

**GALLEYWOOD TO LONGSTOMPS PIPELINE**

**CHELMSFORD, ESSEX**

**ARCHAEOLOGICAL**

**DESK-BASED ASSESSMENT**



**Essex County Council  
Field Archaeology Unit**

**FEBRUARY 2013**



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CHELMSFORD, ESSEX**

**ARCHAEOLOGICAL  
DESK-BASED ASSESSMENT**

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**GALLEYWOOD TO LONGSTOMPS PIPELINE**  
**CHELMSFORD, ESSEX**

**Client:** Northumbrian Water Ltd (Essex and Suffolk Water)

**Location:** Galleywood to Longstomps

**NGR:** 570502 203060 to 570258 204569

**ECC FAU Project No:** 2653

**SUMMARY**

*An archaeological desk-based assessment has been carried out on the route of a water pipeline running from Galleywood to Longstomps, Chelmsford Essex. This assessment considers the likely presence/absence, extents, character and significance of known and potential below ground heritage assets within the site that may be impacted by construction of the pipeline. The study has been carried out in accordance with a brief of works issued by Essex County Council Historic Environment (Place Services).*

*The results of this desk-based assessment have not identified any designated historic environment assets (e.g. Scheduled Monuments) along the pipeline route. There are a number of listed buildings within the general vicinity of the route but the majority lay at some distance away and are screened from the route by other buildings and intervening vegetation. As such it is considered that the construction phase of works could potentially impact on the setting of some of these assets, such impacts are however likely to be temporary and reversible. Discussions regarding this issue with the local planning authority may be required.*

*In the prehistoric to medieval periods the area was probably rural in character with minor scattered settlement. However, there are no assets of these dates known along the route and few within the wider area. It should however also be noted that there have been few archaeological investigations in the area to date, which may have resulted in the general paucity of archaeological records. Cartographic evidence, particularly the 1591 Walker map of Moulsham, would suggest that the general area may have been extensively wooded, perhaps with settlement in clearings.*

*Known heritage assets along the route comprise historic field boundaries which post date 1591, probably established in the early 19<sup>th</sup> century. A number of these, first depicted on mid 19<sup>th</sup> century tithe maps, have subsequently been grubbed up/in-filled. These may survive as below ground-features but their remains are considered to be of low significance given their relatively*

*recent origins. A preliminary assessment of the existing hedgerows has shown that the majority of those along the route (Fig. 7) are considered to be Possibly Important or Important in terms of the archaeological and historical criteria of the Hedgerow Regulations 1997 (HR 1997).*

*The potential of the route in relation to prehistoric to medieval remains is likely to be relatively low, and any remains present are likely to be of low to moderate/local significance only. However, the possibility that additional, as yet unknown archaeological remains may be present cannot be ruled out.*

*Given that some historic assets have been identified on the route, and there is the potential for other, as yet unknown, archaeological remains to be present (e.g. ECC HEB 2009) a programme of archaeological works may be carried out in order to more fully determine the presence or absence, date, character, condition and significance of any remains that may be present and the likely impact of development upon them. The detailed scope of such works would need to be agreed with the LPA's historic environment advisors at an early stage of project planning.*

*As archaeological remains are a finite and non-renewable resource the impact of development upon them, if present, would be adverse, assuming that a design solution cannot be implemented to ensure their preservation in situ. In that event mitigation works such as a programme of archaeological excavation and recording are likely to be required to ensure the preservation by record of any threatened remains.*



## 1.0 INTRODUCTION

1.1 This report presents the results of an archaeological desk-based assessment along the proposed route of a pipeline from Galleywood to Longstomps, south of Chelmsford, Essex. The assessment has been carried out by the Essex County Council Field Archaeology Unit (ECC FAU) on the behalf of Northumbrian Water Ltd (trading as Essex and Suffolk Water). The route comprises approximately 2km of pipeline running northwards from the vicinity of the junction of Beehive Lane and Stock Road, Galleywood through gardens and fields to the vicinity of Wood Street and Longstomps Avenue (Fig 1).

1.2 This assessment has been carried out in accordance with a brief of works issued by Essex County Council Place Services (Bennett 2012), who advise Chelmsford City on historic environment matters. It has also been carried out in line with national and regional standards; principally IfA *Standard and Guidance for Historic Environment Desk-Based Assessment* (2012) and the *ALGAO Standards for Archaeological Fieldwork in the East of England* (Gurney 2003).

1.3 This report is organised in the following way:

- Non-technical summary
- Background information (Introduction, Site Location and Description)
- Aims and Objectives
- Methodology
- Results
- Assessment of results
- Appendices

Illustrations can be found at the rear of the report.

## 2.0 ASSESSMENT BACKGROUND

### ***Methodology***

2.1 In order to complete the desk-based assessment a search was made of a range of readily available sources in order to establish the current baseline.

2.2 The sources consulted included:

- Essex Historic Environment Record (references prefixed by EHER)
- The collections of the Essex Records Office, particularly historic maps (references prefixed by ERO)

- National Heritage List for England (Listed Buildings and Scheduled Monuments)
- All readily available Ordnance Survey mapping
- OASIS (Online Access to the index of archaeological investigations) 'Grey' literature archive
- Other relevant published works such as county histories and antiquarian volumes
- Relevant secondary sources, e.g. historic towns assessment reports
- Chelmsford Historic Environment Characterisation Report
- Geological mapping and readily available geotechnical information

2.3 For the purposes of this assessment the study area comprised the route of the proposed route and a buffer of 500m to either side. Information beyond this limit has been included if considered relevant. Details of the source material consulted can be found at the rear of the report, it should be noted that further documents might be held in other collections.

2.4 A site inspection has been undertaken as part of this assessment on 22 January 2013. Access permissions were only available for the northern section of the route, that is the section to the north of Goat Hall Lane. Weather conditions were generally poor and the ground was snow covered. Where relevant results of this have been incorporated into this report where appropriate.

### ***Aims and Objectives***

2.5 The aim of this desk-based assessment is to present a synthesis of readily available archaeological and documentary data relating to the site and its environs in order to identify any known or potential historic environment assets. This information has been used, where possible, to ascertain their extent, date, character, condition, location and significance and to consider the impact of the proposals on the resource. This collated information will be used to inform the need for further archaeological works to be carried out in advance of and/or during the development.

## **3.0 SITE BACKGROUND**

### ***Location and Topography*** (Fig 1)

3.1 The proposed route of the pipeline runs roughly west from the vicinity of Beehive Lane/Stock Road (NGR 570510 203073), then kinking northwest to cross Goat Hall Lane (NGR 570176 203339). This southern section of the route crosses fields and gardens, generally sloping down from 80m AOD at Stock Road to c. 70 to 75m OD at

Goat Hall Lane. From here the northern section of the route crosses a paddock then turns north to run along the rear of the properties of Galleywood Road, kinking further out into the fields approximately halfway up to avoid an area of former extraction works, scrub and badger setts. The route then crosses back towards Galleywood Road, at NGR 570251 204565. This northern section of the route runs just below the crest of the ridge overlooking the valley of the River Chelmer, which lays to the west. In general the land slopes down towards the river and is incised by the valleys of small streams.. The field boundaries are in most cases delineated by these small streams and hedgerows. The latter are discussed in more detail in section 7.0. The majority of this section of the route crosses agricultural land that is under arable cultivation (e.g. Plates 1-4).

### **Geology** (Fig 3)

- 3.2 The superficial geology of the site is mapped by the British Geological Survey as Stanmore Sand and Gravel, the Lowestoft Formation and Head (Fig.2). The Stanmore Sand and Gravel deposits are of uncertain age and origin but are considered likely to have been river terrace deposits of the proto-Thames (i.e. the earlier route of the Thames across Essex prior to the Anglian Glaciation). The distribution of the gravels suggests it may be a correlative of the Red Crag and therefore of latest Pliocene to earliest Pleistocene age. The deposits of the Lowestoft Formation date to the Anglian (c. 480K-425K BP). Such deposits can contain Palaeolithic artefacts, but these are likely to be in re-worked contexts as a result of fluvial incision and downcutting through the subsequent millennia. The Head deposits comprise sediments formed through a range of slope processes and are Quaternary deposits. The solid (bedrock) Geology of the site is mapped as London Clay, Bagshot Beds and Claygate Member.
- 3.3 The BGS records four boreholes which have been excavated in the vicinity of the proposed route; T60SE89, TL70SW176, TL70SW233 and TL70SW2 (Fig 2). There is a limited amount of detail relating to the southernmost borehole, TL70SW2, which describes the upper 1.2m of strata as 'soil' and 'waste', resting above the Bagshot beds. It is unclear if this refers to the mapped Stanmore Gravels or a made/disturbed ground layer, perhaps associated with the Napoleonic defences built in this area (EHER 8931, Fig 3). In TL70SW176 and 233, excavated in 1912 and 1923, approximately 0.3m of soil is recorded over c. 5m of gravels and sands, presumably the diamicton deposits of the Lowestoft Formation which form the superficial geology in this area. In TL60SE89, excavated in 1978, 0.2m of topsoil rested above the Head deposits, a silty clay containing flints quartz and quartzite.

3.4 The geological information available suggests that there is low potential for palaeoenvironmental deposits to be present along the route. The deposits of the Lowestoft Formation, present at the surface along c.500m, can contain Palaeolithic artefacts, but these are likely to be in re-worked contexts as a result of fluvial incision and downcutting through the subsequent millennia.

#### 4.0 DESIGNATED ASSETS

4.1 There are no nationally designated assets (e.g. Scheduled Monuments, Listed Buildings, Historic Parks and Gardens) along the proposed route. The nearest Scheduled Monuments (Fig. 3) comprise a moated site at Killigrews (SM 33244 - not illustrated) which lays some 1.5km to the west-southwest of the southern end of the route.

4.2 There are five Listed Buildings within 500m of the site. These are all located towards the southern end of the proposed route, the closest being Spring Cottage, an early 18<sup>th</sup> century cottage on Goat Hall Lane. This lies approximately 80m from the crossing point of Goat Hall Lane.

Table 1: Listed Buildings within 500m of the site

LB Number	Name	LB_GRADE	EHCR_NO_
352503	Goat Hall	II	31507
352505	Spring Cottage	II	31509
112606	The Eagle Public House	II	30437
112607	27 The Street	II	30438
428991	27 and 29 Well Lane	II	31023

4.3 The Chelmsford St John's Conservation Area lies on the very edge of the search area, c. 500m to the north of the Longstomps end of the pipeline.

#### 5.0 SURVEY AND FIELDWORK HISTORY

##### *Aerial Photographs*

5.1 Archaeological remains and early landscape features are often visible as cropmarks (below-ground features showing as differential growth in crops or pasture) or upstanding features recorded on aerial photographs. The National Mapping Programme (NMP) records a number of archaeological features that have been identified through aerial photographic survey and analysis within 500m of the proposed route (Fig. 4). In 2010 a possible enclosure and ring ditch were identified in one of the fields at the northern end

of the pipeline at NGR 56990 20416, approximately 100m to the west of the pipeline route (Fig. 4).

- 5.2 A group of linear cropmarks are visible in the vicinity of Longstomps Avenue and Firtree Drive (no EHER reference number) and field boundaries and ponds have been identified to the west of Goat Hall Lane, in the vicinity of Butts Lane (EHER 18218).

### ***Archaeological Investigations***

- 5.3 There have been two previous archaeological investigations in the vicinity of the proposed pipeline route (Fig 4). Both relate to survey work on the Napoleonic Defence of Chelmsford, carried out by the Royal Commission on the Historical Monuments of England (RCHME).

## **6.0 RESULTS**

- 6.1 The following section summarises the information retrieved from the EHER and other sources and places it within its wider context. All EHER point and polygon data, unless indicated, is included on Fig. 3. There are 25 EHER reference within 500m of the proposed pipeline route (excluding the Listed Buildings and cropmarks discussed above). Of these only two pre-date the 16<sup>th</sup> century, with the majority relating to places/features on historic mapping, the Napoleonic defences around Chelmsford and modern industrial/military sites.
- 6.2 The earliest record relate to the findspot of a handaxe, of probable Paleolithic date (EHER 5715), located at the southern end of the route. The grid reference for this find is only eight figures and thus should be considered as a general indication as to its location rather than a specific findspot.
- 6.3 In the 1930s a Roman urn and sherds were recovered from an area to the east of Galleywood Road/ Russell Gardens (EHER 5631). The HER notes that these were recovered from an area that was due to be developed in the 1970s. As the mapped findspot is located in open fields it is likely that the location on the HER is indicative rather than precise.

### ***The John Walker Map of 1591***

- 6.4 The proposed route lies largely within the parish of Chelmsford in, what was at the time of Domesday (1086) the Abbott of Westminster's manor of Moulsham. This manor remained in the hands of Westminster until the reformation when it was purchased by

Thomas Mildmay Esq., the Master Auditor of the commissioners charged with the survey and valuation of the religious houses in England and Wales. Mildmay was from a prominent local family, his father being one of the wealthiest men in Chelmsford (Grieve 1988, 90-92). On his death in 1566 the estate was entailed on his eldest son, Sir Thomas Mildmay. The Mildmay estates were mapped by John Walker of Hanningfield in the late 16<sup>th</sup> century, including that of Moulsham (ERO D/DM P2). This map, at a scale of approximately 1:3000, shows roads, woodlands, fields (with fieldnames) and buildings in perspective view. A number of the EHER references relate to features on this map and are discussed individually below, their location, overlaid on the Walker map, can be found on Fig. 5. The EHER entry is presented in italics.

*EHER 824 "Moulsham Frith"*

Now Thrift Wood. The extents mapped by the EHER are those shown on early editions of the Ordnance Survey when it was much reduced. The extents of this woodland in 1591, derived from a rectified image of the Walker map are illustrated on Fig. 3 and 5. The extents of this woodland remained much the same in the mid 18<sup>th</sup> century (e.g. ERO D/DM P7). By the early 19<sup>th</sup> century some sections of woodland in the northern most edges of the woods had been lost, perhaps to provide materiel for the Napoleonic defences (e.g. 180F map, ERO D/DU 289/47) and it is entirely possible that marginal lands would have been brought into cultivation in the Napoleonic period due to the disruption of imports. Those areas which had been cleared would probably have soon been under cultivation. The remainder of the majority of the wood was felled between 1843(ERO D/CT 72B) and 1876 (OS First Edition), leaving only a small fragment of the once extensive Moulsham Frith.

*EHER 5632 Roads "Course of road in 1591."*

This road, running from Moulsham to Galleywood, runs roughly along the same line as modern Wood Street and Galleywood Road (e.g. Fig. 5).

*EHER 5694 Moulsham Chapel "Chappell Londe Enclosure 1594. Site of Moulsham Chapel". 'Col Mus' given as reference-annotated map in Colchester Museum?"*

An identical fieldname is depicted on the Walker Map of 1591 which would suggest that this is the source for this entry (Fig. 5). The small building, presumably the chapel, depicted in 1591 is no longer extant by 1843.

*EHER 5695 "Chappell Field and Spring Pasture (field names)". 'Col Mus' given as reference, presumably to annotated map in Colchester Museum? Probably relates to TL70-090, 5694?"*

An identical fieldname is depicted on the Walker Map of 1591 which would suggest that this is the source for this entry (Fig. 5).

*EHER 5696 Tile Kiln Farm "Site of Tyled House (Tilekiln Farm)". 'Col Mus' given as reference- presumably to annotated map in Colchester Museum? Modern OS map has place named 'Tilekiln Farm' on modern OS map*

There is a house marked on the Walker Map at approximately NGR 57055 204119 adjacent to 'Tyled Howse' field. This is likely to be the source for this entry (e.g. Fig 5). It should be noted that the EHER point and polygon data for these entries are at two separate locations. The extant Tile Kiln Farm is situated in the same location as a group of buildings on the 1591 map.

*EHER 5697 "Bexcell's Lande. 1591". 'Col Mus' given as reference-presumably refers to annotated map in Colchester Museum? Walker map of Moulsham done in 1591-source of this name?*

The Walker map shows Bexcells [ or Bexfells] Lande as a single large field, presumably assarted woodland. The extents of this in 1591 are illustrated on Fig. 3 and are considerably more extensive than those mapped by the EHER. The northern route of the pipeline crosses this land.

*EHER 5698 Manor of Bakeswell (1591). 'Col Mus' given as reference-presumably refers to map at Colchester Museum? Walker map of Moulsham done in 1591- source of this name?*

Bexcells [ or Bexfells] house/buildings are depicted on the Walker Map in the vicinity of the modern Bexfields Farm (Fig 5). This could conceivably be this that entry relates to.

*EHER 5699 Manor of Bakeswell (1591). "Linton's (1591)". Walker map of Moulsham done in 1591-source of this name? "*

Lintons is depicted on the Walker map, on the opposite side of the road from Bexfields (Fig. 5).

*EHER 5693 Site of park pale. 'Col Mus' given as reference-presumably map in Colchester Museum*

There are Park Pales depicted on the Walker map (e.g. Fig 5) but none match the location of the EHER entry which would perhaps suggest that it relates to a different source.

### ***The Napoleonic Defences***

- 6.5 In 1801 Lord Cornwallis and Colonel Hope recommended that a defensive chain should be constructed to the south of Chelmsford in order to protect London from a possible French invasion via the Essex Coast. The construction of these works, probably designed by Major Alexander Bryce, began in 1803. A map of the completed works, dating to 1804 (ERO D/DU 289/47), survives and shows the defences comprised two anchoring 'field' forts at Galleywood and Wickford (EHER 8930 and 849 respectively, Fig 3) linked by a series of bastions and outlying bastions/batteries (EHER 8931, Fig 3). The works were essentially temporary in nature and constructed using wood and earth. Some elements of the Wickford and Galleywood Forts have survived as earthworks and have been subject to survey (5.3 above). The defences lay to the north, south and east of the proposed pipeline route).

### ***The Nineteenth and Twentieth Centuries***

- 6.6 The 1804 map of the Napoleonic defences show much the same field layout as that of the Walker map, with the exception of some assarting of woodland. Later Tithe maps (e.g. ERO D/CT 72B) dating to the mid 19<sup>th</sup> century show that Bexcells [or Bexfells] Lande, through which much of the pipeline route passes, had been subdivided into numerous fields by this time. By the late 19<sup>th</sup> century a marl or gravel pit, surviving today as a group of ponds, had been excavated immediately to the east of the pipeline route resulting in some minimal boundary loss, e.g. SALE B4847. This sale catalogue, for 'Bexfields Farm, the Thrift Estate and Upper Lodge Farm', dating to 1867, shows the increasing importance of the brick and tile industry in the Chelmsford area as it includes brickfields and a pottery (presumably the Wood Street pottery at NGR 570039 204666). Thrift Farm was established as a model Farm, designed by Frederick Chancellor in 1865, situated at the northern end of the pipeline (EHER 15432, Fig 3), and was later demolished.
- 6.7 Few changes in the landscape of the area took place until the early to mid 20<sup>th</sup> century when the suburbs of Chelmsford began to expand towards Galleywood, this expansion was promoted in sales catalogues of the Hylands Estate in 1920, which by that time



included Thrift Farm and Bexfields which were noted as having "...a long frontage to the main road to Galleywood and offers exceptional advantages for the erection of residences" (ERO SALE A/301) , the roadside development is shown on the 4th Edition of the Ordnance Survey (Fig. \*). By 1920 Bexfields was a "modern brick built and slated residence", replacing the buildings depicted on the Walker map. Other late post medieval/ modern features in the area comprise the site of a windmill (EHER 5727).

- 6.8 Subsequent decades have seen the further development of Chelmsford in the general vicinity of the route. The landscape in the immediate vicinity in the northern part of the route has remained much the same as that shown on the Tithe Map, although with some degree of boundary loss (Fig. 6). The southern part of the route now runs through the gardens to the rear of the properties on the Stock Road and fields. Modern heritage assets in the area comprise World War II defences (EHER 22081 and 22082) which are no longer extant and the Longstomps Covered Reservoir (EHER 15618).

#### ***Historic Environment Characterisation***

- 6.9 The Historic Environment Management and Records Teams of Essex County Council carried out an Historic Environment Characterisation project for Chelmsford District to provide an evidence base to the Local Development Framework (ECC 2008; downloaded from Chelmsford City website January 2013). This defined Historic Environment Character Areas (**HECA**) and Historic Environment Character Zones (**HECZ**). The supporting information within the entries for these areas and zones includes information on the known historic environment and archaeological potential.
- 6.10 The site lies within HECA 10 South of Chelmsford and HECZ 10.1 Wid Valley. This project notes the historic landscape of this broad character area is one of dispersed settlement, with scattered farmsteads and some commons that lay on the higher ground. The field pattern consists of many small fields of possible ancient origin and there are also small areas of ancient woodland through the area. Archaeological evidence is limited as there are few cropmarks and there have been few archaeological fieldwork projects. Where these have taken place however they have demonstrated the potential for surviving prehistoric (including Bronze Age metalwork) and Roman deposits. Significant assemblages of flintwork have been collected from field surfaces in the Wid valley (ECC HEB 2008, 30).

## 7.0 HEDGEROW ASSESSMENT

7.1 The following section comprises an assessment of the boundaries which may be affected by the pipeline against the Archaeology and History criteria of the Hedgerow Regulations 1997. This assessment has been carried using the criteria set out in the Hedgerow Regulations 1997 to provide a preliminary interpretation as to whether or not the hedgerows are “important” under the historical and archaeological criteria of the regulations as defined in Statutory Instrument 1997, No. 1160. A hedgerow is considered to be ‘important’ under the Archaeology and History section of the regulations if it;

(a) has existed for 30 years or more; and

(b) satisfies at least one of the criteria listed in Part II of Schedule I

### ***Methodology and Assessment Criteria***

7.2 Initial works comprised the identification of hedgerows, distinguishing between field boundaries in general and those meeting the definition of hedgerows as set out in DEFRA guidance (below). This was carried out through reference to available photographs (e.g. Google earth) and, where possible, field visits.

*A **hedgerow** is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide at the base, provided that at one time the trees or shrubs were more or less continuous. It includes an earth bank or wall only where such a feature occurs in association with a line of trees or shrubs. This includes ‘classic’ shrubby hedgerows, lines of trees, shrubby hedgerows with trees and very gappy hedgerows (where each shrubby section may be less than 20m long, but the gaps are less than 20m) – DEFRA Hedgerow Survey Handbook 2<sup>nd</sup> Edition 2007 (<http://www.defra.gov.uk/hedgerow-survey-handbook.pdf>).*

7.2 Early editions of the Ordnance Survey, dating to the late 19th century were used to identify boundaries that were extant at this time and hence are over thirty years old. These were then assessed against the additional criteria set out in Part II of the Regulations and additional supplementary guidance issued by DEFRA. The following sections outline the relevant criteria and describe the methods which have been applied to determine if the examined hedgerows meet them and are therefore deemed to be significant. The Part II Criteria are as follows:

- 7.3 *Paragraph 1: The hedgerow marks the boundary, or part of the boundary, of at least one historic parish or township; and for this purpose “historic” means existing before 1850.*

The year 1850 is used as a cut-off date in the regulations as it pre-dates the rationalisation of parish boundaries which resulted in the creation of the current system of civil parishes. The routes of historic parish boundaries were plotted using Tithe maps held in the Essex Record Office, typically dating to the late 1830s and early 1840s, supported by reference to early Ordnance Survey mapping. The mapped historic boundaries were compared with the routes of hedgerows. Where the two were contiguous the hedgerow was considered to meet this criteria.

- 7.4 *Paragraph 2: The hedgerow incorporates an archaeological feature which is:*  
*(a) included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979; or*  
*(b) recorded at the relevant date in a Sites and Monuments Record.*

The results of the searches of EHER and National Heritage List of Designated Heritage Assets (Section 6.0 above) were analysed in order to consider if the hedgerows incorporated archaeological features. ‘Archaeological feature’ has been taken to mean a specific feature referred to in Scheduled Monument / EHER documentation or supporting illustrations/ plans. ‘Incorporates’ has been taken to mean a feature that is an integral part of the hedgerow; for example a ditch or bank that may have resulted from the hedgerow raising (e.g. Martin and Satchell 2008, 236) or an upstanding feature, such as a burial mound or milestone.

- 7.4 *Paragraph 3: The hedgerow:*  
*(a) is situated wholly or partially within an archaeological site included or recorded as mentioned in paragraph 2 or on land adjacent to and associated with such a site; and*  
*(b) is associated with any monument or feature on that site.*

An ‘Archaeological Site’ has, for the purposes of this assessment, been taken to be an area of archaeological remains. The full geographical extents of such sites may not be known and the limits of the site as mapped by the EHER have been used. Defra guidance on this criterion suggests that “a hedgerow that is adjacent to a medieval moated site or deserted medieval village and the line of which can be demonstrated to be contemporaneous with the site would qualify. Conversely, an enclosure hedgerow adjacent to a medieval site would not qualify under this criterion” (DEFRA REF PG 26). By way of further example, some the hedgerows examined cross a number of cropmark

complexes of probable Prehistoric and Roman date but are not associated with them in any respect other than occupying the same physical space (it should however be noted that such complexes along the pipeline route represent areas where, possibly significant, archaeological remains may be present). Similarly, although the limits of polygons used by the EHER are typically mapped along field boundaries, these boundaries (which may be hedgerows) are not necessarily associated with the EHER site.

7.5 *Paragraph 4: The hedgerow*

*(a) marks the boundary of a pre-1600 AD estate or manor recorded at the relevant date in a Site Monuments Record or in a document held at that date at a Record office; or*

*(b) is visibly related to any building or feature of such an estate or manor.*

The results of the EHER /ERO searches have been used to assess these criteria. With regard to the term “visibly related”, DEFRA guidance notes that this does not mean that the hedgerow is simply visible from the feature. An example given is that of a group of paddocks or closes surrounding an estate barn or a hedgerow alongside a track linking manor house and corn mill.

7.6 *Paragraph 5: The hedgerow*

*(a) is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Inclosure Acts; or*

*(b) is part of, or visibly related to, any building or other feature associated with such a system, and that system*

*(i) is substantially complete; or*

*(ii) is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Town and Country Planning Act, for the purposes of development control within the authority’s area, as a key landscape characteristic.*

‘Inclosure’ is a term used to describe the consolidation or extension of landholdings; typically from common land to private ownership. Inclosure Acts were Private or Public Acts of Parliament; private acts became frequent in the latter half of the 18<sup>th</sup> century and the public acts were passed from 1801 onwards to reduce the need for these. In Essex, however, this type of Inclosure was relatively late with only three Inclosure awards pre-dating 1804 (Hunter 1999, 162). Guidance on the implementation of this section of the regulations has been amended since their original publication in 1997, following a Judicial Review of the case of Flintshire County Council –v- NAW & Mr JT Morris, as a consequence of which the phrase “pre-dating the Inclosure Acts” is taken to mean before 1845, whether or not Inclosure Acts exist for the area in question, this being the

date of the earliest Acts known by the collective title given by the Short Titles Act of 1896.

- 7.7 Identification of boundaries, which pre-date Inclosure has been carried out by comparing modern mapping with a number of estate maps and Tithe maps, held in the ERO. The 1836 Tithe Act saw the government commute tithes throughout the country, a change from payment in kind to a financial amount. This required accurate mapping and thus tithe maps comprise the first systematic survey for the majority of the country, in comparison with estate maps which were for limited private use.
- 7.8 It should be noted that these historic maps typically show the route of boundaries and not necessarily their type (i.e. they do not distinguish between hedgerows, ditches and fences). Typically the assessment of the age of the hedgerow on such a boundary would be supported by the Wildlife and Landscape assessment, particularly species counts, which have been used for over 30 years to assess how long a hedge has existed (e.g. Hopper 1971). As this assessment has been carried out in winter and full access to the route was not possible those boundaries whose route coincides with that of a boundary shown on pre 1845 mapping have been assumed to be pre-Inclosure in date.
- 7.9 For the purposes of this assessment a hedgerow has been assigned a category of importance according to the archaeological and historical criteria as follows;
- IMPORTANT – as defined in the regulations (i.e. is a parish boundary, estate boundary etc.)
- POSSIBLY IMPORTANT – an extant hedgerow that runs along a boundary line illustrated on a historic map (typically the tithe maps) and may have been marked by a hedgerow
- NOT IMPORTANT – Does not meet the criteria set out in the regulations

### **Results**

- 7.10 Ten hedgerows have been identified along the route (four by desk-based sources only), as numbered on Fig. 7, the majority are illustrated on early editions of the Ordnance Survey and they are therefore over 30 years old, the first requirement for determining important hedgerows. The exception is hedgerow 2. The remainder have then been assessed against the additional Archaeology and History criteria outlined above, with the following results.

7.11 *Paragraph 1: The hedgerow marks the boundary, or part of the boundary, of at least one historic parish or township; and for this purpose "historic" means existing before 1850.*

Hedgerow 5 marks the pre 1850 parish boundaries between Chelmsford and Galleywood.

7.12 *Paragraph 2: The hedgerow incorporates an archaeological feature which is:*

*(a) included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979; or*

*(b) recorded at the relevant date in a Sites and Monuments Record.*

and

*Paragraph 3: The hedgerow:*

*(a) is situated wholly or partially within an archaeological site included or recorded as mentioned in paragraph 2 or on land adjacent to and associated with such a site; and*

*(b) is associated with any monument or feature on that site.*

In terms of Paragraph 2 as there are no Scheduled Monuments along the pipeline route no hedgerows meet this criteria. Hedgerow 10 marks the edges of Bexcells Lande, as defined by the EHER but, as noted previously this polygon is mapped incorrectly and as such it is not considered that these hedgerows meet the Paragraph 3 criteria. Hedgerows 9 and 10 (Plates 2 and 3) mark the mapped boundary of a cropmark site, EHER 47380. For the purposes of EHER mapping the geographical boundaries of cropmarks are generally mapped as being the field boundaries (i.e. the hedgerows), although the known features may not extend this far. As such the importance of these boundaries in relation to the Paragraph 3 criteria is undetermined.

7.13 *Paragraph 4: The hedgerow:*

*(a) marks the boundary of a pre-1600 AD estate or manor recorded at the relevant date in a Site Monuments Record or in a document held at that date at a Record office; or*

*(b) is visibly related to any building or feature of such an estate or manor.*

Reference to the historic mapping shows that the majority of the boundaries in the northern part of the route would appear to post-date 1804 (e.g. ERO D/DU 289/47). As a parish boundary it is possible that Hedgerow 5 may be an early manorial boundary.

7.14 *Paragraph 5: The hedgerow:*

- (a) is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Inclosure Acts; or*
- (b) is part of, or visibly related to, any building or other feature associated with such a system, and that system:*
- (i) is substantially complete; or*
- (ii) is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Town and Country Planning Act, for the purposes*

All of the boundaries, with the exception of Hedgerow 2, are illustrated on Tithe Maps held in the ERO and as such meet the Paragraph 3 criteria in that they pre-date 1845.

7.15 The relative importance of the hedgerows can be assigned as follows:

Hedgerow 5: Important

Hedgerows 1, 3, 4, 6, 7, 8, 9 and 10: Possibly Important

Hedgerow 2: Not Important

## **8.0 ASSESSMENT**

8.1 The results of this desk-based assessment have not identified any designated historic environment assets (e.g. Scheduled Monuments) along the pipeline route. There are a number of listed buildings within the general vicinity of the route, particularly Spring Cottage which is located close to the Goat Lane crossing point and the proposed location of a site compound. The remainder lay at some distance away and are screened from the route by other buildings and intervening vegetation. As such it is considered that the construction phase of works could potentially impact on the setting of some of these assets, such impacts are however likely to be temporary and reversible. Discussions regarding this issue with the local planning authority may therefore be required.

8.2 There are no assets of prehistoric to medieval date known along the route and few within the wider areas. This absence of evidence may reflect the scattered and rural character of early settlement and activity in this area which is suggested by the available archaeological and historical evidence. It should however also be noted that there have been few archaeological investigations in the area to date which may have resulted in the general paucity of archaeological records. Overall the historical evidence, particularly the 1591 Walker map, would suggest that the general area may have been

- extensively wooded, perhaps with settlement in clearings. This would suggest that, if present, the earlier archaeological resource will be characterised by features associated with woodland management and, perhaps, small scale agriculture. Given the limitations of the information available at this time it is not possible to assess the study area in relation to the regional research framework (Brown and Glazebrook 2000 and Medlycott 2011).
- 8.3 The potential of the route in relation to prehistoric to medieval remains is likely to be relatively low, and any remains present are likely to be of low to moderate/local significance only. However, the possibility that additional, as yet unknown archaeological remains may be present cannot be ruled out. Where present such remains are likely to be damaged or destroyed by the pipeline construction works.
- 8.4 The known heritage assets along the route and easement comprise historic field boundaries which post date 1591 and were probably established in the early 19<sup>th</sup> century. A number of these, first depicted on mid 19<sup>th</sup> century tithe maps, have subsequently been grubbed up/in-filled (e.g. Fig. 6). These features may survive as in-filled ditches but their remains are considered to be of low significance given their relatively recent origins. The degree of impact arising from pipeline construction is therefore likely to be negligible.
- 8.5 A preliminary assessment of the existing hedgerows has shown that the majority of those along the route (Fig. 7) are considered to be Possibly Important or Important in terms of the archaeological and historical criteria of the Hedgerow Regulations 1997 (HR 1997) in that they have existed for 30 years and are recorded on documents held at the ERO which indicate they were part of a field system pre-dating the Inclosure Acts (1845 for the purposes of the regulations). It is likely that these hedgerows will be impacted where the pipeline needs to cross them; where gaps are not present sections may need to be removed. Where hedgerows are to be removed the LPA should be consulted (HR 1997 Para 1.3) and discussions with the LPA on this matter are advised.
- 8.6 Given that some historic assets have been identified in the vicinity of the route and there is the potential for other, as yet unknown, archaeological remains to be present (e.g. ECC HEB 2009) further archaeological works may be required in order to more fully determine the presence or absence, date, character, condition and significance of any remains that may be present and the likely impact of development upon them. The



detailed scope of such works should be agreed with the LPA's historic environment advisors at an early stage of project planning.

- 8.7 As archaeological remains are a finite and non-renewable resource the impact of development upon them, if present, would be adverse, assuming that a design solution cannot be implemented to ensure their preservation *in situ*. In that event mitigation works such as a programme of archaeological excavation and recording are likely to be required to ensure the preservation by record of any threatened remains.

### **ACKNOWLEDGMENTS**

The Essex CC Field Archaeology Unit would like to thank Northumbrian Water for commissioning this desk-based assessment. The project was carried out by ECC FAU and monitored by Alison Bennett of ECC Place Services.

## BIBLIOGRAPHY

- Bennett, A. 2012 *Archaeological Desk Based Assessment for the Galleywood to Longstomps Pipeline, Chelmsford* ECC
- Brown, N. and Glazebrook, J. 2000 *Research and Archaeology: a Framework for the Eastern Counties 2. research agenda and strategy* East Anglian Archaeology Occ Pap 24
- ECC HEB 2008 *Chelmsford District Historic Environment Characterisation* Essex County Council Historic Environment Branch
- Grieve, H. 1988 *The Sleepers and the Shadows. Chelmsford: A town, a people and its past. Volume 1 The Medieval and Tudor Story.* Essex Record Office
- Heppell, E.M, Letch, A., Peachey, M. and Ryan, P. 2010 'Seymour Street Brickworks, Chelmsford: archaeological investigations 2001' *Essex Archaeology and History* 1
- Medlycott, M. 2011 *Research and Archaeology Revisited. A Revised Framework for the East of England* East Anglian Archaeology Occ Pap 24
- Pevsner, N. 1965 *Buildings of England; Essex* Penguin
- Reaney, P.H. 1935 *The Placenames of Essex.* English Place-Name Society Vol. XII. Cambridge Univ. Press
- Rumble, A. 1983 *Domesday Book. Essex.* Phillimore, Chichester

\* Essex County Council Historic Environment Branch

## SOURCES

- ERO D/DM P2 John Walker's Map of Moulsham 1591
- ERO D/CT 72a and b Chelmsford Tithe map and award 1843
- ERO D/CT 13 a and b Great Baddow Tithe map and award 1838
- ERO D/DB M158 Rentals book, 1617
- ERO D/DU P 124 Map of Galleywood 1824 (dos not show study area)
- ERO D/DM P12 Map of Moulsham and Bishops Hall Manors
- ERO D/DWv M73 Survey book 1812 – no accompanying map
- ERO SALE A/301 Sale catalogue, Hylands Estate 1920
- ERO SALE B4847 Sale catalogue, 1867
- ERO D/F 33/15/4 Sale catalogue 1931
- ERO D/DWv P5 Map of bounds of Great Baddow 1754
- ERO D/DU 289/47 Map of the Napoleonic defences 1804
- ERO D/DM P7 Map of Moulsham Frith 1750

## ADDITIONAL CARTOGRAPHIC SOURCES

John Norden's Map of the County of Essex (1594)

Chapman and Andre's Map of the County of Essex (1777)

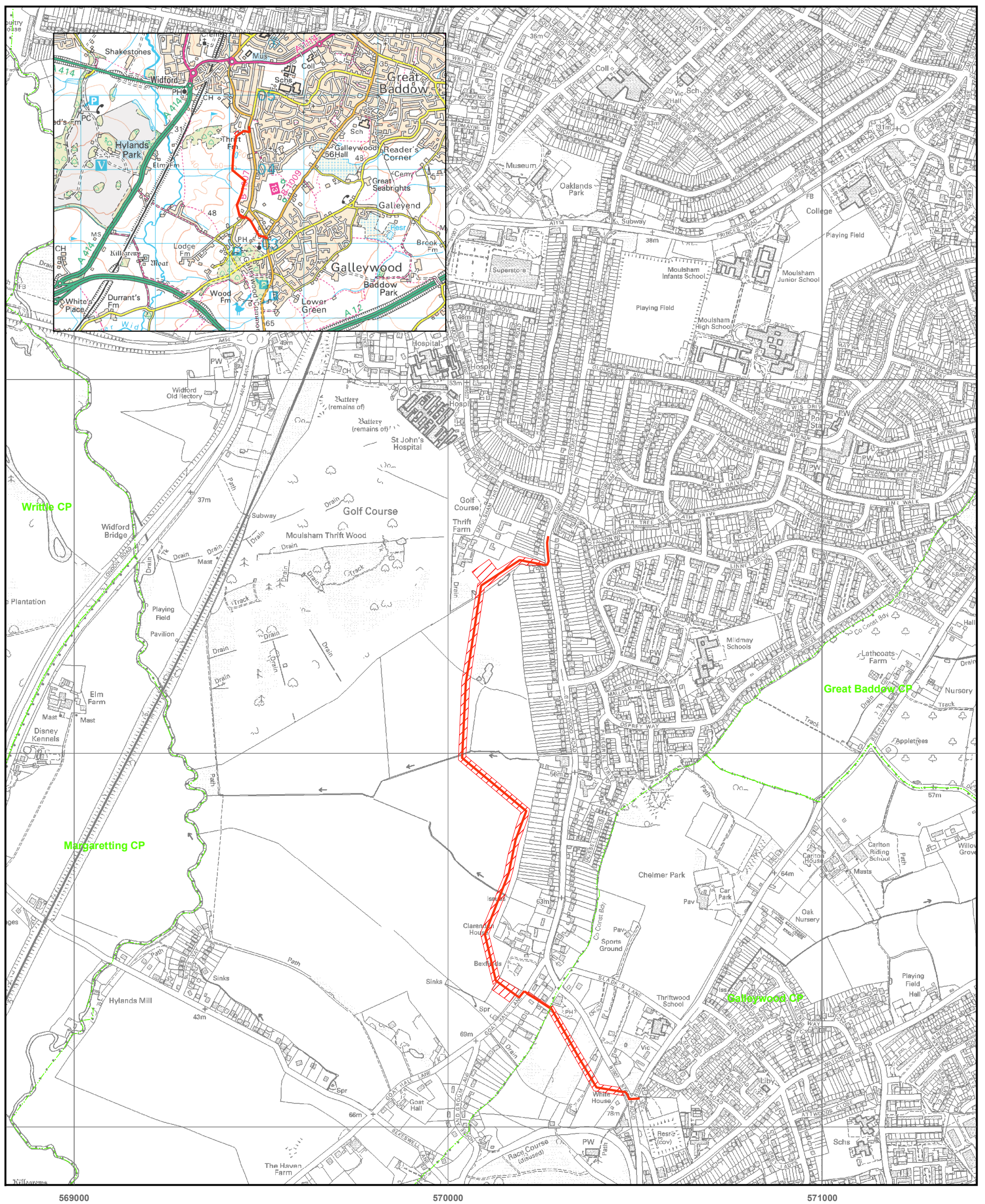


Fig. 1 Location of the proposed scheme

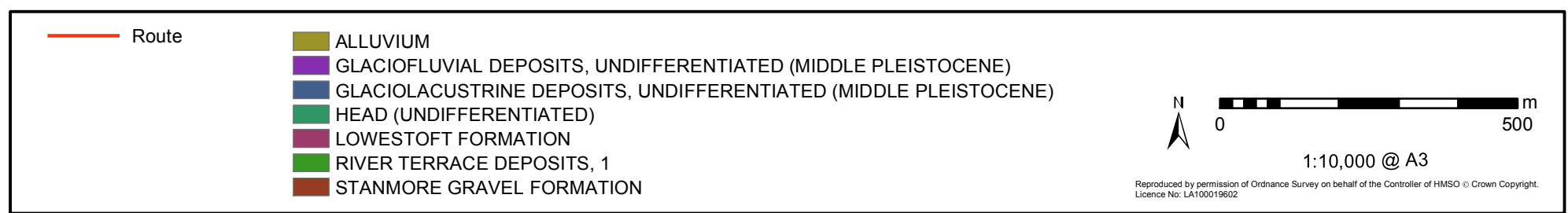
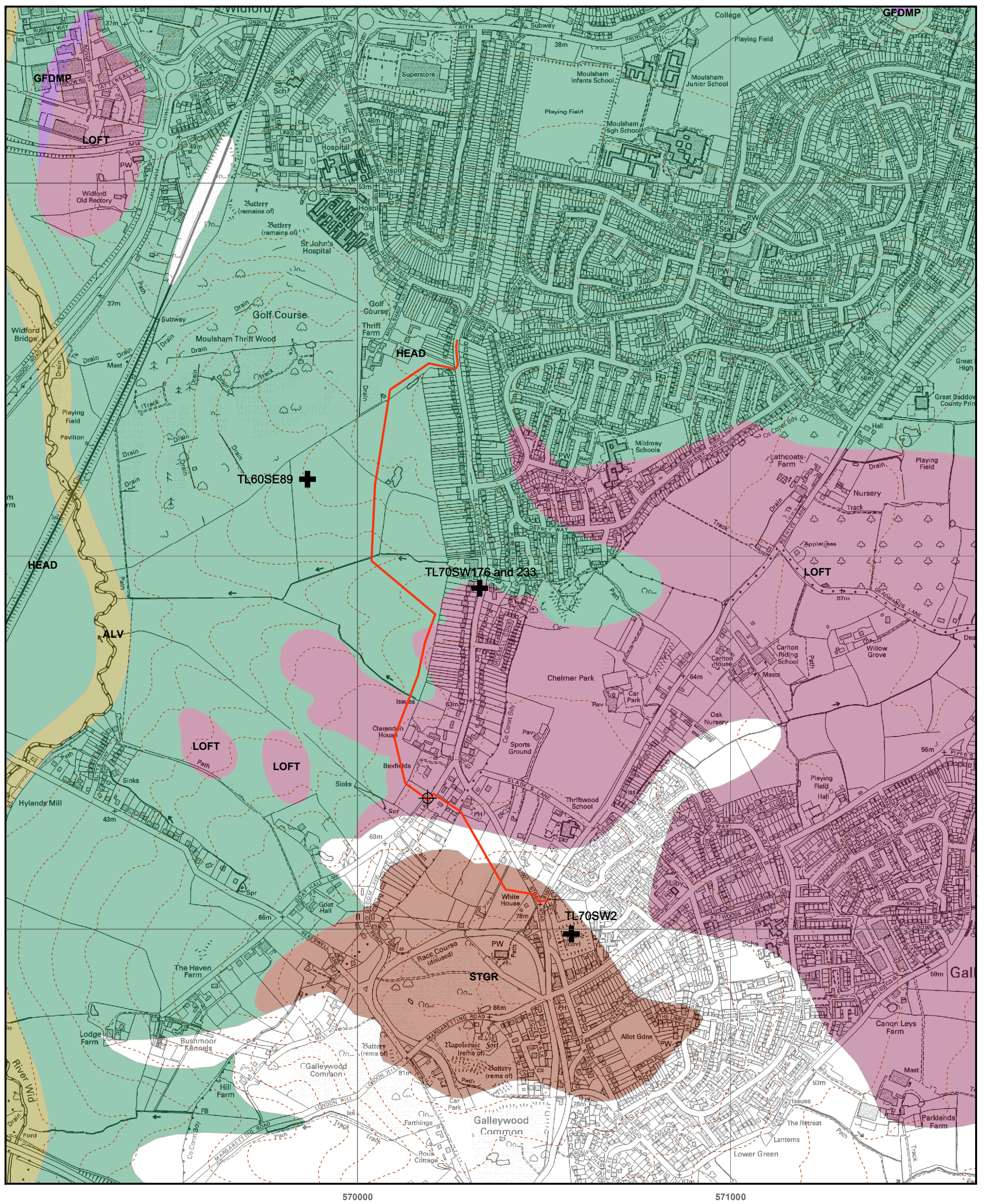


Fig. 2 Superficial Geology and Boreholes in the vicinity of the proposed route

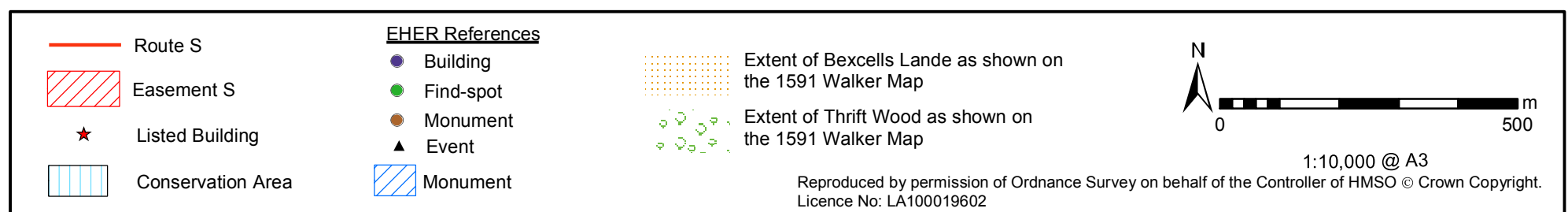
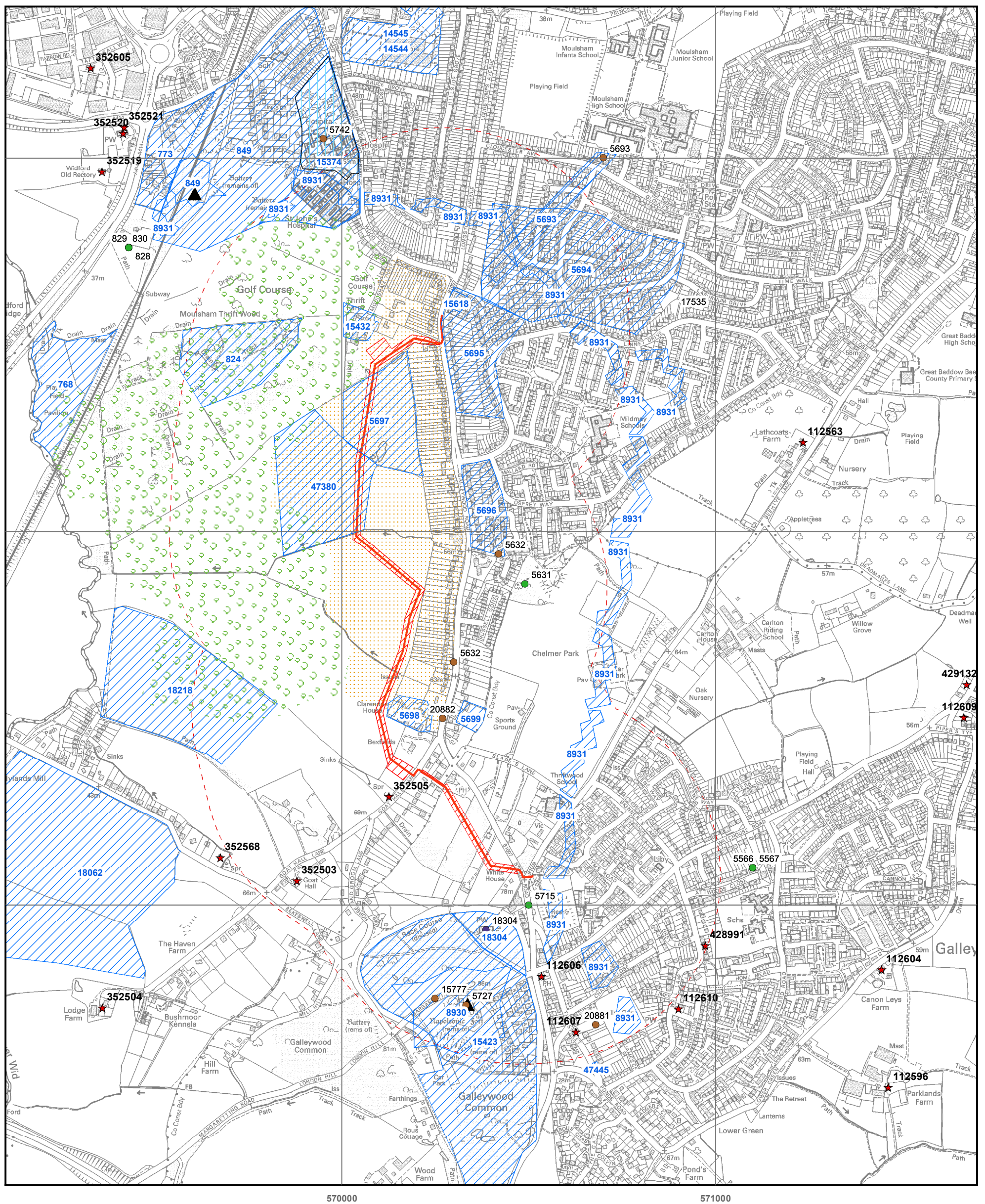


Fig. 3 Listed Buildings, Conservation Areas and EHER references in the vicinity of the proposed route

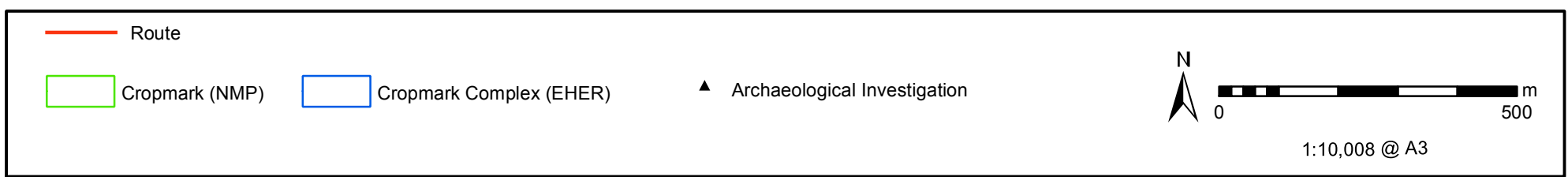
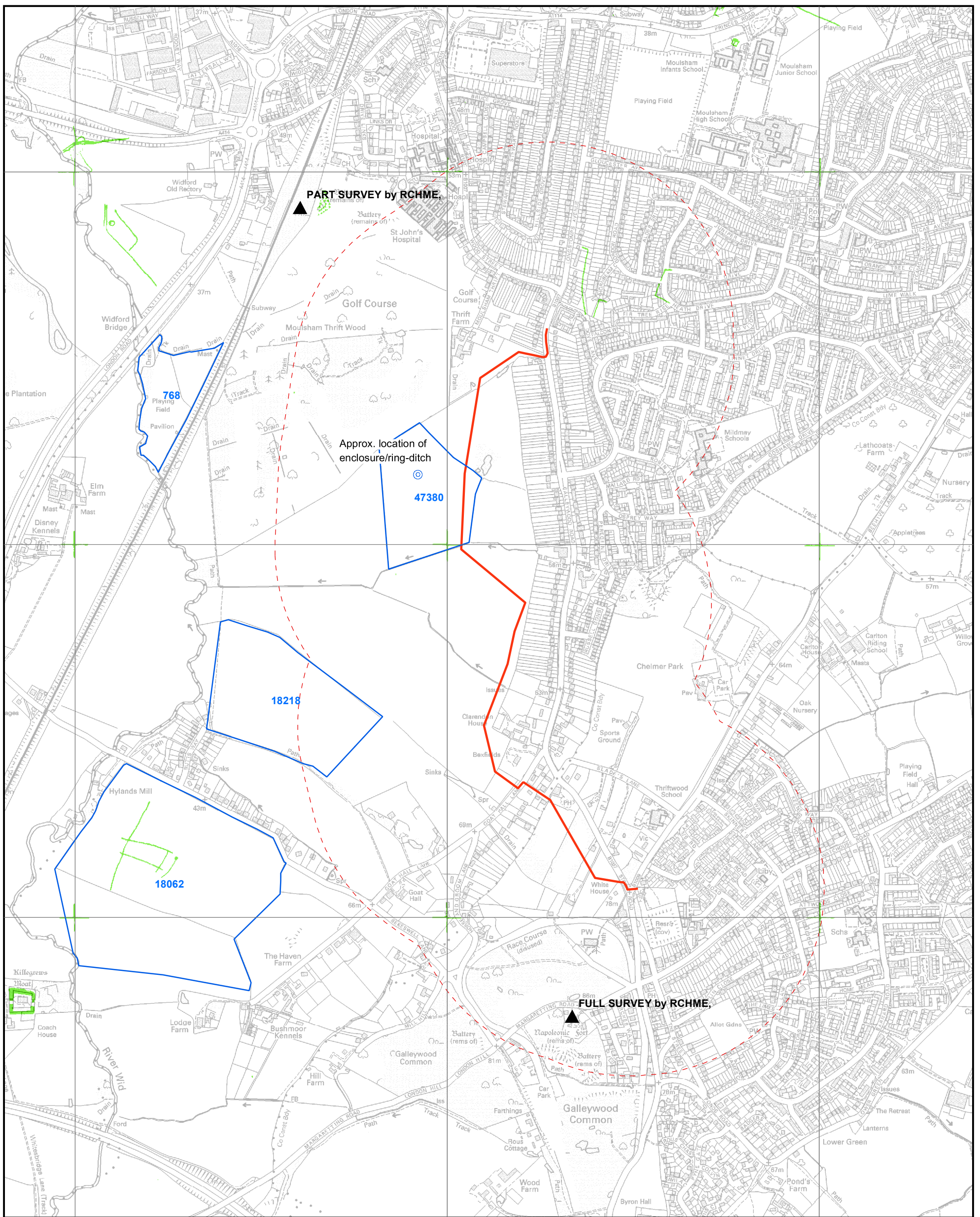


Fig. 4 Cropmarks and archaeological investigations

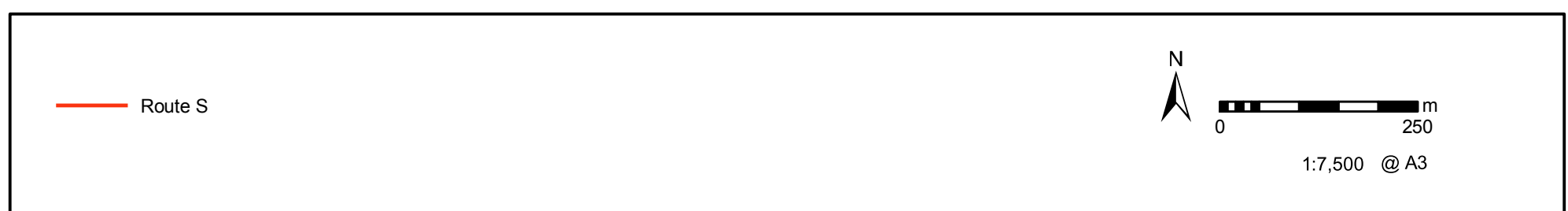
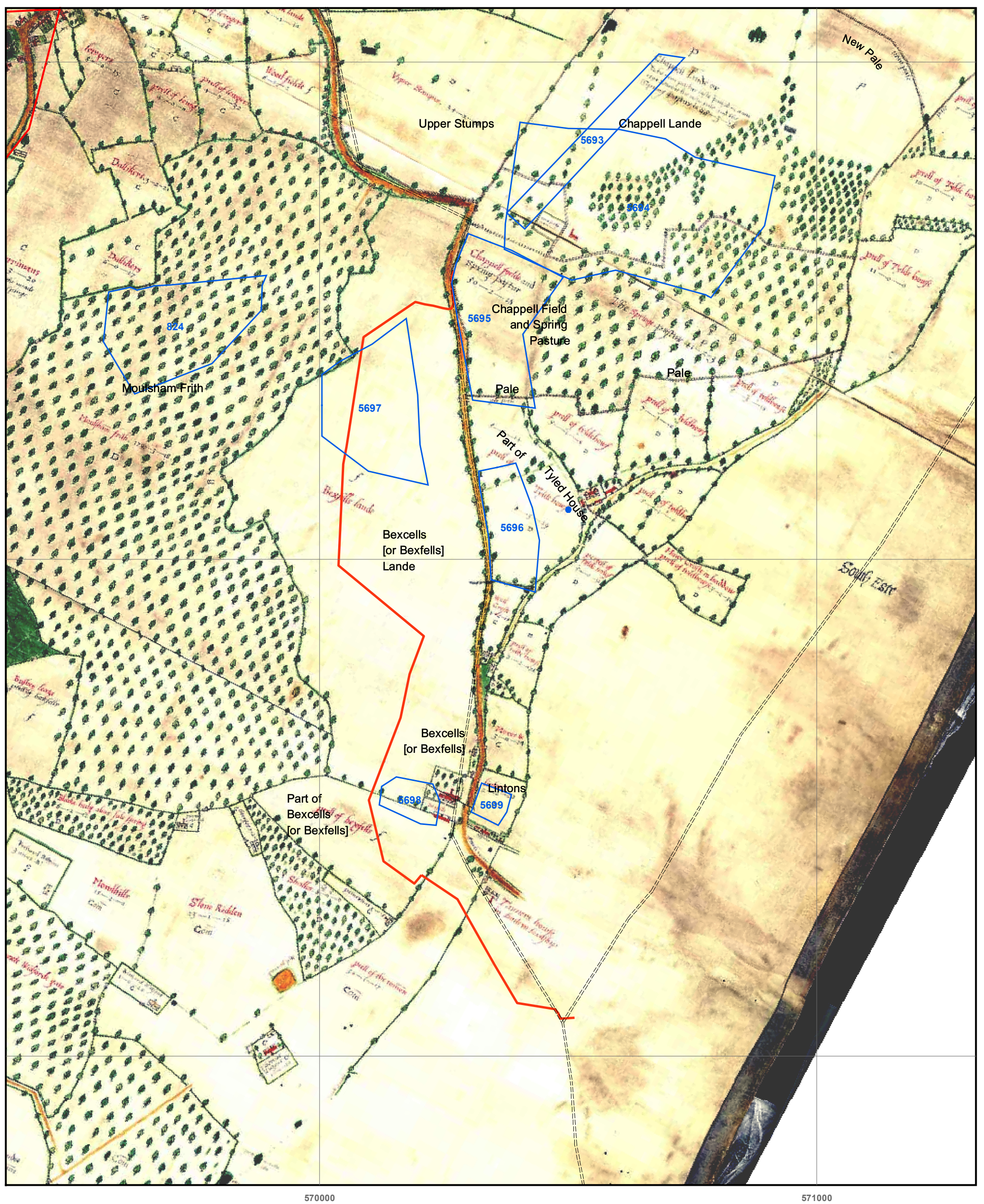


Fig. 5 EHER entries (polygon ) overlaid on a rectified image of the 1591 Walker Map



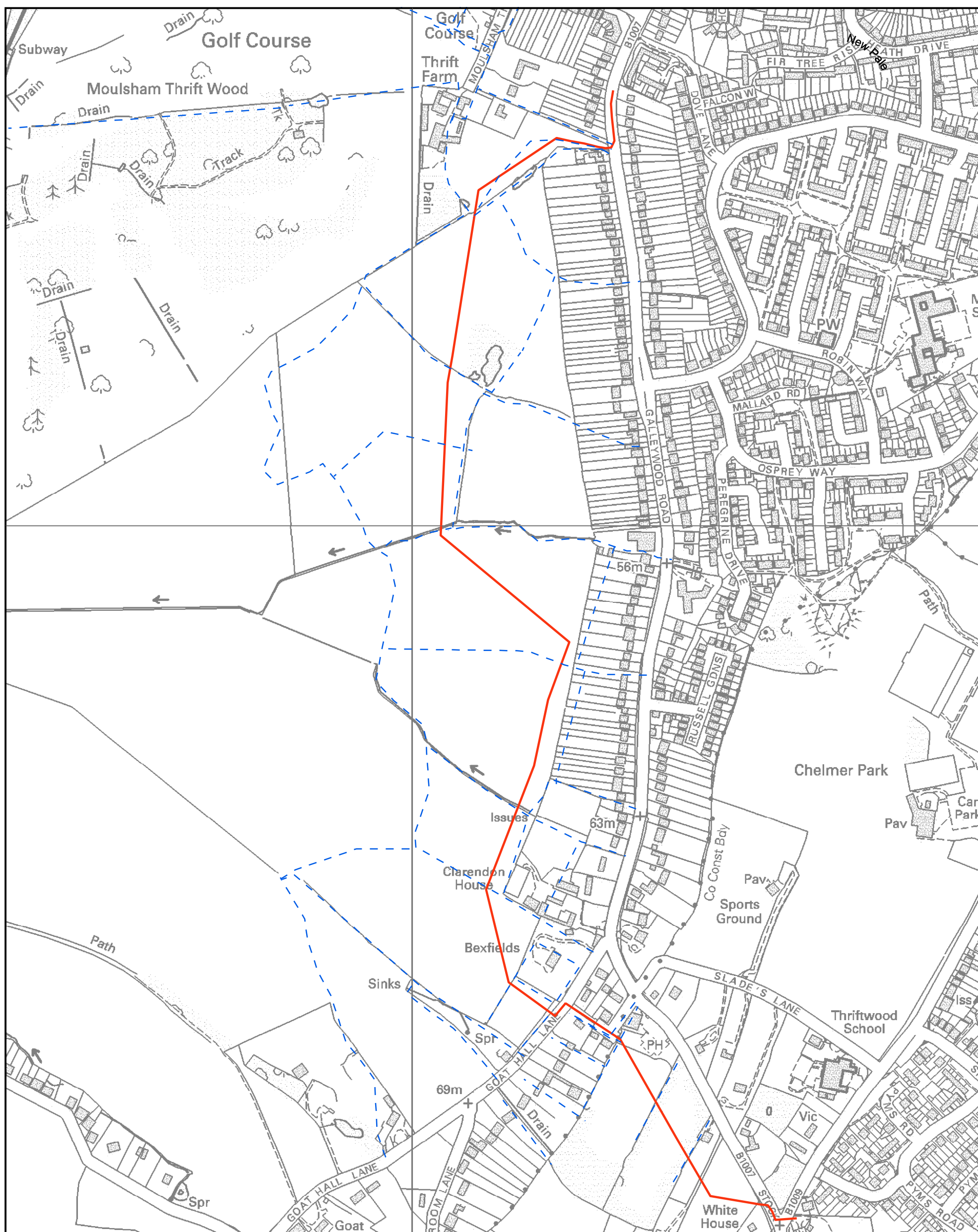
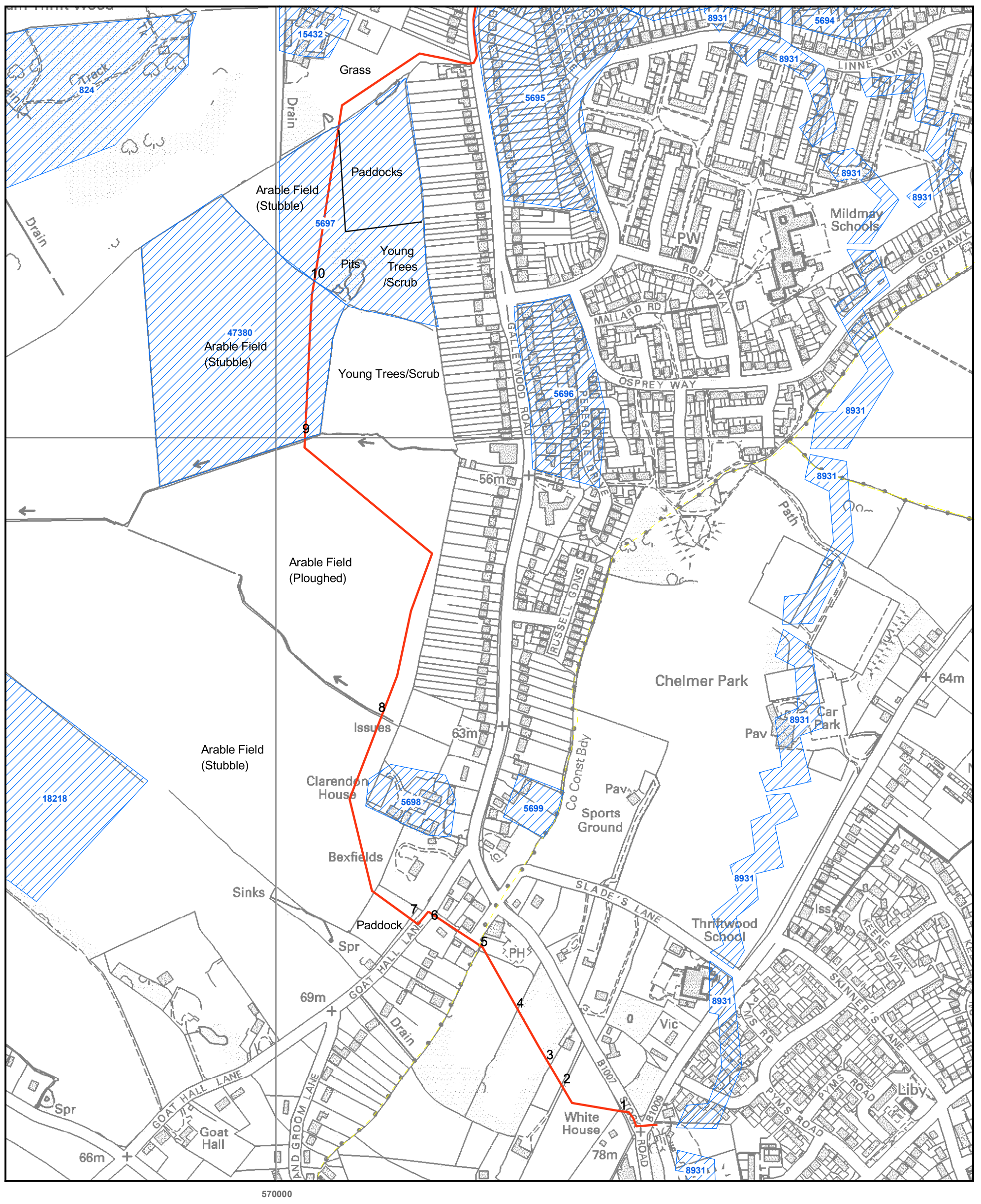


Fig. 6 Historic field boundaries in the vicinity of the route, derived from tithe mapping and the 1t to 4th Editions of the Ordnance Survey



204000



Fig. 7 Hedgerows along the proposed route



Plate 1 Hedgerow 8, looking west



Plate 2 Hedgerow 9, looking west



Plate 3 Hedgerow 10, looking south west



Plate 4 Gap in the hedgerow towards Thrift arm, looking north east