

## Earthworks at Buildwas Abbey, Shropshire

# ARCHAEOLOGICAL INVESTIGATION REPORT SERIES AI/9/2002

NMR Nos: SJ 60 SE 31, 40, 41

NGR: SJ 642 044

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#### **INTRODUCTION**

Earthworks in three fields to the west and south of Buildwas Abbey (SJ 642 044) were surveyed by English Heritage in January and February 2002 in response to a request from David Robinson of the Historical Analysis and Research Team (HART), who will be re-writing the guidebook for the site. The survey was undertaken as a level 2 survey, but at a scale of 1:1000, and provides a basic descriptive and interpretative record (RCHME 1999).

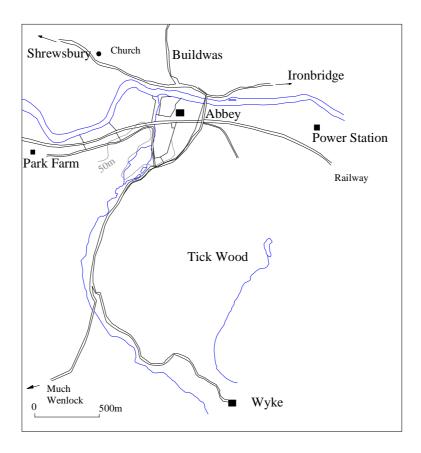


Fig 1. Location of Buildwas

The abbey was founded in 1135 for monks of Savigny. When that Order was merged with the Cistercians in 1147, Buildwas became a Cistercian house. It is situated c16km south-east of the county town of Shrewsbury and c5km north of Much Wenlock (fig 1). It lies on the south bank of the River Severn and at the eastern end of a long meander, east of which the river narrows along the Ironbridge Gorge. The place-name is apposite to the location. The second element is of particular note since it derives from the OE word *waesse*, meaning 'land which floods and drains quickly' (Gelling 1984, 59; Gelling & Cole 2000, 63). This element occurs at only seven places, all in the West Midland counties and all beside major rivers or

their larger tributaries (ibid). The first element (OE *bogel*) is also of interest. Rather than referring to either 'building' or 'builder', its more plausible meaning refers to the meandering and/or braiding of the river, literally 'bows or curves' (Gelling 1990, 51). Buildwas is aptly named, since the seasonal flooding and relatively quick draining of the alluvium is a common occurrence during periods of heavy rainfall.

To the south of the abbey the land gradually rises to a road which, together with a track and stream in the west, and the river, forms a coherent boundary around the abbey. The field between the abbey and the road contained a wood known as Coneybury Wood in the early 19<sup>th</sup> century, but by 1927 was being quarried for sand (OS Second Edition 42.17). Beyond the road the ground continues to rise, but more steeply for c800m, to Tick Wood. The road itself follows the valley bottom from Much Wenlock and crosses the River Severn some 300m to the east of the abbey. The present bridge replaced one destroyed in a flood in 1795 and is 20-30m upstream from its predecessor, traces of whose abutment survive (NMR SJ 60 SW 15). The abbey maintained a bridge here until its suppression in 1536 (Cox 1979, 73, quoting *Cal Pat* 1317-21, 119).

The track to the west of the abbey leads from the Much Wenlock road and follows a course along the west side of the surveyed area before turning towards Buildwas Park, the 19<sup>th</sup> century seat of the landowner, Mr Moseley. Close to the junction of the road and track, but outside the surveyed area, are a series of ponds with a mill. A monastic barn was also located here but only the stone footings survive (NMR: SJ 60 SW 1).

The village of Buildwas lies on the north side of the river. This was a small hamlet in the mid-17<sup>th</sup> century, with further dispersed settlement along the road (fig 2). Beyond the bridge the road follows the bank westwards to Shrewsbury, and eastwards towards Ironbridge. In the north it continues towards Little Wenlock.

The meadow and land to the west and north of the earthworks in 'the pond field' is of alluvium, while the remainder of the surveyed area is sand and gravels (Geology map – Telford, 1:25,000. 1978).

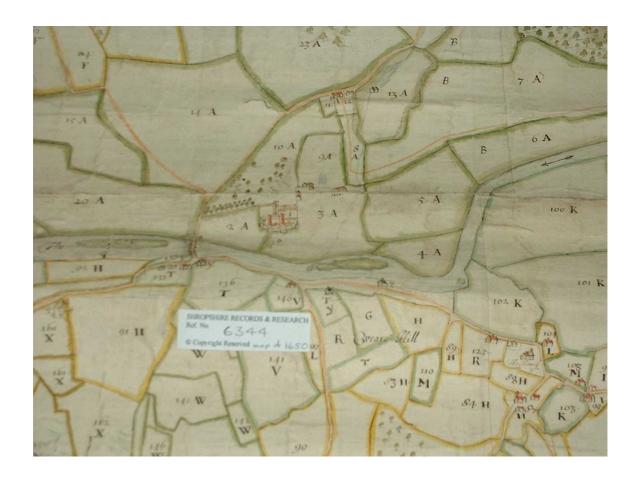


Fig 2. Copy of the 1650 map of Buildwas (SRO: 6344). (North is to the bottom)

#### EARTHWORK DESCRIPTION AND INTERPRETATION

The earthworks lie in three fields to the west of the abbey and for clarity have been named 'the pond field', 'the west field' and 'the south field'. The letters in the text refer to letters on the plan (fig 3).

#### 'The Pond Field'

The earthworks in 'the pond field' cover an area of c1.5ha. It is essentially a small park (apparently of 19<sup>th</sup> century creation) with tree belts on three sides and a scatter of trees in the open area - all part of a designed landscape that lies principally to the west around the refurbished house.

At (a) is an L-shaped depression measuring 38m along the west side and 28m along the north with a steep curving scarp defining the other sides. The scarp itself is not of uniform height: on the west and south sides it measures c1.75m and 2m respectively as it is cut into the higher, upslope land, while on the northern, downslope side is a low broad flat-topped bank measuring 0.7m high. Cutting through the northern bank towards the eastern end is a gap leading to a short, broad water channel, which within 20m opens into the main east-west channel (*below*). The floor of the depression is fairly flat and slopes gently north. It is divided into two parts by a slight north-south bank, c0.1m high. This creates two quite regular parts: a rectangular north-south element and a squarish east section that has a circular mound centrally within it. This L-shaped depression has previously been interpreted as a pond but it is better understood as a garden compartment (*see Discussion*).

Separating the L-shaped depression from a deep linear water channel to the west is a rectangular platform measuring 40m x 10m. In the south (b) is a narrow causeway, or sluice, linking the channel to the 'pond'. The north end of the water channel is clearly a pond (c), dammed at its north end, with an outlet or sluice giving into outflow channels to the north. It is of an even width and uniform 2m depth and its length matches that of the platform on its east side and the west side of the L-shaped depression beyond, with which it lies parallel. The water channel approaching at a slight angle from the south is constricted to the west of (b) by a projecting bank, which either formed part of a garden feature or mill site (*Discussion*). There is a marked fall at (b) between the channel and the pond to the north. To the south of (b) the channel gradually narrows and diminishes in depth to c0.1m. A path and railway

embankment interrupt the course of the channel, but its alignment is picked up further south by the outflow channel from the large rectangular pond in 'the south field'.

To the west of the pond (c) is a large, sub-rectangular platform. There is slight hollowing in the north-east corner of its internal space. The platform measures 60m x 10m and stands c2m in height above the land to the north and west. It is bounded on the north, west and east by banks up to 1m high above the internal space. That on the north is notably broad: that on the east respects precisely the length of pond (c): that on the west curves away slightly southwest and ends in a mound truncated by the field boundary. In the woodland to the south, towards the railway embankment, there is a spread mound measuring up to 0.7m high.

Along the west side and in the south-west corner of the field is a very substantial bank. Although bounding the low ground occupied by the north/south stream course, it may also have formed the monastic precinct boundary. In addition, though, its north part lies approximately parallel with the sub rectangular platform and defines a further rectangular area along the west side of the platform, which is flat and featureless except for very slight mounding at its south end.

Cutting through the northern part of the field from the north/south stream to an escarpment created by gardening and dumping in the east are two water channels. The southern one measures 125m x c10m and c 0.5m deep, while the one to the north is more substantial and on slightly higher ground. The southerly fork of the latter channel appears to have been part of the stream and its regular shape suggests that it has been re-cut, probably to make a pond.

#### 'West Field'

'The west field' covers an area of c5ha. There are two principal earthwork components - a formalised water channel and a floated water meadow.

The formalised water channel is oriented east/west and measures c190m x 20m and up to 1.5m in depth. The sides are parallel for much of its course with a terminating bank in the west. In the east the channel forks. The northern fork tails out towards the river and acted as a drain for the water meadow on the north side of the channel. The southern fork turns towards the stream and terminates against a causeway. The section of channel beyond is of quite different form, shallower and without the dug appearance. It is similar to the section of channel beyond the terminating bank at the west end of the formalised water channel.

Furthermore, it continues the alignment of the main southern channel in the north part of the 'pond field' to the east of the stream.

The remainder of the field exhibits most of the components encountered in a floated water meadow. The main carriers, whose function was to direct the main body of water to various parts of the meadow; side carriers and their attendant drains, which ensured an even flow over the grass; and sluices and culverts that controlled the flow to a particular part of the meadow. The only component not evident was the hatch. Since water meadows were only floated at a specific time of the year, a method was required whereby water was prevented from flowing onto the meadow and instead, directed back to the stream or river – the hatch fulfilled this function. Although it no longer exists, its probable location has been identified (*below*).

Water for the meadow emanates from a stream, which rises some 2km to the south near Wyke (SJ 648 020) and flows north to the River Severn on the western side of the abbey. At the access road to Mill Farm (d) the stream flows through a stone culvert, under the road, and along the east side to the confluence with the river. Approximately 10m north of this stone culvert is one of brick, which is now almost completely silted up. This latter culvert provided water for the meadow and, although not visible, followed the scarp-edge along the west side of the road to another brick culvert (e). From here its course lay along a main carrier, above the stream in the east, to the railway embankment and through a brick tunnel. This tunnel, although it follows the line of the main carrier, is not only later than the irrigated meadow but also appreciably lower on the northern side and therefore not associated with the water meadow. This relationship shows that the floated meadow pre-dates the railway embankment.

On the north side of the railway embankment is a pond, c0.7m deep (f). Its southern side is defined by the railway embankment, which is largely made up of a hardcore type material. On the west side are the remains of the corner of a stone wall with fragments of brick on the upper course; another fragmentary wall, c0.5m high, lies on the north side. The former wall extends north for 7.7m and appears to have been a retaining wall, or revetment, for the main carrier: it stands c1m high and c0.3m thick. The difference in level of the main carrier either side of the railway embankment, along this wall, is -0.5m, which would have ensured a consistent flow of water.

It is probable that the hatch was positioned in the area of the pond and utilised the stone revetment. This is supported by Hills' (1842, 101) observation of a brick culvert that extended from the pond to the south side of the brick bridge over the stream. This culvert

would have diverted water when not required for irrigation. (In addition, it would have drained overflow water from the pond following the abandonment of the water meadow). The only other alternative place for a hatch would have been near the brick culvert (d), but the absence of any evidence of it here, and the requirement later to build a tunnel under the railway, specifically to drain the water following the abandonment of the water meadow, militates against this.

The stonework forming one edge of the pond suggests that there may have been a building here; however, whether it was a mill, as has been suggested (EH 1996, 11), is questionable since all the culverts along the channel are brick, and constructed at the same time as the meadow was floated.

Beyond the pond, the main carrier continues along a terrace cut into the natural slope to a sluice (g). This sluice, in common with another further north (h), is only partially visible, but is of brick construction and domed. The main carrier to the west of (g) measures 230m in length and is cut into the natural north-facing slope. The difference in level from east to west is -0.6m, which would have allowed a gradual flow of water in a westerly direction. At (i) the railway line overlies the channel of the carrier but its course undoubtedly continued to the field corner. From this point the main carrier continues north along a curving embankment, which measures up to 0.5m high and 3m wide at the top. At (j) the main carrier divides, one branch following an easterly course in a doglegged fashion across the centre, slightly higher part of the meadow, whilst the other main carrier continues further north along the embankment to the formalised water channel. At the south-western corner it again divides and follows a course along both sides of the water channel. The southern branch extends for only 75m while on the northern side it traverses practically the whole length of the bank. On the northern side of the water channel, the main carrier divides and one branch traverses a causeway to provide water for the northern part of the meadow. The main carrier can only be traced for a further 15m; however, the side carriers and side drains here indicate that its course followed the riverbank.

From the sluice (g) another main carrier extends north to the sluice (h) where it divides; one branch flows west for c160m and provided water to a number of shorter side carriers, while the other curves east along an embankment to the present field boundary. A slight scarp beyond the end of the main carrier suggests that irrigation continued to the east of the field boundary

Extending at right angles to the main carriers are the side carriers. In the west they measure 15m in width and up to 0.1m high, while the six eastern carriers are 10m wide and of similar height. Although no channels are evident along the course of the carriers, they probably extended along the centre. Parallel to the side carriers are the side drains, which carry the water flowing from the side carriers into the main drains. The main drains finally expelled the water into the formalised water channel at (k), and ultimately to the river. Incised cuts can be seen in a number of side drains, particularly in the south-west, and are probably due to a concerted effort at land drainage following the abandonment of the water meadow.

On the northern side of the channel lies the fragmentary remains of another part of the water meadow; however, flooding at the time of the survey prevented a detailed analysis of this area.

#### 'South Field'

The pasture field on the south side of the railway embankment covers an area of c3ha, and is largely defined in the east by a natural escarpment and in the west by a field boundary and the north/south stream. It seems probable, however, that a watercourse formerly followed the foot of this escarpment, its course now masked by erosion of the scarp.

In the north, and extending for some 34m, are the remains of a stone wall (1), which stands c0.5m high. Its breadth at its base is 0.7m, but only a single thickness of stone is evident, which is the remains of its north face. At its eastern end a bank continues the line of the wall for a further 24m to meet another stretch of walling 4m in length. Beyond this point a fragmentary bank marks its course for a further 41m. To the east of the bank is a channel, which doglegs from a large sub-rectangular pond. The pond is sharply defined and measures c45m x 10m and c1.5m deep. A second pond is slight, and measures 28m x 8m and c0.2m deep. Though a slight channel from its north side appears to connect to the large pond, the latter may actually be cutting through it and may represent a superimposition on an earlier arrangement. At the least, the markedly different nature of these two ponds would suggest that the larger one was adapted for another function at some time (*below*). Water from these two ponds formerly flowed along a channel into 'the pond field' (*above*). Isolated stones in the side of the channel near the pond suggest that it may have been stone-lined at one time. In addition, its rather curious sinuous route and further stonework suggests that there may have been a structure, possibly a mill, located on the dog-leg (m).

On the southern side of the wall is a large sub-rectangular platform measuring c50m x 20m with a number of slight scarps and banks (n). The regularity of these earthworks suggests that the platform supported either a single large building or a number of buildings and a yard. The survival of the wall coincides with this platform, which suggests that it results from a continuing use of this building later than the wall alignment as a whole. To the south, on a lower ledge, is a sub-rectangular enclosure.

Situated almost centrally in the field is a group of three circular enclosures measuring c10m diameter and c0.2m deep. Although the two northern enclosures have no entrances, the third has one on the south side. The north-western enclosure has a slight platform on its northern side, while the north-eastern one has a sinuous scarp. To the south of these three enclosures is a platform measuring c5m<sup>2</sup>, with a further circular feature with a possible entrance on the west side some 35m beyond. These earthworks are characteristic of a searchlight 'cluster' position dating to the Second World War (Dobinson 2001, 284). The three circular features represent the actual searchlight positions, with an emplacement for a sound locator and local defence anti-aircraft Lewis gun in the eastern one (ibid, 183-4). The circular feature to the south is the probable site of the command post. The function of the square platform is unclear, but may have been for a generator. Extending in a north/south direction from the searchlight emplacements are two narrow ditches c40m in length, which may also form part of the searchlight battery. The purpose of slight linear scarps (o) is unclear but may either be associated with the searchlight position, or defining a small close. Soldiers manning the position in 1942 used the railway tunnel for cover while cooking (pers comm Mrs Jones, Buildwas Park Farm) and it is more likely that their tented accommodation would have been in this area.

A water channel (p), cut into the scarp on the west side of the field, is not associated with either of the two culverts (d) and may be a former stream course and perhaps the tail race of a mill.

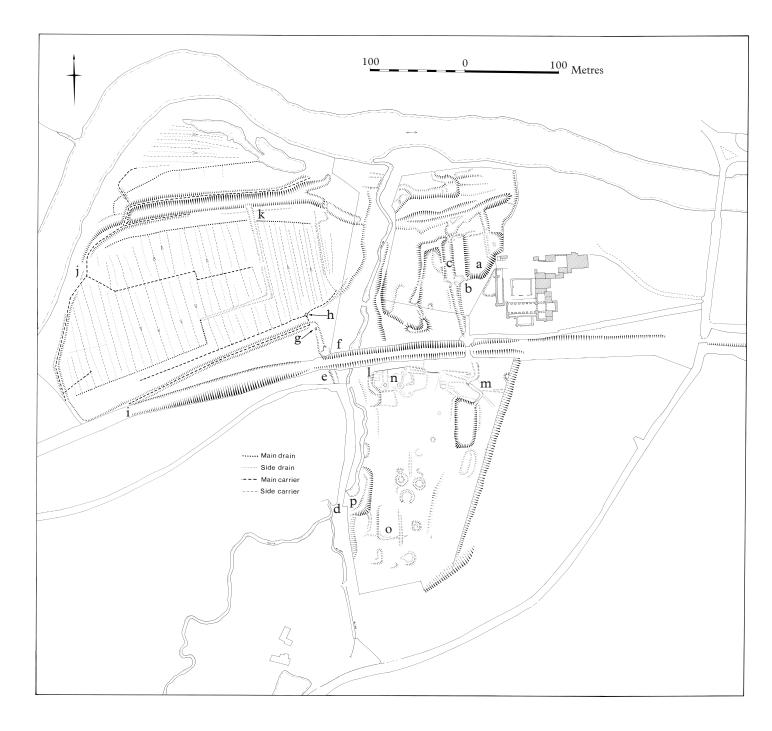


Fig 3. Earthwork survey of Buildwas Abbey and its environs

#### **DISCUSSION**

The survey and investigation of the surviving earthworks at Buildwas has identified a range of features to the west and south of the claustral buildings that illustrate a diverse land use from the monastic period to warfare in the 20<sup>th</sup> century. A number of key issues have been identified: the changing natural and ritual setting; the monastic precinct, its access and appurtenances; the post-Dissolution house and gardens; the floated water meadow; and finally the 'formalised water channel'.

#### The natural landscape



Fig 4. The outline of the banks of the formalised water channel revealed above the seasonally flooded River Severn. The river itself lies below the house in the centre. Slight depressions run along the crests of the raised banks marking the lines of the main carriers.

The changing natural course of the River Severn with its braided water channels and seasonal flooding of the alluvium in both 'the west field' and 'the pond field', is crucial to our understanding of the land-use close to the river. The river flows particularly fast in a west/east direction and it is evident that the bank has eroded and altered course over time. A map dating to 1650 (fig 2) illustrates this well: it shows an island north of 'the pond field',

which is much larger than it is today. Other islands existed along this stretch of the river. In 'the west field', the formalised water channel also adopts the course of a braided river channel, one branch of which flowed east into 'the pond field' before spilling back into the river at the eastern end the other returned more directly north into the main stream. While they were an active part of the river system, they clearly created at least two quite large islands in the river. Also the north/south stream will have had a different course and perhaps an even greater propensity to back up in times of winter flood than it currently does.

But most importantly, this new understanding about the particularly distinctive form of the river here – which is pinpointed precisely by the place-name Buildwas – throws a flood of suggestive light on the choice of location for the abbey. It suggests a deliberate decision to locate this new Christian powerhouse as closely adjacent as possible to the special natural landform with its phenomenon of seasonal flooding – with the possibility that the location and phenomenon had a long-established pre-Christian cultural and ritual significance that required converting to a Christian form. The discovery during the construction of the bridge in 1795 of a Bronze Age sword (type F), a socketed axe-head, and near them, 'at a considerable depth a large piece of oak timber, containing 75ft'(NMR: SJ 60 SW 16) adds further credence to our understanding. In addition, a Neolithic axe on the northern bank of the river and a Neolithic polished flint axe from the flood plain 3km further west (NMR: SJ 60 SW 18, 22) emphasises the significance of the river during the prehistoric period as well as the medieval. On the analogy of similar circumstances elsewhere in England (Stocker & Everson forthcoming), the abbey's long-standing responsibility for the bridge across the Severn may be another aspect of this process.

#### The monastic setting

In 1135 a Savigniac community of monks from Furness Abbey was established at Buildwas (Robinson 1998, 78). Some twelve years later, in common with the other Savigniac houses, it was absorbed into the Cistercian Order. The monastery's claustral buildings are located on a knoll above the floodplain. The impact of the abbey's original affiliation on the claustral layout has yet to be properly assessed; but the church is located on the south side of the cloister rather than the north, which was more typical (ibid, 40). This anomaly was undoubtedly due to the abbey's proximity to the river and the need to drain the reredorter into the river.

There is no evidence of an enclosing wall or boundary ditch to define the monastic precinct. Nor is the site of the gatehouse known. Nevertheless the boundary probably lay along the

River Severn and from the medieval bridge along the curving road from Much Wenlock in the south; a track and stream completes the circuit in the west - giving an area of 13.7ha. Although this is considerably smaller than the larger Cistercian precincts in the North: at Meaux (34ha), Furness (30ha), and Fountains (29.5ha), it is nevertheless similar to the smaller houses such as Stanley and Cleeve (both 11.3ha). The northeast part of this precinct held the conventual complex, with the most secluded portions of the abbey (such as the cemeteries) likely to lie to its east and northeast. The northwest part to the west of the cloister was probably an Inner Court, though no field evidence illustrates any of its details. To the south lay an Outer Court. The division between these two courts probably lay along the fragmentary stone wall to the south of the railway embankment. Its course may have been followed by the 17<sup>th</sup> century boundary east and up the natural escarpment, before turning north to meet the claustral range at the church (fig 2). The Inner Court was therefore contained primarily to the west and north of the abbey, with the Outer Court filling the remaining area of the precinct.

The entrance to the abbey precinct thus defined is not entirely clear, but it must have been somewhere off the Much Wenlock road. Apparently the most obvious candidate is in the area of the 17<sup>th</sup> century approach from the east, which was defined by an avenue of trees, and reasonably close to the ancient bridge over the River Severn (fig 2). It is also close to the junction between the Much Wenlock road and one that approaches the abbey from the direction of Abbey Grange Farm in the area of the Power Station (perhaps the documented monastic Home Grange). Although no gatehouses have been identified, it is interesting to note that just to the south of the church, and along the line of the Inner Court wall, is a building, which is the aligned on the 17<sup>th</sup> century avenue (fig 2). This building may have been a surviving monastic building, just possibly a gatehouse to the Inner Court. But in contradiction of this suggestion, an entrance route from the east would be quite contrary to a sense of structured and progressively restricted access within the monastic complex, with the most secluded eastern portions least accessible. An entrance off the Wenlock road at the southern end of the Outer Court is much more likely. It is even possible that buildings shown on the 1650 map in this location alongside the Wenlock road are the residue of a gatehouse complex. The very distinctive broad zone running north from these buildings, which is perpetuated by the zone occupied by the modern boundary, road and stream, would then be the access routeway though the Outer Court.

The White Monks were adept water engineers, sometimes undertaking ambitious projects in order divert water over considerable distances to provide water to their fishponds, mills and claustral buildings. The monks at Buildwas Abbey were no exception and it would appear

that there was just one main source of water – the stream from Wyke. This stream was evidently used for ponds and mills throughout the length of the valley (not surveyed). It provided power to drive a mill c500m to the south of the abbey; its tail-race flowed south to re-join the stream near the stone culvert (d). As the tail-race approached the culvert it probably divided and a leat followed the 50m contour along the edge of the south-east escarpment in the Outer Court (fig 1). Although it is no longer visible, a channel or leat is visible feeding into a pond on the 1650 map (fig 2).

The surveyed evidence does not afford decisive evidence about whether this chain of industrial facilities extended into the precinct. The two ponds in the Outer Court are distinctively different, one being much larger and deeper, with a much sharper profile than the other pond – though given its smaller size – not necessarily a fish pond. If the medieval arrangement of similar small ponds, in close association with a mill at (m), then some form of industrial complex may be in question. That it might have been the finishing stages of iron working is an important possibility, given the subsequent development of this industry in the immediate locality. The smaller pond, now much degraded by cattle poaching, is probably a monastic fishpond. It appears to be associated with the post-Dissolution house and formal garden, but may have nevertheless adopted or superseded an earlier monastic pond or ponds in this location.

One unresolved issue is how water was directed to the various parts of the conventual buildings. However, the area of the fishpond is slightly higher than the claustral range and it may be a possibility that a feeder channel from the leat leading to these ponds supplied the claustral area.

#### The post-Dissolution house, gardens, and park.

The second phase in the development of the landscape that is discernible in the earthworks occurred sometime after the mid-16<sup>th</sup> century, following the Dissolution. The conventual buildings were converted into a grand house and privy garden, with a formal garden, natural garden, park and warren covering the remainder of the precinct (fig 5). It would appear that the new courtyard house incorporated the monastic east range, the abbot's lodging (fig 6), and monks' infirmary in its design. The north and west ranges were levelled, and the nave aisles of the church dismantled, and a privy garden probably created in the area of the cloister garth. Certainly by the 17<sup>th</sup> century, the approach to the house was from the east (fig 2), along a treelined avenue from the Much Wenlock road. If (*as argued above*) the former access to the

abbey was from the south, this represents a re-orientation of access to the site that has been perpetuated by all subsequent developments.



Fig 5. Enlargement of the monastic buildings in 1650 (SRO: 6344)

To the west of the house, below the knoll on which the abbey was sited, the regularity of the earthworks indicates that a formal compartmentalised garden was created within the former Inner Court. This included a sunken garden in the L-shaped depression, which was divided into two compartments, the eastern one possibly a water garden with a small central 'island' (fig 7). Above this garden is a broad level terrace with a pond on the other side. Water was supplied from the site of the former monastic ponds in the Outer Court to the south, and along a constricted channel to the pond at the core of the garden. The ponds in 'South Field' appear to have been deepened in order to form a reservoir, or header tank for the garden pond. The level of the constricted channel is higher than the pond, and may have included a cascade between the two. A mill may also have occupied the southern end of the platform, near the constriction, thus combining ornament and function. To the west of the pond is another garden compartment, enclosed by a broad bank on three sides. This bank may have been used as a walk. The lower-lying ground to the west of this garden, on the alluvium, is almost devoid of earthworks and may have been a natural, or wilderness garden. The coherence of the whole complex suggests that it was laid out as a single event, probably at the same time that the house was built.



*Fig 6. The Abbot's lodging (viewed from the south)* 

The field to the south of the house, on higher ground, was known as 'Coney Wood' in the later 19<sup>th</sup> century (OS 1<sup>st</sup> edition map). This area, and land to the west covering the remainder of the former precinct, formed a park to the new house. It is probable that a rabbit warren existed here for much of the post-medieval period, which may have included pillow mounds and a warrener's lodge (fig 2). Unfortunately, extensive quarrying for sand in the latter half of the 20<sup>th</sup> century, has destroyed any earthwork evidence in this area of the Coney Wood (*for example* fig 8 and AP: CAP 8289/77 dated 15.6.50).

The creation of the post-Dissolution landscape probably occurred in the later 16<sup>th</sup> century when Edward, Lord Grey of Powys, took up residence here having sold the lordship and castle of Powys in 1587. (He had been granted Buildwas following the Dissolution, but it was not his main residence at this time). Buildwas was to remain in the Powys family until 1648 when it was sold to Sir William Acton, and on his death in 1650, it passed to Dame Elizabeth Whitmore.



Fig 7. The sunken garden looking north during a period of seasonal flooding. The course of the river is beyond the line of trees in the middle distance.

The fortunes of the house and garden declined in the 18<sup>th</sup> and 19<sup>th</sup> century and it became little more than a tenanted farmstead when the principal residence, then owned by the Moseley family, moved to Buildwas Park. The Moseley family were influential landowners and owned property elsewhere in the region; in 1757 Acton Moseley became sheriff of Staffordshire. They could also be described as agricultural 'improvers', particularly of livestock (see for example the illustration of Moseley, together with his tenant farmer and a Hereford cow in the grounds of the abbey (Baugh 1989, 118).

#### The floated water meadows

The irrigation, or floating of the water meadows, was one of the principal agricultural innovations of the post-medieval period and date from the mid-17<sup>th</sup> century, although they may have been known about in the county since the end of the 16<sup>th</sup> century (Edwards 1989, 153). The technology was expensive to implement and maintain but nevertheless was adopted by the more progressive landowners and capitalist farmers who were keen to 'improve' both their land and stock. The process of irrigation provided the essential warmer water across a meadow, and in this part of the country, would have enhanced the summer hay crop, unlike in Wessex where it used to encourage an earlier growth of grass in the Spring (Wade Martins & Williamson 1999, 206). The value and method of irrigation has been discussed at length (*see for example* Cook & Williamson 1999: Kerridge 1953; Bowie 1987).

However, unlike many chalk downland meadows in Wessex, in this case a stream rather than the river itself provided water to the main carrier. This necessitated rather complex levelling to ensure an even flow of water (fig 8).



Fig 8. An aerial photographic view dating to 1949 of the surveyed area. In the west are the water meadows which, together with 'the pond field', are flooded. The regular arrangement of carriers and drains is clearly visible. In 'the south field' the searchlight cluster is seen as a grouping of three circular enclosures with command and ancillary earthworks beyond (north is to the bottom).

It is unclear when the meadow at Buildwas was first floated but is likely to have been sometime in the mid-17<sup>th</sup> century or perhaps early-18<sup>th</sup> century when they are known to have been in operation elsewhere in the county (Edwards 1989, 153). During the 18<sup>th</sup> century, floated water meadows were particularly popular and 'all the farmers take every opportunity of throwing the water over their lands whenever they can', which in some cases resulted in a doubling of the hay-crop (Gaydon & Lawson 1972, 278). Despite floated water meadows in Wessex reaching a peak by the mid-19<sup>th</sup> century they may well have been in decline in Shropshire. Plymley, in his report to the Board of Agriculture on the state of agriculture in the county in the early 19<sup>th</sup> century, makes no mention of floated water meadows, which may suggest that the practice may have reduced in importance, or largely died-out, by this time (Plymley 1803). Nearly sixty years later another agricultural commentator commends the meadows on the Dudmaston Hall estate near Quatford but makes no mention of them elsewhere in the county (Tanner 1858, 19). At Buildwas the water meadow was probably abandoned by this time since the railway line was under construction (SRO: 2089/9/4/37); however, it is feasible that it was abandoned as early as 1801 when the railway line was first proposed.

#### 'Formalised water channel'

The final issue is the 'formalised water channel'. This has such a distinctive and well constructed appearance, adopting the much slighter line of one of the braided river channels, that there is a natural tendency to wish to identify its function and categorise it in some monument type - monastic fishpond or ornamental canal are two suggestions. Neither is supported by the specific form and associations of the feature. Neither would it function plausibly in the circumstances of seasonal inundation by the river that characterises the location. What is actually most distinctive about the 'channel' is its precise correspondence with the flanking banks that were constructed to bear the main carriers of the floated water meadow. It is evidently the source of material for these works. The 'channel' banks are essentially an extension of the causeway carrying the main carrier along the western side of the field. The 'channel', therefore, fulfilled two functions: as a main carrier; and as a main drain. The adaptation of the 'channel' into the floated water meadow illustrates well the time and enormous efforts, and probably expense, that were undertaken to improve the quality of the land during a period of agricultural enterprise.

#### METHODOLOGY and ACKNOWLEDGEMENTS

G Brown, P Everson, D Field and M Bowden carried out the field investigation and survey over a period of seven days. The survey was undertaken in two phases: first, 'pond field', which was surveyed using an electronic distance-measuring theodolite and involved a two-station traverse to survey the main earthworks and topographical detail. The second stage was a survey of the remaining two fields using GPS equipment and two GPS rovers. Taped offsets were used from a control network in both phases to survey the finer detail. In addition to the field survey and investigation, a day was spent on limited map research at the Shropshire Record Office. Although G Brown wrote the report it has benefited from comments and editing by P Everson and M Bowden.

English Heritage would like to acknowledge and thank Mr Tom Pickering of the Ironbridge Power Station for his assistance during the fieldwork. I am also grateful to Dr Paul Stamper who commented on an earlier draft and supplied the reference to the water meadow on the Dudmaston Hall estate.

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