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**DESK-TOP ASSESSMENT OF THE
ARCHAEOLOGICAL IMPLICATIONS OF
PROPOSED RESERVOIR CONSTRUCTION AT
WOODHALL SPA AND KIRKSTEAD,
LINCOLNSHIRE
(WSK98)**



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LINCOLNSHIRE
(WSK98)**

Work Undertaken For
Mr W. Nelstrop

February 1998

Report compiled by
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National Grid References: TF 193614 and TF 207618

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1. SUMMARY

A desk-top assessment was undertaken to determine the archaeological implications of a proposed reservoir to be constructed at either of two locations in the area of Kirkstead and Woodhall Spa, Lincolnshire.

Prehistoric settlement has been identified, predominantly in the eastern part of the investigation area, and comprises Neolithic (4200-1800 BC) and Bronze Age (1800-800 BC) settlement. Southwest of Woodhall Spa, two Iron Age (800 BC-AD 50) sites are known and include a large multi-ditched enclosure.

Within 500m of the proposed western site for a reservoir lies the remains of Kirkstead Abbey, founded in 1139. Now surviving as earthworks, this site was part of a much larger complex that included drainage features, enclosures and the extant structure of St. Leonard's church. Part of the medieval drainage works extend into the proposed western reservoir site.

Both sites were walked over as part of the assessment. Clay pits, obviously cut into natural deposits, were evident at both locations although are probably limited in their extent. No archaeological finds or features were observed at either location.

Ground conditions were generally conducive to geophysical survey.

2. INTRODUCTION

2.1 Planning Background

Archaeological Project Services was commissioned by Mr W. Nelstrop to undertake a desk-top assessment of land near Woodhall Spa, Lincolnshire. This was

in order to determine the archaeological implications of a proposed agricultural reservoir. The archaeological assessment was undertaken in accordance with a specification designed by Archaeological Project Services and approved by the Assistant Archaeology Officer, Lincolnshire County Council (Appendix 1).

A desk-top assessment is defined 'as an assessment of the known or potential archaeological resource within a specified area or site on land, consisting of a collation of existing written and graphic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional, national or international context as appropriate' (IFA 1994).

2.2 Topography and Geology

Woodhall Spa is located 10km southwest of Horncastle and 22km southeast of Lincoln, in the valley of the River Witham (Fig. 1).

Two proposed areas have been defined as preferred sites for the reservoir. These two sites are located on either side of the Tattershall Road, at National Grid References TF 193 614 and TF 207 618 (Fig. 2). The site lying west of Tattershall Road is rectangular in shape and approximately 4 hectares in extent. The site to the east of the road is L-shaped and approximately 7 hectares in area. The two areas are situated at heights of 5m OD and 10m OD respectively.

Detailed soil mapping has occurred across the area west of Tattershall Road, where local soils are predominantly of the Aldeby Association, typically sandy loam or loamy sand (Robson *et. al.* 1974, 31). Areas of Nocton, Downholland and Isleham

Association soils also cross the proposed western reservoir site and comprise humose and peaty soils, possibly developed in former tributaries of the Witham (*ibid.* 26). The eastern site lies on soils of the Blackwood Association, typically sandy and coarse loamy soils developed in glacial drift (Hodge *et. al.* 1984, 127).

These soils overlie a drift geology of predominantly sand and gravel deposits that comprise the second river terrace of the Witham (BGS 1995). The sand and gravel has thicknesses of between 1.5m and 1.8m south of Woodhall Spa, but is absent in areas south of Kirkstead Abbey (Jackson 1982; Power and Wild 1982). The sand and gravel overlies boulder clay or till which in places exceeds 13m in depth (*ibid.*). Beneath drift deposits lies a solid geology of Jurassic clays of the Ancholme Group (BGS 1995).

The investigation area and its surrounds form an area of slightly undulating ground sloping westward down to the River Witham. The proposed western site lies at the base of a slight east-west valley, possibly the site of a former stream course to the Witham.

3. AIMS

The aims of the desk-top assessment were to locate and, if present, appraise known archaeological sites in the vicinity and to determine the archaeological potential of the proposed development area. Such location and assessment of significance would permit the formulation of an appropriate response to integrate the needs of the archaeology with the proposed development programme.

Further to the above, statutory and advisory heritage constraints were identified as well as the physical and Health and Safety

restrictions.

4. METHODS

Compilation of the archaeological and historical data relevant to the area of the proposed development site involved examination of all appropriate primary and secondary sources available. These have included:

- historical documents, held in Lincolnshire Archives
- enclosure, tithe, parish and other maps and plans, held in Lincolnshire Archives
- recent and old Ordnance Survey maps
- the County Sites and Monuments Record
- archaeological books and journals
- place-name evidence

Information obtained from the literature and cartographic examination was supplemented by a walk-over survey of the proposed development site. This walk-over survey investigated the present land-use and condition; the extent of hardstanding and other firm surfaces; the presence, or otherwise, of dumped materials; and the appropriateness for geophysical survey.

Results of the archival and field examinations were committed to scale plans of the area.

5. RESULTS

5.1 Historical Data

Kirkstead is first mentioned in the Pipe Rolls of 1157. Referred to as *Chirchesteda*, the name is derived from a slightly

Scandinavianized form of the Old English *ciricstede* meaning the site of a church (Ekwall 1974, 280). Woodhall possibly has an earlier origin as this is mentioned in the Danelaw Charters and is derived from the Old English meaning a hall in the wood (*ibid.* 531).

There are no entries for either location in the Domesday Survey of 1086. It is likely that the land was held by Eudo from one of the surrounding manors at either Tattershall Thorpe, which had a church, or Kirkby-on-Bain (Foster and Longley 1976).

Hugh, son of Eudo and Lord of Tattershall, gave land for monks of the Cistercian order to build Kirkstead Abbey in 1139 (Page 1988, 135). The first location chosen for the monastery was unsuitable as it lay within a marsh and was not large enough. Leave to move to a suitable location was granted by Robert, the son of Hugh, in 1187. However, a certain amount of controversy surrounds details regarding the move to a new location and the date of the charter, as Robert is thought to have died before 1185 and the architectural styles are thought to predate 1175 (RCHME n.d., 1).

Despite the discrepancies in the early history of the abbey, it is known that Kirkstead prospered in the first one hundred years of its existence. The tax returns for 1291 give a value of between £345 and £369 (RCHME n.d., 2; Page 1988, 137). The basis of this wealth relied on the large sheep flocks kept by the abbey at Kirkstead and granges in Lincolnshire and Yorkshire. The land they owned in the vicinity included the manor of Woodhall and the profits from the rectory of Woodhall church (Page 1988, 137). Up to 40 sacks of wool per year were being produced at Kirkstead and represents, along with Revesby and Spalding, the highest in the county (Owen 1981, 66). Alternative

sources of revenue came from quarries in the Wolds and salterns, salt-producing sites, at Fishtoft (*ibid.* 68). Fishing in the River Witham was also of a prime interest and a grant was given to the Abbot extending its fisheries over the Witham valley between 1239-45, thus allowing the abbey to fish freely during floodtimes (Hallam 1965, 103).

Between 1230-40, Kirkstead Abbey was responsible for building the small church of St. Leonard south of the abbey. The history of this church is overshadowed by the abbey, although it has been referred to as '*chapel ante portas*', meaning Gate Chapel (Pevsner and Harris 1989, 418).

Kirkstead Abbey achieved notoriety in the Lincolnshire Rising of 1536. After the rising the Abbot and three monks were arrested and tried at Lincoln for treason (Ward 1996, 36). Following their execution in 1537, it was ordered that the lead roof of Kirkstead was to be removed and '*melted and cast into foddors*' (Hodgett 1975, 51). Following the dissolution, the lands of Kirkstead Abbey passed to Charles Brandon, Duke of Suffolk.

Not much is known regarding Kirkstead following the dissolution. It is known that a Francis Moody was employed as a potter at Kirkstead in the early 17th century (LAO LCC Admin 1610/179). Kirkstead is also recorded as maintaining boats between 1550 and 1612 (Pawley 1993, 58).

The village of Woodhall, located north of the present town of Woodhall Spa, would appear to have become deserted during the medieval period.

Woodhall Spa came into existence at the beginning of the 19th century. At this time there was a great need for coal to support the Industrial Revolution. A shaft was excavated

in 1811 looking for coal on the Moor. This filled with water which contained a high mineral content and thought suitable for therapeutic purposes (Wright 1982, 59). As a result the first baths were opened in 1836 (*ibid.* 65). The town was later developed during the 1880s by a group of 'Lincolnshire Gentlemen' and the arrival of the railway ensured it received 47,000 visitors in 1889 (Olney 1979, 170).

5.2 Cartographic Data

The area under investigation is located south of the town of Woodhall Spa. Appropriate maps of the vicinity were examined.

The earliest depiction of Kirkstead Abbey is of a plan drawn by William Stukeley, an 18th century antiquarian (Fig. 3). The plan shows Stukeley's interpretation of the abbey layout based on the surviving earthworks and foundations at that time. However, the plan is unlikely to be accurate and does not depict the surrounding landscape.

Armstrong's '*Map of Lincolnshire*', dating from 1788 represents one of the earliest detailed maps of the county (Fig. 4). Kirkstead is shown as a cluster of buildings lying adjacent and to the northeast of the abbey. North of this village a building is depicted as being a schoolhouse. The area now occupied by Woodhall Spa was largely open ground and named Common Moor. The western proposed reservoir site is located on the periphery of Birdhay Wood, which extended south along the eastern banks of the Witham. The eastern reservoir site was on open ground on Common Moor.

No Enclosure Award is available for Kirkstead as it was enclosed prior to the Inclosure Acts of between 1780 and 1850. Likewise, Kirkstead was a tithe free manor

so no Tithe Award was made.

Bryant's *Map of the County of Lincoln* (1828) indicates the area of Kirkstead (Fig. 5). The abbey is shown and small buildings are depicted on the site. The proposed western reservoir site is shown as open ground. Further east, the proposed eastern site lies within a dense area of woodland, Tattershall Thorpe Plantation, of which the present Hogg Wood is a remaining portion.

The First Edition 1" Ordnance Survey map of Lincoln represents the earliest accurate map of Kirkstead and Woodhall Spa (Fig. 6). The map dates from the late 19th century but is based on surveys made in the 1820s, with the addition of railways and added details around towns. The area of Kirkstead Abbey had remained unchanged from Bryant's map and Hogg Wood is still within larger tracts of woodland, this time named as Tattershall Park. However, the First Edition 6" Ordnance Survey maps of 1890 (Figs. 7 and 8) are the first to show detail, such as clay pits located in both investigation areas and Hogg Wood as a separate entity.

Subsequent maps, including the 2nd Edition 25" Ordnance Survey plans of 1905 (Figs. 9 and 10) show little change. Later editions show the gradual expansion of Woodhall Spa and the layout of the 1939-45 airfield.

5.3 Aerial Photograph Data

A considerable number of aerial photographs have been taken of the Kirkstead Abbey site of which at least two are known to be published (Platt 1984, 197; Start 1993, 100). Other photographs are held in the parish files of Heritage Lincolnshire and include three photographs showing the relationship between the abbey and St. Leonard's church (HTL SO73-5). The

proposed location of the western reservoir is shown clearly and was under a light crop at the time. However, a soilmark indicates the presence of an east to west aligned feature, possibly a ditch running through the site of the proposed reservoir.

Two further photographs located in the parish files depict Woodhall Spa airfield (HTL S125-6). The location of the proposed eastern reservoir appears on the edge of the photograph. The field had recently been ploughed and there are no indications of archaeological features.

The County Sites and Monuments Record also hold a number of aerial photographs. Again most are of Kirkstead Abbey and were taken over a number of years. A single photograph depicts the area of the proposed eastern reservoir (Uncoded photograph, ascribed to P. Everson). This photograph appears to show a gridded field system unaligned to present field boundaries in the north portion of the field (SMR 40418). Land to the north of this area, alongside the stream known as The Sewer, are depicted on two further photographs. These show a complex of enclosures, droveways and a large circular feature evident as cropmarks (CUCAP: CDK34 and 36). They are believed to be prehistoric in date and the density and type of cropmark may indicate settlement (SMR 40411). These photographs were plotted onto Figure 11 using the Möbius Network method as described by Scollar (1975, 52).

Additionally, plots of aerial photographs made of the area have been examined. These include the RCHME 1:10,000 map sheet plot (Sheet TF 16 SE) and the RCHME archaeological survey of Kirkstead Abbey (nd, Appendix 4), of which the photographs used are given as Appendices 1, 2 and 3. Further plots made by the South

Lincolnshire Archaeology Unit have been utilised and include plots of the field systems to the south and west of Kirkstead Abbey. However, no list of photographs used for this plotting is available.

5.4 Archaeological Data

Records of archaeological sites and finds are held in the Lincolnshire County Sites and Monuments Record. Other, secondary, sources were also examined. Details of archaeological and historical remains falling within 1km of the proposed development areas are collated in Table 1 and committed to Fig. 11.

Map Code No.	Sites and Monuments Record No.	Description	National Grid Reference
1	40116/43629	Kirkstead Abbey, 12 th century	TF 1888 6165
2	40097	St. Leonard's Church, 13 th century	TF 1902 6138
3		Old Hall, Kirkstead, 16 th century	TF 1870 6218
4		Old Abbey Farm, Kirkstead, 18 th century	TF 1909 6098
5	40113	Abbey Lodge Inn, Kirkstead, 19 th century with medieval cellars	TF 1945 6196
6		Leaf shaped sword, Late Bronze Age	TF 1946 6228
7		Watching Brief, Undated pit	TF 1908 6099
8		Site of post-medieval water mill, possible medieval forerunner	TF 187 602
9	40085	Neolithic polished stone axe	TF 1821 6297
10	43238	Iron Age settlement, Watching brief/Evaluation	TF 1803 6219
11	40411	Cropmarks, Prehistoric? Enclosures	TF 1974 6190
12	43332	Neolithic flint scatter	TF 2120 6055
13	40133	Neolithic polished stone axe	TF 2143 6020
14	43239	Post-medieval drainage gullies	TF 1803 6219
15	40108	Post-medieval pottery kiln, site of	TF 1872 6161
16	40098	Medieval earthworks, part of abbey complex	TF 1898 6125
17	40418	Cropmarks, undated gridded features	TF 2052 6214
18	43333	Early Bronze Age flint scatter	TF 2120 6055
19	40129	Prehistoric stone axe	TF 2163 6022
20	40110	Medieval boat	TF 1955 6255
21	40408	Undated linear cropmarks	TF 1830 6220
22	40104	Undated cropmarks, old field systems, circular feature and droveways	TF 194 613
23	43003	Hogg Wood, ancient woodland	TF 204 618
24	40130	Supposed Romano-British site	TF 215 608
25	40415	Cropmarks, undated field boundaries	TF 1925 6222
26	40114	Undated, post mill, site of	TF 1815 6188
27	40112	Medieval, Abbot's kitchen, site of	TF 1895 6160
28	43397	Modern, airfield	TF 215 612

29	40132	Prehistoric stone axe	TF 218 604
30	40102	Bronze Age sword fragment	TF 1925 6228
31	40099	Medieval fishponds and earthworks	TF 1850 6192
32	40106	Medieval pottery	TF 189 617
33	40096	Cropmark, Iron Age multivallate enclosure	TF 196 610
34	43474	Post-medieval? Enclosure	TF 2117 6116
35	43054	Bronze Age sword	TF 2076 6029
36	40416	Cropmarks, Prehistoric ditches and enclosures	TF 1974 6190
37	40105	Medieval pottery	TF 1887 6185
38	40109	Reused medieval masonry, Abbey Farm	TF 1919 6186
39	40414	Cropmarks, Undated field system	TF 1920 6045
40	43472	Late Neolithic/Early Bronze Age flint	TF 2137 6109
41	40432	Cropmarks, Prehistoric field systems	TF 2054 60130
42	40094	Medieval moat, site of	TF 1865 6223
43	43473	Late Neolithic/Early Bronze Age flint	TF 2137 6109
44	40131	Prehistoric stone axe	TF 214 601

Table 1: Archaeological Sites in the Vicinity

Prehistoric Archaeology

Neolithic and Early Bronze Age (4000-1800 BC) stone tools represent the earliest finds from the investigation area. Generally, these finds, usually flint tools but also including polished stone axes, have been made in the vicinity of Tattershall Thorpe and Woodhall Spa airfield. This apparent concentration represents the location of recent fieldwork in advance of gravel extraction (Field and George 1996, 62). The apparent absence of finds from adjacent fields may reflect only a lack of fieldwork there. Lying just west of the investigation area, is the Neolithic site of Tattershall Thorpe, which looks over the River Bain and was excavated in 1981 (Chowne *et al.* 1993, 79). Little evidence for settlement was found, apart from a few postholes, but the concentration of struck

flints possibly indicated rubbish deposits within very shallow features that had not survived subsequent ploughing.

The westernmost of the proposed reservoir sites lies in a valley which is an extension of the Witham Valley. The landscape development of the Witham Valley is poorly understood but widespread flooding is known to have occurred. Indeed, radiocarbon dates from the basal peat deposits in the valley floor west of Woodhall Spa range from 4205± 110 BP to 3620± 130 BP at altitudes estimated at between -1.7m OD to 0m OD (Waller 1994, 284).

Later Bronze Age (1400-800 BC) presence is indicated by three sword fragments, two

found near Kirkstead Hall (Fig. 11, Nos. 6 and 30) and one found near Tattershall Thorpe (No. 35). From this limited evidence, no indication of a permanent settlement of this period can be ascertained. Although found close to the Witham, these swords probably do not represent votive offerings.

Iron Age (800 BC-AD 50) settlement has been identified at two locations (Fig. 11 Nos. 10 and 33). The first of these, alongside Witham Road, was partially excavated to reveal a 3.5m wide boundary ditch, two gullies and a pit sealed beneath a thin layer of alluvium, as well as pottery, a loomweight and quantities of slag (Taylor and McDaid 1996). The second site lies to the south of Kirkstead Abbey on a slight promontory. The site has only been identified from aerial photographs that show a large triple ditched enclosure with annexes to the south and east. The size of this enclosure, covering about 0.8ha, is only slightly smaller than the Iron Age hillfort at Honington, near Ancaster.

Romano-British Archaeology

Romano-British (AD 50-410) settlement is restricted to a single site (Fig. 11, No. 24), although there is a degree of controversy surrounding the date. It was reported in 1929 as comprising earthworks of banks and ditches, although fieldwalking undertaken recently did not identify any Roman pottery (SMR 40130).

Medieval Archaeology

The medieval period (1066-1500) is best represented by the remains of Kirkstead Abbey (Fig. 11, No. 1), and comprise an outer bank and moat, the earthworks of individual buildings as well as a surviving fragment of the south transept wall. Most of these remains are associated with the supposed 1187 buildings that replaced an

earlier abbey, although recent work by the RCHME have identified the possible remains of a post-dissolution house (nd, 2). Furthermore, three mounds located within the precinct have been identified as being associated with post-medieval pottery kilns (Wilson 1972, 12; Marjoram 1973, 43; White 1977, 71).

The abbey complex also includes the extant remains of St. Leonard's chapel and cropmarks indicate an elaborate system of drainage, enclosures and fishponds. Some of the cropmarks enter the western proposed site for a reservoir and are likely to represent drainage along the slight stream valley at this location.

Other medieval finds include the possible site of a moated enclosure (Fig. 11, No.42) near Old Hall Farm, supposed medieval vaulted cellars beneath Abbey Lodge Inn (Pevsner and Harris 1989, 418) and a boat found whilst digging for clay (Fig. 11, No. 20).

Post-medieval Archaeology

Post-medieval archaeology is well represented by a number of surviving buildings including Old Hall, Old Abbey Farm and Abbey Lodge Inn, all listed buildings of which some incorporate reused masonry from Kirkstead Abbey. Apart from the pottery kilns and post-dissolution house on the site of the abbey a number of gullies and field systems of this period are also known (Fig. 11, Nos. 14 and 34).

5.5 Walk-over Survey

A site visit was undertaken on 13th February 1998 to assess the possible level of surviving archaeological deposits and to identify hitherto unknown archaeological sites. Visibility was good.

Proposed western site

The proposed western site lies in the southern portion of a field at the base of a slight east-west valley. This valley is accentuated by a noticeable break of slope, possibly representing the distinction between underlying sand and gravel of the higher ground and the boulder clay within the valley. The valley opened out into the Witham Valley and probably from the early second millenium BC onwards would have been marshy and probably peat filled. The field had not been ploughed and a covering of grass was evident. The grass had recently lain underwater. Three recent test pits were noted and, although these had been backfilled, it was possible to ascertain that there was little sand and gravel at these locations. No finds were made and there was no indication in the form of earthworks or soilmarks to locate the presence of ditches known from aerial photographs to traverse this area. Conditions were suitable for geophysical survey, although lumps of iron-panning were noted in the backfill of the test trenches which may affect results. The proposed site is clearly visible from the remains of Kirkstead Abbey.

Proposed eastern site

The field in which the proposed eastern site is located had recently been ploughed and was well weathered. A number of soil marks were visible on the surface of the field but are likely to be associated with underlying geology and the former extent of Hogg Wood. No finds were made and no archaeological features observed. The conditions were thought suitable for geophysical survey.

6. CONSTRAINTS

6.1 Heritage Constraints

Statutory and Advisory Constraints

The two proposed sites do not lie within a Scheduled Ancient Monument protected by the Ancient Monument and Archaeological Areas Act of 1979 (HMSO 1979). However, the western site lies close to the Scheduled Monument of Kirkstead Abbey (County No. 6, English Heritage 1996, 10).

There are also a number of listed buildings in close proximity to the investigation area and include St. Leonard's church, Old Hall, Abbey Farm and Abbey Lodge Inn (DoE 1987).

As such, any archaeological remains within the area of the proposed reservoirs are protected only through the implementation of PPG16 (DoE 1990).

6.2 Other Constraints

No other constraints have been recognised within the immediate vicinity of the two proposed locations for the new reservoir. A nature reserve is located to the north and east of Ostler's Plantation, although is not a Site of Special Scientific Importance (SSSI).

The site of a former airfield adjacent to the eastern location (Hancock 1978) may present certain health and safety concerns. There is possibility of contamination of the soil from fuel and other sources.

7. ASSESSMENT OF SIGNIFICANCE

For assessment of significance the *Secretary of State's criteria for scheduling ancient monuments* has been used (DoE 1990, Annex 4; See Appendix 2).

Period

Activity dateable from the Neolithic period to the modern day has been recognised within the investigation area. The extent of the prehistoric activity is not fully understood, although appears superficially to be concentrated on ground overlooking the River Bain. Cropmarks to the southeast and south of Woodhall Spa indicate that a prehistoric presence is more widespread. Such features are characteristic of the prehistoric period. Medieval evidence seems to be restricted to the vicinity of, and include, Kirkstead Abbey.

Rarity

Prehistoric settlement, as indicated by finds of stone tools and pottery and enhanced by cropmarks of field systems and enclosures are not particularly rare and are typical of the periods represented. However, all sites of this period are likely to contain rare or unusual features.

Medieval monastic establishments are not rare and several are located in the general proximity (Tupholme, Bardney, Barlings *etc*). However, the main abbey precincts are considered nationally important and, as such, are a scheduled ancient monument. A complex of waterways, as identified from aerial photographs, form a rare aspect of the site.

Documentation

Records of archaeological sites and finds made in the Kirkstead and Woodhall Spa area are kept in the Lincolnshire Sites and Monuments Record. Synopses of nearly all the archaeological work carried out in the vicinity have previously been produced.

There are contemporary records relating to Kirkstead Abbey which are best summarised in the *Victoria County History* (Page 1988).

The present report provides the first site-specific consideration of the archaeological and historical aspects of the proposed development area.

Group value

Moderately high group value can be ascertained from the cluster of Prehistoric site, medieval religious remains and post-medieval occupation and industry.

Survival/Condition

Both of the proposed sites for reservoirs lie in areas that contain old clay pits. However, these clay pits are limited in extent. Ploughing has occurred on both sites. Therefore, damage to any underlying archaeology can be expected.

Fragility/Vulnerability

As the proposed reservoir will impact the investigation area, into natural strata, any and all archaeological deposits present on the site are extremely vulnerable. Furthermore, the construction of a reservoir will have the affect of dewatering the immediate vicinity, especially if any of the abbey's water management features are waterlogged.

Diversity

Moderate functional diversity is indicated in the vicinity of the site by the association of prehistoric settlement and a religious establishment. This is further enhanced by association with post-medieval pottery production and occupation.

Moderate to high period diversity is suggested by the prehistoric settlement north of Hogg Wood and the medieval monastery of Kirkstead.

Potential

Potential exists for part of Kirkstead Abbey's elaborate drainage system to fall

within the area of the proposed western reservoir and for prehistoric settlement in the proposed eastern extension.

8. CONCLUSIONS

The concentrations of archaeological finds and observations represent occupation and use of Kirkstead and Woodhall Spa in the past. The proposed site for a western reservoir lies just outside of the core of the medieval complex associated with Kirkstead Abbey, although aerial photographs depict medieval drainage features impinging on the site. Kirkstead Abbey would appear to have been continually occupied during the medieval period and possibly until the 19th century, as the buildings depicted on early maps suggest. At present, the only extant features on the proposed site is a clay pit, one of a series which continues to the south. The original date of the clay pit is not known but it first appears on the 1st Edition Ordnance Survey map. The low-lying valley in which the proposed reservoir lies is likely to have been boggy and peat filled until the medieval period.

Archaeological finds and aerial photographs indicate a substantial presence in the vicinity of the proposed site of a eastern reservoir during the Neolithic and the Bronze Age. However, apart from Hogg Wood and cropmarks in the north portion of the field, no archaeological information is known from the proposed site. Interpretation of cartographic evidence has indicated that this area had, in the 19th century, been part of extensive woodland, of which Hogg Wood is a remaining portion. However, there is no evidence for woodland at that point in the 18th century when Armstrong's map shows the site in 'Common Moor'.

9. ACKNOWLEDGEMENTS

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10. REFERENCES

All of the following sources were consulted in the data-gathering exercise. However, as some references duplicated information available in others, not all of them have been specifically referred to in the text.

BGS, 1995, *Horncastle, Solid and Drift geology*, 1:50,000 map sheet 115

Bristow, J., 1994 *The Local Historian's Glossary and Vade Mecum*

Chowne, P., Healy, F. and Bradley, R., 1993, 'The Excavation of a Neolithic Settlement at Tattershall Thorpe, Lincolnshire', in Bradley, R., Chowne, P., Cleal, R.M.J., Healy, F and Kinnes, I., *Excavations on Redgate Hill, Hunstanton, Norfolk, and at Tattershall Thorpe, Lincolnshire*, East Anglian Archaeology Report No. 57

DoE, 1987, *List of Buildings of Special Architectural or Historic Interest: District of East Lindsey, Lincolnshire*

DoE, 1990 *Archaeology and Planning, Planning Policy Guidance note 16*

- Ekwall, E., 1974 *The Concise Oxford Dictionary of English Place-Names* (4th ed)
- English Heritage, 1996, *County List of Scheduled Monuments, Lincolnshire*
- Field, N. and George, I., 1996, 'Archaeology in Lincolnshire', *Lincolnshire History and Archaeology* Vol. 31
- Field, N. and Tann, G., 1997, *Woodhall Spa, Roeze Close (off Witham Road), Archaeological Watching Brief*, Unpublished LAS report
- GSB, 1997, *Report on Geophysical Survey, Woodhall Spa*, Unpublished report No. 97/08
- Hallam, H.E., 1965, *Settlement and Society: A study of the early agrarian history of south Lincolnshire*
- Hancock, T.N., 1978, *Bomber County, Lincolnshire History Series No. 2*
- HMSO, 1979 *Ancient Monuments and Archaeological Areas Act*
- Hodge, C.A.H., Burton, R.G.O., Corbett, W.M., Evans, R. and Seale, R.S., 1984 *Soils and their use in Eastern England*, Soil Survey of England and Wales 13
- Hodgett, G.A.J., 1975, *Tudor Lincolnshire, History of Lincolnshire Vol. VI*
- IFA, 1994 *Standard and Guidance for Archaeological Desk-based Assessments*
- Jackson, I., 1982, *The Sand and Gravel resources of the county north and west of Woodhall Spa, Lincolnshire*, Mineral Assessment Report 94
- Marjoram, J., 1973, 'Archaeological Notes, 1972', *Lincolnshire History and Archaeology* Vol. 8
- Mouraille, R., 1995, *Archaeological Watching Brief for a Development at Old Abbey Farm, Kirkstead, Lincolnshire (KAF 95)*, Unpublished APS report
- OAL, 1994, *Woodhall Chase, Woodhall Spa, Lincolnshire*, Unpublished report
- Olney, R.J., 1979, *Rural Society and County Government in Nineteenth-Century Lincolnshire*, History of Lincolnshire Vol. X
- Owen, D.M., 1981, *Church and Society in Medieval Lincolnshire*, History of Lincolnshire Vol. V
- Owen, D.M., 1989, 'A Kirkstead Abbey Valuation of 1537', in *Lincolnshire History and Archaeology*, Vol. 24
- Page, W., 1988, *The Victoria History of the County of Lincoln II* (Reprint)
- Palmer-Brown, C., 1994, *Land off Witham Road and Alexandra Road, Woodhall Spa, Lincolnshire: An Archaeological Assessment*, Unpublished PCA report
- Pawley, S., 1993, 'Maritime Trade and Fishing, 1500-1700, in (Eds) Bennett, S. and Bennett, N., *An Historical Atlas of Lincolnshire*
- Pevsner, N. and Harris, J., 1989, *Lincolnshire. The Buildings of England* (2nd edition revised Antram, N.)
- Platt, C., 1984, *Medieval Britain from the Air*
- Power, G. and Wild, J.B.L., 1982, *The Sand and Gravel resources of the county south of Horncastle, Lincolnshire*, Mineral

Priest, V., 1994, *Report on a Watching Brief at Abbey Farm, Kirkstead*, Unpublished TPAT report

RCHME, nd, *Kirkstead Abbey, Lincolnshire: Archaeological Survey Report*

Robson, J.D., George, H. and Heaven, F.W., 1974, *Soils in Lincolnshire 1: Sheet TF16 (Woodhall Spa)*. Soil Survey Record No. 22

Scollar, I., 1975, 'Transformation of extreme oblique aerial photographs to maps or plans by conventional means or by computer' in Wilson, D.R. (Ed), *Aerial reconnaissance for archaeology*, CBA Research report No. 12

Start, D., 1993, *Lincolnshire from the Air*

Taylor, C. and McDaid, M., 1996, *Archaeological Evaluation: Proposed Residential development, Witham Road, Woodhall Spa*, Unpublished LAS report

Waller, M., 1994, *The Fenland Project Number 9: Flandrian Environmental Change in Fenland*, East Anglian Archaeology 70

Ward, A., 1996, *The Lincolnshire Rising 1536*

White, A.J., 1977, 'Archaeology in Lincolnshire and South Humberside, 1976', *Lincolnshire History and Archaeology* Vol. 12

Wilson, C.M., 1972, 'Archaeological Notes, 1971', *Lincolnshire History and Archaeology* Vol. 7

Wright, N.R., 1982, *Lincolnshire Towns and Industry 1700-1914*, History of Lincolnshire

11. ABBREVIATIONS

APS	Archaeological Project Services
BGS	British Geological Survey
CBA	Council for British Archaeology
DoE	Department of the Environment
GSB	Geophysical Surveys of Bradford
HMSO	Her Majesties' Stationary Office
IFA	Institute of Field Archaeologists
LAO	Lincolnshire Archive Office
LAS	Lindsey Archaeological Services
OAL	Oxford Archaeotechnics Ltd
PCA	Pre-Construct Archaeology
RCHME	Royal Commission on the Historical Monuments of England
SMR	County Sites and Monuments Record number
TPAT	Trent and Peak Archaeological Trust

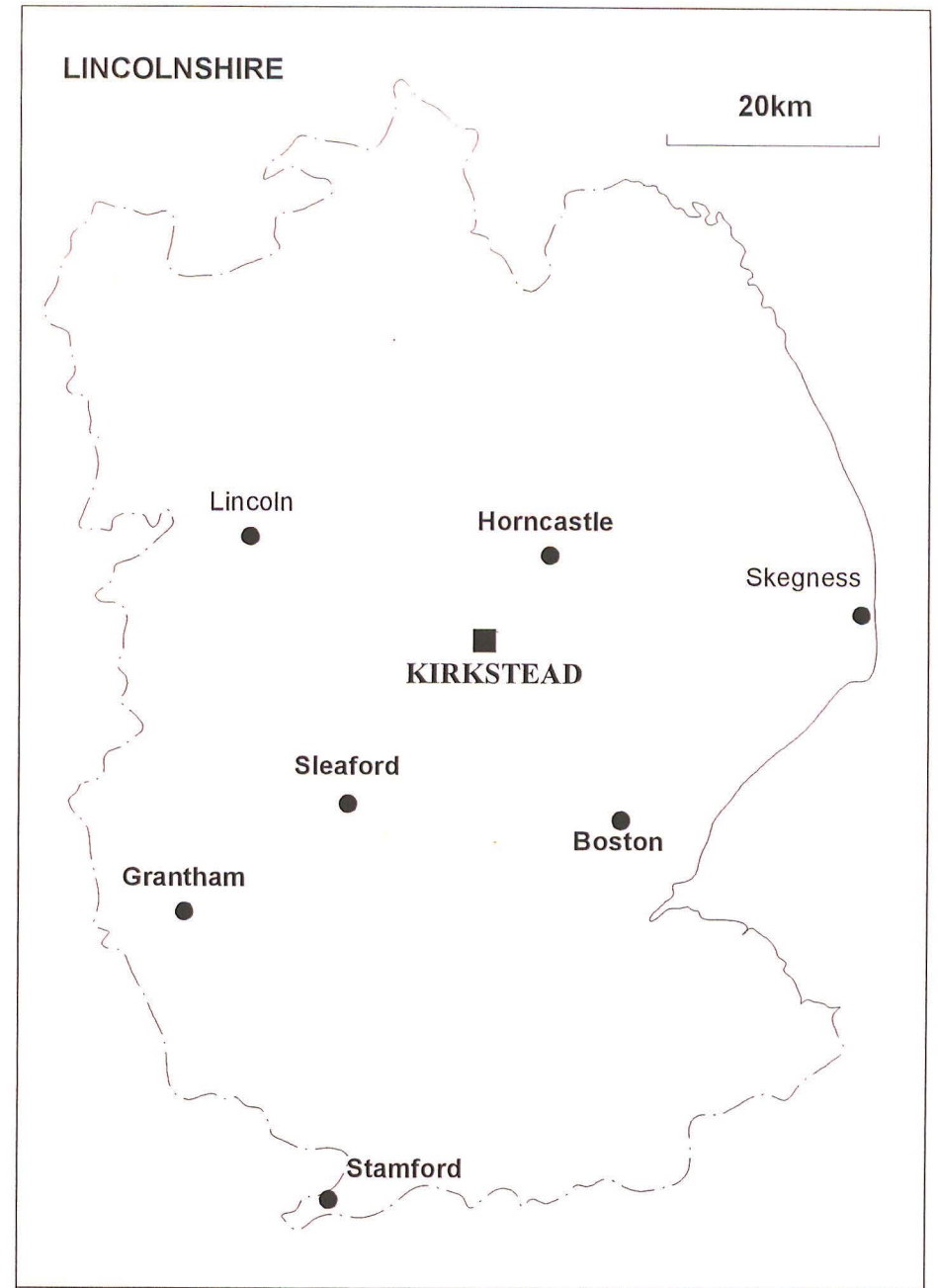
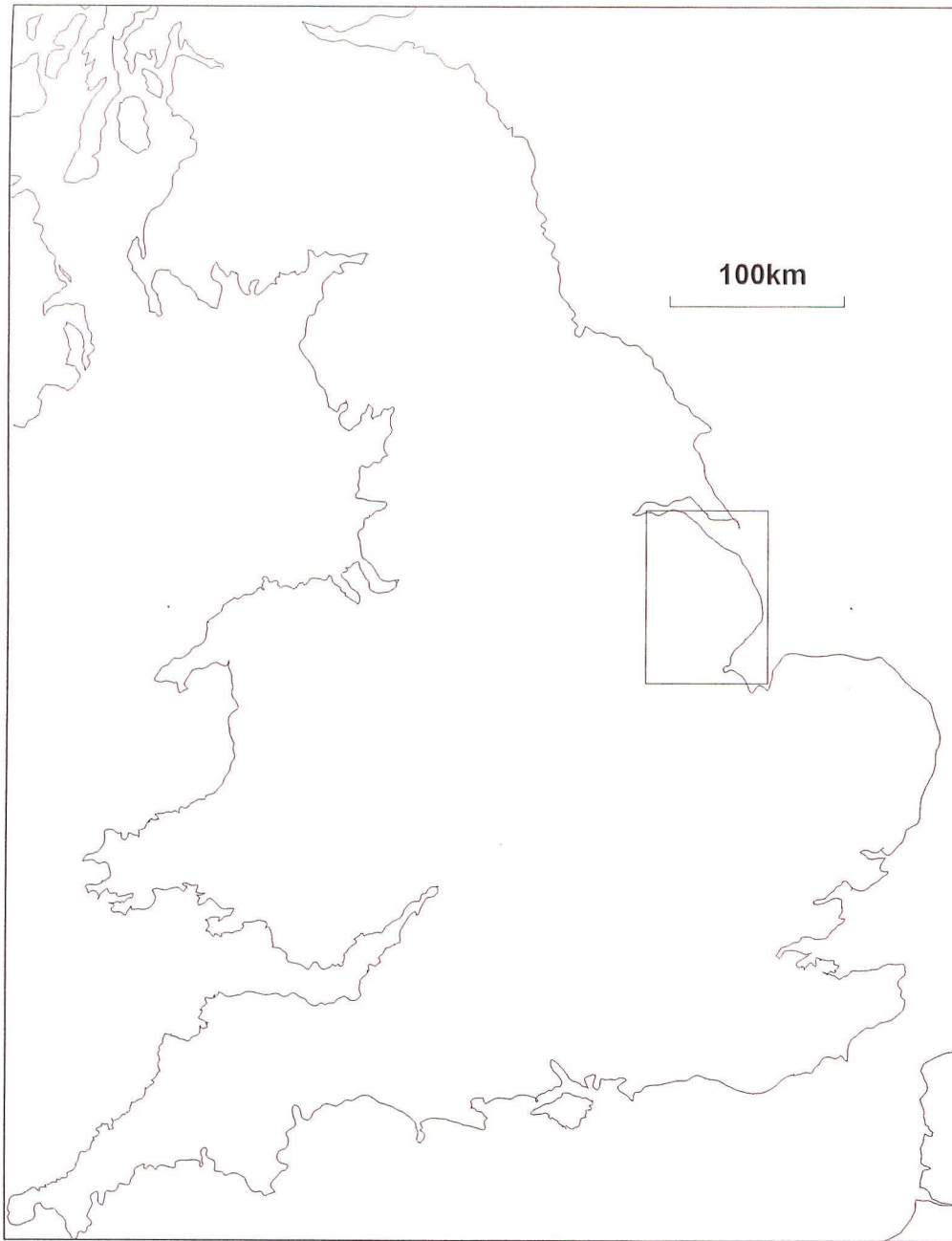
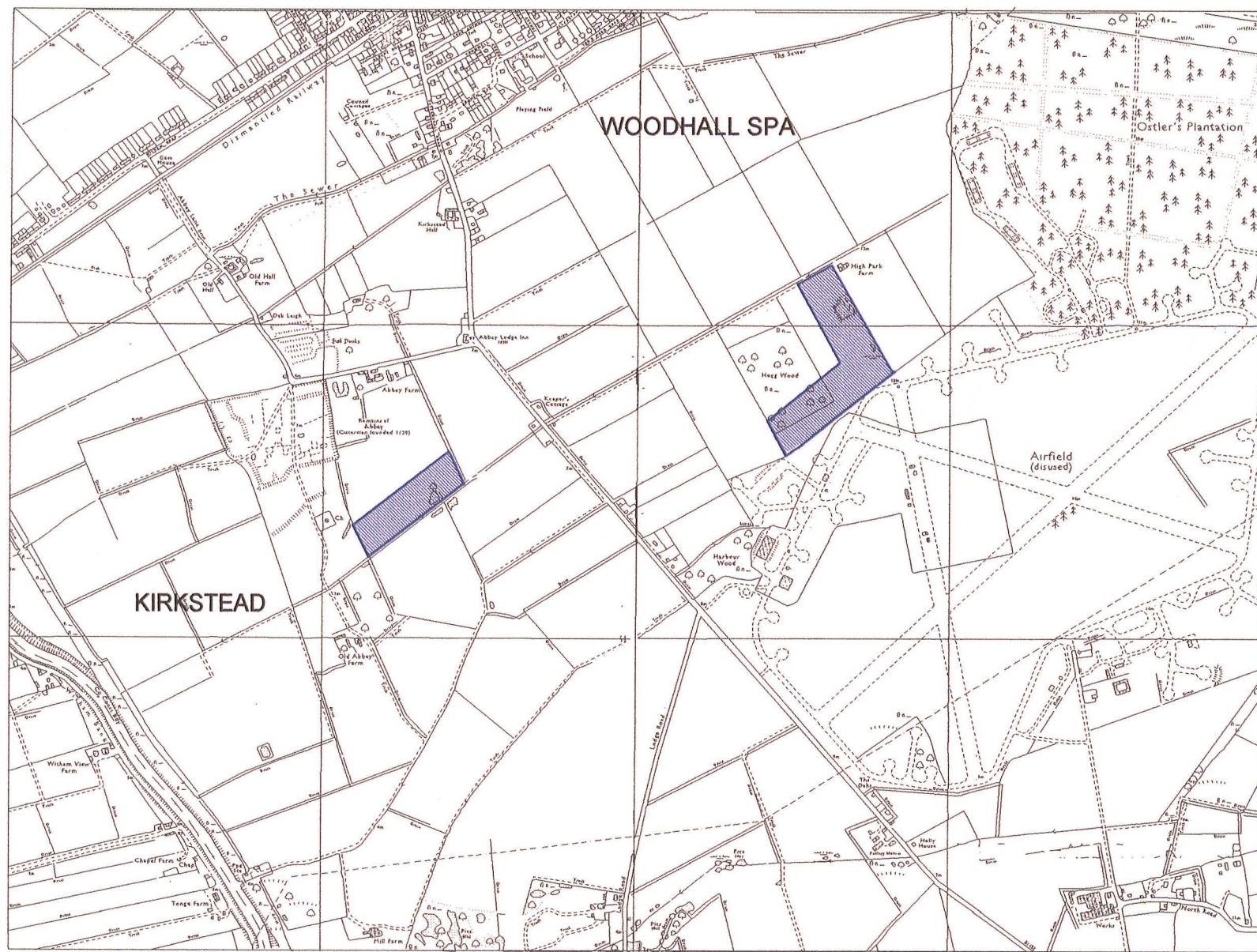


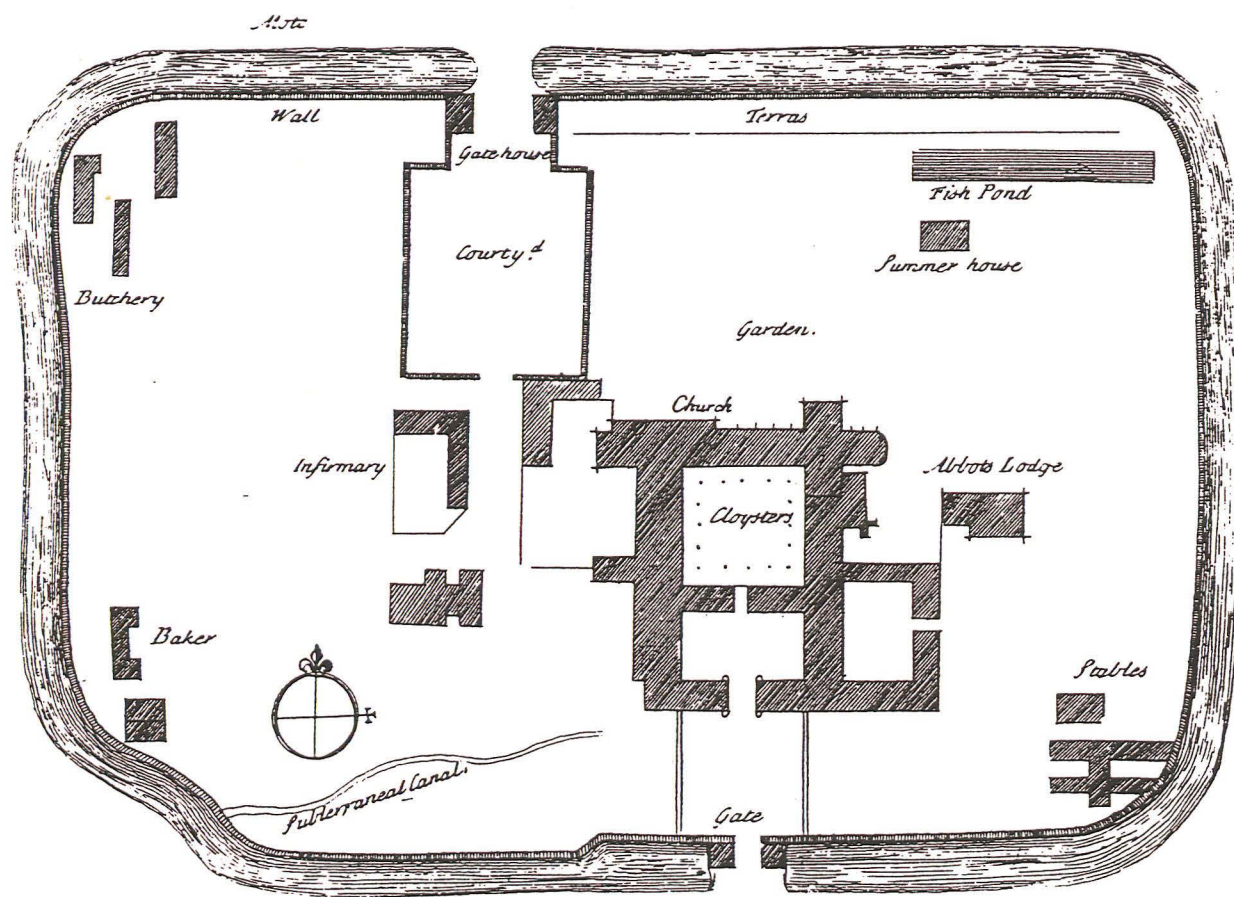
Figure 1 - General Location Plan



 Proposed reservoir locations

Figure 2 - Site Location Plan

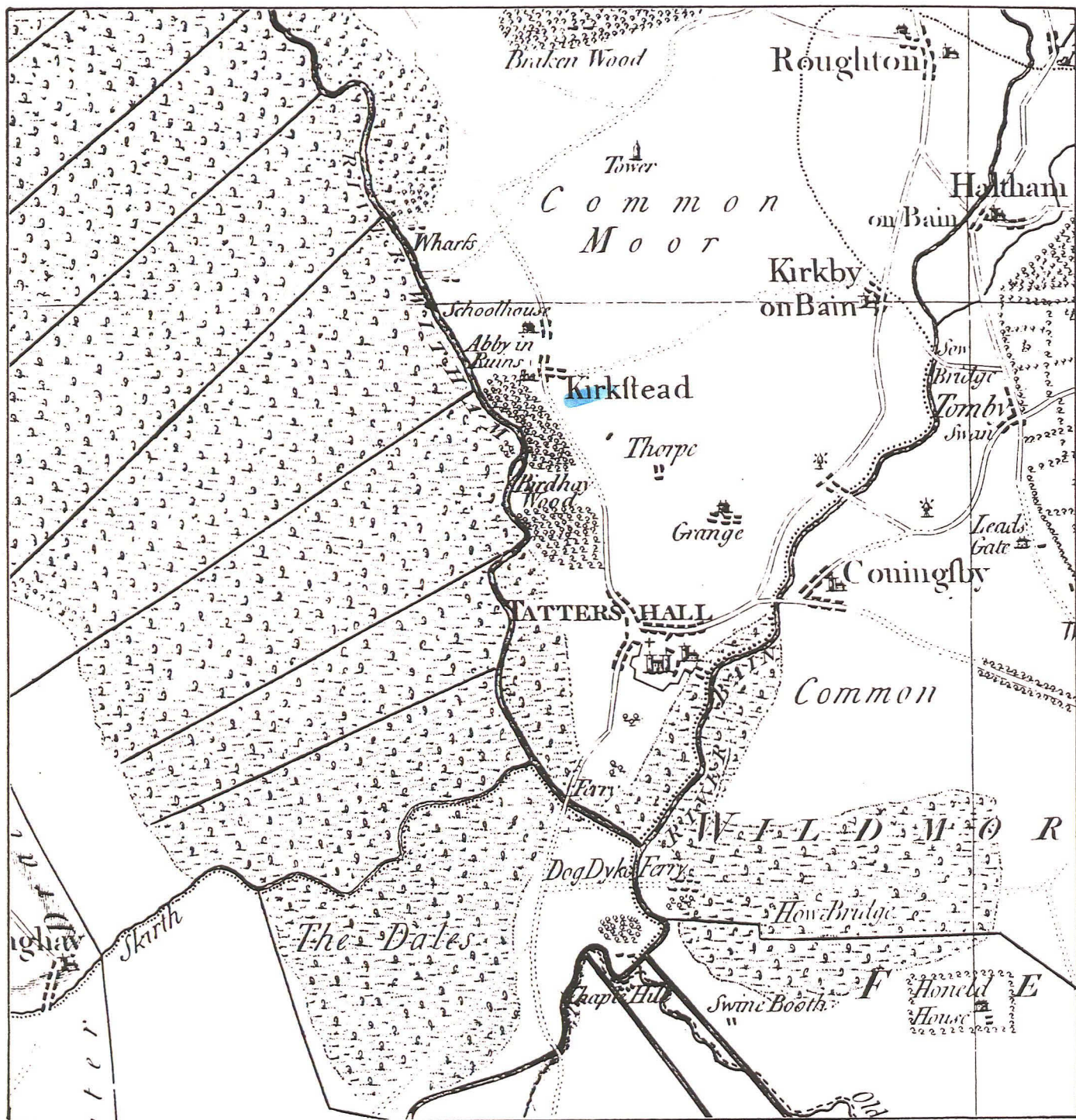
The Ichnography of the Monastery of *Kirkstead* Linc.



Stukeley delin.

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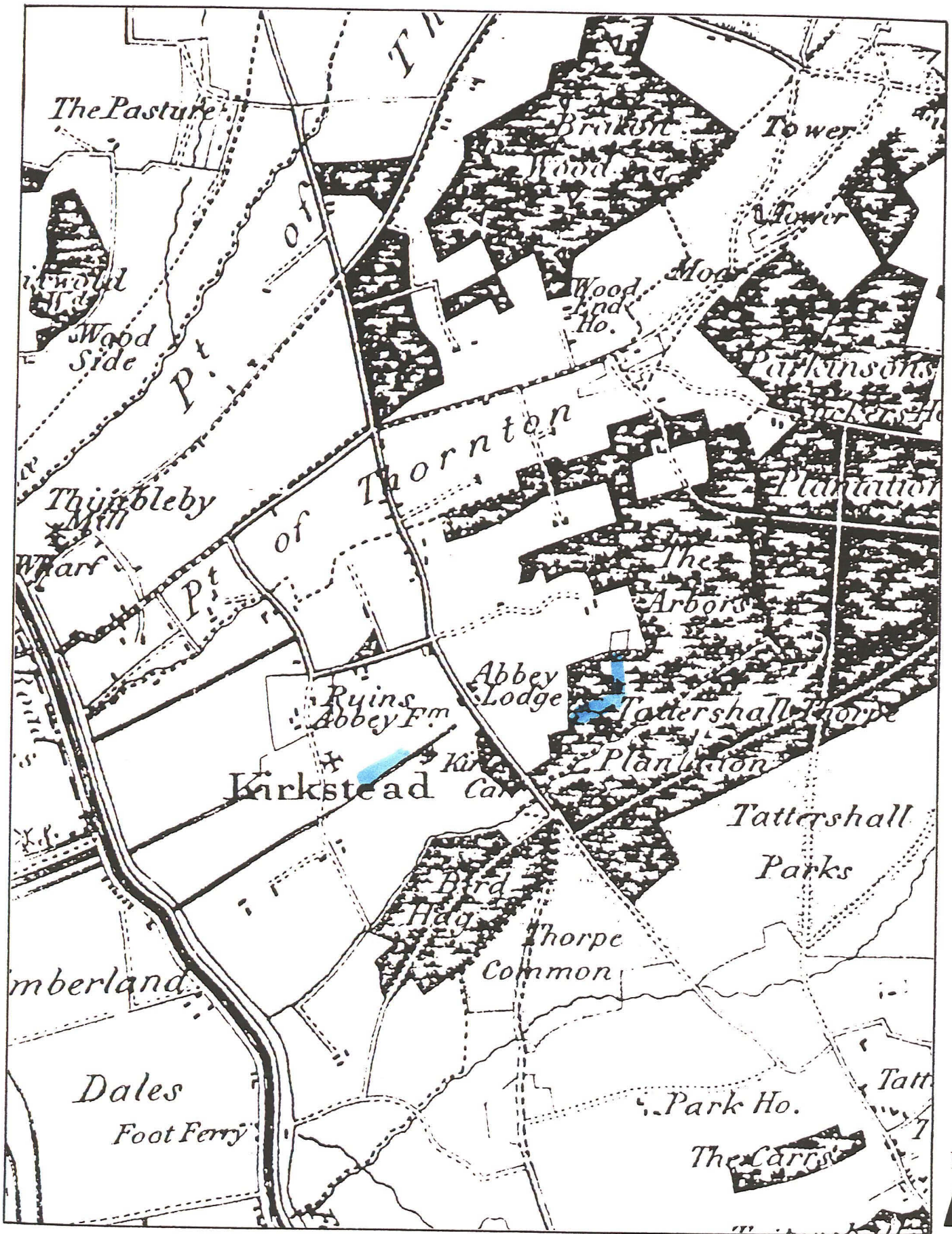
Figure 3 - William Stukeley's plan of Kirkstead Abbey, c. 1716



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Figure 4 - Extract from Armstrong's 'Map of Lincolnshire', 1778



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Figure 5 - Extract from Bryant's 'Map of the County of Lincoln', 1828

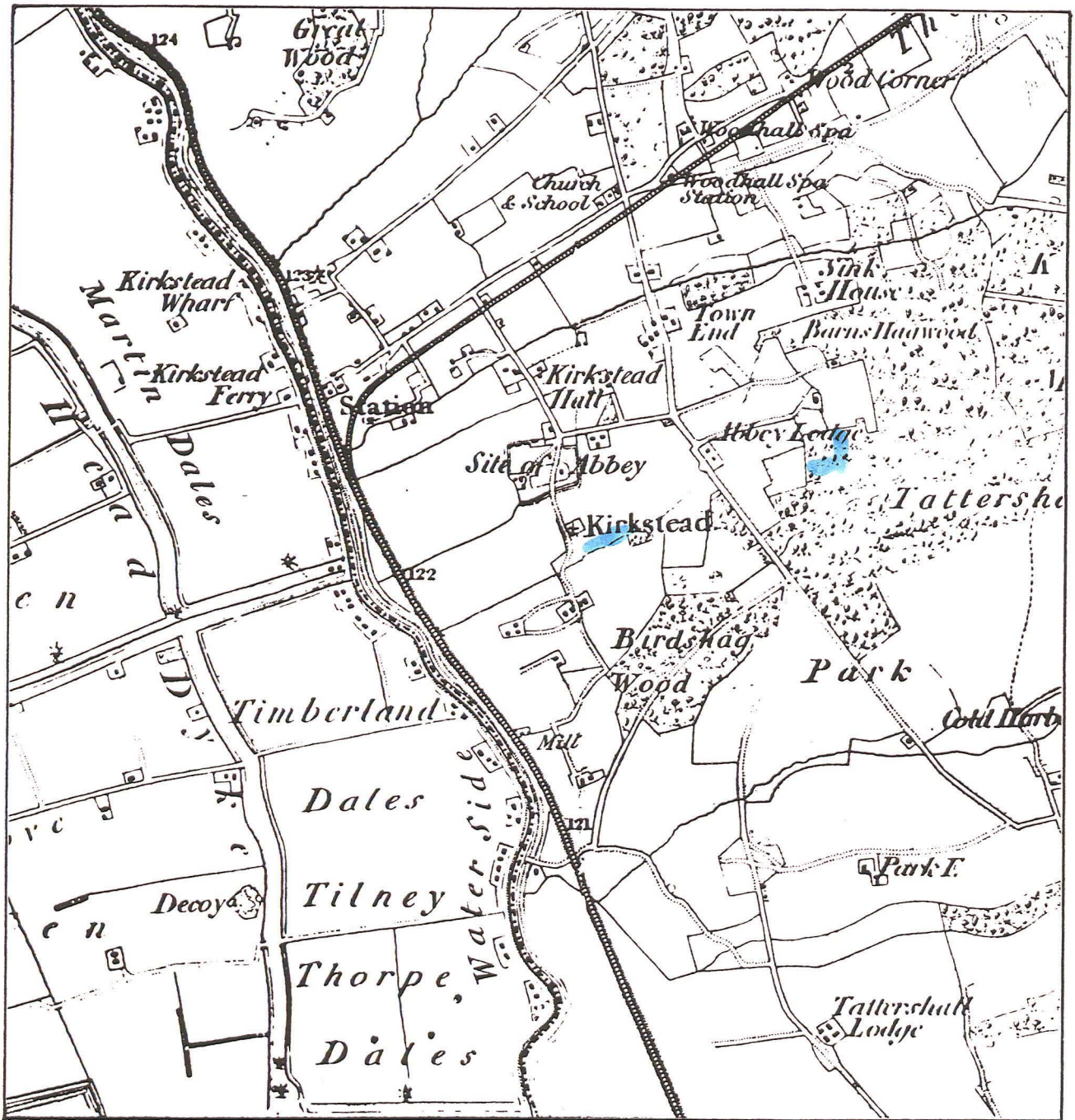


Figure 6 - Extract from the 1st Edition 1" Ordnance Survey Map, 1867

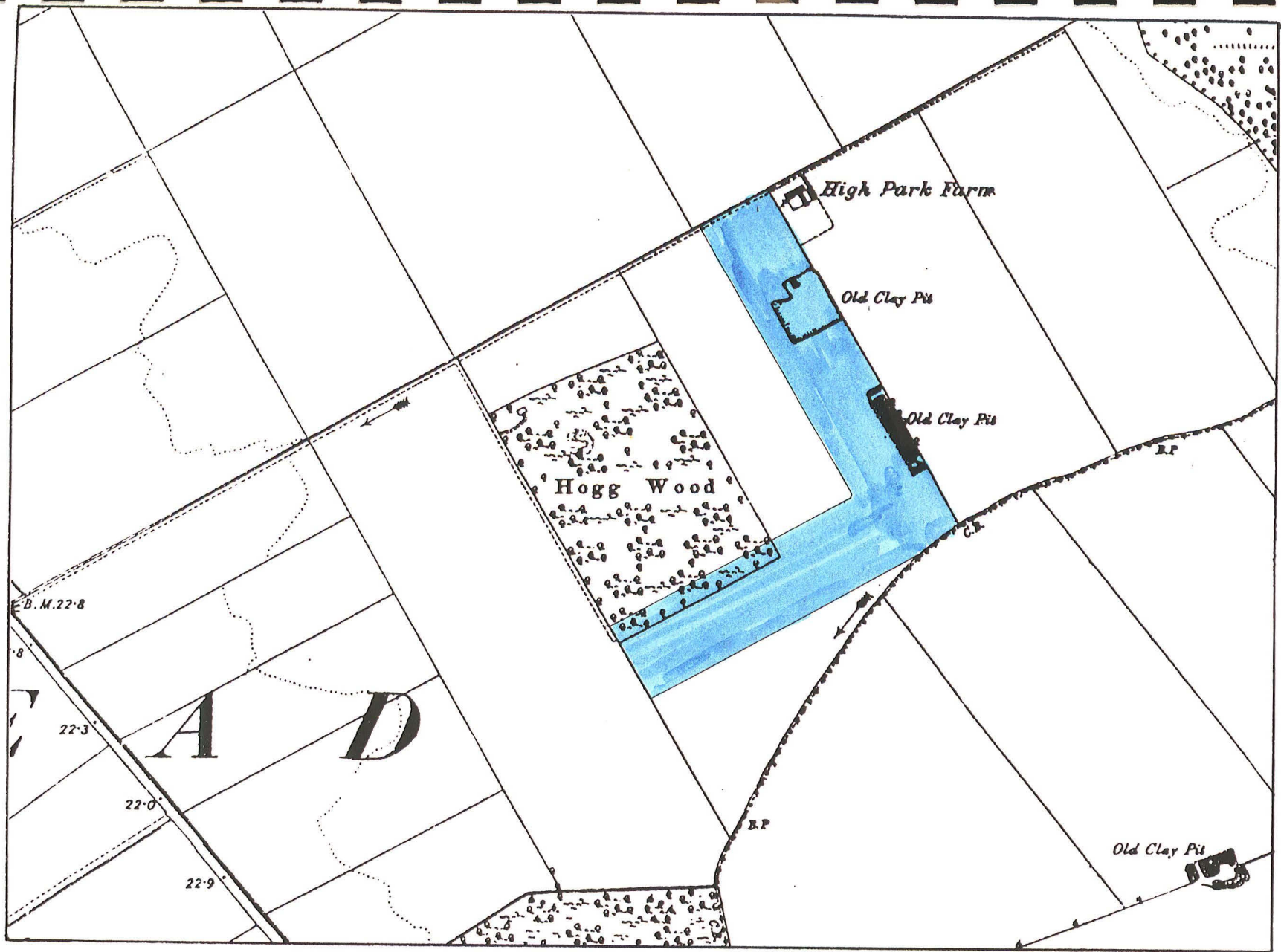


Figure 8 - Extract from the 1st Edition 6" Ordnance Survey Map, 1890



Figure 9 - Extract from the 2nd Edition 25'' Ordnance Survey Map, 1905

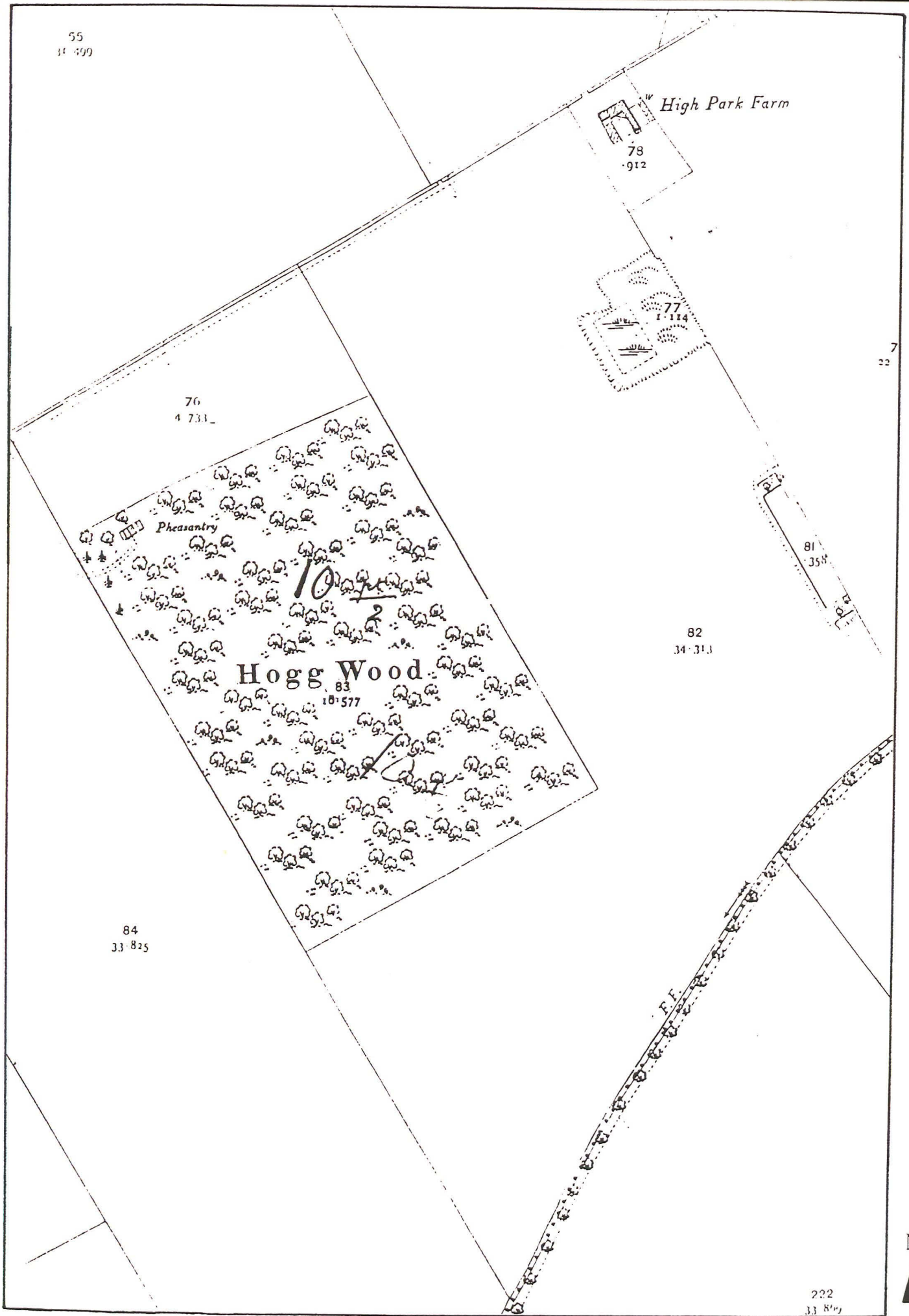


Figure 10 - Extract from the 2nd Edition 25" Ordnance Survey Map, 1905

Appendix 1

SPECIFICATION FOR THE DESK-TOP ASSESSMENT OF LAND AT WOODHALL SPA

1. **SUMMARY**

- a. *This document comprises a specification for the desk-top assessment of land for a proposed reservoir at Woodhall Spa.*
- b. *The Witham valley has been an important location for human activity since prehistoric times and prehistoric artefacts have been found at various locations in Woodhall Spa parish. Variations in crop growth, visible on photographs taken from the air, indicate that there are a number of archaeological remains, perhaps prehistoric enclosures, beneath the ground in the general area. One of the proposed locations for the reservoir lies close to the remains of medieval Kirkstead Abbey, a scheduled ancient monument, the second is some distance away.*
- c. *The desk-top assessment will collate all readily available data relating to the previous archaeological discoveries in the area. The results of the assessment will be presented in a written report describing the nature of the remains, with supporting illustrations showing their location and extent.*

2. **INTRODUCTION**

- a. This document comprises a specification for the desk-top assessment of land for a proposed reservoir in Kirkstead parish, near to Woodhall Spa, Lincolnshire. Two sites are under examination and are centred on national grid references TF 193 614 and TF 207 618, and are shown on Figures 1 and 2.
- b. The document contains the following parts:
 - i. Overview
 - ii. The archaeological and natural setting.
 - iii. Stages of work and methodologies to be used.

3. **SITE DESCRIPTION**

- a. Woodhall Spa is located approximately 22km southeast of Lincoln. Situated about 1km-1.5km south of the town centre of Woodhall Spa in Kirkstead parish, the two proposed sites are located on either side of Tattershall Road, at national grid references TF 193 614 and TF 207 618.
- b. The site lying west of Tattershall Road is rectangular in shape and approximately 4ha in extent. The site to the east of the road is L-shaped and approximately 7ha in area.

4. **PLANNING BACKGROUND**

- a. A proposal has been made to construct a reservoir on farmland. Two areas have been defined as preferred locations for this reservoir. A desk-top assessment has been requested to assist the determination of the application.

5. **SOILS AND TOPOGRAPHY**

- a. The sites lie at approximately 5-10m OD on land that slopes gently down to the east toward the River Witham. The soils of the area are Blackwood Association typical sandy gley soils in

glaciofluvial drift (Hodge *et al.* 1984 127). The deposits in turn overlies a solid geology of Amptill and Kimmeridge Clays.

6. **ARCHAEOLOGICAL OVERVIEW**

- a. The Witham valley throughout much of its course has been an important location for human activity from early prehistoric times. Archaeological remains are, however, not always easy to identify, as flood events have masked them beneath deep alluvial deposits.
- b. Evidence of prehistoric activity has been found at various locations in Woodhall Spa parish, including a Late Bronze Age spearhead recovered on the east bank of the Witham, about 1km northwest of the western proposed reservoir site. Romano-British remains have been found to the east of the town of Woodhall Spa.
- c. During the medieval period occupation in the area was greatly influenced by the presence of the Cistercian abbey at Kirkstead, founded in 1139 and dissolved in 1537. A scheduled ancient monument, the abbey, with associated outworks, lies immediately north of the western proposed reservoir location. A variety of cropmarks, perhaps of prehistoric enclosures, are also known in the general area.

7. **AIMS AND OBJECTIVES**

- a. The aim of the work will be to gather sufficient information for the Archaeology Officer, Lincolnshire County Council, to be able to formulate appropriate policies for the management of the archaeological resource of the site.
- b. The objectives of the desk-top assessment will be to establish:
 - i. The type of archaeological activity that may be present within the site.
 - ii. The likely extent of archaeological activity present within the site.
 - iii. The extent to which the surrounding archaeological features extend into the application area.
 - iv. The way in which the archaeological features identified fit into the pattern of occupation and land-use in the surrounding landscape.

8. **DATA COLLECTION**

- a. To enable an effective assessment of the archaeological setting of the sites and the remains contained within it, the desk-top assessment will examine the site and surrounding 500 metres.
- b. The following sources will be consulted:
 - i. Lincolnshire Sites and Monuments Record: to obtain details of previous archaeological finds and sites within the study area, and other data, including reports of previous archaeological work.
 - ii. Lincolnshire Archives: to provide historical documentation relating to the site, including tithe maps, enclosure awards and parish maps.
 - iii. Ordnance Survey maps; current and past editions.
 - iv. Aerial photographs held in national and local collections, or published/transcribed in secondary sources. Archaeological data will be plotted using the Mobius network technique.

- v. Archaeological books and journals with information relevant to the site.
- vi. The records held by Heritage Lincolnshire.
- vii. Data relating to the geotechnical investigation of the site to provide information regarding the potential depth of topsoil and other overburden as this may affect the feasibility of any subsequent phases of work should these be required.
- viii. Any other sources with relevant information, located during the work.
- ix. Identify any other constraints on the proposed development area.
- x. As part of the study a field visit will be undertaken to establish the following:
 - (1) The state of the site and its suitability for further stages of work, especially geophysical survey and fieldwalking.
 - (2) The presence and basic date and location of artefact scatters.
 - (3) The presence of any earthworks not previously located and to verify the state of preservation of those earthworks that have been previously recorded.

9. REPORT

- a. The findings of the desk-top assessment will be presented in a written report supported by illustrative material reproduced on appropriate scale site plans. The text will summarise all the data collected and the sources consulted will be referenced. The results will be interpreted and, as far as possible, the various types of activity will be individually discussed.
- b. The plans will show the location of the various archaeological sites and finds located during the assessment. The features identified during the search of the relevant aerial photographs will be plotted onto similar scale plans. Additionally, any areas of disturbance or destruction to potential archaeological deposits will be plotted.
- c. Any information that is collected from geotechnical reports will also be incorporated into the report.
- d. The report will attempt to place the results of the study into a local, regional and national archaeological context, and will identify any specific research priorities that may be addressed by the site.

10. PUBLICATION

- a. A report of the findings of the evaluation will be published in Heritage Lincolnshire's annual report and a note or article of appropriate content presented to the editor of the journal *Lincolnshire History and Archaeology*. Notes or articles describing the results of the investigation will also be submitted for publication in the relevant national journals: *Medieval Archaeology* and *Journal of the Medieval Settlement Research Group* for medieval and later remains, and *Britannia* for discoveries of Roman date.

11. CURATORIAL RESPONSIBILITY

- a. Curatorial responsibility for the archaeological work undertaken on the sites lies with the Archaeology Officer, Lincolnshire County Council.

12. **VARIATIONS**

- a. Variations to the proposed scheme of works will only be made after written confirmation from the Archaeology Officer, Lincolnshire County Council that the changes are acceptable.
- b. Should the Archaeological Curator require any additional investigation beyond the scope of the brief for works, or this specification, then the cost and duration of those supplementary examinations will be negotiated between the client and the contractor.

13. **PROGRAMME OF WORKS**

- a. See enclosed programme of works.

14. **BIBLIOGRAPHY**

Hodge CAH, Burton, RGO, Corbett, WM, Evans, R and Seale, RS, 1984 *Soils and their use in Eastern England*, Soil Survey of England and Wales No. 13

Appendix 2

SECRETARY OF STATE'S CRITERIA FOR SCHEDULING ANCIENT MONUMENTS Extract from *Archaeology and Planning* DoE Planning Policy Guidance note 16, November 1990

The following criteria (which are not in any order of ranking), are used for assessing the national importance of an ancient monument and considering whether scheduling is appropriate. The criteria should not however be regarded as definitive; rather they are indicators which contribute to a wider judgement based on the individual circumstances of a case.

- i *Period:* all types of monuments that characterise a category or period should be considered for preservation.
- ii *Rarity:* there are some monument categories which in certain periods are so scarce that all surviving examples which retain some archaeological potential should be preserved. In general, however, a selection must be made which portrays the typical and commonplace as well as the rare. This process should take account of all aspects of the distribution of a particular class of monument, both in a national and regional context.
- iii *Documentation:* the significance of a monument may be enhanced by the existence of records of previous investigation or, in the case of more recent monuments, by the supporting evidence of contemporary written records.
- iv *Group value:* the value of a single monument (such as a field system) may be greatly enhanced by its association with related contemporary monuments (such as a settlement or cemetery) or with monuments of different periods. In some cases, it is preferable to protect the complete group of monuments, including associated and adjacent land, rather than to protect isolated monuments within the group.
- v *Survival/Condition:* the survival of a monument's archaeological potential both above and below ground is a particularly important consideration and should be assessed in relation to its present condition and surviving features.
- vi *Fragility/Vulnerability:* highly important archaeological evidence from some field monuments can be destroyed by a single ploughing or unsympathetic treatment; vulnerable monuments of this nature would particularly benefit from the statutory protection that scheduling confers. There are also existing standing structures of particular form or complexity whose value can again be severely reduced by neglect or careless treatment and which are similarly well suited by scheduled monument protection, even if these structures are already listed buildings.
- vii *Diversity:* some monuments may be selected for scheduling because they possess a combination of high quality features, others because of a single important attribute.
- viii *Potential:* on occasion, the nature of the evidence cannot be specified precisely but it may still be possible to document reasons anticipating its existence and importance and so to demonstrate the justification for scheduling. This is usually confined to sites rather than upstanding monuments.

Appendix 3

GLOSSARY

Anglo-Saxon	Pertaining to the early part of the Saxon period and dating from approximately AD 450-650.
Boulder Clay	A deposit formed after the retreat of a glacier. Also known as till, this material is generally unsorted and can comprise of rock flour to boulders to rocks of quite substantial size.
Bronze Age	Part of the prehistoric era characterised by the introduction and use of bronze for tools and weapons. In Britain this period dates from approximately 2000-700 BC.
Cropmark	A mark that is produced by the effect of underlying archaeological features influencing the growth of a particular crop.
Cut	A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, <i>etc.</i> Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded.
Droeway	Area between two parallel ditches that was designed specifically for the corralling of livestock.
Enclosure	Area bounded by a ditch along the majority of its perimeter.
Geophysical Survey	Essentially non-invasive methods of examining below the ground surface by measuring deviations in the physical properties and characteristics of the earth. Techniques include magnetometry survey and resistivity survey.
Iron Age	Part of the prehistoric era characterised by the introduction and use of iron for tools and weapons. In Britain this period dates from approximately 700 BC - AD 50.
Medieval	The Middle Ages, dating from approximately AD 1066-1500.
Neolithic	The 'New Stone Age' period, part of the prehistoric era, dating from approximately 4000-2000 BC.
Post-medieval	The period following the Middle Ages, dating from approximately AD 1500-1800.
Prehistoric	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about 500,000 BC, until the Roman invasion in the middle of the 1st century AD.
Romano-British	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.

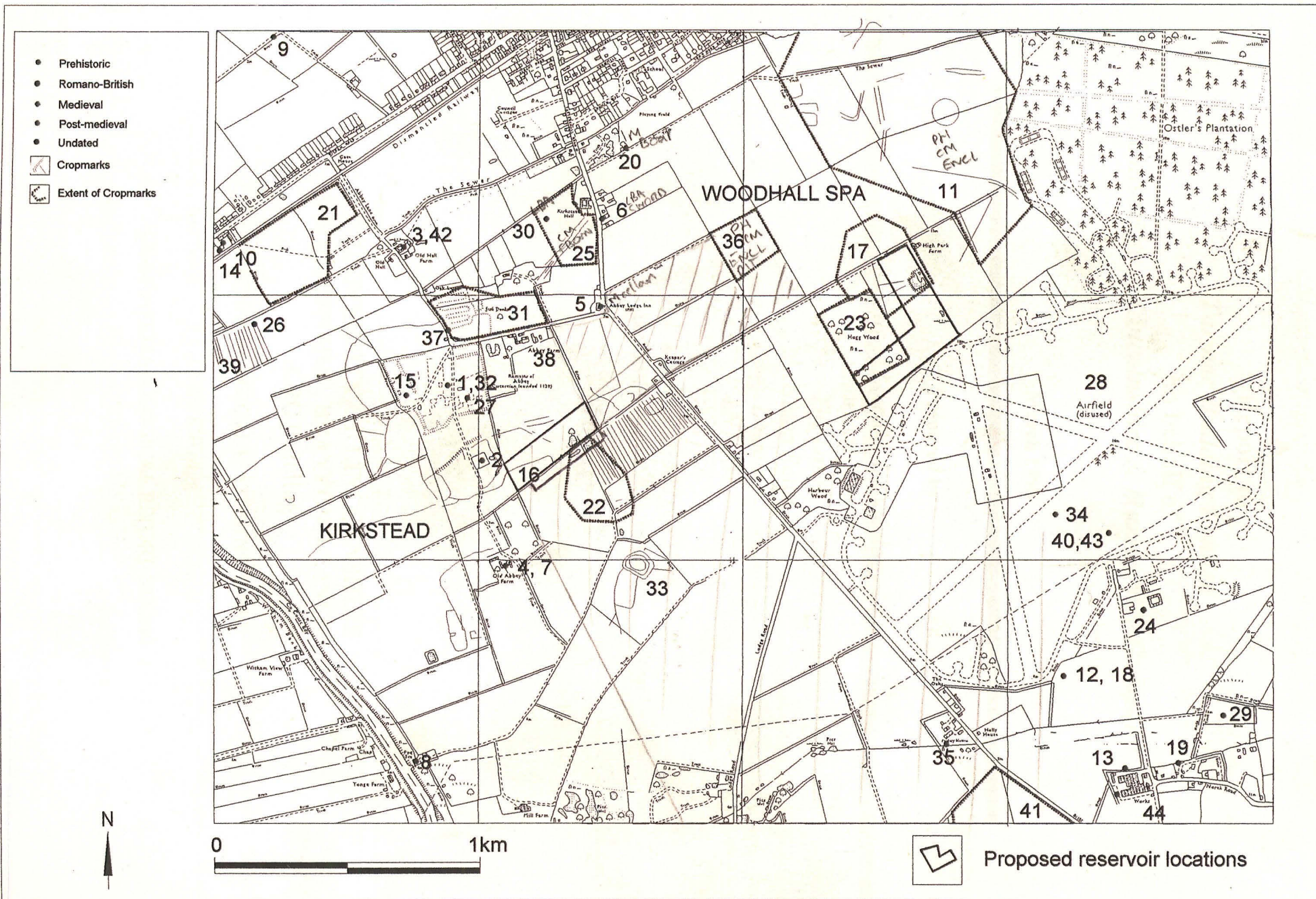


Figure 11 - Plan of known Archaeological Sites in the vicinity

B.M. 29 25m

0262
326ha
2-04

PROPOSED TRENCHING. SCALE = 1:1250

2358
6.13ha
1-59

Paddock Lodge

Weelsby H

1 magnetic debris (?burnt clay, slag and ferrous material)

Fairfield

8952

erning, pits, ?kiln material

trackway?

curvilinear feature

rectilinear enclosures & pits

ponds

wet hollow

ferrous pipe

burnt feature

Area 2

T10

Area 4

T13

?brick and other modern debris

Area 1 3x10

ferrous? slag

T14

pits/hollows

T16

Area 5

P:03

TEL:

07-FEB-98 12:28
ROADWOOD
ROAD

30.7m

