



RANCE BOOTH SMITH ARCHITECTS

WIGFIELD FARM

BARNSLEY

PHASE 1 STUDY

14051983/RIW
June 2014

HUTCHINSON WHITLAM ASSOCIATES LIMITED
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Registered in England and Wales - No: 8128624

1.0 INTRODUCTION

1.1 Hutchinson Whitlam Associates Limited has been commissioned by Rance Booth Smith Architects to carry out a Potential Land Contamination Investigation of the proposed development site at Wigfield Farm, Barnsley.

1.2 The purpose of the investigation was to:

- establish whether there are any potentially contaminated site uses within the site itself or on nearby land;
- identify the presence of any receptors, existing and proposed;
- establish whether the potentially contaminative use could impact on receptors at the site or its neighbourhood;
- specify an intrusive Phase II Investigation if necessary.

1.3 The Investigation and Assessment have taken the form of a desk study of all readily available information held by the local authority, libraries, internet searches and enquiries to appropriate organisations. A brief site visit was made prior to carrying out the desk study with a further walkover being made following completion of the desk study to review the site features in the light of data obtained.

1.4 The desk study and walkovers were carried out during May & June 2014.

1.5 The site is located at OS grid reference E434539 N403729 and is located just to the west of Worsbrough Bridge adjacent an unclassified highway.

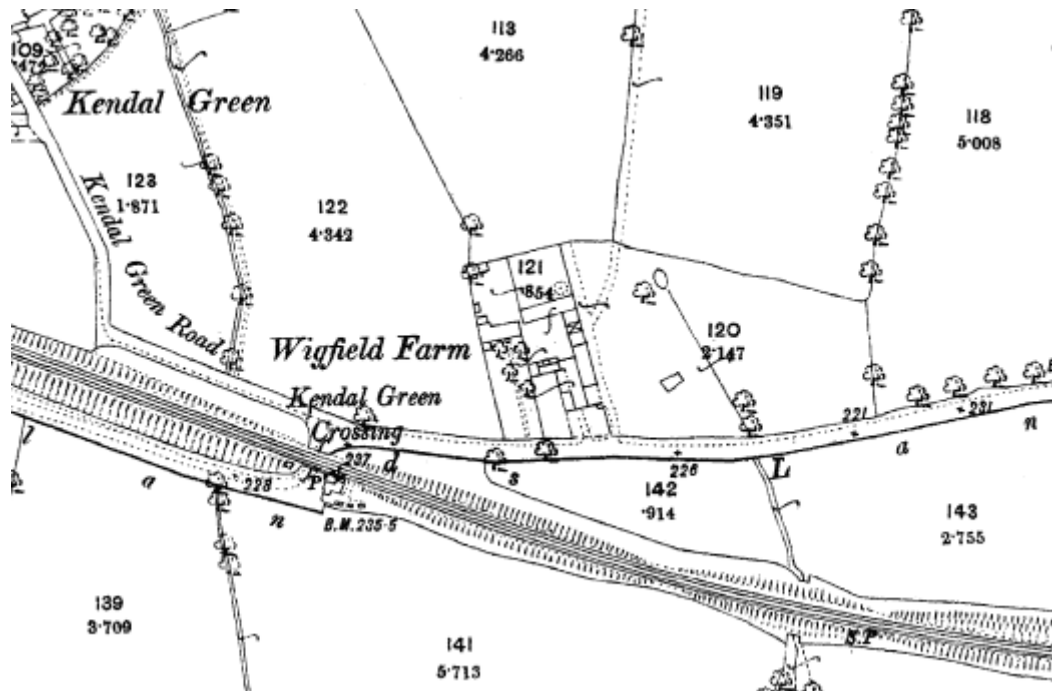
2.0 HISTORICAL RESEARCH

- 2.1 A search was made of old Ordnance Survey Sheets covering the study area to provide guidance on changes of site usage over the last 150 years.
- 2.2 The 1855 O S map shows the site occupied by a group of buildings, presumably a farm, surrounded by agricultural land divided up with field boundaries. The field boundaries are effectively those currently existing on and around the study site. A railway line is shown some 100m to the south of the site and beyond the railway line the Worsbrough Reservoir, again in what appears to be its current form.

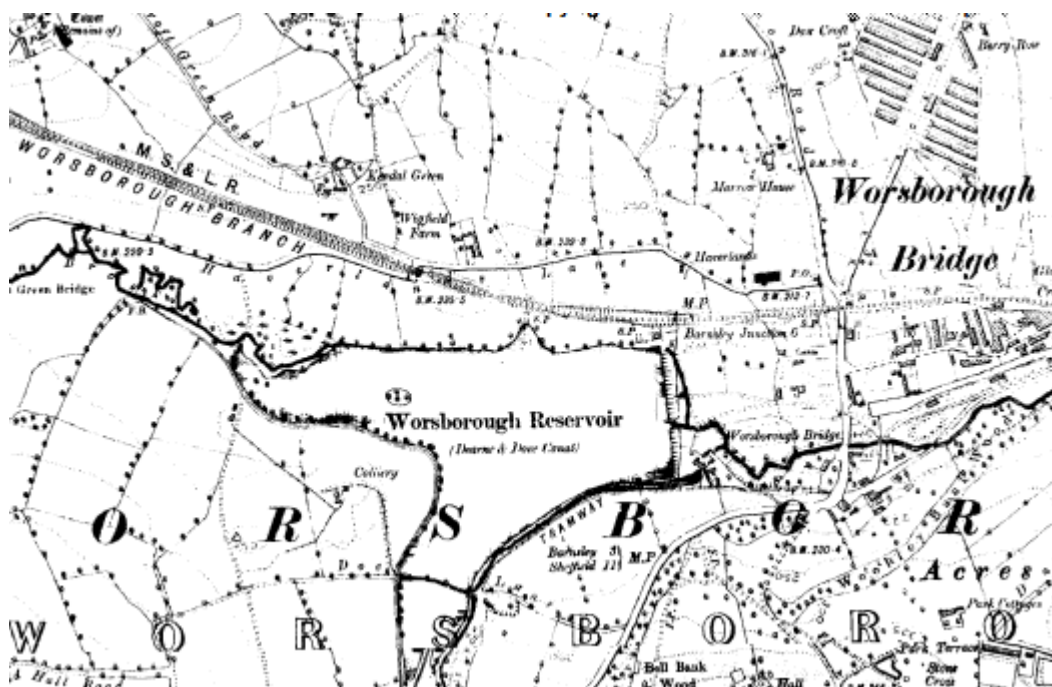


1855 Ordnance Survey Map

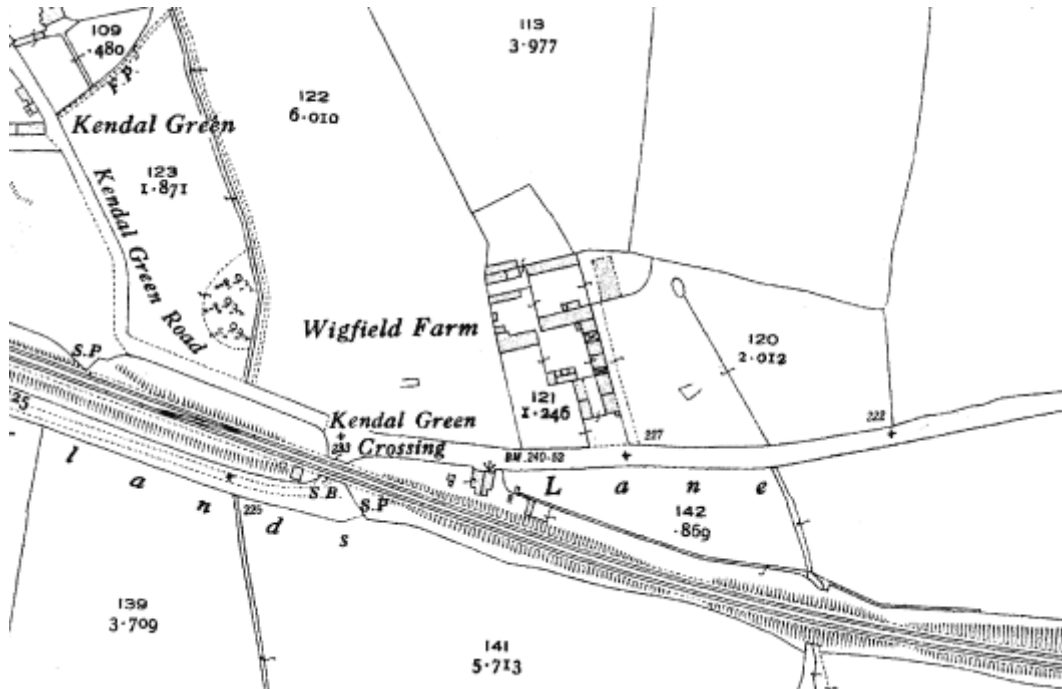
- 2.3 The 1892 O S map identifies the properties on the study site as Wigfield Farm. A pond with a stream flowing away to the south is shown in the field to the east of the site. A watercourse is indicated to the west of the site, also flowing to the south.



2.4 The 1894 O S map reveals no signs of significant new development within influencing distance of the study site.



- 2.7 The 1931 O S map shows no changes to the earlier survey, with the exception of some earthworks some 400m to the west of the study site.



1931 Ordnance Survey Map

- 2.8 The 1932 O S map shows the earthworks to the west of the study site and an old air shaft some 600m to the north.



1932 Ordnance Survey Map

- 2.11 The current O S map shows the railway line to have been abandoned and to now be in use as the Trans Pennine Trail.



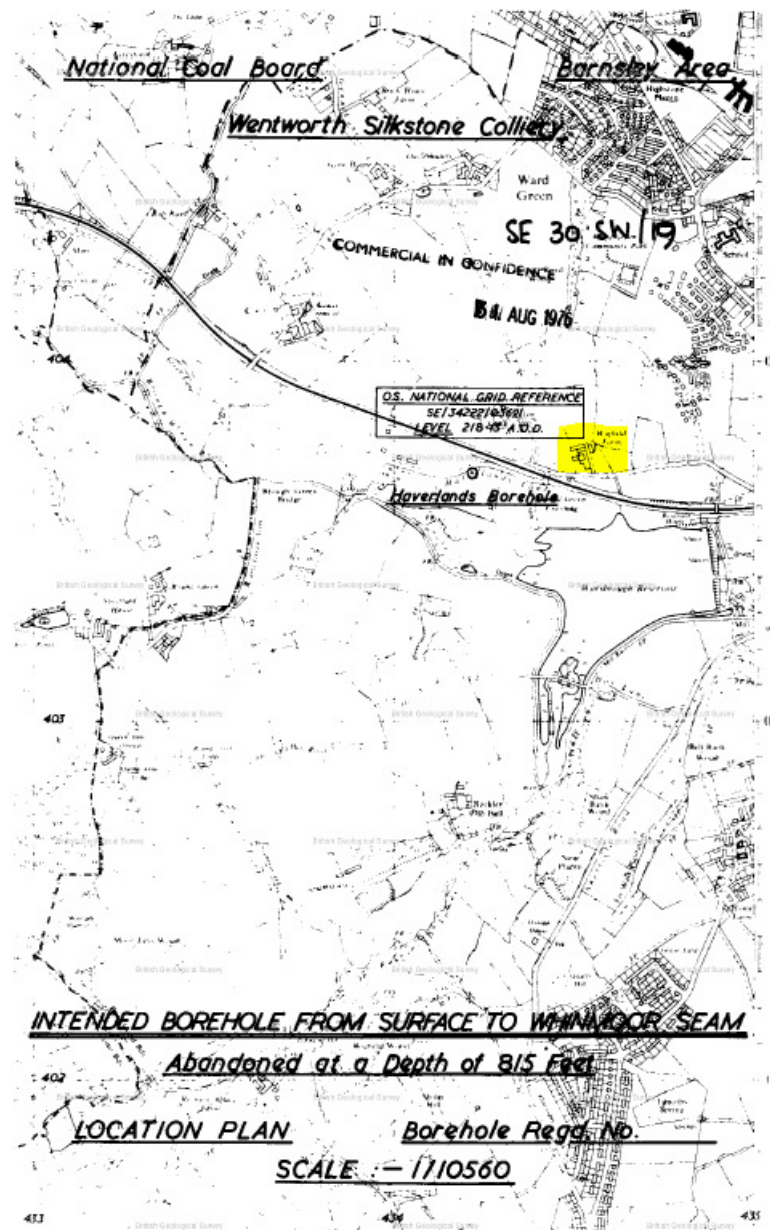
Current Ordnance Survey Map

3.0 GEOLOGY

- 3.1 A search of the British Geological Survey Archives was carried out to determine the geology below the study site.
- 3.2 Bedrock below the site will comprise sedimentary rocks from the Carboniferous Period, being predominantly Barnsley Rock sandstones. This series will contain numerous coal seams. A fault passes below or close to the study site.
- 3.3 No superficial deposits are recorded for the study site suggesting that only shallow drift deposits will be present above rockhead.
- 3.4 There are no borehole records within the archive relating to the study site but several are available for an area some 500m to the south east. These are of limited value but do show minimal drift deposits above solid deposits of shale, sandstone and coal. A deep borehole some 350m to the west of the study site is discussed elsewhere.

4.0 COAL EXTRACTION

- 4.1 The study site lies within the Yorkshire Coalfield and coal will have been extracted from below the site, probably from seams at several levels.
- 4.2 The BGS Archives contained details of the 'Haverlands Borehole' driven some 350m from the site into workings described as the Wentworth Silkstone Colliery. The borehole went to a depth of 248m and encountered nine coal seams.



Form P 70
REVISED 6/62

Section of HAVERLANDS No. 1 Surface Borehole Date 06 AUG 1976

Purpose To prove the Whinnoor Seam

Exact Site O.S. N.G.R. SW/34222/03691

Level at which bore commenced relative to O.D. 218.15 ~~218.15~~ ~~218.15~~

Date of sinking or boring February/March 1976

Sinker or borer AMCO Limited

6-INCH MAP
Yorks. 274 SE
(County, Sheet and Qtr.)
SE 30 SW 19
(Nat. Grid, Sheet & Qtr.)
Attach tracing from a map or sketch map if possible

COMMERICAL IN CONFIDENCE

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
		IN FT.	IN YDS.	IN FT.	IN YDS.
	Information obtained from electric logs:-				
	SWALLOW WOOD SEAM at 128.01				
	TOP HAIGH MOOR SEAM at 161.67				
	LOW HAIGH MOOR SEAM at 178.26				
	LIDDETT SEAM at 258.87				
	Sandstone 60 ft thick at 398.29				
	JOAN SEAM at 455.75				
	FLOCKTON THICK (Top Leaf) at 547.90				
	FLOCKTON THICK (Lower Leaf) at 547.73				
	PENTON (Goaf) at 709.10				
	PARKGATE (Goaf) at 760.25				
	Borehole abandoned at 815 ft due to water entering Barrow Colliery workings through the Parkgate old workings.				

Haverlands Borehole

- 4.3 There are no surface workings associated with coal extraction within influencing distance of the site. The Wentworth Silkstone Colliery headworks are some 3.5km to the south west of the study site. Barrow Colliery is some 1.3km to the south east of the study site. It is understood that coal was land extracted in 1985, but the main period of extraction was considerably earlier than this.

5.0 ENVIRONMENT AGENCY DATA

- 5.1 A search of the data held in the Environment Agency Archives was carried out.
- 5.2 The study site lies within a nitrate vulnerable zone.
- 5.3 There are no water abstraction licences within 1km of the study site.
- 5.4 The site is in a low risk groundwater vulnerability zone and outwith a surface water safeguard zone.
- 5.5 The closest historic landfill site is on land to the rear of Ward Green, some 500m to the north east of the study site. This site accepted waste from industrial and commercial sources and closed in 1989. The intervening topography and geology between the study site and landfill site suggests that the landfill site is not within influencing distance.
- 5.6 There are no recorded pollution incidents within influencing distance of the study site.

6.0 SITE WALKOVER SURVEY

- 6.1 Wigfield Farm comprises a collection of farm buildings, paddocks and greenhouses owned and operated by Barnsley College. The facility is a working farm and is used as a base for courses in horticulture and animal care, but is also an Open Farm with a visitors' centre accessible to the local and wider community.
- 6.2 Wigfield Farm is situated approximately 2 miles south west of Barnsley and is adjacent Worsbrough County Park.
- 6.3 The farm occupies a site which generally slopes towards the south. To the north of the site the fields rise in level by some 60m towards the public highway at Ward Green over a distance of about 650m. The farm buildings themselves sit on a slightly elevated shoulder on the main slope, with the land also falling away to the south west and south east.
- 6.4 During the walkover survey the only items of any concern were:
- The presence of asbestos cement cladding to some of the agricultural buildings. It is understood that the College already has plans in place to remove this material and replace the cladding with an insulated profiled steel system.
 - The handling of animal waste in the area of Building H means that there is a risk of contaminated waste getting into the surface water drainage system. However, Building H is to be replaced as part of the current scheme proposals for the site.
- 6.5 The walkover survey was extended to include the general area around the site. Immediately outside the western boundary of the farm there is a footpath following the line of an old watercourse. The watercourse appears to have been partially infilled at some time in the past. There is a substantial growth of Japanese Knotweed in one section. It is likely that this was introduced during the filling activity. The main spread of growth is to the west but shoots were visible on the footpath within 0.5m of the boundary to Wigfield Farm.

7.0 SUMMARY AND RECOMMENDATIONS

- 7.1 No evidence of significant historical or current contaminative uses of the site has been identified. On this basis a conceptual model has not been developed.
- 7.2 The removal of the asbestos cement cladding is already planned by the College.
- 7.3 The current development scheme for the site will address the slight risk of runoff water contaminated with animal waste from entering the surface water drainage system.
- 7.4 The historical coal extraction from below the site has no implications in terms of contamination. Surface movement associated with coal extracted has now probably ceased.
- 7.5 There is no requirement for a Phase II contamination study.
- 7.6 The presence of Japanese Knotweed adjacent the site boundary is of some concern. The adjacent landowner should be formally contacted and asked to take the appropriate action to eradicate this growth.



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