of the surface were seen around the periphery of the chalk layer.

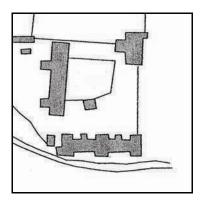
A spread of mortar and building rubble was seen adjacent to stable block. The spread of material was comprised of similar construction material to the stable block and



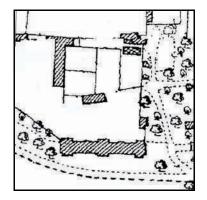
a) T.Warren survey 1783



c) Ordnance Survey 25" map 1887



b) Plan of Parishes 1828



d) Ordnance Survey 25" map 1897



e) Segment of wall to the east of Coach House

Figure 11. Plans and photograph of wall east of the Coach House

could represent a construction spread from the early phase of the Stable Block. Alternatively the material could result from one of the several phases of refurbishments made to the east end of the main range. In 1798 a statement in the Estate's accounts records the installation of a new chimney, fire grate and repairs to the walls. Other extensive works, at the eastern end of the range are mentioned, occurring between 1800 and 1817 (Smith 2008).

Stable Block

The segments of east to west aligned wall recorded in the stable block were aligned with the moulded northern arch of the central cross wing. Henry Winstanley's 1676 plan of the Stable building shows a portioned off small room in the southern section of the central crosswing. The partition wall was removed from below the southern arch in 1798 (Smith 2008). The similarity of the segments of wall visible in the two construction pits suggest continuation of same wall or at least elements of a structure built at the same time. The walls could be a similar internal division as created the small room in the southern crosswing; however, no such room appears on any available plans. The foundation plinth also appears quite extensive for an internal feature. Further more extensive excavation would be required to resolve this feature.

Barn Yard (Phase II)

The processes of levelling only impacted on a thick layer of made up ground which included material of recent origin and had no impact on any archaeologically sensitive layers. The chalk layer noted in the north-west corner of the Barn Yard and underlying modern made up ground was similar to an extensive chalk layer seen throughout the Cart Yard with a suggested date of no earlier than mid 19th century. It is also possible that the layer is related to an earlier chalk layer [SY 94] seen in the east end of the stable yard, however this layer was thicker and encountered at a greater depth. The compacted chalk surfaces could be part of remnant yard surfaces associated with structures around the periphery of the Barn Yard illustrated on maps of 1666 and 1753 (Way 2004); however, these structures and modifications of them have remained until quite recently and some structures to the west are still upstanding. The depth and the relationship to modern made up ground suggest that the layers although forming part of the Barn Yard and defined by the earlier structures, are a later phase rather than an early phase of Yard surface.

The short segment of culvert observed on the east side of the Barn Yard, would appear to be a further segment of the extensive network of brick built culverts noted during the earlier works within the Stable Yard complex and to the rear of the Coach house. The segment of culvert was closest in construction technique to Culvert no. VII the segment of culvert situated to the north and rear of the Coach House. The similarity in fabric and construction technique would suggest a dating close to that of Culvert no. VII for the construction of the culvert. The culvert follows a similar alignment to Culvert no. II aligned north to south and to the east of the Coach House; however, the construction is different. The difference in build may suggest that the culvert along the eastern side of the Barn Yard is an extension of the network or the replacement of an earlier culvert.

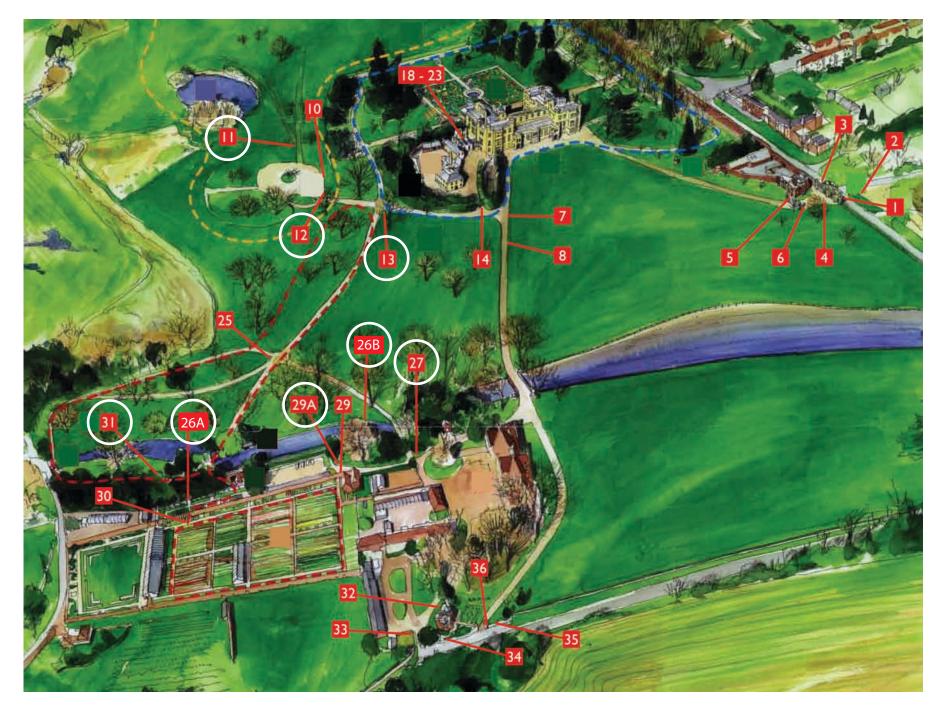


Figure 12. Location of new signage

Monitoring of postholes for signage.

Signs 11, 12 and 13 were all located in an area of modern development and landscaping, mainly consisting of the car park and access ways. This was demonstrated by the modern rubble and artificial contents of their postholes. All of the other signs were located within the older landscaped garden (Figure 12) near to the river. Again this was complemented by the evidence of horticulture found in the types of soil uncovered during the posthole excavation. No evidence for any structures or smaller features was present in any of the postholes.

Monitoring of Drainage Pipe Replacement

For most of the works the new trench cut only exposed a recent network of drainage trenches, and only a short section of 10m exposed previously undisturbed ground. No archaeological material was observed in this final section. With only a short section of the works exposing undisturbed ground it is difficult to make a valid assessment of the archaeological potential of the grounds to the east of the River Cam at this point.

ACKNOWLEDGEMENTS

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APPENDICES

Appendix 1: Lion Lodge Yard

The following describes the strata below the initial layers of made up ground that comprised the Lion Lodge Yard. A large central area of the yard was stripped to a depth of 0.30m to clear modern gardening and other debris from the works area. Several shallow trenches were cut to allow the placement of services (Figure 3) as these only cut through the made up ground and recent yard surfaces, details of the stratigraphy are not included. A sequence of three construction pits was excavated adjacent to the remains of a brick edged concrete plinth running parallel with the north-west wall of the yard. The approximately 1.0m square pits were dug in a north-east to south-west alignment approximately 1.00m apart. The machine stripping in advance of the excavation of the pits removed approximately 0.25-0.30m of made up ground butting up to the brick edge of the concrete platform.

LY 1 A layer of made up ground comprised of debris from gardening activities and the dumping of building material within the area. Depth 0.00-0.20m.

LYCP 1 Construction Pit:

Dimensions width 0.80m length 0.90m depth 1.05m. Location adjacent to outbuilding, southernmost of three pits. Underlying the made up ground [LL1] was the following strata:

LY 2 A layer of greyish brown clayey silt with small to medium sized gravel inclusions and occasional degraded chalk inclusions. Brick rubble and other material was impacted into the top of this layer. Depth 0.25-0.40 m.

LY 3 A layer of dark grey clayey silt with occasional small angular gravel inclusions. Depth 0.40-0.55 m.

LY 4 A dark greyish brown clayey silt with moderately frequent small to medium sub angular gravel inclusions. Depth 0.55-0.75 m.

LY 5 A dark yellowish brown sandy clay with greyish brown patches with frequent small to medium sub angular gravel inclusions. Depth 0.75-1.10+m

LY 6 Interface between [LY 5] and [LY 7]. A sharply defined slope angled at nearly 45° between the natural gravel [LY 7] and upper layer [LY 6].

LY 7 Natural yellowish brown sandy gravel. Depth 0.65 – 1.05m+.

LYCP 2 Construction Pit:

Dimensions width 0.70m length 0.90m depth 1.05m. Location adjacent to concrete plinth, central pit of three pits. Both features no's LY1 and LY2 were sealed beneath layer [LY 1] and cut thru layer [LY 2]. Underlying the made up ground [LY 1] was the following strata:

F.no. LYF1.

LY 8 A dark grey silty clay with small to medium angular gravel inclusions, with occasional red brick and roof slate fragments. Depth 0.35-0.55m.

LY 9 A lens of dark yellow "builders sand". Depth 0.55-0.63m.

LY 10 A dark grey silty clay with small to medium angular gravel inclusions, with occasional red brick and roof slate fragments. Depth 0.63-0.70m.

LY 11 A sharply defined cut of a near vertical sloping, straight sided sub rectangular feature [f.no LY1] with a flat base. Full extents of feature not revealed by the cut of the construction pit. Depth 0.35m width 0.75m plus.

F.no. LYF2.

LY 12 A grey clayey silt with small to large sub angular gravel inclusions, frequent small chalk flecks and fragments of building rubble including a large slab of grey concrete. Depth 0.30-0.65m.

LY 13 A straight steep sloping sided cut of a possibly sub rectangular feature with a flat slightly sloping base. Full extents of feature not revealed by the cut of the construction pit. Depth 0.65m width 0.60m.

F.no. LYF 3

Feature no. LYF 3 was sealed beneath layer [LY2] and cut thru layer [LY3]. The feature appeared to continue through to LYCP3.

LY 14 A greyish brown clayey silt with a slight sand presence with a moderate frequency of small to large sub angular gravel inclusions. The larger inclusions were more frequent in the base of the fill. Depth 0.40 - 0.78m.

LY 15 A straight steep sloping sided cut of a linear feature with a flattish base. Full extents of feature not revealed by the cut of the construction pit. Depth 0.78m width 0.35m+.

Beneath F.no. LYF3. was the same sequence of strata [LY3 – LY7] as recorded in LYCP1.

LYCP3 Construction Pit: Dimensions width 0.80m length 1.05m depth 1.10m. Location adjacent to outbuilding, northernmost of three pits. Within LYCP3 the same sequence of made up ground and layer [LY 2] as seen in the other construction pits was noted, although the thickness of layer [LY 2] appeared diminished. Two features were observed in LYCP3, a continuation of F.no LY 3 and a small probable pit f.no LY 4 cutting thru layer [LY 2]. Underlying the made up ground [LY 1] was the following strata:

F.no .LYF 4.

LY 16 A grey clayey silt with a slight sand presence with a moderate frequency of small to large sub angular gravel inclusions. Lenses of yellow brown clayey sand permeated the fill. Depth 0.30 - 0.70m. LY 17 A straight steep sloping sided cut of a possible pit feature with a flattish base. Full extents of feature not revealed by the cut of the construction pit.

F.no. LYF 3

Continuation of linear feature seen in CP2, strata as in CP2. Depth 0.83m width 0.55m+.

LYCP 4 Construction Pit: Dimensions width 1.80m length 1.20m depth 1.70m. Location central to yard.

LY 2 A layer of greyish brown clayey silt with small to medium sized gravel inclusions and occasional degraded chalk inclusions. Brick rubble and other material was impacted into the top of this layer. Depth 0.25-0.30 m.

LY 3 A layer of dark grey clayey silt with occasional small angular gravel inclusions. Depth 0.30-0.45 m.

F.no. LYF 6.

LY 18 A dark grey silty clay with a slight sand presence with moderately frequent small to medium sub angular gravel inclusions. Depth 0.45 - 0.75 m.

LY 19 A straight sided steeply sloping cut of a linear feature with slightly concave base. Depth 0.75m width 0.45m.

LY 20 A yellowish brown sandy gravel with with a slight clay presence, frequent small to medium angular gravel inclusions, occasional large flint nodules present. Depth 0.45 -0.95m.

LY 21 Sharply defined interface with natural, moderately steep slope. Depth 0.95m.

LY 22 A dark yellowish brown sandy gravel with with a slight clay presence, moderate frequency small to medium angular gravel inclusions, occasional large flint nodules present. Depth 0.95 – 1.10m+.

Service Trench

A service trench was cut parallel to the buildings on the north-east side of the Lion Lodge Yard. Dimensions width 0.40m length 14.50m depth 0.45m. The underlying stratigraphy was as follows:

LY23 A layer of yellowish brown sandy gravel with frequent small to medium sub angular gravel inclusions with occasional brick rubble and horticultural debris. Depth 0.00-0.15m.

LY24 A layer of dark greyish brown silty clay with occasional small to medium sub angular gravel inclusions with occasional brick rubble and horticultural debris. Depth 0.15-0.30m.

LY25 A dark grey silty clay with occasional small to medium sub angular gravel inclusions. Depth 0.30-0.45m+.

Appendix 2: Mill Yard

Within the mill yard the works resulted in the stripping of an area 5x5m square (Figure 4) for the installation of a new potting shed and continued with the excavation of approximately 64m of service trenches . The stripped area was located in the north east corner of the Mill Yard was only cut to a depth of 0.30m The first trench (0.50m width) ran parallel with the north wall of the Mill yard for approximately 18m and was cut to a depth of 0.50m. The second trench (0.50m width) bisected the yard on a north-west to south-east alignment and was approximately 48m in length and was cut to a depth of 0.50-0.60m.

Strata

0.00-0.65m. A very dark grey (near black) humic silty loam with occasional small to medium sub angular gravel inclusions, occasional fragments of horticultural debris (ie; plant pot fragments). Within the strata patches of brick rubble and horticultural debris were recorded, these were assumed to the remnants of crushed brick paths.

Appendix 3: Cart Yard

A service trench was cut aligned north to south commencing adjacent to the Gardner's Rest Room in the south west corner of the Cart yard, the trench continued towards the north west corner of the Cart Yard.

- CY 1 A modern concrete surface. Depth 0.00 0.06m.
- CY 2 A very dark grey silty sand layer with very frequent small to medium sub rounded to angular gravel inclusions with occasional brick rubble fragments. Depth 0.06 0.20m.
- **CY 3** A yellowish grey sandy gravel layer with frequent sub angular medium sized gravel inclusions. Depth 0.15 0.40m.
- CY 4 A Dark yellowish brown sandy gravel layer with very frequent small sub rounded gravel inclusions. Depth 0.20 0.35m.
- **CY 5** A Dark grey silty with moderately frequent small to medium sub angular gravel inclusions with occasional red brick rubble and flint nodules. Depth 0.30 0.60 + m.
- **CY 6** Remnants of a wall composed of irregularly coursed red brick rubble, flint nodule and occasional stone wall with liberal application of pale brown sandy mortar with occasional chalk flecks. The lower courses were somewhat irregular whilst the remaining upper courses were more regular with increasing use of bricks. The remnants and imprints of the top layers suggest that demolished upper segments of the walls would have been constructed of courses of a regular brickwork. Depth 0.50-0.80+m.
- **CY** 7 A layer of red brick rubble, pale brown sandy mortar, occasional flint nodules, roof slates and horticultural debris (flower pots etc). Depth 0.25-0.65m.
- **CY 8** Remnants of a wall composed of irregularly coursed red brick rubble, flint nodule and occasional stone wall with liberal application of pale brown sandy mortar with occasional chalk flecks. The lower courses were somewhat irregular whilst the remaining upper courses were more regular with increasing use of bricks. The remnants and imprints of the top layers suggest that demolished upper segments of the walls would have been constructed of courses of a regular brickwork. Adjacent layers butt up to wall, there is no sign of a foundation cut at this level. Depth 0.50-0.80+m.
- CY 9 A layer of greyish brown silty clay with moderately frequent small to medium sized sub angular gravel inclusions with occasional brick rubble and flint nodules. Depth 0.60 0.70 + m.
- **CY 10** A layer of greyish brown silty clay with moderately frequent small to medium sized sub angular gravel inclusions with occasional brick rubble and flint nodules. Occasional patches of pale brown sandy mortar occurred through the layer. Depth 0.35 0.65m.
- CY 11 A compacted brown sandy silt layer with frequent medium to large sub angular flint nodules with frequent small sub angular gravel inclusions. Depth 0.65 0.90m.
- CY 12 A brown silty clay with frequent small to medium sub angular gravel inclusions and occasional brick rubble and flint nodules. Back fill of pipe trench. Depth 0.65 1.00 + m.
- CY 13 A yellowish brown slightly sandy silt with occasional small sub angular gravel inclusions. Depth 0.90 1.00+m.
- **CY 14** A well defined steep near vertical straight sided cut of east to west aligned pipe trench. Not fully excavated due to limit of excavation for works.
- **CY 15** Ceramic pipeline.
- **CY 16** A very reddish grey silty clay with frequent small angular gravel inclusions and occasional patches of cinder and ashy material. Fill of possible sub rectangular feature [CY 17]. Depth 0.25-0.60m.
- CY 17 A steep sided slightly irregular, flat bottomed cut of shallow feature.
- CY 19 A layer of dark grey silty clay with frequent red brick rubble, flint nodule and occasional stone.
- **CY 20** Remnants of a wall composed of irregularly coursed red brick rubble, flint nodule and occasional stone wall with liberal application of pale brown sandy mortar with occasional chalk flecks. The lower courses were somewhat irregular whilst the remaining upper courses were more regular with increasing use of bricks. The remnants and imprints of the top layers suggest that demolished upper segments of the walls would have been constructed of courses of a regular brickwork. Adjacent layers butt up to wall, there is no sign of a foundation cut at this level. Depth 0.50-0.80+m.
- CY 21 Remnants of a wall composed of coursed red brick rubble, flint nodule and occasional stone wall with liberal application of pale brown sandy mortar with occasional chalk flecks. The lower courses were somewhat irregular whilst the remaining upper courses were more regular with increasing use of bricks. The remnants and imprints of the top layers suggest that demolished upper segments of the walls would have been constructed of courses of a regular brickwork. Adjacent layers butt up to wall, there is no sign of a foundation cut at this level. Depth 0.50-0.80+m.

Construction Pits

Several construction pits to accommodate the foundations of the children's play items were cut in the eastern half of the Cart Yard. Details are only recorded here for pits with material of archaeological interest. See figure 5 for location details.

LYCP1 Construction Pit

The construction contained a segment of east-west aligned red brick (dimensions 230x110x70mm) wall bonded with a pale greyish brown slightly sandy mortar. Six courses of brickwork remained.

LYCP2 Construction Pit

The construction contained a segment of east-west aligned red brick (dimensions 230x110x70mm) wall bonded with a pale greyish brown slightly sandy mortar. Four courses of brickwork remained.

Throughout the north eastern end of the Cart Yard a lens of brick rubble was noted (depth 0.30m) comprised of a similar brick to the walls in LYCP1 and LYCP2 along with horticultural debris. This is assumed to be the remnants of other cultivation frames.

Appendix 4: Stable Yard and Coach House

Trench 1

Trench 1 was cut eastwards from the north west corner of the rear of the Coach House and after an initial step out, ran parallel with the rear of the Coach House before turning southwards into the Stable Yard at the east end of the Coach House. Dimensions length 23.00m depth 0.60 - 1.00m width 2.00 - 0.50m.

West facing section adjacent to Coach House.

SY 1 A layer of reddish black sandy loam with very fine gritty particles, the layer probably contains cinder refuse from adjacent chimney. Layer included some 19^{th} and 20^{th} c. domestic and horticultural debris. Depth 0.00m-0.07m.

SY 2 A layer of black silty clay loam garden soil with moderately frequent small to medium sized sub angular gravel. Layer included some 19^{th} and 20^{th} c. domestic and horticultural debris. Depth 0.07-0.20m.

F.no SYF 1 A trench with a brick built culvert (culvert no. VII) in a south-east to north-west alignment.

SY 3 Fill of [SY 5]. A fill of grey sandy clay with frequent brick rubble, chalk, flint and gravel inclusions. Backfill of culvert f.no SYF 1 foundation trench. Depth 0.20 - 0.85m.

SY 4 Within the trench was a culvert (culvert no. VII) comprised of two parallel red brick ($215 \times 102.5 \times 65$ mm) walls each four courses in height and set on a single brick course plinth foundation. The wall courses were laid in a stretcher bond. The sandy mortar was a pale greyish brown with occasional chalk flecks. The upper course of the walls were constructed with a course of plinth stretcher bricks laid with the sloped side inwards to provide support for the arched roof span of the culvert. The arched span was comprised of four courses of stretcher bricks with fragments of tile inserted into the upper dividing mortar to strengthen and form the arch. The interior floor space of the culvert had been lain with a concrete surface.

SY 5 A sharply defined linear feature aligned south-east to north west with steep straight sides and a flat base. The linear was a foundation trench for a brick lined culvert no VII [SY 4]. Depth 0.85m.

Additional widening of trench exposed a later feeder tributary had been cut into the culvert F.no SYF 1 (culvert no. VII). The tributary was constructed with a course of shaped bricks (270 x 200 x 130 mm) with a semi circular cut out section forming a pipe for the waste material to flow through. A second inverted course of shaped bricks were positioned over the first course to complete the pipe. The bricks were only placed and not mortared into position.

F.no SYF 2 A pit or linear feature seen in section.

SY 6 A grey silty clay with a moderate frequency of brick rubble and gravel inclusions. Fill of SY 7. Depth 0.75m.

SY 7 A well defined steep sided cut with a concave base, only seen in section, probable linear feature, cut by SY 5. Filled with SY 6. Depth 0.75m. width 0.30m+.

SY 8 A layer of dark grey sandy clay with frequent small to medium gravel inclusions. Depth 0.20m - 0.30m.

F.no SYF 3 compacted chalk

SY 9 A layer of compacted chalk. Adjacent to the coach house the layer butts up to the ground level course of brickwork and seals the foundation cut of the coach house wall, suggesting that the chalk surface would have been contemporary with the coach house. The chalk surface/layer appears widespread throughout the stable yard. Depth 0.30-0.45m.

Below chalk layer.

SY 10 A dark grey silty clay layer with occasional small angular gravel inclusions. Depth 0.45-0.55m.

SY 11 An undulating layer also seen as patches on adjacent section, reddish brown silty clay pentrating lower strata of pale yellowish brown silty clay, probably the result of root action. Depth 0.55-0.65m+.

SY 12 A pale yellowish brown silty clay with occasional chalk and gravel inclusions. Depth 0.65-1.00m⁺.

North facing section to the rear of the coach house wall.

F.no SYF 4

SY 13 Rear of wall of Coach House comprised of red brick $(215 \times 102.5 \times 65 \text{ mm})$ courses arranged in an English bond pattern . The brickwork is bonded with a pale grey sandy mortar with chalk inclusions. The lowest course is laid in a stretcher bond. Beneath the above courses was a single course of slightly more abraded brickwork laid in a rowlock bond (edge on), the mortar was similar to the above mortar but more liberally applied.

SY 14 A foundation layer of crudely laid bricks, brick rubble, stone and flint nodules bonded with a liberally applied pale grey sandy mortar with chalk inclusions. The mortar is stained with patches of reddish brown silty clay (see context no). Occasional small red bricks were noted similar in dimensions and composition to those of the Stable Block. Depth 0.35 - 0.60m.

SY 15 A mixed layer of pale grey silty clay with mortar, chalk, large flint nodules and frequent gravel inclusions. Patches of reddish brown silty clay were also noted (see context no). Depth 0.55-0.80m

SY 16 Natural – a pale yellowish brown silty clay with occasional chalk and gravel inclusions. Depth 0.80-1.00m+.

Between 3.00m to 6.00m's from the western end of the trench two small sub circular pits F.no's SYF5 and SYF6 were exposed. The pits were approximately 0.50m in diameter and were cut from the top of the chalk layer.

SY 17 A dark-mid grey sandy silt with very frequent brick rubble, gravel and flint inclusions, also occasional 19^{th} and 20^{th} c. domestic and horticultural debris. Depth 0.00-0.10m.

SY 18 A dark grey sandy silt Depth 0.10 - 0.20m.

F.no SYF 5 Pit

SY 19 A mid grey sandy silt with frequent brick rubble and small gravel, chalk and flint inclusions. Depth 0.20 - 0.60m.

SY 20 A sub circular feature with steep near vertical sides and a concave base. Depth 0.15 - 0.60m.

F.no SYF 6 Pit

SY 21 A mid grey sandy silt with frequent brick rubble and small gravel, chalk and flint inclusions. Depth 0.20 - 0.60m.

SY 22 A grey sandy silt with occasional small gravel, chalk and flint inclusions. Depth 0.60 - 0.65m.

SY 23 A sub circular feature with steep sloping sides and a flat base. Depth 0.15 - 0.60m.

SY 24 A layer of compacted chalk with occasional brick rubble and flint inclusions. Depth 0.20 - 0.30m.

SY 25. A layer of reddish brown silty sand with frequent gravel inclusions. Depth 0.30 - 0.65m.

As the trench continued around the west end of the coach house the remains of a brick wall (0.35m width) were exposed aligned in a south-east to north-west direction.

F.no SYF 7 Brick wall

SY 26 Red brick wall aligned in a south-east to north-west. Upper four courses of red brick were laid in a slightly irregular English bond. The dimensions of the bricks in the top course of brickwork was (215 \times 102.5 \times 65 mm) however the bricks in the lower courses appeared to vary more widely (length 140-170mm. width 100-120mm. depth 50-65mm). The mortar was a very pale greyish brown, slightly sandy with chalk inclusions. The lower foundation courses stepped out slightly to form a foundation plinth. The foundation was comprised of irregularly laid brick rubble and stone fragments including some clunch stone bonded with liberal application of mortar. At the east end of the exposed segment of wall a large hole had been drilled down through the structure.

Trench 2

Trench 2 commenced from a point adjacent to the doorway of the Tack Room (located on the east side of the Stable Yard) and continued in a southwest direction for a short distance before turning in a westerly direction towards the centre of the stable yard were a central manhole linked Trenches 2, 3, 5 and 9. Dimensions length 19m depth 0.60-1.00 m width 0.50m.

Location, adjacent to the doorway of the Tack Room (located on the east side of the Stable Yard) the strata was as follows:

SY 27 A Concrete surface. Depth 0.00 – 0.70m.

SY 28 Gravel foundation for concrete surface (SY 1). Depth 0.07 – 0.10m.

SY 29 A layer of yellowish brown silty sand with frequent small gravel inclusions. Depth 0.10 - 0.17m.

SY 30 A layer of compacted chalk with occasional brick rubble. Depth 0.17 – 0.30m.

SY 31 A reddish brown layer of clayey silt with a rare frequency of medium sized gravel inclusions. Depth 0.30 - 0.75m.

SY 32 Natural. Depth 0.75 - 0.80 + m.

Location 2.00m west of Tack Room.

SY 33 A very dark brown silty loam humic top soil with frequent small sub angular gravel inclusions. The layer has extensive root disturbance. Depth 0.00-0.15m.

SY 34 A yellowish brown sandy gravel with frequent small to medium rounded gravel inclusions. Depth 0.15-0.30m.

SY 35 A layer of compacted chalk with occasional brick rubble and gravel inclusions. Depth 0.30-0.35m.

SY 36 A brown silty clay with a moderate frequency of small to medium sub angular gravel inclusions with occasional brick rubble and flint inclusions. The layer has extensive root disturbance. Depth 0.35m-1.00m.

SY 37 A yellowish brown silty clay. Depth 1.00m+.

F.no SYF 8 culvert (no.I)

SY 38 A segment of north-east to south-west aligned brick culvert (culvert no. I). The cut of the trench only exposed a partial profile of the culvert. The side wall of the culvert was comprised of three courses of red brick ($215 \times 102.5 \times 65$ mm) arranged in a stretcher bond and set on a stepped out foundation plinth of a single course of red bricks. The steeply curved roof arch was comprised of similar bricks with tile (10mm depth) spacers inserted between the upper courses to strengthen and form the arch. The sandy mortar was a pale greyish brown with occasional chalk flecks. Parts of the culvert had been extensively damaged by the roots of an adjacent tree.

Location 8.00m west of Tack Room.

SY 39 A compacted sandy gravel layer with very frequent small angular gravel inclusions with occasional stone, chalk and flint inclusions. The gravel is most frequent in upper part of layer. Depth 0.00 - 0.20m.

SY 40 A layer of compacted chalk. Depth 0.20 – 0.30m.

SY 41 A layer of gravely sand with frequent small to large chalk fragments with occasional flint inclusions and brick rubble. Depth 0.20 - 0.30m.

SY 42 A layer of gravely sand with occasional small to medium chalk and flint inclusions with rare large stone inclusions. Depth 0.30 - 0.40m.

SY 43 A layer of red brick rubble with pale grey mortar and occasional small gravel and chalk inclusions. Depth 0.40 - 0.45m.

SY 44 A layer of gravely sand with very frequent small to large chalk fragments with occasional flint inclusions and brick rubble. Depth 0.40 - 0.45m.

SY 46 A layer of mid brown clayey sand with frequent small gravel, flint and chalk inclusions, occasional red brick rubble. Depth 0.45 - 0.60m.

Location 11.00m west of Tack Room.

F.no SYF 9 culvert (no.VI)

SY 47 A brick culvert (no. VI) aligned north to south. The side walls were comprised of three courses of red brick $(215 \times 102.5 \times 65 \text{ mm})$ arranged in a stretcher bond. The top course was slightly stepped out to provide support for the shallow brick arch forming the roof of the culvert and set on the top edge of the second course. Tile spacers (10mm depth) were inserted between the courses of bricks to strengthen and form the arch. The side wall courses were supported on a stepped in foundation plinth of a single course of brickwork. The sandy mortar was a pale greyish brown with occasional chalk flecks.

Location 14.00m west of Tack Room.

SY 48 A yellowish brown sandy gravel with very frequent small sub angular gravel inclusions. Depth 0.00 - 0.15m.

SY 49 A layer of compacted chalk with occasional brick rubble. Depth 0.15 - 0.30m.

SY 50 A layer of greyish brown silty clay with a moderate frequency of sub angular gravel inclusions with occasional red brick rubble. Depth 0.30 - 0.35m.

SY 51 A layer of degraded compacted chalk with occasional flint nodules. Depth 0.35 – 0.45m.

SY 52 A brown silty clay layer with occasional small to medium sub rounded gravel inclusions with occasional brick rubble and flint inclusions. Depth 0.45 - 0.65m. L.O.E.

Trench 3

The cut of Trench 3 commenced at the junction of Trench 5 and 2, continuing in a south-west direction towards the north-west corner of the area stripped in front of the Stable Block (Trench 4) and then proceeded along the west side of the stripped area and terminated at the façade of the stable block. Dimensions depth 0.50m width 0.50m.

Location 8.00m south-west of central manhole.

SY 53 A layer of Yellowish Brown sandy gravel with frequent small to medium sub angular gravel inclusions with occasional small flint nodules and brick rubble. Depth 0.00-0.20m.

SY 54 A layer of compacted chalk with occasional brick rubble. Depth 0.20-0.30m.

SY 55 A layer of gravely sand with frequent small to medium chalk inclusions and occasional flint nodules and brick rubble, layer butts up to [SY54]. Depth 0.20-0.30m

SY 55 A layer of gravely sand with occasional large stone inclusions and small to medium flint / chalk inclusions. Depth 0.30-0.45m.

SY 56 A layer of abraded red brick rubble with light grey mortar also small to medium chalk, flint and gravel inclusions. Depth 0.45-0.50m.

SY 57 A layer of gravely sand with frequent small to large chalk inclusions and occasional flint nodules and brick rubble, layer butts up to [SY56]. Depth 0.45-0.55m.

SY 58 A layer of mid brown silty clay with moderate frequency of flint, chalk and gravel inclusions, with occasional brick rubble inclusions. Depth 0.50-0.60m+.

Location 8.00m south-west of central manhole.

F.no SYF 10 culvert (no. V)

SY 59 An east to west aligned brick culvert (no. V). The full extents of the culvert were not exposed as they lay beyond the limits of the trench cut. The exposed north side wall of the culvert was comprised of three courses of red brickwork (brick dimensions $210 \times 115 \times 58$ mm), the arrangement of the bonding was not clear from the limited segment that was exposed. The mortar was a pale greyish brown, slightly sandy with chalk inclusions. The south side wall was comprised of two courses of red brickwork (brick dimensions $210 \times 115 \times 58$ mm) set on a stepped out course of red brick. The roof span of the culvert was comprised of nine courses of similar brickwork with liberally applied mortar, no tile spacers were observed.

Trench 4

A stripped area (3.00 x 7.00m) to the north of the main entrance to the Stable Block. The removal of the current cobbled surface in front of the stable black revealed a former reinforced trackway leading to the Stable Block Coach House gateway. The area had been extensively cut by various phases of services. Patches of various layers were seen at the machine cut surface working level after the strip of the cobbled surface.

Remnants of former yard surface. All seen at machine cut surface depth 0.20m.

SY 60 Compacted chalk layer overlain by redbrick and flint rubble.

SY 61 Compacted chalk layer with occasional brick rubble and flint nodules.

SY 62 Yellowish brown silty clay with moderately frequent small to very small angular gravel inclusions with occasional brick rubble and large stone inclusions. Back fill of service trench cuts.

Strata beneath yard surface and track way exposed by contractors cut to find services.

SY 63 A brown silty clay layer with moderate frequency of small to medium gravel inclusions with red brick rubble.

Reinforced Trackway comprised of two reinforced tracks 0.5m in width and spaced a metre apart.

F.no SYF 10 Reinforced Trackway

SY 64 The top layer of the track's was comprised of a course of sandstone flags of varying dimensions (approximately 0.20×0.20 m). The flagstones were bedded on a compacted layer of mortar and flint nodules. The foundation layer of compacted mortar and flint nodules continued to a depth of 0.50 - 0.60m.

Material spreading out from the foundations of the Stable Block Structure.

SY 65 A spread of greyish brown sandy mortar with flint nodules.

SY 66 A pale grey cement with gravel.

Two brick lined drains centrally located between the reinforced tracks.

F.no SYF 11

SY 67 A brick lined drain (dimensions 0.45m depth) with a cast-iron grill. The bricks were $215 \times 102.5 \times 65$ mm. A ceramic out flow pipe exited to the east from the structure.

F.no SYF 12

SY 68 A brick lined drain similar in dimensions to j), the central well of the drain had silted up.

SY 69 A brown silty clay with frequent small to medium gravel inclusions with occasional brick rubble. Fill of pipe trench.

SY 70 A brown silty clay with a moderate frequency of small to medium gravel inclusions with frequent brick rubble.

At a later date the area was further stripped to a depth of 0.5m removing the trackway and chalk yard surface. The strip exposed a network of service pipes both cutting and underlying the trackway. The construction of the services pipes suggested a 19th to 20th c. origin.

Trench 5

Trench 5 continued across the stable yard in a north south alignment from the junction of Trenches 1 and 7 towards the centre of the stable yard. The compacted chalk layer seen elsewhere was noted, however no other structures or archaeological material was noted within the trench. Dimensions depth 0.50m width 0.50m.

Trench 6

Trench 6 was cut to the rear of the Coach House and was aligned parallel with Trench 1 and between the rear wall of the Coach House. The trench was in sufficiently close proximity to Trench 1 that the descriptions of the layers within Trench 1 correspond with the strata observed in Trench 6.

F.no SYF 13 Sunken Structure

SY 71 The trench cut exposed a segment of a sunken rectangular structure (dimensions 1.20 by 3.20m) joined to the rear of the Coach House. The exposed walls of the sunken structure were comprised of a double *wythe* of seven courses of red brick $(215 \times 102.5 \times 65 \text{ mm})$ in an English bond with occasional spacers, a further two courses were comprised of a course of rowlocks (edge on) capped by a course of half round capping bricks. The top course of half round bricks had only survived in close proximity to the rear wall however impressions of the bricks remained in the mortar of the rest of the structure. The structure appeared to be bonded to the rear wall. The upright walls were set on a plinth of brickwork aligned at 90° to the rear of the coach house and arranged in a stretcher bond pattern. Domestic and horticultural debris dating to the 19^{th} and 20^{th} c was recovered from the feature. Dimensions length 18.00m depth 0.50m width 0.50m.

Trench 7

At the east end of Trench 1 adjacent to the east end of the Coach House a construction pit was cut for the placement of a man hole, Trench 7 continued eastward from this point towards the east gateway of the stable yard crossing the roadway leading to the cart yard. The trench was cut to a depth of 1.20m at this point. Trench dimensions length 23m depth 0.50-1.20m width 0.50m.

F.no SYF 14 culvert (no. II)

SY72 The cut for the man hole construction pit exposed a collapsed segment of a north to south aligned brick culvert (no. II). The culvert (no. II) appeared to be only shallow, being only two courses of red brick $(215 \times 102.5 \times 65 \text{ mm})$ in height, the side walls were supported on a plinth comprised of a single course of brickwork. The wall courses appeared to be arranged in a stretcher bond although this could

not be defined with certainty from the little remaining of the structure. Within the sidewalls the drainage channel had tiles (10mm thick) laid in the base, the roof arch was comprised of four courses of red brick ($215 \times 102.5 \times 65$ mm) with tile spacers to help form and support the low arch. The mortar was a pale grey, slightly sandy with small chalk inclusions.

Location 3.50m east of manhole east of Coach House.

SY 73 A layer of reddish brown sandy gravel with frequent small angular gravel inclusions. Depth 0.00-0.05m.

SY 74 A layer of dark greyish brown sandy gravel with frequent small angular gravel inclusions. Depth 0.05-0.08m.

SY 75 A layer of reddish brown sandy gravel with frequent small angular gravel inclusions. Depth 0.08-0.13m.

SY 76 A layer of dark greyish brown sandy gravel with frequent small angular gravel inclusions. Depth 0.13-0.15m.

SY 77 A layer of reddish brown sandy gravel with frequent small angular gravel inclusions. Depth 0.15-0.18m.

SY 78 A layer of yellowish brown sandy gravel with frequent small to medium sub angular gravel inclusions. Depth 0.18-0.21m.

SY 79 A layer of greyish brown sandy gravel with frequent medium sub angular to angular flint and gravel inclusions. Depth 0.21-0.25m.

SY 80 A layer of yellowish brown sandy gravel with frequent small to medium sub angular gravel inclusions. Depth 0.25-0.30m.

F.no SYF 15 culvert (no. IV)

SY 81 The cut of the trench exposed a north to south aligned collapsed culvert (no. IV). The culverts side walls were comprised of two courses of red brickwork ($215 \times 102.5 \times 65$ mm). The surviving brickwork appeared to be arranged in a stretcher bond. The mortar was a light cream and gritty in texture. The side walls were supported on a thick spread of mortar, the central drainage channel appeared to consist of gravel and flint nodules. At the point that the trench cut exposed the culvert, the roof section appeared to have been extensively repaired, with the original brick arch roof having been replaced with two courses of sandstone slabs of irregular dimensions.

SY 82 A fill of brown silty clay with occasional red brick and gravel inclusions. Fill of culvert trench Depth 0.35-0.68m.

SY 83 A cut of trench for brick and stone culvert (no. IV), steep near vertical straight sides with flat base. Depth0.35-0.68m width 0.60m.

SY 84 A layer of crushed red brick rubble cut by [SY83]. Depth 0.30-0.38m.

SY 85 A layer of compacted chalk. Depth 0.38-0.43m.

SY 85 A layer of brown silty clay with occasional small to medium sized gravel inclusions and occasional red brick rubble. Depth 0.43-0.70m.

Location roadway leading to the Cart Yard.

An accumulation of lenses of road construction material reached a depth of 0.30-0.40m overlying a layer of brown silty clay. A yellowish brown silty clay natural was exposed in the base of the cut at a depth of 1.20m. Detailed recording was not possible as the ground was unstable at this point.

Trench 8

A short trench aligned north to south (length 3.00m width 0.40m) was cut parallel with the east end of the Coach House.

F.no SYF 16 brick wall

SY 86 Segment of red brick wall. The size of the bricks varied. The precise bonding pattern was not discernible due to the liberal application of mortar and the limited length of wall exposed. The mortar was a very pale greyish brown, slightly sandy with chalk inclusions. A circular hole drilled in the upper surface of the brickwork. The Coach House foundation trench truncated the wall at this point. Trench dimensions length 3.00m depth 0.40m width 0.40m.

Trench 9

Trench 9 commenced in the south eastern corner of the Stable Yard adjacent to the doorway to the Stable Block residence, the trench continued in a north westerly direction for approximately twenty

metres before joining the manhole linking Trenches 2, 3 and 5. Trench dimensions length 20m depth 0.40m width 0.30m.

Location adjacent to Stable Block.

SY 87 Cobbles, large rounded stone cobbles. Depth 0.00-0.10m.

SY 88 A layer of yellowish brown sandy gravel with small to medium sub angular gravel inclusions, well sorted. Depth 0.10-0.15m.

SY 89 A layer of dark grey silty clay with brick rubble tile flint nodules. Depth 0.10-0.15m.

SY 90 A spread of yellowish brown mortar with chalk flecks and occasional brick rubble, tile and flint nodules. Depth 0.15m+.

Underlying the cobbled surface at a point adjacent to culvert XX was the following strata;

SY 90 Cobbles, large rounded stone cobbles. Depth 0.00-0.10m.

SY 91 A layer of yellowish brown sandy gravel with small to medium sub angular gravel inclusions, well sorted. Depth 0.10-0.20m.

SY 92 A layer of compacted chalk rubble. Depth 0.20-0.30m.

SY 93 A layer of greyish brown silty sandy gravel with small to medium sub angular gravel inclusions, well sorted. Depth 0.30-0.40m.

SY 94 A layer of compacted chalk rubble. Depth 0.40-0.60m.

SY 95 A layer of brown silty clay with occasional small to medium sub angular gravel inclusions. Depth 0.60m +.

F.no SYF 17 culvert (no. VIII)

SY 96 A red brick culvert (culvert no. VIII) capped by sandstone slabs. The side walls were comprised of at least two courses of red brick (230 x 110 x 65 mm approx.) bonded with pale yellowish grey mortar with chalky flecks. The roof of the culvert was formed by large slabs of sandstone, slightly overhanging the vertical brick walls. The upper edges of the stone were slightly chamfered. The precise dimensions of the structure and brickwork could not be ascertained due to the limited area of excavation. The flat stone slabs of the culvert were flush with a layer of gravel [SY 93] overlying a thick layer of compacted chalk [SY 94]. The compacted chalk butted up to the brick walls of the culvert with no trace of a foundation cut.

F.no SYF 18 culvert (no.)

A red brick culvert (culvert no. IX) capped by sandstone slabs. The cut of the trench only revealed a small segment of the lower structure of the culvert. The roof arch was low gentle curve with the red brickwork bonded with a pale greyish brown chalky mortar. The roof arch of the culvert was capped by sandstone slabs (width 0.40m, depth 0.08m).

Appendix 5: Stable Block

Within the northern end of the central crosswing of the Stable Block (see plan) two small (0.55x0.55m) construction pits were excavated to enable the insertion of a new glass screen door structure.

SBCP 1 eastern construction pit.

North facing section.

SB1 A floor surface comprised of bricks aligned edge on. Depth 0.00-0.10m.

SB2 A pale grey chalky cement foundation layer. The liberally applied cement layer concealed some of the underlying course of the brickwork. Depth 0.10-0.25m.

SB3 A segment of red brick wall aligned east to west. Five courses of brickwork were visible, the lower two courses were arranged in a stretcher bond with the next course arranged in a header bond, the upper two visible courses were again arranged in a stretcher bond. The segment of wall was based on a plinth of at least two courses of brickwork. The plinth extended 0.39m from the face of the east-west aligned wall. The plinth was covered in a liberal application of mortar, concealing the bonding pattern. The headers visible on the north edge of the plinth were of similar dimensions to the rest of the brickwork and the mortar was of a similar composition to that used elsewhere. The wall was composed of red bricks bonded with a pale grey mortar with chalky flecks. The size of the bricks varied slightly (200-215 x 90-100 x 55-60 mm). Depth 0.65m.

East facing section

SB1 A floor surface comprised of bricks aligned edge on. Depth 0.00-0.10m.

SB2 A pale grey chalky cement foundation layer. The liberally applied cement layer concealed some of the underlying course of the brickwork. Depth 0.10-0.25m.

SB5 A segment of red brick wall aligned north to south. Five courses of brick work were exposed arranged in an English bond and composed of red brick (200-215 x 90-100 x 55-60 mm) bonded with a pale grey mortar with chalky flecks. The segment of wall was aligned at 90° to the east to west segment. The brick courses butted up to the east to west aligned wall but did not appear to be bonded in to it. The segment of wall was based on a plinth of at least two courses of brickwork. The plinth was covered in a liberal application of mortar, concealing the bonding pattern. The headers visible on the north edge of the plinth were of similar dimensions to the rest of the brickwork and the mortar was of a similar composition to that used elsewhere. Depth 0.65m.

SB4 A fill or back fill of presumed foundation trench for the wall comprised of a greyish brown silty clay with frequent brick rubble and mortar. The brick rubble and mortar were similar to the material used in the construction of the wall. Depth 0.65m.

SBCP 2 western construction pit.

North facing section.

SB1 A floor surface comprised of bricks aligned edge on. Depth 0.00-0.10m.

SB2 A pale grey chalky cement foundation layer. The liberally applied cement layer concealed some of the underlying course of the brickwork. Depth 0.10-0.25m.

SB6 A segment of red brick wall aligned east to west. Four courses of brickwork were visible, the lower two courses were arranged in a stretcher bond with the next course arranged in a header bond, the upper courses we arranged in a stretcher bond. The segment of wall was based on a plinth of at least two courses of brickwork. The plinth extended 0.39m from the face of the east-west aligned wall. The plinth was covered in a liberal application of mortar, concealing the bonding pattern. The headers visible on the north edge of the plinth were of similar dimensions to the rest of the brickwork and the mortar was of a similar composition to that used elsewhere. The wall was composed of red bricks bonded with a pale grey mortar with chalky flecks. The size of the bricks varied slightly $(200-215 \times 90-100 \times 55-60 \text{ mm})$. Depth 0.65m.

SB7 A fill or back fill of presumed foundation trench for the wall comprised of a greyish brown silty clay with frequent brick rubble and mortar. The brick rubble and mortar were similar to the material used in the construction of the wall. Depth 0.65m.

Appendix 6: Masonry

During the cutting of Trench 7 a large spread of brick rubble was exposed, possibly a patching or repair to the yard surface, three pieces of dressed stone work were recovered from the rubble. The stone is assumed to have come from the Audley End estate although it could not be matched to any stonework in the vicinity of the Stable Yard.







Stone work found in Stable Yard

Appendix 7: Monitoring of postholes for signage. (Shannon Hogan)

Results

Number 11. This banner style sign, pointing the way to the overflow car park, required two postholes to be dug. Located on a small slope they varied slightly in composition.

11a was closest to the car park and contained 0.05m of topsoil and 0.3m of a rubble layer consisting of a clayey silt with frequent brick and gravel and occasional fabric and plastic inclusions. This was directly on top of a dark clayey but organic soil. The total depth was 0.6m and the diameter 0.3m.

11b was the posthole nearest to the Ha-ha and contained the same sequence as 11a but with 0.14m of topsoil and 0.3m of the rubble mix on top of the organic soil. It had a total depth of 0.63m and diameter of 0.3m. The flat level ground on which the sign was placed must have been part of a recent landscaping, or levelling process, presumably related to the creation of the nearby car park.

Number 12. This double sided banner style sign also needed two postholes and was located at the entrance to the site from the car park. It was positioned on a raised bank and both postholes were identical in composition. They contained 0.07m of topsoil and 0.53m of mixed sand and soil, demonstrating that the bank they were cut into was created relatively recently.

Number 13. By the entrance to the Parterre Gardens this posthole was dug into a grass border and contained 0.21m of topsoil on top of compacted sand and gravel. The posthole was 0.63m deep and 0.25m diameter. The location was close to a modern pathway that was probably built up with the sand and gravel and compacted mechanically.

Number 26a. The location for this posthole was moved from its original position and reinserted into a previous posthole. Placed next to an emergency life ring by the River Cam it was for a Danger Deep Water sign. It contained topsoil with inclusions of brick and gravel and a modern cable at a depth of 0.3m and had a total depth of 0.55m and with a diameter of 0.25m.

Number 26b. On the opposite side of the river, underneath a large yew tree, this sign was also located next to a life ring and was for a Danger Deep Water sign. The posthole contained 0.4m of dense tree root matting below which was a dark organic soil. It was dug to a depth of 0.5m and had a diameter of 0.3m.

Number 27. This posthole was dug in a grass verge next to the fire assembly point by the entrance to the stable yard. It was for a directional finger post and contained 0.16m of dark organic topsoil, containing gravel and charcoal. Beneath this was a yellowish grey clayey silt subsoil with inclusions of gravel, brick and charcoal. The posthole was dug to a depth of 0.6m and was 0.3m in diameter.

Number 29a. Dug for a directional finger post sign this posthole was located in a shrubbery border close to the entrance to the Cart Yard. It contained 0.21m of topsoil underneath which was a built up rubble layer consisting of a brown silty soil with very frequent bricks, occasional flint and occasional mortar. It was 0.4m deep and 0.25m in diameter.

Number 31. Dug into a flower bed, but avoiding the plants, this posthole contained 0.21m of organic topsoil and 0.37m of a yellowish brown sandy subsoil with frequent gravel, occasional fragments of brick and occasional large flint inclusions. Its total depth was size 0.6m with a diameter of 0.23m. This flower bed is part of a landscaped area and the subsoil is indicative of an artificial build up of soil creating a raised area.

Appendix 8: Barn Yard

The corner postholes for the arena were excavated first to a depth of 0.90m, the remaining postholes were excavated to a depth of 0.75m. with a diameter 0.35m-0.50m.

Posthole A Adjacent to North-east corner of Coach House

0.35m diameter.

0.00m - 0.30m A layer of very dark greyish brown silty clay loam, made up ground including frequent lumps of degraded chalk, charcoal and building rubble.

0.30m - 0.75m Reddish brown slightly clayey sand with moderate small to medium gravel inclusions and occasional flint nodules.

0.75m - 0.90m + A pale brown silty clay with slight sand presence with occasional small chalk, flint and gravel inclusions.

The stratigraphy of the postholes in the South east corner had been largely disturbed by the *previous* works and installation of new services in the vicinity.

Posthole B South-east corner of arena.

0.35m diameter.

0.00m - 0.60m Layer of greyish brown silty clay with slight sand presence, made up ground including occasional oolitic limestone, frequent building rubble and compacted clunch.

0.60m – plus Layer of very loose gravel, fill of recent service trench.

Posthole C North-east corner of arena

0.00m-0.40m Layer of pale greyish brown sandy silt with moderate building rubble and gravel inclusions.

0.40m-0.90m Dark yellowish brown slightly clayey sand with moderate small to medium gravel inclusions and occasional flint nodules.

Post holes along east side of enclosure between corner posts C and B.

Initially similar to above stratigraphy - at 7meteres to the south the posthole alignment was cutting into a similarly aligned culvert trench. The infill comprised dark greyish brown sandy clay with frequent gravel inclusions and building rubble. The post hole at 7 metres to the south contained a void. The alignment of the underlying culvert was seen in the post holes between 9 and 17m and appeared to bow slightly to the west although continuing in a broadly north – south direction.

The exposed culvert was comprised of two parallel red brick $(215 \times 102.5 \times 65 \text{ mm})$ walls at least four courses in height (the cuts for the postholes did not reveal the full extents of the structure). The walls were set on brick course plinth foundation. The wall courses were laid in a stretcher bond. The sandy mortar was a pale greyish brown with occasional chalk flecks. The upper course of the walls were constructed with a course of plinth stretcher bricks laid with the sloped side inwards to provide support for the arched roof span of the culvert. The arched span was comprised of four courses of stretcher bricks.

$\label{eq:posthole D} Posthole \ D \ North-west \ corner \ of \ arena.$

0.00 m - 0.30 m Layer of very dark greyish brown sandy clay, made up ground including frequent lumps of degraded chalk, charcoal and building rubble.

 $0.30 \mathrm{m} - 0.90 \mathrm{m}$ Reddish brown slightly clayey sand with moderate small to medium gravel inclusions and occasional flint nodules.

Postholes along north side of enclosure between corner posts D and C had similar startigraphy to above the chalk layer petered out approximately six meters from the west side, whilst the made up ground continued across the site. The sub soil became progressively yellowier with a slight increasing frequency of gravel inclusions.

Appendix 9: Drainage Pipe Replacement

A third phase of works involving the refurbishment of an old drainage network to alleviate the flooding of parkland to the east of the Barn and Stable yard complex took place between 13th June and 25th July 2011. The re-cutting of the drainage ditch commenced on the east bank of the overflow channel adjacent to the waterwheel structure and sluice gates situated on the River Cam to the east of the Stable Yard and Walled gardens. The earlier pipe trench had been cut into a very dark grey silty loam top soil overlying greyish brown silty clay natural. A plastic conduit had been installed and the trench was backfilled with medium to large angular gravel inclusions and covered by top soil. The trench continued in a south easterly direction until reaching a gravel path at this point the trench changed direction to a north to south alignment. The pipe trench appeared to have been re-laid with a similar plastic conduit and backfilled with smaller more rounded gravel. At several points along the route of the pipe, feeder pipes joined the main section of pipe. The feeder pipes were all of the earlier type of conduit pipe seen to the north of the gravel path and had a coarser gravel backfill in the side trenches. The trench continued to a brick manhole at a point 15.5m to the south of the gravel path and approximately 30m to the east of the River Cam. The trench continued in a southerly direction from the south side of the brick manhole re-cutting and following the course of the existing drainage ditch. The trench ended at a manhole immediately to the east of the Boathouse near the Stable Bridge and approximately 25-30m from the east bank of the River Cam. The trench had followed an almost straight line to this point with only a slight divergence to avoid impinging on a mature tree in the vicinity. The re-cutting of the pipe trench only exposed works completed within the last twenty years, no archaeological material was observed in this section. At a point 10m to the north of the final manhole the previous drainage trench terminated and the works cut previously undisturbed ground. The trench cut exposed a dark humic loam overlying a silty clay to a depth of 0.50m, closer to the manhole a pale yellowish grey sandy clay natural was observed. No archaeological material was observed in this final section. With only short section of the works exposing undisturbed ground it is difficult to make a valid assessment of the archaeological potential of the grounds to the east of the River Cam at this point.

Appendix 10: Oasis Data Collection Form details

OASIS DATA COLLECTION FORM:

Project details

Project name Audley End, Saffron Waldon, Essex. Archaeological Monitoring

Short description of the project

Archaeological monitoring of enabling works within the gardens and yards at Audley End House, Saffron Waldon, Essex. Audley House occupies the site of the Benedictine Abbey of Walden founded in 1139, becoming an abbey in 1190. The Abbey was rebuilt and new buildings added in the 13th and 14th centuries. After dissolution in 1538 the buildings were remodelled to form a private house. Major phases of construction and remodelling followed in the early 17th Century and in the late 18th Century. The works were carried out within the Mill Yard, Lion Lodge Yard, Cart Yard, Stable Yard and Stable Block of Audley End House. Within the Cart Yard remnants of late post medieval horticultural structures were recorded. Within the stable yard an extensive net work of late post medieval brick drainage culverts was revealed. Within the Stable block possible interior walls dating to the earlier period of construction of the 17th century Stable Block were revealed.

OASIS ID: cambridg3-75056

Project dates Start: 12-11-2009 End: including additional monitoring 25-07-2011

Previous/future work Yes / Yes Type of project Field evaluation Site status Scheduled Monument (SM)

Site status English Heritage List of Parks and Gardens of Special Historic Interest

Current Land use Community Service 2 - Leisure and recreational buildings

Current Land use Other 5 - Garden
Monument type STABLE Post Medieval
Monument type YARDS Post Medieval
Significant Finds WALL Post Medieval
Significant Finds CULVERTS Post Medieval

Significant Finds CULVERTS Uncertain

Methods & techniques 'Targeted Trenches'

Development type Pipelines/cables (e.g. gas, electric, telephone, TV cable, water, sewage, drainage etc.)

Development type Building refurbishment/repairs/restoration

Prompt Direction from Local Planning Authority - PPG16

Position in the planning process After full determination (eg. As a condition)

Project location

Country England

Site location ESSEX UTTLESFORD SAFFRON WALDEN Audley End, Saffron Waldon

Postcode CB11 4JJ

Study area 650.00 Square metres

Site coordinates TL 552330 238360 51.8909605766 0.256086827056 51 53 27 N 000 15 21 E Point

Height OD / Depth Min: 42.00m Max: 48.00m

Project creators

Name of Organisation Cambridge Archaeological Unit

Project brief originator English Heritage/Department of Environment

Project design originator Robin Standring

Project director/manager Robin Standring

Project supervisor David Webb

Type of sponsor/funding body English Heritage

Entered by David Webb (dww25@cam.ac.uk)

Entered on 30 March 2010

OASIS:Please e-mail English Heritage for OASIS help and advice

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