

**CULTURAL HERITAGE DESK BASED  
ASSESSMENT**

**Durham Green Business Park, Bowburn,  
County Durham**

**For**

**Acorn Business Park (Durham) Ltd**

**June 2008**



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**EXECUTIVE SUMMARY**

An archaeological desk-based assessment was undertaken to inform the proposed development of the Durham Green Business Park, Bowburn.

Data was collected from the National Monuments Record, Durham Historic Environment Record, English Heritage, Durham City Council, documentary sources, historic mapping and a site visit. A study area of 1km radius around the proposed development site was examined.

The only recorded sites within the proposed development site are the levelled remains of ridge and furrow. The site was depicted as undeveloped on the first edition Ordnance Survey mapping. The site has remained in agricultural use until the present day. Peat Edge Farm and Crow Trees Farmhouse, within the proposed development site boundary, are both depicted on tithe mapping.

The proposed development may directly physically impact upon ridge and furrow remains within the site boundary. The proposed development may directly impact upon the built heritage within the site either through demolition or intrusion into setting. The proposed development may also impact upon a historic hedgerow in the site. There is a potential to discover previously unrecorded, archaeological remains of prehistoric or medieval date within the proposed development site.

Consultation was undertaken with Deborah Anderson, Durham County Council Historic Environment Department and it was agreed that an evaluation programme of 50% geophysical survey followed by evaluation excavation should be adopted for the site. The results of this evaluation programme will inform any future mitigation strategy.

## 1.0 **INTRODUCTION**

This desk-based assessment report was commissioned by Acorn Business Park (Durham) Ltd to support a planning application for a proposed industrial development near Bowburn.

The report was prepared by Kirsten Holland, Senior Archaeologist at White Young Green Environmental, Arndale Court, Headingley, Leeds, LS6 2UJ.

This study examines the cultural heritage potential of the proposed development site and the surrounding area. The aim of the study is to:

- Identify recorded cultural heritage sites within the site boundary
- Identify the potential for previously unrecorded sites to be present within the site
- Identify potential impacts and mitigation strategies where appropriate
- Make recommendations for further work where required.

Cultural heritage within this context includes all buried and upstanding archaeological remains, built heritage sites, historic landscapes and any other features that contribute to the archaeological and historic interest of the area.

### 1.1 **Aims and Objectives**

In accordance with the IFA *Standard* definition of a Desk-Based Assessment (IFA 1994), this report seeks to identify and assess the known and potential archaeological resource within a specified area ('the site'), collating existing written and graphic information and taking full account of the likely nature and extent of previous impacts on the site, in order to identify the likely character, extent, quantity and worth of that resource in a regional and national context as appropriate.

A further objective is to define and comment on the likely impact of works (e.g. site clearance/reduction, construction, infrastructure etc) resulting from the proposed scheme on the surviving archaeological resource.

The IFA *Standard* states that the purpose of a desk-based assessment is so that appropriate Responses can be made, which may consist of one or more of the following:

- The formulation of a strategy to ensure that the recording, preservation or management of the Resource.
- The formulation of a strategy for further investigation, whether or not intrusive, where the Character and value of the resource is not sufficiently defined to permit a mitigation strategy or other response to be devised.
- The formulation of a project design for further archaeological investigation within a programme of research.

This desk-based assessment considers the archaeological potential within the site itself and the surrounding area. This assessment does not attempt to plot and review every archaeological find and monument; rather it aims to examine the distribution of evidence and to use this to predict the archaeological potential of the study area and the likely significance of the development proposals on those remains.

## 2.0 **METHODOLOGY**

### 2.1 **Assessment Methodology**

Impact assessment has been carried out through the consideration of baseline conditions in relation to the elements of the scheme that could cause cultural heritage impacts. Baseline conditions are defined as the existing environmental conditions and in applicable cases, the conditions that would develop in the future without the scheme. In accordance with best

practice this report assumes that the scheme will be constructed, although the use of the word 'will' in the text should not be taken to mean that implementation of the scheme is certain.

No standard method of evaluation and assessment is provided for the assessment of impact significance upon cultural heritage, therefore a set of evaluation and assessment criteria have been developed using a combination of the Secretary of State's criteria for Scheduling Monuments (PPG16, Annex 3), Design Manual for Roads and Bridges, Volume 11, Part 3, Section 2, HA 208/07 and Transport Analysis Guidance (TAG Unit 3.3.9, Heritage of Historic Resources Sub-Objective). Professional judgement is used in conjunction with these criteria to undertake the impact assessment. The full assessment methodology can be seen in Appendix A.

The principles of the impact assessment methodology rest upon independently evaluating the value of the cultural heritage resource and the predicted magnitude of impact (both positive and negative) upon the resource. By combining the value of the cultural heritage resource with the predicted magnitude of impact, the significance of the impact can be determined. The impact significance can be beneficial or adverse. The evaluation of magnitude of impact and impact significance is undertaken both before and after mitigation measures are proposed.

## **2.2 Sources Consulted**

A study area of approximately 1km radius around the proposed development site has been examined to assess the nature of the surrounding archaeological landscape and place the recorded sites within their context.

This study has been undertaken taking into consideration the historical and archaeological background of the proposed development area. The sources consulted were:

- Archaeological Desk-Based Assessment undertaken by RPS, 2005 for the site
- County Historic Environment Record (HER) (Durham County Council)
- National Monuments Record (NMR) (English Heritage)
- Multi Agency Geographic Information for the Countryside ([www.magic.gov.uk](http://www.magic.gov.uk)) and English Heritage for designated sites
- Durham City Council for Conservation Areas
- Geological Maps
- Historic mapping including relevant Ordnance Survey Maps
- Appropriate documentary sources and archaeological journals, where available.

A site walkover survey was undertaken on 19<sup>th</sup> February 2008.

## **3.0 SITE LOCATION AND GEOLOGY**

The proposed development site is located between Junction 61 of the A1(M) and east of Bowburn sewage works, just south of the village of Bowburn. The site is centred at NZ 305 373 (E: 430500 N: 537350) and is approximately 90m AOD.

The site is located within an area of gently undulating agricultural land. The site itself is currently used for agricultural farmland and is mixed pasture and arable. Bowburn village was originally a small farming hamlet, its name deriving from the bow shape of the burn that runs through it. Several small coal mines were sunk in the 19<sup>th</sup> century in this area. In 1906 Bowburn Colliery was established and this precipitated the development of the village of Bowburn.

The solid geology of the site and surrounding area consists of Carboniferous Middle Coal Measures comprising an interbedded sequence of mudstone, siltstone, sandstone, seatearth and coal. This is overlain by drift deposits comprising upper stony clays, middle sands, gravels and clays and lower boulder clay at a depth of between 22m and 46m across the site (Geological Survey Map, 27 and Bullen Consultants, 2005 cited in RPS, 2005).

## **4.0 LEGISLATION AND PLANNING POLICY CONTEXT**

### **4.1 Ancient Monuments and Archaeological Areas Act 1979**

Scheduled Monuments are designated by the Secretary of State for Culture, Media and Sport on the advice of English Heritage as selective examples of nationally important archaeological remains. Under the terms of Part 1 Section 2 of the Ancient Monuments and Archaeological Areas Act 1979 it is an offence to damage, disturb or alter a Scheduled Monument either above or below ground without first obtaining permission from the Secretary of State. This Act does not allow for the protection of the setting of Scheduled Monuments.

### **4.2 Planning (Listed Buildings and Conservation Areas) Act 1990**

The Act outlines the provisions for designation, control of works and enforcement measures relating to Listed Buildings and Conservation Areas. Section 66 of the Act states that the planning authority must have special regard to the desirability of preserving the setting of any Listed Building that may be affected by the grant of planning permission. Section 72 states that special attention shall be paid to the desirability of preserving or enhancing the character or appearance of Conservation Areas.

### **4.3 Planning Policy Guidance 16: Planning and Archaeology - 1990**

PPG16 sets out the government's policy with respect to archaeology and planning. If development is likely to impact upon archaeological remains the guidance stresses the need for early consultation between developers and planning authorities plus the need for an archaeological assessment to be carried out early on in the process. Where nationally important remains, whether scheduled or not, and their setting are adversely affected by proposed development there should be a presumption in favour of their preservation. Where important archaeological remains may exist, field evaluation can help to define the character and extent of the remains and so assist in identifying potential options for minimising or avoiding damage. In cases involving archaeological remains of lesser importance the planning authority will need to weigh the relative importance of the archaeology against other factors, including the need for the proposed development. Where it is not feasible to preserve remains, an acceptable alternative may be to arrange prior excavation and recording of archaeological remains and the publication of the results by means of granting planning permission subject to a negative condition.

### **4.4 Planning Policy Guidance 15: Planning and the Historic Environment - 1994**

PPG15 emphasises the importance that the Government gives to preserving and enhancing Conservation Areas, Listed Buildings and their settings and other aspects of the historic environment including Registered Parks and Gardens, World Heritage Sites and the wider historic landscape.

### **4.5 Other Policy and Guidance**

The Draft Regional Spatial Strategy for the North-East (June 2005) contains one policy relevant to the historic environment. This promotes the general principle of documenting, conserving, promoting and enhancing the historic environment. It encompasses all aspects of the historic environment and specific features such as Historic Landscape Characterisation and Conservation Area Appraisals.

The City of Durham Local Plan (adopted May 2004) contains a number of policies relevant to cultural heritage. These include:

- E3 and E4 World Heritage Site
- E21 Historic Environment
- E22 Conservation Areas
- E23 Listed Buildings
- E24 Scheduled Monuments
- E25 Registered Battlefields
- E26 Registered Parks and Gardens

New planning policy to form part of the Local Development Framework is currently under development. *Planning for Our Heritage, Preferred Options Report* has recently finished a consultation period (28<sup>th</sup> Sept 2007). This outlines the proposed heritage protection and enhancement policies for the City. Although it has not yet been adopted due consideration will be given to the emerging policies within the document.

## 5.0 **CONSULTATION**

Consultation was undertaken with the Durham Historic Environment Record, English Heritage and Durham County Record Office for the provision of data for this report. Further consultation was undertaken with Deborah Anderson of Durham County Council regarding the proposed development, its impact upon cultural heritage and mitigation strategies in their role as Archaeological Advisor to the local planning authority.

## 6.0 **BASELINE DATA**

### 6.1 **World Heritage Sites**

The World Heritage Site of Durham Castle and Cathedral lies approximately 5km to the north-west of the site.

### 6.2 **Scheduled Monuments**

There are no Scheduled Monuments within the study area. The closest Scheduled Monuments are Coxhoe medieval settlement (NZ 332 356, 3km south-east) and Croxdale medieval chapel (NZ 274 379, 3.2km west).

### 6.3 **Listed Buildings**

The only Listed Building in the study area is the Grade II Listed Tursdale House (NZ 29283 37062). This 17<sup>th</sup> century building was greatly altered in the 19<sup>th</sup> and 20<sup>th</sup> centuries. It is built of coursed sandstone rubble with Welsh slate roofs. It has an altered hearth-passage plan and 20<sup>th</sup> century extensions.

### 6.4 **Conservation Areas, Registered Parks and Gardens, Registered Battlefields, Ancient Woodland and Historic Hedgerows.**

There are no Registered Parks and Gardens or Registered Battlefields within the study area. The closest Registered Park and Garden is Croxdale Hall, Grade II\* (NZ 275 380, 2.5km west) and the closest Registered Battlefield is the Battle of Neville's Cross, 1346 (NZ 260 470, 6.5km north-west).

#### 6.4.1 **Conservation Areas**

There is one Conservation Area within the study area. The Bowburn Conservation Area is 100m north-east of the proposed development site and is largely comprised of miners housing from the establishment of Bowburn Colliery in the early 20<sup>th</sup> century.

#### 6.4.2 **Ancient Woodland**

There are three areas of ancient woodland within the study area.

Wood Name	Type	Grid Ref	Distance from site
Hett Wood	Ancient and Semi Natural Woodland	NZ 288 371	1km south-west
Not named	Ancient and Semi Natural Woodland	NZ 318 385	1.3km south-west
Not named	Ancient and Semi Natural Woodland	NZ 287 370	1.4km north-east

### 6.4.3 Historic Hedgerows

There is one hedgerow which has been identified as of historic interest as it forms part of a pre-1850 township or parish boundary between Cornforth and Quarrington and therefore is protected under the Hedgerow Regulations. This is the sinuous hedgerow from the boundary with Bowburn village to Peat Edge Farm which runs through the centre of the site.

## 6.5 Archaeological and Historical Background

### 6.5.1 Prehistoric (up to 43AD)

There is a paucity of recorded evidence for activity within the study area and wider region during the prehistoric periods. This lack of evidence may be partially due to the relatively low density of population, which means that much activity is below archaeologically visible levels, and the extensive use of organic materials which do not survive well in the archaeological record.

The climate in the early prehistoric period would preclude settlement for much of the Palaeolithic period as this region would have been glaciated. Throughout the late Palaeolithic, Mesolithic and Neolithic periods it is probable that hunter gatherers would have moved between upland and lowland areas exploiting resources. It is feasible that Bowburn would have lain along routes travelled and therefore transitory evidence of population, such as flint artefacts or temporary settlements may be present. Within the wider region there are isolated find spots and concentrations of flint tools.

As the transition from hunter gatherers to settled farmers occurred in the Neolithic period there was a gradual shift inland indicating less reliance on marine resources. Settlement appears to have been concentrated in lowland areas, whilst upland areas show evidence for ritual activity and burial. The distribution of evidence indicates that the fertile lowlands of the Wear valley and the sands and gravels of Durham, were the first areas to be settled and exploited. Bowburn lies to the south of the Durham gravels and would have been attractive as an area for expansion when pressure for resources within these areas increased (WYG, 2007).

The pattern of settlement that became established in the Neolithic period appears to have continued into the Bronze Age. Within the region there is an increase in density of recorded monuments from the Bronze Age. This may be partially due to the monumental nature of round barrows and cairns which means they may have been respected by later populations. Until recently the nature of Bronze Age evidence has been restricted to isolated findspots of axes and flints which probably represent casual loss during transitory passage through the area.

Evaluation and excavations in advance of road construction within the study area in 2007 identified a potential Bronze Age settlement (Site 48, ASUD, 2007). The site comprised a first phase of post holes, indicating circular structural features, which may have been enclosed by a palisade. These were overlain by a later enclosed settlement. The internal area of the enclosure was heavily truncated however pits and postholes indicating structural features were recorded. Although the form of the enclosed settlement may indicate an Iron Age date environmental remains of particular seed types indicate a Bronze Age date. An Iron Age enclosure site is recorded close to this area on the HER, however it is not clear from the records whether these are the same site or different (Site 47).

Evidence of settlement within the region in the Iron Age becomes more frequent and the population appears to have increased. The pattern of settlement also exhibits a change as nucleated and defended settlements become more common. An Iron Age settlement at Brandon approximately 4km west of Bowburn excavated in 1960-61 had evidence of two circular huts and furnaces, within a rectangular ditched enclosure. The settlement showed several phases of activity, particularly relating to the re-defence of the settlement, with palisade trenches and additional ditches and ramparts constructed indicating conflict within the region at this time. A circular cropmark which is likely to have been removed by road construction was also recorded within the study area and may have been a ploughed out barrow or roundhouse (Site 5).

### 6.5.2 Roman/Romano British (43AD to c.450AD)

Whilst this region does not appear to have been heavily defended by the Romans, the forts at Binchester, Ebchester and Chester-le-Street within this region are on major roads and are likely to have been built as part of the strategic defence network.

The postulated route of a Roman road between Great Stainton to Chester-le-Street passes to the west of Bowburn. This road would have formed that principal north-south route through East Durham leading to Newcastle and Hadrian's Wall. It is generally known as Cade's road after the 18<sup>th</sup> century antiquarian who first identified its route (Site 21). There is also the find spot of a Roman brooch (Site 26), however this is anticipated to be a casual loss and the precise findspot is unknown.

Although no other sites of Roman date have been recorded within the study area it is probable that there may be evidence relating to the transitory use of the site by people travelling in this period.

### 6.5.3 The Early Medieval (c. 450AD to 1066AD) and Medieval Periods (1066 AD to c. 1540AD)

There are no recorded sites of early medieval date within the study area, however it is probable that a number of the sites documented in the medieval period have their origins in the early medieval period and represent continuation of settlement. This may be the case for Tursdale which is likely to derive its name from Old Norse and means 'Thor's Valley' (HER 6899).

The medieval period is the first period which contains evidence for settlement which is sustained until the modern period. Whilst Bowburn does not have medieval origins a number of the villages surrounding the village do including Tursdale, Coxhoe, Shincliffe and Croxdale. There are numerous documentary references within these villages to mills, houses, churches and crosses although relatively few have survived until the modern day. Tursdale (Site 28) is recorded as a deserted medieval village, however there are no visible earthwork remains of this site.

Tursdale House in the west of the study area was one of the manor houses of Tursdale which was focussed to the south of the study area. There was a moated site just outside of the main village, which was traditionally believed to have been the home of the Baliol family (Site 33). In addition to this there was a medieval moated house associated with Coxhoe which was ruinous by the end of the 13<sup>th</sup> century. Its precise location is unknown.

There is a potential that the study area may contain the archaeological remains of dispersed medieval settlement and the remnants of medieval agricultural practices or field patterns. An aerial survey of the area (see Section 8) identified numerous areas of ridge and furrow remains, some of these are of medieval date although the majority date to the post-medieval period. The evaluation in advance of road development also recorded buried ridge and furrow remains (ASUD, 2007). It is unlikely that the study area contains medieval mining remains due to the depth of coal in this area.

### 6.5.4 Post Medieval (c.1540AD to 1900AD) and Modern (1901AD to present)

The early post-medieval period demonstrates few changes within the study area. There was a general decline in settlement in this period in a number of the medieval villages such as Coxhoe and Old Quarrington.

The area saw a renaissance in population in the later part of the post-medieval period due to the sinking of numerous collieries in the area. An attempt was made to mine coal in the Bowburn area in the 1840s when a pit was established near the Coxhoe terminus of the Durham City Branch of the Clarence Railway. The mine was abandoned in 1857. The first edition OS map showed Bowburn as a small hamlet on the Durham to Stockton turnpike road. Bowburn House and the Hare and Hounds public house were marked.

The second Bowburn Colliery was sunk in 1906 with the first coal drawn in 1908. The opening of the main Bowburn Colliery was catalyst for the growth of Bowburn and precipitated the building of

miner housing and associated facilities such as the church and school. The site of the colliery is now occupied by Bowburn South Industrial Estate and the only visible remains are the pit housing, much of which falls within the village Conservation Area.

In addition to the remains such as wagonways (Sites 51-3), horse gins (Site 40) and engine sheds (Site 41) associated with the coal mines in the area a number of other industrial sites are recorded. These include sites such as clay pits (Site 37) and brick works (Site 36) which are likely to have been established to provide building materials for the growing village. The evaluation in advance of road development also recorded evidence of the industrial history of the area noting numerous areas of mining waste (ASUD 2007).

## **7.0 HISTORIC MAPPING AND WALKOVER SURVEY.**

A selection of historic maps have been reproduced in Appendix C.

Bowburn is not shown on Cary's Map of Durham (1787) and is likely to have been no more than dispersed farmsteads at this time. The tithe mapping and apportionments for the area indicate that the proposed development site was under mixed pasture and arable cultivation in 1839. The farm buildings at Peat Edge had been built by this period and Crow Tree tileworks to the south of the proposed development site had also been established, whilst the tiled sheds were within the proposed site boundary.

The first edition OS mapping (1858 and 1861) for the study area shows that the field alignment within the proposed development site had altered little. The south east of the site contains Peat Edge farmstead and Crow Trees tiled sheds at the location of the existing farms within the proposed development site. To the south of the proposed development site just outside of the boundary Crow Tree Tileworks were still recorded as in use, however they had become disused by 1898. The village of Bowburn was at this time restricted to several residential houses and a public house. The surrounding area was largely composed of scattered farmsteads, although the village of Coxhoe was an established centre at this time.

Few changes were shown to the proposed development site throughout the remainder of the post-medieval and modern periods, with the exception of amalgamation of fields and the realignment of some field boundaries to aid modern agricultural practice. The site remained in agricultural use. A footpath was established between Peat Edge and the village of Bowburn by 1898 and the sewage works to the west of the site were built by 1939.

The surrounding area shows continued development during the remainder of the 19<sup>th</sup> and 20<sup>th</sup> centuries. Bowburn Colliery to the north west of the site became established in the early 20<sup>th</sup> century and grew in size until the 1960s. The 1923 OS map demonstrates that the village of Bowburn was established by this period, initially with regular streets of workers housing, and continued in growth until the 1960s. Coxhoe also grew within this period along the main road between Bowburn and Coxhoe.

Several industrial sites such as the brickworks and railways serving collieries were established within this period although the majority had fallen out of use by the end of the 20<sup>th</sup> century. The motorway was built to the east of the proposed development site between the publishing of the 1967 and 1980 mapping.

## **8.0 WALKOVER SURVEY**

The walkover survey was undertaken on 19<sup>th</sup> February 2008. The weather conditions were mixed comprising bright, sunny and clear weather, deteriorating to misty conditions towards the very end of the survey. It is not considered that the weather conditions affected the results of the walkover survey.

The proposed development site is largely given over to agricultural uses and comprise a mix of arable and pasture. The pasture areas are currently used as grazing, particularly for horses. The

field boundaries are mainly hedgerows and the ground undulates, generally sloping towards Bowburn Beck to the west of the site.

No features of archaeological interest were noted during the walkover survey within the development boundary. To the immediate south of the proposed development area a number of earthwork platforms and features were recorded. These features are likely to be the remains of the Crow Tree tileworks. They will not be impacted by the proposed development.

The farm at Peat Edge appears to have been substantially modernized and does not appear to retain many features from the post-medieval period, however internal surveys of buildings were not conducted and earlier features may be concealed under modern alterations.

Crow Trees farmhouse appears to retain a number of historic features. Alterations to the fabric of the buildings and earlier phases can be seen on the exterior of the building. The building was marked as 'tile sheds' on the tithe mapping and it is unclear if the present building has been modified for residential use or whether a new building was built.

The other buildings within the proposed development site are of modern date and do not have historic interest.

## 9.0 AERIAL PHOTOGRAPHY

An extensive analysis of aerial photographs has been undertaken for this region as part of an Aggregates Levy Sustainability Fund funded project. The results of this study are lodged with the Durham Historic Environment Record and were examined as part of this project. The study has identified extensive remains of ridge and furrow, of medieval and post-medieval date, within the study area. The majority of these remains have been levelled or destroyed by later development. Whilst the majority of the fields have been amalgamated in the modern period the field alignment has remained largely the same.

The other main class of site identified were air raid shelters. The shelters are located close to those recorded on the NMR (Sites 18, 19) and it is probable that the records represent the same sites. The aerial survey also identified a number of post-medieval collieries (Sites 32 and 48) and the medieval moated site at Standalone (Site 33) which were already recorded on the HER.

## 10.0 ARCHAEOLOGICAL POTENTIAL AND IMPACT ASSESSMENT

The proposed development is at the development of a masterplan stage and therefore a detailed impact assessment can not be undertaken. The following impact assessment is based upon current information and should be reviewed as the masterplan and detailed designs become available.

The ALSF aerial survey identified extensive ridge and furrow remains within the boundaries of the proposed development, however these have been levelled in the later 20<sup>th</sup> century. There is a potential that remains of the ridge and furrow may survive beneath the existing ground level. The value of these remains is considered to be low. They are a very common form of field monument within both this region and nationally and the condition and survival of any remains on this site is liable to be poor. If ridge and furrow remains survive within the boundaries of the site there is a potential that they will be removed by the proposed development and the impact will therefore be **substantial negative**.

The historic hedgerow which marks the Quarrington and Cornforth parish boundaries may be removed by the proposed development. The hedgerow is protected by the Hedgerow Regulations and is therefore considered to be of medium value. The removal of the hedgerow would be a **substantial negative** impact.

The buildings of Peat Edge which include the former farm and Crow Trees tilesheds may be of historic interest. There is the potential that these buildings may be demolished or altered as a result of the proposed development. If the buildings are demolished the impact will be substantial

negative. If the buildings are not removed by the proposed development then their setting may be impacted. This would be considered to be a **moderate negative** impact as the former agricultural buildings would be removed from the rural landscape and placed within a industrial landscape.

It is not anticipated that there will be impacts upon the setting of the Bowburn Conservation Area or the Listed Building of Turdale House. They are sufficiently distant from the development and intervening topography and buildings mean that their setting will not be affected.

There is a potential that previously unrecorded archaeological sites may be found within the boundaries of the proposed development. These remains are most likely to be either Bronze Age or Iron Age settlement and associated field patterns, or medieval or early post-medieval agricultural remains associated with the surrounding medieval settlements such as Turdale.

An assessment of intervisibility between the Durham World Heritage Site and the proposed development site was undertaken by Ryder HKS (2006) based upon the assumption of three (15.7m) and four (19.8m) storey building heights. This demonstrated that three storey height buildings would be fully screened by existing topography and vegetation from the World Heritage Site. The top of the four storey buildings may be visible from the top of the Cathedral tower, however the distance between the Cathedral and the proposed development means that the development would be an insignificant feature within the wider landscape and therefore the visual impact would be **negligible**.

## 11.0 **EVALUATION AND MITIGATION**

Following discussions with Deborah Anderson of Durham County Council it is proposed that in the first instance that a geophysical survey should be undertaken within the proposed development site. A detailed magnetometer survey of at least 50% of the proposed development area is recommended as this is considered to be the most effective technique to determine the presence of prehistoric or medieval settlement and agricultural remains. The magnetometer survey should also confirm the presence or absence of residual ridge and furrow remains across the site.

A second phase of survey would be evaluation excavations to target any geophysical anomalies identified in the first phase, to test a representative sample of areas which appear to be archaeologically 'blank' after survey (as not all features appear on geophysical surveys) and to examine areas not subject to geophysical survey for archaeological features.

The results of these surveys will be used to inform the requirement for further archaeological survey or a detailed mitigation strategy for the site. Preservation *in situ* should be the preferable mitigation option, in line with PPG16, and any geophysical survey or evaluation excavation that identifies archaeological remains should, in the first instance, be seen as a guide to alter development plans wherever possible to avoid destroying identified archaeology. It is noted that that is not always possible and therefore alternative mitigation and evaluation strategies may be employed. This may include, but not be limited to fieldwalking, evaluation excavation, excavation prior to the start of construction activities or a watching brief during initial topsoil removal and groundworks associated with construction.

It is recommended that if the historic hedgerow is removed the removal is archaeologically monitored to record any archaeological features associated with the hedgerow. In addition an application to remove the hedgerow will be required under the Hedgerow Regulations.

If the buildings of Peat Edge and Crow Trees are to be demolished as part of the proposed development it is proposed that a built heritage survey be undertaken to record the buildings, their significance and context. If the buildings are not to be demolished then consideration should be given to screening the built heritage elements from the proposed development.

Any archaeological work for evaluation or mitigation should be undertaken in accordance with a Written Scheme of Investigation agreed in advance with the Archaeological Advisor for the Local Planning Authority.

## 12.0 RESIDUAL IMPACTS AND CONCLUSIONS

The residual impacts of the development upon key aspects of cultural heritage are summarised in the table below. This takes the precautionary approach and assumes that ridge and furrow remains within the site, historic hedgerow and the existing buildings will be impacted by the development.

The proposed development may directly physically impact upon ridge and furrow remains and a historic hedgerow within the site boundary. The proposed development may directly impact upon the built heritage within the site either through demolition or intrusion into setting. There is a potential to discover previously unrecorded, archaeological remains of prehistoric or medieval date within the proposed development site. In the first instance a geophysical survey of the site is recommended. The results of this survey will determine further evaluation and mitigation work as appropriate. The overall residual significance of impact of the proposed development is considered to be **minor adverse**.

Cultural Heritage Feature	Value	Initial Magnitude of Impact	Mitigation	Residual Magnitude of Impact	Residual Impact Significance	Confidence
Ridge and furrow remains within the site boundary	Low	Substantial negative	Geophysical survey in the first instance followed by mitigation as appropriate.	Slight negative	Minor adverse	Low
Historic hedgerow from Bowburn to Peat Edge Farm	Medium	Substantial negative	Monitoring of the removal of the hedgerow to record any associated archaeological features.	Slight negative	Minor adverse	Low
Built heritage within site - demolition	Low	Substantial negative	Built heritage survey	Slight negative	Minor adverse	Low
Built heritage within site – impact upon setting	Low	Moderate negative	Consideration of screening measures	Slight negative	Minor adverse to neutral	Low
Setting of cultural heritage features	Low to High	No Change	None proposed	No change	Neutral	High
Previously unrecorded archaeological sites	Unknown but likely to be low or medium	Unknown but potentially substantial negative	Unknown at this stage	Unknown at this stage	Unknown	Low

### 13.0 REFERENCES

- Archaeological Services University of Durham (Oct 2007) *A688 Wheatley Hill to Bowburn Link Road, County Durham, Archaeological Post-Excavation Assessment*. Unpublished Report 1644.
- Bullen Consultants (2005) *Durham Green Business Park, Bowburn, Co. Durham. Geotechnical and Geoenvironmental Desk Study Report*. Unpublished client report.
- DoE (1990) Planning Policy Guidance Note 16 *Archaeology and Planning*.
- DoE (1994) Planning Policy Guidance Note 15 *Planning and the Historic Environment*.
- Durham City Council (Adopted May 2004) *City of Durham Local Plan*.
- Durham City Council (August 2007) *Planning for Our Heritage, Preferred Options Report*.
- Geological Survey of Great Britain (1965) Durham Drift Geology. Sheet 27. Scale 1 inch to 1 mile.
- Geological Survey of Great Britain (1965) Durham Solid Geology. Sheet 27 Scale 1 inch to 1 mile.
- HMSO (1979) *Ancient Monuments and Archaeological Areas Act*.
- HMSO (1990) *Planning (Listed Buildings and Conservation Areas) Act*.
- Institute of Field Archaeologists (1994 rev 2001) *Standards and Guidance for Archaeological Desk-Based Assessments*.
- Keys to the Past online HER data ([www.keystothepast.info](http://www.keystothepast.info)). Accessed December 2007.
- Multi Agency Geographical Information for the Countryside ([www.magic.gov.uk](http://www.magic.gov.uk)). Accessed December 2007.
- North-East Assembly (June 2005) *Draft Regional Spatial Strategy for the North-East*.
- RPS (2005) *Archaeological Desk-Based Assessment of Land at Bowburn, County Durham*. Unpublished client report.
- Ryders HKS (2006) *Durham Green Business Park. Design and Access Statement*. Unpublished report.
- White Young Green (June 2007) *Archaeological Desk-Based Assessment. Outline Retail Development, Durham Road, Bowburn*. Unpublished client report.
- Historic Mapping*
- Cary's Map of Durham 1787
- Cassop tithe plan and apportionment 1839 Ref: EP/Ke27/1-2
- Cornforth tithe plan and apportionment 1839 Ref: EP/BM25/1-2
- Ordnance Survey mapping 6" to 1mile/1:10560 1861, 1898, 1923, 1939, 1952, 1966/7
- Ordnance Survey mapping 25" to 1mile/1:2500 1858, 1895, 1897, 1920, 1939, 1961, 1970, 1977, 1988, 1990, 1992/3, 1994
- Quarrington tithe plan and apportionment 1839 Ref: EP/Ke26/1-2

**APPENDIX A**

**Cultural Heritage Impact Assessment Methodology**

**Cultural Heritage Impact Assessment Methodology**

No standard method of evaluation and assessment is provided for the assessment of significance of effects upon cultural heritage, therefore a set of evaluation and assessment criteria have been developed using a combination of the Secretary of State’s criteria for Scheduling Monuments (PPG16, Annex 3), Design Manual for Roads and Bridges, Volume 11, Part 3, Section 2, HA 208/07 and Transport Analysis Guidance (TAG Unit 3.3.9, Heritage of Historic Resources Sub-Objective). Professional judgement is used in conjunction with these criteria to undertake the impact assessment.

*Value*

The table below provides guidance on the assessment of cultural heritage value on all archaeological sites and monuments, historic buildings, historic landscapes and other types of historical site such as battlefields, parks and gardens, not just those that are statutorily designated.

Value	Examples
Very High	<ul style="list-style-type: none"> <li>▪ World Heritage Sites</li> <li>▪ Assets of acknowledged international importance or can contribute to international research objectives</li> <li>▪ Historic landscapes and townscapes of international sensitivity, whether designated or not or extremely well preserved historic landscapes and townscapes with exceptional coherence, integrity, time-depth, or other critical factor(s)</li> </ul>
High	<ul style="list-style-type: none"> <li>▪ Scheduled Monuments</li> <li>▪ Undesignated assets of national quality and importance or than can contribute to national research objectives</li> <li>▪ Grade I and Grade II* Listed Buildings</li> <li>▪ Other listed buildings that can be shown to have exceptional qualities in their fabric or historical association not adequately reflected in the listing grade</li> <li>▪ Conservation Areas containing very important buildings</li> <li>▪ Designated &amp; undesignated historic landscapes and townscapes of outstanding interest, quality and importance and of demonstrable national sensitivity or well preserved and exhibiting considerable coherence, integrity time-depth or other critical factor(s)</li> </ul>
Medium	<ul style="list-style-type: none"> <li>▪ Designated or undesignated assets of regional quality and importance that contribute to regional research objectives</li> <li>▪ Grade II Listed Buildings</li> <li>▪ Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical association</li> <li>▪ Other Conservation Areas</li> <li>▪ Designated or undesignated special historic landscapes and townscapes with regional sensitivity or with reasonable coherence, integrity, time-depth or other critical factor(s)</li> <li>▪ Assets that form an important resource within the community, for educational or recreational purposes.</li> </ul>
Low	<ul style="list-style-type: none"> <li>▪ Undesignated assets of local importance</li> <li>▪ Assets compromised by poor preservation and/or poor survival of contextual associations but with potential to contribute to local research objectives.</li> <li>▪ ‘Locally Listed’ buildings or historic (unlisted) buildings of modest quality in their fabric or historical association</li> <li>▪ Historic landscapes and townscapes with specific and substantial importance to local interest groups, but with limited sensitivity or whose sensitivity is limited by poor preservation, historic integrity and/or poor survival of contextual associations.</li> <li>▪ Assets that form a resource within the community with occasional utilisation for educational or recreational purposes.</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>▪ Assets with very little or no surviving cultural heritage interest.</li> <li>▪ Buildings of no architectural or historical note.</li> <li>▪ Landscapes and townscapes that are badly fragmented and the contextual associations are severely compromised or have little or no historical interest.</li> </ul>

*Magnitude*

The magnitude of the potential impact is assessed for each site or feature independently of its archaeological or historical value. Magnitude is determined by considering the predicted deviation from baseline conditions. The magnitude of impact categories are adapted from the Transport Assessment Guidance (TAG Unit 3.3.9) and Design Manual for Roads and Bridges, Volume 11, Part 3, Section 2, HA 208/07.

Magnitude of Impact	Typical criteria descriptors
Substantial	<p>Loss of asset and/or quality and integrity; severe damage to key characteristic features or elements. Almost complete loss of setting and/or context of the asset. (Negative)</p> <p>The proposals would remove or successfully mitigate existing damaging and discordant impacts on assets; or allow for the restoration or enhancement of characteristic features; or the re-establishment of the integrity, understanding and sense of place for an area or group of features; or halt rapid degradation and/or erosion of the heritage resource, safeguarding substantial elements of the heritage resource. (Positive)</p>
Moderate	<p>Substantial impact on the asset, but only partially affecting the integrity. Partial loss of, or damage to, key characteristics, features or elements. Substantially intrusive into the setting and/or would adversely impact upon the context of the asset. Loss of the asset for community appreciation. (Negative)</p> <p>Benefit to, or restoration of, key characteristics, features or elements; improvement of asset quality. Degradation of the asset would be halted. The setting and/or context of the asset would be enhanced and understanding substantially improved. The asset would be bought into community use. (Positive)</p>
Slight	<p>Some measurable change in assets quality or vulnerability; minor loss of or alteration to, one (or maybe more) key characteristics, features or elements. Change to the setting would not be overly intrusive or overly diminish the context. Community use or understanding would be reduced. (Negative)</p> <p>Minor benefit to, or partial restoration of, one (maybe more) key characteristics, features or elements; some beneficial impact on asset or a reduced risk of negative impact occurring. Slight improvements to the context or setting of the site. Community use or understanding would be enhanced. (Positive)</p>
Negligible / No Change	<p>Very minor loss or detrimental alteration to one or more characteristics, features or elements. Minor changes to the setting or context of the site. No discernible change in baseline conditions (Negative).</p> <p>Very minor benefit to or positive addition of one or more characteristics, features or elements. Minor changes to the setting or context of the site No discernible change in baseline conditions. (Positive).</p>

Impacts may be of the following nature and will be identified as such where relevant:

- Negative or Positive.
- Direct or indirect.
- Temporary or permanent.
- Short, medium or long term.
- Reversible or irreversible.
- Cumulative.

An assessment of the predicted magnitude of impact is made both prior to and after the implementation of secondary mitigation. This demonstrates the effectiveness of secondary mitigation.

*Significance*

By combining the value of the cultural heritage resource with the predicted magnitude of impact, the significance of the effect can be determined. This is undertaken following the table below. The significance of effects can be beneficial or adverse.

Significance of Effects	Magnitude of Impact			
	<i>Substantial impact</i>	<i>Moderate impact</i>	<i>Slight impact</i>	<i>Negligible /No impact</i>
Cultural Heritage Value				
<i>Very High</i>	Major	Major or Intermediate	Intermediate	Minor or Neutral
<i>High</i>	Major or Intermediate	Intermediate	Intermediate or Minor	Neutral
<i>Medium</i>	Intermediate	Intermediate or Minor	Minor	Neutral
<i>Low</i>	Intermediate or Minor	Minor	Minor or Neutral	Neutral
<i>Negligible</i>	Minor or Neutral	Minor or Neutral	Neutral	Neutral

Where a choice of two significance of effect descriptors is available only one should be chosen. This allows for professional judgement and discrimination in assessing effects on assets. Significance should always be qualified as in certain cases an effect of minor significance could be considered to be of great importance by local residents and deserves further consideration. To aid in the assignment of significance the following significance criteria have been developed to enable effective and transparent discrimination between categories.

The significance of effect is considered both before and after secondary mitigation measures have been taken into account.

Significance of Effect	Criteria
Major	<p>These effects are considered to be very important in the decision making process. These effects are important at a national level and to statutory bodies.</p> <p>Adverse – these effects will damage or destroy cultural heritage assets, their setting or context, so that their integrity or understanding is almost wholly destroyed or is severely compromised, such that the resource can no longer be appreciated or understood. Effects will seriously conflict with national, regional and local policies. Mitigation measures may not deal appropriately with all aspects of the impact.</p> <p>Beneficial – these effects will halt rapid degradation or erosion of assets of national or regional importance, or result in significant restoration of setting and reestablishment of significance to heritage assets. Previous negative impacts may be reserved. Effects will significantly contribute to international, national, regional and local policies for the enhancement and promotion of heritage.</p>
Intermediate	<p>These effects are likely to be important to considerations, but not key factors, in the decision making process, unless cumulative effects combine to raise the overall significance. These impacts are likely to be important at a regional level and to statutory bodies.</p> <p>Adverse – these effects will damage cultural heritage assets, or their setting, so that their integrity or understanding is compromised but not destroyed. Effects will be at odds with local and regional policies for heritage. Adequate mitigation measures can be specified.</p> <p>Beneficial – these effects are likely to result in the halting of degradation or erosion of heritage assets or result in the restoration of characteristic features or setting so that understanding and appreciation is improved. Effects will positively contribute to local and regional heritage policies.</p>
Minor	<p>These effects are unlikely to be critical factors in the decision making process, but are likely to be important factors in the design of a project. These effects are important at a local level. There may be some contribution to, or variance with local heritage policies.</p> <p>Adverse – the proposals will damage cultural heritage assets, or their setting, so that their integrity or understanding is diminished but not compromised. Adequate mitigation measures can be specified.</p> <p>Beneficial – the proposals will stabilise cultural heritage assets or enhance their setting, so that their integrity is maintained or understanding is improved.</p>
Neutral	<p>No effects upon cultural heritage or the effects are negligible. There is no conflict with, or contribution to, policies for protection of heritage resources.</p>

*Level of Confidence*

Given that predictions can only be as accurate as the data they are based on it is important to attribute a level of confidence to which the significance of cultural heritage effects has been assessed. The table below defines the confidence levels referred to in this report.

Confidence Level	Description
High	<p>The significance of the cultural heritage effect is an informed estimate likely to be based on reliable data or subjective judgement with reference to similar schemes. Further information would not result in any change to assessment of significance.</p>
Low	<p>The significance of the cultural heritage effect is a best estimate likely to be based on subjective judgement without reference to similar schemes. Further information would be needed to confirm assessment of significance.</p>

**APPENDIX B**

**Recorded Cultural Heritage Sites**

**Recorded Cultural Heritage Sites**

<b>Site Number</b>	<b>Identifier</b>	<b>Description</b>	<b>Period</b>	<b>Easting</b>	<b>Northing</b>
1	UID 25943; HER 2703	Ridge and furrow seen on air photograph.	Medieval / Post-Medieval	431200	537200
2	UID 25942; HER 2702	Unclassified archaeological site seen on air photograph.	Unknown	431000	536500
3	UID 25927; HER 2689	Ridge and furrow seen on air photograph.	Post-Medieval	430400	536500
4	UID 25945; HER 2705	Ridge and furrow seen on air photograph.	Post-Medieval	431400	538000
5	UID 25935; HER 2695	Circular cropmark seen on air photograph.	Unknown	431300	538600
6	UID 25929; HER 2691, 2694	Ridge and furrow seen on air photograph.	Post-Medieval	430300	536200
7	UID 25930; HER 2692	Ridge and furrow seen on air photograph.	Post-Medieval	430100	536800
8	UID 25952; HER 2713	Ridge and furrow seen on air photograph.	Medieval / Post-Medieval	431800	537900
9	UID 25944; HER 2704	Ridge and furrow seen on air photograph.	Post-Medieval	431400	537400
10	UID 24122; HER 2795, 3247	Unclassified archaeological site seen on air photograph.	Unknown	429200	536600
11	UID 25925; HER 2687	Ridge and furrow seen on air photograph.	Post-Medieval	430300	535700
12	UID 25961	Unclassified archaeological site seen on air photograph.	Unknown	430300	539100
13	UID 25934; HER 2714	Ridge and furrow seen on air photograph.	Post-Medieval	431600	538300
14	UID 24109; HER 1362	Site of Hett Mill mentioned 1451. Possible mill race remains.	Medieval	429190	536880
15	UID 25941; HER 2701	Unclassified archaeological site seen on air photograph.	Unknown	432100	537300

Site Number	Identifier	Description	Period	Easting	Northing
16	UID 25926; HER 2688	Unclassified archaeological site seen on air photograph.	Unknown	430700	536500
17	UID 1413342	Remains of Second World War air raid shelter at St Mary's Terrace.	Modern	431490	537000
18	UID 1448260	World War II air raid shelters are visible as structures on air photographs, centred at NZ 3096 3771. The shelters are arranged within the grounds of a school.	Modern	430960	537710
19	UID 1448264	World War II air raid shelters are visible as structures on air photographs, centred at NZ 3067 3806. The shelters are arranged within the grounds of a school.	Modern	430670	538060
20	UID 1448268	Tursdale Colliery. A post medieval colliery is visible as an earthwork on air photographs, centred at NZ 302 360. The colliery covers an area of approximately 13ha. On later photography the feature has been levelled.	Post-Medieval	430200	536000
21	UID 1029995; HER 3330-4	Roman road running from Barmby - Stamford Bridge - Thirsk - Durham. This road extends for 72 miles and can be traced in lines of roads, hedgerows and parish boundaries. This may also be known as Cades Road in this area.	Roman	434218	516184
22	UID 1375371	The Great North of England Railway from Darlington to Newcastle opened in 1841.	Post-Medieval	430560	531106
23	UID 1375903	Team Valley railway opened in 1872 and forms part of the East Coast Railway.	Post-Medieval	426493	537516
24	UID 1375684; HER 6989	The Clarence Railway, named after the Duke of Clarence, was authorised in 1828 from Haverton Hill to join the Stockton and Darlington Railway at Sim Pasture Farm.	Post-Medieval	442801	522357
25	UID 497602	Site of Coxhoe railway station on the Clarence Railway, opened in 1833, closed to passengers in 1902 and to goods in 1966.	Post-Medieval	431769	536208
26	UID 25899;	Bronze Roman brooch	Roman	431500	538500

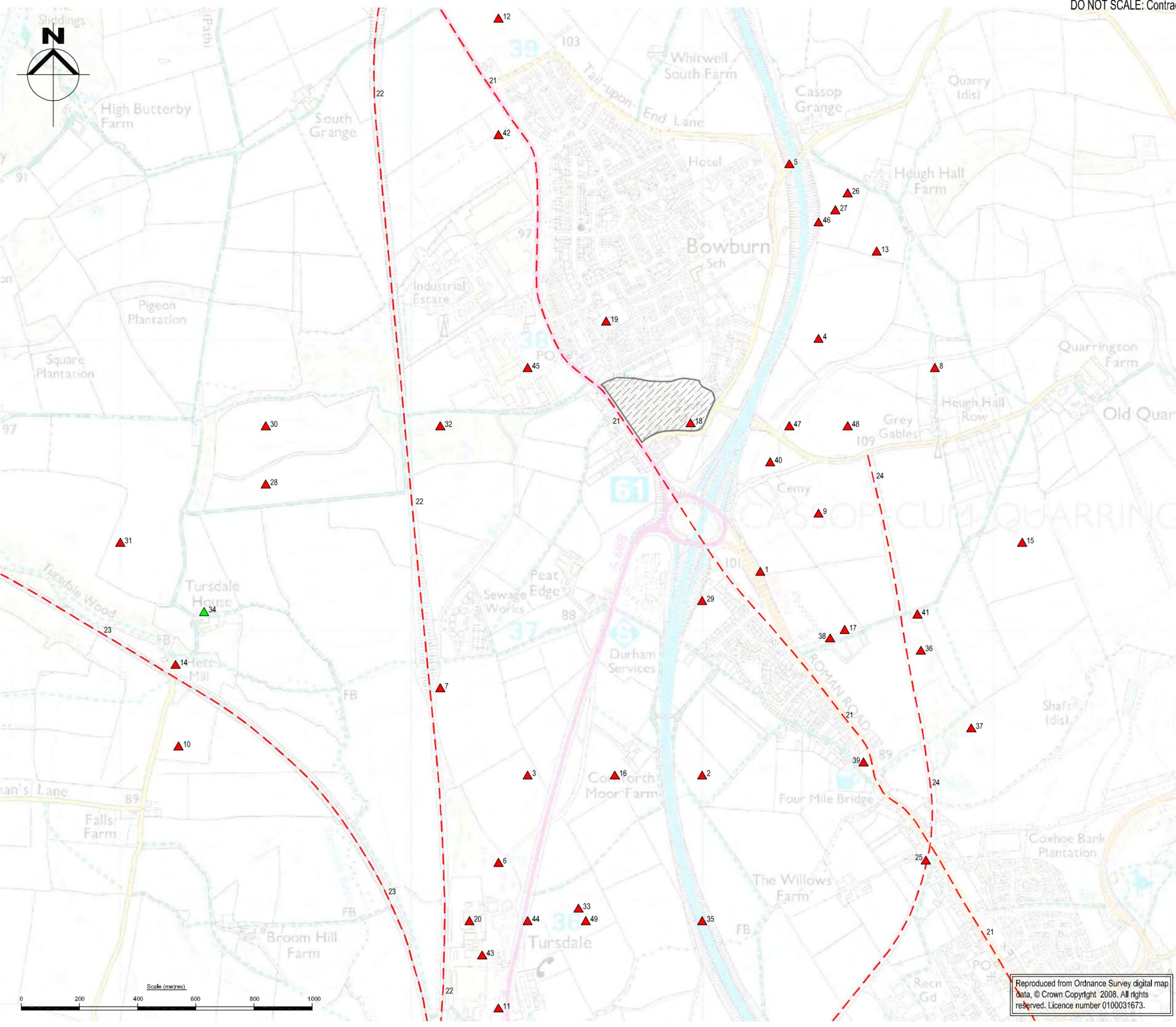
Site Number	Identifier	Description	Period	Easting	Northing
	HER 1074				
27	UID 25936	Cropmark of circular enclosure of uncertain date.	Unknown	431458	538442
28	UID 24118; HER 1366	Tursdale possible deserted medieval village	Medieval	429500	537500
29	UID 25932	Park Hill - site of Quarrington Grange.	?Medieval	431000	537100
30	UID 1456865	A twentieth century spoil heap is visible as an earthwork on air photographs. The spoil heap measures approximately 11.4ha and is associated with a Bowburn Colliery (UID 1448281). It has been levelled on the latest 1989-1995 aerial photographs.	Modern	429500	537700
31	UID 1456853	Post-medieval ridge and furrow is visible as earthworks on air photographs in the parish of Cassop cum Quarrington, centred at NZ 290 373. Some may have its origins in the medieval period.	Post-Medieval	429000	537300
32	UID 1448281; HER 6988	Bowburn Colliery. A twentieth century colliery is visible as an earthwork on air photographs, centred at NZ 301 377. The feature covers an area of approximately 21ha. On later photography the feature has been levelled.	Modern	430100	537700
33	UID 25906; HER 1072, 2690	Possible moated medieval manor house, possibly a fortified manor or pele, and associated with the Balliol family, indicated by foundation stones, the moat by earthworks. A bronze object of possible medieval date was found in the vicinity.	Medieval	430575	536043
34	HER 12076	Tursdale House Listed Building	Post Medieval	429288	537062
35	HER 3017	Level crossing.	Post Medieval	431000	536000
36	HER 6992	Brick works at Bowburn	Modern	431752	536929
37	HER 6996	Clay pits at Bowburn	Post Medieval	431925	536662
38	HER 5009	Air raid bunker at West Hetton Lodge.	Modern	431440	536971
39	HER 5872	Ridge and furrow at Kicking Cuddy PH	Medieval	431555	536545
40	HER 5905	Possible horse gin at Lambs Close.	Post Medieval	431234	537576
41	HER 5906	Site of Quarrington New Engine engine house.	Post Medieval	431740	537053
42	HER 4358	Village of Bowburn.	Modern	430300	538700

Site Number	Identifier	Description	Period	Easting	Northing
43	HER 1789	Village of Tursdale	Medieval	430244	535882
44	HER 2685	Ridge and furrow seen on air photograph.	Post-Medieval	430400	536000
45	HER 785	Bowburn colliery winding engines.	Post Medieval	430400	537900
46	HER 2696	Aerial photograph site.	Undetermined	431400	538400
47	HER 414	Enclosure which may represent Iron Age settlement.	Prehistoric	431300	537700
48	ASUD, 2007	Enclosed settlement.	Bronze Age	431500	537700
49	HER 1073	Castle Hill fieldname.	Undetermined	430600	536000
-	HER 3005	Lambs Close Colliery.	Post Medieval	431000	537000
-	HER 3006	Cutting for Clarence railway.	Post Medieval	431000	537000
-	HER 3008	Heugh Hall wagonway.	Post Medieval	432000	537000
-	HER 3009	Crowtrees wagonway route.	Post Medieval	432000	537000
-	HER 3010	West Hetton wagonway.	Post Medieval	432000	537000
-	HER 1075	Medieval manor house at Coxhoe.	Medieval	431000	536000



**KEY**

-  CULTURAL HERITAGE FEATURE
-  CULTURAL HERITAGE LINEAR FEATURE
-  LISTED BUILDING
-  CONSERVATION AREA



Rev	Description	By	Chk	App	Date

Client:  
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**Environmental**  
Civil Electrical Environmental Health & Safety Highways Management Services Mechanical Rail Structural Town Planning Transportation

Project: A038670  
**DURHAM GREEN BUSINESS PARK**

Drawing Title:  
**RECORDED CULTURAL HERITAGE FEATURES**

Scale at A3	Drawn By	Date	Checked By	Date	Approved By	Date
1:12,500	PMC	03.03.08	KRH	03.03.08	GK	03.03.08
Project No.	Office	Type	Drawing No.		Revision	
A038670	4104	597	01			

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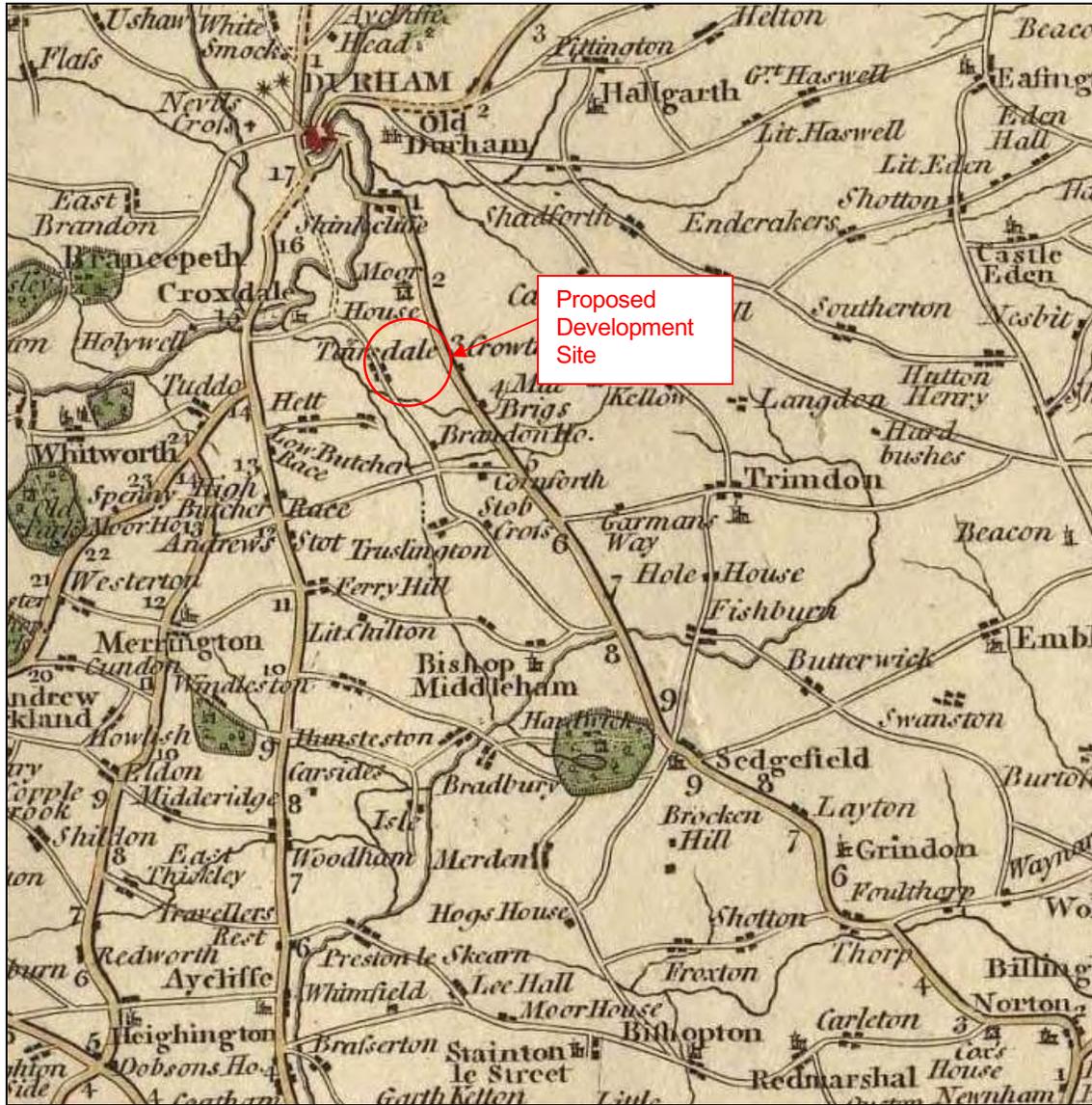
APPROVAL  INFORMATION  TENDER  CONTRACT  CONSTRUCTION

**APPENDIX C**

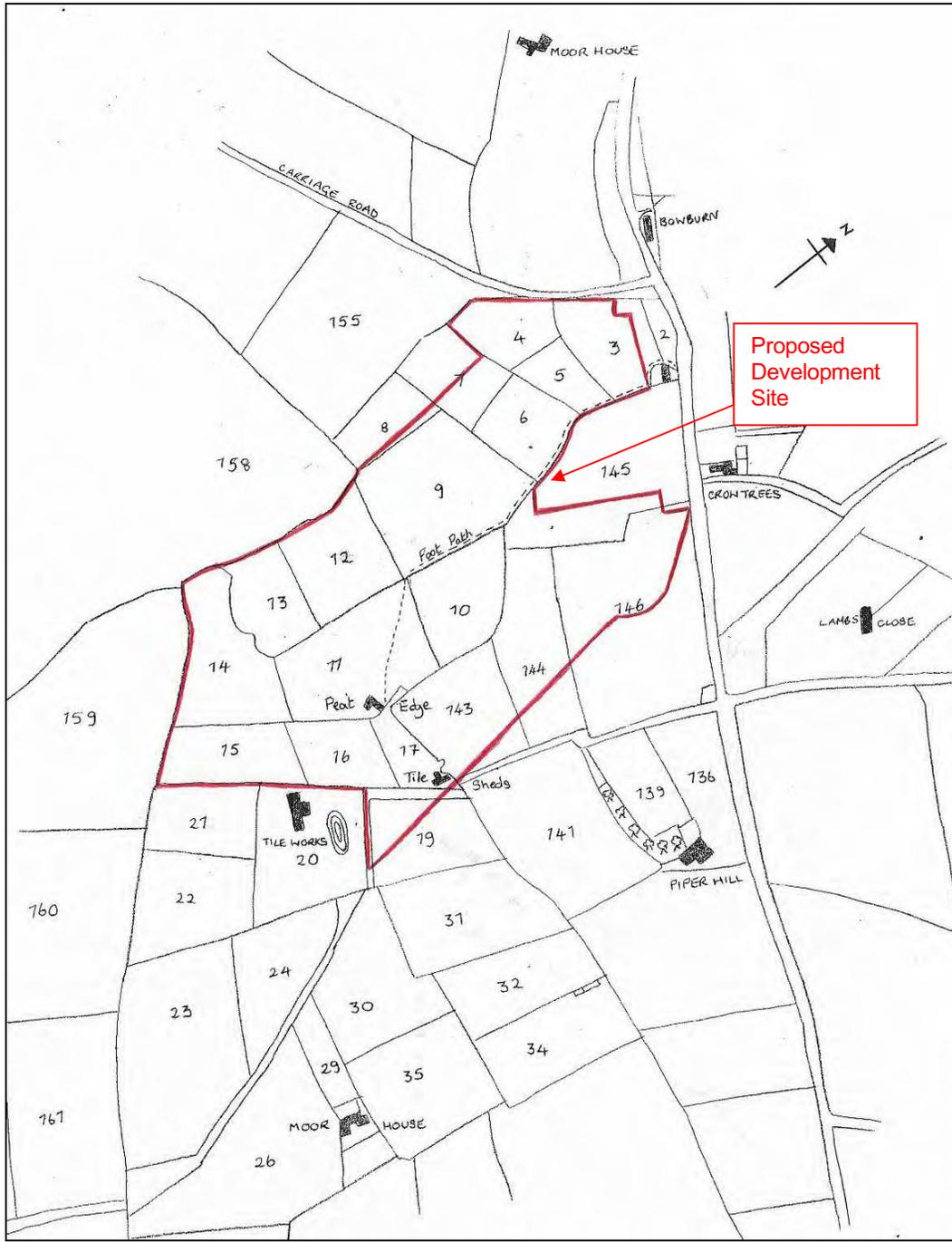
**Historic Mapping**

**1787 - 1966**

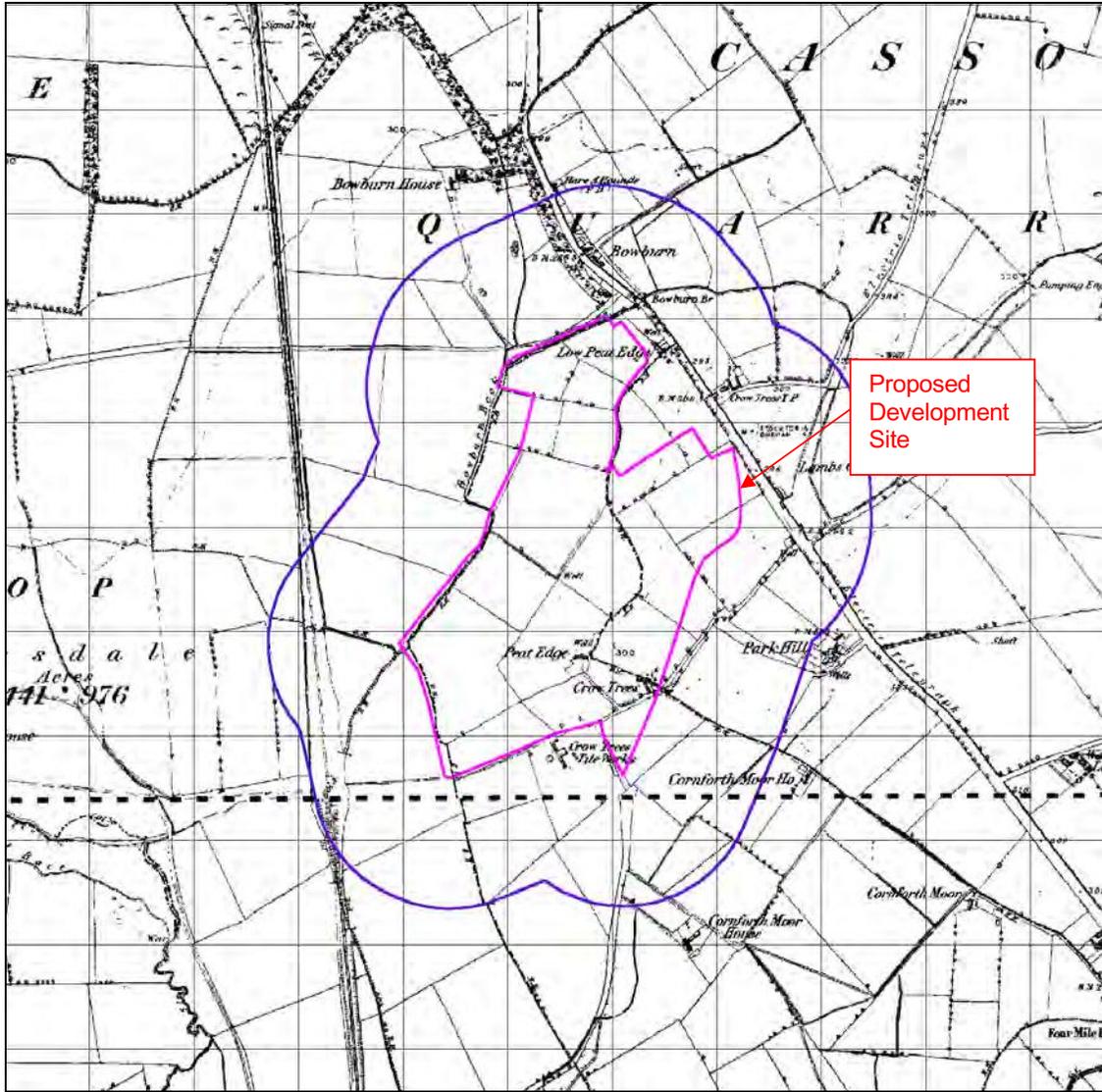
*All Mapping Reproduced from the Ordnance Survey Map with the Permission of Her Majesty's Stationary Office, © Crown Copyright White Young Green License No AL100017603*



Cary's 1787 Map of Durham

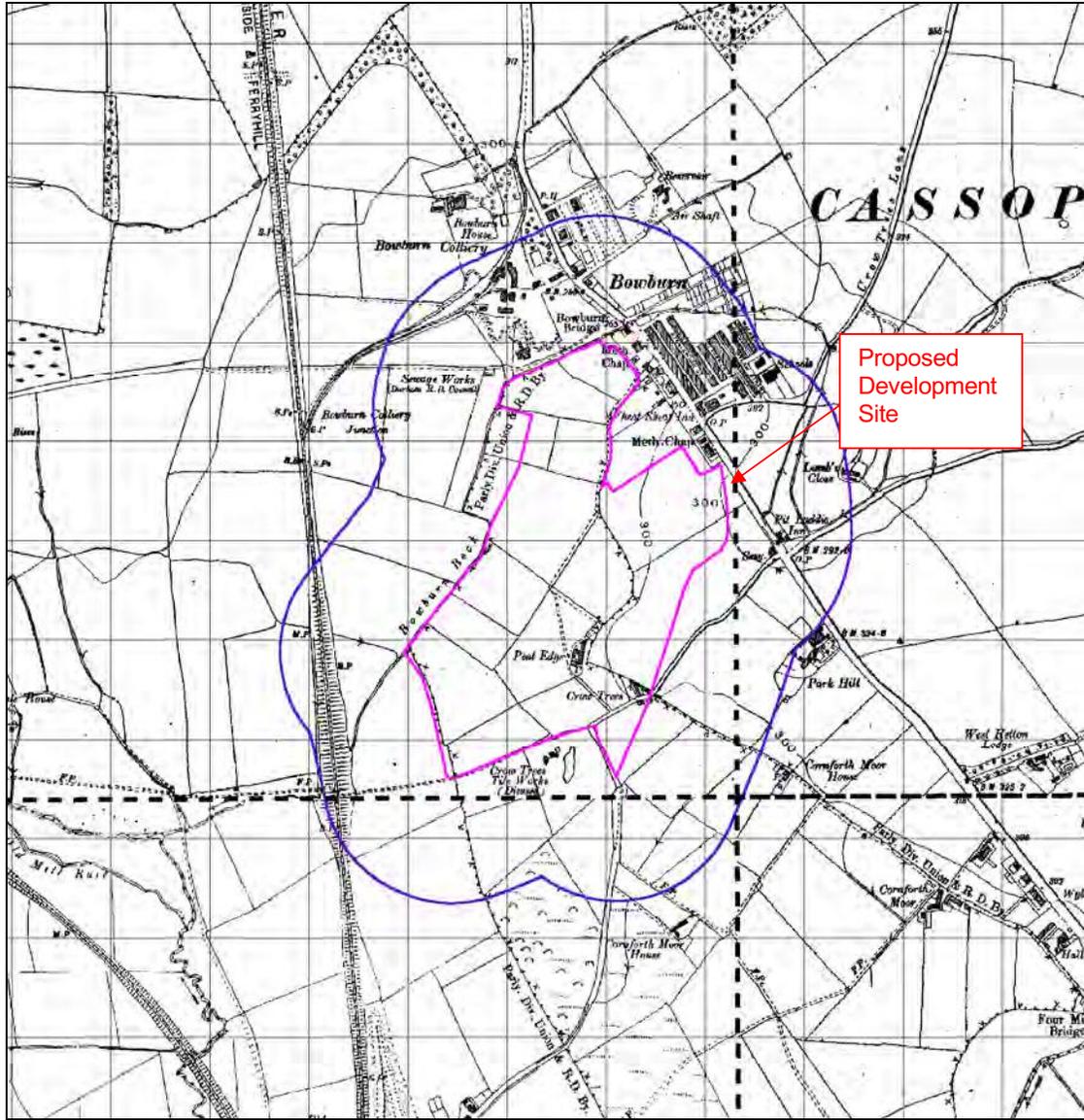


**Kelloe Parish Tithe Mapping, 1839**  
**(Combined Quarrington and Cornforth Townships)**

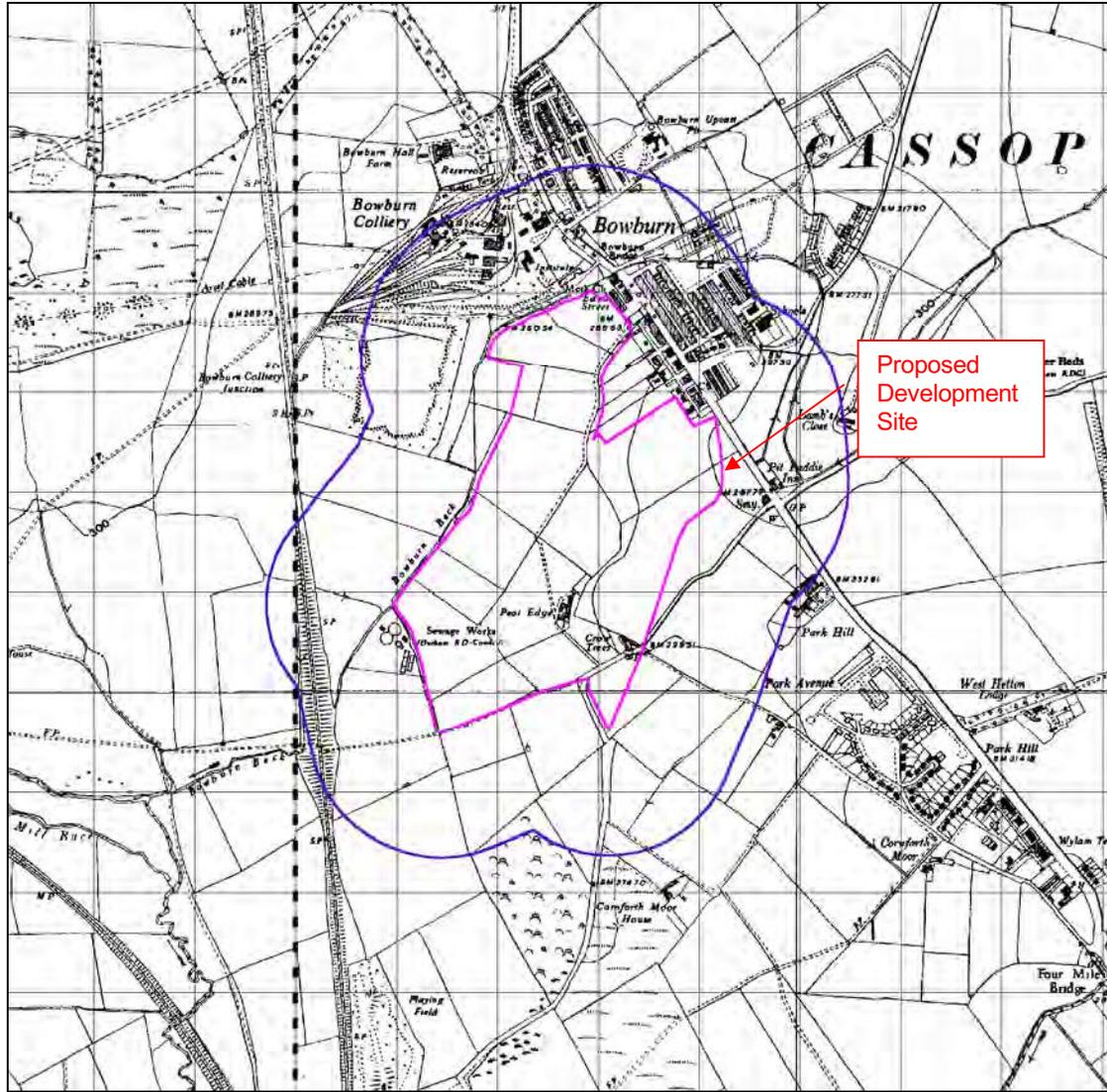


Ordnance Survey mapping, 1861





**Ordnance Survey Mapping, 1923**



**Ordnance Survey Mapping, 1952**



**APPENDIX D**  
**SITE PHOTOGRAPHS**



**Photograph 1: Looking west across the site**



**Photograph 2: Looking east across the site**



**Photograph 3: Peat Edge Farm**



**Photograph 4: Former Crow Tree Tileworks Earthwork Features**



**Photograph 5: Crow Tree Farmhouse (west elevation)**



**Photograph 6: Crow Tree Farmhouse (east elevation)**

**APPENDIX E**  
**Report Conditions.**

# WHITE YOUNG GREEN ENVIRONMENTAL LTD

## REPORT CONDITIONS

*This report is produced solely for the benefit of Acorn Business Park (Durham) Ltd and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.*

*This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to WYGE. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of WYGE using due skill and care in the preparation of the report.*

*This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.*

*This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.*

*Reliance has been placed on the documents and information supplied to WYGE by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.*

*Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.*

*Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.*

*The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.*

*The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYGE accept no liability for issues with performance arising from such factors*

September 2006