Boom Developments Ltd

NEW HALL FARM, WAKEFIELD

Preliminary Phase 1 Geo-environmental Assessment

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JULY 2023

PUBLIC

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Preliminary Phase 1 Geo-environmental Assessment

REVISION 1 (FINAL) PUBLIC

PROJECT NO. 70100138

OUR REF. NO. 70100138_12013

DATE: JULY 2023

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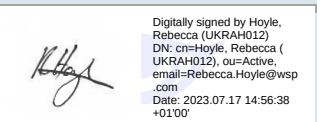
Signature		 Digitally signed by Hoyle, Rebecca (UKRAH012) DN: cn=Hoyle, Rebecca (UKRAH012), ou=Active, email=Rebecca.Hoyle@wsp .com Date: 2023.07.17 14:56:38 +01'00'
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1 INTRODUCTION

1.1 TERMS OF REFERENCE

WSP UK Ltd (WSP) was instructed by Boom Developments Limited ('the Client') to undertake a Preliminary Phase 1 Geo-environmental Risk Assessment (PRA) and Preliminary Coal Mining Risk Assessment (CMRA) for a proposed solar farm development on land at New Hall Farm in Wakefield, West Yorkshire, WF4 4RP (the site).

A site location and layout plan is included as drawing No. A001 v.3.1 ('Location Plan') in **Appendix A**.

1.2 PROPOSED DEVELOPMENT

The proposed development comprises a series of rows of photovoltaic panels and associated energy infrastructure including cables and transformers. The solar panels are distributed across four different development areas (denoted development areas 1 to 4 as indicated on the proposed development layout plan) which currently comprise undeveloped agricultural fields.

A new access track is proposed between Old Road to the north-west of development area 1 and the solar farm.

A new cable route is proposed to lead north from development area 1 to Old Road, west along Old Road and south-west along the current alignment of New Road (A642) to the proposed cable termination site.

The proposed cable termination site comprises an area of undeveloped land north of New Road (A642) ca. 400m to the west of the proposed solar farm. It is understood that a substation will be constructed at the cable termination which is covered by a separate planning application.

The proposed development layout is attached as drawing No. B001 v.2.6 ('Overall Layout') in **Appendix A**.

1.3 AIMS & OBJECTIVES

The aim of the report is to assess the potential key land quality/ coal mining related development constraints, which could impact the feasibility of development of the site and to support a planning application.

1.4 SCOPE OF WORKS

The following scope of works was undertaken to meet the aims and objectives of this assessment:

- Completion of a site walkover survey of the area proposed for the solar farm, to determine the site's current land use and its environmental setting;
- Desk-based review of public regulatory records, published geological and hydrological data, historical Ordnance Survey mapping, Coal Authority (CA) records, unexploded ordnance risk mapping and radon risk information;
- Development of an initial conceptual site model (CSM) following the source-pathway-receptor contaminant linkage approach;

- Delivery of a PRA with respect to ground, groundwater and ground gas conditions, which may potentially arise as liabilities;
- Delivery of a CMRA including a review of coal mining status of the site, the risk of shallow mine workings and the potential impacts of known deep mining.

1.5 SOURCES OF INFORMATION

The following sources of information have been used in the production of this report.

Table 1-1 – Sources of Information

Source	Information
Site Reconnaissance	1. WSP site walkover carried out on 26th August 2022 (Photographs included as **Appendix C**).
Public Information	2. British Geological Society (BGS) 1:50,000 Series Geological Map Sheet 77 Huddersfield, Solid and Drift, 2003 and Sheet 78 Wakefield, Solid and Drift, 1998 3. BGS 'GeoIndex' online viewer accessed 05 July 2023. 4. Coal Authority Interactive Map Viewer accessed 05 July 2023. 5. UK Health Security Agency, UK Maps of Radon Interactive Map accessed on 05 July 2023.
Third Party Information	6. Boom Power Ltd (Boom Power), Location Plan (Dwg. No. A001), dated 24 May 2023. 7. Boom Power Ltd (Boom Power), Overall Layout (Dwg. No. B001), dated 08 June 2023. 8. Groundsure Insight Reports including historical Ordnance Survey mapping, Refs. 8991881 and 8991879, August 2022. 9. Coal Authority Consultants Coal Mining Report references: 51003362140001, dated 20 June 2023.
* The reports contain British Geological Survey materials ©NERC 2021 and Environment Agency information ©Environment Agency and database right.	

WSP has not been provided with any previous ground investigation reports for the site.

1.6 LIMITATIONS

The report is addressed to and may be relied upon by the following:

Boom Developments Ltd, Unit 5e Park Farm, Chichester Road, Arundel, West Sussex, United Kingdom, BN18 0AG.

This assessment has been prepared for sole use of the above-named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of WSP. No responsibility will be accepted where this report is used in its entirety or in part, by any other party. Information provided by others is taken in good faith as being accurate. WSP cannot and will not accept liability for any deficiencies in third party information. General Limitations are presented in **Appendix B.**

2 SUMMARY OF THE SITE AND SURROUNDING AREA

2.1 SITE LOCATION/ EXTENTS

A site location plan showing the overall planning application boundary is included as Drawing A001 in **Appendix A**.

Due to the wide area the site encompasses, the site has been zoned into localities based on the nature of the proposed development for the purposes of description throughout this report. Figure B001 ('Overall Layout') shows the areas further described within sections 2.1.1 to 2.1.3 below.

2.1.1 MAIN DEVELOPMENT AREAS

The four main development areas displayed on Drawing B001 extend across a number of undeveloped agricultural fields positioned in-between Old Road to the north and New Hall Approach to the south. The fields are associated with and surround the development of New Hall Farm in Wakefield, WF4 4RP (National Grid Ref. of approximated site centre 425935, 416142).

It should be noted that in-between development areas 1 and 2 and to the east of development area 4 there is land that falls within the site boundary that is not proposed for redevelopment (i.e., it is assumed this area will remain vacant). These two localities of vacant land have been grouped with the four development areas throughout this report for simplicity and completion.

2.1.2 ACCESS ROAD & CABLE ROUTE

There are two linear extensions of the site boundary feeding off from the four main development areas. One is located to the north-east of development area 1 and comprises a proposed access track to connect up to Old Road. The other comprises a proposed cable route to a cable termination site to be located within a separate land parcel (positioned to the west of the solar farm) north of New Road (A642). The proposed cable route intersects the field to the north of development area 1 from south to north. The proposed cable route trends west along Old Road, joins New Road (A642) and then predominantly follows its current alignment south-west towards the proposed cable termination site.

2.1.3 PROPOSED CABLE TERMINATION SITE

The proposed cable termination site is located within a separate square shaped, undeveloped field positioned to the north of New Road (A642) and approximately centred at National Grid Ref. 424939, 416172.

2.2 SURROUNDING LAND USE

2.2.1 MAIN DEVELOPMENT AREAS

Agricultural land use generally extends to the north, west and south of the four development areas.

The main farmyard of New Hall Farm, comprising of various agricultural buildings (farmhouse, barns etc.) and associated infrastructure, is present to the immediate south of development areas 2-4. Part of the south-western boundary of development area 1 is lined by a road (New Hall Approach).

Stoneycliffe Wood Local Nature Reserve is present beyond the undeveloped agricultural fields directly to the east of development area 4.

The northern boundary of the four main development areas is formed either by treelined field boundaries (west) or an access track labelled as Chapel Close in Drawing B001. Beyond these features further undeveloped fields are present. The village of Overton is located approximately 800m north of New Hall Farm. Land use in this area is predominantly residential but several small commercial trades (public house, shop, beauticians etc.) alongside other community/ recreational features such as a church, reservoir and sports pitches are noted.

2.2.2 ACCESS ROAD & CABLE ROUTE

Both the proposed access road and the eastern section of the cable route intersect an undeveloped field to the north of development area 1 and as such are surrounded by undeveloped agricultural land.

A strip of land occupied by a number of stables and a show ground surrounded by further undeveloped fields is present in between Old and New Road.

This strip of land is located to the north-west of the connection between the proposed access road and Old Road and to the south of the western section of the proposed cable route alignment.

Infrastructure associated with the National Coal Mining Museum is present to the north of the western section of the proposed cable route alignment which runs along New Road (A642).

2.2.3 PROPOSED CABLE TERMINATION SITE

The field's eastern, northern and north-western boundaries are bordered by an unnamed access track and a small, with a vacant asphalt covered yard present to the immediate west. A scrapyard/ depot is noted approximately 25m to the west. Further west, land use is predominantly agricultural.

Land associated with the National Coal Mining Museum estate is present to the north and east of the proposed cable termination site. The land is occupied by a number of hard landscaped yards, industrial sheds and evidence of industrial mining equipment and settlement lagoons are noted upon review of available aerial imagery.

New Road (A642) is present to the south beyond which land use is predominantly agricultural.

2.3 SITE DESCRIPTION

A site walkover was carried out by WSP on 26 August 2022. A photographic record of the walkover is provided in **Appendix C**. The site walkover covered the main development areas of the proposed solar farm. The proposed access track, cable route or the area proposed for the cable termination site were not covered by the walkover as they were not yet part of the proposed layout at the time of the walkover.

Detailed descriptions of the current condition of each of the localities defined above are provided within Table 2-1 to Table 2-3.

Table 2-1 - Summary of Site Details - Main Development Areas

Detail	Comment
National Grid Reference (approximate centre)	Development Area 1: 425341, 415986 Development Area 2: 425716, 416143 Development Area 3: 425915, 416266 Development Area 4: 426249, 416129
Area (approximately)	Development Area 1: 4.81 ha Development Area 2: 2.04 ha Development Area 3: 3.31 ha Development Area 4: 14.24 ha
Site Description and Current Use	All of the development areas comprise open fields used for arable sugar beet crop. Mine entries are recorded by the Coal Authority, one at the centre of development area 1, one in the north-west of development area 3 and two in the north-west of development area 4. Mine entries are also located within areas not proposed for development, one between development areas 1 and 2, and two to the west and east of development area 4 respectively. High voltage overhead power lines (11kV) cross the south of development area 4 from north-west to south-east. Two mine entries are recorded within development area 4.
Site Setting and Surrounding Area	The majority of the areas are surrounded by open agricultural land. Development area 1 is bordered in the south by New Hall Approach and by Hardcastle Lane to the west. New Hall Farm with associated buildings is located directly south of development areas 2-4. Development areas 1, 2 and 3 are bound to the north by a footpath with small woodlands of semi-mature and mature trees, beyond which is agricultural land. Development area 4 comprises the entire eastern half of the site to the east of New Hall Lane. This area is open field surrounded by open fields and woodlands to the north and easy. Bounded to the south by wooden fences. New Hall Farm with associated buildings is located directly at the southern boundary.
Topography and Ground Cover	The land slopes down to the north-east in each of the development areas from approximately 162m above Ordnance Datum (AOD) in the south-west of Development area 1 to 115m AOD in the north-east of development area 4.
Site Boundary Type and Condition	Development area 1: bound by wooden fences, hedges, and small woodlands to the north and west, open to the east with a boundary fence to the south. Development area 2: bound by wooden fences, hedges, and small woodlands to the north, open to the east and west with a boundary fence to the south. Development area 3: bound by wooden fences, hedges, and small woodlands to the north and west, open to the east with a boundary fence to the south. Development area 4: Bound by hedgerow and wooden fences to the north and south, the area is open to the east. The west is partially bound by hedgerows with a gate leading into the field that is used by agricultural vehicles.
Drainage & Flooding	None observed.

Detail	Comment
Trees & Vegetation (including invasive species)	Mature trees are present to the north and east of the areas. No invasive plant species were noted during the site walkover. Note the site walkover was not completed by a qualified ecologist.
Structures, Foundations, Retaining Walls & Basements Evident on Site	No above ground structures were observed during the site walkover on the site.
Visual Observations of Contamination or Ground Subsidence	Within the north-west of development area 3, a localised depression and discolouration of the ground cover was noted, potentially associated with mine entry 425416-017 (Photograph 4 in **Appendix C**).

Table 2-2 - Summary of Site Details – Access Road and Cable Route

Detail	Comment
National Grid Reference (approximate centre)	Access road: SE 25312 16192 Cable Route: SE 25428 16535
Area (approximately)	Access road: 0.6 ha Cable Route: 1.3 ha
Site Description and Current Use	The proposed access road comprises undeveloped fields to the north of development area 1 and the verge of Old Road. The proposed cable route intersects an undeveloped field to the north of development area 1, runs north until it meets Old Road and then follows Old Road west to the A642. The cable route then follows the A642 south-west for approximately 650m where it moves to the south and runs parallel to the A642 for approximately 75m, at which point it turns north for approximately 35m and ends at the location of the proposed cable termination site. The majority of the cable route is undeveloped land or existing road/ verge.
Site Setting and Surrounding Area	A strip of land occupied by a number of stables and a show ground surrounded by further undeveloped fields is present in between Old and New Road. This strip of land is located to the north-west of the connection between the proposed access road and Old Road and to the south of the western section of the proposed cable route alignment. Infrastructure associated with the National Coal Mining Museum is present to the north of the western section of the proposed cable route alignment which runs along New Road (A642).
Topography and Ground Cover	The access road is situated at ca. 162m AOD with a gentle slope to the north-east. The cable route starts in the west at approximately 155m AOD then slopes down along the A642 to 133m AOD at the junction between the A642 and Old Road, then rises back to 152m AOD at the junction with the site.
Site Boundary Type and Condition	Access Track: bound to the east and west by open field, crosses field boundary wall in the north to join withhold Road.

Detail	Comment
	Cable Route: bound by undeveloped fields, and existing roadways/ verges.
Drainage & Flooding	None observed.
Trees & Vegetation (including invasive species)	Mature trees are to the south of the A642. An area of Mature trees is present to the east of the cable route in the undeveloped fields north of development area 1. This area is in the location of mine entries 425416-016 and 425416-039. No invasive plant species were noted during the site walkover. Note the site walkover was not completed by a qualified ecologist.
Structures, Foundations, Retaining Walls & Basements Evident on Site	The proposed access track and cable route were not covered by the walkover as they were not yet part of the proposed layout at the time of the walkover. Given the recorded past and current land uses in the areas proposed for the access track and the south-eastern part of the cable route no significant in-ground or above-ground structures are anticipated. In the north-eastern, central and western parts of the proposed cable route underground structures associated with previous development or current infrastructure may be present.

Table 2-3 – Proposed Cable Termination Site

Detail	Comment
National Grid Reference (approximate centre)	SE 24809 16146
Area (approximately)	0.55 ha
Site Description and Current Use	The proposed cable termination site currently comprises an undeveloped agricultural field associated with Low Farm.
Site Setting and Surrounding Area	The field's eastern, northern and north-western boundaries are bordered by an unnamed access track and a small, with a vacant asphalt covered yard present to the immediate west. A scrapyard/ depot is noted approximately 25m to the west. Further west, land use is predominantly agricultural. Land associated with the National Coal Mining Museum estate is present to the north and east of the cable termination site. The land is occupied by a number of hard landscaped yards, industrial sheds and evidence of industrial mining equipment and settlement lagoons are noted upon review of available aerial imagery. New Road (A642) is present to the south beyond which land use is predominantly agricultural.
Topography and Ground Cover	The field sits at approximately 156m AOD and is predominantly flat.
Site Boundary Type and Condition	The site boundary comprises fencing and a farm track to the south and tree filled field boundaries on the other sides.
Drainage & Flooding	None observed.

Detail	Comment
Trees & Vegetation (including invasive species)	Mature trees are present to the north, west and east of the site.
Structures, Foundations, Retaining Walls & Basements Evident on Site	The proposed cable termination site was not covered by the walkover as it was not yet part of the proposed layout at the time of the walkover. However, given the recorded past and current land uses of the area no significant in-ground or above-ground structures are anticipated.

3 HISTORICAL LAND USES

3.1 GENERAL

A review of historical Ordnance Survey (OS) maps and research into the coal mining legacy has been undertaken to identify former land uses and potential sources of historical contamination.

Historical land uses of the four development areas, proposed cable termination site, access road and cable route and the surrounding land including potentially contaminative land uses identified on historical mapping are summarised in Table 3-1.

In summary, historical OS maps show the site to have largely remained undeveloped open land in agricultural use throughout. The site is located in an area of extensive historical coal mining, and CA records show the presence of several mine entries on and near the site. The coal mining legacy of the site is discussed in Section 6. A CA Consultants Coal Mining Report is included in **Appendix F**.

Table 3-1 – Historical Summary

Land Parcel	Key Historical Site Features	Historical Adjacent Land Use
Development Area 1	Maps from 1854 to 2022 show the development area as undeveloped land.	Maps from 1854 to 1892 show a tramway to the east of the site, passing from north to south. The line is labelled as 'Old Tramway' from 1904 and sections of the tramway are no longer shown from 1973. A mineral railway, a reservoir and spoil heap are shown directly adjacent to the southern boundary of development area 1 between 1891 and 1938. Buildings and a chimney are shown to have replaced the reservoir and spoil heap by 1966-1967. The mineral railway becomes the New Hall Approach Road by 1973. A small section of tunnel, likely associated with the mineral railway or tramway is shown ca. 150m south-east of development area 1 on maps until 1973 A small structure labelled as 'Old Wimsey' is shown ca. 150m to the east of the area until 1948. Small structures labelled as 'Four Lane Ends' are shown to the immediate south-west of area 1 from the earliest maps until today.
Development Area 2 and 3	An 'Old Coal Pit' is shown at the boundary between areas 2 and 3 on maps from 1854-1855. Later maps indicate that the site has remained undeveloped open land/ agricultural land. A footpath is shown to cross areas 2 and 3 from north to south	An 'Old Coal Pit' is shown approximately 75m north-west of development area 2 on maps from 1854-1855. The location corresponds with mine entry 425416-016 or 425416-039 as recorded by the CA Mine Entry Map. The surrounding area is shown as a soil mound, and later as a wooded area, on maps from 1891-1892.

Land Parcel	Key Historical Site Features	Historical Adjacent Land Use
	until 1955 and possibly corresponds with the current boundary between the two areas.	An 'Old Coal Pit' is shown directly to the south of area 3 on maps from 1854-1855. The coal pit corresponds with mine entry 425416-040 or 425416-018 as recorded by the CA Mine Entry Map. New Hall Farm is present approximately 100m to the south-east of area 3 from the earliest available records.
Development Area 4	Two "Old Coal Pits" are shown in the west and east of area 4 on maps from 1854-1855. The locations correspond with the locations of mine entry 426416-009 (west) and 426416-005 (centre north) as recorded by the CA Mine Entry Map. The locations are shown as mounded and wooded areas on all later maps. The western feature is labelled as "Old Shaft" (or similar) on subsequent maps up to 1966. Other than the above, area 4 has remained undeveloped.	A number of structures associated with the Chapel Hill (later Chapel Close) development are shown directly adjacent to the north-western boundary of area 4 from the earliest available maps. An 'Old Coal pit is shown immediately adjacent to the northern boundary of the area on 1854-1855 mapping, this is later described as a shaft. Another coal pit is shown approximately 50m north of the northern boundary which is also relabelled as a shaft in 1905-1907 mapping. The locations correspond with the locations of mine entry 426416-006 and 426416-007 as recorded by the CA Mine Entry Map. A third 'Old Coal Pit' is shown ca. 150m south, corresponding with the location of mine entry 426415-004.Another old coal pit is noted approximately 60m south-east of the area, this matches with mine entry 426415-004 on the CA mine entry map.
Access Route	In the earliest available maps Hayne Lane is present at the south of the access section with an unnamed road running across the north of the area, this matches present day configurations. The remainder of the area has been undeveloped land.	Caphouse Quarry is present immediately adjacent to the site boundary in the earliest available maps. The quarry is noted as disused from 1930 to 1988, and noted as a quarry in 2001 and 2010.
Cable Route	In the earliest available mapping the site comprises a stretch of railway, road and undeveloped field. In the 1891-1892 the railway is noted as a mineral railway and a bridge over another section of mineral railway is in place in the west of the area. The mineral railway is no longer noted in 1951-1955 and is not present in mapping from 1966-1967.	An old Coal pit is recorded in the area on maps from 1854-1855. The location corresponds with the location of mine entry 425416-016 and 425416-039 as recorded by the CA Mine Entry Map. On the earliest mapping coke ovens are present immediately north of the western leg of the site. These are connected to the mineral railway in 1891-1892 and are labelled as shafts by 1904-1905. This area is labelled as shafts or old shafts until 1966-1967 when the site is labelled as a mine until 2010 when the site is

Land Parcel	Key Historical Site Features	Historical Adjacent Land Use
		labelled as a museum, which it remains as today.
Proposed Cable Termination Site	The area is undeveloped land from the earliest maps until present day.	The area is shown on the earliest OS maps from 1854 in a predominantly agricultural area. Hope Pit and associated coke ovens are shown ca. 30m and 100m respectively to the north-east. Low House (later Low Farm) and a sandstone quarry are ca. 100m west and 120m north-west. By 1891-1892 a reservoir is shown approximately 60m north of the area. The coke ovens are no longer shown; kilns and railway sidings are now present from ca. 70m to the east. A reservoir is also present at Low Farm. On maps between 1891 and 1955, the area to the immediate north and east includes groundworkings, structures and 'old shafts' associated with Hope Pit. The area is labelled as a mine from 1966 until 2010 when the site is labelled as a museum, which it remains as today.

4 REGULATORY INFORMATION AND CONSULTATION

4.1 REGULATORY DATABASE

A review of regulatory information contained within the Groundsure Insight Report (Ref. 6) has been completed. The reviewed regulatory information includes data collated from several organisations, including the EA, the Local Authority, the BGS, Department for Environment, Food & Rural Affairs (DEFRA), Health & Safety Executive (HSE), the National Radiological Protection Board (NRPB) and the CA.

The Groundsure Report is provided in **Appendix D**.

4.1.1 REGULATORY INFORMATION SUMMARY

Regulatory authority records on potentially contaminative activities on and near the site contained within the Groundsure report are summarised below.

Several historical industrial land uses are recorded on and around the site, corresponding to locations of past coal mining and quarrying activities. The historical land uses comprise unspecified heaps or ground workings, refuse heaps, cuttings, coal shafts and coal pits, tanks and mineral ways.

A tunnel is recorded on site ca. 150m south-east of development area 1.

Historical industrial land uses are also recorded beneath and on either side of the proposed cable route, in the area of the proposed access route and in the northern part of development area 1. The land uses are associated with the former Caphouse Pit north of New Road, and Caphouse Quarry and Denby Grange Collieries south of New Road. A colliery (Prince of Wales Colliery) is also recorded up to ca. 50m south-east of development area 4.

There are no historical, recent or active landfills recorded on the site. A historical landfill (Overton Sewage Works) is recorded directly north of the proposed cable route (north of the junction between Old Road and New Road). Two historical waste sites (ground workings and refuse heaps) associated with the former Denby Grange Collieries are located ca. 30m north and 150m north-east (30 north of the cable route) of the cable termination site. A total of five waste exemptions relating to storage the of sludge on farms are located on site in the north of development area 3 (2 No.) and in the north-west of development area 4 (3 No.). A waste exemption relating to agricultural and non-agricultural waste is recorded directly north of the cable route and ca. 160m north-east of the cable termination site.

There are no historical or active petrol stations recorded within 500m of the site.

No contaminated land register entries and notices, fuel stations, consents issued under the planning (Hazardous Substances) Regulations 2015, Control of Major Accident Hazard (COMAH) sites or historical military sites are recorded on or within 500m of the site.

4.2 CONSULTEES AND ADDITIONAL RECORDS

The following individuals, organisations and records have additionally been consulted.

Table 4-1 – Summary of Consultees and Additional Records

Consultee/Record	Comment
Local Authority Contaminated Land Officer (CLO)	A search of contaminated land entries for the site has been requested from Wakefield District Council and Kirklees District Council. Wakefield District Council and Kirklees District Council held no records of sites designated as contaminated land within 500m of the site boundary at the time of reporting.
Petroleum Officer (PO)	No issues were identified that are considered as having warranted direct consultation with the PO.
Environment Agency (EA)	No issues were identified that are considered as having warranted direct consultation with the EA.
CA Coal Mining Report	According to the CA Interactive Map Viewer the site lies within a *Coal Mining Reporting Area*. Several small and isolated areas of the site, associated with recorded mine entries, are designated as *Development High Risk Areas*.
Historical Photograph Review	A review of historical aerial imagery included in the Groundsure Report did not identify any site features beyond those identified in the historical map review and during the site walkover.
Site Environmental and Heritage Setting Data	▪ Scheduled Ancient Monument located 100m south-east of development area 1 – part of the New Hall Farm. ▪ The tunnel located to the south-eastern corner of development area 1 is recorded as a Grade II listed building (Flockton Waggonway Tunnel and Entrance Portal).
Unexploded Ordnance (UXO)	An Unexploded Ordnance (UXO) Pre-Desk Study Assessment (PDSA) has been obtained from Zetica Ltd to assess the risk of UXO on the site. The assessment identified strategic WWI and WWII military targets within 5km of the site; however, no readily available records were identified that the site was bombed. A detailed UXO desk study is not considered essential by Zetica. The UXO PDSA is included in **Appendix E**.

5 ENVIRONMENTAL SETTING

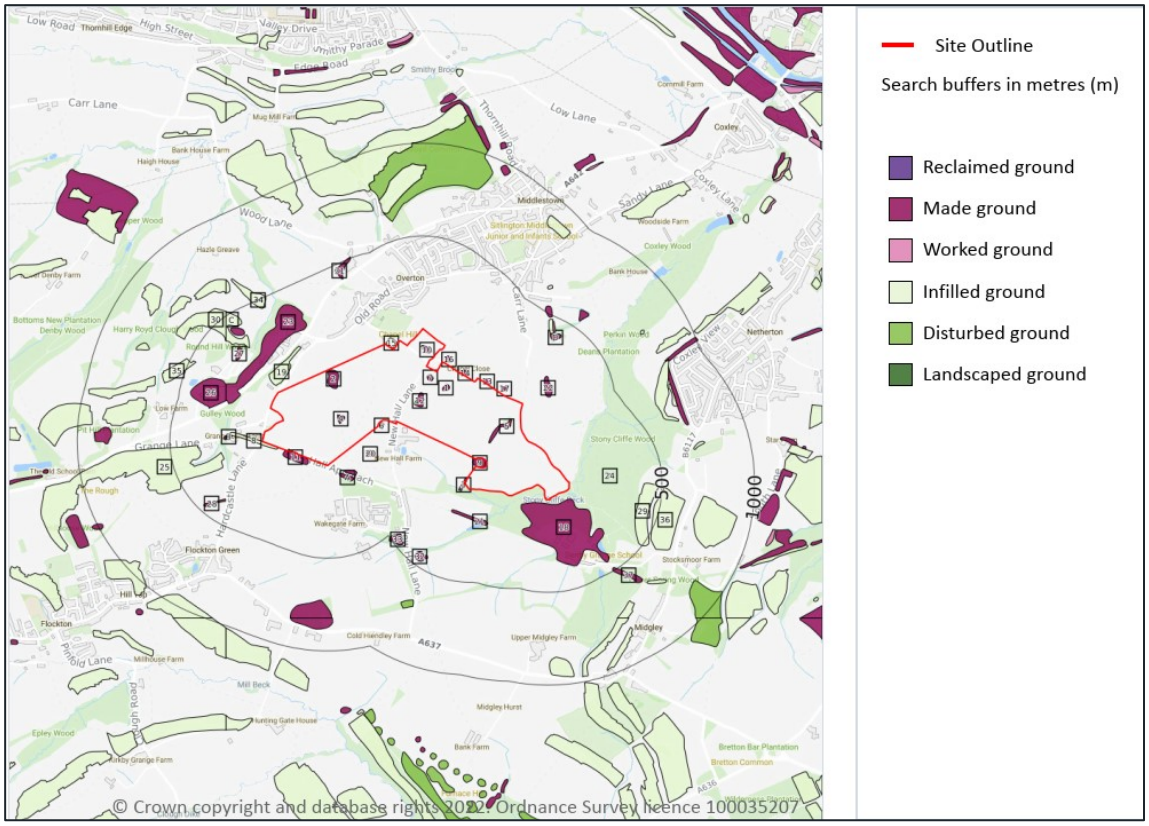
5.1 GEOLOGY

A review of records published by Groundsure, the BGS and the CA has been undertaken to assess the geology of the site. Sources of information are summarised in Table 1-1.

5.1.1 MADE GROUND

The BGS GeoIndex (Ref. 3) indicates the potential presence of Made Ground in areas of historical mining and quarrying on and around the site. Made Ground deposits recorded by the BGS geological maps in the main development area are generally associated with mine entries and quarries. Made Ground associated with the former Denby Grange Collieries and the Caphouse Quarry and Caphouse Pit may be present close to or on the proposed cable route. No Made Ground deposits are indicated on the cable termination site. The extents of areas potentially underlain by Made Ground are shown in Insert 5-1.

Insert 5-1 - Recorded Extent of Made Ground on Site



5.1.2 SUPERFICIAL DEPOSITS

Superficial deposits are only recorded in a small area in the south-east of development area 4, comprising clay, sand and gravel associated with the adjacent Stony Cliffe Beck. No superficial deposits are recorded on the remainder of the site, indicating superficial deposits to be either thin or absent.

5.1.3 BEDROCK GEOLOGY

Solid strata beneath the site are indicated to comprise sandstone of the Thornhill Rock Formation across most of the site. Strata of the Pennine Middle Coal Measures are indicated to underlie the south-west of development area 1, central parts of the cable route and the south-east of development area 4. Strata of the Pennine Lower Coal Measures are indicated to underlie the western part of the cable route, the cable termination site and the south-eastern tip of development area 4

Four faults are indicated beneath the site, one trending north-west to south-east crossing the western extent of the cable route, one trending south-west to north-east and approximately parallel with New Road near the central part of the cable route, one trending north-west to south-east crossing the centre of the main development area, and one trending west to east crossing development area 4.

There are no publicly accessible historical borehole records available for the site.

5.1.4 COAL MINING LEGACY

The CA Interactive Map Viewer (Ref. 4) shows the site is located within a *Coal Mining Reporting Area*. Several *Development High Risk Areas* are recorded on and near the site associated with former mine entries. Information on past coal mining activities on the site and coal mining related risks are discussed further in Section 6 of this report.

5.2 HYDROGEOLOGY

Information included within the Groundsure Report indicates that the solid strata beneath the site and the Alluvial Deposits in the south-east of the site are classified as a Secondary A Aquifer. This indicates that the underlying bedrock aquifer comprises predominantly permeable layers capable of supporting water supplies at a local rather than strategic scale and in some instances may form an important source of base flow to rivers.

The site is not located within 500m of a Source Protection Zone.

An active licensed groundwater abstraction is recorded ca. 30m north of the cable termination site relating to groundwater abstraction from a mine shaft (Hope Shaft) for dewatering. There are no potable water abstractions recorded within 2km of the site.

5.3 HYDROLOGY

A pond is located north of New Road approximately 75m to the north of the cable route in the location of the former Caphouse Pit. An unnamed watercourse flows from this pond north towards the Smithy Brook. An unnamed culverted watercourse also flows south from the pond and crosses beneath the cable route. A second pond is located off site to the south of New Hall Farm.

A reservoir is located ca. 70m north of the cable termination site.

Stony Cliffe Beck is located ca. 30m to the south and south-east of development area 4 and flows from a pond south of New Hall Farm east and north. No other surface watercourses are indicated by the Groundsure report to be on site or have been noted during the site walkover. Stony Cliffe Beck is within the Calder Lower catchment. Its water quality is classified as moderate with respect to

ecology and as 'failed' with respect to chemistry, with an overall classification of moderate (data relating to 2019).

There are no licensed surface water abstractions listed on or within 500m of the site.

5.4 GEOHAZARD INFORMATION SUMMARY

An assessment of potential geohazards affecting the site is presented within the Groundsure reports. A summary is provided in **Table 5-1**.

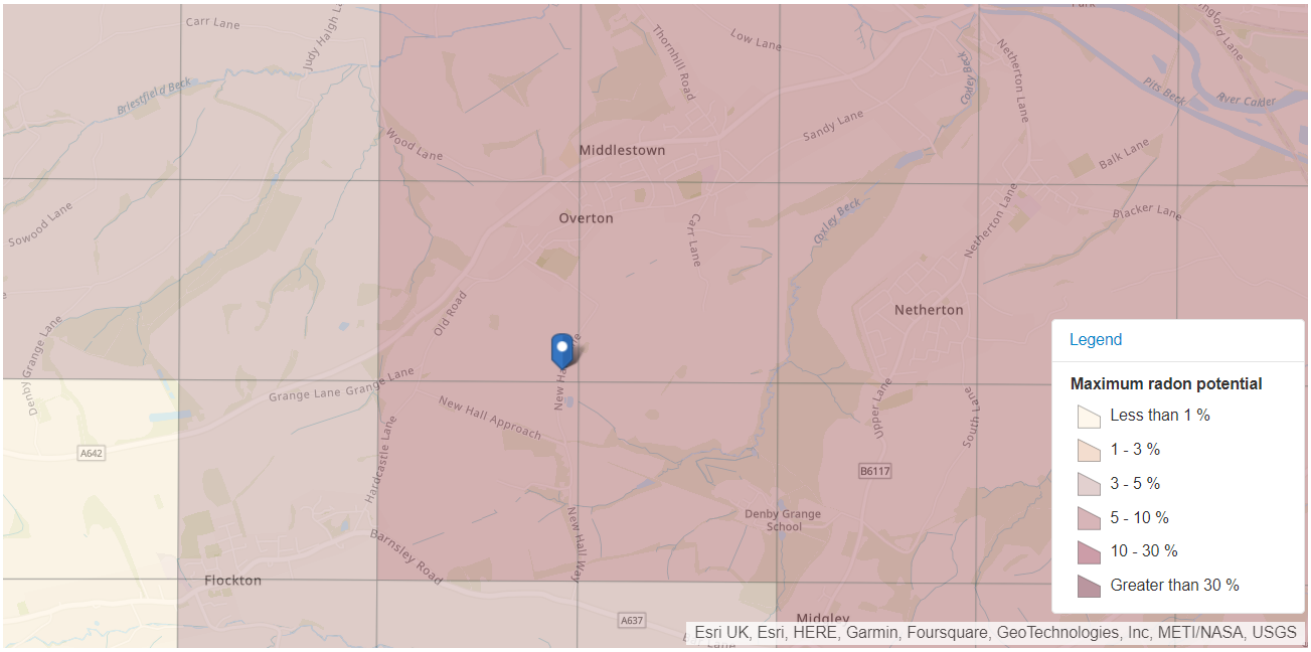
Table 5-1 – Summary of Geohazards

Geohazard	Risk
Shrinking/ swelling clay	Very low risk beneath cable route, cable termination site, south-west of development area 1 and south-east of development area 4. Negligible risk for central areas of the site.
Running sands	Low risk for south-eastern extent of development area 4. Very low risk beneath cable termination site and central part of cable route. Negligible risk for central areas of the site.
Compressible deposits	Moderate risk for south-eastern extent of development area 4. Very low risk beneath cable termination site and central part of cable route. Negligible risk for central areas of the site.
Collapsible deposits	Very low risk for most of the site. No data for south-eastern extent of development area 4.
Landslides	Moderate risk for central part of the cable route. Low risk for central part of the cable route and south-eastern extent of development area 4. Very low risk for central areas of the site.
Ground dissolution of soluble rocks	Negligible for all of the site.

5.5 RADON GAS

The BGS GeoIndex and the UK Health and Security Agency's UK Maps of Radon (Ref. 5) indicates the central and eastern parts of the site to be located within a radon affected area with a maximum radon potential of 5-10% (number of homes potentially above the Radon Action Level). The western part of the site (cable route and cable termination site) are indicated to be in an area with a maximum radon potential of 3-5%. The classifications of the radon risk on the site are indicated in **Insert 5-2**.

Insert 5-2 - Extract of UK Interactive Maps of Radon



5.6 SENSITIVE LAND USES

Areas designated as a Site of Special Scientific Interest (SSSI), a Special Area of Conservation (SAC) and as a Special Area of Conservation (SAC) associated with the Denby Grange Colliery Ponds are located immediately east of the site. Denby Grange Colliery Ponds are located approximately 250m to the east of the site boundary (development area 4).

An area of ancient woodland (Sun Wood, part of Stoney Cliffe Wood) is located approximately 225m south and east of the site (development area 4).

There are no Nitrate Sensitive Area within 2km of the site.

6 COAL MINING RISK ASSESSMENT

6.1 INTRODUCTION

The site is situated within a CA '*Coal Mining Reporting Area'*. Several small and isolated parts of the site are categorised as *Development High Risk Area*s. At the proposed solar farm main development area, these area associated with recorded mine entries; at the proposed cable termination site these are associated with an area of *Probable Shallow Mine Workings*; and sections of the proposed cable route are associated with both recorded mine entries and *Past Shallow Mine Workings*. A Coal Mining Risk Assessment (CMRA) is therefore required.

This CMRA is an interpretation of readily available historical, archival and current information, including that obtained from the sources listed in Section 1.5. The purpose of this CMRA is to:

- Present a desk-based review of readily available information on coal mining issues which are relevant to the application site;
- Use that information to identify and assess the risks to the development of the site from coal mining legacy, including cumulative impact of issues; and,
- Set out appropriate mitigation measures to address identified coal mining legacy issues affecting the site, including necessary investigation and remedial works and / or demonstrate how coal mining issues may affect the proposed development.

The CA Consultants Coal Mining Report (CCMR) obtained for the site is provided in **Appendix F**.

6.1.1 HISTORICAL MAPPING RECORDS

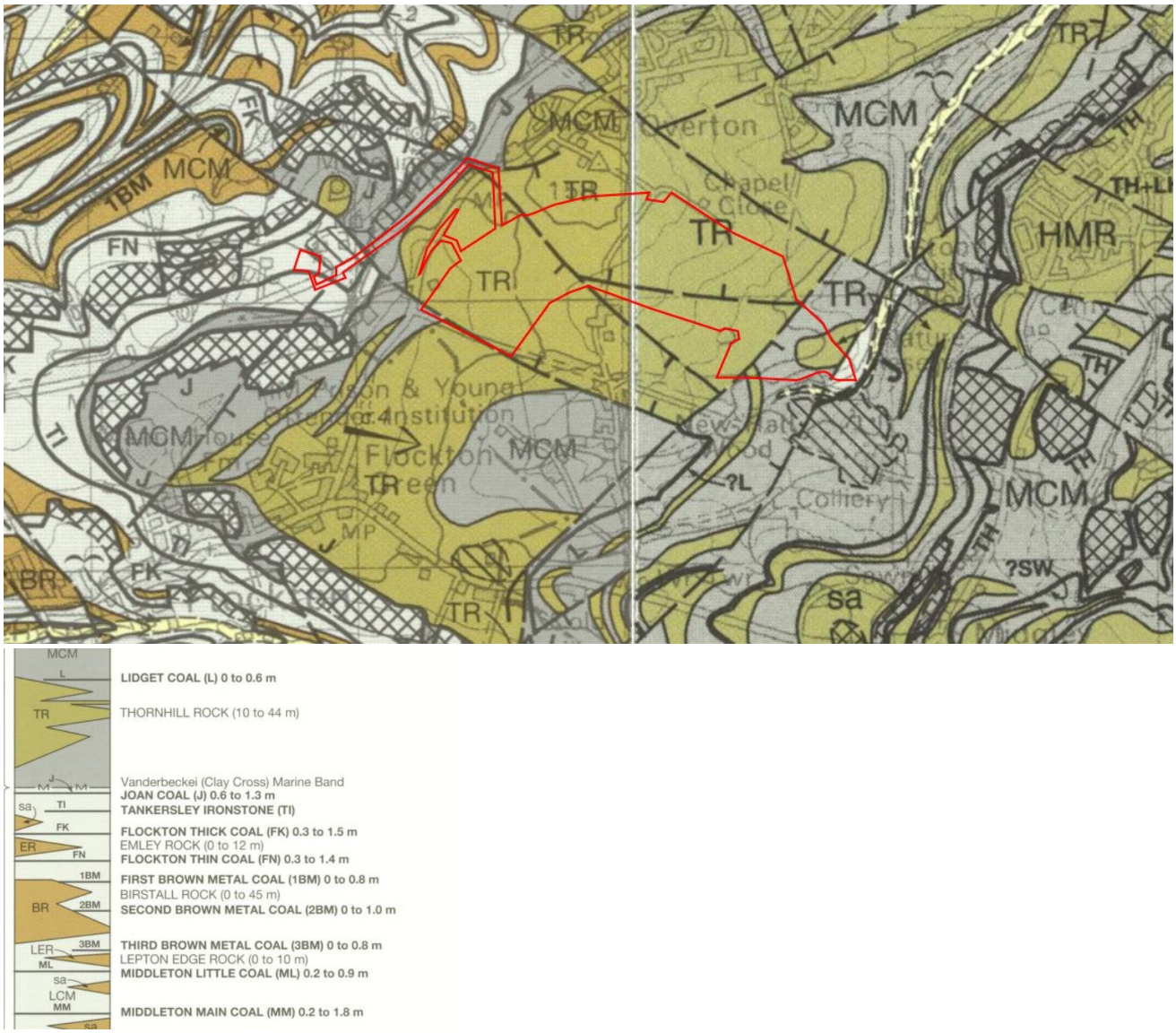
There are several features noted on the historical OS mapping associated with previous mining activity at the site:

- On the OS mapping several 'old shafts' or 'old coal pits' are indicated close to many of the recorded positions of the on-site shafts referenced in the CA report (note not all of the CA recorded mine entries have a corresponding feature on the OS maps; many of these features are not shown on more recent mapping after 1940).
- On the OS mapping several 'old shafts' or 'disused shafts' are shown off-site.
- On the OS mapping there are several unlabelled small spoil mounds, some of which are situated close to some of the CA recorded mine entries, which may represent localised mine soil heaps associated with the shafts.
- A Mineral Railway is shown within and along the southern boundary of development area 1 prior to 1948. A short 'Tunnel' section is indicted off-site ca. 150m south-east of development area 1 , where the two mineral railways cross each other.

6.2 ANTICIPATED MINING GEOLOGY

The solid geology of the site is indicated on BGS 1:50,000 sheets 77 & 78, extracts of which are presented in **Insert 6-1**.

Insert 6-1 - Extract of 1:50,000 Geological Map



There are no recorded coal seam outcrops shown on the main solar array development part of the site on the BGS 1:50,000 scale mapping. The Joan (J) coal is indicated to subcrop in several locations west and south-west of the site, dipping towards the east and hence expected to underlie the site. The BGS mapping indicates the Joan coal to be 0.6-1.3m thick.

Below the Joan coal, the next named seam in the sequence is the Tankersley Ironstone (TI) – its thickness is not recorded. TI is shown to subcrob to the immediate south of the proposed cable termination site and the far south part of the cable route. Below this, the Flockton Thick (FK) coal is recorded at 0.3-1.5m thickness and below this the Flockton Thin (FN) coal is recorded at 0.3-1.4m thickness. The vertical separation between the Flockton Thin and Flockton Thick is indicated to be in the order of 5-10m on the vertical section of the BGS 1:50,000 geological map.

The BGS mapping indicates several areas of opencast coal extraction off site to the west and south-west of the site, working the Joan (J) and Flockton Thick (FK) coal seams close to their subcrops.

6.3 COAL AUTHORITY RECORDS

6.3.1 COAL AUTHORITY ONLINE DATABASE

Reference to the CA Interactive Map Viewer indicates the following, with selected extracts shown below (site extents shown indicatively).

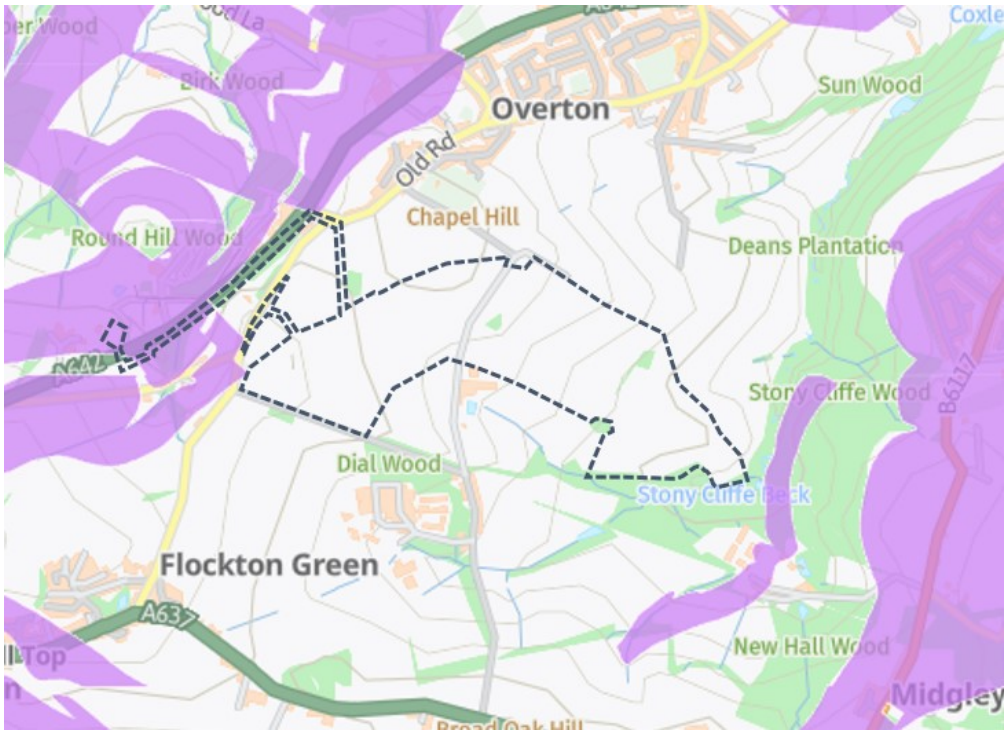
The site is generally not indicated to be underlain by '*Recorded Shallow Mine Workings'* (i.e. less than 30m below ground level (bgl) (**Insert 6-2)**. There is however a very small section in the north of the site along the proposed cable route where there recorded shallow mine workings are indicated.

Insert 6-2 - CA Extents of Recorded Shallow Coal Workings (blue)



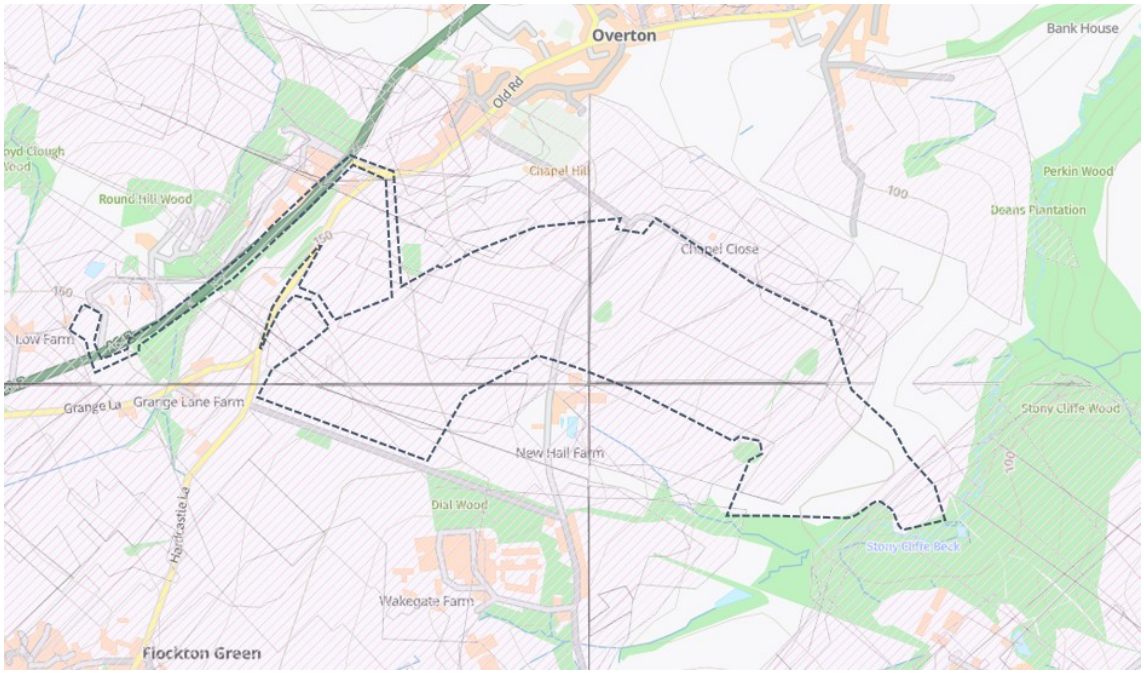
The solar farm (main development area) is not generally indicated to be underlain by '*Probable Shallow Mine Workings'* (i.e. less than 30m bgl), apart from a very small part of the far south-west (development area 1). The south-west of the proposed cable route and the whole cable termination site are indicated to be underlain by '*Probable Shallow Mine Workings'*. (**Insert 6-3**).

Insert 6-3 - CA Extents of Probable Shallow Coal Workings (purple)



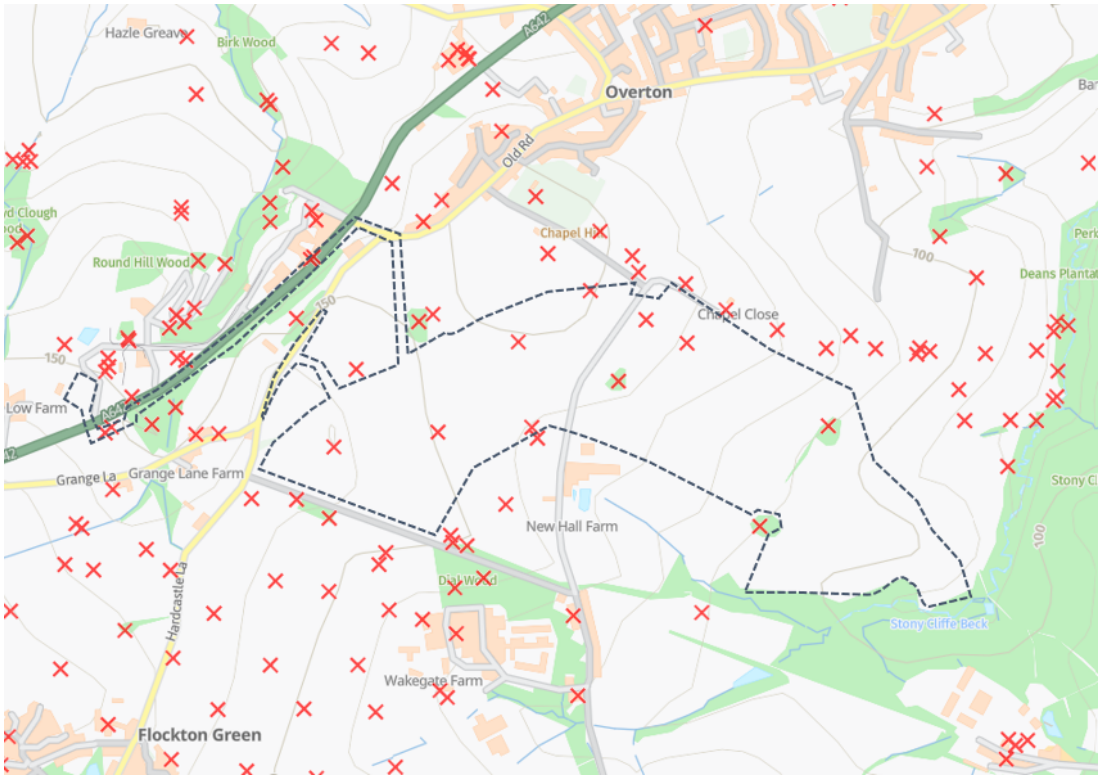
The site is indicated to be underlain by extensive deeper coal working at depths below 30m bgl in seams with CA codes NY270K, NY280K, NY330Y and NY380K (**Insert 6-4**).

Insert 6-4 - CA Extents of Deep Coal Workings (pink hatch)



The CA Interactive Map Viewer records several mine entries on the site, close to the site boundaries and off site in the wider area (**Insert 6-5**). Further detail on these mine entries is provided in **Section 6.3.2.5**.

Insert 6-5 - CA Recorded Mine Entries (red crosses)



6.3.2 CONSULTANTS COAL MINING REPORT

Reference to the CA Consultants Coal Mining Report (CCMR) (Ref. 9) indicates the following (note that these observations apply to all the site):

6.3.2.1 Recorded Mine Workings

The site is affected by recorded past underground coal mining as shown in **Table 6-1** (duplicate seam workings deeper than 50m bgl and all workings deeper than 75m bgl not shown):

Table 6-1 – Summary of Records of Underground Coal Mine Workings

Seam	Depth (m bgl)	Extraction Thickness (m)	Dip rate and direction	Year mined
FLOCKTON THICK	23m	1.35 m	1.6° North-east	1841
FLOCKTON THIN	27m	0.64 m	3.9° North	1844
FLOCKTON THICK	27m	1.35 m	3.4° North-east	1798
FLOCKTON THICK	29m	1.45 m	1.4° East	1824
FLOCKTON THICK	30m	1.45 m	2.9° East	1824
FLOCKTON THIN	40m	0.64 m	3.8° North-east	1845
FLOCKTON THIN	43m	0.46 m	3.8° South-east	1871

Seam	Depth (m bgl)	Extraction Thickness (m)	Dip rate and direction	Year mined
LOW FENTON	57m	0.91m	0.9° North	1856
FLOCKTON THICK	66m	1.22m	4.7° South	1830

On the basis of BGS mapping (which suggests no drift soil cover above rockhead), depths below ground level will be similar to depth below rockhead.

6.3.2.2 Unrecorded Mine Workings

The CA report states there are 'Probable unrecorded shallow workings' below the site which is considered to relate to development area 1, cable route and cable termination site areas as shown in **Insert 6-3**.

6.3.2.3 Spine Roadways, Faults and Fissures

There are no spine roadways recorded at shallow depth.

There are several faults shown in the far east and far south-west of the site. There are no fissures or breaklines recorded.

6.3.2.4 Opencast Workings

There are no opencast workings recorded on the site.

Areas of opencast coal mining are recorded more than 100m off site to the west and east.

6.3.2.5 Mine Entries

The CA report records 53 mine entries (48 shafts and 5 adits) on the site or within approximately 100m of the site boundary. Table 6-2 summarises the pertinent information relating to the mine entries which are recorded on site or within approximately 100m of the site boundary. Twenty of these mine entries are indicated as more than 50m away from the site boundary (shaded grey in Table 6-2) and as such are not expected to impact the site. The Zone of Influence (ZOI) of each shaft is calculated as follows:

- *ZOI = shaft radius + departure distance + depth to engineering bedrock*

Departure distances and shaft radius are taken from the Coal Authority Interactive Map Viewer. Depth to engineering bedrock is conservatively taken as 2.0m bgl to account for topsoil and any highly weathered near-surface rock (BGS records indicate no drift soils above bedrock). ZOI radius without the departure distance included are shown in brackets (i.e. applicable to shafts once their actual location has been accurately confirmed by investigation).

Table 6-2 – Summary Information of Mine Entries Present

Mine Entry Reference	Shaft/Adit	Grid Reference	Location (on site/ off site) **	Diameter (m)	Departure Distance (m)	ZOI Radius (m)	Depth (m)	Name	Treatment Description if Known
424416-001	Shaft	424864, 416189	Off site	3.7	0	3.9	206.4	Hope Pit Upcast Shaft	-
424416-005	Shaft	424870, 416222	Off site	2.5*	5	8.3 (3.25)	-	Old Hope Pit Downcast Shaft	Has been filled to an unknown specification
424416-006	Shaft	424970, 416068	Off site	2*	5	8 (3)	95	Gulley Pit Shaft	-
424416-007	Shaft	424872, 416200	Off site	2.5*	10	13.3 (3.25)	95	Notts	-
424416-016	Shaft	424770, 416251	Off site	2*	10	13 (3)	-	Notts	-
424416-017	Shaft	424878, 416063	Off site	2*	10	13 (3)	-	Notts	-
424416-018	Shaft	424864, 416050	Off site	2*	10	13 (3)	-	Notts	-
424416-019	Shaft	424924, 416131	Off site	2*	10	13 (3)	-	Notts	-
425415-002	Shaft	425779, 415886	Off site	1.8	5	7.9 (2.9)	59.4	Shaw Shaft	Has been filled to an unknown specification
425415-006	Shaft	425653, 415816	On site	2*	8	13 (3)	-	Old Whimsey Pit Shaft	Has been filled to an unknown specification
425415-007	Shaft	425658, 415799	Off site	2*	8	13 (3)	-	Old Whimsey Colliery Dial Wood Shaft	Has been filled to an unknown specification
425415-015	Shaft	425198, 415899	Off site	2*	10	13 (3)	-	Notts	-
425415-016	Shaft	425301, 415897	Off site	2*	10	13 (3)	-	Notts	-

Mine Entry Reference	Shaft/Adit	Grid Reference	Location (on site/ off site) **	Diameter (m)	Departure Distance (m)	ZOI Radius (m)	Depth (m)	Name	Treatment Description if Known
425415-017	Shaft	425375, 415854	Off site	2*	10	13 (3)	-	Notts	-
425415-018	Shaft	425505, 415776	Off site	2*	10	13 (3)	-	Notts	-
425415-019	Shaft	425489, 415749	Off site	2*	10	13 (3)	-	Notts	-
425416-001	Shaft	425339, 416451	On site	3.4	0	3.7 (3.7)	133.6	No.1 Downcast Shaft (Mining Museum)	is open and active
425416-005	Shaft	425332, 416446	On site	3.0	0	3.8 (3.8)	128.5	Old Fitting Shop/ Furnace Shaft	is capped with concrete and steel girders and is void beneath the cap
425416-006	Adit	425047, 416214	On site	2*	8	11 (3)	-	Notts	Has been filled to an unknown specification
425416-015	Adit	425044, 416302	Offsite	2.5*	10	13.3 (3.25)	-	Notts	-
425416-016	Shaft	425580, 416303	On site	2.5*	8	11.25 (3.25)	-	Wortley Shaft	-
425416-017	Shaft	425807, 416257	On site	2.5*	8	11.25 (3.25)	-	Caphouse Shaft	-
425416-018	Shaft	425851, 416037	Off site	2.5*	8	11.25 (3.25)	-	Charlesworth Shaft	-
425416-024	Shaft	425994, 416509	Off site	2*	10	13 (3)	-	Notts	-
425416-025	Shaft	425875, 416458	Off site	2*	8	11 (3)	-	Notts	-
425416-026	Shaft	425972, 416374	On site	2*	8	11 (3)	-	Notts	-

Mine Entry Reference	Shaft/Adit	Grid Reference	Location (on site/ off site) **	Diameter (m)	Departure Distance (m)	ZOI Radius (m)	Depth (m)	Name	Treatment Description if Known
425416-027	Adit	425335, 416557	Off site	2*	0	3		Caphouse Colliery Adit	-
425416-030	Shaft	425300, 416310	Off site	2*	10	13 (3)	-	Notts	-
425416-031	Shaft	425437, 416194	On site	2.5*	10	13.25 (3.25)	-	Caphouse Shaft	-
425416-033	Shaft	425010, 416288	Off site	2*	10	13	-	Notts	
425416-034	Adit	425024, 416107	Off site	2*	10	13 (3)	-	Notts	
425416-036	Shaft	425123, 416047	Off site	2*	10	13 (3)	-	Notts	-
425416-037	Shaft	425386, 416017	On site	2*	10	13 (3)	-	Notts	-
425416-038	Shaft	425624, 416051	On site	2*	10	13 (3)	-	Notts	-
425416-039	Shaft	425612, 416320	On site	2*	10	13 (3)	-	Notts	-
425416-040	Shaft	425838, 416062	Off site	2*	10	13 (3)	-	Notts	-

Mine Entry Reference	Shaft/Adit	Grid Reference	Location (on site/ off site) **	Diameter (m)	Departure Distance (m)	ZOI Radius (m)	Depth (m)	Name	Treatment Description if Known
425416-042	Shaft	425590, 416531	Off site	2*	10	13 (3)	-	Notts	This is a possible infilled shaft found during site development. However excavation of the entire garage floor of 180 Old Road Overton (beneath which the shaft plots) by Fennel Green and Bates Mining Engineers and Surveyors of Wakefield in 1993 found no evidence of any such shaft. Additionally the records of City of Wakefield District Council show no evidence of a shaft discovered during excavations or at any other time. Further an impulse radar survey carried out at the property by Site Scan Ltd of Swindon in March 1994 concluded that there was no evidence from the radar survey for the presence of a mine shaft
425416-043	Shaft	425345, 416535	Off site	2*	10	13 (3)	-	Notts	-
425416-047	Adit	425067, 416334	Off site	2*	10	13 (3)	-	Notts	-
425416-049	Shaft	425028, 416220	Off site	2*	10	13 (3)	-	Notts	-
426415-004	Shaft	426360, 415836	Off site	3*	8	11.5 (3.5)	82.3	New Hall Shaft	-
426416-003	Shaft	426627, 416238	Off site	2.4	5	8.2 (3.2)	12.2	Notts	Has been capped
426416-005	Shaft	426516, 416065	On site	2.7	5	8.35 (3.35)	86.9	Notts	Has been filled and capped

Mine Entry Reference	Shaft/Adit	Grid Reference	Location (on site/ off site) **	Diameter (m)	Departure Distance (m)	ZOI Radius (m)	Depth (m)	Name	Treatment Description if Known
426416-006	Shaft	426399, 416284	Off site	2.5*	5	8.25 (3.25)	-	Notts	Has been filled to an unknown specification
426416-007	Shaft	426511, 416242	Off site	2.5*	5	8.25 (3.25)	-	Notts	Has been filled to an unknown specification
426416-009	Shaft	426036, 416167	On site	3*	10	13.5 (3.5)	82.3	Notts	-
426416-015	Shaft	426068, 416453	On site	2.5*	10	11.25 (3.25)	-	Notts	-
426416-016	Shaft	426190, 416389	Off site	2.5*	8	11.25 (3.25)	-	Notts	Has been filled to an unknown specification
426416-017	Shaft	426282, 416330	Off site	2.5*	8	11.25 (3.25)	-	Chapel Hill Shaft	Has been filled to an unknown specification
426416-018	Shaft	426099, 416307	On site	2.5*	10	13.25 (3.25)	-	Notts	-
426416-019	Shaft	426193, 416254	On site	2.5*	10	13.25 (3.25)	-	Notts	-
426416-020	Shaft	426567, 416271	Off site	2.5*	10	13.25 (3.25)	-	Notts	-
426416-026	Shaft	426082, 416416	On site	2.5*	10	13.25 (3.25)	-	Notts	-

* Assumed diameter taken from CA Interactive Map Viewer.
** Location on/off site based on indicative site boundary. To be confirmed by on-site surveys.

6.3.2.6 Coal Mining Subsidence

The Coal Authority has not received a damage notice or claim for the subject property. There is 1 claim within 50 metres of the property boundary that do not match the property address. The claim is located to the north of the proposed cable route.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

6.3.2.7 Mine Gas

The CA report records a mine gas incident/ remediation is 334.5m to the south of the site. No further information on the mine gas incident/ remediation is included in the CA report.

The CA report further states that the site is within an area of previous interest relating to mine gas remedial works. The site is close to where the Coal Authority has investigated and subsequently remediated the effects of mine or ground gas emissions following specific reported hazards.

The CA report recommends further investigation of mine gases including obtaining a CA Mine Gas Emission Report. Potential risks from mine gases are further discussed in section 7.2.

6.3.2.8 Mine Water Treatment Schemes

There are no mine water treatment schemes recorded within 500m of the enquiry boundary.

6.3.3 ABANDONMENT PLANS

The CA report indicates there are at least nine abandonment plans which intersect with the site boundary. It is expected that these will relate to the recorded mine workings referenced in **Table 6-1** and some may also indicate some of the mine entries noted in **Table 6-2**. Copies of these plans have not been obtained as part of this report, as the recorded workings are sufficiently deep that they are not expected to present a risk to the development (see **Section 6.4.1**) and the shaft record data is well summarised and located on CA database and other records. It may be helpful to obtain copies of some of these plans in advance of any further intrusive investigation to prove the location and potential depth of mine entries at the next stage of site assessment.

6.4 PRELIMINARY COAL MINING RISK ASSESSMENT

Based on the information reviewed above, a preliminary assessment of coal mining related risks that may affect the site has been undertaken and is presented below.

6.4.1 COAL MINING GEOLOGY

The CA report indicate Flockton Thick coal to subcrop beneath the site (beneath the cable route). The BGS geological maps however does not indicate this coal seam to subcrop beneath any part of the site (see **Insert 6-6**). This suggests a discrepancy between the BGS mapping information and the CA report.

Insert 6-6 – CA report recorded coal outcrops and Extract of BGS 1:50,000 Map



The BGS geological maps record the Joan coal seam to subcrop within 50m of the site below the (cable route) and the solar farm (main development area).

Two faults are shown trending north-west to south-east crossing the far development area 1 of the solar farm (main development area) and the proposed cable route. These faults are not considered to have been caused by coal mining activity. The CA has no records of any damage due to geological faults or other lines of weakness that have been caused by coal mining.

The risk of ground instability from coal mining induced faulting is considered to be low.

6.4.2 RECORDED COAL MINING AT SHALLOW DEPTH

The CA report indicates recorded coal mine workings at shallow depth (i.e. within 30m of ground level) beneath parts of the site within the Flockton Thick coal (25m deep at 1.35m extracted thickness) and the Flockton Thin coal (27m deep at 0.64m extracted thickness). It is noted that no shallow workings are indicated on the CA online viewer beneath the site, and as such it is not possible from the data reviewed in this report to determine where these shallow workings may have occurred.

BGS records indicate no drift deposits at the site, and as such the thickness of rock cover above these recorded workings is likely to be similar to the recorded depths below ground level. Conservatively allowing for a 2m thickness of topsoil and highly weathered shallow rock, the minimum thickness of competent rock cover above the recorded Flockton Thick coal workings is expected to be in the order of 21m (i.e. 15 times the extracted seam thickness). Similarly, the minimum thickness of competent rock cover above the recorded Flockton Thin workings is expected to be in the order of 25m (i.e. 39 times the extracted seam thickness).

Allowing for possible multi-seam workings, where one seam is worked above another, the combined thickness of Flockton Thin and Flockton Thick workings may be in the order of 1.99m. The solid strata separation reported between the shallowest recorded workings in these two seams is 4.0m. In this case, the minimum thickness of competent rock cover above the deeper seam workings could be in the order 21m which would be in the order 10.5 times combined the seam extracted seam thickness.

It is common UK practice, following guidance with CIRIA C758D Abandoned Mine Workings Manual, that where the ratio of competent rock cover to extracted seam thickness is more than 10 times the extracted thickness (i.e.> '10t') then the risk of surface instability can be considered to be acceptably low for most types of development, and no further assessment or mitigation of mine workings risk is required. On the basis of the records reviewed and the assessment noted above, the workings recorded below the site have a rock cover ratio in excess of 10:1, (using a conservative assumption that both seams are worked one above the other where recorded at their shallowest) and as such the risk to the proposed development from recorded shallow mine workings is considered to be low.

6.4.3 RECORDED COAL MINING AT GREATER DEPTH

Other recorded workings deeper than 50m bgl will by observation have competent rock cover thickness well in excess of ten times seam thickness (>10t). Based on the recorded seam thickness and depth, the thickness of rock cover above the shallowest recorded mine workings is expected to be sufficient such that these workings do not present a risk of surface instability.

6.4.4 UNRECORDED COAL MINING AT SHALLOW DEPTH

The CA records '*Probable Shallow Mine Workings*' beneath a very small part of the far south-west of the solar farm (development area 1), the far south-west of the proposed access road, south-western parts of the proposed cable route, and the whole proposed cable termination site as shown in **Insert 6-6**.

Insert 6-6 - Extract of CA Interactive Map Viewer Showing Area of *Probable Shallow Mine Workings* (purple)



The zones of probable shallow workings at the solar farm and proposed cable route are considered to relate to the off-site subcrop of the Joan Coal seam to the west, dipping below the site and hence possibly present at shallow depth in these locations. Although not recorded to be worked here, unrecorded workings may be present in the Joan Coal, which is reported to be up to 1.3m thick. Accordingly, competent rock cover in excess of 13m of would be required above any unrecorded workings in this seam to ensure surface stability.

The probable shallow workings beneath the proposed cable termination site are considered to be related to the off-site subcrop of the Flockton Thick coal seam to the west, dipping below the site and hence possibly present at shallow depth in this location. Although also not recorded to be worked here, unrecorded workings may be present in the Flockton Thick coal, which is reported to be up to 1.5m thick. Accordingly, competent rock cover in excess of 15m of would be required above any unrecorded workings in this seam to ensure surface stability.

Until proven otherwise, it is considered that these areas of probable shallow workings represent a medium risk of surface instability (if shallow seam workings are present). It is recommended that where development is proposed in these parts of the site, that intrusive investigation is completed to verify if the seams are worked and whether sufficient rock cover is present to ensure stability. This would not ordinarily apply to areas proposed for cable route works only, unless Horizontal Direction Drilling works are proposed for road crossings.

6.4.5 SURFACE MINING (OPENCAST WORKINGS)

The CA records show historical opencast coal mining activities to have taken place off site to the east and west. The Joan Coal seam outcrop is recorded close to the site but the likelihood of unrecorded opencast workings affecting the site is considered to be very low.

6.4.6 MINE ENTRIES

A total of 53 mine entries (shafts) are recorded on the site or in close proximity to the site boundaries, as noted on the mine entry map included within the CA report and as summarised in **Section 6.3.2.5**. These mine entries present a particular risk to the stability of the proposed development infrastructure depending on their actual position in relation to the proposed solar array structures, access roads, cable routes or any other proposed structure.

Mine shafts represent a hazard to the development if they collapse or subside and lead to surface deformation. The Zone of Influence (ZOI) of a mine shaft, beyond which the risk of surface deformation is generally very low, is determined by a combination of factors including the expected variance between the shafts reported and actual positions (CA 'departure distance') the shaft diameter and the depth to competent engineering bedrock as follows:

- ZOI Radius (m) = Shaft radius (m) + departure distance (m) + depth to competent rock (m)

The Coal Authority do not ordinarily permit construction directly over or within the ZOI of mine entries, regardless of whether they have been found and stabilised. The ZOI for each of the shafts is listed in **Table 6-2** and it will be necessary in some cases to adjust the development layout to avoid any construction works within these ZOI, effectively adopting '*no build zones*'. The extent of the ZOI may be reduced by the departure distance if the shaft can be located (as the departure distance then becomes zero) and any such works to successfully locate and fix the position of the shafts

would enable any '*no build zones'* to be minimised. The reduced ZOI is indicated in brackets in **Table 6-2**.

As with many sites within areas of historical underground mine workings and where a significant number of shafts are recorded, there is a risk of unrecorded mine entries also being present at the site, but not showing on any available records.

6.4.7 MINE GAS EMISSIONS

The CA report records a mine gas incident/ remediation 334.5m to the south of the site and that the site is within an area of previous interest relating to mine gas remedial works.

In October 2021, Contaminated Land: Applications in Real Environments (CL:AIRE) introduced a new method for the assessment of risks from mine gas in their guidance document 'Good Practice for Risk Assessment for Mine Gas Emissions'. This method considers the differences between soil gas via low-level generation and diffusion-based migration and the bulk reservoir advection migration that occurs when mine gas emissions are released. A preliminary site screening decision process is summarised in Figure 13.1 of the CL:AIRE guidance.

The following points have been considered in assessing the potential risk from mine gas to the proposed development:

- Unrecorded shallow (<30m bgl) mine workings are probable within the Flockton Thick seam beneath the proposed cable termination site, and within the Joan Coal seam beneath the south-western parts of the cable route, access track and development area 1.
- Mine workings within the Flockton Thick seam (where recorded) ceased in 1841. Mine workings are not recorded within the Joan Coal seam. The age of any unrecorded shallow mine workings within the Joan Coal seam (if present) is not known but likely to be similar to that of workings in the Flockton Thick seam.
- Recorded mine workings are present at greater depth (>30m bgl) beneath the site.
- Multiple mine entries are located on site and within close proximity to the site.
- No superficial deposits are recorded on the site, indicating them to be thin or absent.
- Historical unspecified heaps associated with a former colliery are recorded on and within close proximity to the site.
- One mine gas incident is recorded 334m south of the site.
- The CA record the site as within an area of previous interest relating to mine gas remedial works.
- A license for the abstraction of mine water from a mine shaft (Hope Shaft) is recorded ca. 30m north of the cable termination site, although no further information on the status of flooded mine workings is currently available.

Any enclosed or occupied spaces proposed as part of the development which are sensitive to ingress and accumulation of hazardous gases are considered to be at a high risk from mine gas. Potential risks from mine gases are further discussed in section 7.2.

6.4.8 RECORDED COAL MINING SURFACE HAZARD

The site has not been subject to remedial works by, or on behalf of, the CA under its Emergency Surface Hazard Call Out procedures.

6.4.9 SUMMARY OF ASSESSED COAL MINING RISKS

Table 6-3 presents a summary of the coal mining risks based on the assessment provided in this report. Where a risk is identified, recommended mitigation is outlined in **Section 6.5**.

Table 6-3 – Coal Mining Risk Assessment Summary

Coal Mining Issue	Yes	No	Risk Assessment/ Comment
Coal Mining Geology	X		**LOW RISK.** The CA recorded Flockton Thick coal to subcrop beneath the A642 (i.e. cable route). This is however considered a low risk as there are no recorded surface mining along A642 road. Any unrecorded surface mining is likely to have been investigated and treated, if necessary, as part of the A462 road construction. No other coal seam is recorded to subcrop on the site and there are no fissures or break lines recorded.
Underground coal mining (recorded at shallow depths)	X		**LOW RISK.** The recorded coal mining below the site in the Flockton Thin and Flockton Thick coal seams is considered to have sufficient competent rock cover above to provide surface stability.
Underground coal mining (probable at shallow depths) i.e. unrecorded workings	X		**LOW RISK** for the majority of the solar farm (main development area). **MEDIUM RISK** for a very small part of the far west of development area 1 for the solar farm, the far south-west of the access road, south of the cable route and the entire cable termination site are recorded by the CA to be affected by '*probable shallow mine workings'*.
Underground mining (deep)	X		**LOW RISK.** Deep workings are recorded below much of the site at depths below 30m bgl and it is considered that sufficient rock cover is present above these to provide surface stability for the proposed development.
Surface mining (opencast workings)		X	**LOW RISK**. None recorded by the CA on site or in close proximity to the site boundaries.
Mine entries (shafts/ adits)	X		**HIGH RISK**. 53 mine entries are recorded on the site or close to the site boundaries.
Record of past mine gas emissions or potential	X		**MEDIUM RISK.** There are no records of mine gas emissions associated with the site. However, the CA record the site as within an area of previous interest relating to mine gas remedial works. The site is underlain by mine workings and there are several shafts on site and mine gas emissions may occur.

6.5 RECOMMENDED MITIGATION

The following areas of coal mining risk should be further investigated as part of a site-specific intrusive investigation to inform the layout of the development and to progress any mitigation measures required.

6.5.1 RISK FROM UNRECORDED SHALLOW MINE WORKINGS

The CA records identify a potential risk of unrecorded shallow workings beneath parts of development area 1 of the solar farm, access road, cable route and the cable termination site. In order to better define this risk, intrusive investigation by means of rotary drilling would be required to investigate the possible presence of unrecorded shallow mine workings in these areas. The following intrusive investigations are recommended:

- Solar farm area 1- Due to the small extent, it is considered that four rotary boreholes drilled to a depth of at least 25m below rockhead will be suitable to further inform this risk.
- Cable route – This is not considered a significant risk area and no investigation is proposed.
- Cable termination site – Four rotary boreholes drilled to a depth of at least 25m below rockhead will be suitable to further inform this risk.

If encountered, unrecorded shallow mine workings with insufficient solid rock cover would likely require remediation as part of site development enabling works. This may comprise either treatment by grout injection beneath any infrastructure considered sensitive to ground movement or use of high strength geogrids to manage the impacts of any ground movement below less sensitive areas such as access tracks.

6.5.2 RISK FROM RECORDED AND UNRECORDED MINE ENTRIES

Once proposed development layouts are progressed, taking due account of the Zone of Influence (ZOI) of the recorded mine entries, a strategy to locate the mine entries which may impact on the development should be progressed. Initially this may include non-intrusive methods such as geophysical scanning which, in sites such as this with shallow bedrock and good open access, can often be successful. This will need to be supplemented by an element of exploratory excavation or soil stripping to expose anomalies and to target the areas of recorded mine entries.

It is good practice to attempt to locate all mine entries on a development site and complete appropriate measures to manage the risk from these on the development and persons accessing the site. Such measures may range from simple fencing to exclude construction, operation and public access to the ZOI to full treatment by grout injection of shaft infill and provision of reinforced concrete caps. The scope of appropriate treatment for each shaft will need to be agreed with the Coal Authority, taking due cognisance of the nature of proposed development.

It may be impractical to confirm with certainty the location of some of the shafts, particularly those close to site boundaries which may lie within third party land. In such cases, the ZOI using the CA departure distance should be adopted as a no-development exclusion zone.

The presence of unrecorded mine entries cannot be discounted due to the incomplete nature of the records held by the CA, the presence of shallow coal seams below the site, and the history of mining in the area. Therefore, it is recommended that a watching brief is in operation during topsoil strip and general site preparatory earthworks. If any unusual ground conditions or features are exposed which may represent an unrecorded mine entry, additional assessment and investigation should be carried out and appropriate mitigation implemented to the satisfaction of the CA.

6.5.3 RISK FROM MINE GAS EMISSIONS

There is a risk of mine gas emissions affecting enclosed spaces associated with the proposed development.

Further detailed assessment of the risks from mine gases will be required. Potential risks from mine gases are further discussed in section 7.2. Monitoring of hazardous gases including mine gas and the implementation of gas protection measures in proposed structures with enclosed or occupied spaces may be required.

7 INITIAL CONCEPTUAL SITE MODEL

7.1 INTRODUCTION

The potential risks from contamination within soil and groundwater are assessed according to the environmental setting and ground model, likely presence of potential sources of contamination and the proposed land use.

The source-pathway-receptor model forms the basis of the risk assessment; potential risks are only considered to exist if there is a credible source (e.g., chemical substance capable of causing harm); a pathway for migration of the source to the receptor; and a receptor that could be affected (e.g., nearby river or future site users). A source-pathway-receptor contaminant linkage assessment is termed a CSM. An initial CSM is produced prior to intrusive ground investigation and is refined following the collection of site-specific data (if appropriate).

This CSM has been prepared based on the site being redeveloped for a solar photovoltaic farm to comprise the installation of rows of solar photovoltaic panels and associated infrastructure.

7.2 SOURCES, PATHWAYS AND RECEPTORS

The potential sources of contamination, receptors relevant to the proposed development and potential exposure pathways have been identified and are presented below:

7.2.1 POTENTIAL CONTAMINATION SOURCES

The following relevant potential sources of contamination have been identified:

- Contaminants of concern within Made Ground associated with former mining and quarrying, refuse and spoil heaps, mineral railways, tramways or farming activities. Potential contaminants include total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), heavy metals, phenols, asbestos or combustible materials.
- Agricultural use of land relating to the use of pesticides, herbicides, and fertilisers
- Hazardous ground gases generated from Made Ground present on site or off site (principally methane and carbon dioxide)
- Mine gas generated in the underlying coal mine workings (principally methane, carbon dioxide, carbon monoxide, hydrogen sulphide, oxygen deficient air)
- Radon gas generated within the underlying solid strata;
- Potential off-site sources of contamination associated with surrounding industrial/ commercial land uses (collieries and quarries).

7.2.2 POTENTIAL MIGRATION PATHWAYS

Relevant exposure pathways are considered to include:

- Inhalation of asbestos fibres if present and liberated from soils.
- Direct contact, ingestion, and inhalation of other soil-bound contaminants of concern.
- Inhalation of vapours associated with volatile substances in soils.
- Migration of leachable/ mobile contaminants through soil and groundwater.

- Diffusion-based migration of hazardous ground gases from Made Ground through granular superficial soils or Made Ground and accumulation in confined spaces, followed by inhalation or ignition.
- Emission of mine gas from bulk reservoirs in underlying coal mine workings and advection migration via fractured bedrock or preferential pathways (e.g. mine entries).
- Spontaneous combustion of combustible materials (e.g. materials with a high coal content).

7.2.3 POTENTIAL RECEPTORS

The potential receptors listed below are considered given the contamination identified, current status of the site and surrounding area, and the future proposed land use.

HUMAN HEALTH

- Construction workers during redevelopment.
- Adjacent land/ land users during redevelopment.
- Future site users (i.e., site visitors and maintenance workers on the solar farm; where use/occupation of enclosed structures occurs).
- Proposed structures.

CONTROLLED WATERS

- Off-site surface watercourses (Stony Cliffe Beck).
- Off-site unnamed pond and surface watercourse at former Caphouse Pit.
- Underlying groundwater (Secondary A Aquifer) and the wider groundwater environment.

Sensitive ecological receptors such as the neighbouring ancient woodland have also been identified as potential receptors; however, given the nature of the proposed development, the designated sites to the east have been discounted from further assessment with respect to potential risks associated with contamination.

7.3 PLAUSIBLE CONTAMINANT LINKAGES

The identified potential source-pathway-receptor contaminant linkages are summarised in **Table 7-1**.

A qualitative risk ranking has been applied to the potentially complete contaminant linkages in accordance with CIRIA C552 ‘Contaminated Land Risk Assessment: A Guide to Good Practice’, (2001), which considers a combination of the potential severity of the harm and the likelihood of the harm occurring. The CIRIA risk ranking methodology is detailed in **Appendix G**.

Table 7-1 - Potential Source-Pathway-Receptor Linkages (Initial CSM)

Potential Source	Potential Pathway	Potential Receptor	Probability of Complete Linkage	Severity	Risk	Comment
Asbestos, if present, within Made Ground	Liberation of fibres followed by inhalation	Construction workers during redevelopment	Likely (Reduced to unlikely with the use of appropriate PPE)	Medium	Moderate (Reduced to Low with the use of appropriate PPE)	Made Ground deposits are anticipated on site and potentially contain asbestos. Exposure of construction workers to airborne fibres is likely and mitigating measures to manage the risks from asbestos will likely be required. Following implementation of appropriate work control procedures, the residual risk is considered to be low.
		Neighbouring site users	Unlikely	Medium	Low	There is a potential for exposure of off-site receptors to airborne asbestos fibres during construction works; however, given the distance to these receptors, the probability of exposure is considered to be very low, and the risk is considered as low.
		Site end users and maintenance workers	Low	Medium	Moderate/ low	Where significant asbestos contamination of soils exists on the site, site end users may be exposed to asbestos and mitigating measures may be required. The overall risk to site end users is considered to be moderate/ low at this stage.

Potential Source	Potential Pathway	Potential Receptor	Probability of Complete Linkage	Severity	Risk	Comment
Contaminants of concern within Made Ground associated with previous historical uses (mine entries, soil mounds, mineral railways/tramways or farming activities)	Direct contact, ingestion, dust inhalation of soil bound contaminants	Construction Workers (during redevelopment)	Likely (Reduced to unlikely with the use of appropriate PPE)	Medium	Moderate (Reduced to Low with the use of appropriate PPE)	Exposure of construction workers to contamination in soils and groundwater is likely during construction, particularly groundworkers. Measures to limit exposure (e.g. appropriate PPE) may be required and will reduce the probability of exposure to unlikely.
		Site end users and maintenance workers, including groundworkers (post development)	Low	Medium	Moderate/ low	Where significant contamination of soils exists on the site, site end users may be exposed to contaminants of concern and mitigating measures may be required where Made Ground is present on the site. The overall risk to site end users is considered to be moderate/ low at this stage.
		Secondary A aquifer (Thornhill Rock Formation, Pennine Middle Coal Measures and Pennine Lower Coal Measures)	Low	Medium	Moderate/ low	

Potential Source	Potential Pathway	Potential Receptor	Probability of Complete Linkage	Severity	Risk	Comment
	Lateral and vertical migration of leachable/ mobile contaminants through granular strata within the superficial deposits or fractures within the bedrock	Surface watercourses (Stony Cliffe Beck) Unnamed pond and surface watercourse at former Caphouse Pit	Low	Medium	Moderate/ low	The identified controlled waters receptors are considered to be of low sensitivity given the coal mining history in the area and lack of potable groundwater abstractions within 2km of the site. Groundwater within the area is considered to be of overall poor quality given the coal mining legacy of the area. Any sources of contamination on site are considered unlikely to present a detrimental effect on the quality of the controlled waters.
Hazardous ground gases arising from Made Ground, underlying coal mine workings or bedrock (radon gas)	Migration of hazardous ground gases through fractures within the underlying bedrock and accumulation in confined spaces, followed by inhalation / risk of explosion	Site end users and maintenance workers (where use/occupation of enclosed structures occurs)	Likely (proposed enclosed/ occupied structures)	Severe	High (proposed enclosed/ occupied structures)	Where structures with enclosed or occupied spaces are proposed as part of the development, hazardous ground gases or radon gas are likely to accumulate and pose a severe risk to human health. Any proposed structures with enclosed spaces will likely require protection measures to mitigate the risks from hazardous gases.

Potential Source	Potential Pathway	Potential Receptor	Probability of Complete Linkage	Severity	Risk	Comment
Mine gas arising from bulk reservoirs in underlying coal mine workings	Advection migration via fractured bedrock or preferential pathways (e.g. mine entries)	Future site users (users/ occupants of enclosed spaces Permanent structures with enclosed or occupied spaces	Likely (proposed enclosed/ occupied structures)	Severe	High (proposed enclosed/ occupied structures)	Where mine gas is generated in coal mine workings beneath the site, they are considered likely to migrate upwards through fractured rock or via preferential pathways and to accumulate in enclosed spaces of proposed structures. The risk from mine gases is considered to be high.
Made Ground containing potentially combustible materials	Spontaneous combustion	Site end users including maintenance workers	Unlikely	Medium	Low	Where combustible materials are present within soils on the site a risk of spontaneous combustion exists when in contact with heat sources (e.g. high voltage underground cables). However, the presence of significant quantities of combustible materials on site is considered to be unlikely, and the risk of spontaneous combustion is low.

8 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of this preliminary risk assessment the following conclusions and recommendations are made for the proposed development of the site.

8.1 ENVIRONMENTAL RISKS AND CONSTRAINTS

The site has largely remained in agricultural use with the exception of a number of disused mine entries located on and near the site. A number of soil mounds associated with the former mine entries are present on and adjacent to the site. The composition of these mounds is unknown, although evidence of Made Ground was observed during the site walkover on site, and geological mapping for the site indicates the presence of Made Ground in the vicinity of the mounds.

Historical OS maps indicate the presence of a former tramway and a tunnel in the western half of the site, however no development is proposed in this area. A mineral railway was formerly present along the southern boundary of development area 1. Parts of the former Caphouse Pit are indicated to have extended beneath the proposed cable route and associated pit heaps may be present on the proposed cable route or close to the proposed cable termination site.

Contaminants of concern may be present within Made Ground on the site and potentially pose a risk to human health during construction or use of the proposed development. However, the Made Ground deposits are anticipated to be limited to the locations of former mine entries and former mining and quarrying activities and are discontinuous across the site. The risk from exposure is considered to be moderate/ low at this stage. The Made Ground may potentially contain combustible materials originating from past coal mining activities (e.g. soils with a high coal content) which may be prone to spontaneous combustion; however, the presence of significant volumes of such materials on site is considered to be low and is likely to have a limited distribution. Subject to investigating the extent of Made Ground, contaminated soils and combustible materials on site, mitigating measures may be required to reduce the risks to site end users.

The risk to controlled waters is considered to be moderate/ low.

Made Ground deposits present on site and off site, and the underlying coal mine workings, have the potential to generate hazardous mine gases that could migrate to the surface. Mine shafts present on and near the site may present preferential pathways for mine gases to migrate upwards to the surface. In addition, the bedrock beneath parts of the site is indicated to produce radon gas at concentrations that are above the Radon Action Level. Any proposed structures that contain enclosed spaces or are proposed to be occupied by site users may require gas and radon protection measures to mitigate the risk from hazardous ground gases.

8.2 COAL MINING RELATED RISKS

The following conclusions are made with regard to risks from coal mining:

- The site is underlain by recorded mine workings in several coal seams. Based on the recorded depth and extracted thickness, it is considered that there is sufficient competent rock cover above the recorded workings and risk of surface instability from recorded workings is considered to be low.

- A very small part of development area 1, parts of the cable route and the proposed cable termination site is affected by '*probable shallow coal mine workings'*. This area should be subject to confirmatory ground investigation and if shallow workings are proven, further assessment of the requirement for potential stabilisation measures should be made.
- There are no recorded opencast mine workings at the site.
- A total of 53 mine entries are recorded on site, most of which have not been subject to any recorded treatment. These represent a constraint as development should not be progressed over or within the Zone of Influence of these features. Site investigation (non-intrusive and intrusive) is recommended to attempt to locate these shafts, to enable optimisation of development layouts. Works to treat these shafts will depend on the proximity to planned development, and further consideration of this will be required in consultation with the coal authority once the development layout is progressed. It may be cost prohibitive to locate and provide full stabilising treatment to all the mine entries, and avoidance and fencing off may be the most appropriate risk mitigation approach for some of these shafts.
- There is a risk of hazardous ground gas and mine gas emissions affecting enclosed spaces associated with the proposed development due to the presence of Made Ground, unrecorded shallow and recorded deep coal mine workings as well as the various mine entries on the site.

8.3 RECOMMENDATIONS

It is recommended that a Phase 2 Geoenvironmental and Geotechnical Investigation of the site is undertaken to further assess the identified contamination and coal mining related constraints to the proposed development. It is considered likely that a Phase 2 intrusive ground investigation will be required by way of a planning condition but can be undertaken following receipt of planning permission for the scheme. The Phase 2 investigation should be proportionate to the nature of the development and be designed to achieve the following objectives:

- Confirm anticipated ground conditions and investigate the presence/ absence of contaminant linkages – investigation by mechanical trial pit excavations and drilling of shallow rotary boreholes.
- Assess the risk from unrecorded shallow mine workings – investigation by drilling of rotary boreholes in the far south-western corner of development area 1 and the cable termination site.
- Assess the risk from recorded mine entries – investigation by non-intrusive techniques (geophysics) to be considered, targeting locations of recorded mine entries, followed by confirmatory intrusive investigation (soils strip/trenching etc).
- Assess the risk from ground and mine gas emissions – investigation in areas of proposed structures (enclosed or occupied spaces) to allow a hazardous gas risk assessment.
- Obtain geotechnical parameters of soils and rock to aid in the design of any proposed structures.
- Provide data to enable an indicative waste classification assessment of soils likely to be disposed of during redevelopment to determine appropriate disposal routes and cost estimates (if required).

It is considered that locating and investigating the mine entries on and close to the site will assist in optimising the development layout; however, avoidance of areas within influencing distance of mine entries may be the most cost-effective approach.

Appendix A

FIGURES & DRAWINGS

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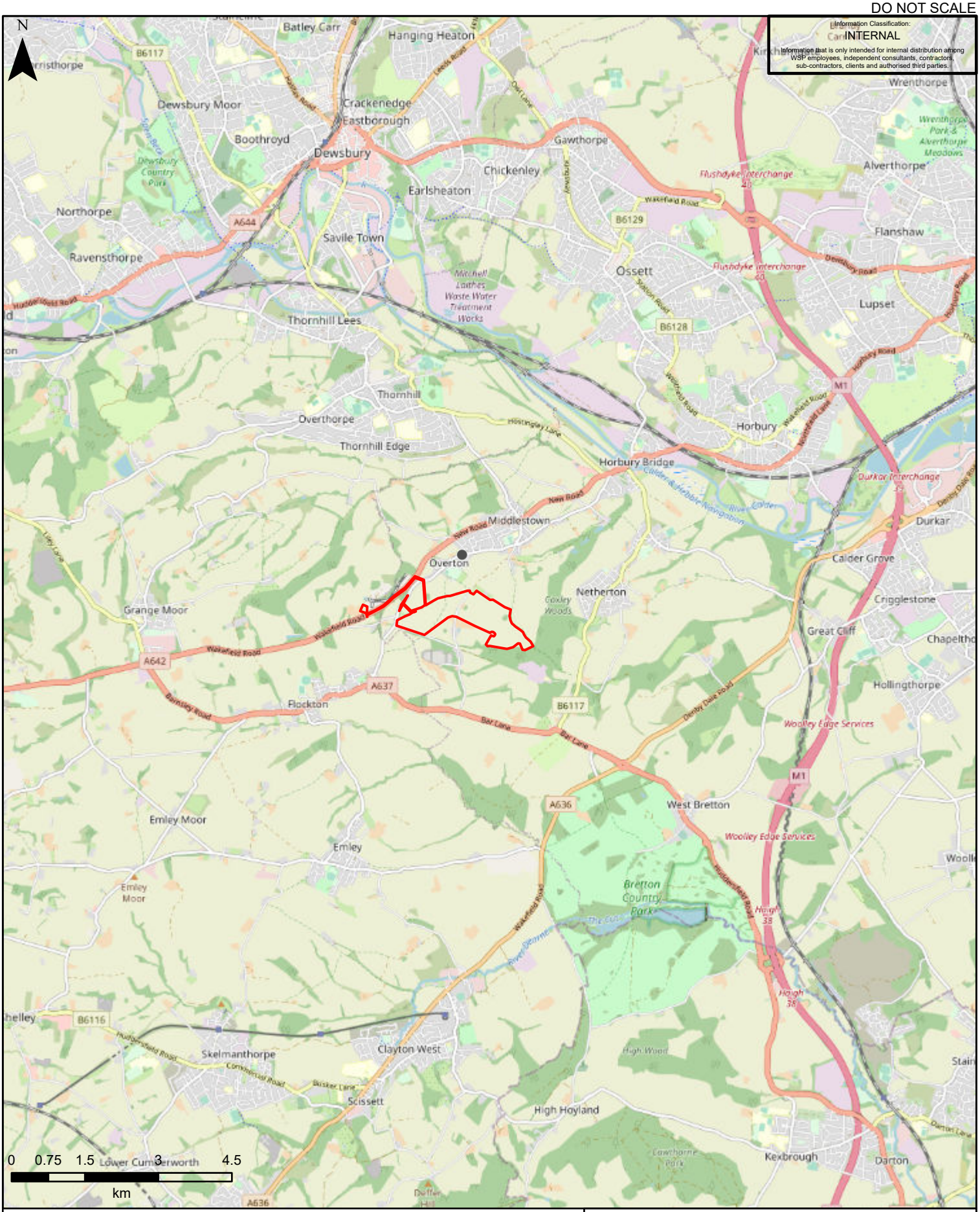

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Author : ArcGIS Web AppBuilder
Scale : 1:100,000
Layout : WSP A4 Portrait
Current Time : 06/07/2023 09:41

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NEW HALL SOLAR FARM PROJECT INFOBOX

Application Boundary	
Application Area	134.88 Acres

Boom Power Ltd. Address	Project Address
Boom Power Ltd. Unit 5E Park Farm Chichester Road Arundel West Sussex BN18 0AG	New Hall Farm New Hall Lane Overton Wakefield WF4 4RP

Drawing Infomation

V No	Revision Note	By	Date
2.7	Red Line Change	SH	20/03/2023
2.8	Annotation Change	SH	23/03/2023
2.9	Red Line Change	SH	27/04/2023
3.0	Red Line Change	SH	15/05/2023
3.1	Red Line Change	SS	24/05/2023

Drawing Infomation

Scale	1:2500 @ A0
Stage	FINAL
Drawing Name	Location Plan
Drawing Number	A001
Designed By	SAMUEL HOGAN
Sheet 1 of 1	

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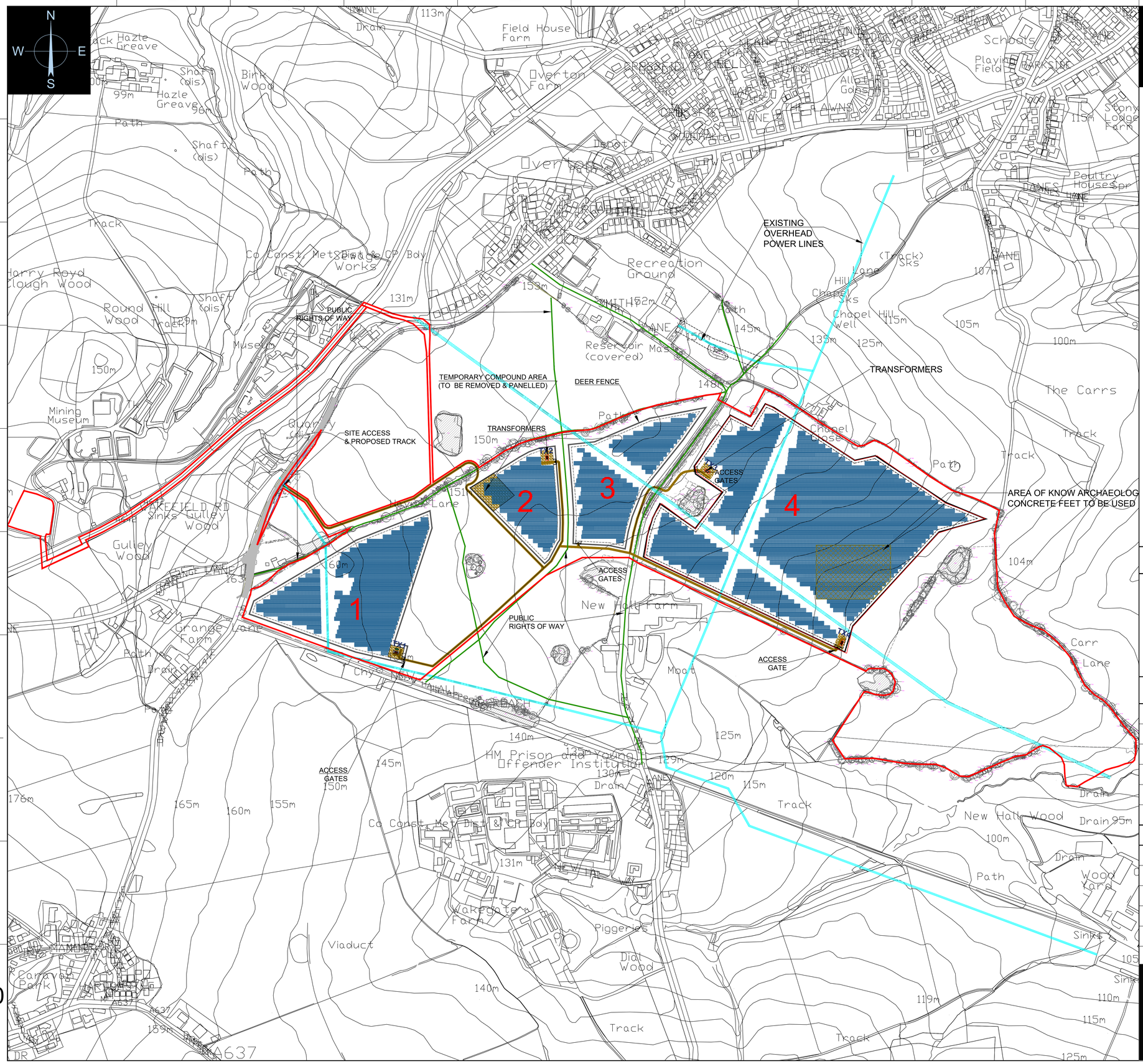

NEW HALL SOLAR FARM PROJECT INFOBOX

	PUBLIC RIGHTS OF WAY
	TEMPORARY COMPOUND AREA
	TRANSFORMERS
	EXISTING OVERHEAD POWER LINES
	SITE ACCESS & PROPOSED TRACK
	DEER FENCE
	ACCESS GATES
	AREA OF KNOWN ARCHAEOLOGICAL INTEREST - CONCRETE FEET TO BE USED
	APPLICATION BOUNDARY
	SPARES CONTAINER

Boom Power Ltd. Address	Project Address
Boom Power Ltd. Unit 5E Park Farm Chichester Road Arundel West Sussex BN18 0AG	New Hall Farm New Hall Lane Overton Wakefield WF4 4RP

Drawing Infomation

V No	Revision Note	By	Date
2.6	FINAL	JT	08/06/2023

Drawing Infomation

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Stage	FINAL
Drawing Name	Overall Layout
Drawing Number	B001
Designed By	Samuel Hogan
Sheet 1 of 1	

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Notes:

LEGEND:

- Site Boundary
- Existing Overhead Power Line
- Public Right of Way

PROPOSED CABLE ROUTE

PROPOSED CABLE TERMINATION SITE

PROPOSED SITE ACCESS TRACK

EXISTING OVERHEAD POWER LINES

DEER FENCE

PUBLIC RIGHTS OF WAY

AREA OF KNOW ARCHAEOLOGICAL INTEREST
CONCRETE FEET TO BE USED

1

2

3

4

Main Development Area

REV	DATE	BY	DESCRIPTION	CHK	APP
P02	05/07/2023	TD	REVISED DTS AND CMRA	BD	BD

DRAWING STATUS: S2 - FOR INFORMATION

wsp

Amber Court, William Armstrong Drive, Newcastle upon Tyne, NE4 7YQ, UK
T+ 44 (0) 191 226 2000, F+ 44 (0) 191 226 2104
wsp.com

CLIENT: BOOM DEVELOPMENTS LTD

ARCHITECT:

PROJECT: NEW HALL FARM, WAKEFIELD - PROPOSED SOLAR FARM

TITLE: SITE FEATURES PLAN

SCALE @ A0	CHECKED	APPROVED
1:2,500	BD	BD

PROJECT No.	DESIGNED	DRAWN	DATE
70100138		TD	JULY 2023

DRAWING No.: FIGURE 2 — REV: P02

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File name: N:\PROJECTS\70100138_SOLAR\05 DESIGN\01 DRAWINGS\01 CAD\01 SITE_NEW HALL FARM_WAKEFIELD\DTS VERS_DRAWINGS\SITE FEATURES PLAN_NEW HALL FARM_WAKEFIELD.DWG, plotted on 13 Jul 2023 08:56:56 by Duchene, Tyler

DO NOT SCALE

Notes:
Locations of mine entries, zones of inclusence and departure distances taken from Coal Authority report Ref. 51003362140001.
Do not scale from this drawing.

LEGEND:

- Site Boundary
- Existing Overhead Power Lines
- Public Right of Way
- Mine entry zone of influence including departure distance
- Mine entry zone of influence excluding departure distance

PROPOSED CABLE TERMINATION SITE

PROPOSED CABLE ROUTE

PROPOSED SITE ACCESS TRACK

TEMPORARY COMPOUND AREA (TO BE REMOVED & PANELLED)

DEER FENCE

TRANSFORMERS

TRANSFORMERS

EXISTING OVERHEAD POWER LINES

ACCESS GATES

ACCESS GATES

ACCESS GATE

PUBLIC RIGHTS OF WAY

PUBLIC RIGHTS OF WAY

AREA OF KNOW ARCHAEOLOGICAL INTEREST CONCRETE FEET TO BE USED

Main Development Area

1

2

3

4

Off site and not in proposed development area - do nothing, but avoid construction works in ZOI.

Off site but proposed cable route crossing ZOI - locate mine entries to reduce ZOI and treat or avoid. Do not build in ZOI.

On site but does not affect proposed development area - locate to reduce ZOI or fence off ZOI. Avoid construction works in ZOI.

On site but not in proposed development area - do nothing, but avoid construction works in ZOI.

REV	DATE	BY	DESCRIPTION	CHK	APP
P02	05/07/2023	TD	REVISED DTS AND CMRA	BD	BD

DRAWING STATUS:
S2 - FOR INFORMATION

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wsp.com

CLIENT:
BOOM DEVELOPMENTS LTD

ARCHITECT:

PROJECT:
NEW HALL FARM, WAKEFIELD - PROPOSED SOLAR FARM

TITLE:
PROPOSED DEVELOPMENT LAYOUT AND MINE ENTRY ZONE OF INFLUENCE OVERLAY

SCALE @ A0:	CHECKED:	APPROVED:
1:2,500	BD	BD

PROJECT No:	DESIGNED:	DRAWN:	DATE:
70100138		TD	JULY 2023

DRAWING No: FIGURE 3 REV: P02

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File name: I:\M\WORKING\70100138\TECHNICAL DATA\MINE ENTRY\DRAWINGS\70100138 - NEW HALL FARM, WAKEFIELD\70100138 - NEW HALL FARM, WAKEFIELD.DWG, DRAWINGDATA HALL FARM MINE ENTRY OVERLAY.REV2.DWG, plotted on 13 July 2023 10:01:39, by Duchess, Tom

Appendix B

NOTES AND LIMITATIONS

Public

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.

2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.

3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.

4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEO ENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: *This section covers reports with the following titles or combination of titles: phase 1; desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; project scope summary report (PSSR), program environmental impact report (PEIR), geotechnical development risk register; and, baseline environmental assessment.*

5. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP UK Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.

6. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP UK Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

7. It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.

8. WSP UK Limited does not warrant work / data undertaken / provided by others.

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

INTRUSIVE INVESTIGATION REPORTS

Coverage: *The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.*

9. The investigation has been undertaken to provide information concerning either:

- **i.** The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
- **ii.** Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.

10. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.

11. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.

12. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.

13. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.

14. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

15. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.

16. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated

with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.

17. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.

18. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.

19. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.

20. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

21. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.

22. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIAL STRATEGY REPORTS

23. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected on the basis of the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

24. The outputs of the Detailed Quantitative Risk Assessments are based upon WSP UK Limited manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.

25. Prior to adoption on site they will need discussing and agreeing with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of WSP UK Limited. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

GEOTECHNICAL DESIGN REPORT (GDR)

26. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS)

27. These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.

28. The data is presented and will be compared with assessment criteria.

Appendix C

SITE WALKOVER PHOTOS

Public

PHOTOGRAPHIC RECORD	wsp	70100138 New Hall Farm, Wakefield



Photograph 1: Photo taken facing south-west of development area 1 showing fresh crop of sugar beets.



Photograph 2: Photo taken facing south showing soil mound with mature trees located along between development areas 1 and 2. Location of soil mound corresponds with mine entry 425416-038 as recorded by the Coal Authority.



Photograph 3: Photo taken facing north showing a sloped ditch to the north-east of development area 2. Photo taken on 26/08/22



Photograph 4: Photo taken facing south-east showing localised discolouration of the ground cover in development area 3 (Note due to restricted pathways to minimise crop damage unable to get a close photo of the area). Photo taken on 26/08/22



Photograph 5: Photo taken facing south-west showing soil northern boundary of development area 2. Soil mound shown to its north corresponds with location of mine entries 425416-016 and 425416-039 as recorded by the Coal Authority. Photo taken on 26/08/22



Photograph 6: Photo taken facing north showing access to Parcel 5 via a public footpath at intersection of New Hall Lane and Smithy Lane. Photo taken on 26/08/22



Photograph 7: Photo taken facing west showing electrical substation located off-site at north-western boundary of development area 4. Photo taken on 26/08/22



Photograph 8: Photo taken facing north showing pedestrian footpath access to development area 4 from the north-west. Photo taken on 26/08/22



Photograph 9: Soil mound adjacent to north-western boundary of development area 4. Photo taken on 26/08/22



Photograph 10: Photo taken facing south-west showing the covered reservoir located at the north-western boundary of development area 4 (ca. 8m south-west). Photo taken on 26/08/22



Photograph 11: Manure and waste debris pile located in the west of development area 4. Photo taken on 26/08/22



Photograph 12: Soil mound located in west of development area 4 corresponding with location of mine entry 426416-009 as recorded by the Coal Authority. Photo taken on 26/08/22



Photograph 15: Soil mound located adjacent to the western boundary of Parcel 7.
Photo taken on 26/08/22



Photograph 16: Photo taken facing east showing eastern part of development area 4.
Photo taken on 26/08/22



Photograph 17: Soil mound with mature trees located to the south of Parcel 7 adjacent to the site boundary. Soil mound location corresponds with location of mine entry 426415-004 as recorded by the Coal Authority. Photo taken 26/08/22



Photograph 18: Abandoned excavator located near a soil mound at the southern boundary of development area 4. Photo taken 26/08/22

Appendix D

GROUNDSURE REPORT & HISTORICAL OS MAPS

Public

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Order Details

Date: 18/08/2022

Your ref: 20149385

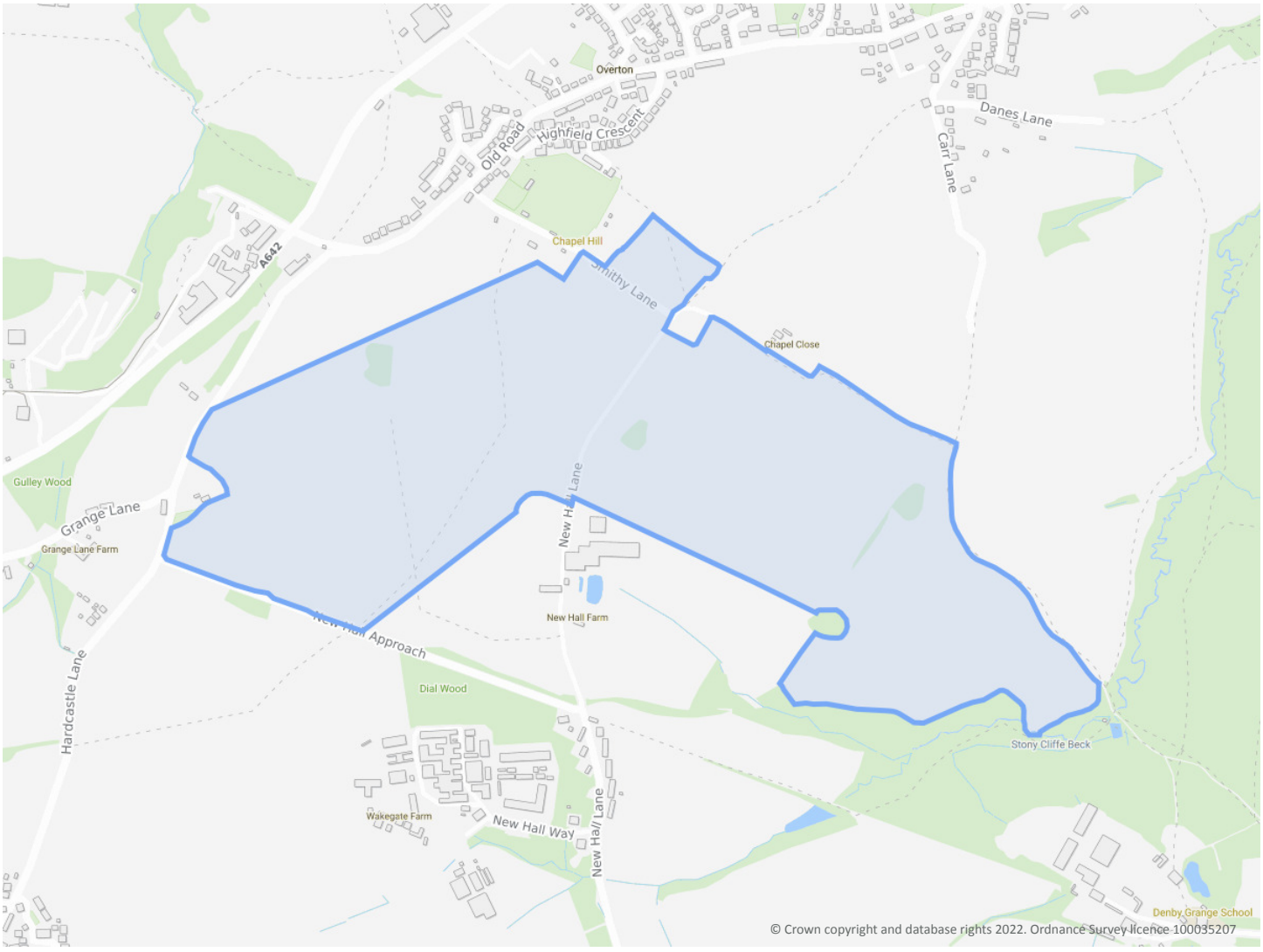
Our Ref: WSP-8991881

Site Details

Location: 425975 416072

Area: 66.57 ha

Authority: Wakefield Metropolitan District Council



Summary of findings p. 2

OS MasterMap site plan N/A: >10ha

Aerial image p. 8

groundsure.com/insightuserguide

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
12	1.1	Historical industrial land uses	49	26	82	109	-
22	1.2	Historical tanks	0	0	3	5	-
23	1.3	Historical energy features	0	0	0	6	-
23	1.4	Historical petrol stations	0	0	0	0	-
24	1.5	Historical garages	0	0	0	0	-
24	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
25	2.1	Historical industrial land uses	73	37	118	163	-
40	2.2	Historical tanks	0	0	6	6	-
40	2.3	Historical energy features	0	0	0	9	-
41	2.4	Historical petrol stations	0	0	0	0	-
41	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
42	3.1	Active or recent landfill	0	0	0	0	-
42	3.2	Historical landfill (BGS records)	0	0	0	0	-
43	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
43	3.4	Historical landfill (EA/NRW records)	0	0	1	0	-
43	3.5	Historical waste sites	0	0	1	1	-
44	3.6	Licensed waste sites	0	0	0	0	-
44	3.7	Waste exemptions	5	28	20	22	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
51	4.1	Recent industrial land uses	1	2	8	-	-
52	4.2	Current or recent petrol stations	0	0	0	0	-
52	4.3	Electricity cables	0	0	0	0	-
53	4.4	Gas pipelines	0	0	0	0	-
53	4.5	Sites determined as Contaminated Land	0	0	0	0	-

53	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
53	4.7	Regulated explosive sites	0	0	0	0	-
53	4.8	Hazardous substance storage/usage	0	0	0	0	-
54	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
54	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
54	**4.11**	**Licensed pollutant release (Part A(2)/B)**	0	0	0	1	-
54	4.12	Radioactive Substance Authorisations	0	0	0	0	-
55	**4.13**	**Licensed Discharges to controlled waters**	0	0	6	5	-
56	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
57	4.15	Pollutant release to public sewer	0	0	0	0	-
57	4.16	List 1 Dangerous Substances	0	0	0	0	-
57	**4.17**	**List 2 Dangerous Substances**	0	0	1	0	-
57	**4.18**	**Pollution Incidents (EA/NRW)**	0	0	5	0	-
58	4.19	Pollution inventory substances	0	0	0	0	-
58	4.20	Pollution inventory waste transfers	0	0	0	0	-
59	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
60	**5.1**	**Superficial aquifer**	Identified (within 500m)				
61	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
63	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
64	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
65	5.5	Groundwater vulnerability- local information	None (within 0m)				
66	**5.6**	**Groundwater abstractions**	0	0	0	1	0
67	5.7	Surface water abstractions	0	0	0	0	0
67	5.8	Potable abstractions	0	0	0	0	0
67	5.9	Source Protection Zones	0	0	0	0	-
68	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
69	**6.1**	**Water Network (OS MasterMap)**	1	15	36	-	-

74	6.2	Surface water features	1	8	18	-	-
74	6.3	WFD Surface water body catchments	2	-	-	-	-
74	6.4	WFD Surface water bodies	1	0	1	-	-
75	6.5	WFD Groundwater bodies	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
76	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
76	7.2	Historical Flood Events	0	0	0	-	-
76	7.3	Flood Defences	0	0	0	-	-
77	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
77	7.5	Flood Storage Areas	0	0	0	-	-
78	7.6	Flood Zone 2	None (within 50m)				
78	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding	
79	8.1	Surface water flooding	1 in 30 year, Greater than 1.0m (within 50m)

Page	Section	Groundwater flooding	
81	9.1	Groundwater flooding	Low (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
82	10.1	Sites of Special Scientific Interest (SSSI)	1	0	0	0	0
83	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
83	10.3	Special Areas of Conservation (SAC)	1	0	0	0	0
83	10.4	Special Protection Areas (SPA)	0	0	0	0	0
84	10.5	National Nature Reserves (NNR)	0	0	0	0	0
84	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
84	10.7	Designated Ancient Woodland	1	0	1	1	8
85	10.8	Biosphere Reserves	0	0	0	0	0
85	10.9	Forest Parks	0	0	0	0	0
85	10.10	Marine Conservation Zones	0	0	0	0	0
85	10.11	Green Belt	1	1	0	0	0
86	10.12	Proposed Ramsar sites	0	0	0	0	0

86	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
86	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
86	10.15	Nitrate Sensitive Areas	0	0	0	0	0
87	**10.16**	**Nitrate Vulnerable Zones**	0	0	0	0	2
88	**10.17**	**SSSI Impact Risk Zones**	6	-	-	-	-
91	**10.18**	**SSSI Units**	1	1	0	1	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
93	11.1	World Heritage Sites	0	0	0	-	-
94	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
94	11.3	National Parks	0	0	0	-	-
94	**11.4**	**Listed Buildings**	1	0	2	-	-
95	**11.5**	**Conservation Areas**	0	0	1	-	-
95	**11.6**	**Scheduled Ancient Monuments**	0	0	1	-	-
95	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
96	**12.1**	**Agricultural Land Classification**	Non Agricultural (within 250m)				
97	12.2	Open Access Land	0	0	0	-	-
97	**12.3**	**Tree Felling Licences**	0	1	2	-	-
97	12.4	Environmental Stewardship Schemes	0	0	0	-	-
98	**12.5**	**Countryside Stewardship Schemes**	3	3	1	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
99	**13.1**	**Priority Habitat Inventory**	4	5	7	-	-
100	13.2	Habitat Networks	0	0	0	-	-
100	13.3	Open Mosaic Habitat	0	0	0	-	-
101	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
102	**14.1**	**10k Availability**	Identified (within 500m)				
103	**14.2**	**Artificial and made ground (10k)**	12	7	11	17	-
106	**14.3**	**Superficial geology (10k)**	1	0	0	0	-

107	14.4	Landslip (10k)	0	0	0	0	-
108	14.5	Bedrock geology (10k)	9	3	12	17	-
111	14.6	Bedrock faults and other linear features (10k)	5	1	12	22	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
113	15.1	50k Availability	Identified (within 500m)				
114	15.2	Artificial and made ground (50k)	0	1	2	3	-
115	15.3	Artificial ground permeability (50k)	0	1	-	-	-
116	15.4	Superficial geology (50k)	1	0	0	0	-
117	15.5	Superficial permeability (50k)	Identified (within 50m)				
117	15.6	Landslip (50k)	0	0	0	0	-
117	15.7	Landslip permeability (50k)	None (within 50m)				
118	15.8	Bedrock geology (50k)	12	3	12	13	-
121	15.9	Bedrock permeability (50k)	Identified (within 50m)				
121	15.10	Bedrock faults and other linear features (50k)	6	2	11	17	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
123	16.1	BGS Boreholes	0	1	5	-	-
Page	Section	Natural ground subsidence					
125	17.1	Shrink swell clays	Very low (within 50m)				
127	17.2	Running sands	Low (within 50m)				
129	17.3	Compressible deposits	Moderate (within 50m)				
131	17.4	Collapsible deposits	Very low (within 50m)				
132	17.5	Landslides	Low (within 50m)				
134	17.6	Ground dissolution of soluble rocks	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
136	18.1	Natural cavities	0	0	0	0	-
137	18.2	BritPits	4	4	9	16	-
143	18.3	Surface ground workings	60	40	83	-	-
150	18.4	Underground workings	8	3	22	24	48
154	18.5	Historical Mineral Planning Areas	0	0	0	0	-

154	18.6	Non-coal mining	0	0	0	0	0
155	**18.7**	**Mining cavities**	0	0	0	1	0
155	18.8	JPB mining areas	None (within 0m)				
155	**18.9**	**Coal mining**	Identified (within 0m)				
156	18.10	Brine areas	None (within 0m)				
156	18.11	Gypsum areas	None (within 0m)				
156	18.12	Tin mining	None (within 0m)				
156	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
157	**19.1**	**Radon**	Between 3% and 5% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
159	**20.1**	**BGS Estimated Background Soil Chemistry**	34	12	-	-	-
162	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
162	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
163	21.1	Underground railways (London)	0	0	0	-	-
163	21.2	Underground railways (Non-London)	0	0	0	-	-
164	21.3	Railway tunnels	0	0	0	-	-
164	**21.4**	**Historical railway and tunnel features**	8	0	13	-	-
165	21.5	Royal Mail tunnels	0	0	0	-	-
165	**21.6**	**Historical railways**	1	1	2	-	-
166	**21.7**	**Railways**	0	0	4	-	-
166	21.8	Crossrail 1	0	0	0	0	-
166	21.9	Crossrail 2	0	0	0	0	-
166	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 30/05/2021

Site Area: 66.57ha

Recent site history - 2018 aerial photograph



Capture Date: 01/07/2018

Site Area: 66.57ha

Recent site history - 2012 aerial photograph



Capture Date: 26/03/2012

Site Area: 66.57ha

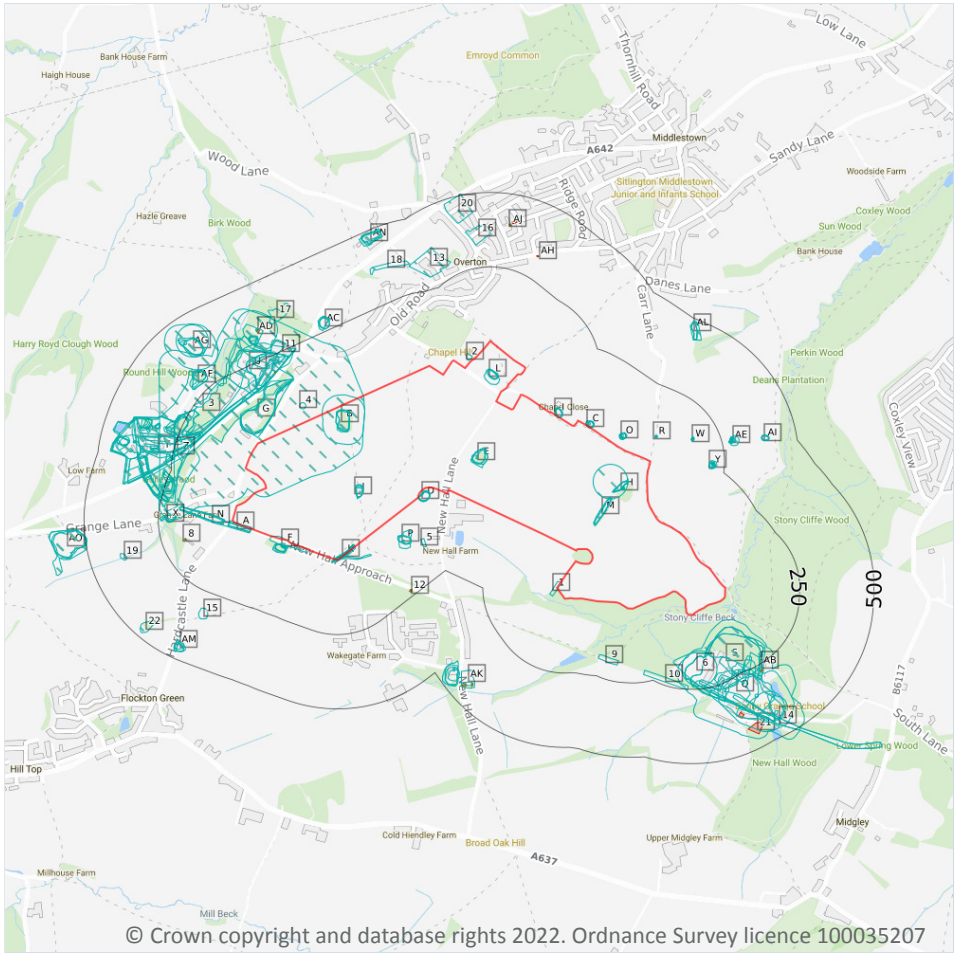
Recent site history - 1999 aerial photograph



Capture Date: 10/07/1999

Site Area: 66.57ha

1 Past land use



1.1 Historical industrial land uses

Records within 500m	266

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 12**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Unspecified Heap**	**1948**	**1417553**

ID	Location	Land use	Dates present	Group ID
A	On site	Cuttings	1955	1532065
B	On site	Unspecified Disused Quarry	1983	1448550
B	On site	Unspecified Heap	1938	1489385
B	On site	Refuse Heap	1892 - 1905	1550558
B	On site	Unspecified Heap	1955 - 1973	1552930
B	On site	Unspecified Heap	1948	1556717
C	On site	Refuse Heap	1905	1437961
C	On site	Unspecified Heap	1955 - 1966	1543554
C	On site	Unspecified Heap	1938	1546938
D	On site	Refuse Heap	1905	1437963
D	On site	Unspecified Heap	1948	1511767
D	On site	Unspecified Heap	1955 - 1983	1518568
E	On site	Unspecified Heaps	1948	1439530
E	On site	Refuse Heap	1892 - 1905	1471066
E	On site	Unspecified Heap	1938	1478568
E	On site	Unspecified Heap	1955 - 1966	1502567
F	On site	Mineral Railway Sidings	1938	1443036
G	On site	Collieries	1955	1458310
H	On site	Unspecified Disused Shaft	1966	1424762
H	On site	Unspecified Old Shaft	1955	1459029
H	On site	Unspecified Old Shaft	1905	1462733
H	On site	Unspecified Ground Workings	1905	1474445
H	On site	Unspecified Pit	1938	1481272
H	On site	Unspecified Old Shaft	1938	1494707
H	On site	Unspecified Pit	1955	1506287
H	On site	Unspecified Old Shaft	1948	1516592
H	On site	Unspecified Old Shaft	1938	1539998
H	On site	Unspecified Ground Workings	1948	1550891

ID	Location	Land use	Dates present	Group ID
I	**On site**	**Unspecified Heap**	**1938**	**1470664**
I	**On site**	**Unspecified Heap**	**1905**	**1491154**
I	**On site**	**Unspecified Heap**	**1955**	**1516086**
I	**On site**	**Unspecified Heap**	**1948**	**1545662**
J	**On site**	**Unspecified Heap**	**1892**	**1471639**
J	**On site**	**Unspecified Heap**	**1938**	**1495692**
J	**On site**	**Unspecified Heap**	**1905**	**1516781**
J	**On site**	**Unspecified Heap**	**1948 - 1983**	**1534716**
K	**On site**	**Tunnel**	**1948**	**1474772**
K	**On site**	**Tunnel**	**1905**	**1480697**
K	**On site**	**Tunnel**	**1892**	**1489483**
K	**On site**	**Tunnel**	**1966 - 1973**	**1498120**
K	**On site**	**Tunnel**	**1938**	**1502928**
L	**On site**	**Unspecified Heap**	**1955 - 1966**	**1495258**
L	**On site**	**Refuse Heap**	**1892 - 1905**	**1495574**
L	**On site**	**Unspecified Heap**	**1938**	**1512668**
L	**On site**	**Unspecified Heap**	**1948**	**1516281**
M	**On site**	**Unspecified Ground Workings**	**1948**	**1414376**
M	**On site**	**Unspecified Heap**	**1955**	**1530924**
M	**On site**	**Unspecified Heap**	**1938**	**1544129**
C	1m NE	Unspecified Heap	1948	1550205
D	2m SE	Unspecified Heap	1938	1538430
A	2m S	Cuttings	1905	1545547
N	5m S	Cuttings	1938 - 1948	1527423
2	5m NW	Refuse Heap	1905	1437962
C	6m NE	Unspecified Old Shafts	1905	1408939
F	12m SW	Chimney	1966 - 1992	1532919
F	13m S	Railway Building	1938	1429059

ID	Location	Land use	Dates present	Group ID
F	14m S	Refuse Heap	1905	1491635
F	17m S	Refuse Heap	1948	1524193
F	18m S	Refuse Heap	1892	1544978
3	18m NW	Collieries	1892	1460928
F	19m S	Sand Pit	1938	1411153
O	26m NE	Refuse Heap	1905	1437965
N	26m W	Cuttings	1955	1554333
O	27m NE	Unspecified Heap	1938	1474615
G	29m NW	Unspecified Quarry	1892 - 1905	1536942
N	29m W	Cuttings	1905	1530023
O	30m NE	Unspecified Heap	1955 - 1966	1535350
O	32m NE	Unspecified Heap	1948	1515899
G	32m NW	Unspecified Disused Quarry	1938	1518377
N	32m W	Cuttings	1966 - 1973	1509596
G	34m NW	Unspecified Disused Quarry	1948	1475712
O	35m NE	Unspecified Old Shafts	1905	1408938
G	38m NW	Unspecified Disused Quarry	1955 - 1973	1485650
4	43m NW	Unspecified Disused Quarry	1992	1448551
P	61m SE	Unspecified Heap	1955 - 1992	1499856
P	62m SE	Refuse Heap	1892 - 1905	1484570
P	63m SE	Unspecified Heap	1938	1488417
Q	64m S	Unspecified Mine	1966 - 1983	1475465
P	65m SE	Unspecified Heap	1948	1550520
R	80m NE	Unspecified Old Shafts	1938	1491840
R	81m NE	Unspecified Old Shafts	1948	1460408
R	81m NE	Unspecified Old Shafts	1905	1538118
P	82m SE	Unspecified Old Shaft	1905	1418260
S	89m S	Refuse Heap	1955 - 1966	1485860

ID	Location	Land use	Dates present	Group ID
S	89m S	Refuse Heap	1983	1496934
S	89m S	Refuse Heap	1973	1504703
Q	106m S	Colliery	1948	1499349
S	106m S	Refuse Heap	1948	1502405
5	117m SE	Unspecified Ground Workings	1892	1414375
6	122m S	Disused Workings	1992	1426471
Q	127m S	Colliery	1992	1528166
T	140m NW	Mineral Railway Sidings	1892	1460747
U	141m NW	Unspecified Mine	1983	1458008
T	142m NW	Mineral Railway Sidings	1938	1462403
7	144m NW	Mineral Railway Sidings	1948	1531624
V	156m NW	Unspecified Pit	1955	1491055
W	156m NE	Unspecified Disused Shafts	1966	1448175
W	156m NE	Unspecified Disused Shaft	1973	1424761
V	157m NW	Unspecified Mine	1966 - 1973	1498946
T	158m W	Collieries	1905	1515620
W	160m NE	Unspecified Old Shafts	1938 - 1948	1529480
V	161m NW	Unspecified Pit	1938	1484389
W	161m NE	Unspecified Old Shafts	1905	1544084
U	161m NW	Refuse Heap	1892 - 1983	1474359
W	161m NE	Unspecified Old Shafts	1955	1534445
V	166m NW	Unspecified Pit	1948	1531669
V	166m NW	Unspecified Pit	1905	1544647
V	173m NW	Refuse Heap	1892	1548487
T	173m NW	Collieries	1938	1516755
T	176m NW	Refuse Heap	1905	1498482
T	176m NW	Collieries	1905	1516362
9	177m S	Cuttings	1891	1409809

ID	Location	Land use	Dates present	Group ID
T	183m NW	Unspecified Heap	1955	1497866
X	188m W	Unspecified Ground Workings	1938	1486457
V	188m NW	Refuse Heap	1966 - 1973	1530507
X	190m W	Unspecified Ground Workings	1948	1511814
T	195m W	Unspecified Heap	1948	1525578
T	197m W	Railway Sidings	1905	1409343
Y	198m E	Unspecified Heap	1938	1482527
Y	198m E	Unspecified Heap	1955 - 1966	1488579
Y	200m E	Unspecified Heap	1905	1483012
Y	200m E	Unspecified Heap	1948	1550877
Z	203m W	Cuttings	1948	1409810
Q	205m SE	Railway Sidings	1966 - 1973	1548763
Z	206m W	Unspecified Quarry	1955	1428006
Y	206m E	Unspecified Disused Shafts	1966	1448176
Y	207m E	Unspecified Old Shaft	1938 - 1948	1550233
Y	209m E	Unspecified Old Shaft	1955	1504430
Y	210m E	Unspecified Old Shafts	1905	1408936
Z	211m W	Unspecified Pit	1905	1490207
10	211m S	Cuttings	1891	1409808
11	212m NW	Unspecified Mine	1992	1521990
AA	213m S	Colliery	1891	1537924
T	214m W	Refuse Heap	1948	1546330
V	214m NW	Railway Sidings	1966 - 1973	1543310
T	217m W	Refuse Heap	1892 - 1905	1531253
T	218m W	Unspecified Heap	1966 - 1982	1501826
T	223m W	Unspecified Pit	1951	1451928
T	225m W	Refuse Heap	1951	1493298
T	226m W	Refuse Heap	1938	1489383

ID	Location	Land use	Dates present	Group ID
T	227m W	Cuttings	1938	1526887
T	228m W	Cuttings	1905	1485718
T	228m W	Cuttings	1948	1538458
T	230m W	Filter Tanks	1938 - 1951	1516319
Q	233m SE	Refuse Heap	1891	1526838
T	234m NW	Unspecified Heap	1938	1490433
AB	237m SE	Sewage Works	1992	1423668
T	237m NW	Unspecified Heap	1966 - 1983	1512048
T	241m W	Unspecified Ground Workings	1905	1414374
AA	241m SE	Unspecified Commercial/Industrial	1955	1410995
T	242m W	Unspecified Works	1993	1467424
T	242m W	Unspecified Works	1982	1472423
T	242m W	Unspecified Mine	1966	1458026
T	242m W	Filter Tanks	1938 - 1951	1473528
Z	243m W	Unspecified Pit	1951	1519015
Q	244m S	Tramway Sidings	1948	1430800
T	251m W	Unspecified Old Shaft	1905	1418261
AC	256m NW	Unspecified Heap	1892 - 1905	1470278
AC	258m NW	Unspecified Heap	1948	1510455
T	258m W	Unspecified Pit	1951	1451929
T	258m W	Cuttings	1948	1469988
T	258m W	Cuttings	1905	1529934
AD	259m NW	Sewage Works	1992	1423670
AB	261m SE	Unspecified Tanks	1992	1425826
AC	262m NW	Unspecified Heap	1938	1533383
AC	262m NW	Unspecified Heap	1955 - 1983	1464923
T	270m W	Unspecified Pit	1951	1451927
AE	272m E	Unspecified Heap	1938	1474992

ID	Location	Land use	Dates present	Group ID
AF	273m NW	Refuse Heap	1892 - 1905	1484291
AF	273m NW	Unspecified Heap	1948	1539216
AE	273m E	Unspecified Heap	1905	1511866
AE	273m E	Unspecified Heap	1948	1554071
AE	275m E	Unspecified Heap	1955	1514318
AE	276m E	Unspecified Heap	1966	1519331
AE	277m E	Unspecified Old Shaft	1938	1492391
AE	279m E	Unspecified Old Shafts	1905	1408937
AE	279m E	Unspecified Old Shaft	1948	1460143
AE	279m E	Unspecified Old Shaft	1955	1508692
AF	281m NW	Unspecified Heap	1955 - 1983	1458470
AF	282m NW	Unspecified Heap	1938	1552643
T	285m W	Cuttings	1892	1495755
AE	286m E	Unspecified Disused Shafts	1966	1448178
13	286m NW	Unspecified Depot	1983 - 1992	1475460
T	299m W	Railway Building	1905	1429052
T	300m W	Unspecified Kilns	1892	1431678
14	301m SE	Mineral Railway Sidings	1891	1443037
AD	301m NW	Unspecified Works	1966 - 1983	1519012
T	303m W	Refuse Heap	1905	1436638
AD	303m NW	Unspecified Heap	1948	1542666
15	305m S	Unspecified Heap	1966 - 1973	1500213
AD	306m NW	Unspecified Heap	1938	1528156
AG	306m NW	Unspecified Old Shaft	1948	1477466
AD	309m NW	Unspecified Heap	1955	1469725
T	316m W	Cuttings	1892	1502229
T	316m W	Cuttings	1966	1515216
T	317m W	Unspecified Pit	1951	1555605

ID	Location	Land use	Dates present	Group ID
T	317m W	Cuttings	1948	1533456
AD	319m NW	Unspecified Heap	1966 - 1973	1480670
T	319m W	Unspecified Pit	1948	1485831
T	320m W	Unspecified Pit	1938	1460286
16	326m N	Nursery	1966 - 1973	1506955
AA	335m S	Chimney	1966	1448228
T	338m W	Unspecified Kilns	1892	1431679
AA	339m SE	Unspecified Shaft	1955	1557198
T	343m W	Railway Building	1905	1429053
T	344m W	Unspecified Shafts	1905	1420556
AD	344m NW	Filter Tanks	1938 - 1948	1491645
17	346m NW	Refuse Heap	1966 - 1973	1521288
Q	347m SE	Unspecified Mine	1992	1491656
T	347m W	Unspecified Heap	1966	1549789
AD	348m NW	Filler Tanks	1955	1409097
18	349m N	Unspecified Ground Workings	1905	1414373
AG	349m NW	Refuse Heap	1892 - 1905	1508535
T	350m W	Refuse Heap	1892 - 1905	1502872
T	350m W	Unspecified Shaft	1951	1511582
AA	352m SE	Refuse Heap	1948 - 1955	1506404
T	353m W	Unspecified Shaft	1938 - 1948	1528537
T	355m W	Unspecified Heap	1938	1538363
AG	356m NW	Unspecified Old Shaft	1955	1465265
AG	356m NW	Unspecified Old Shaft	1938	1527105
AG	358m NW	Unspecified Heap	1955 - 1983	1467528
T	358m W	Unspecified Mine	1982 - 1993	1459513
T	378m W	Unspecified Old Shaft	1951	1518236
19	378m W	Refuse Heap	1905	1436637

ID	Location	Land use	Dates present	Group ID
AI	382m E	Unspecified Heap	1938	1536055
T	382m W	Unspecified Old Shaft	1938	1531056
T	383m W	Unspecified Shafts	1905	1420557
T	383m W	Unspecified Old Shaft	1948	1459100
AI	384m E	Unspecified Heap	1948	1477005
AI	384m E	Unspecified Heap	1905	1485847
AI	384m E	Unspecified Heap	1955 - 1966	1557932
T	385m W	Unspecified Shafts	1905	1420558
AK	396m SW	Sewage Works	1983 - 1992	1471526
T	400m W	Unspecified Heap	1951	1515392
T	401m W	Refuse Heap	1892 - 1905	1542327
T	402m W	Unspecified Heap	1948	1541010
T	405m W	Unspecified Heap	1938	1533014
AA	411m SE	Unspecified Shaft	1948	1480176
AG	412m NW	Unspecified Disused Shaft	1966 - 1992	1459080
20	412m N	Nursery	1983	1439919
AG	414m NW	Unspecified Old Shaft	1905	1463297
AK	415m SW	Refuse Heap	1891	1437964
AK	420m SW	Unspecified Tanks	1992	1425817
AK	424m SW	Unspecified Heap	1955	1537614
22	425m SW	Sand Pit	1891	1411154
AK	430m SW	Unspecified Heap	1966 - 1973	1531778
AK	431m SW	Unspecified Heap	1948	1478084
AL	431m N	Cuttings	1938	1409807
AL	432m N	Unspecified Pit	1955 - 1966	1512869
AL	435m N	Unspecified Ground Workings	1905	1466665
AL	435m N	Unspecified Ground Workings	1948	1527062
AK	436m SW	Unspecified Old Shaft	1955	1418259

ID	Location	Land use	Dates present	Group ID
AM	437m SW	Unspecified Heap	1955	1522780
AK	441m SW	Unspecified Old Shaft	1948	1418258
AM	442m SW	Unspecified Heap	1966 - 1992	1477869
AM	447m SW	Unspecified Heap	1891	1505560
AM	447m SW	Unspecified Heap	1948	1509471
AN	453m NW	Refuse Heap	1892 - 1905	1498606
AN	453m NW	Unspecified Heap	1948	1538445
AN	455m NW	Unspecified Heap	1938	1533168
AN	457m NW	Unspecified Heap	1955 - 1973	1553138
AO	495m W	Unspecified Ground Workings	1951	1486075
AO	496m W	Unspecified Heaps	1948	1439516
AO	496m W	Refuse Heap	1892 - 1905	1475878
AO	499m W	Unspecified Ground Workings	1938	1551528

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**8**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 12**

ID	Location	Land use	Dates present	Group ID
8	169m SW	Unspecified Tank	1960 - 1990	241799
V	192m NW	Unspecified Tank	1960	223517
12	229m SE	Unspecified Tank	1974 - 1990	240323
AB	268m SE	Unspecified Tank	1993	223503
AD	338m NW	Tanks	1960 - 1978	238557

ID	Location	Land use	Dates present	Group ID
AJ	393m N	Unspecified Tank	1960	223518
AK	421m SW	Unspecified Tank	1993	223493
AK	439m SW	Tanks	1974	230484

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**6**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 12**

ID	Location	Land use	Dates present	Group ID
AH	325m NE	Gas Governor	1993	133829
AH	326m NE	Gas Governor	1971	132159
AH	326m NE	Gas Governor	1982	133791
Q	363m SE	Electricity Substation	1983 - 1993	140841
AJ	403m N	Electricity Substation	1971 - 1993	136896
21	419m SE	Electricity Substation	1993	129082

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	**0**

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

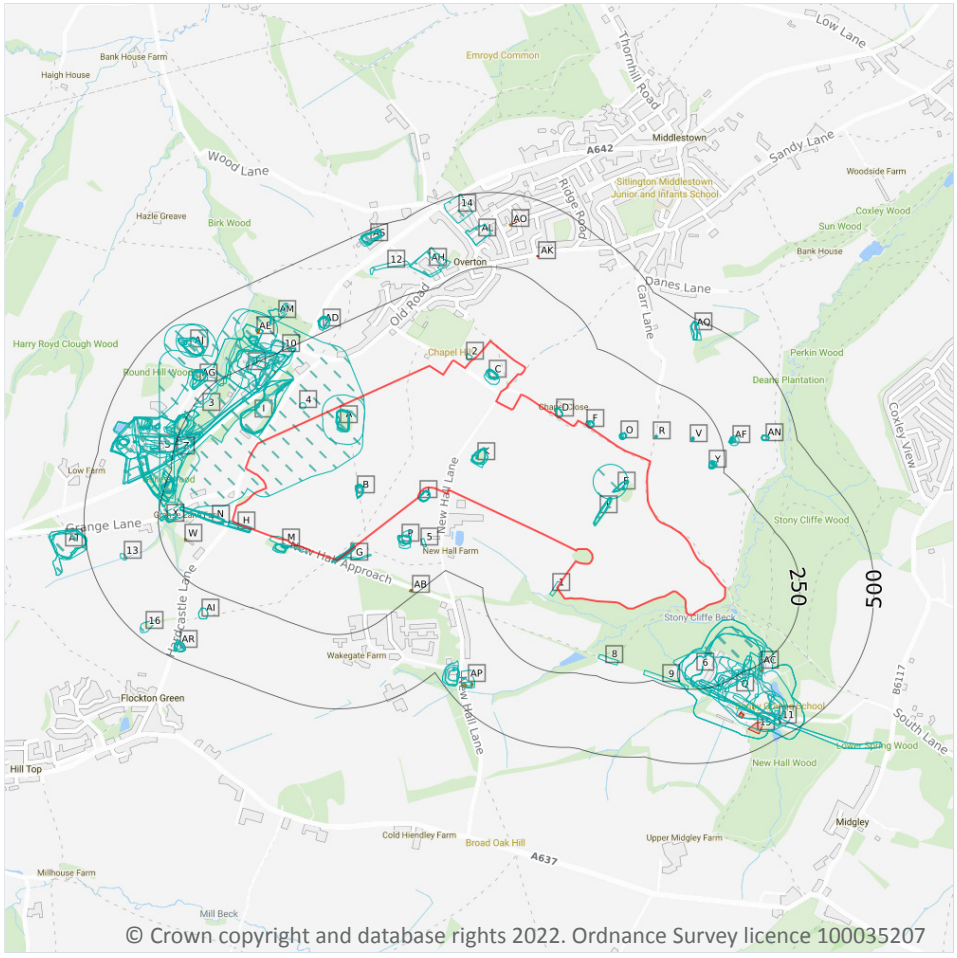
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



2.1 Historical industrial land uses

Records within 500m	391

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 25**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Unspecified Heap**	**1948**	**1417553**
A	**On site**	**Refuse Heap**	**1905**	**1550558**
A	**On site**	**Unspecified Disused Quarry**	**1983**	**1448550**

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Heap	1955	1552930
A	On site	Unspecified Heap	1966	1552930
A	On site	Refuse Heap	1892	1550558
A	On site	Unspecified Heap	1948	1556717
A	On site	Unspecified Heap	1973	1552930
A	On site	Unspecified Heap	1938	1489385
A	On site	Unspecified Heap	1938	1489385
B	On site	Unspecified Heap	1905	1516781
B	On site	Unspecified Heap	1955	1534716
B	On site	Unspecified Heap	1983	1534716
B	On site	Unspecified Heap	1966	1534716
B	On site	Unspecified Heap	1892	1471639
B	On site	Unspecified Heap	1948	1534716
B	On site	Unspecified Heap	1973	1534716
B	On site	Unspecified Heap	1938	1495692
B	On site	Unspecified Heap	1938	1495692
C	On site	Refuse Heap	1905	1495574
C	On site	Unspecified Heap	1955	1495258
C	On site	Unspecified Heap	1966	1495258
C	On site	Refuse Heap	1892	1495574
C	On site	Unspecified Heap	1948	1516281
C	On site	Unspecified Heap	1938	1512668
C	On site	Unspecified Heap	1938	1512668
D	On site	Unspecified Heap	1905	1491154
D	On site	Unspecified Heap	1955	1516086
D	On site	Unspecified Heap	1948	1545662
D	On site	Unspecified Heap	1938	1470664
D	On site	Unspecified Heap	1938	1470664

ID	Location	Land Use	Date	Group ID
E	On site	Unspecified Ground Workings	1905	1474445
E	On site	Unspecified Old Shaft	1905	1462733
E	On site	Unspecified Old Shaft	1955	1459029
E	On site	Unspecified Pit	1955	1506287
E	On site	Unspecified Disused Shaft	1966	1424762
E	On site	Unspecified Old Shaft	1948	1516592
E	On site	Unspecified Ground Workings	1948	1550891
E	On site	Unspecified Old Shaft	1938	1539998
E	On site	Unspecified Pit	1938	1481272
E	On site	Unspecified Old Shaft	1938	1494707
E	On site	Unspecified Pit	1938	1481272
F	On site	Refuse Heap	1905	1437961
F	On site	Unspecified Heap	1955	1543554
F	On site	Unspecified Heap	1966	1543554
F	On site	Unspecified Heap	1938	1546938
F	On site	Unspecified Heap	1938	1546938
G	On site	Tunnel	1905	1480697
G	On site	Tunnel	1966	1498120
G	On site	Tunnel	1892	1489483
G	On site	Tunnel	1948	1474772
G	On site	Tunnel	1973	1498120
G	On site	Tunnel	1938	1502928
H	On site	Cuttings	1955	1532065
I	On site	Collieries	1955	1458310
J	On site	Refuse Heap	1905	1437963
J	On site	Unspecified Heap	1955	1518568
J	On site	Unspecified Heap	1983	1518568
J	On site	Unspecified Heap	1966	1518568

ID	Location	Land Use	Date	Group ID
J	**On site**	**Unspecified Heap**	**1948**	**1511767**
J	**On site**	**Unspecified Heap**	**1973**	**1518568**
K	**On site**	**Refuse Heap**	**1905**	**1471066**
K	**On site**	**Unspecified Heap**	**1955**	**1502567**
K	**On site**	**Unspecified Heap**	**1966**	**1502567**
K	**On site**	**Refuse Heap**	**1892**	**1471066**
K	**On site**	**Unspecified Heaps**	**1948**	**1439530**
K	**On site**	**Unspecified Heap**	**1938**	**1478568**
K	**On site**	**Unspecified Heap**	**1938**	**1478568**
L	**On site**	**Unspecified Heap**	**1955**	**1530924**
L	**On site**	**Unspecified Ground Workings**	**1948**	**1414376**
L	**On site**	**Unspecified Heap**	**1938**	**1544129**
L	**On site**	**Unspecified Heap**	**1938**	**1544129**
M	**On site**	**Mineral Railway Sidings**	**1938**	**1443036**
F	1m NE	Unspecified Heap	1948	1550205
J	2m SE	Unspecified Heap	1938	1538430
J	2m SE	Unspecified Heap	1938	1538430
H	2m S	Cuttings	1905	1545547
N	5m S	Cuttings	1948	1527423
N	5m S	Cuttings	1938	1527423
2	5m NW	Refuse Heap	1905	1437962
F	6m NE	Unspecified Old Shafts	1905	1408939
M	12m SW	Chimney	1992	1532919
M	12m SW	Chimney	1983	1532919
M	12m SW	Chimney	1966	1532919
M	12m SW	Chimney	1973	1532919
M	13m S	Railway Building	1938	1429059
M	14m S	Refuse Heap	1905	1491635

ID	Location	Land Use	Date	Group ID
M	17m S	Refuse Heap	1948	1524193
M	18m S	Refuse Heap	1892	1544978
3	18m NW	Collieries	1892	1460928
M	19m S	Sand Pit	1938	1411153
O	26m NE	Refuse Heap	1905	1437965
N	26m W	Cuttings	1955	1554333
O	27m NE	Unspecified Heap	1938	1474615
O	27m NE	Unspecified Heap	1938	1474615
I	29m NW	Unspecified Quarry	1892	1536942
N	29m W	Cuttings	1905	1530023
O	30m NE	Unspecified Heap	1955	1535350
O	30m NE	Unspecified Heap	1966	1535350
O	32m NE	Unspecified Heap	1948	1515899
I	32m NW	Unspecified Disused Quarry	1938	1518377
N	32m W	Cuttings	1966	1509596
N	32m W	Cuttings	1973	1509596
I	34m NW	Unspecified Quarry	1905	1536942
I	34m NW	Unspecified Disused Quarry	1948	1475712
O	35m NE	Unspecified Old Shafts	1905	1408938
I	38m NW	Unspecified Disused Quarry	1955	1485650
I	38m NW	Unspecified Disused Quarry	1966	1485650
I	38m NW	Unspecified Disused Quarry	1973	1485650
4	43m NW	Unspecified Disused Quarry	1992	1448551
P	61m SE	Unspecified Heap	1992	1499856
P	61m SE	Unspecified Heap	1955	1499856
P	61m SE	Unspecified Heap	1983	1499856
P	61m SE	Unspecified Heap	1966	1499856
P	61m SE	Unspecified Heap	1973	1499856

ID	Location	Land Use	Date	Group ID
P	62m SE	Refuse Heap	1905	1484570
P	63m SE	Unspecified Heap	1938	1488417
P	63m SE	Unspecified Heap	1938	1488417
Q	64m S	Unspecified Mine	1973	1475465
Q	64m S	Unspecified Mine	1983	1475465
Q	64m S	Unspecified Mine	1966	1475465
P	65m SE	Unspecified Heap	1948	1550520
P	69m SE	Refuse Heap	1892	1484570
R	80m NE	Unspecified Old Shafts	1938	1491840
R	80m NE	Unspecified Old Shafts	1938	1491840
R	81m NE	Unspecified Old Shafts	1905	1538118
R	81m NE	Unspecified Old Shafts	1948	1460408
P	82m SE	Unspecified Old Shaft	1905	1418260
Q	89m S	Refuse Heap	1983	1496934
Q	89m S	Refuse Heap	1966	1485860
Q	89m S	Refuse Heap	1973	1504703
Q	106m S	Refuse Heap	1948	1502405
Q	106m S	Colliery	1948	1499349
Q	108m SE	Refuse Heap	1955	1485860
5	117m SE	Unspecified Ground Workings	1892	1414375
6	122m S	Disused Workings	1992	1426471
Q	127m S	Colliery	1992	1528166
S	140m NW	Mineral Railway Sidings	1892	1460747
T	141m NW	Unspecified Mine	1983	1458008
S	142m NW	Mineral Railway Sidings	1938	1462403
7	144m NW	Mineral Railway Sidings	1948	1531624
U	156m NW	Unspecified Pit	1955	1491055
V	156m NE	Unspecified Disused Shafts	1966	1448175

ID	Location	Land Use	Date	Group ID
V	156m NE	Unspecified Disused Shaft	1973	1424761
U	157m NW	Unspecified Mine	1966	1498946
U	157m NW	Unspecified Mine	1973	1498946
S	158m W	Collieries	1905	1515620
V	160m NE	Unspecified Old Shafts	1938	1529480
V	160m NE	Unspecified Old Shafts	1938	1529480
U	161m NW	Unspecified Pit	1938	1484389
U	161m NW	Unspecified Pit	1938	1484389
V	161m NE	Unspecified Old Shafts	1905	1544084
V	161m NE	Unspecified Old Shafts	1948	1529480
T	161m NW	Refuse Heap	1983	1474359
V	161m NE	Unspecified Old Shafts	1955	1534445
U	166m NW	Unspecified Pit	1905	1544647
U	166m NW	Unspecified Pit	1948	1531669
U	173m NW	Refuse Heap	1892	1548487
S	173m NW	Collieries	1938	1516755
S	173m NW	Collieries	1938	1516755
S	176m NW	Refuse Heap	1905	1498482
S	176m NW	Collieries	1905	1516362
8	177m S	Cuttings	1891	1409809
S	183m NW	Unspecified Heap	1955	1497866
S	183m NW	Refuse Heap	1892	1474359
X	188m W	Unspecified Ground Workings	1938	1486457
X	188m W	Unspecified Ground Workings	1938	1486457
U	188m NW	Refuse Heap	1966	1530507
U	188m NW	Refuse Heap	1973	1530507
X	190m W	Unspecified Ground Workings	1948	1511814
S	195m W	Unspecified Heap	1948	1525578

ID	Location	Land Use	Date	Group ID
S	197m W	Railway Sidings	1905	1409343
Y	198m E	Unspecified Heap	1938	1482527
Y	198m E	Unspecified Heap	1938	1482527
Y	198m E	Unspecified Heap	1955	1488579
Y	198m E	Unspecified Heap	1966	1488579
Y	200m E	Unspecified Heap	1905	1483012
Y	200m E	Unspecified Heap	1948	1550877
Z	203m W	Cuttings	1948	1409810
Q	205m SE	Railway Sidings	1966	1548763
Q	205m SE	Railway Sidings	1973	1548763
Z	206m W	Unspecified Quarry	1955	1428006
Y	206m E	Unspecified Disused Shafts	1966	1448176
Y	207m E	Unspecified Old Shaft	1938	1550233
Y	207m E	Unspecified Old Shaft	1938	1550233
Y	209m E	Unspecified Old Shaft	1955	1504430
Y	210m E	Unspecified Old Shafts	1905	1408936
Y	210m E	Unspecified Old Shaft	1948	1550233
Z	211m W	Unspecified Pit	1905	1490207
9	211m S	Cuttings	1891	1409808
10	212m NW	Unspecified Mine	1992	1521990
AA	213m S	Colliery	1891	1537924
S	214m W	Refuse Heap	1948	1546330
U	214m NW	Railway Sidings	1966	1543310
U	214m NW	Railway Sidings	1973	1543310
S	217m W	Refuse Heap	1905	1531253
S	218m W	Unspecified Heap	1982	1501826
S	218m W	Unspecified Heap	1966	1501826
S	219m W	Refuse Heap	1892	1531253

ID	Location	Land Use	Date	Group ID
S	223m W	Unspecified Pit	1951	1451928
S	225m W	Refuse Heap	1951	1493298
S	226m W	Refuse Heap	1938	1489383
S	226m W	Refuse Heap	1938	1489383
S	227m W	Cuttings	1938	1526887
S	228m W	Cuttings	1905	1485718
S	228m W	Cuttings	1948	1538458
S	230m W	Filter Tanks	1951	1516319
Q	233m SE	Refuse Heap	1891	1526838
S	234m W	Filter Tanks	1948	1516319
S	234m NW	Unspecified Heap	1938	1490433
S	234m NW	Unspecified Heap	1938	1490433
S	234m W	Filter Tanks	1938	1516319
S	234m W	Filter Tanks	1938	1516319
AC	237m SE	Sewage Works	1992	1423668
S	237m NW	Unspecified Heap	1983	1512048
S	237m NW	Unspecified Heap	1966	1512048
S	237m NW	Unspecified Heap	1973	1512048
S	241m W	Unspecified Ground Workings	1905	1414374
AA	241m SE	Unspecified Commercial/Industrial	1955	1410995
S	242m W	Unspecified Works	1993	1467424
S	242m W	Unspecified Works	1982	1472423
S	242m W	Unspecified Mine	1966	1458026
S	242m W	Filter Tanks	1951	1473528
Z	243m W	Unspecified Pit	1951	1519015
Q	244m S	Tramway Sidings	1948	1430800
S	245m W	Filter Tanks	1948	1473528
S	246m W	Filter Tanks	1938	1473528

ID	Location	Land Use	Date	Group ID
S	246m W	Filter Tanks	1938	1473528
S	251m W	Unspecified Old Shaft	1905	1418261
AD	256m NW	Unspecified Heap	1892	1470278
AD	258m NW	Unspecified Heap	1905	1470278
AD	258m NW	Unspecified Heap	1948	1510455
S	258m W	Unspecified Pit	1951	1451929
S	258m W	Cuttings	1905	1529934
S	258m W	Cuttings	1948	1469988
AE	259m NW	Sewage Works	1992	1423670
AC	261m SE	Unspecified Tanks	1992	1425826
AD	262m NW	Unspecified Heap	1938	1533383
AD	262m NW	Unspecified Heap	1938	1533383
AD	262m NW	Unspecified Heap	1955	1464923
AD	262m NW	Unspecified Heap	1983	1464923
AD	262m NW	Unspecified Heap	1966	1464923
AD	262m NW	Unspecified Heap	1973	1464923
S	270m W	Unspecified Pit	1951	1451927
AF	272m E	Unspecified Heap	1938	1474992
AF	272m E	Unspecified Heap	1938	1474992
AG	273m NW	Refuse Heap	1905	1484291
AG	273m NW	Unspecified Heap	1948	1539216
AF	273m E	Unspecified Heap	1905	1511866
AF	273m E	Unspecified Heap	1948	1554071
AF	275m E	Unspecified Heap	1955	1514318
AF	276m E	Unspecified Heap	1966	1519331
AF	277m E	Unspecified Old Shaft	1938	1492391
AF	277m E	Unspecified Old Shaft	1938	1492391
AG	279m NW	Refuse Heap	1892	1484291

ID	Location	Land Use	Date	Group ID
AF	279m E	Unspecified Old Shafts	1905	1408937
AF	279m E	Unspecified Old Shaft	1948	1460143
AF	279m E	Unspecified Old Shaft	1955	1508692
AG	281m NW	Unspecified Heap	1955	1458470
AG	281m NW	Unspecified Heap	1983	1458470
AG	281m NW	Unspecified Heap	1966	1458470
AG	281m NW	Unspecified Heap	1973	1458470
AG	282m NW	Unspecified Heap	1938	1552643
AG	282m NW	Unspecified Heap	1938	1552643
S	285m W	Cuttings	1892	1495755
AF	286m E	Unspecified Disused Shafts	1966	1448178
AH	286m NW	Unspecified Depot	1983	1475460
AH	289m NW	Unspecified Depot	1992	1475460
S	299m W	Railway Building	1905	1429052
S	300m W	Unspecified Kilns	1892	1431678
11	301m SE	Mineral Railway Sidings	1891	1443037
AE	301m NW	Unspecified Works	1983	1519012
AE	301m NW	Unspecified Works	1966	1519012
AE	301m NW	Unspecified Works	1973	1519012
S	303m W	Refuse Heap	1905	1436638
AE	303m NW	Unspecified Heap	1948	1542666
AI	305m S	Unspecified Heap	1966	1500213
AI	305m S	Unspecified Heap	1973	1500213
AE	306m NW	Unspecified Heap	1938	1528156
AE	306m NW	Unspecified Heap	1938	1528156
AJ	306m NW	Unspecified Old Shaft	1948	1477466
AE	309m NW	Unspecified Heap	1955	1469725
S	316m W	Cuttings	1892	1502229

ID	Location	Land Use	Date	Group ID
S	316m W	Cuttings	1966	1515216
S	317m W	Unspecified Pit	1951	1555605
S	317m W	Cuttings	1948	1533456
AE	319m NW	Unspecified Heap	1966	1480670
AE	319m NW	Unspecified Heap	1973	1480670
S	319m W	Unspecified Pit	1948	1485831
S	320m W	Unspecified Pit	1938	1460286
S	320m W	Unspecified Pit	1938	1460286
AL	326m N	Nursery	1966	1506955
AL	326m N	Nursery	1973	1506955
AA	335m S	Chimney	1966	1448228
S	338m W	Unspecified Kilns	1892	1431679
AA	339m SE	Unspecified Shaft	1955	1557198
S	343m W	Railway Building	1905	1429053
S	344m W	Unspecified Shafts	1905	1420556
AE	344m NW	Filter Tanks	1938	1491645
AE	344m NW	Filter Tanks	1938	1491645
AE	346m NW	Filter Tanks	1948	1491645
AM	346m NW	Refuse Heap	1973	1521288
Q	347m SE	Unspecified Mine	1992	1491656
S	347m W	Unspecified Heap	1966	1549789
AE	348m NW	Filler Tanks	1955	1409097
12	349m N	Unspecified Ground Workings	1905	1414373
AM	349m NW	Refuse Heap	1966	1521288
AJ	349m NW	Refuse Heap	1905	1508535
S	350m W	Refuse Heap	1905	1502872
S	350m W	Unspecified Shaft	1951	1511582
S	351m W	Refuse Heap	1892	1502872

ID	Location	Land Use	Date	Group ID
AA	352m SE	Refuse Heap	1955	1506404
S	353m W	Unspecified Shaft	1948	1528537
S	354m W	Unspecified Shaft	1938	1528537
S	354m W	Unspecified Shaft	1938	1528537
S	355m W	Unspecified Heap	1938	1538363
S	355m W	Unspecified Heap	1938	1538363
AJ	356m NW	Unspecified Old Shaft	1955	1465265
AA	356m SE	Refuse Heap	1948	1506404
AJ	356m NW	Unspecified Old Shaft	1938	1527105
AJ	356m NW	Unspecified Old Shaft	1938	1527105
AJ	358m NW	Unspecified Heap	1955	1467528
AJ	358m NW	Unspecified Heap	1983	1467528
AJ	358m NW	Unspecified Heap	1966	1467528
AJ	358m NW	Unspecified Heap	1973	1467528
S	358m W	Unspecified Mine	1993	1459513
S	358m W	Unspecified Mine	1982	1459513
AJ	360m NW	Refuse Heap	1892	1508535
S	378m W	Unspecified Old Shaft	1951	1518236
13	378m W	Refuse Heap	1905	1436637
AN	382m E	Unspecified Heap	1938	1536055
AN	382m E	Unspecified Heap	1938	1536055
S	382m W	Unspecified Old Shaft	1938	1531056
S	382m W	Unspecified Old Shaft	1938	1531056
S	383m W	Unspecified Shafts	1905	1420557
S	383m W	Unspecified Old Shaft	1948	1459100
AN	384m E	Unspecified Heap	1905	1485847
AN	384m E	Unspecified Heap	1948	1477005
AN	384m E	Unspecified Heap	1955	1557932

ID	Location	Land Use	Date	Group ID
AN	384m E	Unspecified Heap	1966	1557932
S	385m W	Unspecified Shafts	1905	1420558
AP	396m SW	Sewage Works	1992	1471526
S	400m W	Unspecified Heap	1951	1515392
S	401m W	Refuse Heap	1905	1542327
S	402m W	Unspecified Heap	1948	1541010
S	405m W	Unspecified Heap	1938	1533014
S	405m W	Unspecified Heap	1938	1533014
S	405m W	Refuse Heap	1892	1542327
AA	411m SE	Unspecified Shaft	1948	1480176
AJ	412m NW	Unspecified Disused Shaft	1992	1459080
AJ	412m NW	Unspecified Disused Shaft	1983	1459080
AJ	412m NW	Unspecified Disused Shaft	1966	1459080
AJ	412m NW	Unspecified Disused Shaft	1973	1459080
14	412m N	Nursery	1983	1439919
AJ	414m NW	Unspecified Old Shaft	1905	1463297
AP	415m SW	Refuse Heap	1891	1437964
AP	420m SW	Unspecified Tanks	1992	1425817
AP	424m SW	Unspecified Heap	1955	1537614
AP	425m SW	Sewage Works	1983	1471526
16	425m SW	Sand Pit	1891	1411154
AP	430m SW	Unspecified Heap	1966	1531778
AP	430m SW	Unspecified Heap	1973	1531778
AP	431m SW	Unspecified Heap	1948	1478084
AQ	431m N	Cuttings	1938	1409807
AQ	432m N	Unspecified Pit	1966	1512869
AQ	433m N	Unspecified Pit	1955	1512869
AQ	435m N	Unspecified Ground Workings	1905	1466665

ID	Location	Land Use	Date	Group ID
AQ	435m N	Unspecified Ground Workings	1948	1527062
AP	436m SW	Unspecified Old Shaft	1955	1418259
AR	437m SW	Unspecified Heap	1955	1522780
AP	441m SW	Unspecified Old Shaft	1948	1418258
AR	442m SW	Unspecified Heap	1992	1477869
AR	442m SW	Unspecified Heap	1983	1477869
AR	442m SW	Unspecified Heap	1966	1477869
AR	442m SW	Unspecified Heap	1973	1477869
AR	447m SW	Unspecified Heap	1948	1509471
AR	447m SW	Unspecified Heap	1891	1505560
AS	453m NW	Refuse Heap	1892	1498606
AS	453m NW	Refuse Heap	1905	1498606
AS	453m NW	Unspecified Heap	1948	1538445
AS	455m NW	Unspecified Heap	1938	1533168
AS	455m NW	Unspecified Heap	1938	1533168
AS	457m NW	Unspecified Heap	1955	1553138
AS	457m NW	Unspecified Heap	1966	1553138
AS	457m NW	Unspecified Heap	1973	1553138
AT	495m W	Unspecified Ground Workings	1951	1486075
AT	496m W	Refuse Heap	1905	1475878
AT	496m W	Unspecified Heaps	1948	1439516
AT	497m W	Refuse Heap	1892	1475878
AT	499m W	Unspecified Ground Workings	1938	1551528
AT	499m W	Unspecified Ground Workings	1938	1551528

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	12

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 25**

ID	Location	Land Use	Date	Group ID
W	169m SW	Unspecified Tank	1974	241799
W	169m SW	Unspecified Tank	1960	241799
W	170m W	Unspecified Tank	1990	241799
U	192m NW	Unspecified Tank	1960	223517
AB	229m SE	Unspecified Tank	1974	240323
AB	229m SE	Unspecified Tank	1990	240323
AC	268m SE	Unspecified Tank	1993	223503
AE	338m NW	Tanks	1960	238557
AE	338m NW	Tanks	1978	238557
AO	393m N	Unspecified Tank	1960	223518
AP	421m SW	Unspecified Tank	1993	223493
AP	439m SW	Tanks	1974	230484

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	9

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 25**

ID	Location	Land Use	Date	Group ID
AK	325m NE	Gas Governor	1993	133829
AK	326m NE	Gas Governor	1982	133791

ID	Location	Land Use	Date	Group ID
AK	326m NE	Gas Governor	1971	132159
Q	363m SE	Electricity Substation	1983	140841
Q	364m SE	Electricity Substation	1993	140841
AO	403m N	Electricity Substation	1982	136896
AO	403m N	Electricity Substation	1971	136896
AO	404m N	Electricity Substation	1993	136896
15	419m SE	Electricity Substation	1993	129082

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

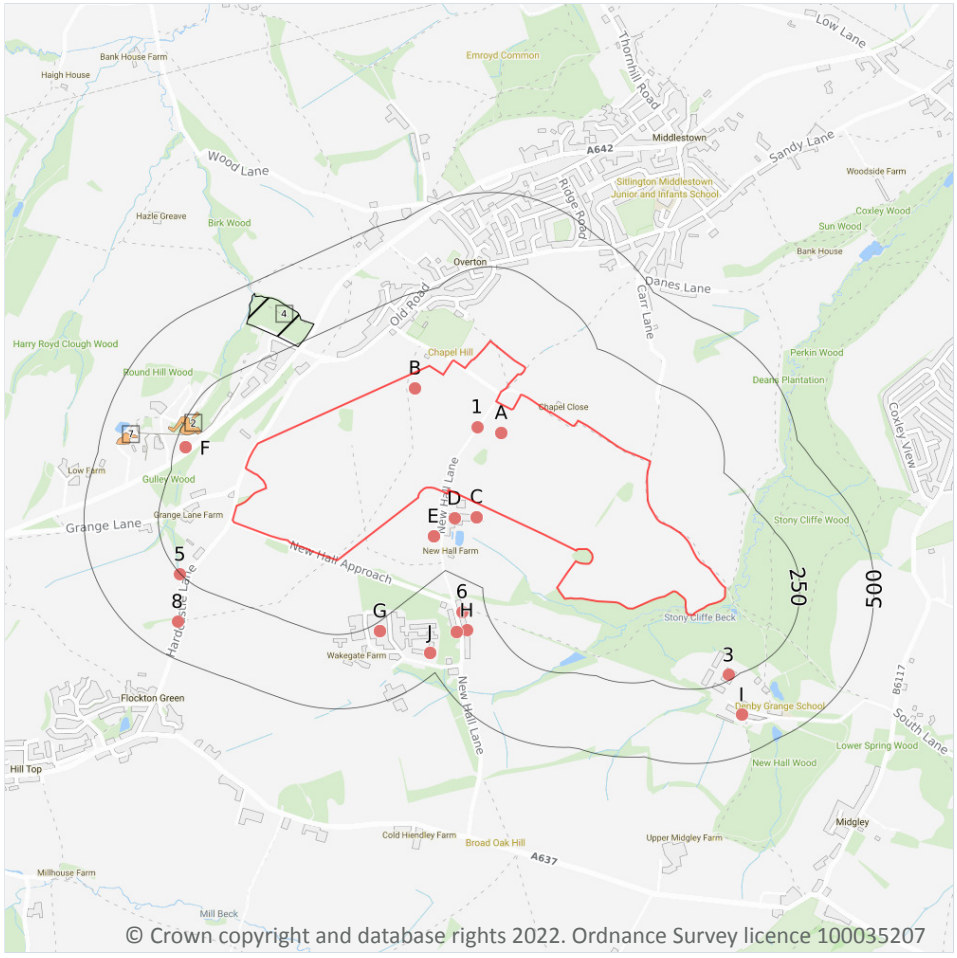
2.5 Historical garages

Records within 500m	**0**

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	1

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on **page 42**

ID	Location	Details		
4	240m NW	Site Address: Sewage Works, Overton Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	2

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 42**

ID	Location	Address	Further Details	Date
2	182m NW	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1960

ID	Location	Address	Further Details	Date
7	379m W	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1960

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	0

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	75

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 42**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	**On site**	**-**	**WEX085981**	**Storing waste exemption**	**On a farm**	**Storage of sludge**
A	**On site**	**-**	**WEX149379**	**Storing waste exemption**	**On a Farm**	**Storage of sludge**
A	**On site**	**-**	**WEX121691**	**Storing waste exemption**	**On a farm**	**Storage of sludge**
B	**On site**	**-**	**WEX253343**	**Storing waste exemption**	**On a farm**	**Storage of sludge**
B	**On site**	**-**	**WEX136566**	**Storing waste exemption**	**On a farm**	**Storage of sludge**
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Storing waste exemption	On a Farm	Storage of sludge
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Disposing of waste exemption	On a Farm	Burning waste in the open

ID	Location	Site	Reference	Category	Sub-Category	Description
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Disposing of waste exemption	On a Farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Treating waste exemption	On a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Treating waste exemption	On a Farm	Screening and blending of waste
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Treating waste exemption	On a Farm	Preparatory treatments (baling, sorting, shredding etc)
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Using waste exemption	On a Farm	Incorporation of ash into soil
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Using waste exemption	On a Farm	Spreading of plant matter to confer benefit
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Using waste exemption	On a Farm	Use of mulch
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Using waste exemption	On a Farm	Use of waste for a specified purpose
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Using waste exemption	On a Farm	Use of waste derived biodiesel as fuel
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Using waste exemption	On a Farm	Burning of waste as a fuel in a small appliance
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX202853	Using waste exemption	On a Farm	Use of waste in construction

ID	Location	Site	Reference	Category	Sub-Category	Description
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Disposing of waste exemption	On a farm	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Disposing of waste exemption	On a farm	Burning waste in the open
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Treating waste exemption	On a farm	Screening and blending of waste
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Using waste exemption	On a farm	Use of waste in construction
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Using waste exemption	On a farm	Incorporation of ash into soil
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Using waste exemption	On a farm	Use of waste derived biodiesel as fuel
C	44m SW	NEW HALL FARM, NEW HALL LANE, OVERTON, WAKEFIELD, WF4 4RP	WEX046154	Using waste exemption	On a farm	Use of waste for a specified purpose

ID	Location	Site	Reference	Category	Sub-Category	Description
D	81m SW	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/HE5486QC/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit
D	81m SW	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/HE5486QC/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ/A001	Treating waste exemption	Agricultural Waste Only	Preparatory treatments (baling, sorting, shredding etc)
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ/A001	Treating waste exemption	Agricultural Waste Only	Screening and blending of waste
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ/A001	Using waste exemption	Agricultural Waste Only	Spreading of plant matter to confer benefit
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ/A001	Using waste exemption	Agricultural Waste Only	Incorporation of ash into soil

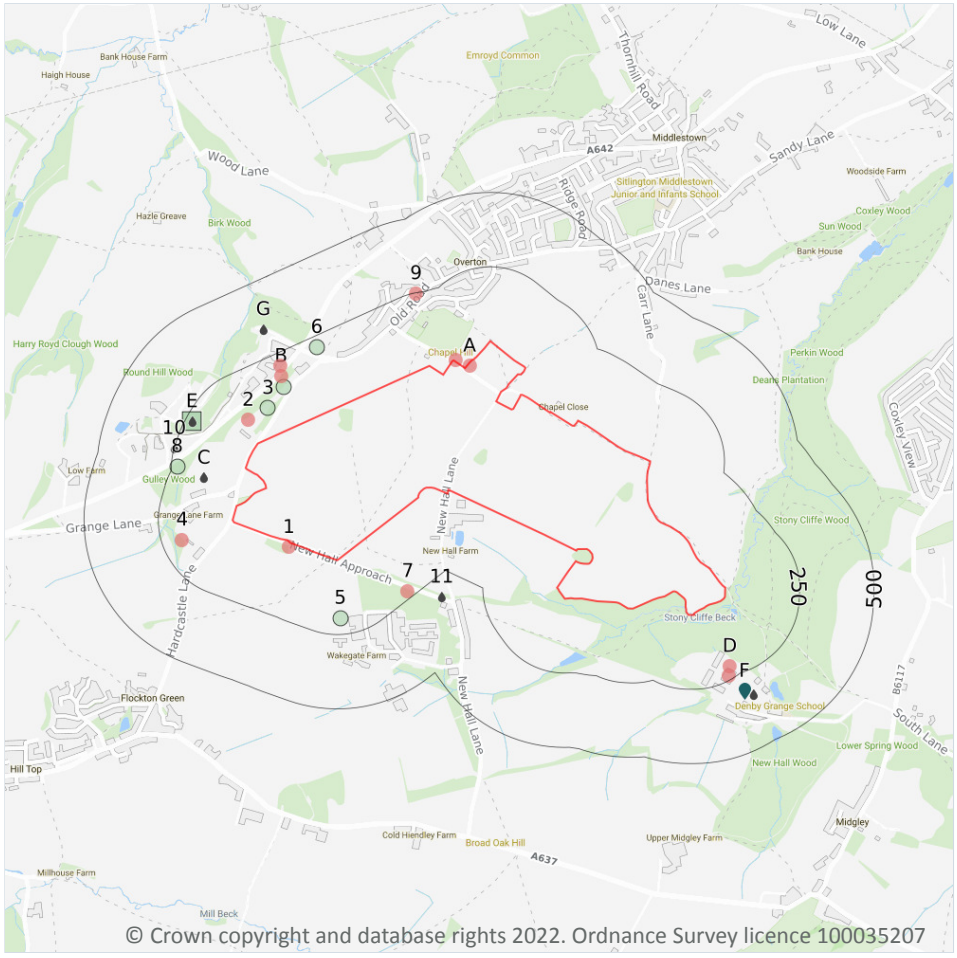
ID	Location	Site	Reference	Category	Sub-Category	Description
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ /A001	Using waste exemption	Agricultural Waste Only	Burning of waste as a fuel in a small appliance
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ /A001	Using waste exemption	Agricultural Waste Only	Use of waste derived biodiesel as fuel
E	135m SE	New Hall Farm New Hall Lane WAKEFIELD West Yorkshire WF4 4RP	EPR/YF0733SQ /A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
F	214m W	Low Farm 51 Wakefield Road WAKEFIELD WF4 4BB	EPR/CE5249NS /A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
F	214m W	Low Farm 51 Wakefield Road WAKEFIELD WF4 4BB	EPR/CE5249NS /A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose
F	214m W	Low Farm 51 Wakefield Road WAKEFIELD WF4 4BB	EPR/CE5249NS /A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
F	214m W	Low Farm 51 Wakefield Road WAKEFIELD WF4 4BB	EPR/CE5249NS /A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
3	234m SE	-	WEX265187	Using waste exemption	Not on a farm	Use of waste in construction
5	254m SW	LANGLEY HOLME FARM, BARNSLEY ROAD, FLOCKTON, WAKEFIELD, WF4 4AT	WEX006877	Storing waste exemption	On a farm	Storage of sludge
G	279m SE	NEW HALL, NEW HALL WAY, FLOCKTON, WAKEFIELD, WF4 4XX	WEX283488	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment
G	279m SE	NEW HALL, NEW HALL WAY, FLOCKTON, WAKEFIELD, WF4 4XX	WEX283488	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
G	279m SE	NEW HALL, NEW HALL WAY, FLOCKTON, WAKEFIELD, WF4 4XX	WEX283488	Using waste exemption	Not on a farm	Spreading waste on agricultural land to confer benefit
G	279m SE	NEW HALL, NEW HALL WAY, FLOCKTON, WAKEFIELD, WF4 4XX	WEX145289	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)

ID	Location	Site	Reference	Category	Sub-Category	Description
G	279m SE	NEW HALL, NEW HALL WAY, FLOCKTON, WAKEFIELD, WF4 4XX	WEX145289	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment
G	279m SE	NEW HALL, NEW HALL WAY, FLOCKTON, WAKEFIELD, WF4 4XX	WEX145289	Using waste exemption	Not on a farm	Spreading waste on agricultural land to confer benefit
G	279m SE	NEW HALL, NEW HALL WAY, FLOCKTON, WAKEFIELD, WF4 4XX	WEX043482	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
G	279m SE	HMP New Hall Healthcare Centre Flockton West Yorkshire WF4 4XX	EPR/YE5349NS /A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
6	331m W	HMP Newhall, Newhall Way, Flockton, Wakefield, WF4 4AX	WEX198887	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
H	337m SW	Long Ing Farm, New Hall Farm, Flockton, Wakefield, WF44AX	WEX119367	Using waste exemption	On a farm	Use of waste for a specified purpose
H	370m SW	10, NEW HALL WAY, FLOCKTON, WAKEFIELD, WF4 4AX	WEX114553	Storing waste exemption	On a farm	Storage of waste in a secure place
H	370m SW	10, NEW HALL WAY, FLOCKTON, WAKEFIELD, WF4 4AX	WEX114553	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
H	370m SW	10, NEW HALL WAY, FLOCKTON, WAKEFIELD, WF4 4AX	WEX114553	Using waste exemption	On a farm	Use of waste for a specified purpose
I	374m SE	The Rear Site, Stocksmoor Road, Wakefield, WF4 4JG	WEX178642	Using waste exemption	Not on a farm	Use of waste in construction
I	374m SE	The Rear Site, Stocksmoor Road, Wakefield, WF4 4JG	WEX178642	Treating waste exemption	Not on a farm	Screening and blending of waste
I	374m SE	The Rear Site, Stocksmoor Road, Wakefield, WF4 4JG	WEX178642	Storing waste exemption	Not on a farm	Storage of waste in a secure place
8	386m SW	LANGLEY HOLME FARM, BARNSLEY ROAD, FLOCKTON, WAKEFIELD, WF4 4AT	WEX111882	Storing waste exemption	On a farm	Storage of sludge
J	438m SE	New Hall New Hall Way WAKEFIELD West Yorkshire WF4 4XX	EPR/DF0805ZC /A001	Treating waste exemption	Non-Agricultural Waste Only	Aerobic composting and associated prior treatment

ID	Location	Site	Reference	Category	Sub-Category	Description
J	438m SE	New Hall New Hall Way WAKEFIELD West Yorkshire WF4 4XX	EPR/DF0805ZC /A001	Treating waste exemption	Non-Agricultural Waste Only	Preparatory treatments (baling, sorting, shredding etc)
J	438m SE	New Hall New Hall Way WAKEFIELD West Yorkshire WF4 4XX	EPR/DF0805ZC /A001	Using waste exemption	Non-Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
J	438m SE	New Hall New Hall Way WAKEFIELD West Yorkshire WF4 4XX	EPR/LE5049GP /A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use



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4.1 Recent industrial land uses

Records within 250m	11

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 51**

ID	Location	Company	Address	Activity	Category
A	**On site**	**Pylon**	**West Yorkshire, WF4**	**Electrical Features**	**Infrastructure and Facilities**
A	5m NE	Mast (Telecommunication)	West Yorkshire, WF4	Telecommunications Features	Infrastructure and Facilities

ID	Location	Company	Address	Activity	Category
1	15m S	Chimney	West Yorkshire, WF4	Chimneys	Industrial Features
2	86m NW	Caphouse Quarry (Disused)	West Yorkshire, WF4	Unspecified Quarries Or Mines	Extractive Industries
B	175m NW	Shaft	West Yorkshire, WF4	Unspecified Quarries Or Mines	Extractive Industries
4	182m W	Tank	West Yorkshire, WF4	Tanks (Generic)	Industrial Features
B	209m NW	Chimney	West Yorkshire, WF4	Chimneys	Industrial Features
D	210m SE	Chimney	West Yorkshire, WF4	Chimneys	Industrial Features
7	227m SE	Tank	West Yorkshire, WF4	Tanks (Generic)	Industrial Features
D	234m SE	Earnshaws Fencing Centres	Job Earnshaw and Bros Complex, Stocksmoor Road, Midgley, Wakefield, West Yorkshire, WF4 4JG	Wood Products Including Charcoal, Paper, Card and Board	Industrial Products
9	248m N	G P S Plant Hire & Sales	7, Wood Mount, Overton, Wakefield, West Yorkshire, WF4 4SB	Construction and Tool Hire	Hire Services

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m	1

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 51**

ID	Location	Address	Details	
F	307m SE	Job Earnshaw & Bros Ltd, Stocksmoor Lane, Midgley, Wakefield, WF4 4JG	Process: Timber Manufacture Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	**11**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 51**

ID	Location	Address	Details	
C	144m W	GRANGE LANE STW, GRANGE LANE, WAKEFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: E736(SS) Permit Version: 1 Receiving Water: TRIBUTARY OF SMITHY BROOK	Status: TRANSFERRED FROM 1975 REGULATIONS Issue date: 16/12/1981 Effective Date: 16/12/1981 Revocation Date: 09/11/1985
C	144m W	GRANGE LANE STW, GRANGE LANE, WAKEFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: E736(SS) Permit Version: 2 Receiving Water: TRIBUTARY OF SMITHY BROOK	Status: TRANSFERRED FROM COPA 1974 Issue date: 10/11/1985 Effective Date: 10/11/1985 Revocation Date: 09/10/1996
C	144m W	GRANGE LANE STW, GRANGE LANE, WAKEFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: E736(SS) Permit Version: 3 Receiving Water: TRIBUTARY OF SMITHY BROOK	Status: REVISED CONSENT, BY NOTICE (SECTION 37(1)) Issue date: 10/10/1996 Effective Date: 10/10/1996 Revocation Date: -
E	228m NW	NATIONAL COAL MINING MUSEUM, CAPHOUSE COLLIERY, NEW ROAD, OVERTON, WAKEFIELD	Effluent Type: TRADE DISCHARGES - MINERAL WORKINGS Permit Number: WRA7882 Permit Version: 1 Receiving Water: SMITHY BECK	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 07/11/2002 Effective Date: 07/11/2002 Revocation Date: 30/09/2004
E	228m NW	NATIONAL COAL MINING MUSEUM, CAPHOUSE COLLIERY, NEW ROAD, OVERTON, WAKEFIELD	Effluent Type: TRADE DISCHARGES - MINERAL WORKINGS Permit Number: WRA7882 Permit Version: 2 Receiving Water: SMITHY BECK	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 01/10/2004 Effective Date: 01/10/2004 Revocation Date: -
10	250m W	CAPHOUSE COLLIERY, OVERTON, WAKEFIELD, WEST YORKSHIRE	Effluent Type: TRADE DISCHARGES - MINERAL WORKINGS Permit Number: 3346 Permit Version: 1 Receiving Water: TRIBUTARY OF SMITHY BROOK	Status: REVOKED (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 06/03/1979 Effective Date: 06/03/1979 Revocation Date: 17/06/2004

ID	Location	Address	Details	
11	312m SE	NEW HALL PRISON, NEW HALL, FLOCKTON, WAKEFIELD, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: WRA7205 Permit Version: 1 Receiving Water: STONEYCLIFFE BECK	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 13/03/1996 Effective Date: 13/03/1996 Revocation Date: 01/10/1996
F	334m S	DENBY GRANGE COLLIERY, NETHERTON, NR WAKEFIELD	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 3662 Permit Version: 1 Receiving Water: STONY CLIFFE BECK	Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 06/12/1982 Effective Date: 06/12/1982 Revocation Date: 27/11/1994
F	334m S	DENBY GRANGE COLLIERY, NETHERTON, NR WAKEFIELD	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 3662 Permit Version: 2 Receiving Water: STONY CLIFFE BECK	Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 28/11/1994 Effective Date: 28/11/1994 Revocation Date: -
G	342m NW	CAPHOUSE WPC WORKS STORM TANKS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: E733(SS) Permit Version: 1 Receiving Water: -	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 01/01/1982 Effective Date: 01/01/1982 Revocation Date: 26/02/1986
G	342m NW	CAPHOUSE WPC WORKS STORM TANKS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: E733(SS) Permit Version: 2 Receiving Water: -	Status: REVOKED - UNSPECIFIED Issue date: 27/02/1986 Effective Date: 27/02/1986 Revocation Date: 19/07/1991

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	**0**

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	1

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

Features are displayed on the Current industrial land use map on **page 51**

ID	Location	Name	Status	Receiving Water	Authorised Substances
E	228m NW	National Coal Mining Museum	Active	River Calder	Iron

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	5

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 51**

ID	Location	Details	
3	94m NW	Incident Date: 29/01/2002 Incident Identification: 55241 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

ID	Location	Details	
B	137m NW	Incident Date: 24/07/2002 Incident Identification: 94118 Pollutant: Specific Waste Materials Pollutant Description: Other Specific Waste Material	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
5	194m S	Incident Date: 11/10/2005 Incident Identification: 352654 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
6	213m NW	Incident Date: 22/01/2002 Incident Identification: 53803 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
8	231m W	Incident Date: 04/02/2002 Incident Identification: 56319 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	**0**

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	**0**

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

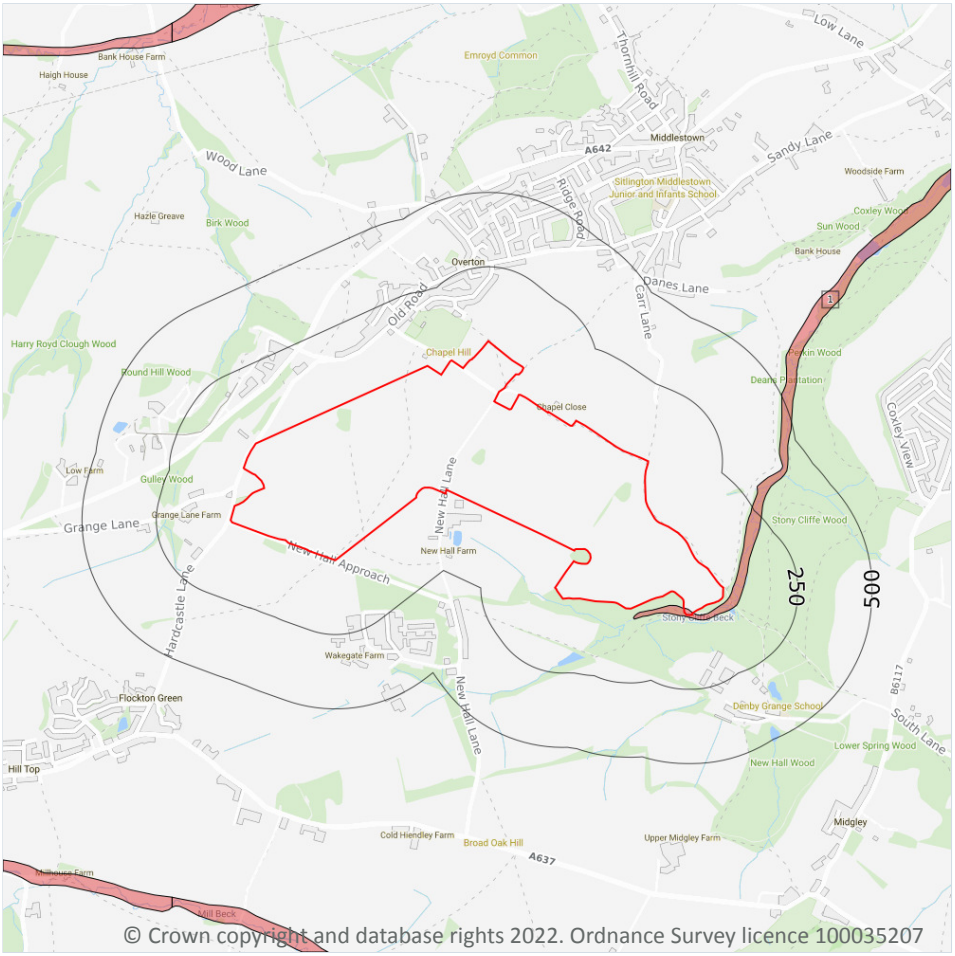
4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



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5.1 Superficial aquifer

Records within 500m	1

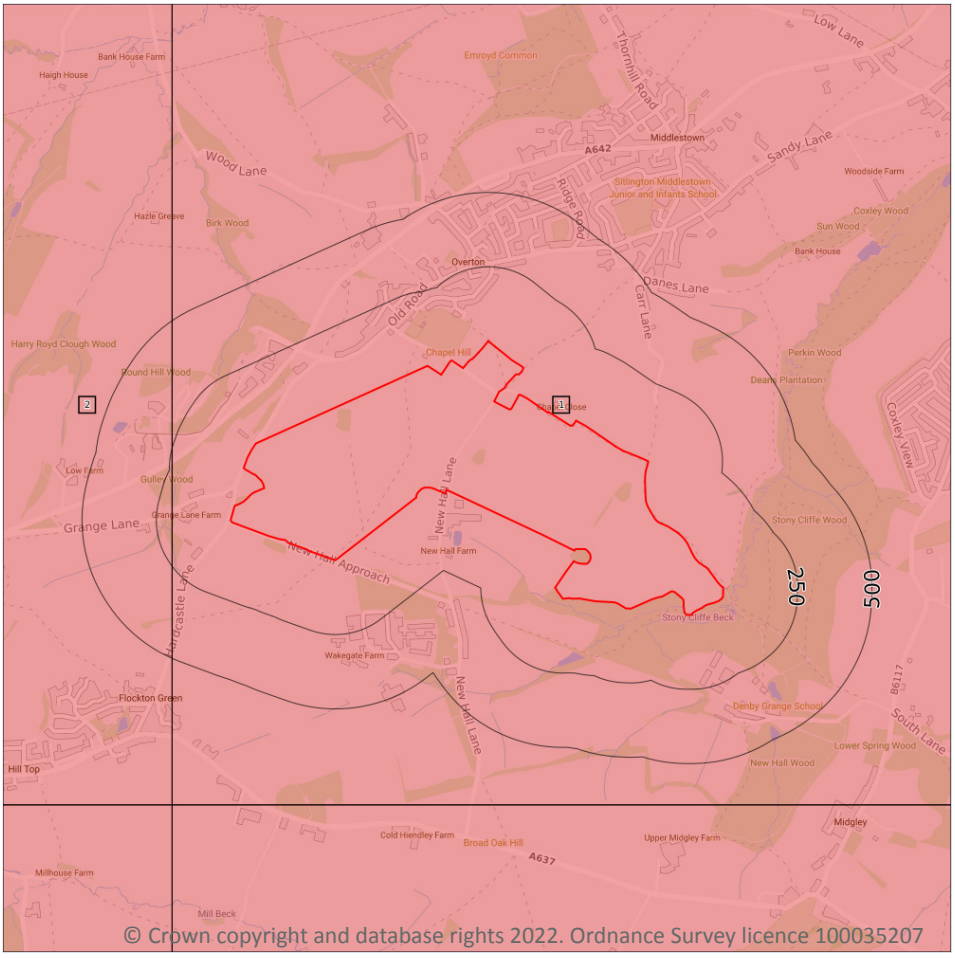
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 60**

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m	2

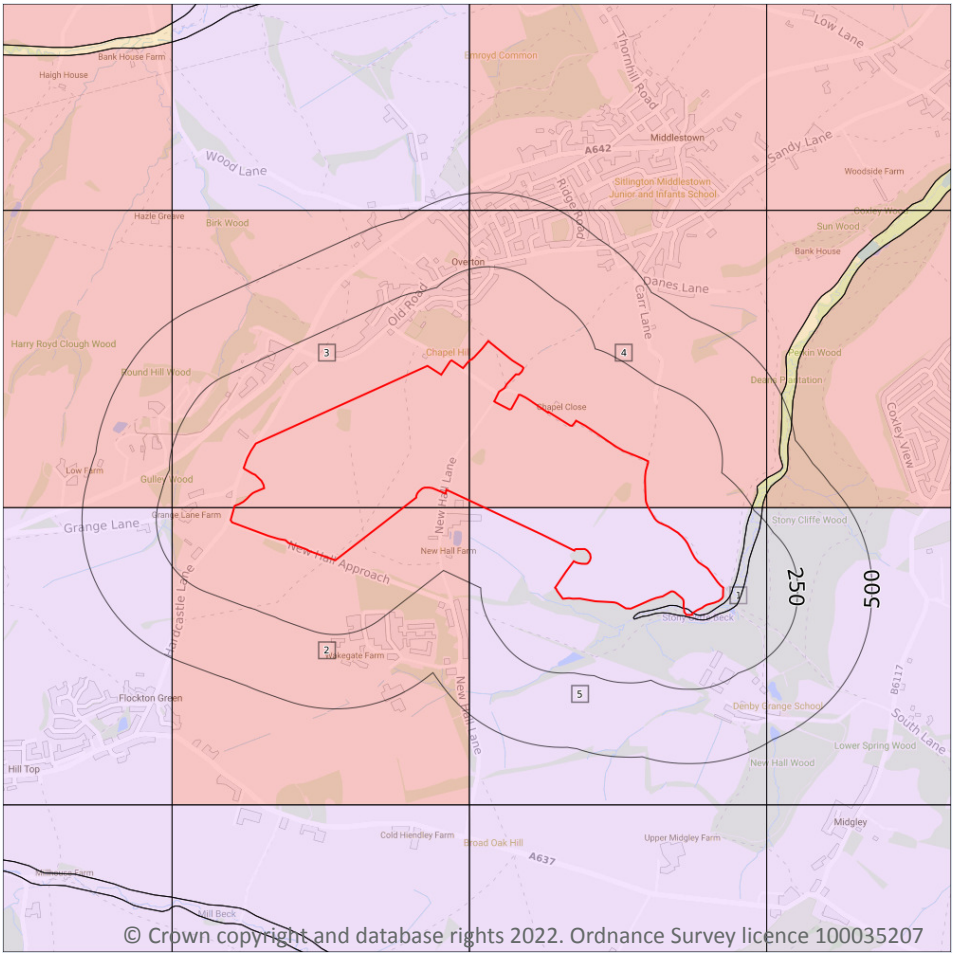
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 61**

ID	Location	Designation	Description
1	**On site**	**Secondary A**	**Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers**
2	197m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	5

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 63**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
4	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures
5	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

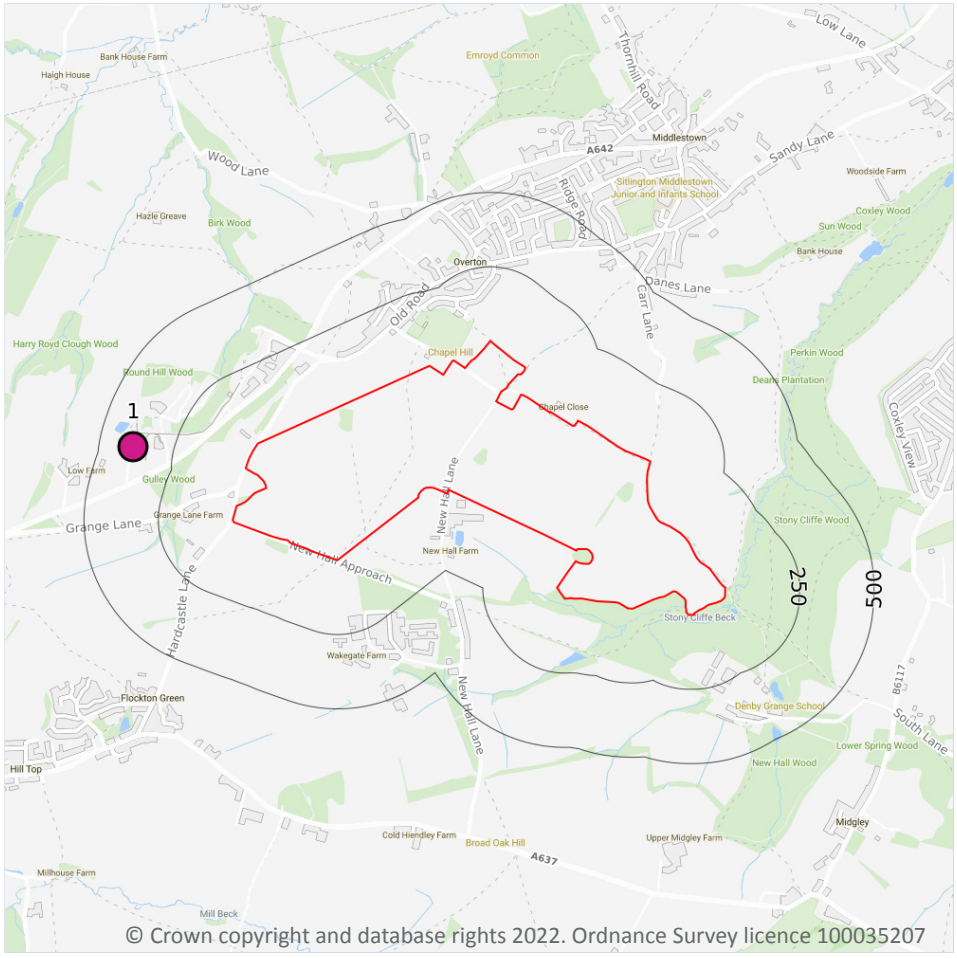
5.5 Groundwater vulnerability- local information

Records on site	0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	1

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 66**

ID	Location	Details	
1	384m W	Status: Active Licence No: NE/027/0013/028 Details: Dewatering Direct Source: GROUNDWATERS Point: HOPE SHAFT, CAPHOUSE COLLIERY, OVERTON, WAKEFIELD. Data Type: Point Name: National Coal Mining Museum for England Trust Ltd Easting: 424863 Northing: 416205	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: NPS/NA/001723 Original Start Date: 31/03/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 31/03/2021 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	0

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	0

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

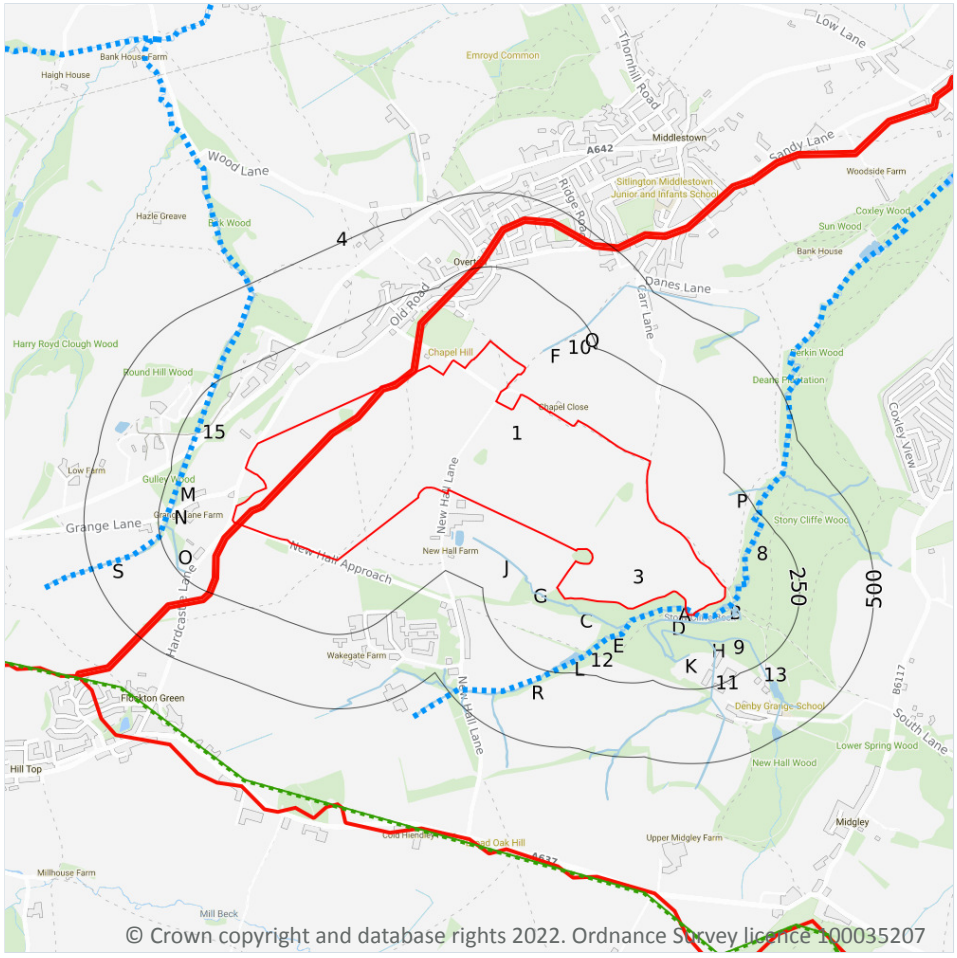
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m	52

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on **page 69**

ID	Location	Type of water feature	Ground level	Permanence	Name
A	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**

ID	Location	Type of water feature	Ground level	Permanence	Name
B	17m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	17m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	17m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	19m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	23m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
8	32m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
B	32m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
B	33m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
B	33m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
B	33m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
B	34m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	36m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
B	39m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
B	39m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	40m SE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
E	54m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	54m SE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	54m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	57m SE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
B	62m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
D	70m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
F	81m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	84m W	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	92m W	Marsh. An area that is predominantly waterlogged by freshwater.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	94m W	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
9	96m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck

ID	Location	Type of water feature	Ground level	Permanence	Name
H	96m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	102m W	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	102m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	108m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	109m W	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	120m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
10	120m NE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
H	125m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	133m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
11	141m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	155m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	155m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
12	157m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
13	187m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Stony Cliffe Beck
L	189m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
15	197m NW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
M	201m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	201m W	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
O	204m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	206m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	214m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	215m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	225m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	226m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	239m NE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	27

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 69**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	2

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 69**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
3	**On site**	**River**	**Calder from River Colne to River Chald**	**GB104027062631**	**Calder Lower**	**Aire and Calder**
4	**On site**	**River**	**Smithy Brook from Source to River Calder**	**GB104027062510**	**Calder Lower**	**Aire and Calder**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	2

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 69**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
2	**On site**	**River**	**Calder from River Colne to River Chald**	**GB104027062631**	**Moderate**	**Fail**	**Moderate**	**2019**
14	195m W	River	Smithy Brook from Source to River Calder	GB104027062510	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	**1**

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 69**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	**On site**	**Aire & Calder Carb Limestone / Millstone Grit / Coal Measures.**	**GB40402G700400**	**Poor**	**Poor**	**Good**	**2019**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

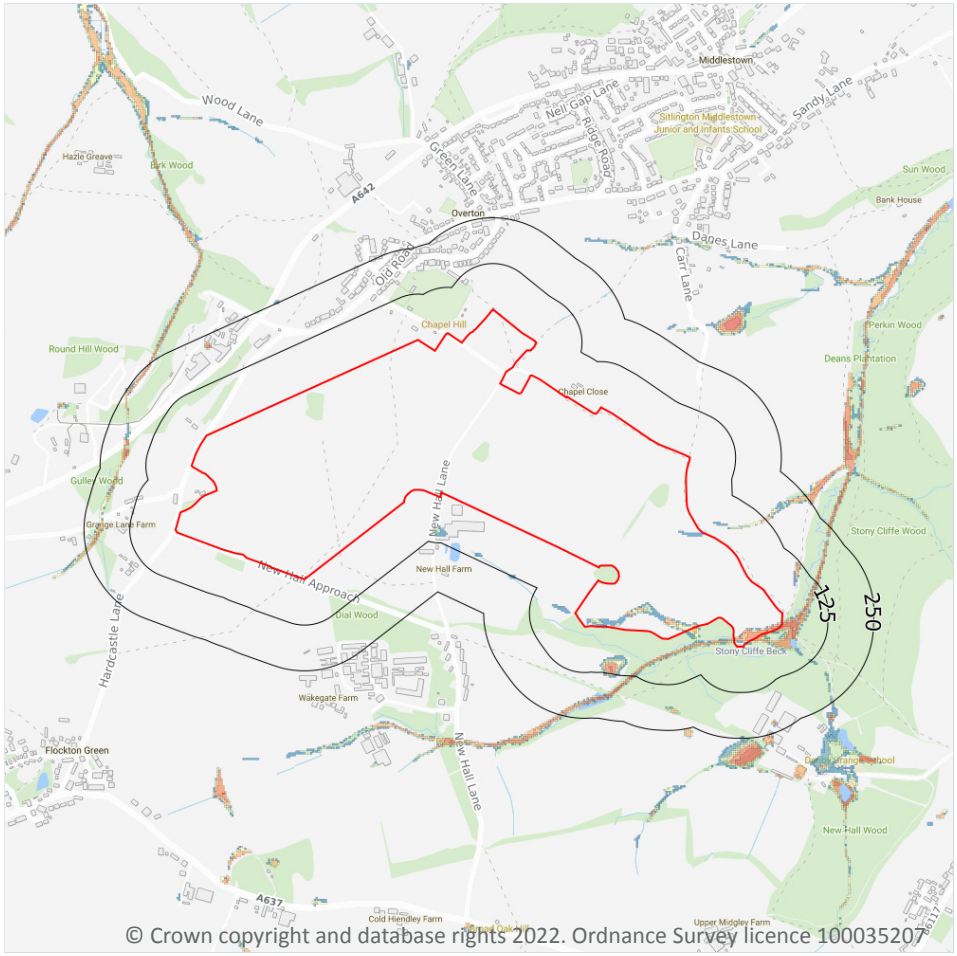
7.7 Flood Zone 3

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 30 year, Greater than 1.0m**
Highest risk within 50m	**1 in 30 year, Greater than 1.0m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 79**

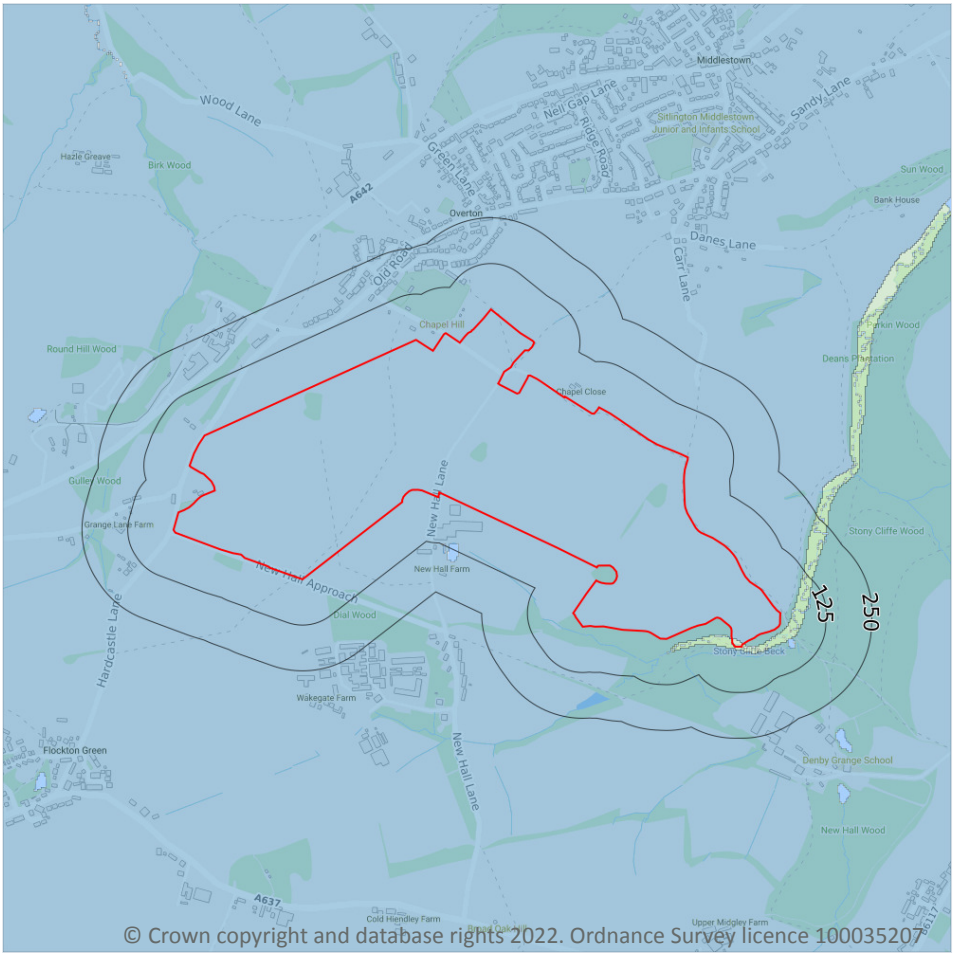
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 1.0m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

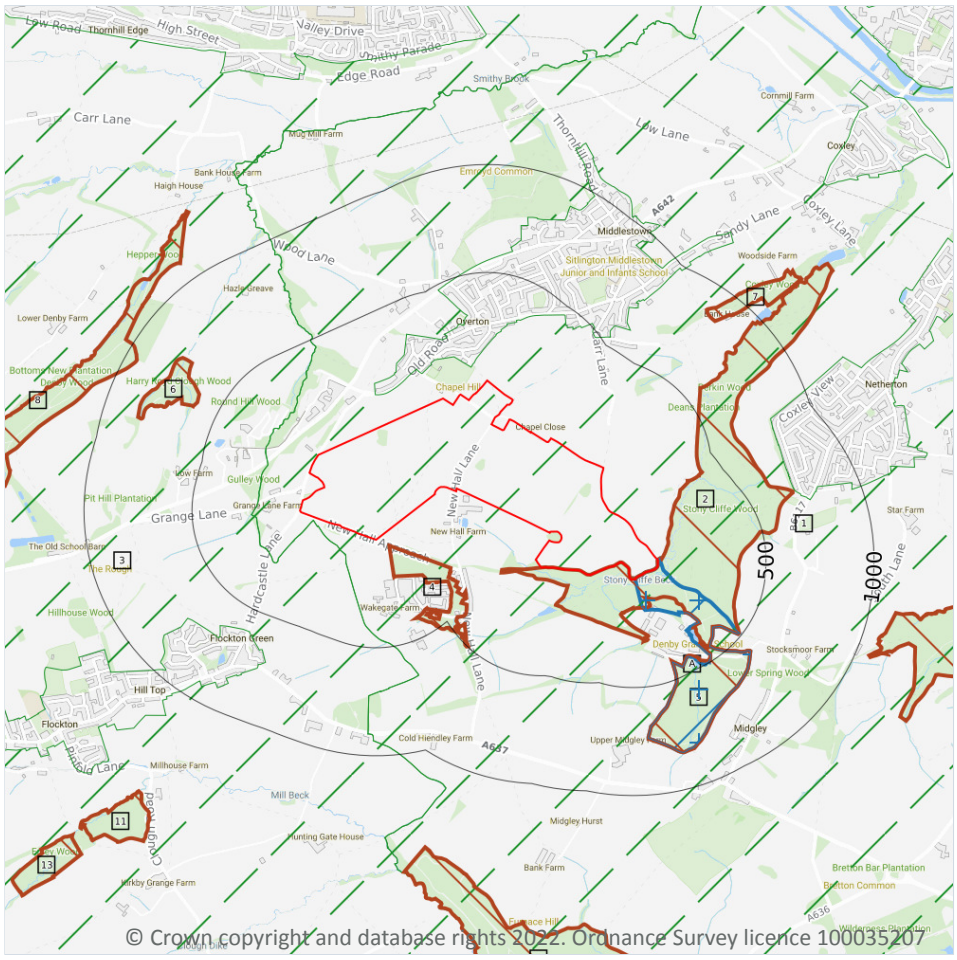
Highest risk on site	**Low**
Highest risk within 50m	**Low**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 81**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	1

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on **page 82**

ID	Location	Name	Data source
A	**On site**	**Denby Grange Colliery Ponds**	**Natural England**

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	1

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

Features are displayed on the Environmental designations map on **page 82**

ID	Location	Name	Features of interest	Habitat description	Data source
A	**On site**	**Denby Grange Colliery Ponds**	**Great crested newt.**	**Inland water bodies (Standing water, Running water); Improved grassland; Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Broad-leaved deciduous woodland; Coniferous woodland**	**Natural England**

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	11

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 82**

ID	Location	Name	Woodland Type
2	**On site**	**Sun Wood**	**Ancient & Semi-Natural Woodland**
4	59m SE	Unknown	Ancient Replanted Woodland
5	395m SE	Sun Wood	Ancient Replanted Woodland
6	606m NW	Harry Royd Clough Wood	Ancient Replanted Woodland
7	853m NE	Sun Wood	Ancient & Semi-Natural Woodland
8	945m NW	Grange, Hepper And Denby Woods	Ancient Replanted Woodland
9	1062m SE	Bullcliff North Wood	Ancient Replanted Woodland
10	1401m S	Bank Wood	Ancient Replanted Woodland
11	1494m SW	Unknown	Ancient & Semi-Natural Woodland
-	1775m S	Bentley Spring	Ancient Replanted Woodland

ID	Location	Name	Woodland Type
13	1831m SW	Epley Wood	Ancient Replanted Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	2

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on **page 82**

ID	Location	Name	Local Authority name
1	**On site**	**South and West Yorkshire**	**Wakefield**
3	16m S	South and West Yorkshire	Kirklees

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or ‘classified’) under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

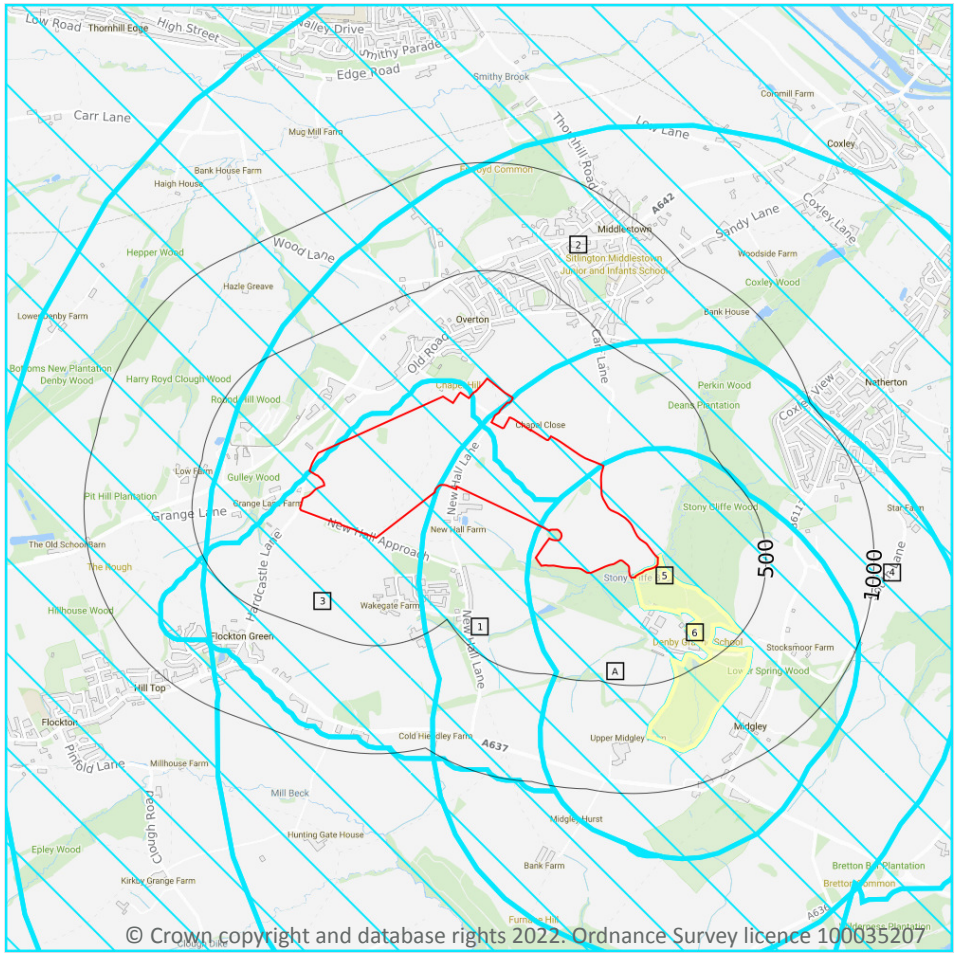
Records within 2000m	**2**

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
653m S	River Dearne NVZ	Surface Water	278	Existing
1198m SW	River Dearne NVZ	Surface Water	278	Existing

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site	6

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 88**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha. Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .**
2	On site	**Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction. Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.**

ID	Location	Type of developments requiring consultation
3	On site	Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.
4	On site	Infrastructure - Pipelines, pylons and overhead cables. any transport proposal including road, rail and by water (excluding routine maintenance). airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction. Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause air pollution (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .
A	On site	All applications - All planning applications - except householder applications.
A	On site	All applications - All planning applications.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	3

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on **page 88**

ID: A
Location: On site
SSSI name: Denby Grange Colliery Ponds
Unit name: New Hall Wood
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Amphibian assemblage	Unfavourable - Recovering	19/11/2013
Great Crested Newt, Triturus cristatus	Unfavourable - Recovering	19/11/2013
S1166 Great crested newt, Triturus cristatus	Unfavourable - Recovering	19/11/2013

ID: 5
Location: 41m SE
SSSI name: Denby Grange Colliery Ponds
Unit name: Denby Grange Colliery Ponds
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Great Crested Newt, Triturus cristatus	Unfavourable - Recovering	19/11/2013
S1166 Great crested newt, Triturus cristatus	Unfavourable - Recovering	19/11/2013

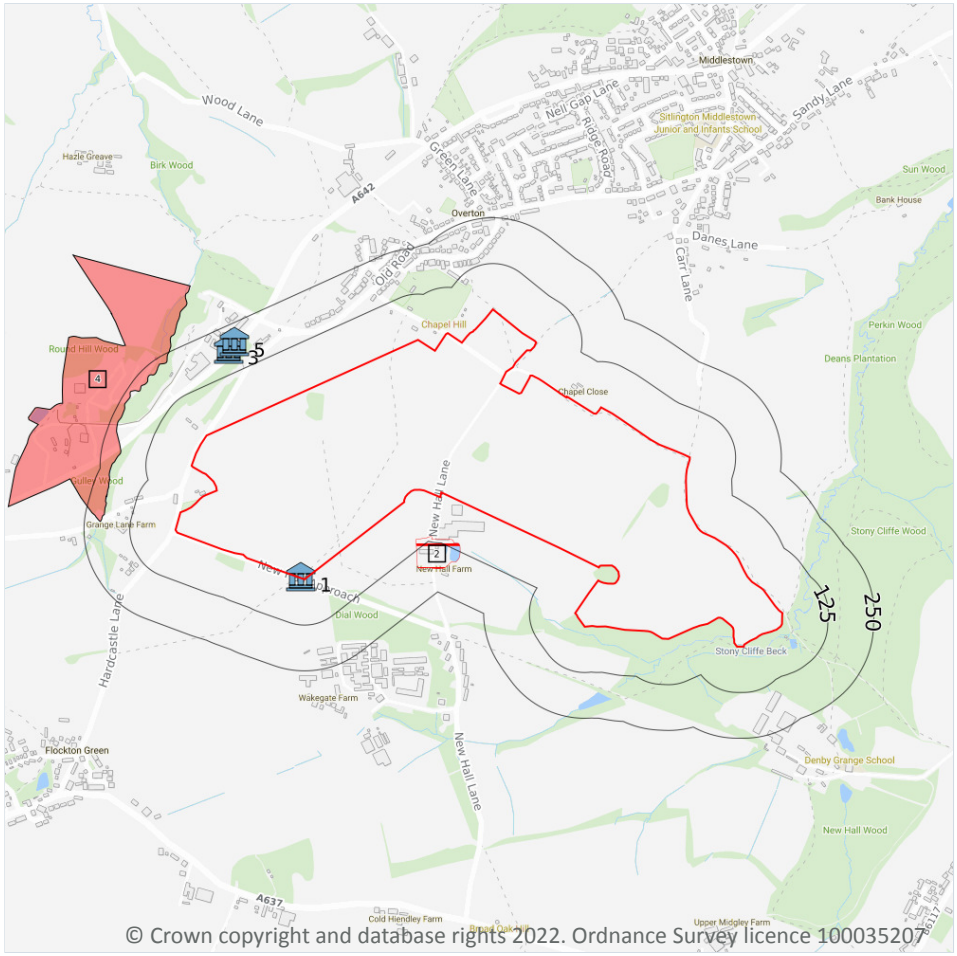
ID: 6
Location: 322m SE
SSSI name: Denby Grange Colliery Ponds
Unit name: Denby Grange Colliery Ponds
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Recovering

Reportable features:

Feature name	Feature condition	Date of assessment
Great Crested Newt, Triturus cristatus	Unfavourable - Recovering	19/11/2013
S1166 Great crested newt, Triturus cristatus	Unfavourable - Recovering	19/11/2013

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	3

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 93**

ID	Location	Name	Grade	Reference Number	Listed date
1	**On site**	**Flockton Waggonway Tunnel and Entrance Portal Approximately Mid-Way Between Junctions of Hardcastle Lane and The New Hall Farm, Sitlington, Wakefield, WF4**	**II**	**1135523**	**24/07/1969**
3	190m NW	Winding House, Heapstead and Headstock At Caphouse Colliery, Sitlington, Wakefield, WF4	II*	1135482	06/05/1988
5	203m NW	Chimney and Attached Boiler House At Caphouse Colliery, Sitlington, Wakefield, WF4	II	1135481	06/05/1988

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	1

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

Features are displayed on the Visual and cultural designations map on **page 93**

ID	Location	Name	District	Date of designation
4	197m W	Hope Pit	Kirklees	01/02/1995

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	1

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

Features are displayed on the Visual and cultural designations map on **page 93**

ID	Location	Ancient monument name	Reference number
2	100m SE	New Hall moat and fishpond	1010055

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

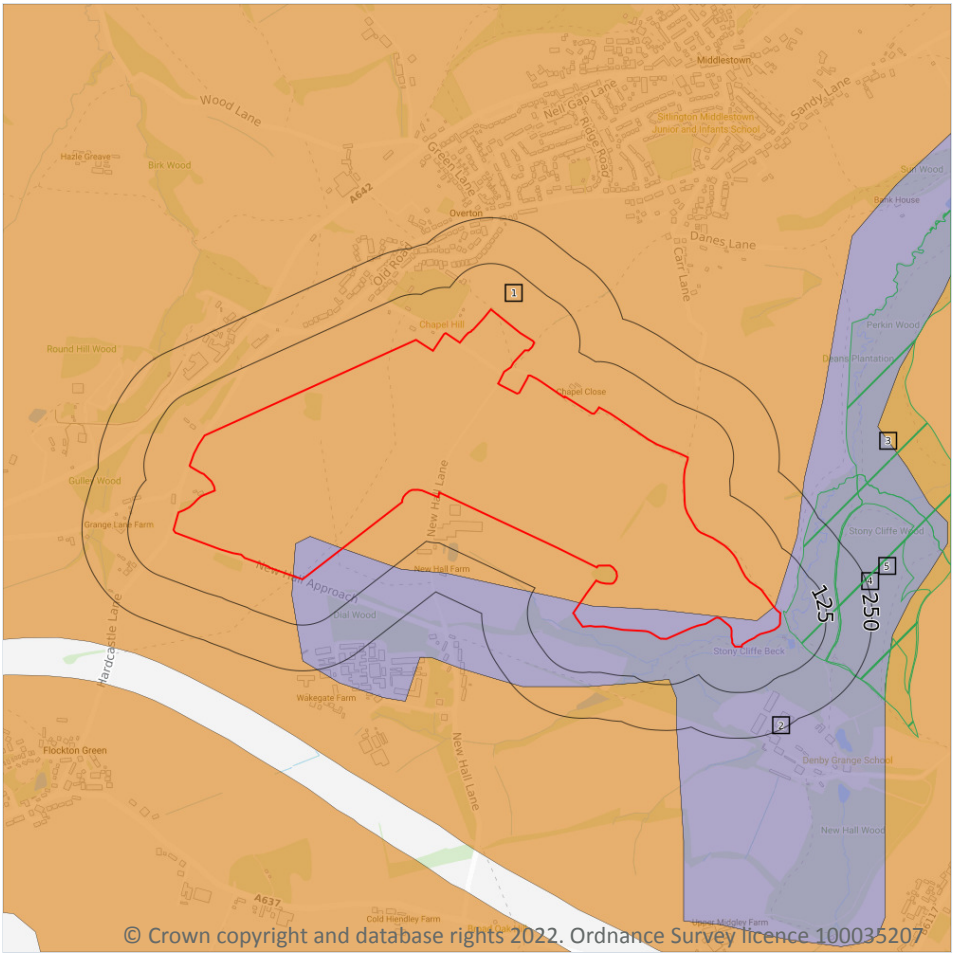
11.7 Registered Parks and Gardens

Records within 250m	0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	2

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 96**

ID	Location	Classification	Description
1	On site	Grade 3	**Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.**

ID	Location	Classification	Description
2	**On site**	**Non Agricultural**	**-**

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	**0**

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	**3**

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

Features are displayed on the Agricultural designations map on **page 96**

ID	Location	Description	Reference	Application date
3	9m E	Selective Fell/Thin (Conditional)	012/32/16-17	30/09/2016
4	156m SE	Selective Fell/Thin (Conditional)	012/84/02-03	14/11/2002
5	158m SE	Clear Fell (Conditional)	012/32/16-17	30/09/2016

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	**0**

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

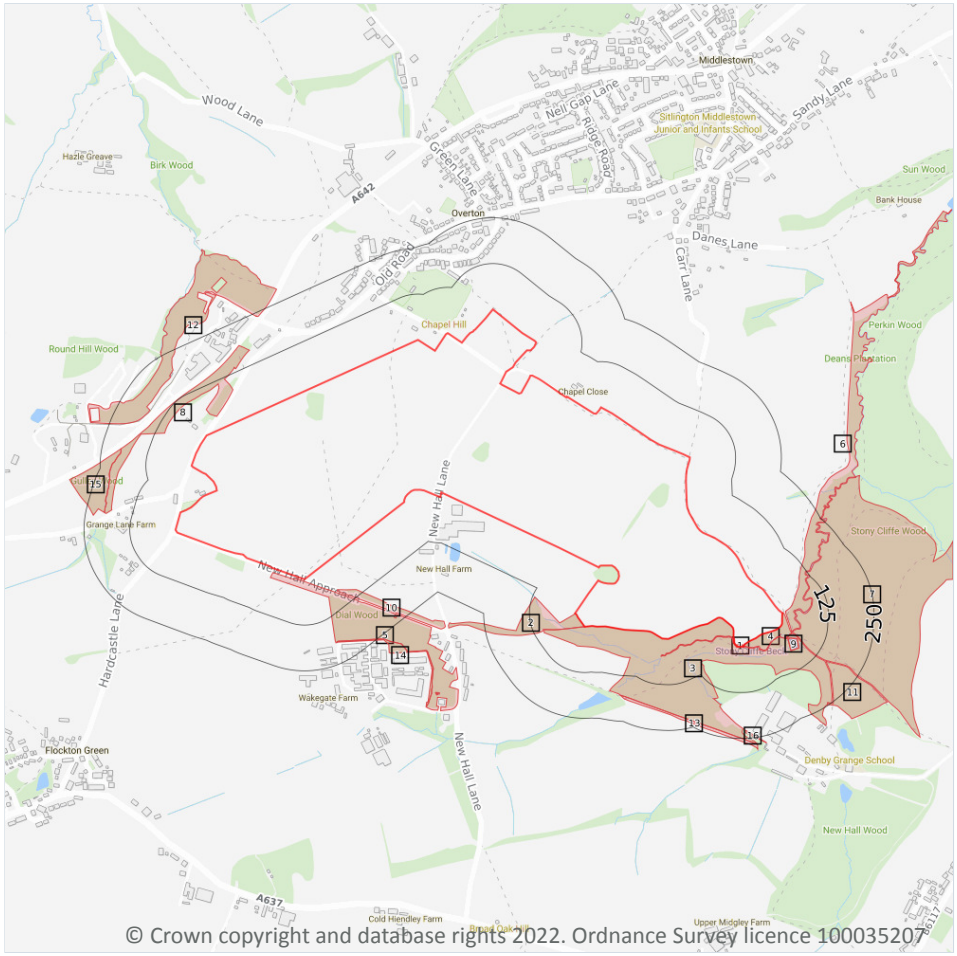
Records within 250m	7

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
On site	**1065268**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
On site	**1065268**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
On site	**1065268**	**Countryside Stewardship (Middle Tier)**	**01/01/2021**	**31/12/2025**
3m E	1065268	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
9m E	445699	Countryside Stewardship (Higher Tier)	01/01/2017	31/12/2021
49m N	1065268	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
170m NE	1065268	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025

This data is sourced from Natural England.

13 Habitat designations



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Site Outline

Search buffers in metres (m)

- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders

Habitat Networks

- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	16

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 99**

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
5	5m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	9m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	34m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	36m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
9	40m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	78m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
11	156m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
12	168m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
13	179m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
14	192m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
15	197m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
16	228m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	**0**

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	**0**

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

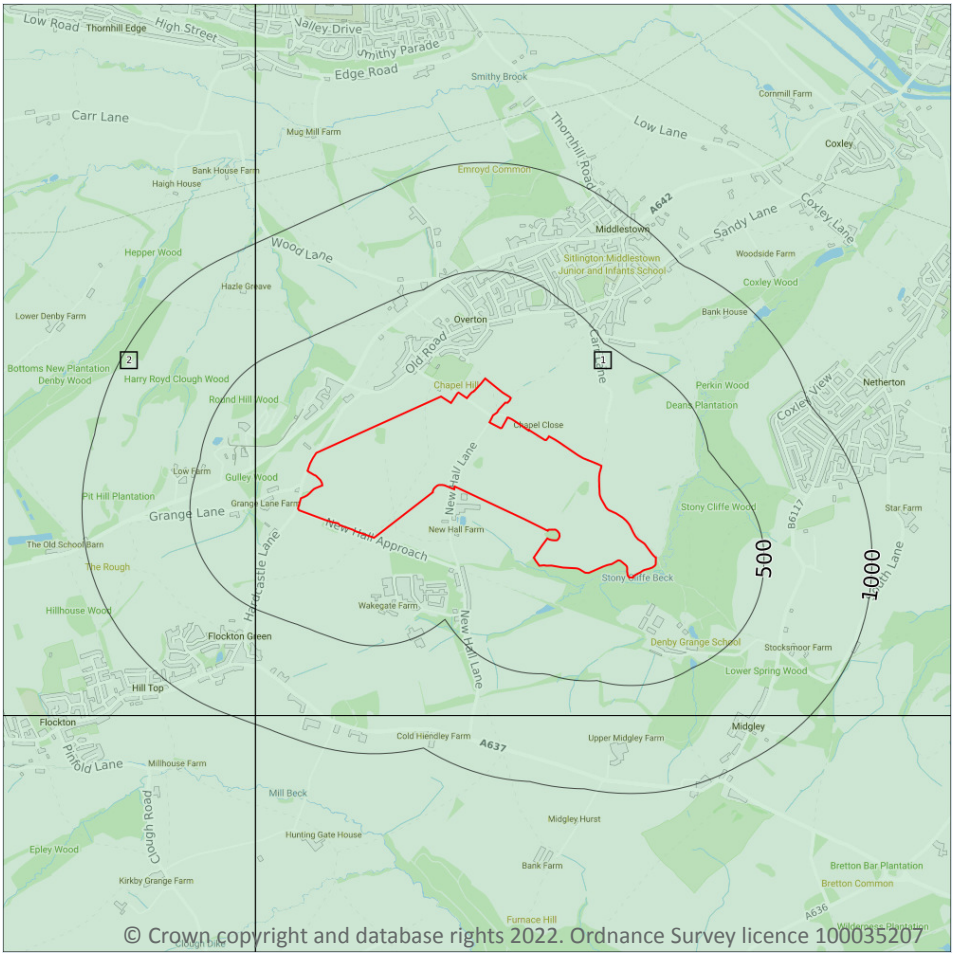
13.4 Limestone Pavement Orders

Records within 250m	0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



14.1 10k Availability

Records within 500m	2

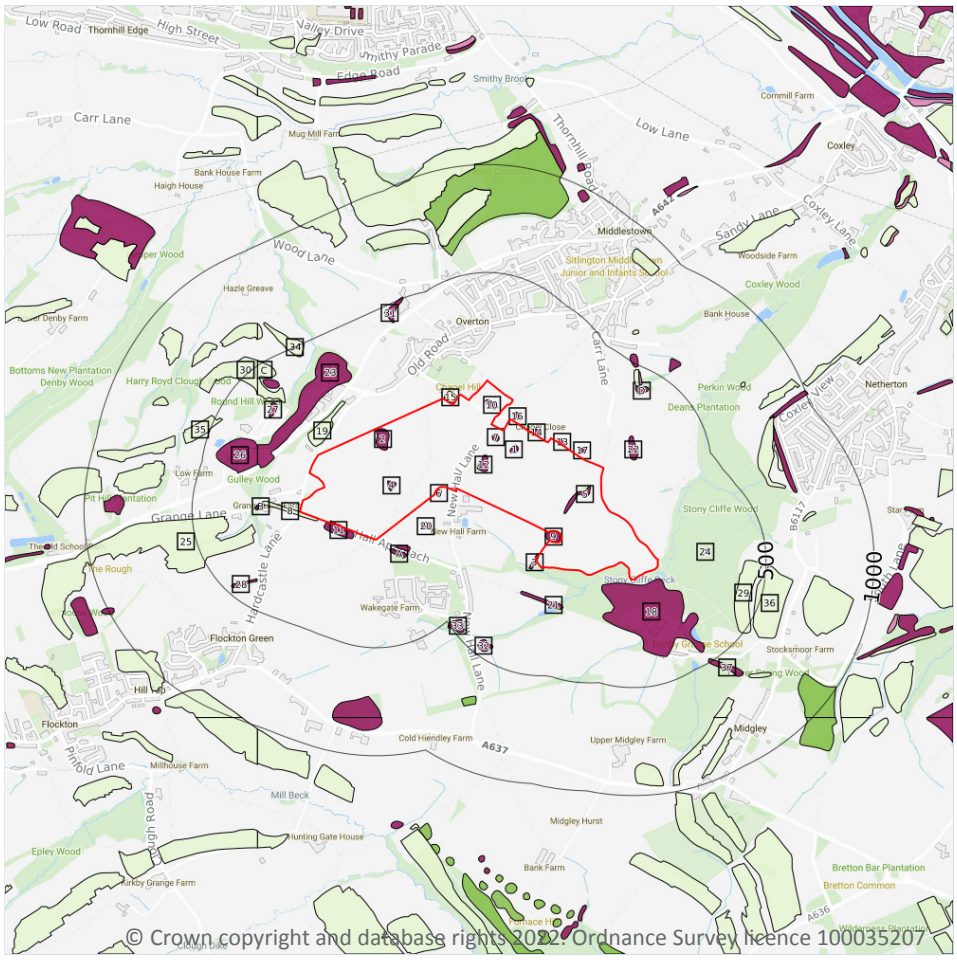
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 102**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SE21NE**
2	197m W	Full	Full	Full	Full	SE21NW

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



14.2 Artificial and made ground (10k)

Records within 500m	47

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 103**

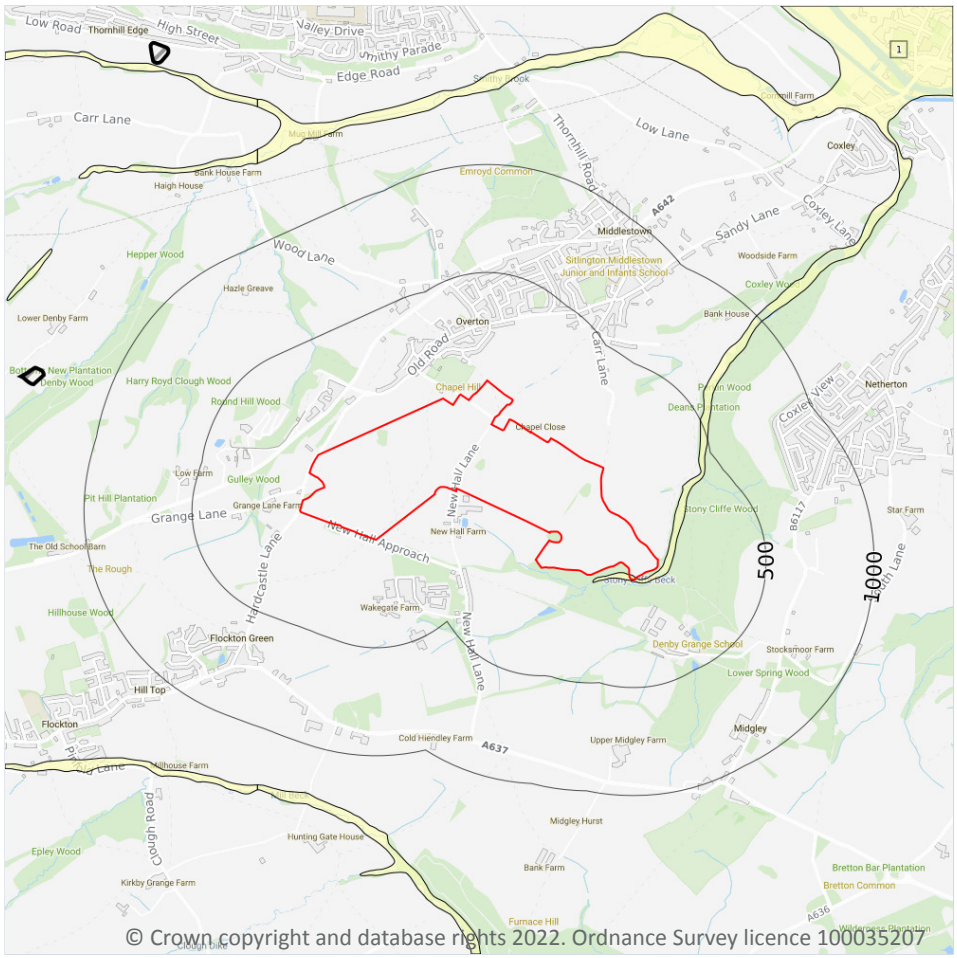
ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
5	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
6	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
7	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
8	**On site**	**WMGR-ARTDP**	**Infilled Ground**	**Artificial Deposit**
9	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
10	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
11	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
12	**On site**	**MGR-ARTDP**	**Made Ground (Undivided)**	**Artificial Deposit**
13	1m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
14	3m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
15	4m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
16	15m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
17	20m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
18	22m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
19	40m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
20	74m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	76m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	81m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
21	132m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
22	135m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
23	160m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	167m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	197m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
24	210m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
25	229m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
26	244m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
27	279m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
C	287m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
C	364m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
28	371m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
D	377m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
29	382m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
30	397m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
D	408m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
31	413m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
D	419m NE	WGR-VOID	Worked Ground (Undivided)	Void
32	422m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
33	440m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
34	448m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
35	467m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
36	469m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
37	485m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
D	486m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



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Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m	1

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 106**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**ALV-XCSV**	**Alluvium - Clay, Sand And Gravel**	**Clay, Sand And Gravel**

This data is sourced from the British Geological Survey.

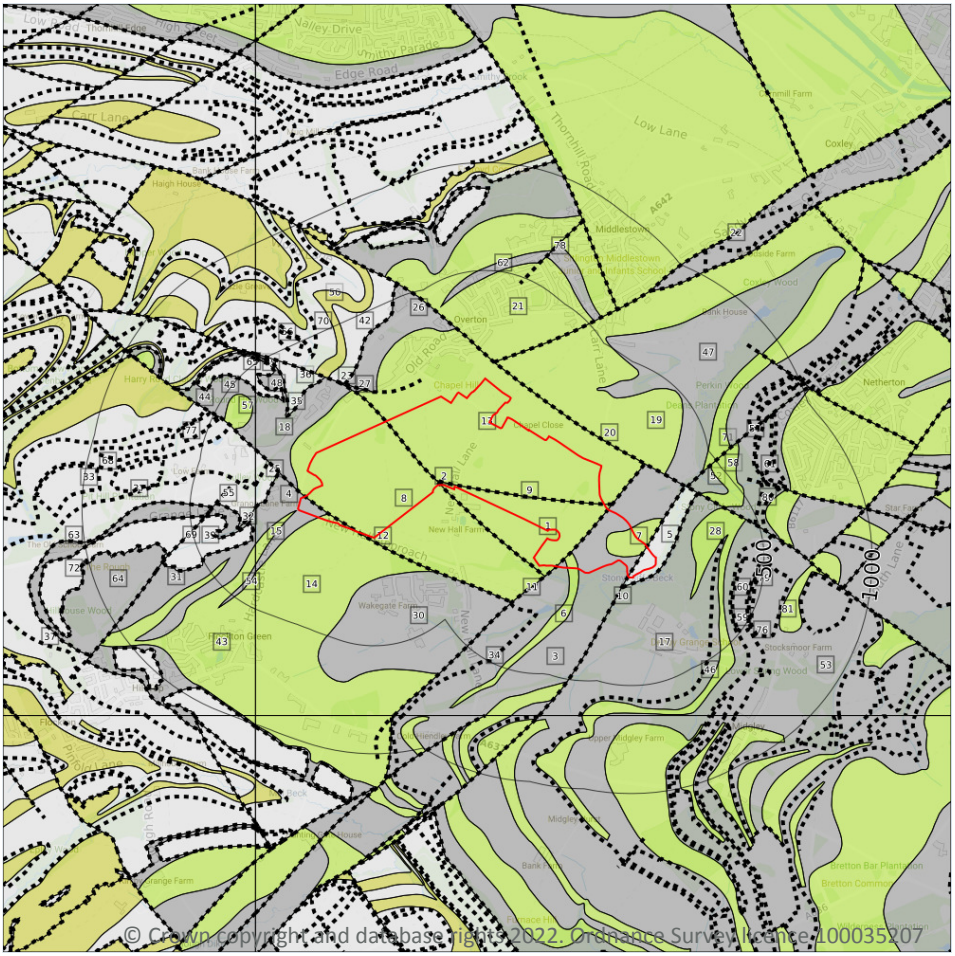
14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m	41

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 108**

ID	Location	LEX Code	Description	Rock age
1	On site	TR-SDST	Thornhill Rock - Sandstone	Duckmantian Sub-age
3	On site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
4	On site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age

ID	Location	LEX Code	Description	Rock age
5	**On site**	**PLCM-MDSS**	**Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone**	**Langsettian Sub-age**
6	**On site**	**TR-SDST**	**Thornhill Rock - Sandstone**	**Duckmantian Sub-age**
7	**On site**	**TR-SDST**	**Thornhill Rock - Sandstone**	**Duckmantian Sub-age**
8	**On site**	**TR-SDST**	**Thornhill Rock - Sandstone**	**Duckmantian Sub-age**
13	**On site**	**TR-SDST**	**Thornhill Rock - Sandstone**	**Duckmantian Sub-age**
14	**On site**	**TR-SDST**	**Thornhill Rock - Sandstone**	**Duckmantian Sub-age**
15	12m SW	TR-SDST	Thornhill Rock - Sandstone	Duckmantian Sub-age
17	25m S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
18	42m NW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
19	83m NE	TR-SDST	Thornhill Rock - Sandstone	Duckmantian Sub-age
21	86m NE	TR-SDST	Thornhill Rock - Sandstone	Duckmantian Sub-age
25	132m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
26	140m NW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
27	165m NW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
28	171m E	TR-SDST	Thornhill Rock - Sandstone	Duckmantian Sub-age
30	185m S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
31	197m W	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
33	197m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
36	217m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
39	229m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
42	237m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
43	256m SW	TR-SDST	Thornhill Rock - Sandstone	Duckmantian Sub-age

ID	Location	LEX Code	Description	Rock age
45	260m W	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
47	279m NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
49	287m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
50	292m NW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
52	320m NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
53	322m E	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
54	323m SW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
56	338m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
57	343m NW	TR-SDST	Thornhill Rock - Sandstone	Duckmantian Sub-age
58	345m NE	TR-SDST	Thornhill Rock - Sandstone	Duckmantian Sub-age
61	391m NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
62	392m NW	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
64	396m W	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
65	397m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
71	419m NE	TR-SDST	Thornhill Rock - Sandstone	Duckmantian Sub-age
72	430m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**40**

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

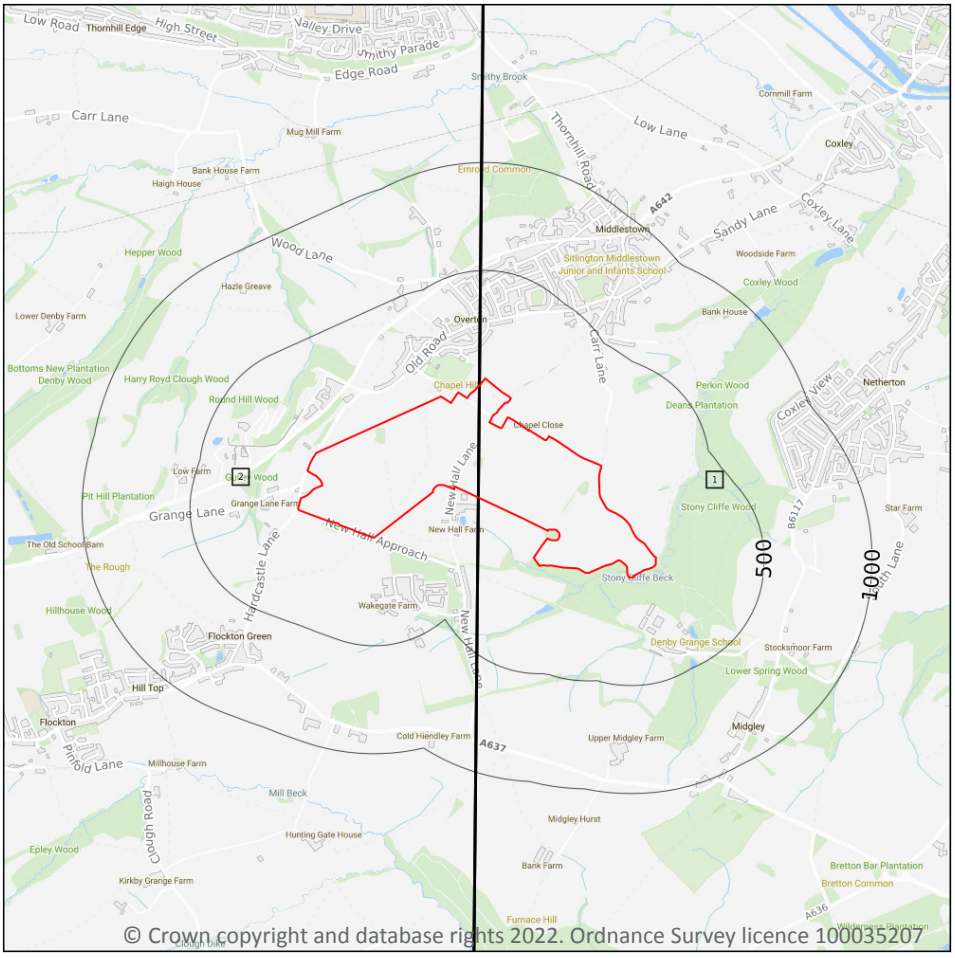
Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 108**

ID	Location	Category	Description
2	**On site**	**FAULT**	**Normal fault, inferred**
9	**On site**	**FAULT**	**Normal fault, inferred**
10	**On site**	**FAULT**	**Normal fault, inferred**
11	**On site**	**FAULT**	**Normal fault, inferred**
12	**On site**	**FAULT**	**Normal fault, inferred**
16	25m S	ROCK	Coal seam, inferred
20	83m NE	FAULT	Normal fault, inferred
22	86m NE	FAULT	Normal fault, inferred
23	105m NW	FAULT	Normal fault, inferred
24	132m W	ROCK	Coal seam, inferred
29	185m W	ROCK	Ironstone bed, inferred
32	197m W	ROCK	Coal seam, inferred
34	214m S	ROCK	Coal seam, inferred
35	217m NW	ROCK	Coal seam, inferred
37	219m W	ROCK	Ironstone bed, inferred
38	229m SW	ROCK	Coal seam, observed
40	229m SW	ROCK	Coal seam, observed
41	237m NW	ROCK	Coal seam, inferred
44	260m W	FAULT	Normal fault, inferred; crossmarks on downthrow side
46	272m E	ROCK	Coal seam, inferred
48	287m NW	ROCK	Coal seam, observed
51	320m NE	FAULT	Normal fault, inferred
55	328m W	FAULT	Normal fault, inferred; downthrow not specified

ID	Location	Category	Description
59	369m E	ROCK	Coal seam, inferred
60	382m E	ROCK	Coal seam, observed
63	396m W	ROCK	Coal seam, inferred
66	397m NW	ROCK	Coal seam, observed
67	404m E	ROCK	Coal seam, observed
68	408m NW	ROCK	Coal seam, inferred
69	408m W	FAULT	Normal fault, observed; downthrow not specified
70	414m NW	ROCK	Coal seam, inferred
73	430m W	ROCK	Coal seam, observed
74	448m NW	ROCK	Coal seam, observed
75	452m NW	ROCK	Coal seam, observed
76	459m E	ROCK	Coal seam, inferred
77	467m NW	ROCK	Coal seam, observed
78	469m N	FAULT	Normal fault, inferred
79	469m E	ROCK	Coal seam, observed
80	485m E	ROCK	Coal seam, inferred
81	489m SE	ROCK	Coal seam, observed

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



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Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	2

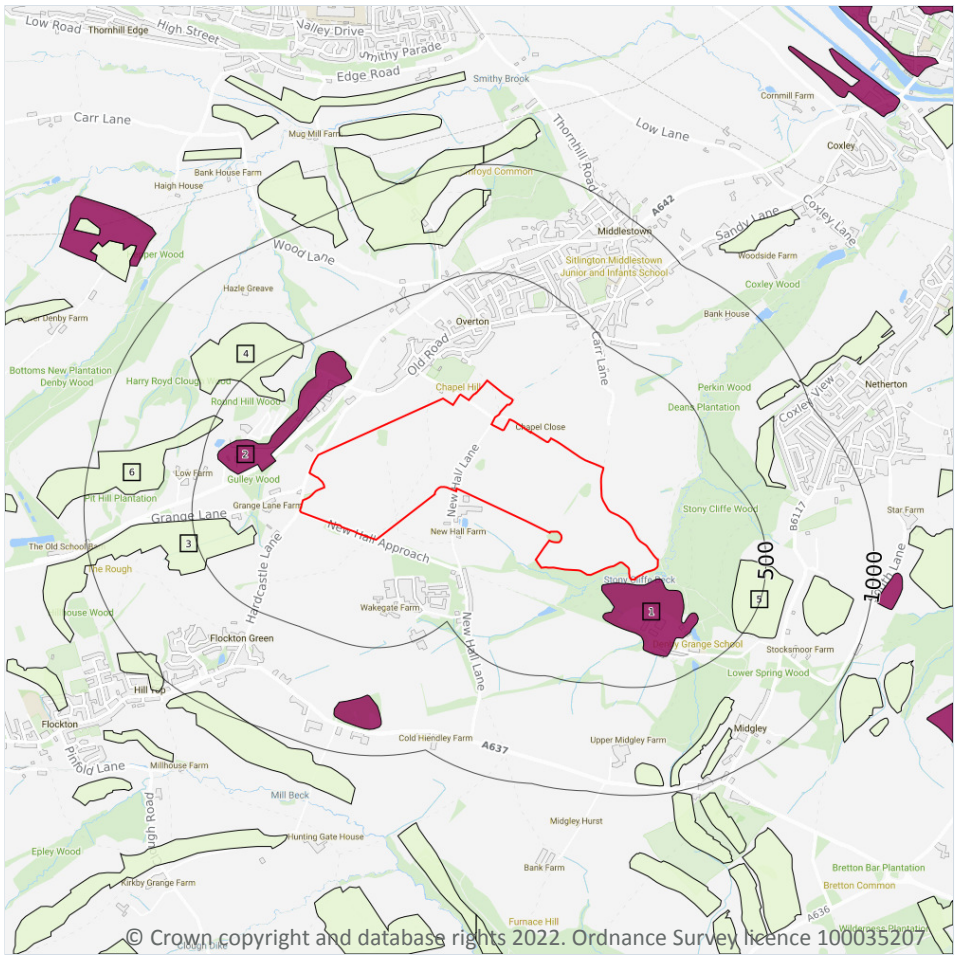
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 113**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW078_wakefield_v4
2	On site	Full	Full	Full	Full	EW077_huddersfield_v4

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



15.2 Artificial and made ground (50k)

Records within 500m **6**

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 114**

ID	Location	LEX Code	Description	Rock description
1	21m S	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	158m NW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	227m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
4	294m NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

ID	Location	LEX Code	Description	Rock description
5	369m E	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
6	463m NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

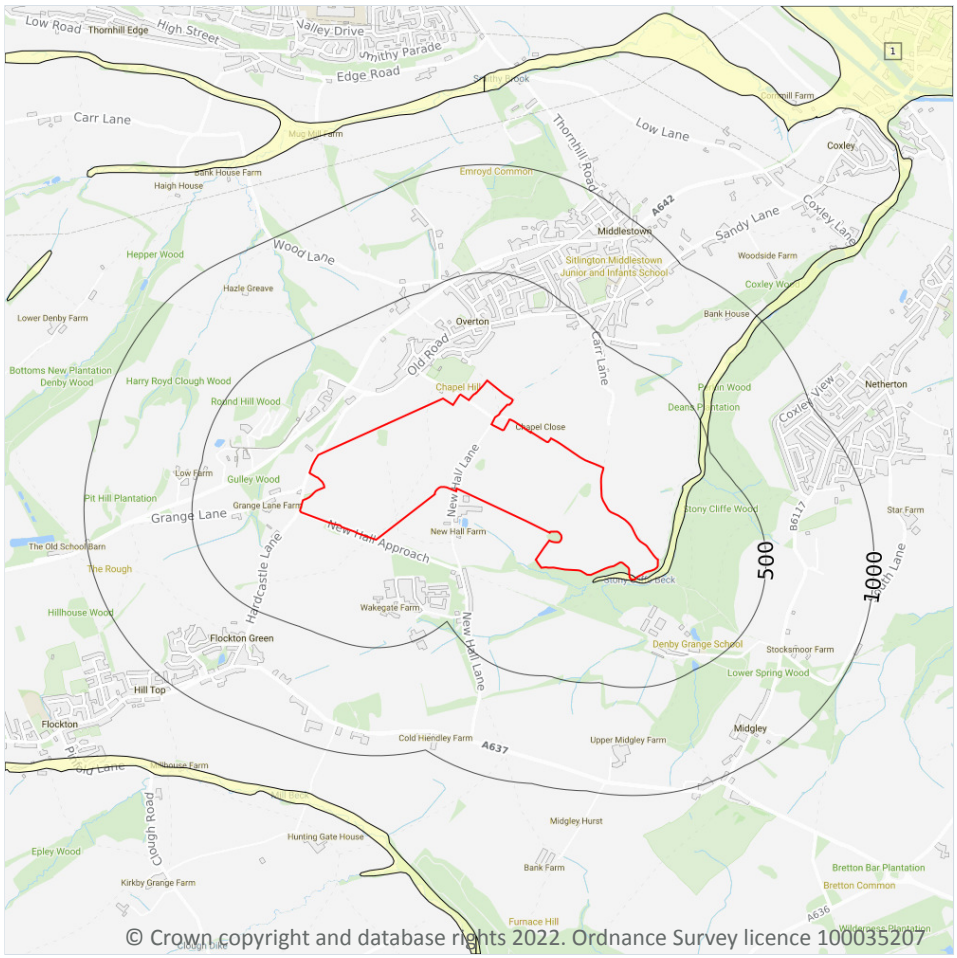
Records within 50m	**1**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
21m SE	Mixed	Very High	Low

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m	1

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 116**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**ALV-XCZSV**	**ALLUVIUM**	**CLAY, SILT, SAND AND GRAVEL**

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Intergranular**	**High**	**Very Low**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

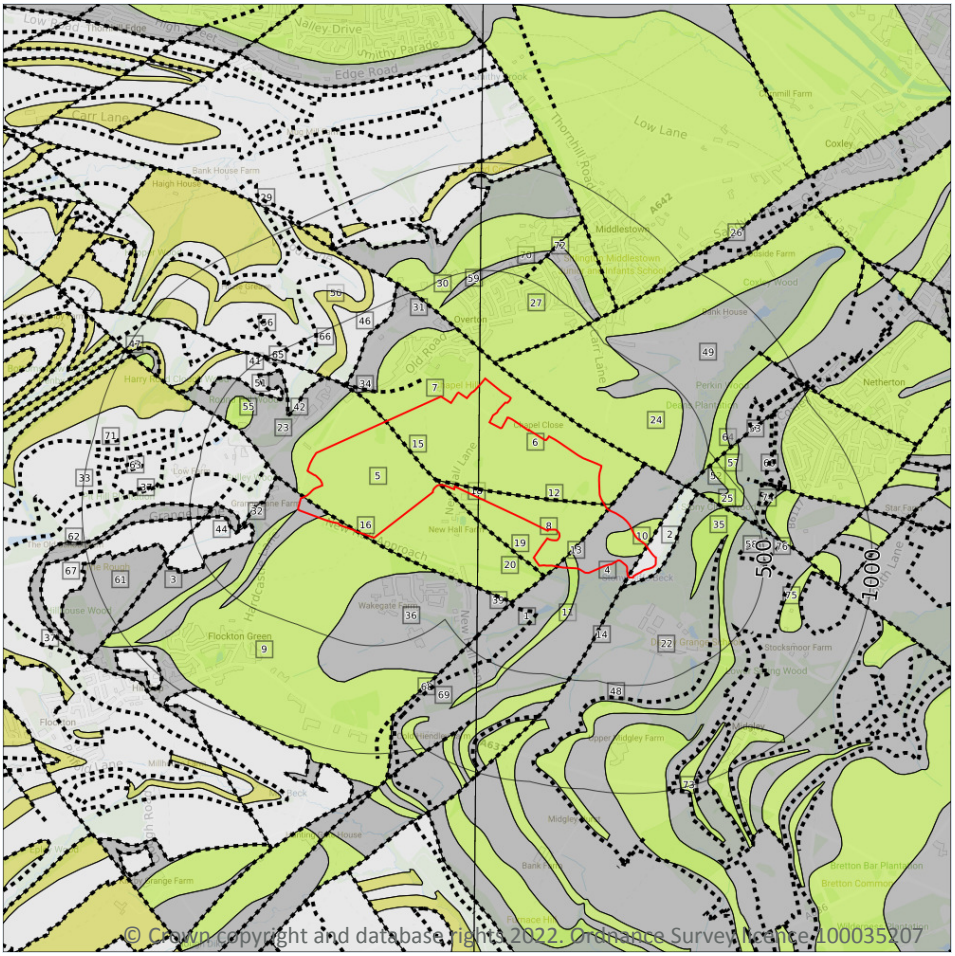
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	40

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 118**

ID	Location	LEX Code	Description	Rock age
1	On site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
3	**On site**	**PMCM-MDSS**	**PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE**	**WESTPHALIAN**
4	**On site**	**PMCM-MDSS**	**PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE**	**WESTPHALIAN**
5	**On site**	**TR-SDST**	**THORNHILL ROCK - SANDSTONE**	**WESTPHALIAN**
6	**On site**	**TR-SDST**	**THORNHILL ROCK - SANDSTONE**	**WESTPHALIAN**
7	**On site**	**TR-SDST**	**THORNHILL ROCK - SANDSTONE**	**WESTPHALIAN**
8	**On site**	**TR-SDST**	**THORNHILL ROCK - SANDSTONE**	**WESTPHALIAN**
9	**On site**	**TR-SDST**	**THORNHILL ROCK - SANDSTONE**	**WESTPHALIAN**
10	**On site**	**TR-SDST**	**THORNHILL ROCK - SANDSTONE**	**WESTPHALIAN**
11	**On site**	**PMCM-SDST**	**PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE**	**WESTPHALIAN**
18	**On site**	**TR-SDST**	**THORNHILL ROCK - SANDSTONE**	**WESTPHALIAN**
20	22m SW	TR-SDST	THORNHILL ROCK - SANDSTONE	WESTPHALIAN
22	26m S	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
23	35m NW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
24	83m NE	TR-SDST	THORNHILL ROCK - SANDSTONE	WESTPHALIAN
27	86m NE	TR-SDST	THORNHILL ROCK - SANDSTONE	WESTPHALIAN
30	138m N	TR-SDST	THORNHILL ROCK - SANDSTONE	WESTPHALIAN
31	141m NW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
33	145m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
34	165m NW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
35	172m E	TR-SDST	THORNHILL ROCK - SANDSTONE	WESTPHALIAN
36	187m S	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
39	211m SW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
41	217m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
44	227m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
46	230m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
49	278m NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
50	292m NW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
52	320m NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
55	333m NW	TR-SDST	THORNHILL ROCK - SANDSTONE	WESTPHALIAN
56	338m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
57	345m NE	TR-SDST	THORNHILL ROCK - SANDSTONE	WESTPHALIAN
59	391m NW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
60	391m NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
61	395m W	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
64	419m NE	TR-SDST	THORNHILL ROCK - SANDSTONE	WESTPHALIAN
67	435m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
69	436m SW	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
70	456m N	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	7

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Moderate**	**Low**
On site	**Fracture**	**High**	**Moderate**
On site	**Fracture**	**Moderate**	**Low**
On site	**Fracture**	**Moderate**	**Low**
On site	**Fracture**	**High**	**Moderate**
On site	**Fracture**	**High**	**Moderate**
9m W	Fracture	High	Moderate

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	36

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

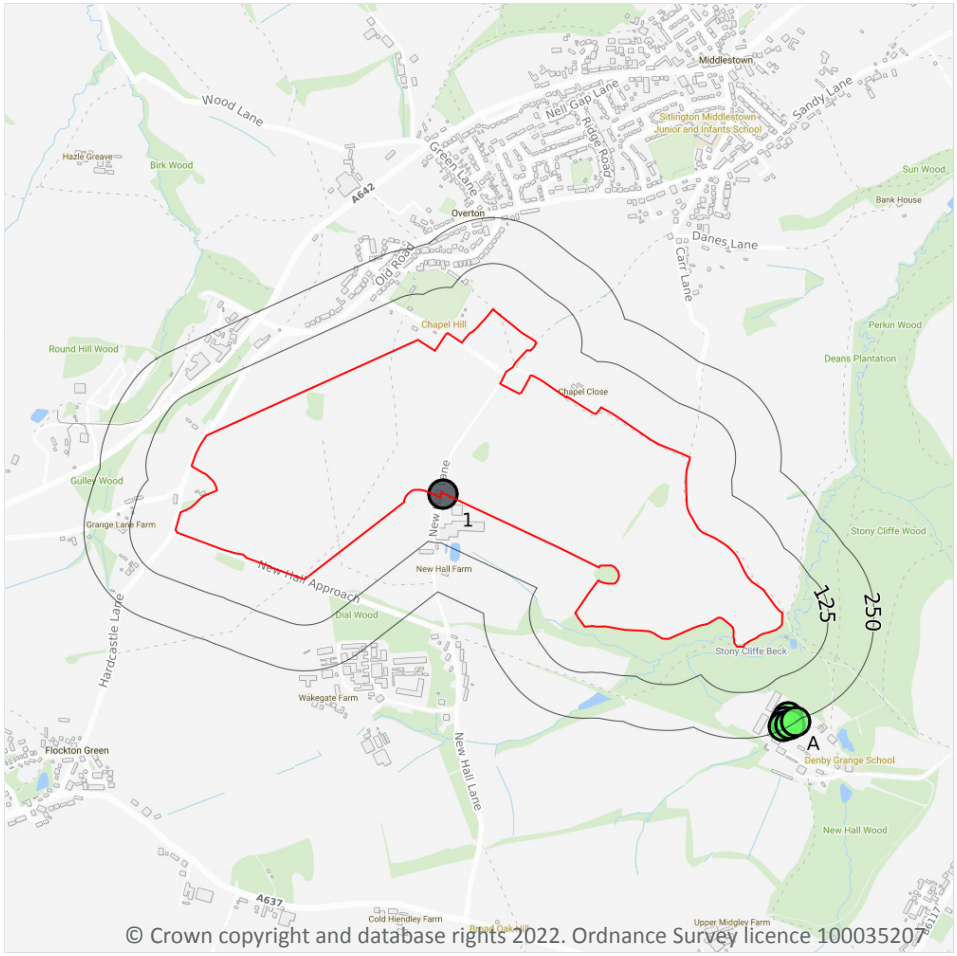
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 118**

ID	Location	Category	Description
12	**On site**	**FAULT**	**Fault, inferred**
13	**On site**	**FAULT**	**Fault, inferred**
14	**On site**	**FAULT**	**Fault, inferred**
15	**On site**	**FAULT**	**Fault, inferred**
16	**On site**	**FAULT**	**Fault, inferred**
17	**On site**	**FAULT**	**Fault, inferred**
19	22m SW	FAULT	Fault, inferred
21	26m S	ROCK	Coal seam, inferred

ID	Location	Category	Description
25	83m NE	FAULT	Fault, inferred
26	86m NE	FAULT	Fault, inferred
28	105m NW	FAULT	Fault, inferred
29	138m N	FAULT	Fault, inferred
32	145m W	ROCK	Coal seam, inferred
37	189m W	ROCK	Ironstone bed, inferred
38	211m SW	FAULT	Fault, inferred
40	214m S	ROCK	Coal seam, inferred
42	217m NW	ROCK	Coal seam, inferred
43	227m SW	ROCK	Coal seam, inferred
45	230m NW	ROCK	Coal seam, inferred
47	267m W	FAULT	Fault, inferred
48	272m E	ROCK	Coal seam, inferred
51	294m NW	ROCK	Coal seam, inferred
53	320m NE	FAULT	Fault, inferred
54	325m W	FAULT	Fault, inferred
58	383m E	ROCK	Coal seam, inferred
62	395m W	ROCK	Coal seam, inferred
63	405m NW	ROCK	Coal seam, inferred
65	419m NW	ROCK	Coal seam, inferred
66	423m NW	ROCK	Coal seam, inferred
68	436m SW	FAULT	Fault, inferred
71	463m NW	ROCK	Coal seam, inferred
72	469m N	FAULT	Fault, inferred
73	469m SE	ROCK	Coal seam, inferred
74	485m E	ROCK	Coal seam, inferred
75	495m E	ROCK	Coal seam, inferred
76	495m E	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



16.1 BGS Boreholes

Records within 250m **6**

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

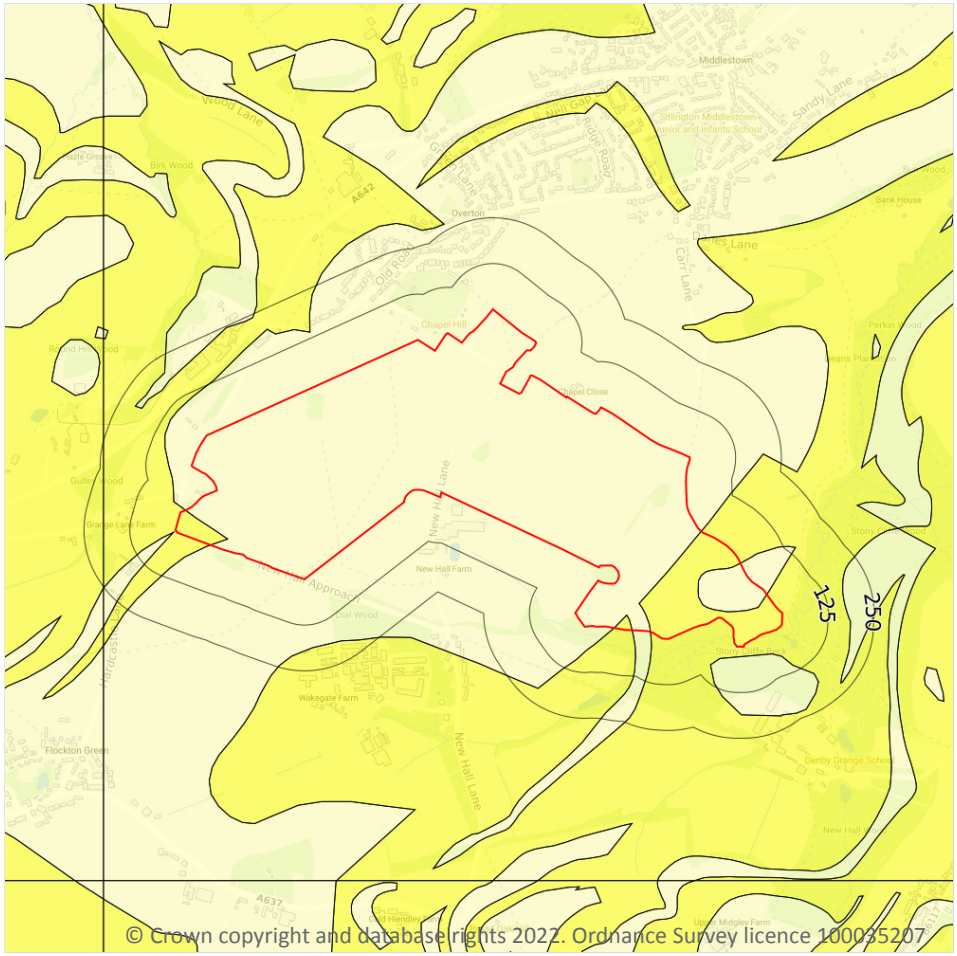
Features are displayed on the Boreholes map on **page 123**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	2m SW	425927 416056	NATIONAL COAL MINING MUSEUM OVERTON 4	-	Y	N/A
A	228m SE	426869 415446	DENBY GRANGE BARNSLEY 9	16.0	N	56621
A	234m SE	426862 415434	DENBY GRANGE BARNSLEY 4	8.0	N	56618

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	243m SE	426856 415421	DENBY GRANGE BARNSLEY 3	14.0	N	56617
A	247m SE	426875 415427	DENBY GRANGE BARNSLEY 5	16.0	N	56619
A	249m SE	426891 415435	DENBY GRANGE BARNSLEY 7	18.2	N	56620

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	4

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

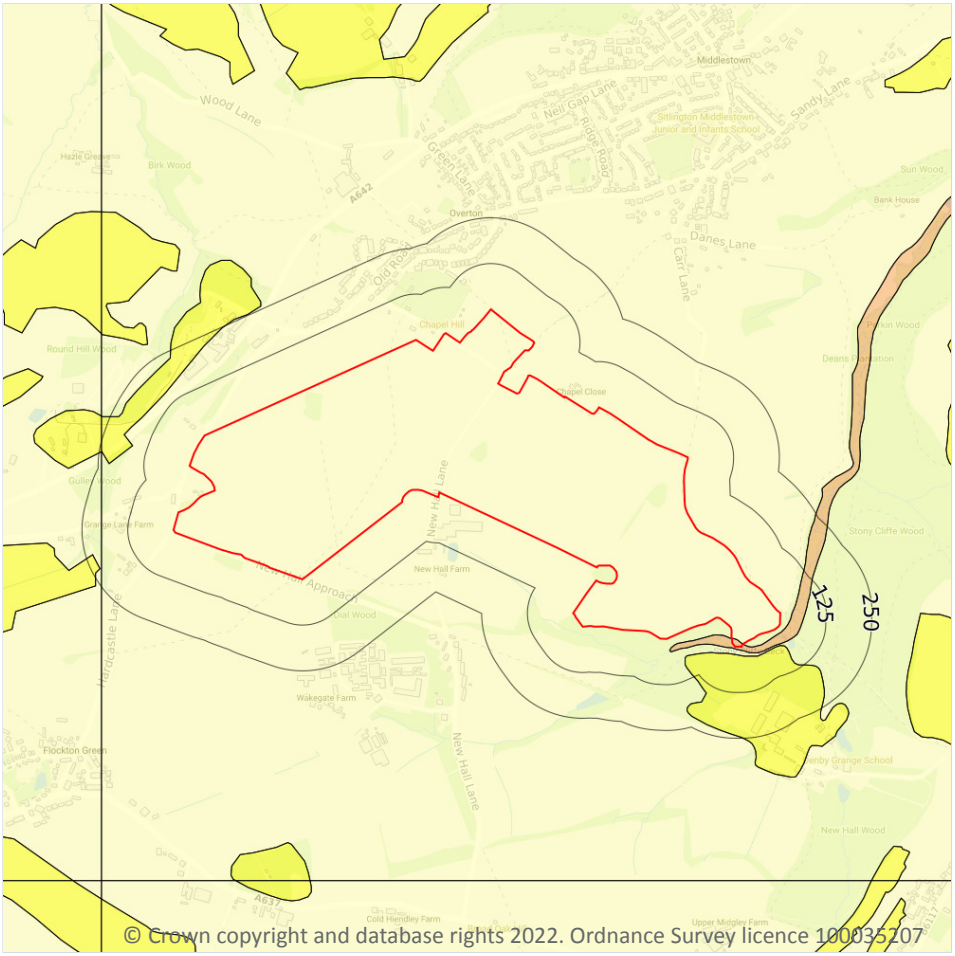
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 125**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**
On site	**Very low**	**Ground conditions predominantly low plasticity.**
9m SW	Negligible	Ground conditions predominantly non-plastic.

Location	Hazard rating	Details
27m S	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	3

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

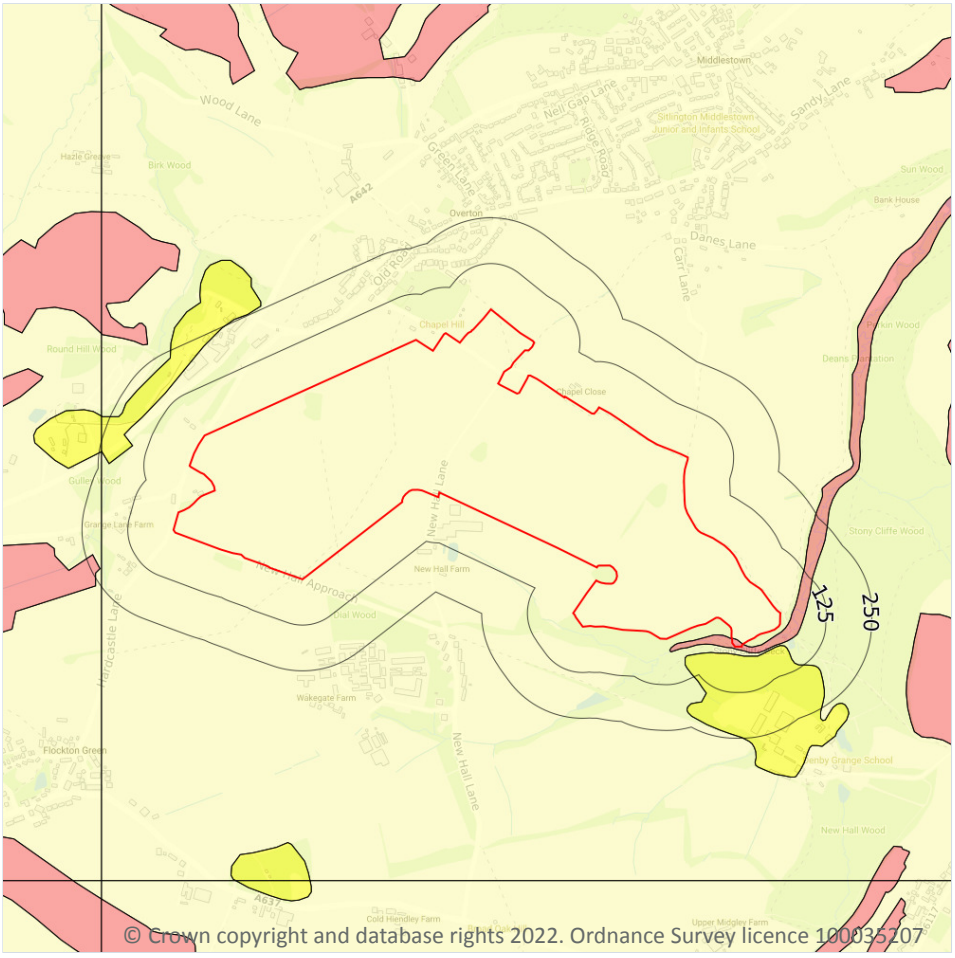
Features are displayed on the Natural ground subsidence - Running sands map on **page 127**

Location	Hazard rating	Details
On site	**Negligible**	**Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.**

Location	Hazard rating	Details
On site	**Low**	**Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.**
21m S	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	3

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

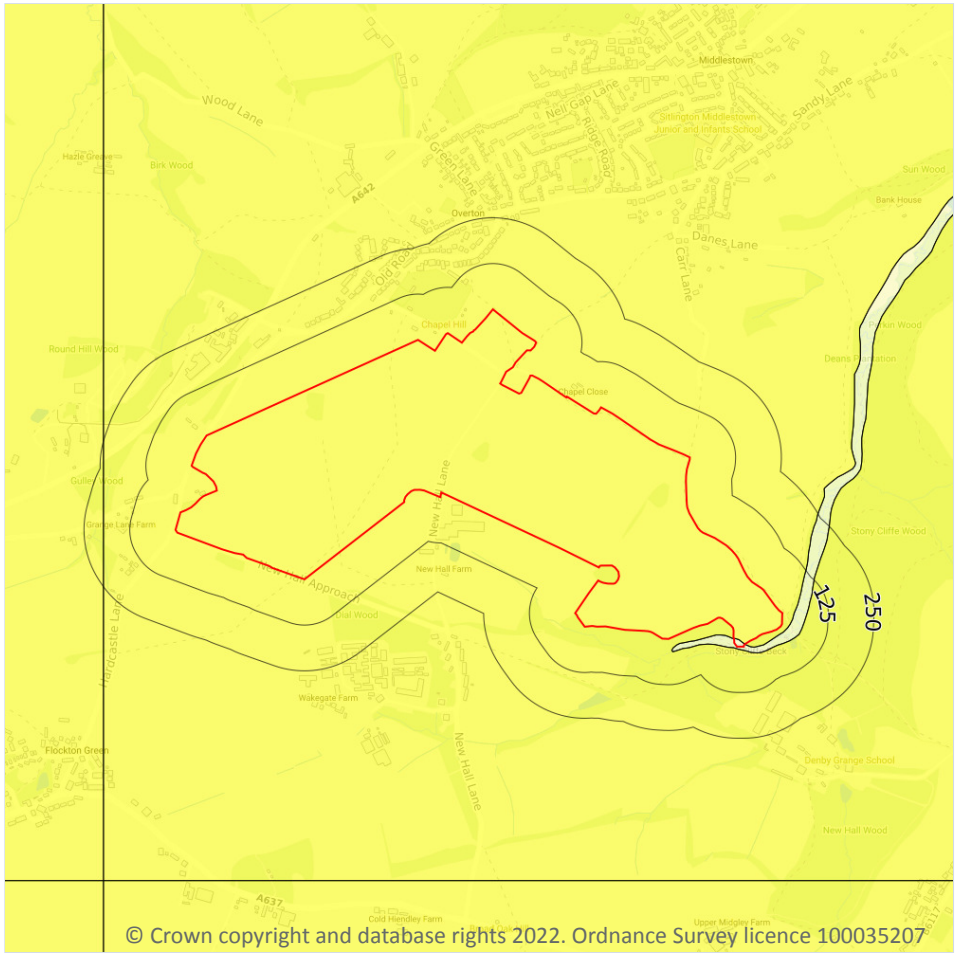
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 129**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

Location	Hazard rating	Details
21m S	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	2

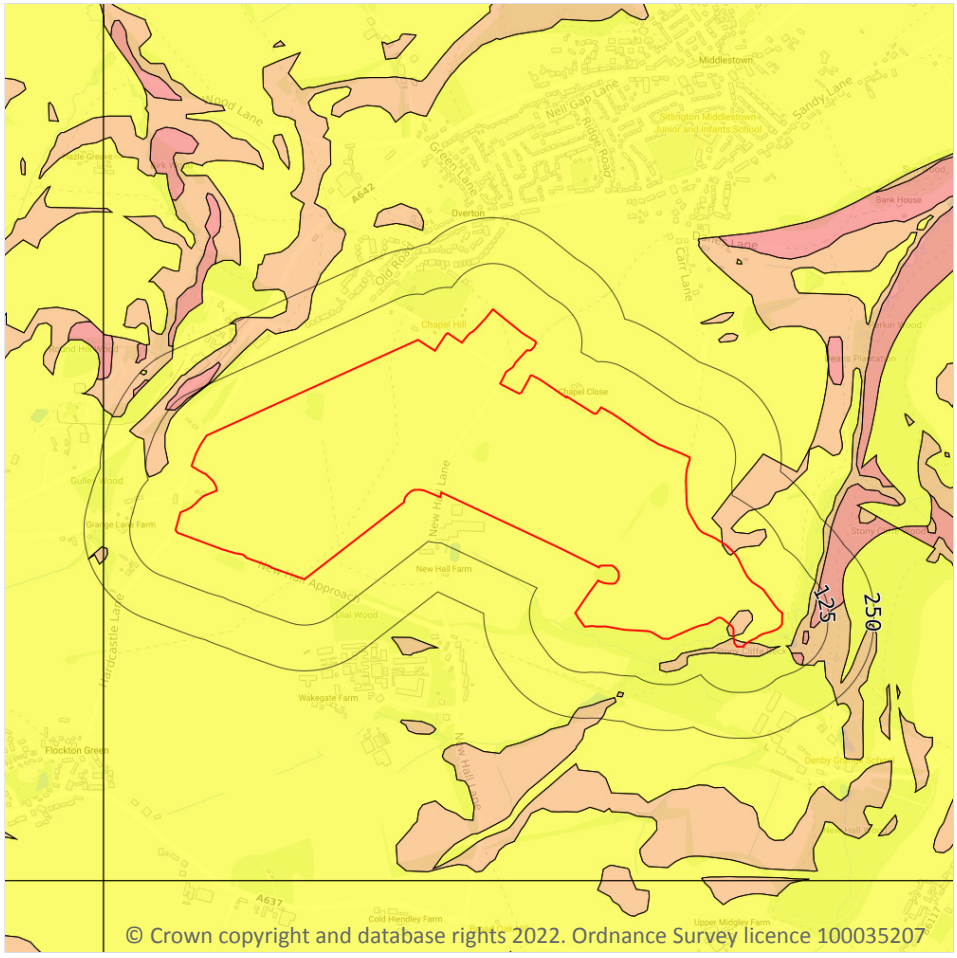
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 131**

Location	Hazard rating	Details
On site	**Negligible**	**Deposits with potential to collapse when loaded and saturated are believed not to be present.**
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	2

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

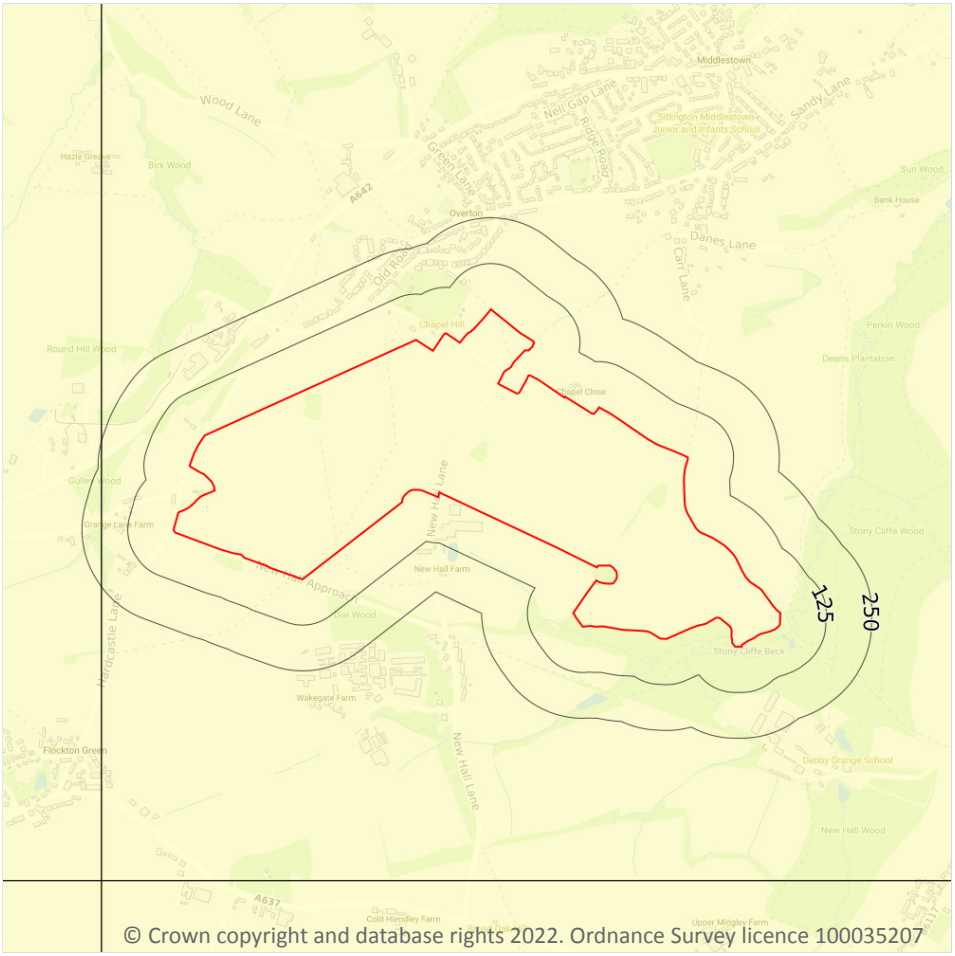
Features are displayed on the Natural ground subsidence - Landslides map on **page 132**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

Location	Hazard rating	Details
On site	**Low**	**Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

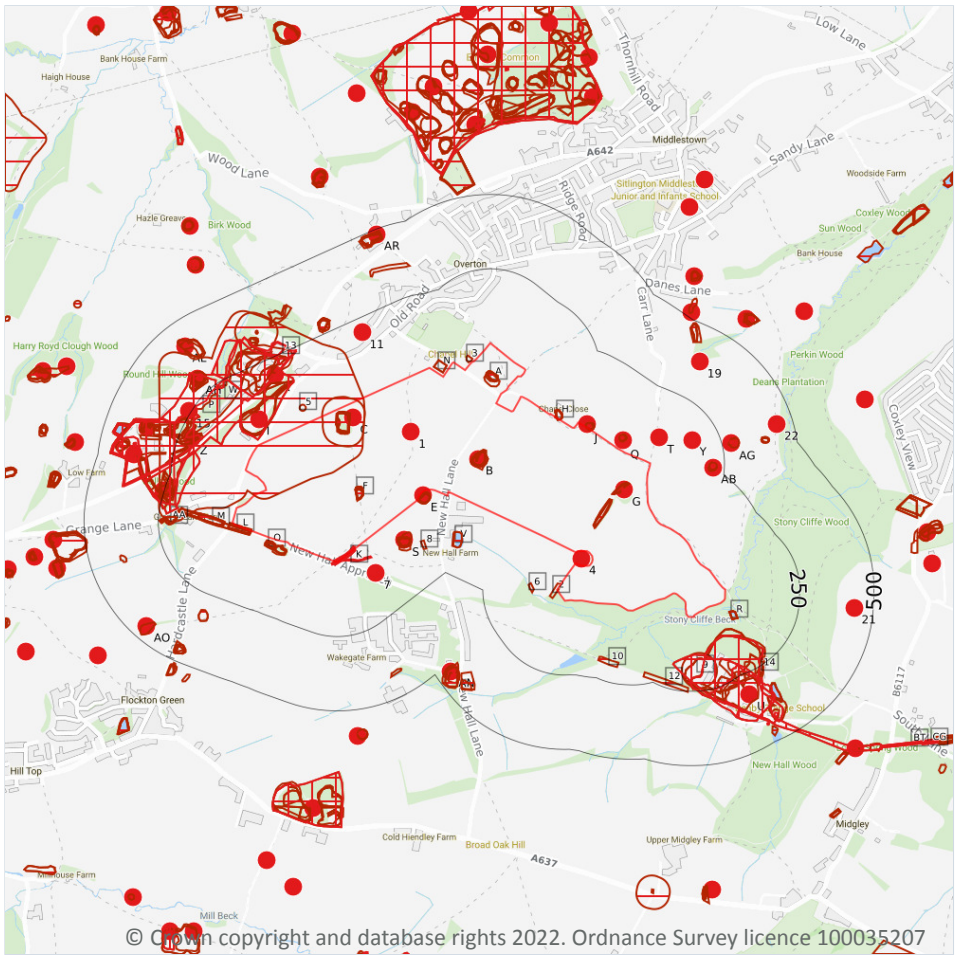
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 134**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



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18.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	33

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining, ground workings and natural cavities map on **page 136**

ID	Location	Details	Description
1	On site	Name: New Hall Pit Address: Overton, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
B	On site	Name: New Hall Pit Address: Overton, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	On site	Name: Hayne Lane Pit Address: Overton, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
G	On site	Name: New Hall Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
E	9m SE	Name: New Hall Pit Address: Overton, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
J	10m NE	Name: Chapel Hill Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
4	22m N	Name: New Hall Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
Q	31m NE	Name: Chapel Hill Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
S	78m SE	Name: New Hall Pit Address: Overton, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
I	80m NW	Name: Cap House Quarry Address: Caphouse, Overton, WAKEFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
T	92m NE	Name: Carr Lane Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
7	107m SE	Name: Old Whimsey Pit Address: Overton, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
Y	161m NE	Name: Carr Lane Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
X	191m NW	Name: Caphouse Colliery Address: Overton, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Special	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Sites which are used for other purposes than extraction, but which are still covered by the Mines and Quarries Acts, e.g. tourist mines.

ID	Location	Details	Description
11	202m NW	Name: Overton Address: Overton, Middlestown, WAKEFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
Z	205m W	Name: Hope Pit Drifts Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AB	213m E	Name: The Carrs Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
Z	253m W	Name: Denby Grange Collieries Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
15	257m NW	Name: Hope Pit Drifts Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
AG	281m E	Name: The Carrs Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
Z	294m NW	Name: Caphouse Colliery Water Treatment Plant Address: Overton, WAKEFIELD, West Yorkshire Commodity: Ochre (Iron Ore) Status: Active	Type: Underground infrastructure, such as Drainage Levels, Soughs or Water Levels, usually worked in barren bedrock and used for drainage to allow the extraction of minerals Status description: Site which is actively extracting mineral products, or in the case of wharfs and rail depots, is actively handing minerals
AH	303m NW	Name: Denby Grange Collieries Pit Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
U	319m SE	Name: Prince of Wales Colliery Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
Z	359m W	Name: Hope Pit Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
Z	374m W	Name: Hope Pit Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
Z	379m W	Name: Hope Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
19	381m NE	Name: Flockton Junction Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AL	414m NW	Name: Denby Grange Collieries Pit Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
21	435m E	Name: Stony Cliff Address: Netherton, HORBURY, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
22	445m E	Name: The Carrs Pit Address: Middlestown, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AN	449m SW	Name: Dial Wood Pit Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AO	451m SW	Name: Flockton Green Pits Address: Flockton, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AR	484m N	Name: Overton Green Pit Address: Overton, WAKEFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	**183**

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 136**

ID	Location	Land Use	Year of mapping	Mapping scale
2	On site	Unspecified Heap	1948	1:10560
A	On site	Unspecified Heap	1938	1:10560
A	On site	Refuse Heap	1905	1:10560
A	On site	Unspecified Heap	1938	1:10560
A	On site	Unspecified Heap	1955	1:10560
A	On site	Unspecified Heap	1966	1:10560
A	On site	Refuse Heap	1892	1:10560
A	On site	Unspecified Heap	1948	1:10560
B	On site	Unspecified Heap	1938	1:10560
B	On site	Refuse Heap	1905	1:10560
B	On site	Unspecified Heap	1938	1:10560
B	On site	Unspecified Heap	1955	1:10560
B	On site	Unspecified Heap	1966	1:10560
B	On site	Refuse Heap	1892	1:10560
B	On site	Unspecified Heaps	1948	1:10560
C	On site	Unspecified Heap	1973	1:10000
C	On site	Unspecified Heap	1938	1:10560
C	On site	Refuse Heap	1905	1:10560
C	On site	Unspecified Heap	1938	1:10560
C	On site	Unspecified Heap	1955	1:10560
C	On site	Unspecified Heap	1966	1:10560
C	On site	Refuse Heap	1892	1:10560
C	On site	Unspecified Disused Quarry	1983	1:10000
C	On site	Unspecified Heap	1948	1:10560
D	On site	Unspecified Heap	1938	1:10560
D	On site	Unspecified Heap	1938	1:10560
D	On site	Unspecified Heap	1955	1:10560
D	On site	Unspecified Ground Workings	1948	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
E	On site	Unspecified Heap	1973	1:10000
E	On site	Refuse Heap	1905	1:10560
E	On site	Unspecified Heap	1955	1:10560
E	On site	Unspecified Heap	1983	1:10000
E	On site	Unspecified Heap	1966	1:10560
E	On site	Unspecified Heap	1948	1:10560
F	On site	Unspecified Heap	1973	1:10000
F	On site	Unspecified Heap	1938	1:10560
F	On site	Unspecified Heap	1905	1:10560
F	On site	Unspecified Heap	1938	1:10560
F	On site	Unspecified Heap	1955	1:10560
F	On site	Unspecified Heap	1983	1:10000
F	On site	Unspecified Heap	1966	1:10560
F	On site	Unspecified Heap	1892	1:10560
F	On site	Unspecified Heap	1948	1:10560
G	On site	Unspecified Pit	1938	1:10560
G	On site	Unspecified Ground Workings	1905	1:10560
G	On site	Unspecified Pit	1938	1:10560
G	On site	Unspecified Pit	1955	1:10560
G	On site	Unspecified Ground Workings	1948	1:10560
H	On site	Unspecified Heap	1938	1:10560
H	On site	Unspecified Heap	1905	1:10560
H	On site	Unspecified Heap	1938	1:10560
H	On site	Unspecified Heap	1955	1:10560
H	On site	Unspecified Heap	1948	1:10560
I	On site	Collieries	1955	1:10560
J	On site	Unspecified Heap	1938	1:10560
J	On site	Refuse Heap	1905	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
J	**On site**	**Unspecified Heap**	**1938**	**1:10560**
J	**On site**	**Unspecified Heap**	**1955**	**1:10560**
J	**On site**	**Unspecified Heap**	**1966**	**1:10560**
L	**On site**	**Cuttings**	**1955**	**1:10560**
J	1m NE	Unspecified Heap	1948	1:10560
E	2m SE	Unspecified Heap	1938	1:10560
E	2m SE	Unspecified Heap	1938	1:10560
L	2m S	Cuttings	1905	1:10560
M	5m S	Cuttings	1938	1:10560
M	5m S	Cuttings	1948	1:10560
3	5m NW	Refuse Heap	1905	1:10560
N	9m NW	Covered Reservoir	1992	1:10000
N	9m NW	Covered Reservoir	1983	1:10000
O	10m S	Reservoir	1955	1:10560
O	14m S	Refuse Heap	1905	1:10560
O	15m S	Reservoir	1938	1:10560
O	15m S	Reservoir	1948	1:10560
O	17m S	Refuse Heap	1948	1:10560
O	18m S	Refuse Heap	1892	1:10560
P	18m NW	Collieries	1892	1:10560
O	19m S	Reservoir	1892	1:10560
O	19m S	Sand Pit	1938	1:10560
Q	26m NE	Refuse Heap	1905	1:10560
M	26m W	Cuttings	1955	1:10560
Q	27m NE	Unspecified Heap	1938	1:10560
Q	27m NE	Unspecified Heap	1938	1:10560
I	29m NW	Unspecified Quarry	1892	1:10560
M	29m W	Cuttings	1905	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
Q	30m NE	Unspecified Heap	1955	1:10560
Q	30m NE	Unspecified Heap	1966	1:10560
Q	32m NE	Unspecified Heap	1948	1:10560
I	32m NW	Unspecified Disused Quarry	1938	1:10560
M	32m W	Cuttings	1973	1:10000
M	32m W	Cuttings	1966	1:10560
I	34m NW	Unspecified Quarry	1905	1:10560
I	34m NW	Unspecified Disused Quarry	1948	1:10560
I	38m NW	Unspecified Disused Quarry	1973	1:10000
I	38m NW	Unspecified Disused Quarry	1955	1:10560
I	38m NW	Unspecified Disused Quarry	1966	1:10560
R	41m SE	Pond	1973	1:10000
R	41m SE	Pond	1992	1:10000
R	41m SE	Pond	1983	1:10000
R	41m SE	Pond	1966	1:10560
5	43m NW	Unspecified Disused Quarry	1992	1:10000
S	61m SE	Unspecified Heap	1973	1:10000
S	61m SE	Unspecified Heap	1992	1:10000
S	61m SE	Unspecified Heap	1955	1:10560
S	61m SE	Unspecified Heap	1983	1:10000
S	61m SE	Unspecified Heap	1966	1:10560
S	62m SE	Refuse Heap	1905	1:10560
S	63m SE	Unspecified Heap	1938	1:10560
S	63m SE	Unspecified Heap	1938	1:10560
S	65m SE	Unspecified Heap	1948	1:10560
S	69m SE	Refuse Heap	1892	1:10560
6	78m W	Pond	1992	1:10000
U	89m S	Refuse Heap	1973	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
U	89m S	Refuse Heap	1983	1:10000
U	89m S	Refuse Heap	1966	1:10560
U	106m S	Refuse Heap	1948	1:10560
U	106m S	Colliery	1948	1:10560
V	106m SW	Pond	1948	1:10560
V	107m SW	Pond	1955	1:10560
U	108m SE	Refuse Heap	1955	1:10560
8	117m SE	Unspecified Ground Workings	1892	1:10560
9	122m S	Disused Workings	1992	1:10000
U	127m S	Colliery	1992	1:10000
X	156m NW	Unspecified Pit	1955	1:10560
Z	158m W	Collieries	1905	1:10560
X	161m NW	Unspecified Pit	1938	1:10560
X	161m NW	Unspecified Pit	1938	1:10560
W	161m NW	Refuse Heap	1983	1:10000
X	166m NW	Unspecified Pit	1905	1:10560
X	166m NW	Unspecified Pit	1948	1:10560
X	173m NW	Refuse Heap	1892	1:10560
Z	173m NW	Collieries	1938	1:10560
Z	173m NW	Collieries	1938	1:10560
Z	176m NW	Refuse Heap	1905	1:10560
Z	176m NW	Collieries	1905	1:10560
10	177m S	Cuttings	1891	1:10560
Z	183m NW	Unspecified Heap	1955	1:10560
Z	183m NW	Refuse Heap	1892	1:10560
AA	188m W	Unspecified Ground Workings	1938	1:10560
AA	188m W	Unspecified Ground Workings	1938	1:10560
X	188m NW	Refuse Heap	1973	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
X	188m NW	Refuse Heap	1966	1:10560
AA	190m W	Unspecified Ground Workings	1948	1:10560
Z	195m W	Unspecified Heap	1948	1:10560
AB	198m E	Unspecified Heap	1938	1:10560
AB	198m E	Unspecified Heap	1938	1:10560
AB	198m E	Unspecified Heap	1955	1:10560
AB	198m E	Unspecified Heap	1966	1:10560
AB	200m E	Unspecified Heap	1905	1:10560
AB	200m E	Unspecified Heap	1948	1:10560
AC	203m W	Cuttings	1948	1:10560
AC	206m W	Unspecified Quarry	1955	1:10560
AC	211m W	Unspecified Pit	1905	1:10560
12	211m S	Cuttings	1891	1:10560
AD	213m S	Colliery	1891	1:10560
Z	214m W	Refuse Heap	1948	1:10560
Z	217m W	Refuse Heap	1905	1:10560
Z	218m W	Unspecified Heap	1982	1:10000
Z	218m W	Unspecified Heap	1966	1:10560
Z	219m W	Refuse Heap	1892	1:10560
Z	223m W	Unspecified Pit	1951	1:10560
Z	225m W	Refuse Heap	1951	1:10560
Z	226m W	Refuse Heap	1938	1:10560
Z	226m W	Refuse Heap	1938	1:10560
Z	227m W	Cuttings	1938	1:10560
Z	228m W	Cuttings	1905	1:10560
Z	228m W	Cuttings	1948	1:10560
Z	230m W	Filter Tanks	1951	1:10560
U	233m SE	Refuse Heap	1891	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
Z	234m NW	Unspecified Heap	1938	1:10560
Z	234m NW	Unspecified Heap	1938	1:10560
Z	234m W	Filter Tanks	1948	1:10560
Z	234m W	Filter Tanks	1938	1:10560
Z	234m W	Filter Tanks	1938	1:10560
14	237m SE	Sewage Works	1992	1:10000
Z	237m NW	Unspecified Heap	1973	1:10000
Z	237m NW	Unspecified Heap	1983	1:10000
Z	237m NW	Unspecified Heap	1966	1:10560
Z	241m W	Unspecified Ground Workings	1905	1:10560
Z	242m W	Filter Tanks	1951	1:10560
AC	243m W	Unspecified Pit	1951	1:10560
Z	245m W	Filter Tanks	1948	1:10560
Z	246m W	Filter Tanks	1938	1:10560
Z	246m W	Filter Tanks	1938	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m **105**

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining, ground workings and natural cavities map on **page 136**

ID	Location	Land Use	Year of mapping	Mapping scale
G	**On site**	**Unspecified Old Shaft**	**1951**	**1:10560**
G	**On site**	**Unspecified Disused Shaft**	**1966**	**1:10560**
G	**On site**	**Unspecified Old Shaft**	**1948**	**1:10560**
K	**On site**	**Tunnel**	**1905**	**1:10560**
K	**On site**	**Tunnel**	**1966**	**1:10560**

ID	Location	Land Use	Year of mapping	Mapping scale
K	**On site**	**Tunnel**	**1892**	**1:10560**
K	**On site**	**Tunnel**	**1948**	**1:10560**
K	**On site**	**Tunnel**	**1973**	**1:10000**
J	6m NE	Unspecified Old Shafts	1905	1:10560
P	18m NW	Collieries	1892	1:10560
Q	35m NE	Unspecified Old Shafts	1905	1:10560
T	81m NE	Unspecified Old Shafts	1905	1:10560
T	81m NE	Unspecified Old Shafts	1948	1:10560
S	82m SE	Unspecified Old Shaft	1905	1:10560
U	106m S	Colliery	1930	1:10560
U	127m S	Colliery	1992	1:10000
W	141m NW	Unspecified Mine	1983	1:10000
Y	156m NE	Unspecified Disused Shafts	1966	1:10560
Y	156m NE	Unspecified Disused Shaft	1973	1:10000
X	157m NW	Unspecified Mine	1966	1:10560
X	157m NW	Unspecified Mine	1973	1:10000
Z	158m W	Collieries	1905	1:10560
Y	161m NE	Unspecified Old Shafts	1905	1:10560
Y	161m NE	Unspecified Old Shafts	1948	1:10560
Y	161m NE	Unspecified Old Shafts	1951	1:10560
Z	176m NW	Collieries	1905	1:10560
AB	206m E	Unspecified Disused Shafts	1966	1:10560
AB	209m E	Unspecified Old Shaft	1951	1:10560
AB	210m E	Unspecified Old Shafts	1905	1:10560
AB	210m E	Unspecified Old Shaft	1948	1:10560
13	212m NW	Unspecified Mine	1992	1:10000
AD	213m S	Colliery	1891	1:10560
Z	242m W	Unspecified Mine	1966	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
Z	251m W	Unspecified Old Shaft	1905	1:10560
AG	279m E	Unspecified Old Shafts	1905	1:10560
AG	279m E	Unspecified Old Shaft	1948	1:10560
AG	279m E	Unspecified Old Shaft	1951	1:10560
AG	286m E	Unspecified Disused Shafts	1966	1:10560
Z	344m W	Unspecified Shafts	1905	1:10560
16	347m SE	Unspecified Mine	1992	1:10000
Z	350m W	Unspecified Shaft	1951	1:10560
Z	353m W	Unspecified Shaft	1948	1:10560
Z	358m W	Unspecified Mine	1993	1:10000
Z	358m W	Unspecified Mine	1982	1:10000
Z	378m W	Unspecified Old Shaft	1951	1:10560
Z	383m W	Unspecified Shafts	1905	1:10560
Z	383m W	Unspecified Old Shaft	1948	1:10560
Z	385m W	Unspecified Shafts	1905	1:10560
AD	411m SE	Unspecified Shaft	1930	1:10560
AL	412m NW	Unspecified Disused Shaft	1992	1:10000
AL	412m NW	Unspecified Disused Shaft	1983	1:10000
AL	412m NW	Unspecified Disused Shaft	1966	1:10560
AL	412m NW	Unspecified Disused Shaft	1973	1:10000
AL	414m NW	Unspecified Old Shaft	1905	1:10560
AD	433m S	Air Shaft	1951	1:10560
AN	436m SW	Unspecified Old Shaft	1951	1:10560
AN	441m SW	Unspecified Old Shaft	1930	1:10560
AW	578m S	Unspecified Old Shaft	1951	1:10560
AW	578m S	Unspecified Disused Shaft	1966	1:10560
AW	578m S	Unspecified Disused Shaft	1973	1:10000
AW	584m S	Unspecified Old Shaft	1930	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
AZ	589m N	Colliery	1892	1:10560
AZ	594m N	Disused Colliery	1905	1:10560
AS	601m W	Unspecified Old Shaft	1905	1:10560
BE	628m NW	Unspecified Old Shaft	1948	1:10560
BE	638m NW	Unspecified Old Shaft	1951	1:10560
BE	639m NW	Unspecified Old Shaft	1905	1:10560
BE	639m NW	Unspecified Disused Shaft	1992	1:10000
BE	639m NW	Unspecified Disused Shaft	1983	1:10000
BE	639m NW	Unspecified Disused Shaft	1966	1:10560
BE	639m NW	Unspecified Disused Shaft	1973	1:10000
BG	665m SE	Unspecified Old Shaft	1930	1:10560
BG	666m SE	Unspecified Old Shaft	1951	1:10560
BR	706m S	Colliery	1891	1:10560
BT	720m SE	Tunnel	1951	1:10560
BT	722m SE	Tunnel	1930	1:10560
BT	722m SE	Tunnel	1891	1:10560
BH	723m N	Unspecified Disused Shafts	1966	1:10560
BH	723m N	Unspecified Disused Shafts	1973	1:10000
BH	725m N	Unspecified Old Shafts	1948	1:10560
BH	726m N	Unspecified Old Shafts	1951	1:10560
BH	744m N	Unspecified Disused Shafts	1966	1:10560
BH	744m N	Unspecified Disused Shafts	1973	1:10000
BH	748m N	Unspecified Old Shafts	1948	1:10560
CA	766m NW	Unspecified Old Shaft	1905	1:10560
CA	766m NW	Unspecified Old Shaft	1948	1:10560
CA	766m NW	Unspecified Disused Shaft	1992	1:10000
CA	766m NW	Unspecified Disused Shaft	1983	1:10000
CA	766m NW	Unspecified Disused Shaft	1966	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
CA	766m NW	Unspecified Disused Shaft	1973	1:10000
CA	770m NW	Unspecified Old Shaft	1951	1:10560
BO	813m N	Unspecified Old Shaft	1905	1:10560
BO	813m N	Unspecified Old Shaft	1948	1:10560
BR	815m S	Unspecified Old Shaft	1930	1:10560
BO	816m N	Unspecified Old Shaft	1951	1:10560
CG	821m SE	Tunnel	1904	1:10560
CG	821m SE	Tunnel	1948	1:10560
BS	863m N	Unspecified Old Shaft	1905	1:10560
BS	863m N	Unspecified Old Shaft	1948	1:10560
BS	868m N	Unspecified Old Shaft	1951	1:10560
AZ	918m N	Unspecified Old Shaft	1905	1:10560
AZ	918m N	Unspecified Old Shaft	1948	1:10560
AZ	924m N	Unspecified Old Shaft	1951	1:10560
-	980m SE	Colliery	1891	1:10560
-	983m SE	Colliery	1904	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	**0**

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	**0**

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites

and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	1

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

Features are displayed on the Mining, ground workings and natural cavities map on **page 136**

ID	Location	Mine Address	Mineral	Data source	Publisher
X	252m NW	Huddersfield, West Yorkshire	Unknown	-	-

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	1

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	**The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.**

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

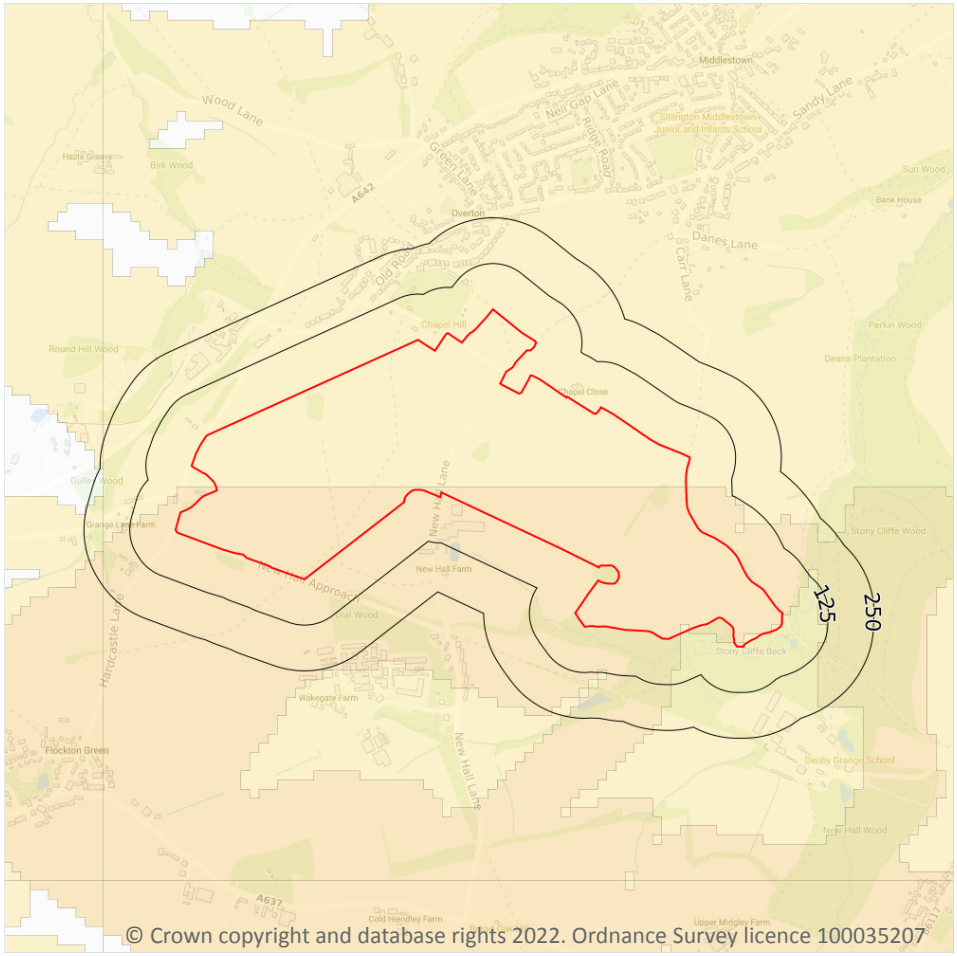
18.13 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Radon



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Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site	2

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 157**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 1% and 3%**	**None**
On site	**Between 3% and 5%**	**Basic**

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	46

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**120 - 180 mg/kg**	**30 - 45 mg/kg**
4m N	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
5m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
6m SE	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
8m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
8m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
9m W	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
22m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
22m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
22m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
26m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
28m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
35m W	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

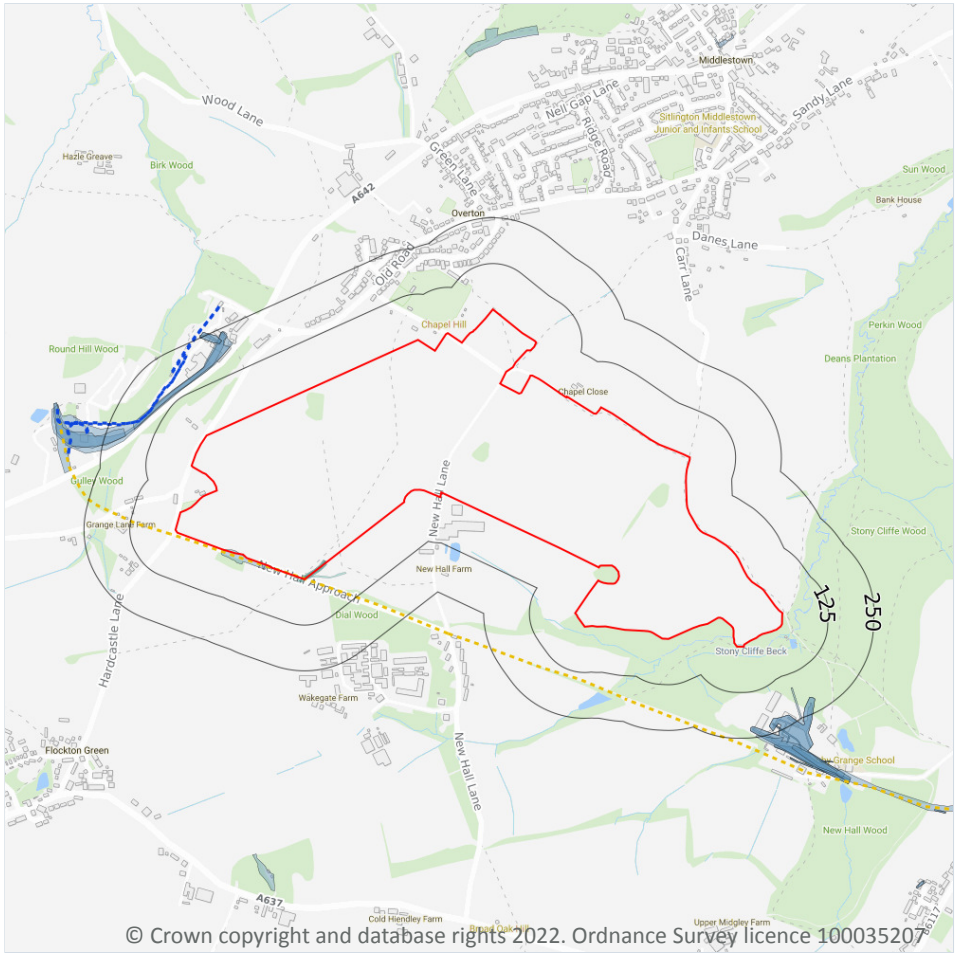
20.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



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21.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	21

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on **page 163**

Location	Land Use	Year of mapping	Mapping scale
On site	**Tunnel**	**1960**	**2500**
On site	**Tunnel**	**1905**	**10560**
On site	**Tunnel**	**1973**	**10000**
On site	**Tunnel**	**1966**	**10560**
On site	**Tunnel**	**1948**	**10560**
On site	**Tunnel**	**1892**	**10560**
On site	**Tunnel**	**1938**	**10560**
On site	**Mineral Railway Sidings**	**1938**	**10560**
140m NW	Mineral Railway Sidings	1892	10560
142m NW	Mineral Railway Sidings	1938	10560
144m NW	Mineral Railway Sidings	1948	10560
163m S	Railway Sidings	1960	2500
197m W	Railway Sidings	1905	10560
205m SE	Railway Sidings	1966	10560
205m SE	Railway Sidings	1973	10000
214m NW	Tramway Sidings	1960	2500
214m NW	Railway Sidings	1966	10560

Location	Land Use	Year of mapping	Mapping scale
214m NW	Railway Sidings	1973	10000
224m S	Railway Sidings	1960	2500
224m S	Mineral Railway Sidings	1913	2500
244m S	Tramway Sidings	1948	10560

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	4

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

Features are displayed on the Railway infrastructure and projects map on **page 163**

Location	Description
On site	**Dismantled**
18m SW	Abandoned
141m S	Dismantled
188m S	Abandoned

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	4

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

Features are displayed on the Railway infrastructure and projects map on **page 163**

Location	Name	Type
165m NW	Not given	Narrow Gauge
166m NW	National Coal Mining Museum	Preserved
195m NW	Not given	Narrow Gauge
198m NW	Not given	Preserved

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference.

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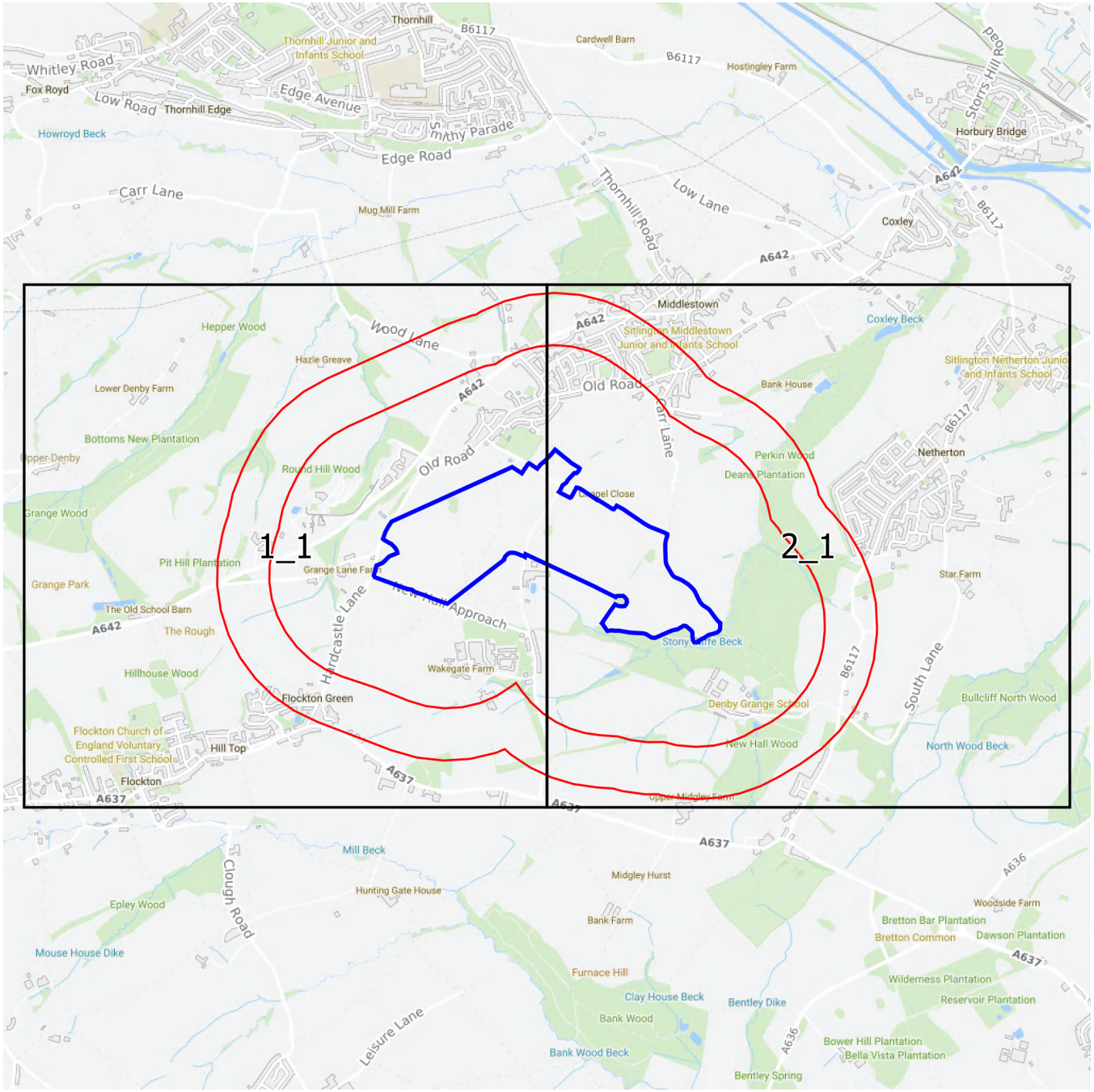

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Small Scale Grid Index

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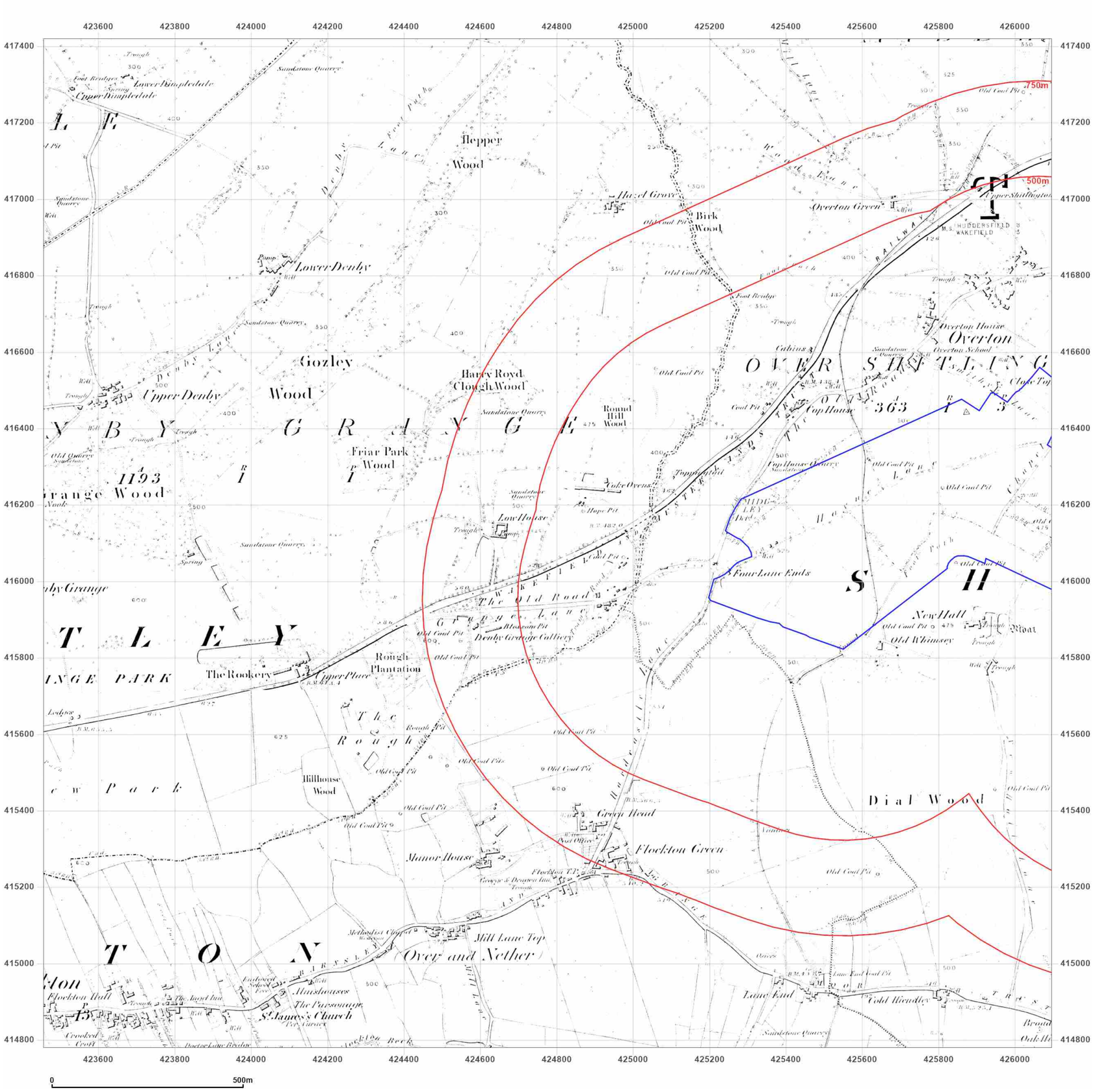
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750m
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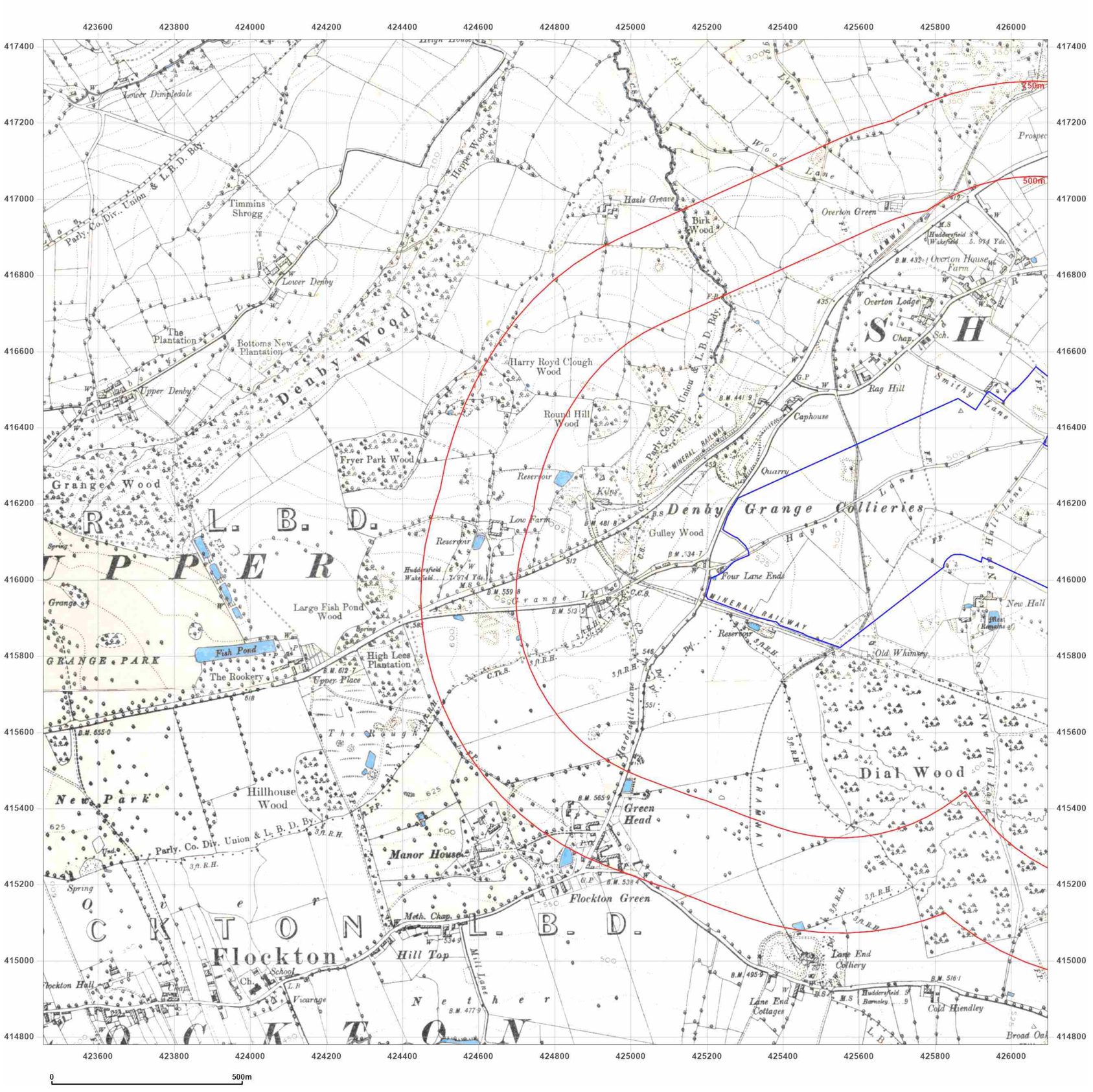
Hepper Wood
Lower Denby
Upper Denby
Gozley Wood
Harry Royd
Clough Wood
Round Hill Wood
Friar Park Wood
Birk Wood
Overton Green
Overton
Overton House
Overton School
Cop House
Cop House Quarry
Four Lane Ends
New Hall
Old Whimsey
Dial Wood
Rough Plantation
The Rough
Hillhouse Wood
Green Head
Flockton Green
Manor House
Mill Lane Top
Over and Nether
Lane End
Old Headley
Lowhouse
Hazel Grove
Toll Gate
Toll Bar
Methodist Chapel
Marshouses
The Parsonage
St James's Church
Flockton Hall
The Angel Inn
The Old Road
Denby Grange Colliery
Blossom Pit
Rough Pit
Hope Pit
Cake Ovens
Sandstone Quarry
Old Coal Pit
Trough
Pump
Well
Spring
Footbridge
Footpath
Lodges
Ruins
Nook
Croft
Beck
Lane
Road
Park
Grange Park
Denby Grange
Flockton
Kirkheaton
Huddersfield
Wakefield
M.S.
Railway
Tunnel
Toll House
Post Office
Telegraph
Vicarage
Schools
Cottages
Farm
Inn
Chapel
Church
Pits
Quarries
Troughs
Springs
Wells
Footbridges
Footpaths
Boundary Stone
Milestone
Milepost
Trig Point
Fingerpost
Pinfold
Moat
Ruins
Lodges



Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: County Series

Map date: **1891-1892**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1892
Revised 1892
Edition N/A
~~Copyright N/A~~
Levelled N/A

Surveyed 1891
Revised 1891
Edition N/A
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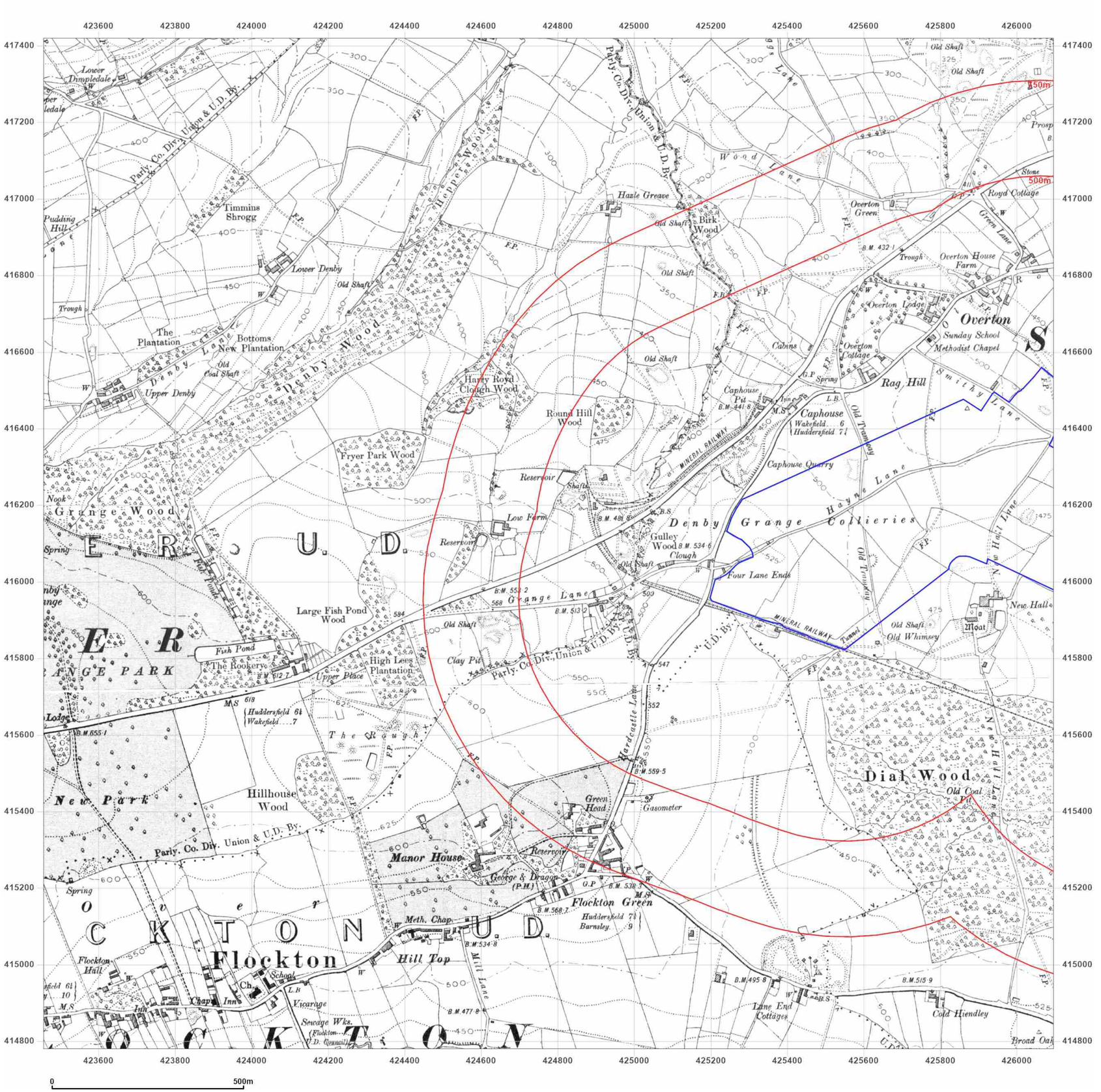

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: County Series

Map date: **1904-1905**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1892
Revised 1905
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
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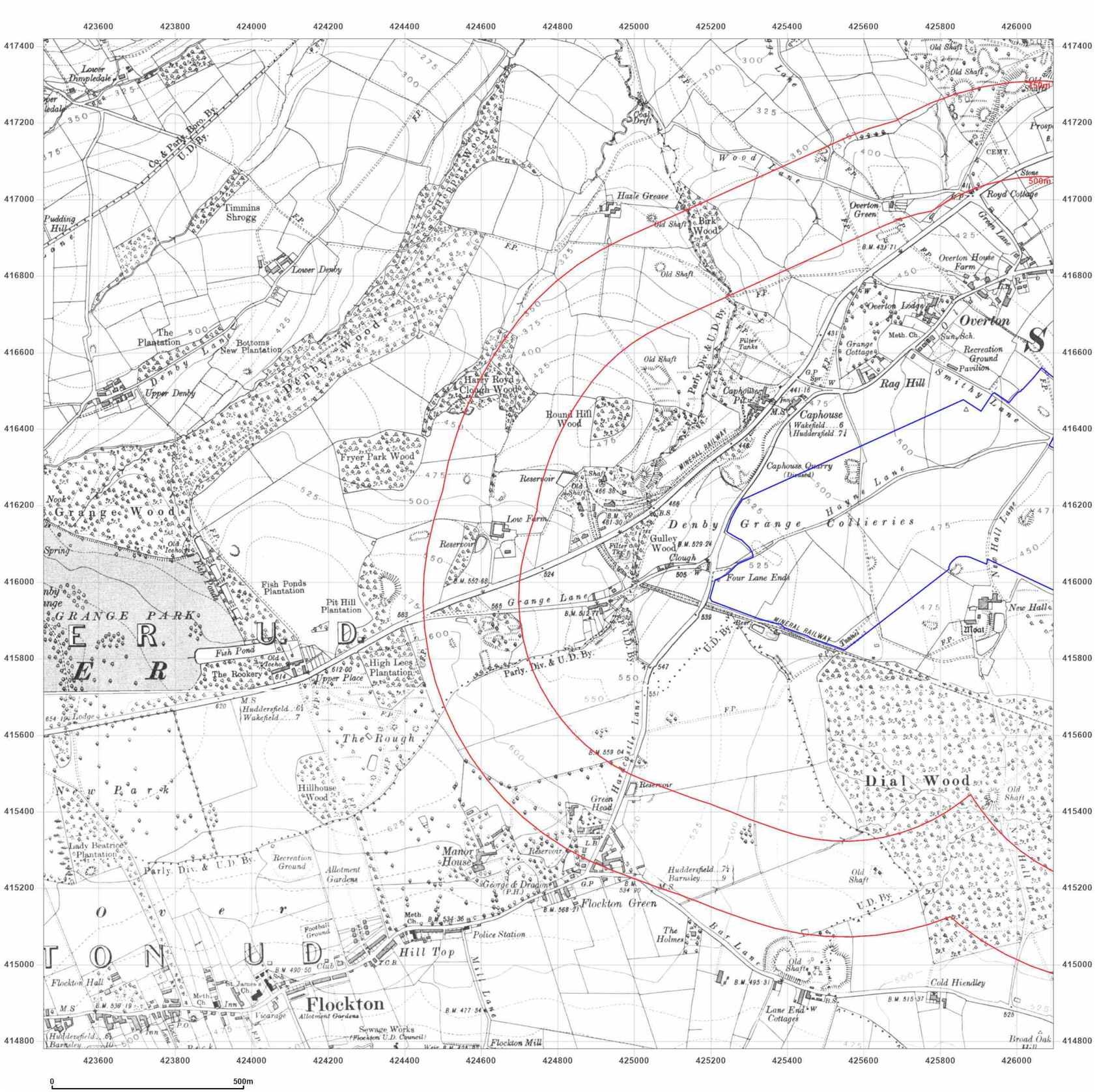

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: County Series

Map date: **1930-1931**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1851
Revised 1931
Edition N/A
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Edition N/A
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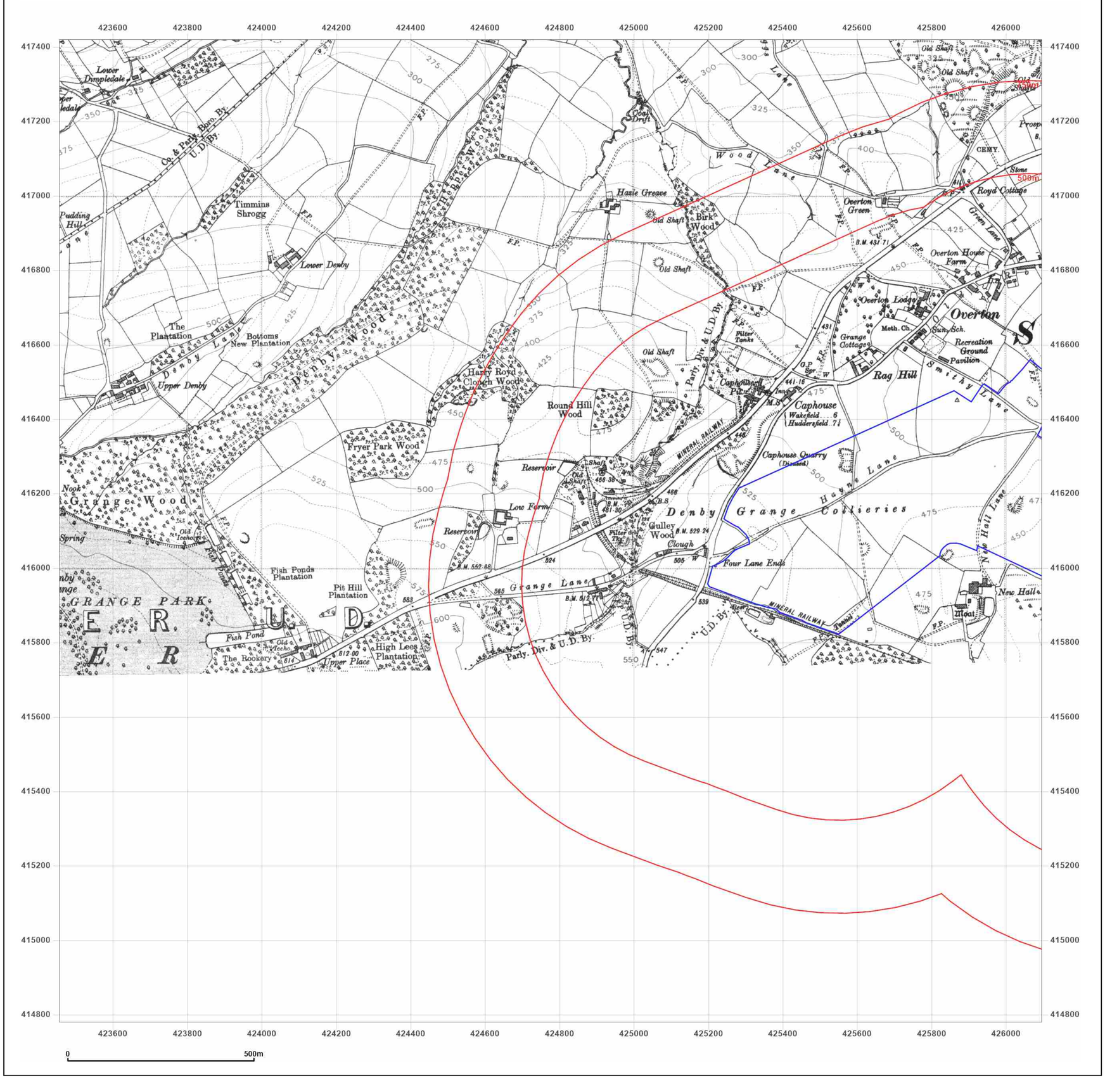

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Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1849
Revised 1938
Edition N/A
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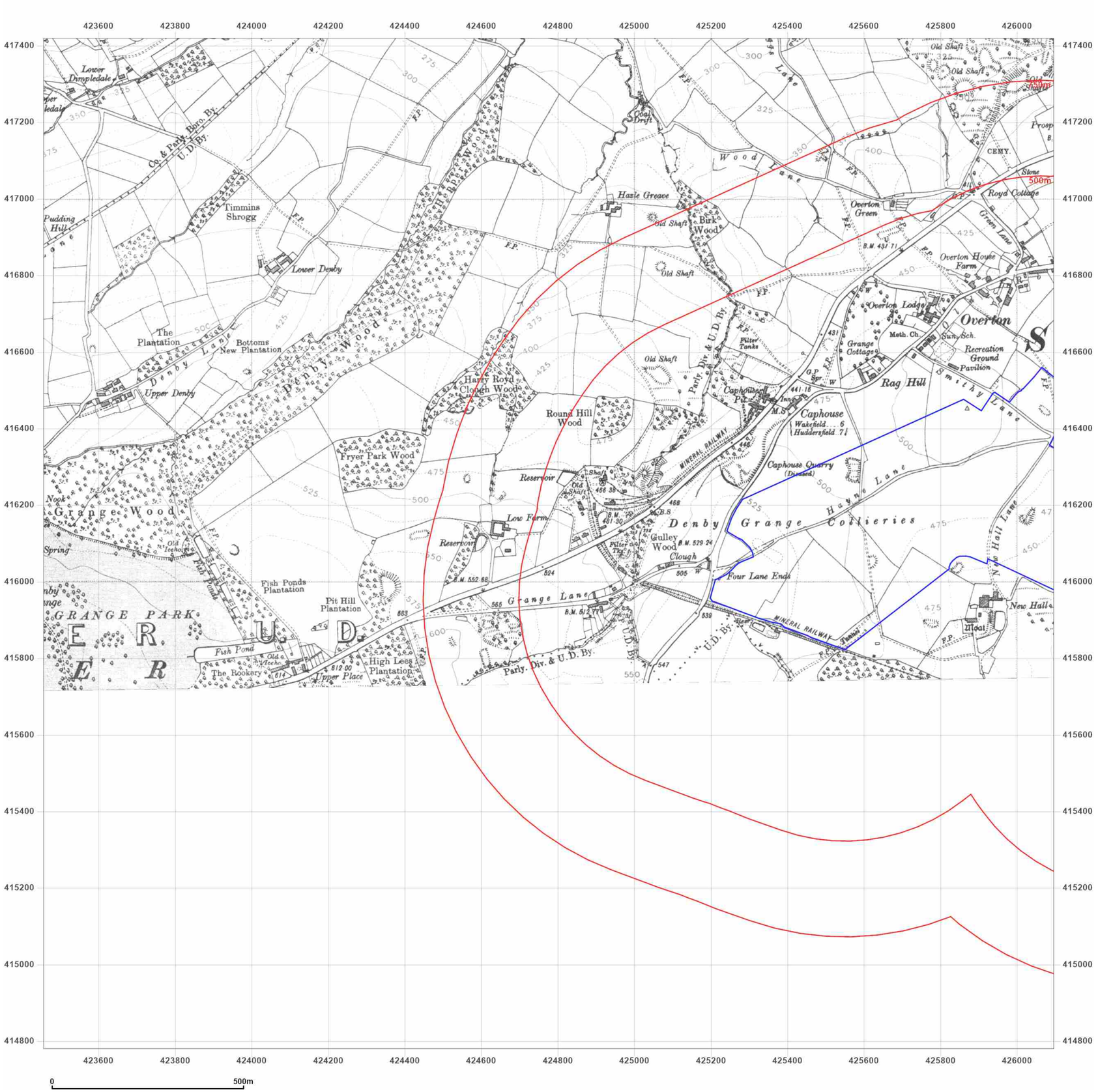

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1851
Revised 1938
Edition 1938
Copyright N/A
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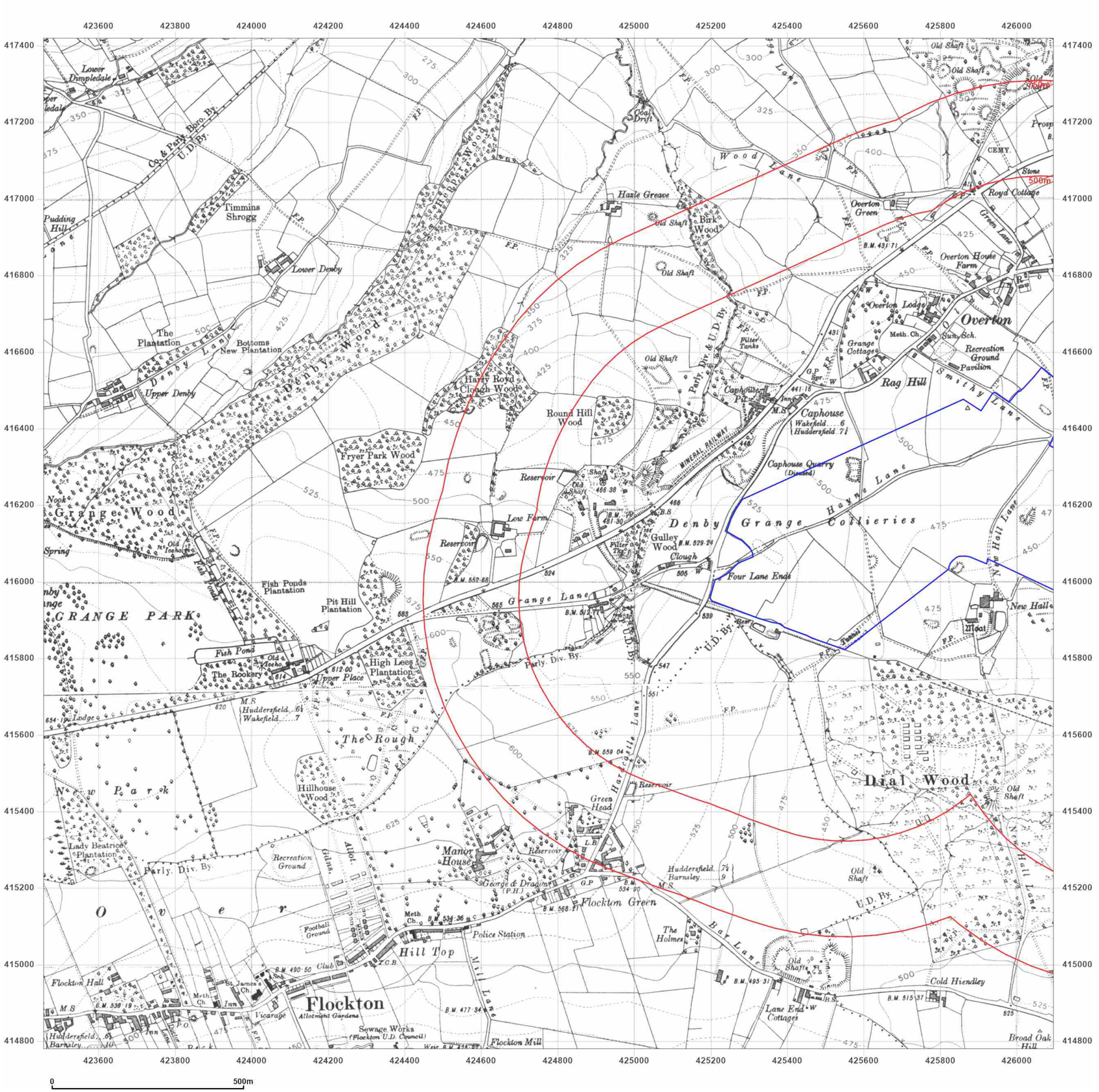

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Client Ref: 20149385
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Grid Ref: 424775, 416099

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1851
Revised 1948
Edition N/A
~~Copyright N/A~~
Levelled N/A

Surveyed 1851
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

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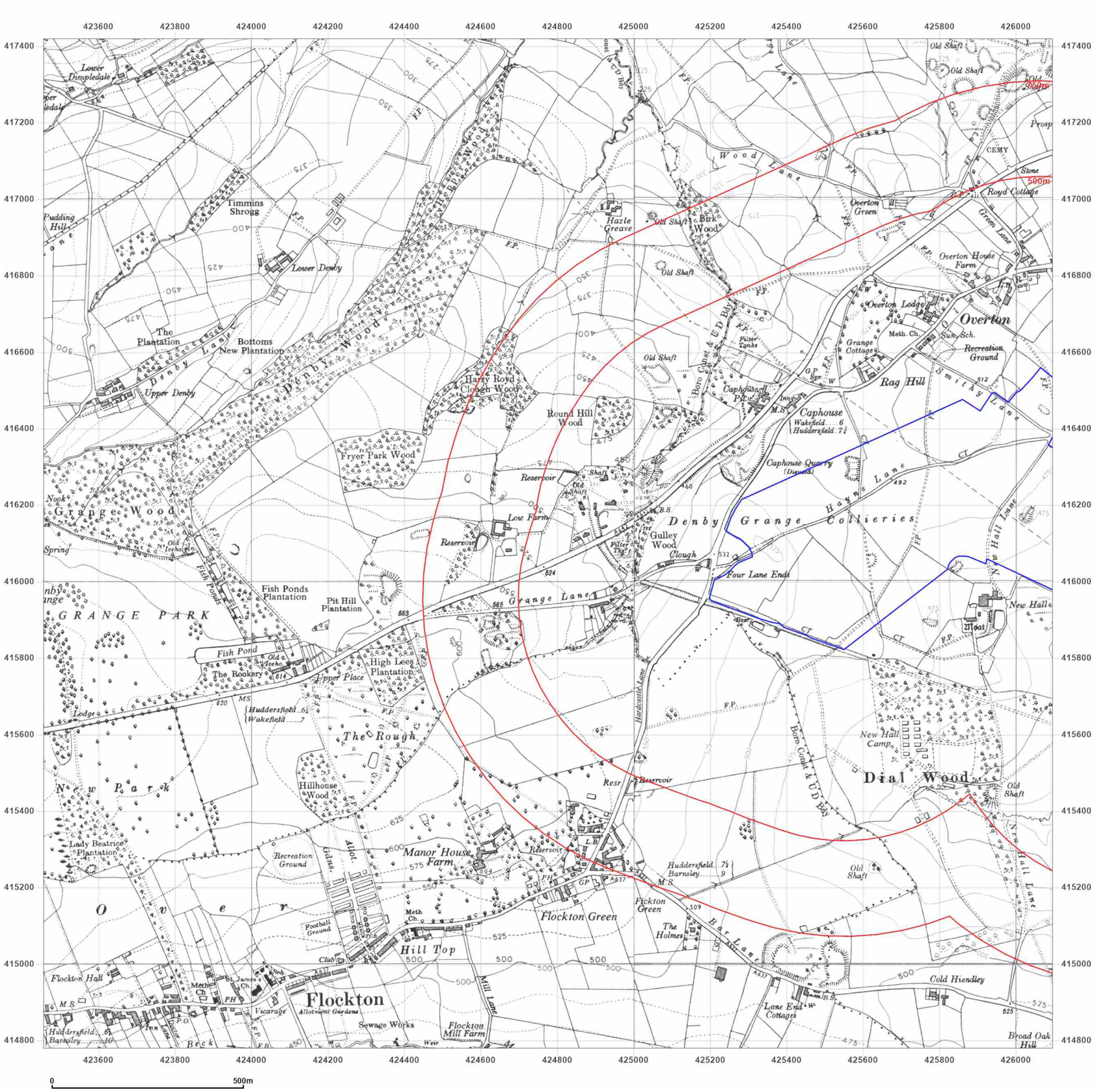

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: Provisional

Map date: **1951-1955**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised 1955
Edition N/A
Copyright 1955
Levelled N/A

Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled N/A

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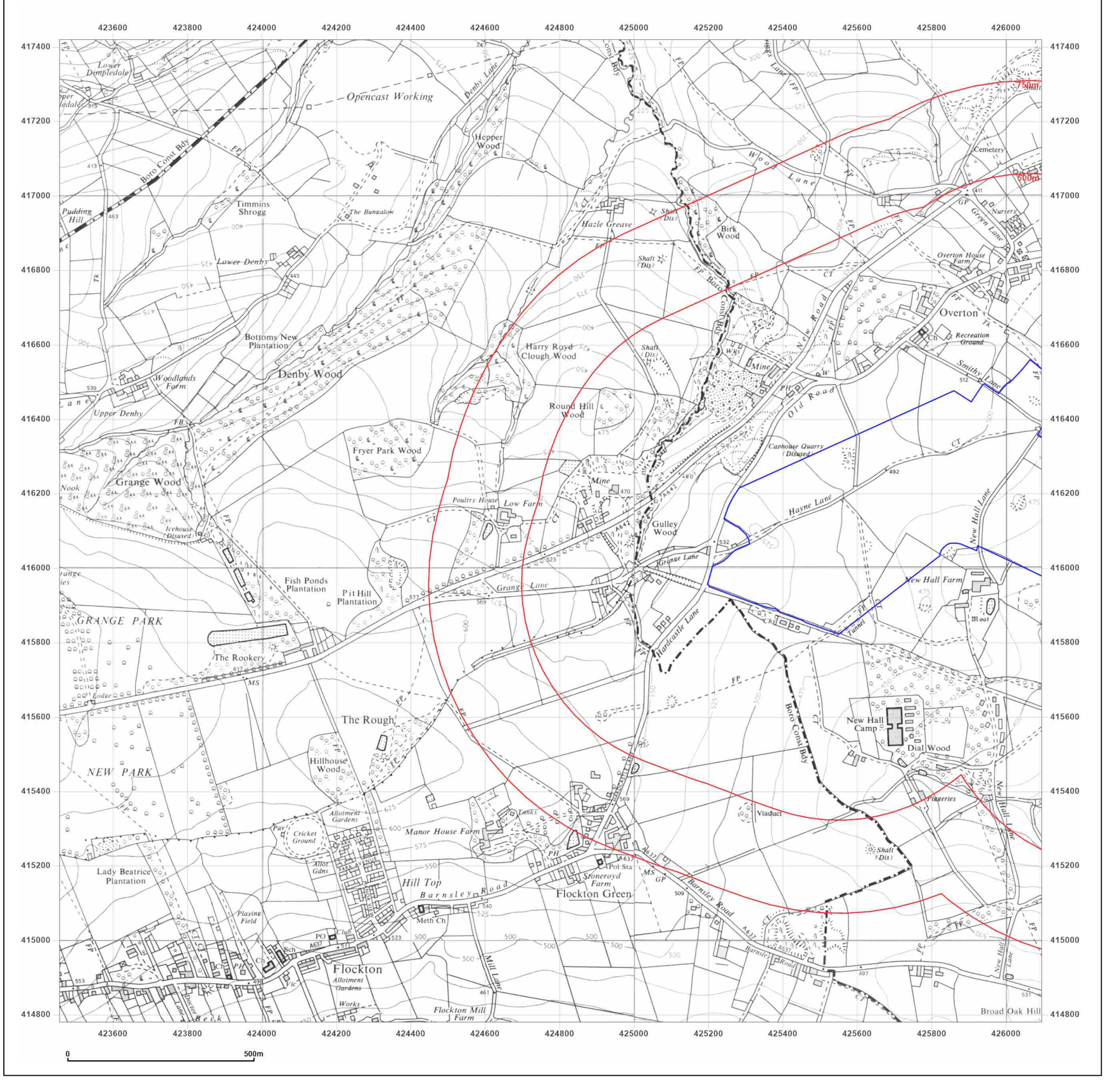

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: Provisional

Map date: **1966-1967**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
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Surveyed 1966
Revised 1966
Edition N/A
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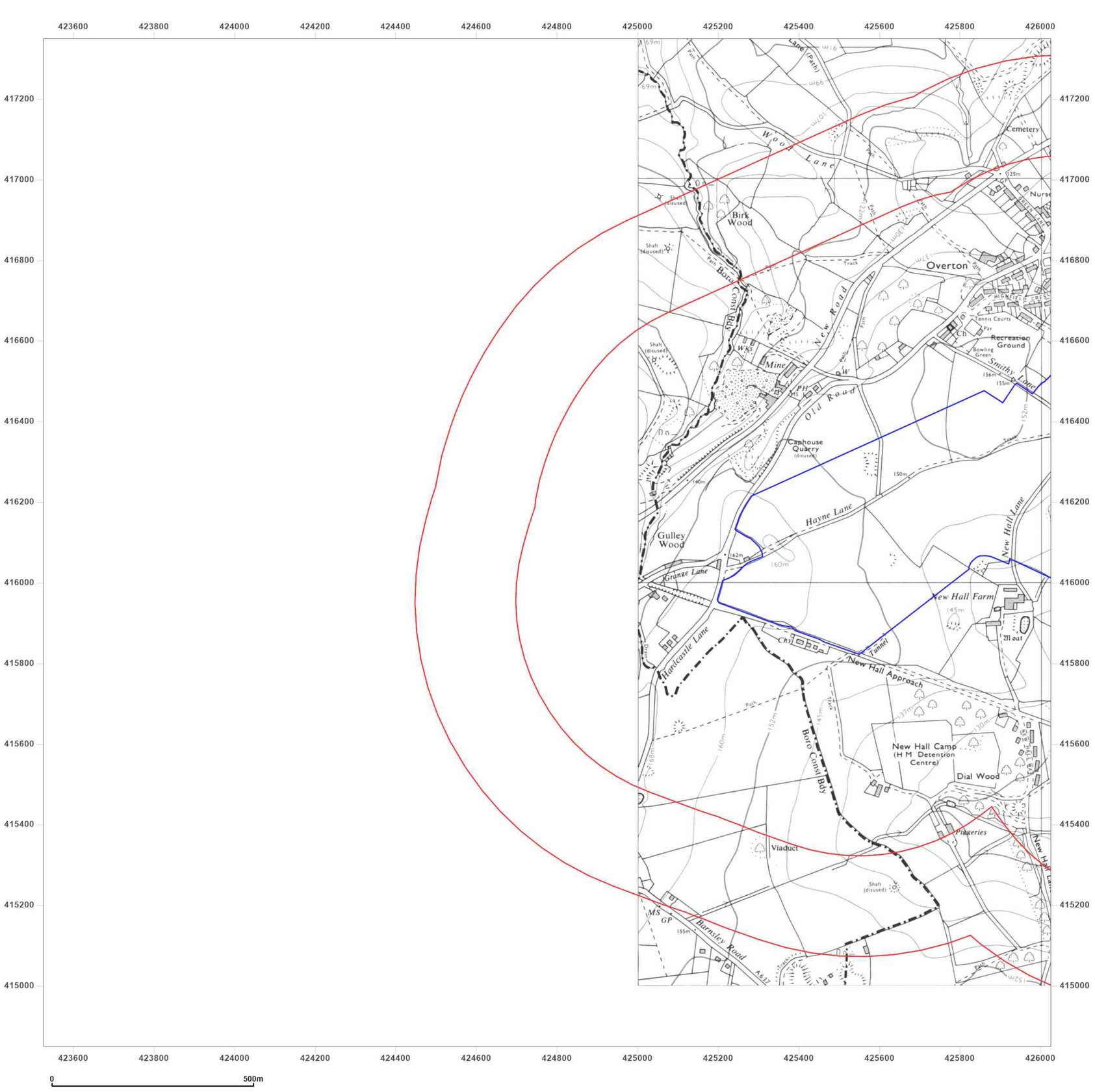

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: National Grid

Map date: **1973**

Scale: 1:10,000

Printed at: 1:10,000

N
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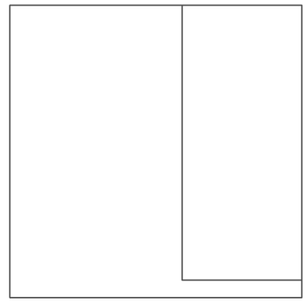
Surveyed 1973
Revised 1973
Edition N/A
Copyright N/A
Levelled N/A



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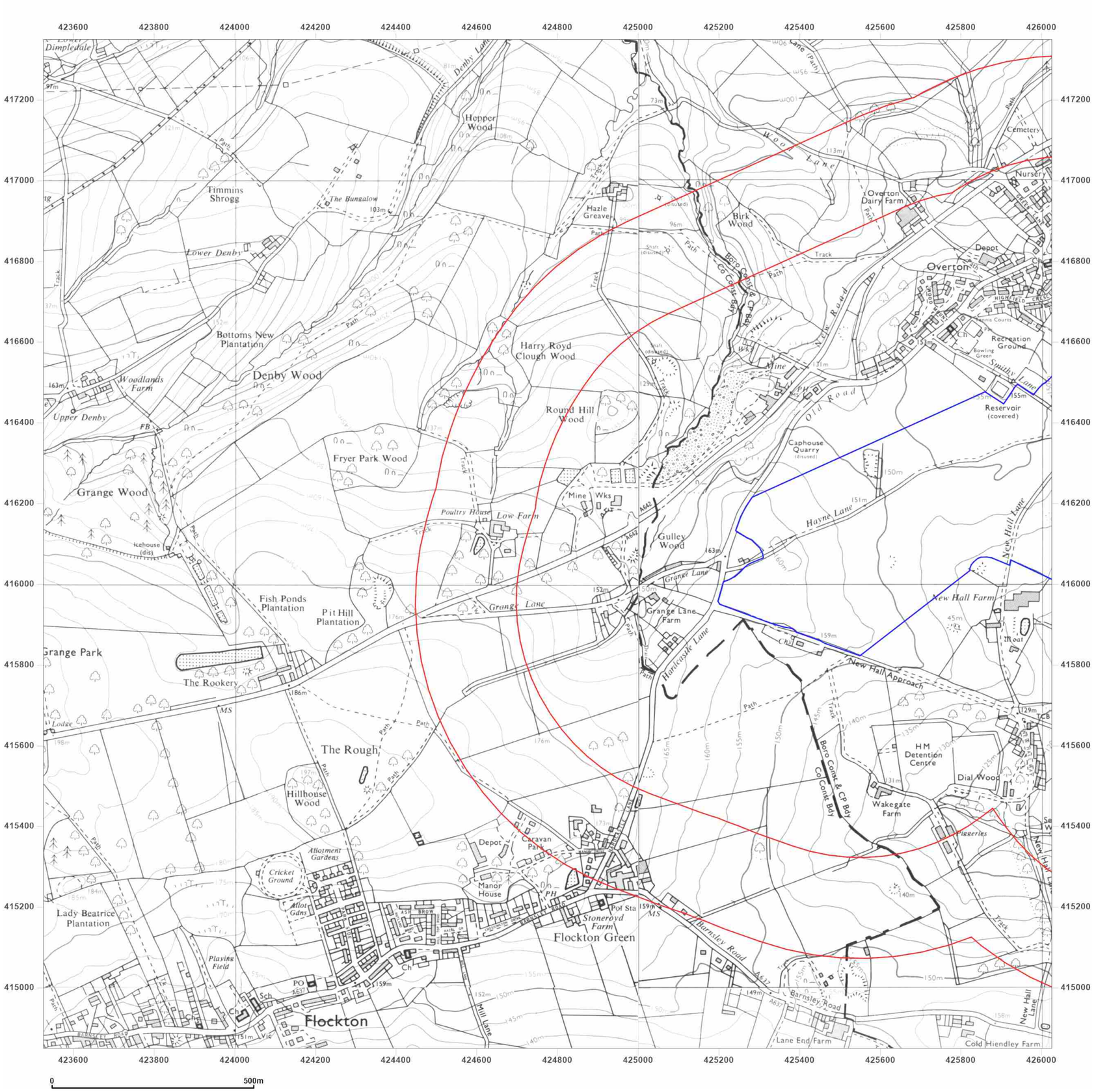

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: National Grid

Map date: **1979-1983**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1977
Revised 1982
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1982
Revised 1983
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1977
Revised 1979
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1980
Revised 1981
Edition N/A
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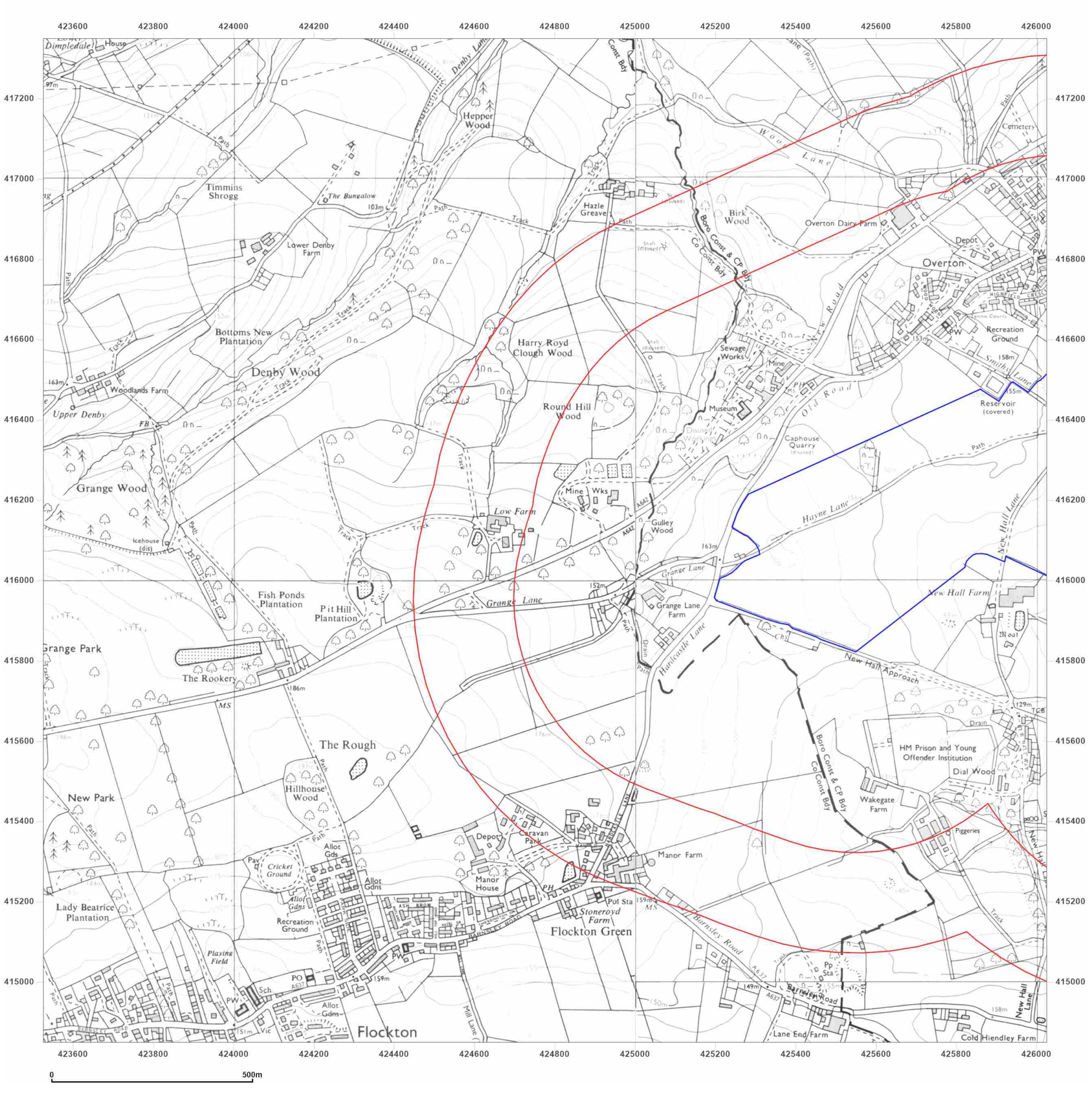

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: National Grid

Map date: **1988-1993**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1991 Revised 1993 Edition N/A Copyright N/A Levelled N/A	Surveyed 1990 Revised 1992 Edition N/A Copyright N/A Levelled N/A
Surveyed 1990 Revised 1993 Edition N/A Copyright N/A Levelled N/A	Surveyed 1980 Revised 1988 Edition N/A Copyright N/A Levelled N/A

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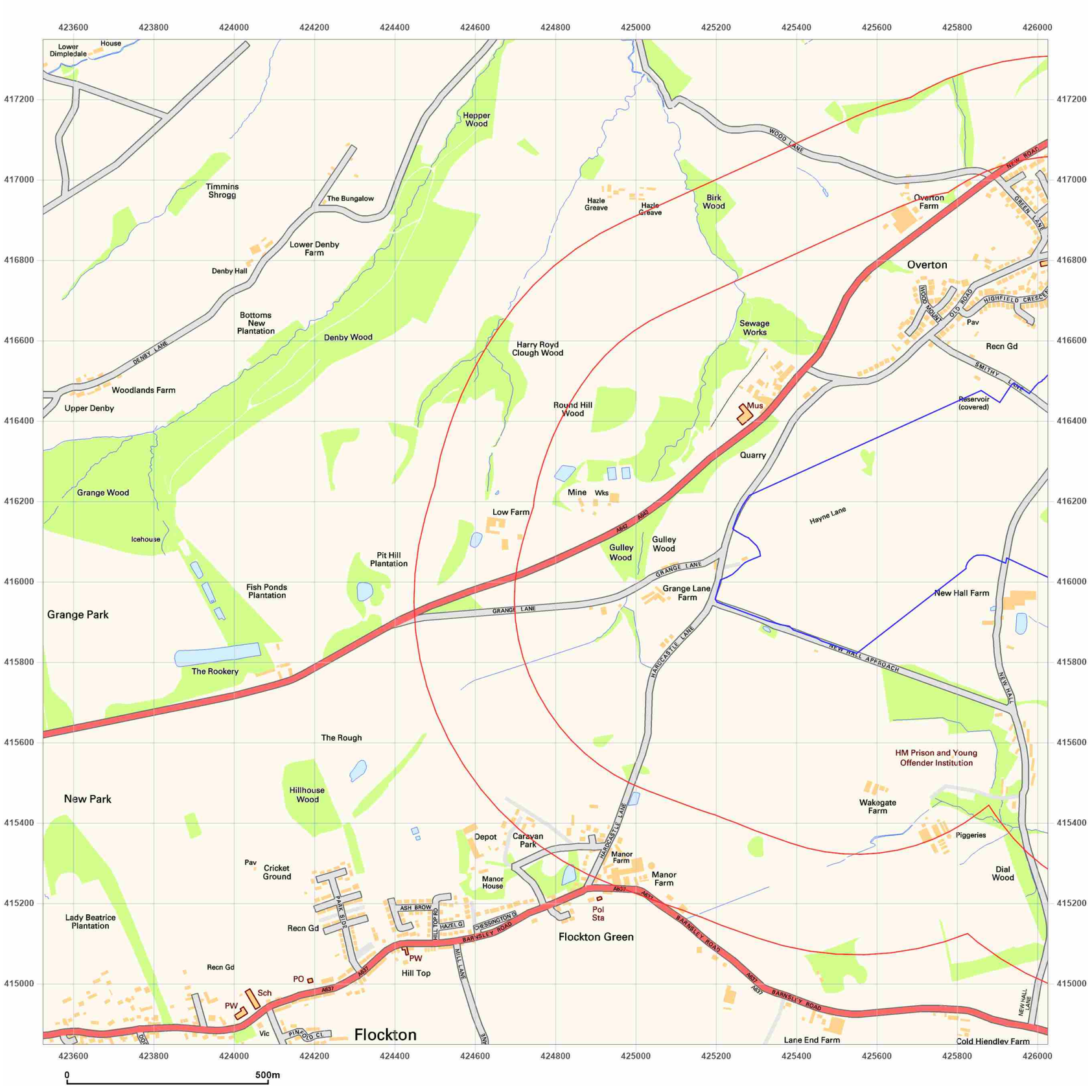

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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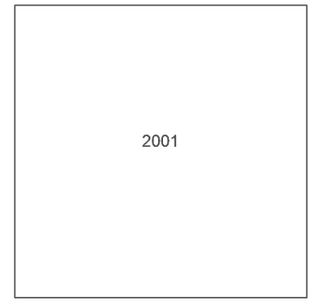

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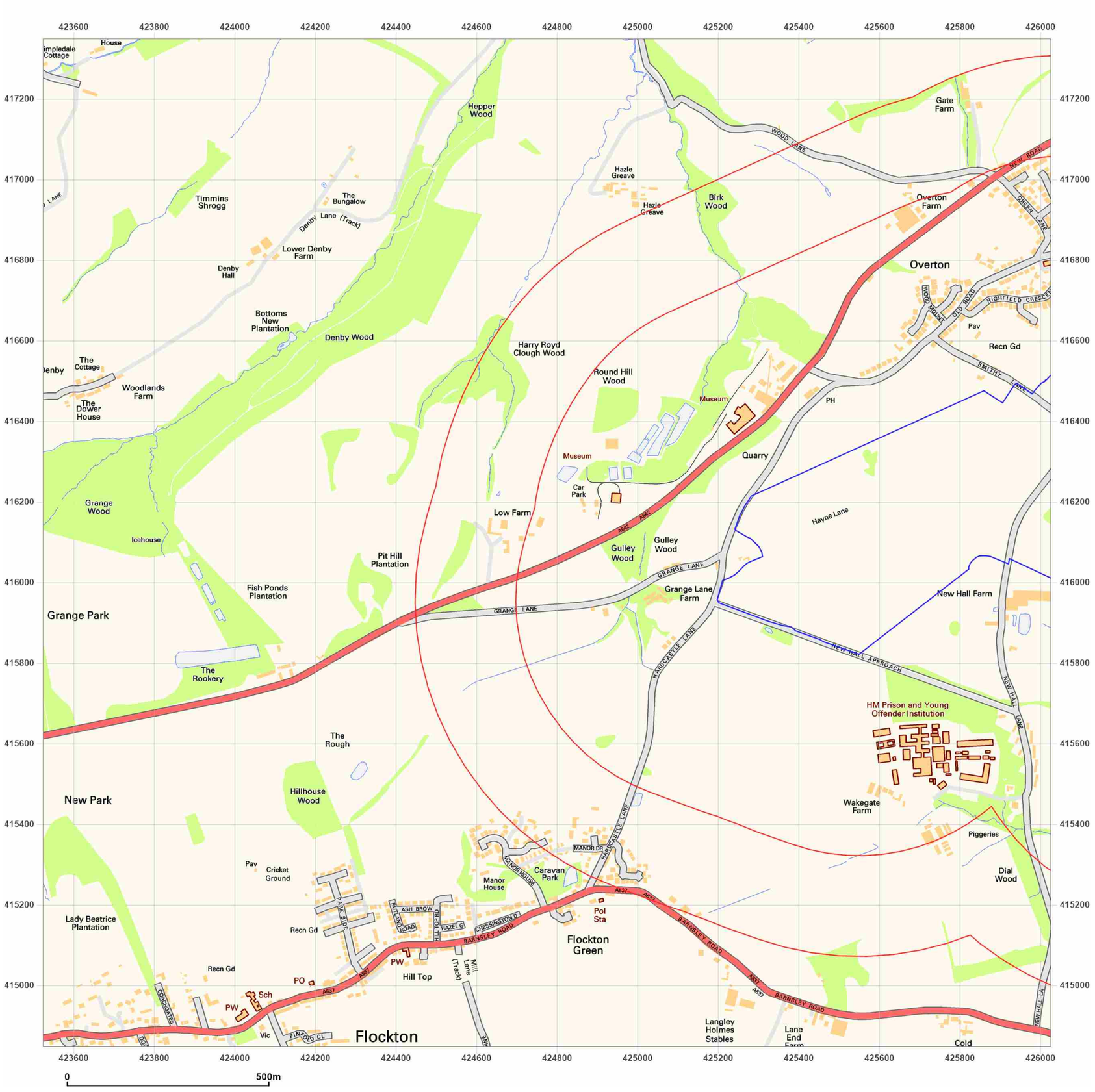

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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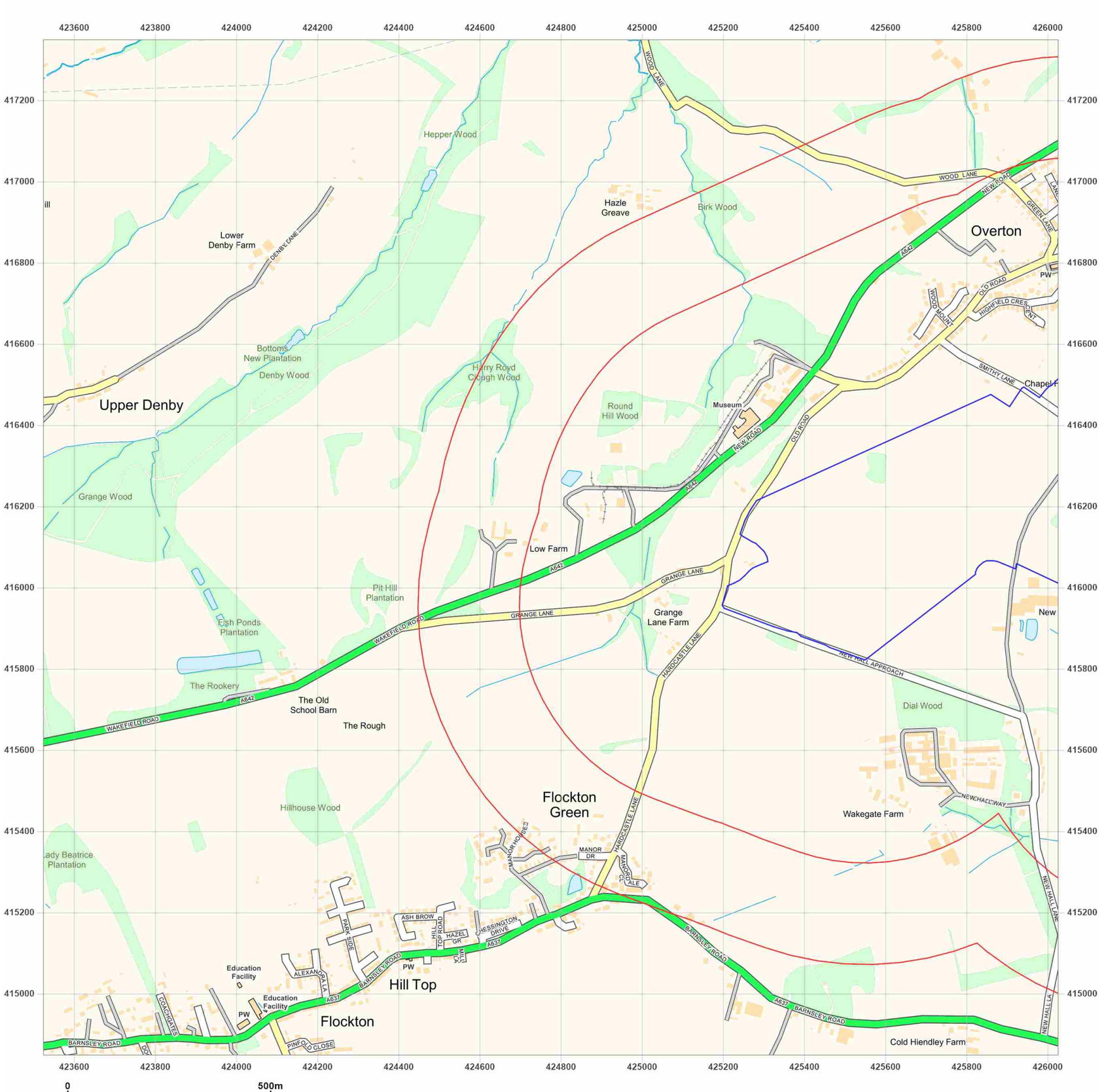

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_1_1
Grid Ref: 424775, 416099

Map Name: National Grid

Map date: **2022**

Scale: 1:10,000

Printed at: 1:10,000

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2022

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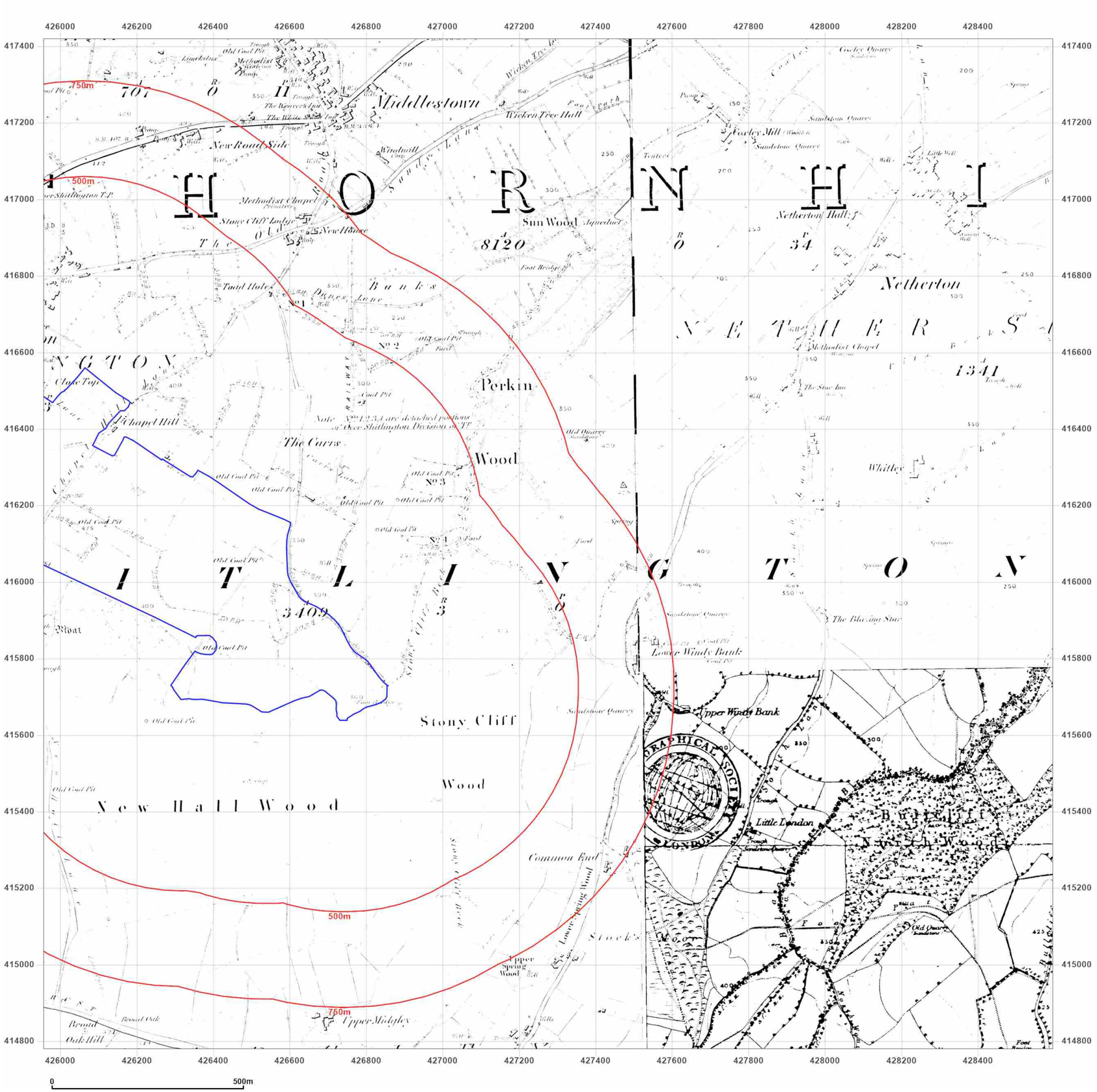

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: County Series

Map date: **1854-1855**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1851
Revised N/A
Edition 1855
Copyright N/A
Levelled N/A

Surveyed 1854
Revised N/A
Edition 1854
Copyright N/A
Levelled N/A

Surveyed 1850
Revised N/A
Edition 1854
Copyright N/A
Levelled N/A

Surveyed 1851
Revised N/A
Edition 1854
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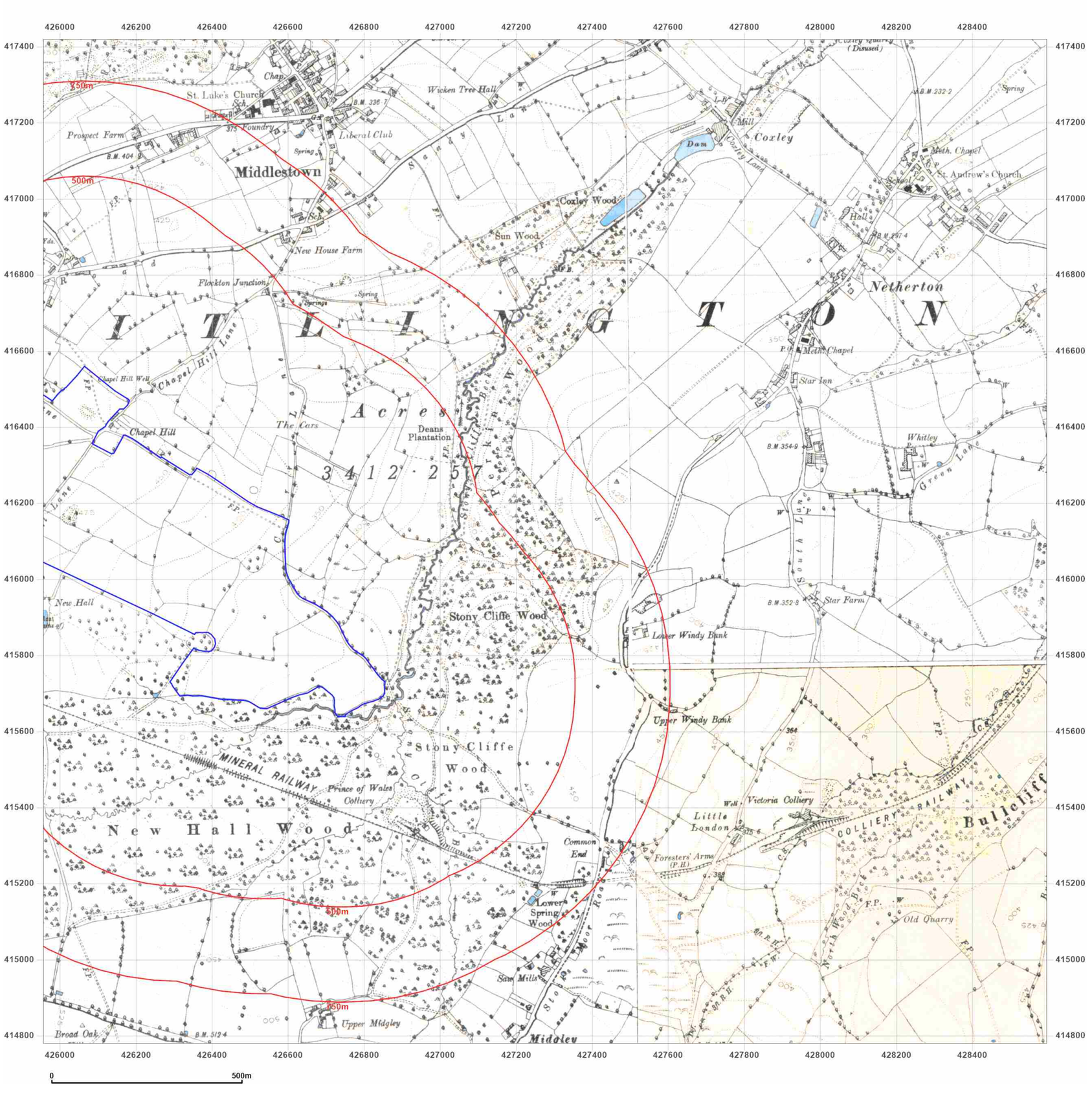

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: County Series

Map date: **1890-1892**

Scale: 1:10,560

Printed at: 1:10,560

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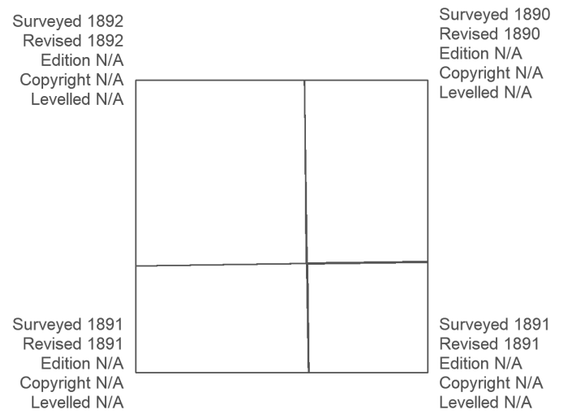

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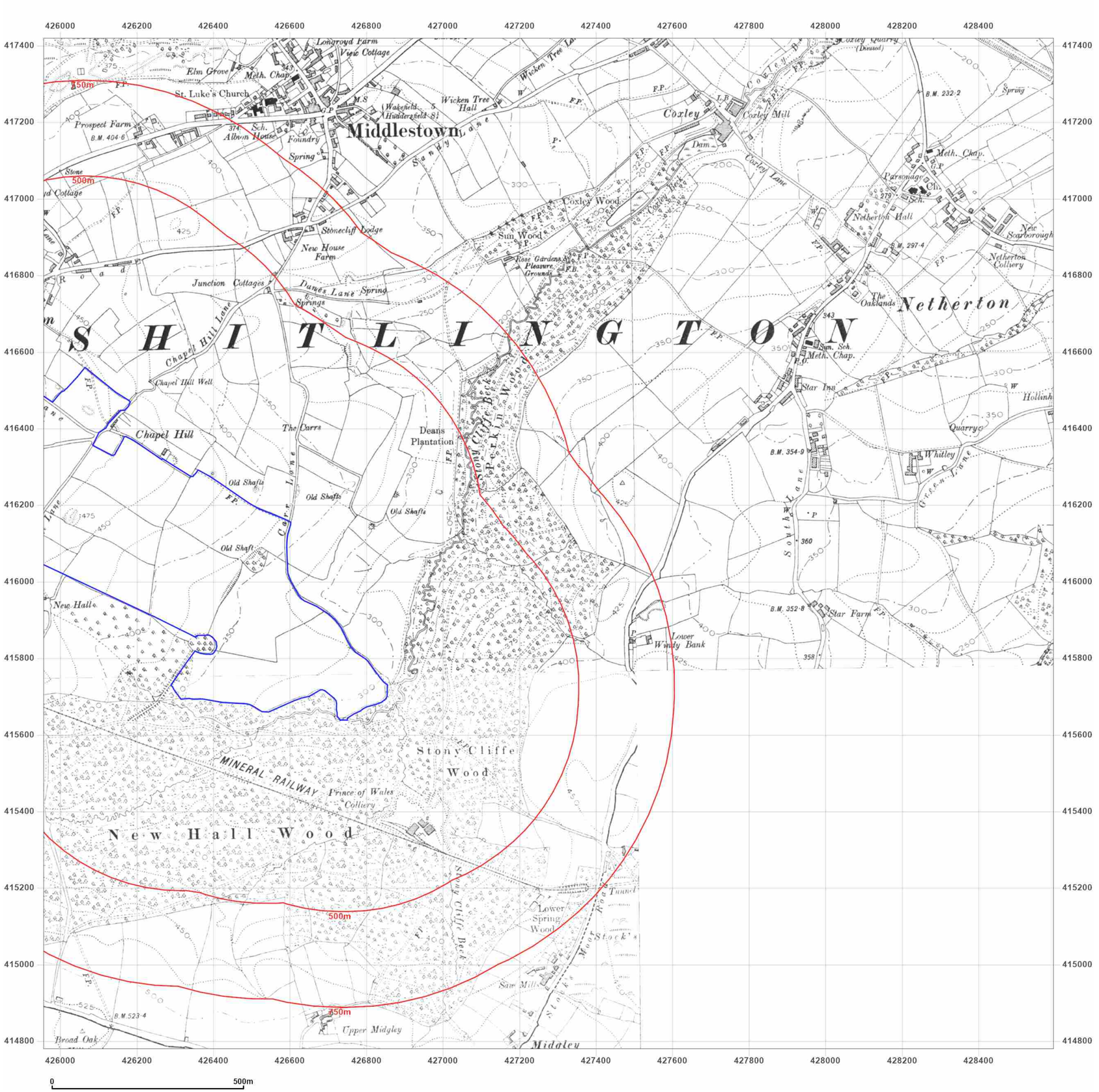

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: County Series

Map date: **1905-1907**

Scale: 1:10,560

Printed at: 1:10,560

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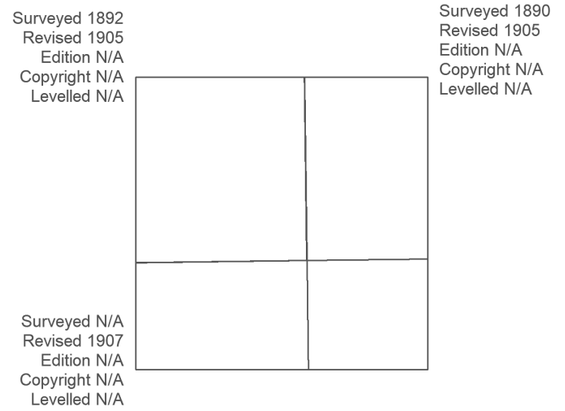

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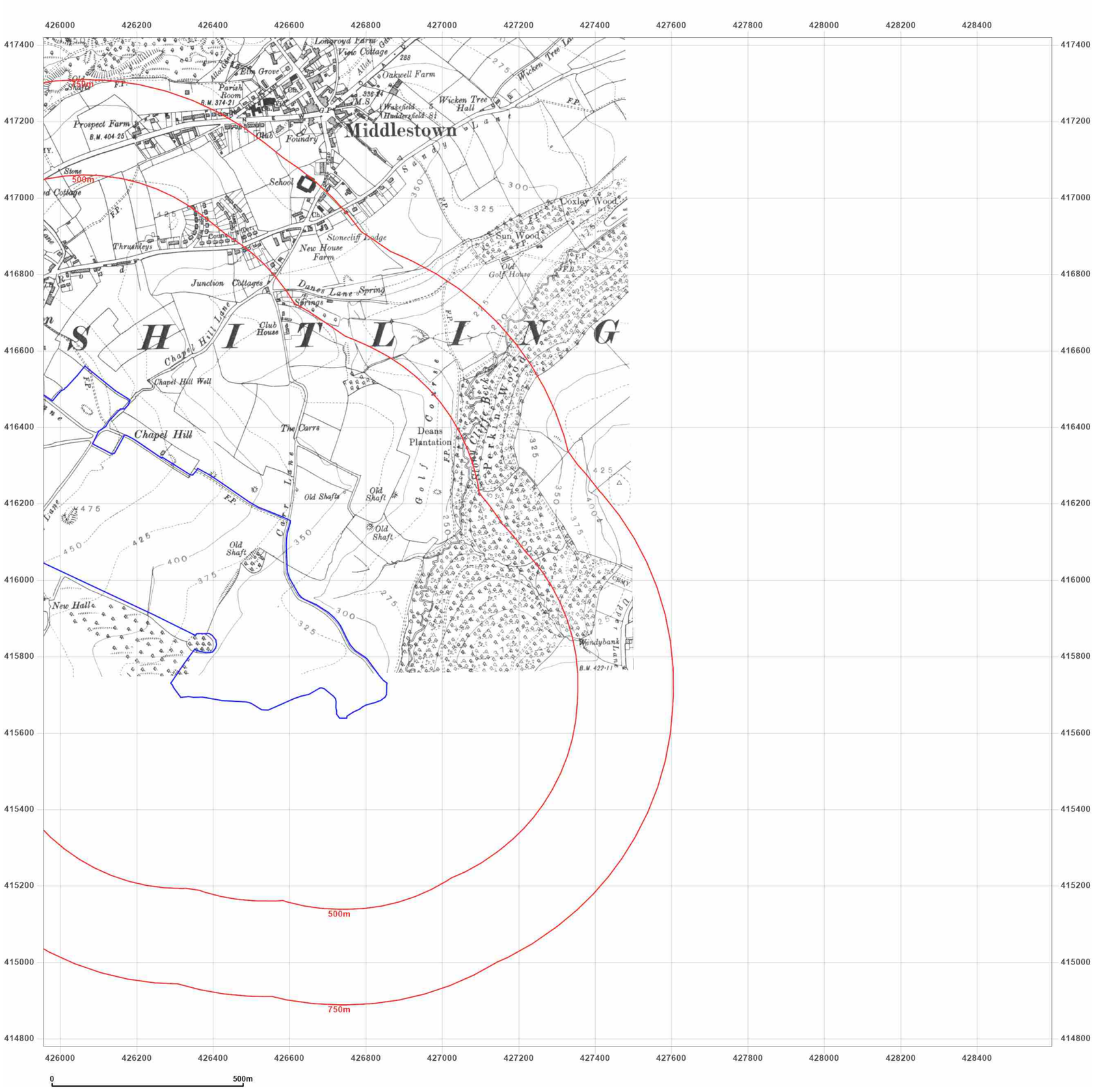

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: County Series

Map date: **1931**

Scale: 1:10,560

Printed at: 1:10,560

N
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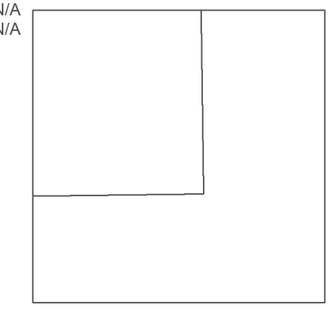
Surveyed 1851
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A



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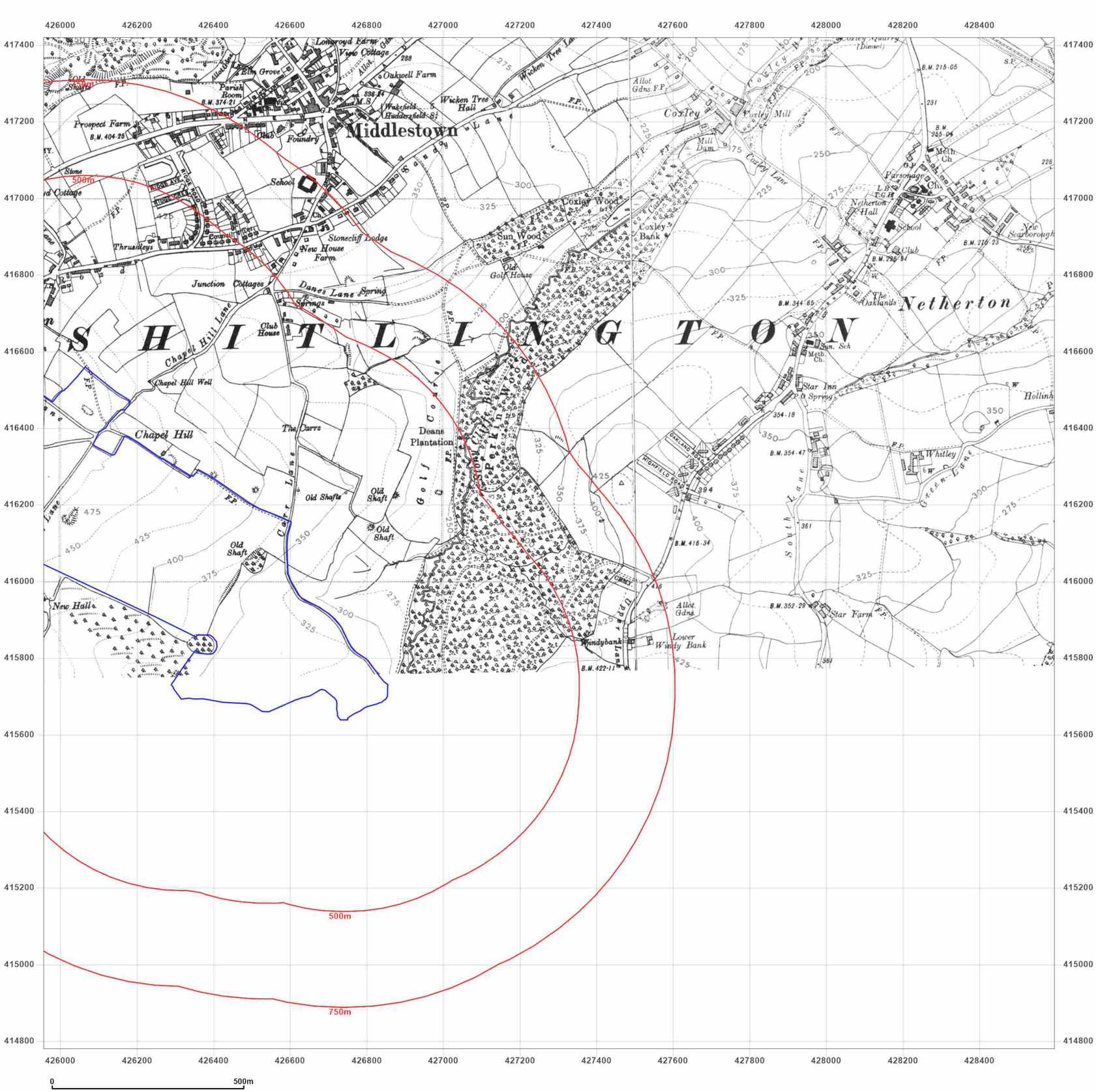

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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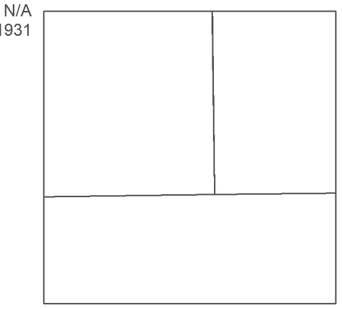
Surveyed 1849
Revised 1938
Edition N/A
Copyright N/A
Levelled 1931

Surveyed 1851
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A



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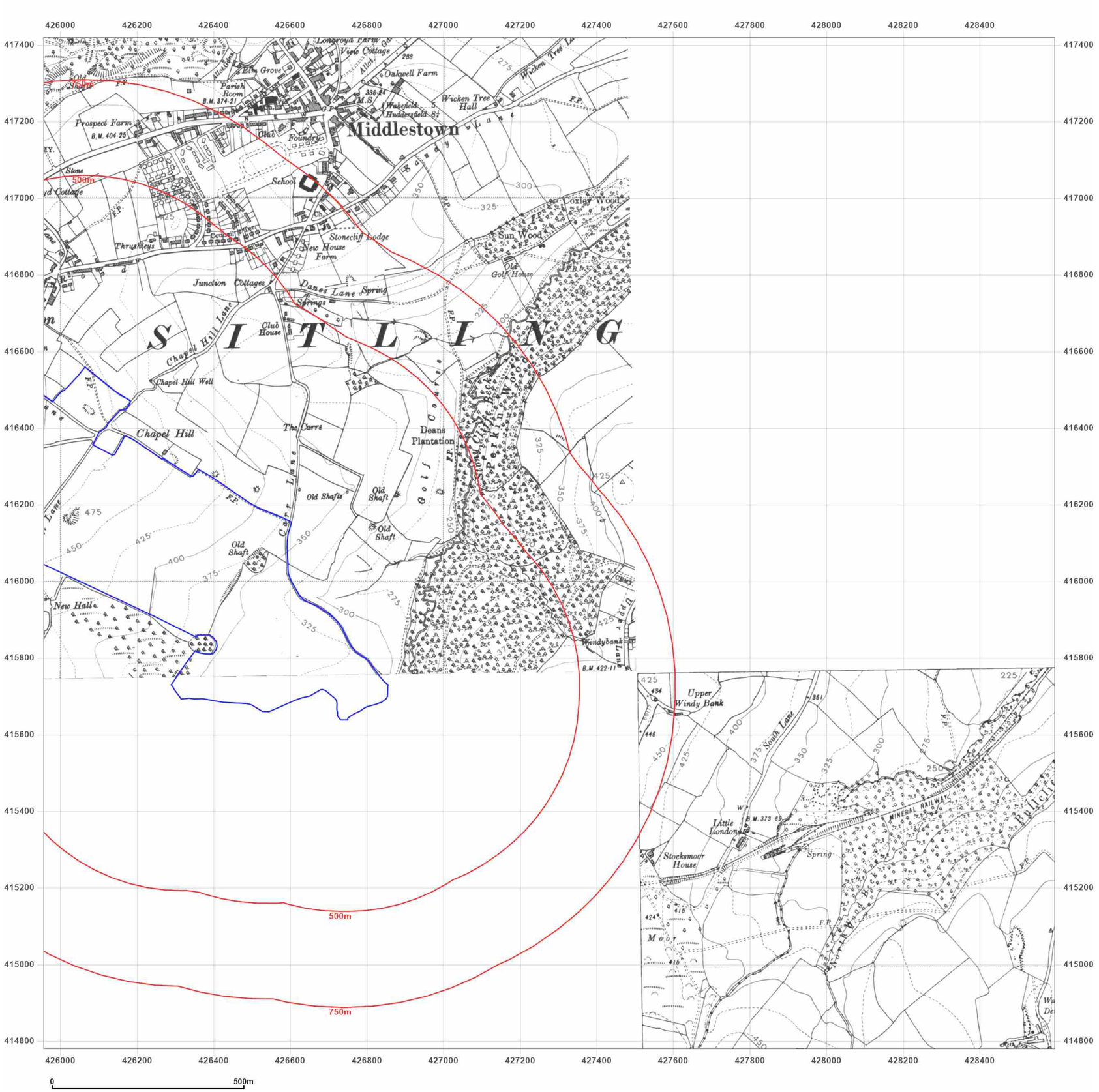

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

Printed at: 1:10,560

N
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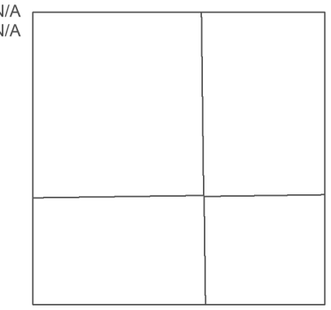
Surveyed 1851
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1851
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

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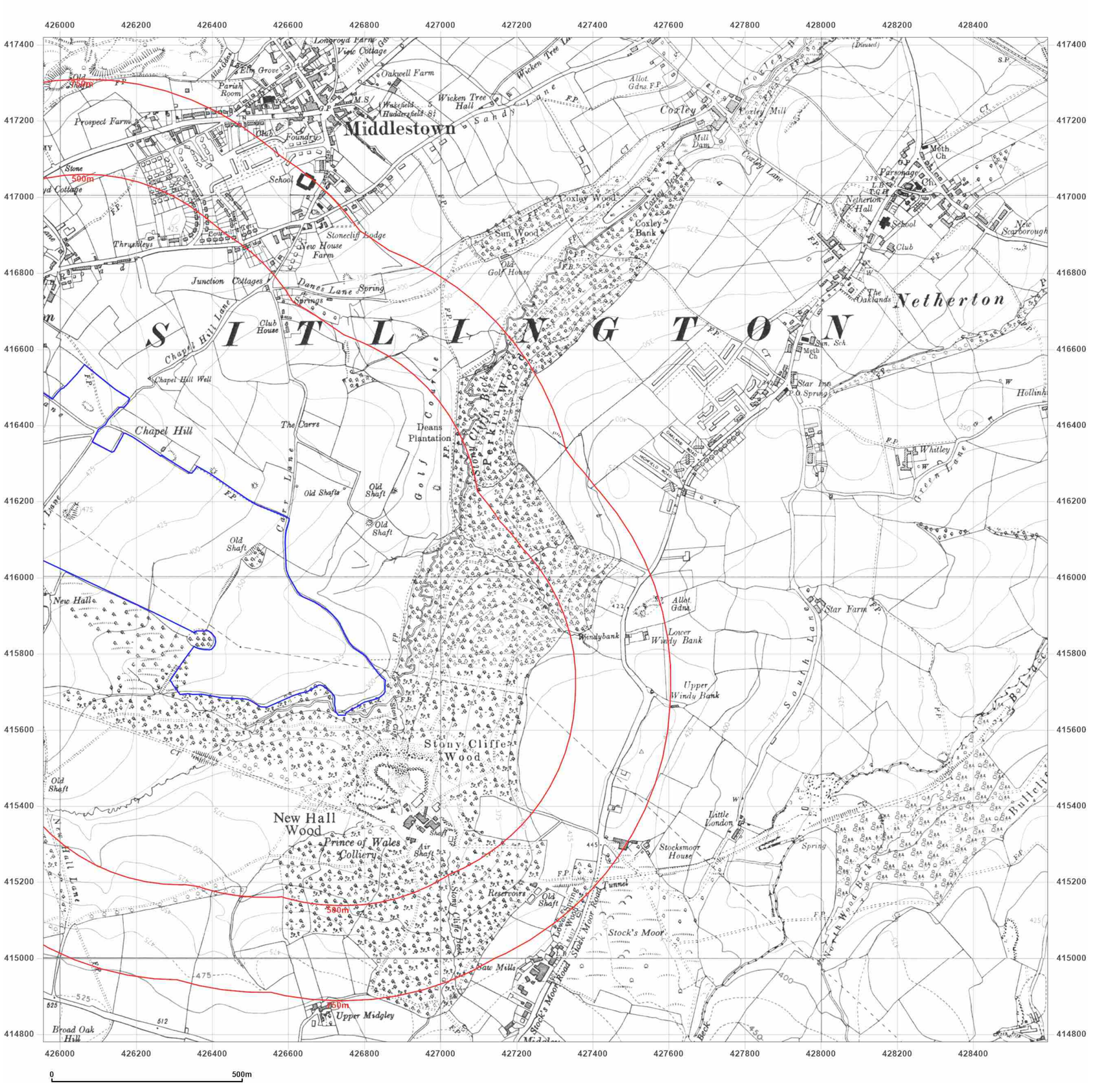

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: Provisional

Map date: **1951-1955**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed N/A
Revised 1955
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled N/A

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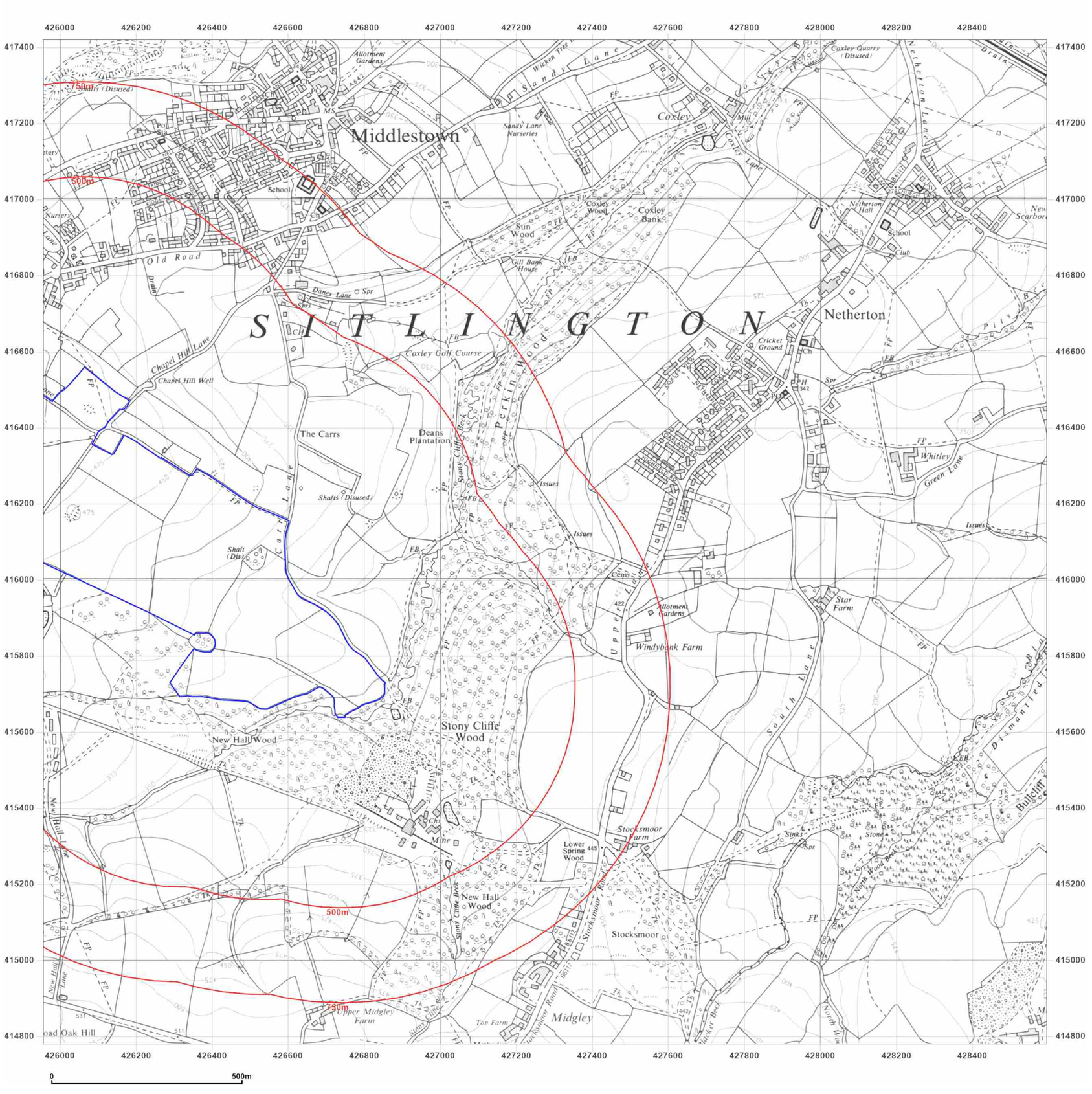

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: Provisional

Map date: **1966**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1966
Revised 1966
Edition N/A
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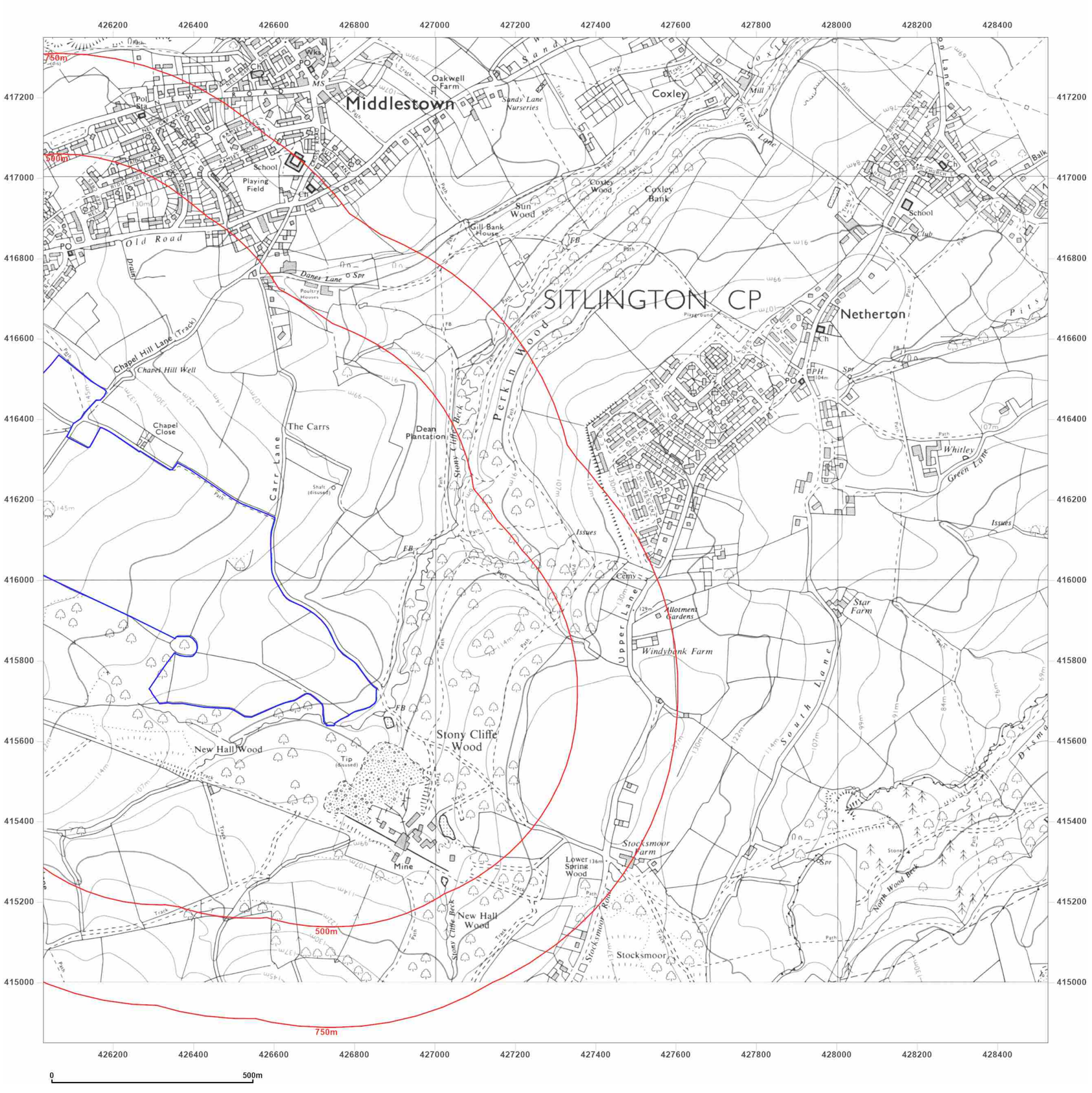

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: National Grid

Map date: **1973**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1973
Revised 1973
Edition N/A
Copyright N/A
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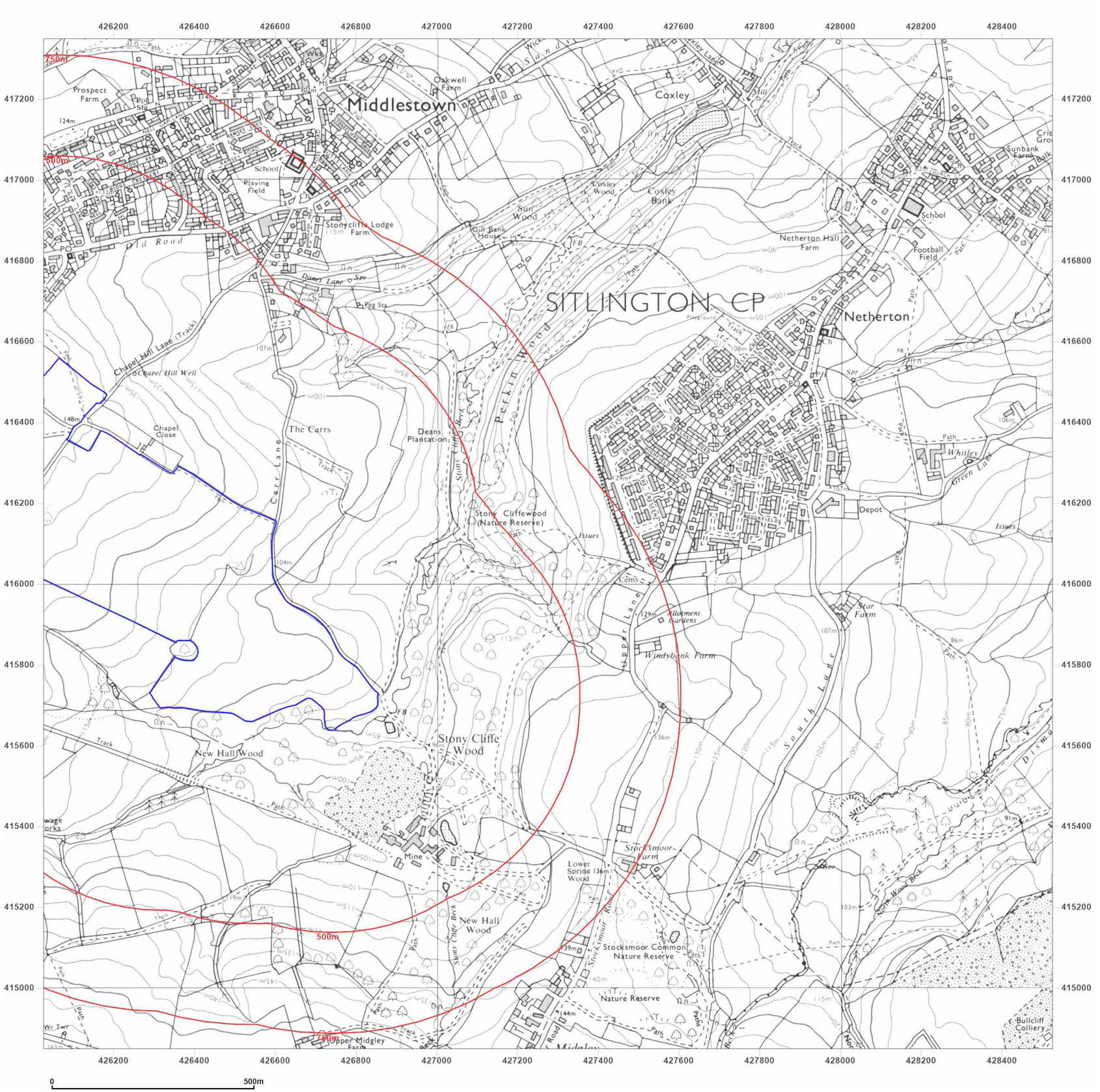

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: National Grid

Map date: **1983-1988**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1982
Revised 1983
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1980
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A

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Production date: 18 August 2022

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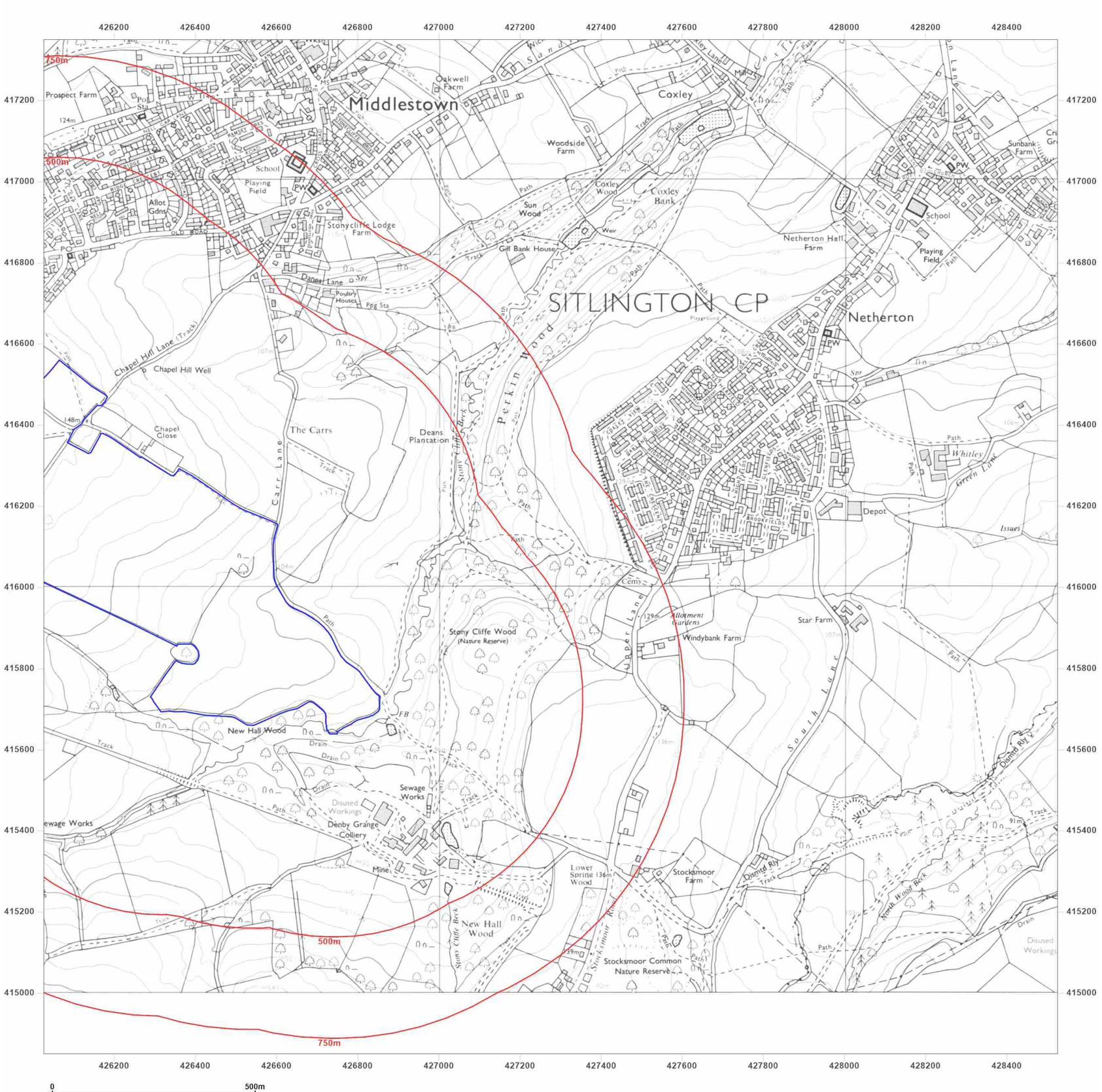

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: National Grid

Map date: **1992**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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Surveyed 1990
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

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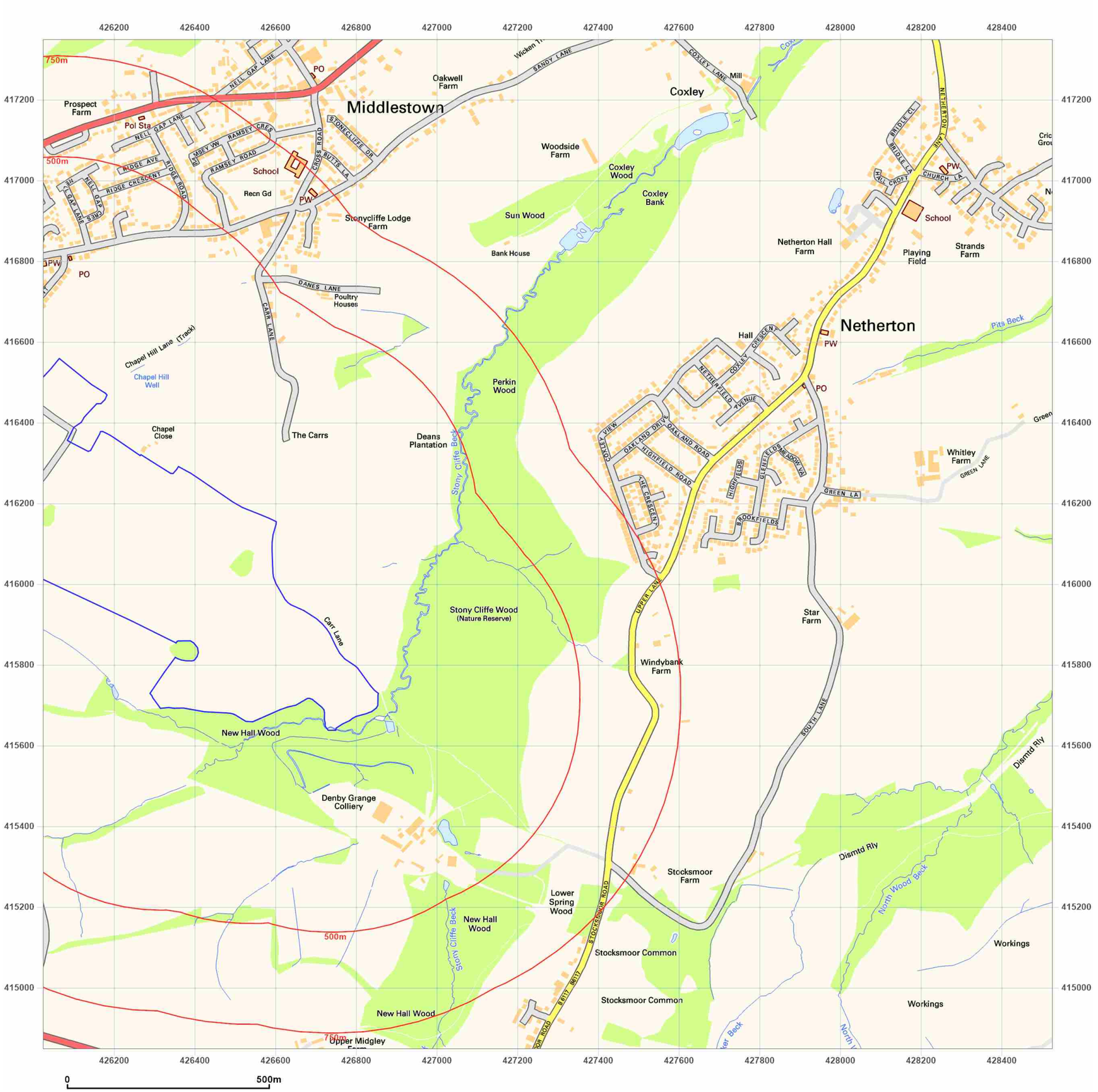

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

N
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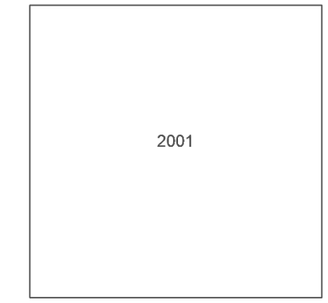

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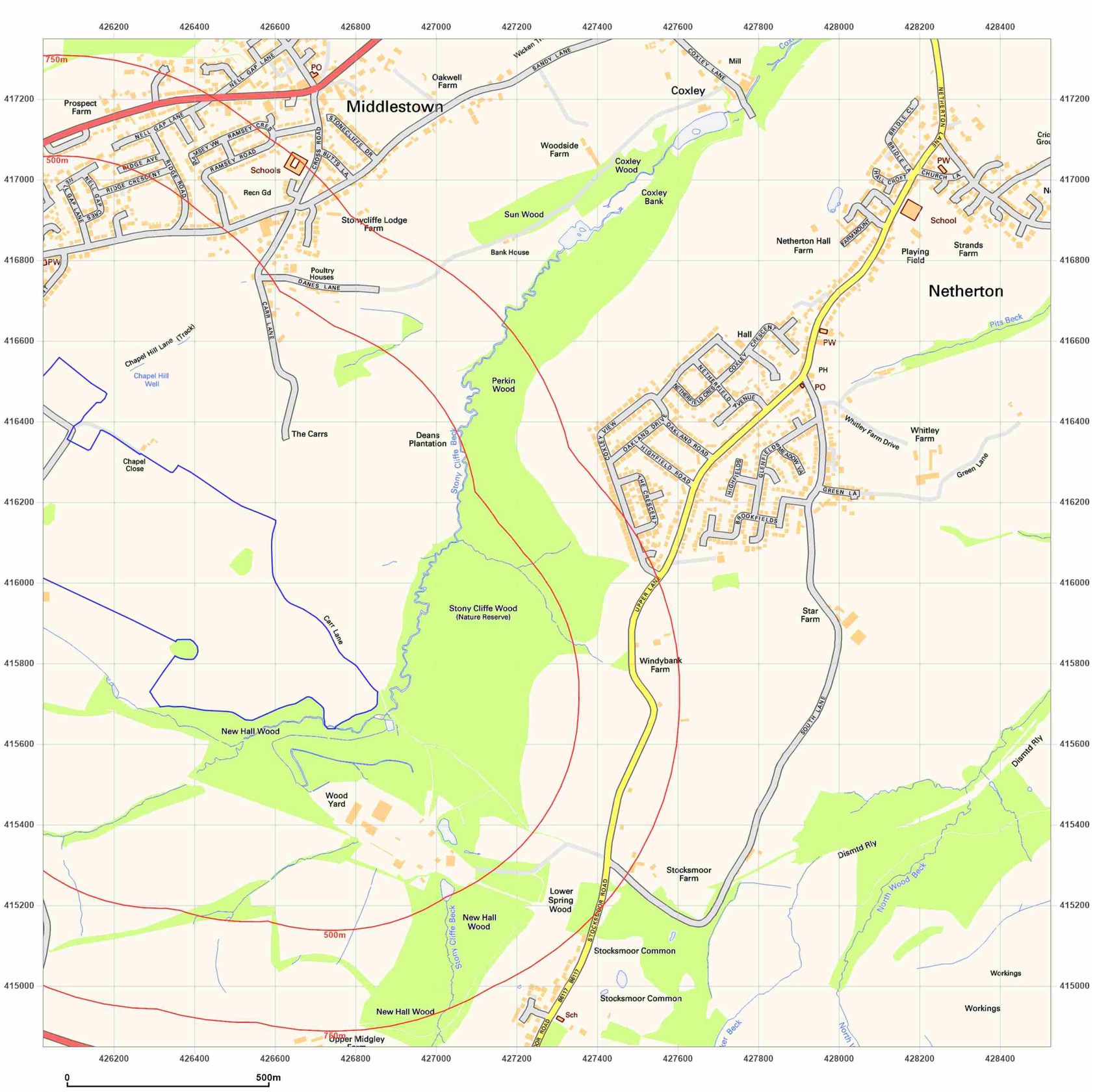

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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2010

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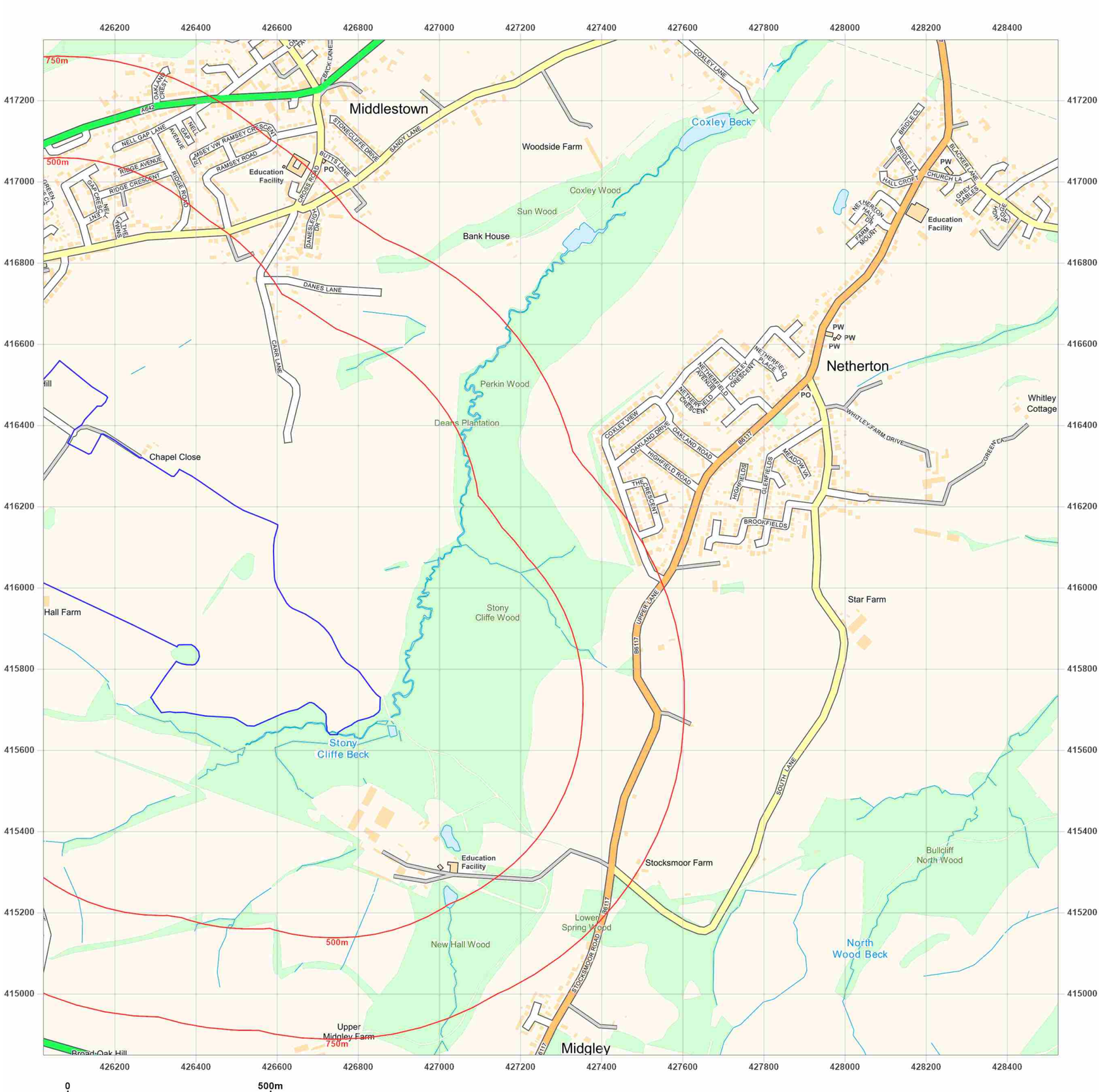

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_SS_2_1
Grid Ref: 427275, 416099

Map Name: National Grid

Map date: **2022**

Scale: 1:10,000

Printed at: 1:10,000

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2022

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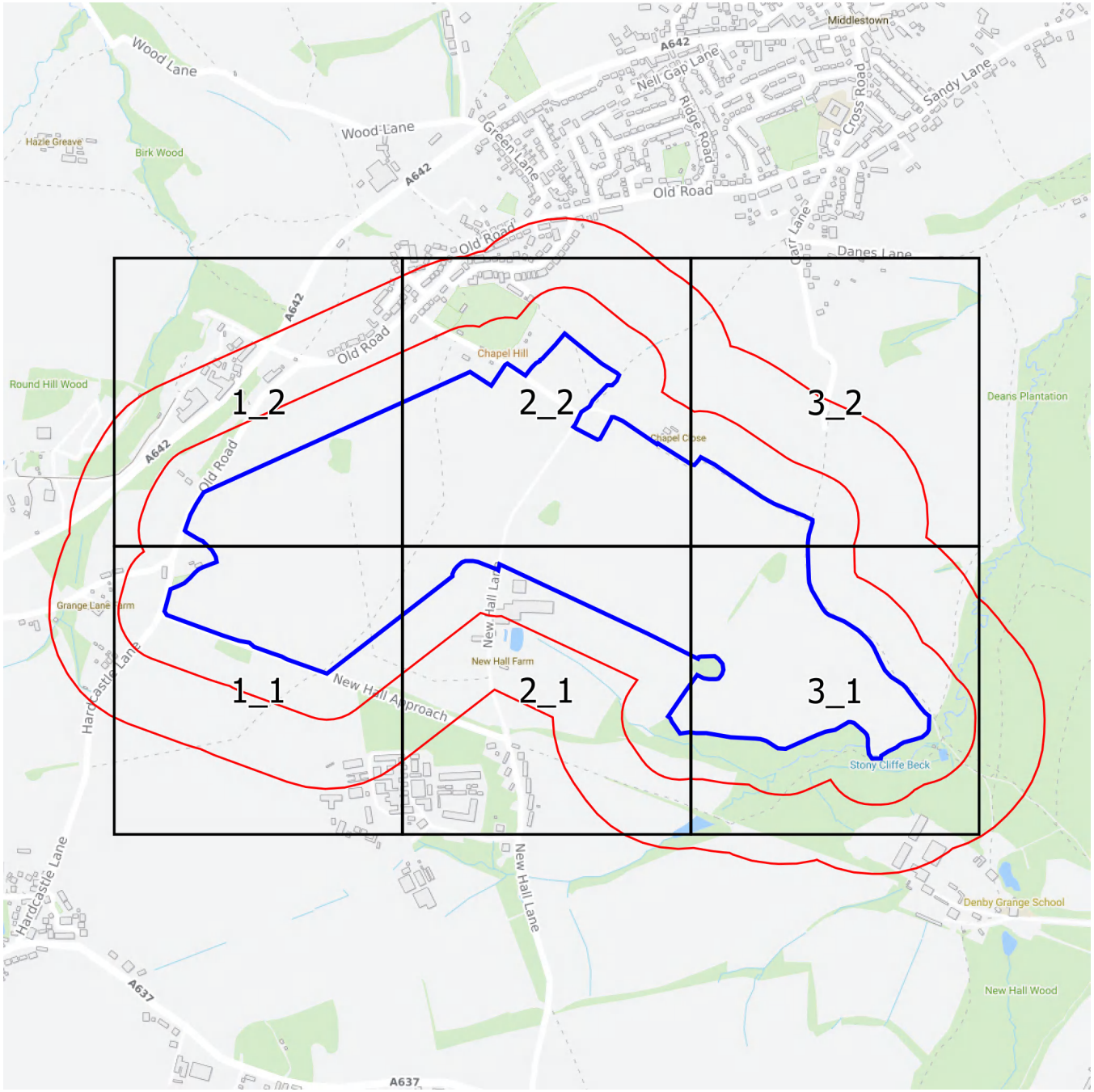

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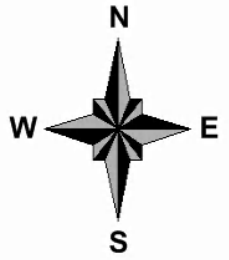
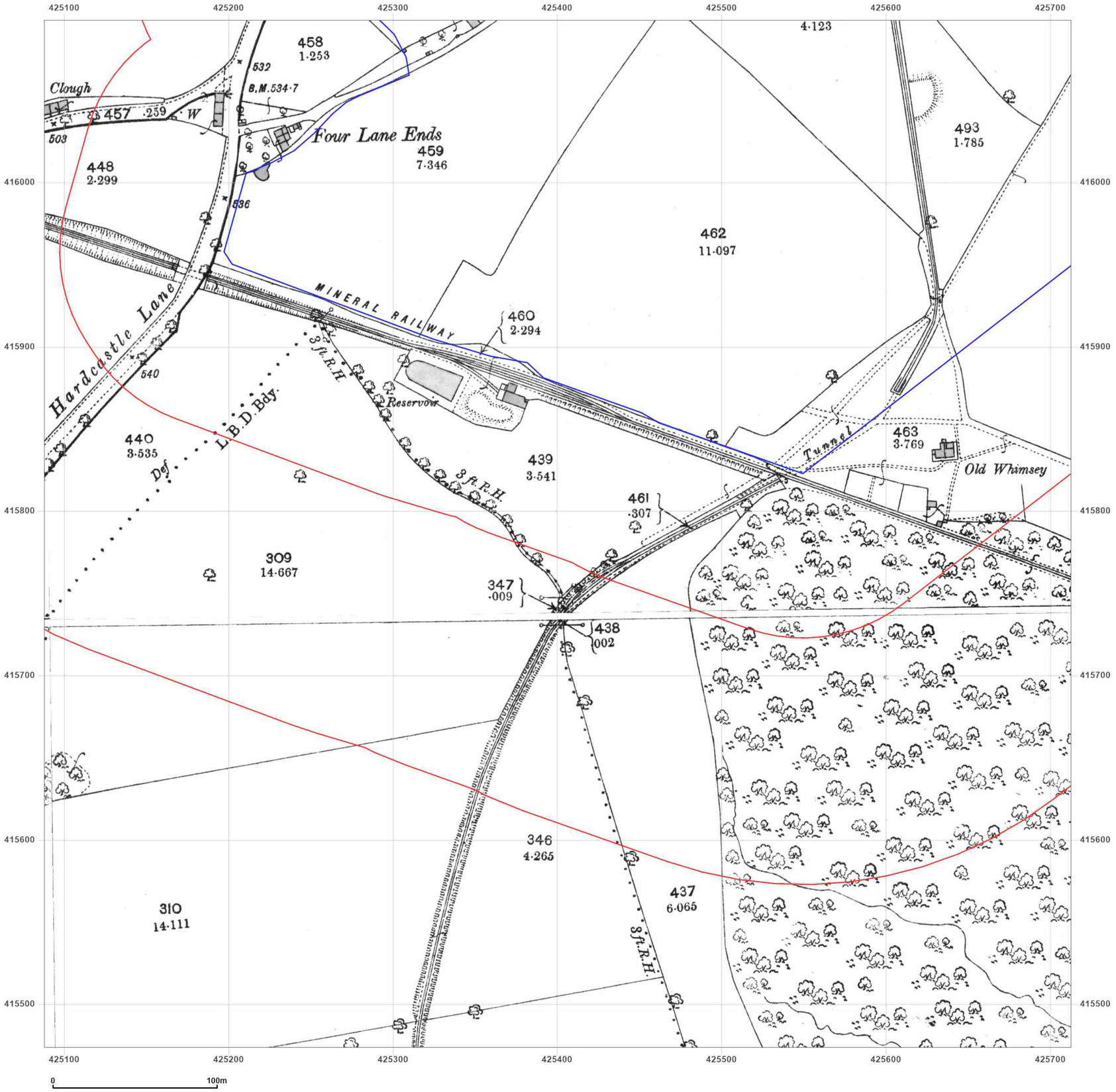
1:2,500 Scale Grid Index





WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_1
Grid Ref: 425400, 415786

Map Name: County Series
Map date: **1893**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
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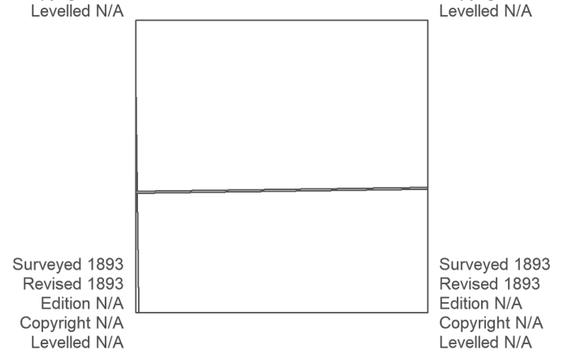
Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

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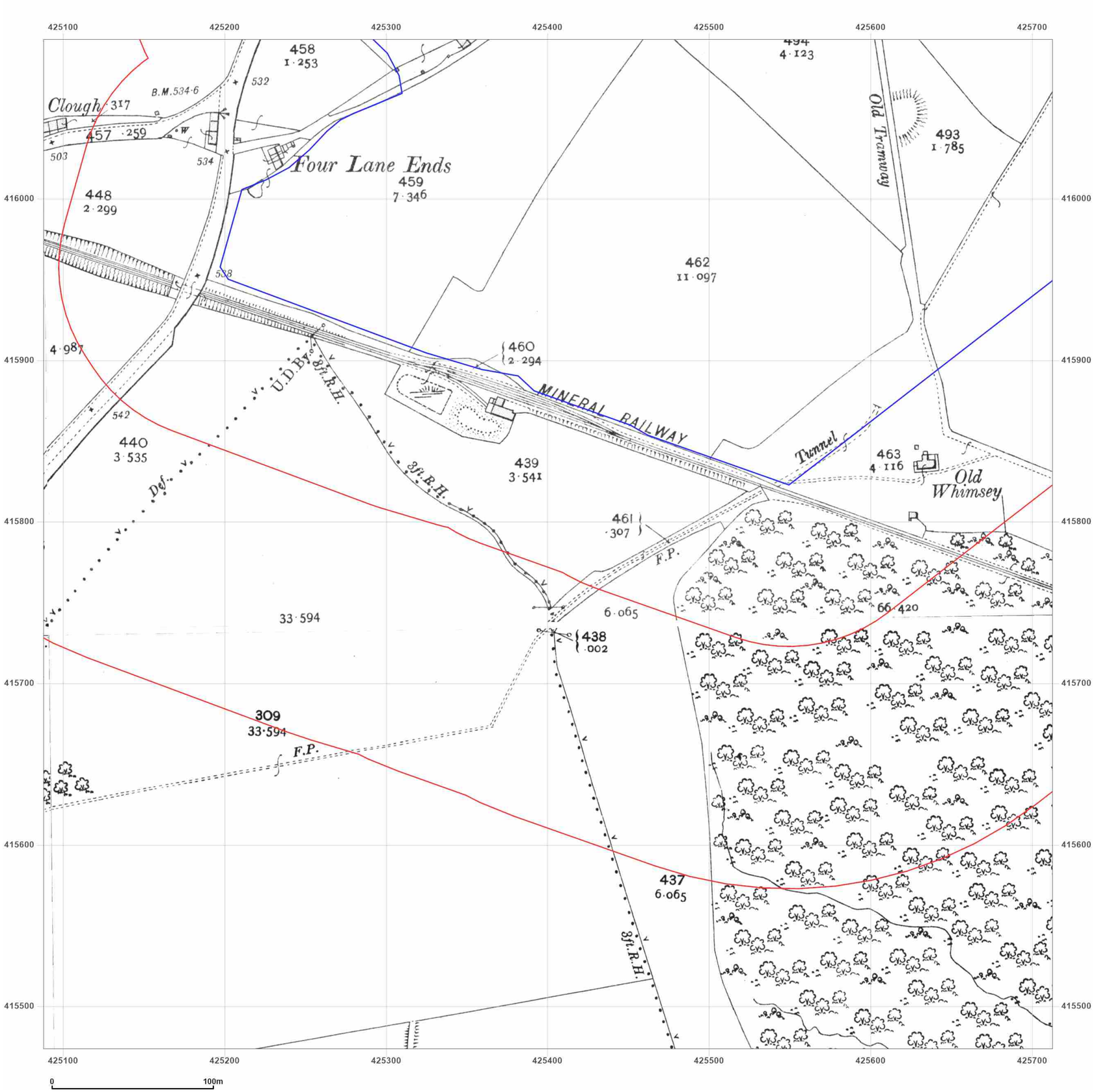

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_1
Grid Ref: 425400, 415786

Map Name: County Series

Map date: **1906-1907**

Scale: 1:2,500

Printed at: 1:2,500

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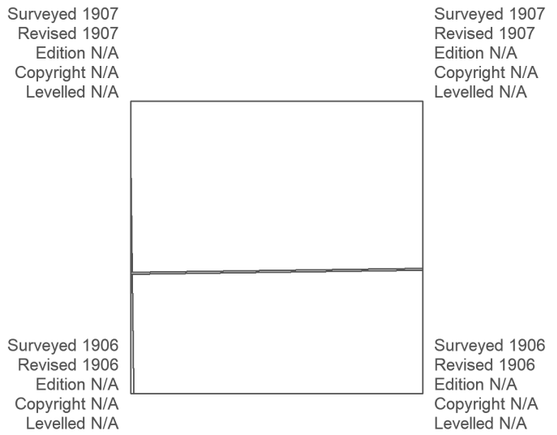

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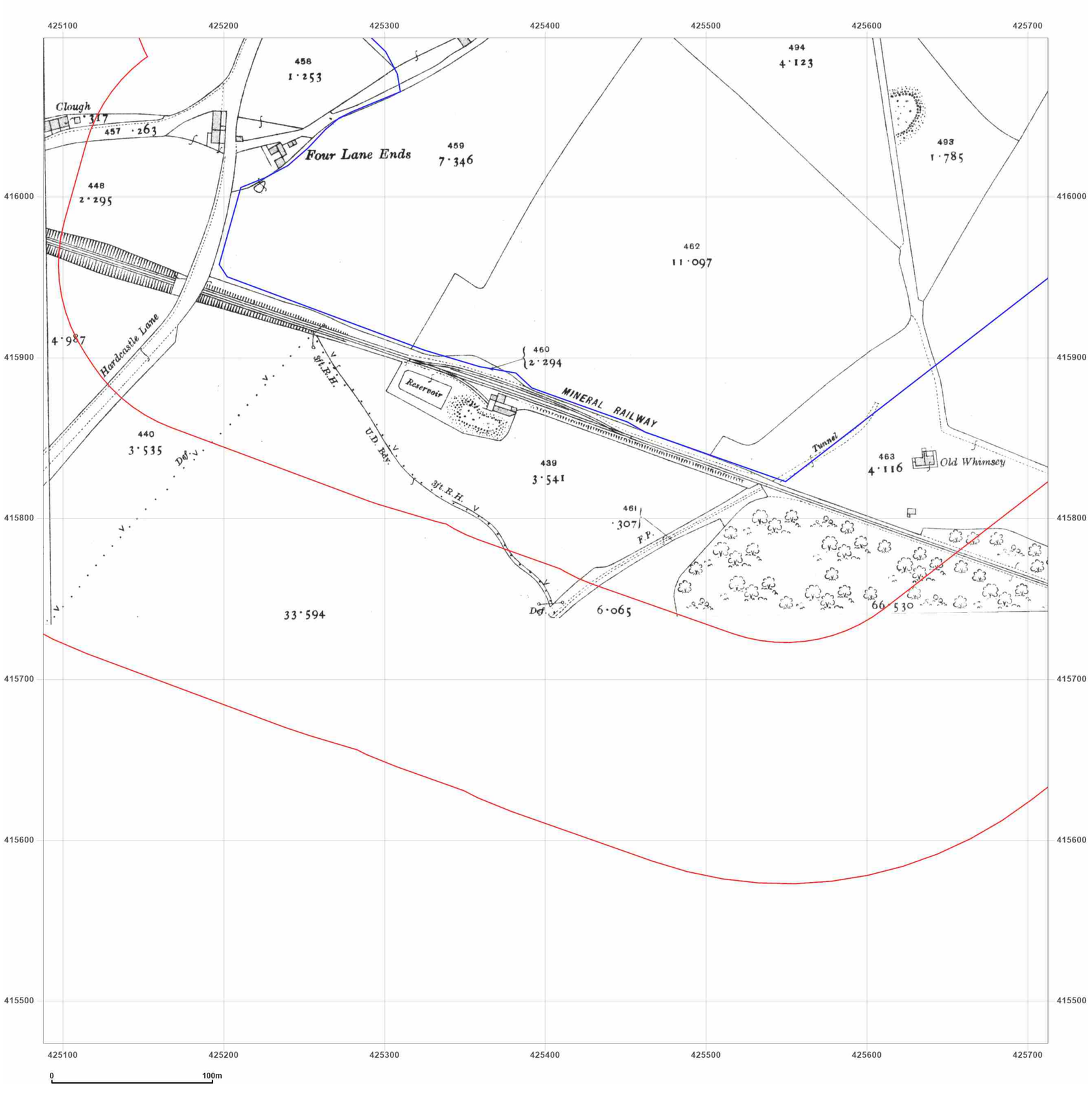

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_1
Grid Ref: 425400, 415786

Map Name: County Series
Map date: **1919**
Scale: 1:2,500
Printed at: 1:2,500

N
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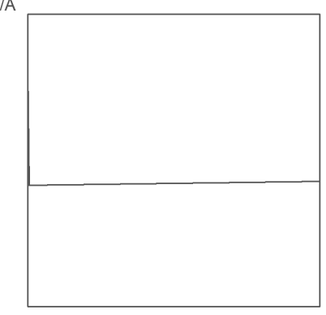
Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A

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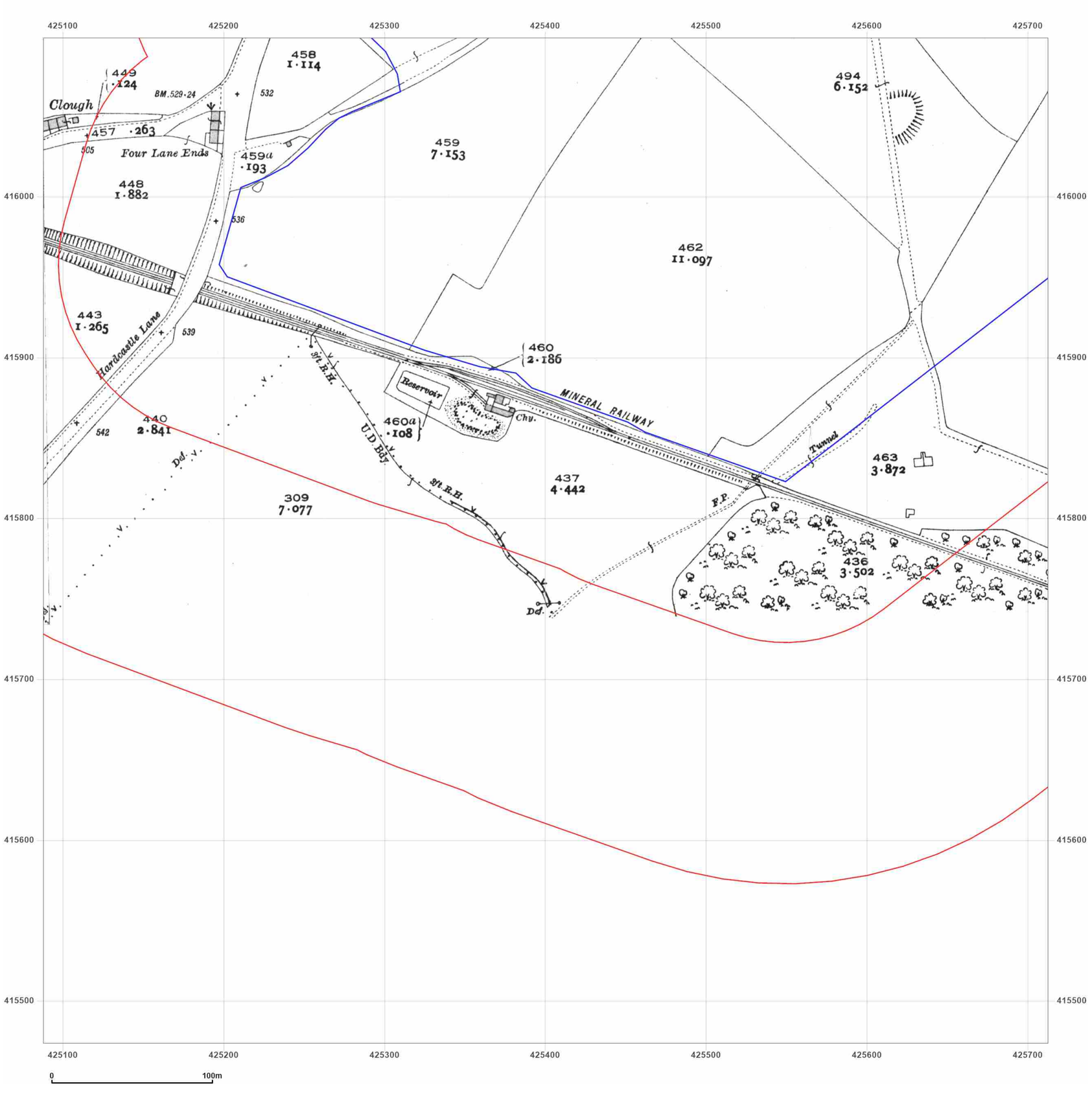

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_1
Grid Ref: 425400, 415786

Map Name: County Series
Map date: **1932-1933**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
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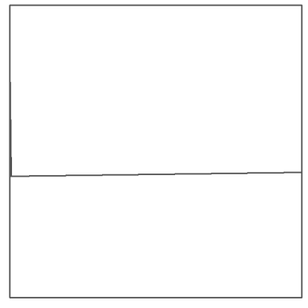
Surveyed 1932
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1933
Revised 1933
Edition N/A
Copyright N/A
Levelled N/A



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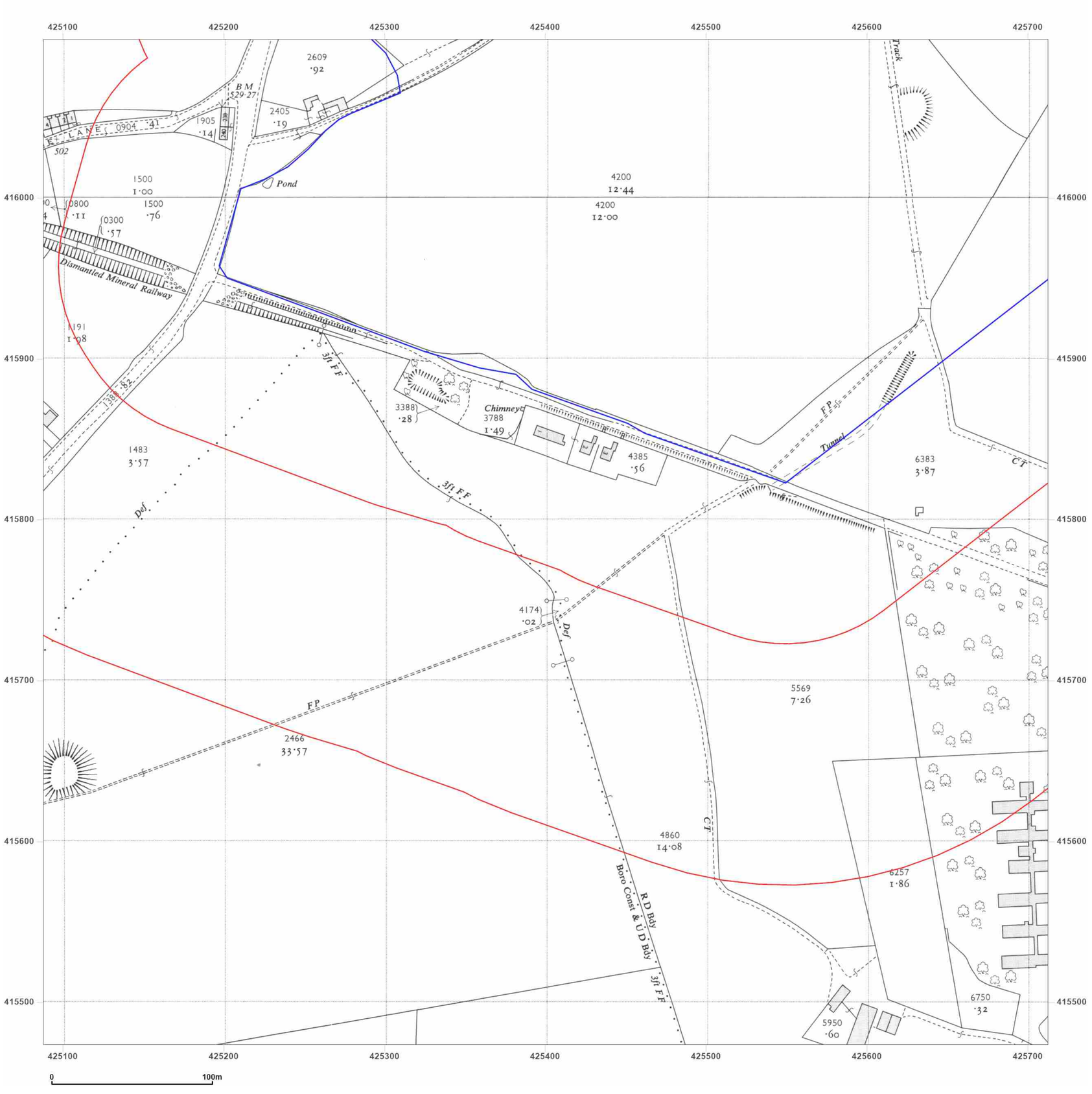

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_1
Grid Ref: 425400, 415786

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1958

Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1958

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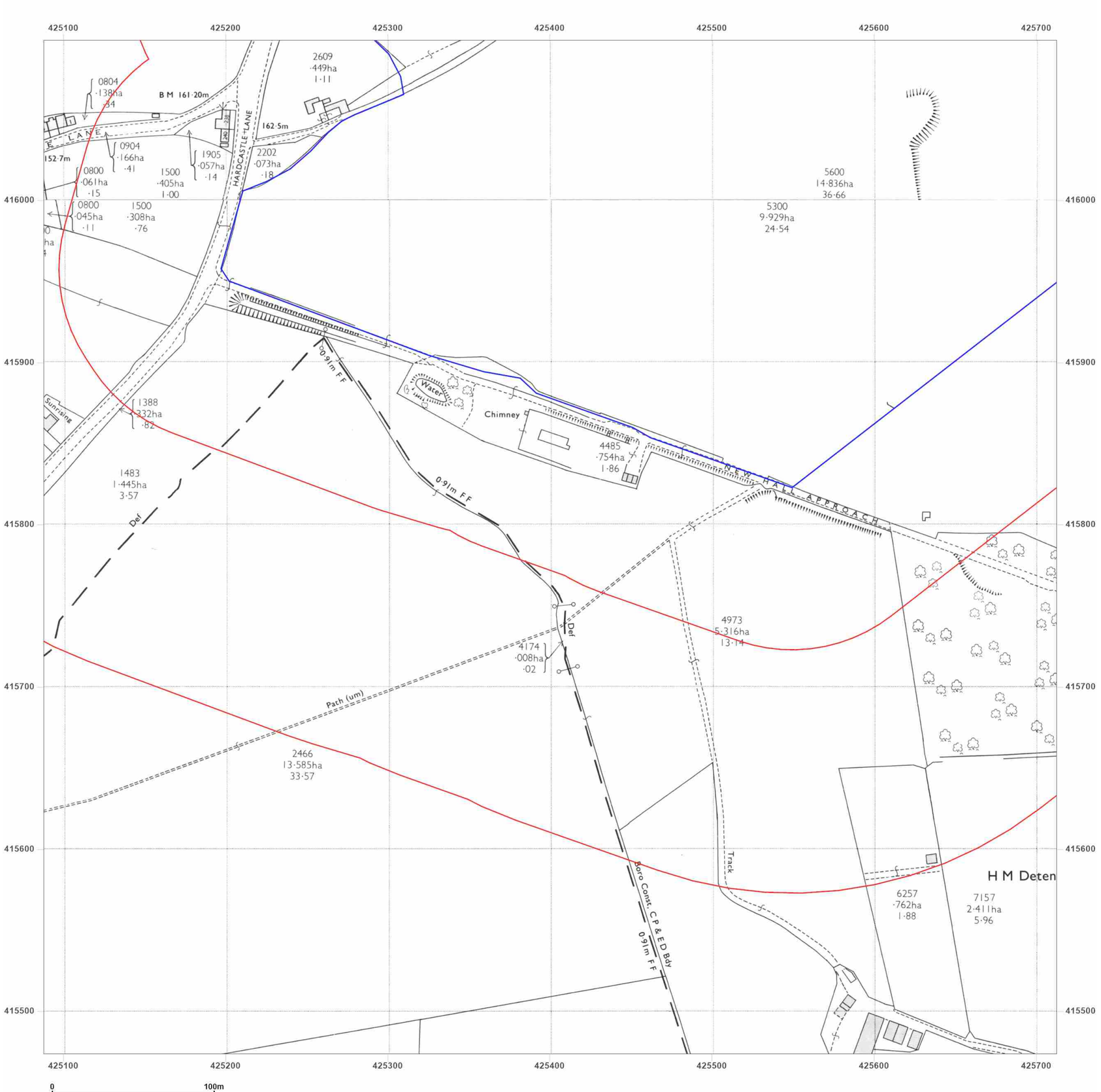

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_1
Grid Ref: 425400, 415786

Map Name: National Grid

Map date: **1975-1979**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1978
Revised 1978
Edition N/A
Copyright 1979
Levelled 1963

Surveyed 1974
Revised 1974
Edition N/A
Copyright 1975
Levelled 1963

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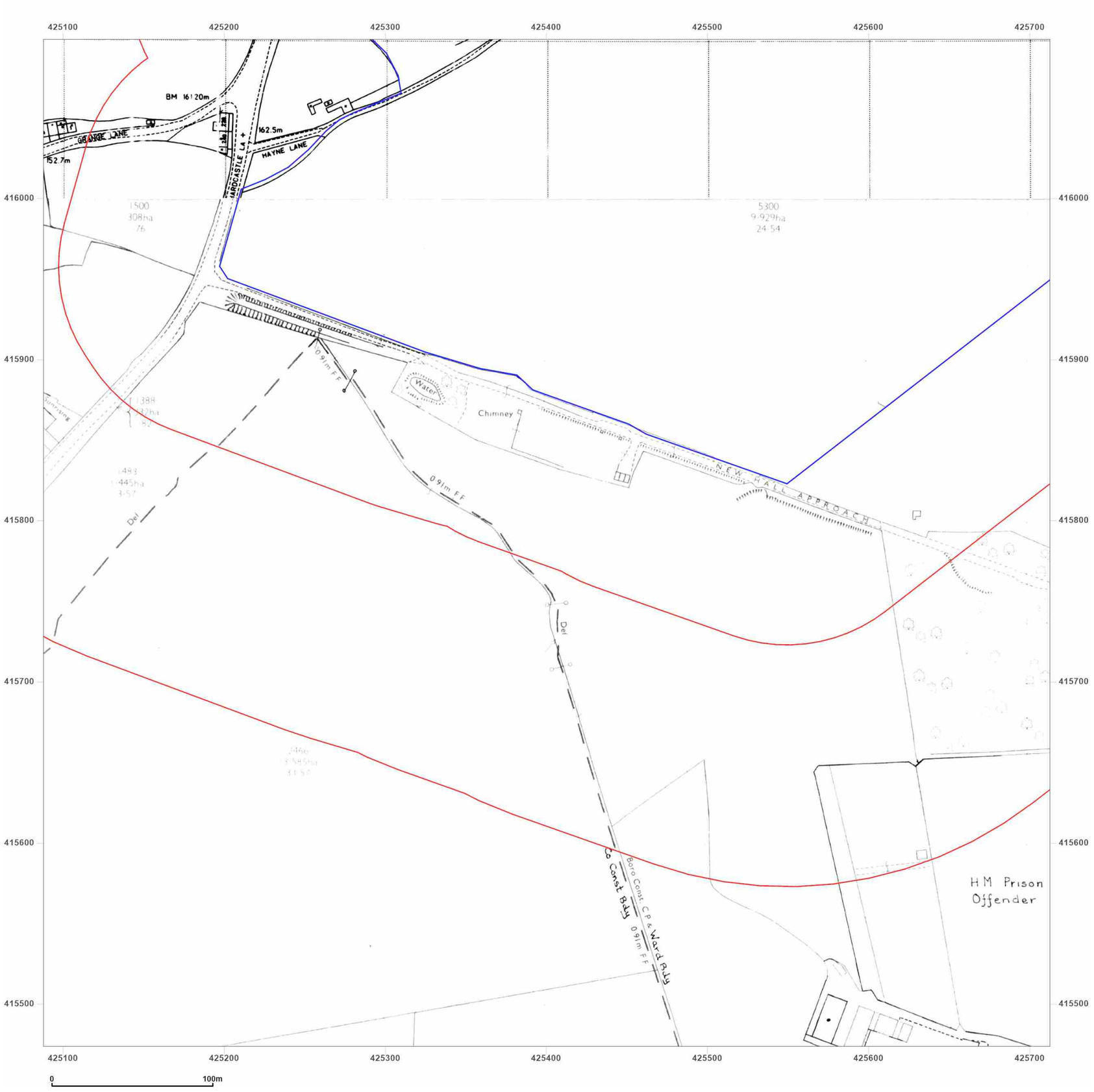

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_1
Grid Ref: 425400, 415786

Map Name: National Grid

Map date: **1990-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1990
Levelled 1973

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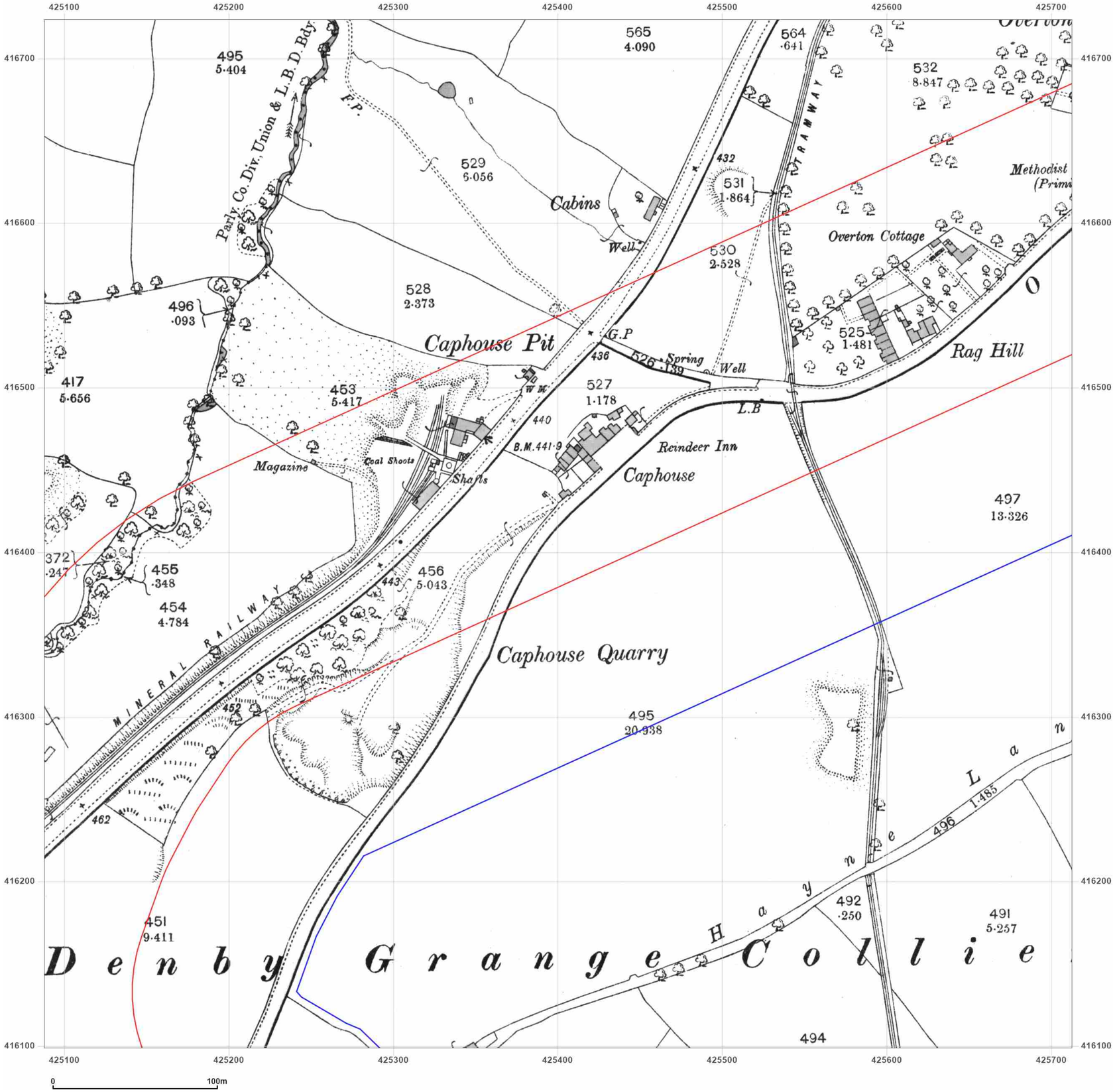

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_2
Grid Ref: 425400, 416411

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

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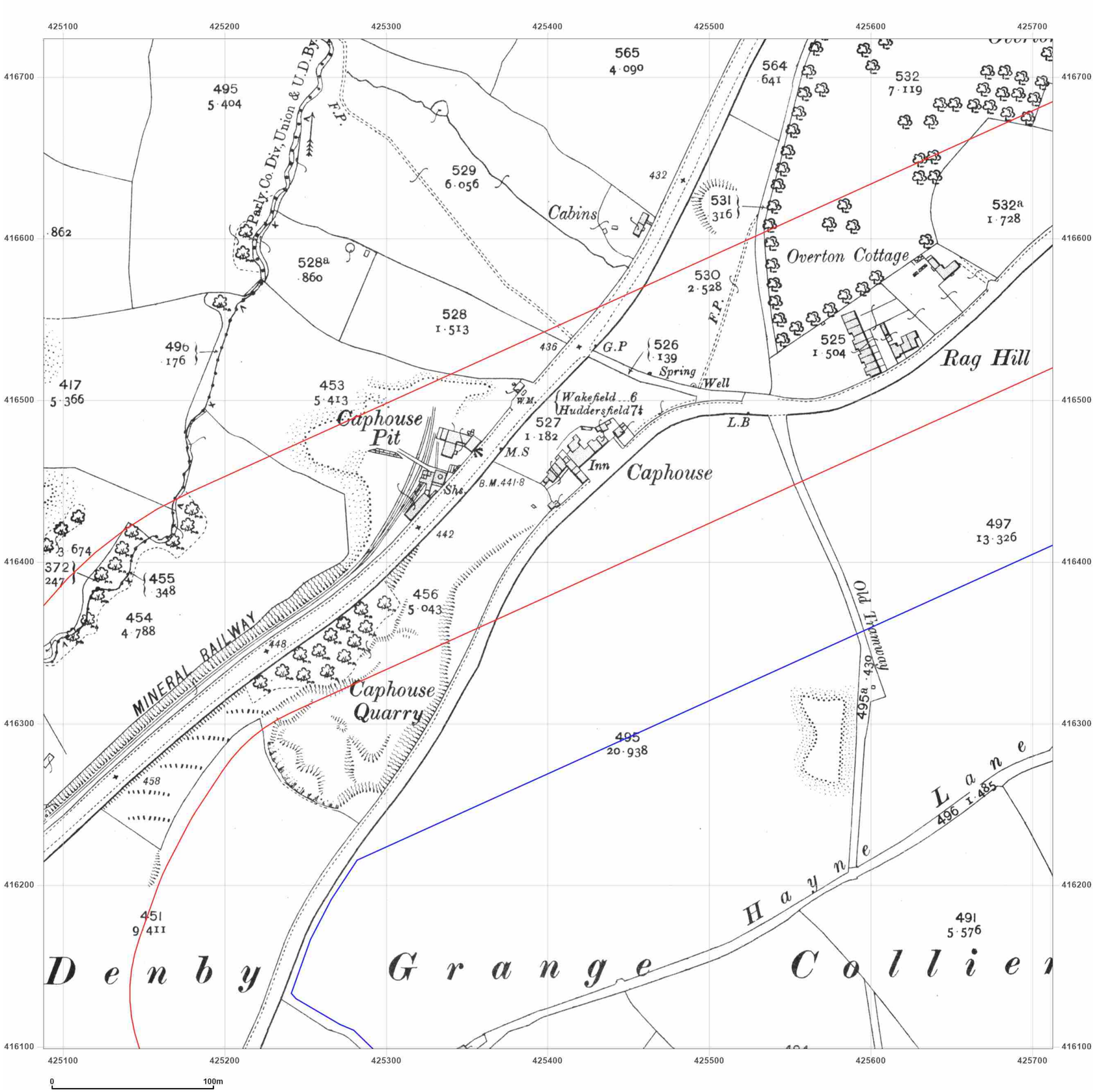

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_2
Grid Ref: 425400, 416411

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1907
Revised 1907
Edition N/A
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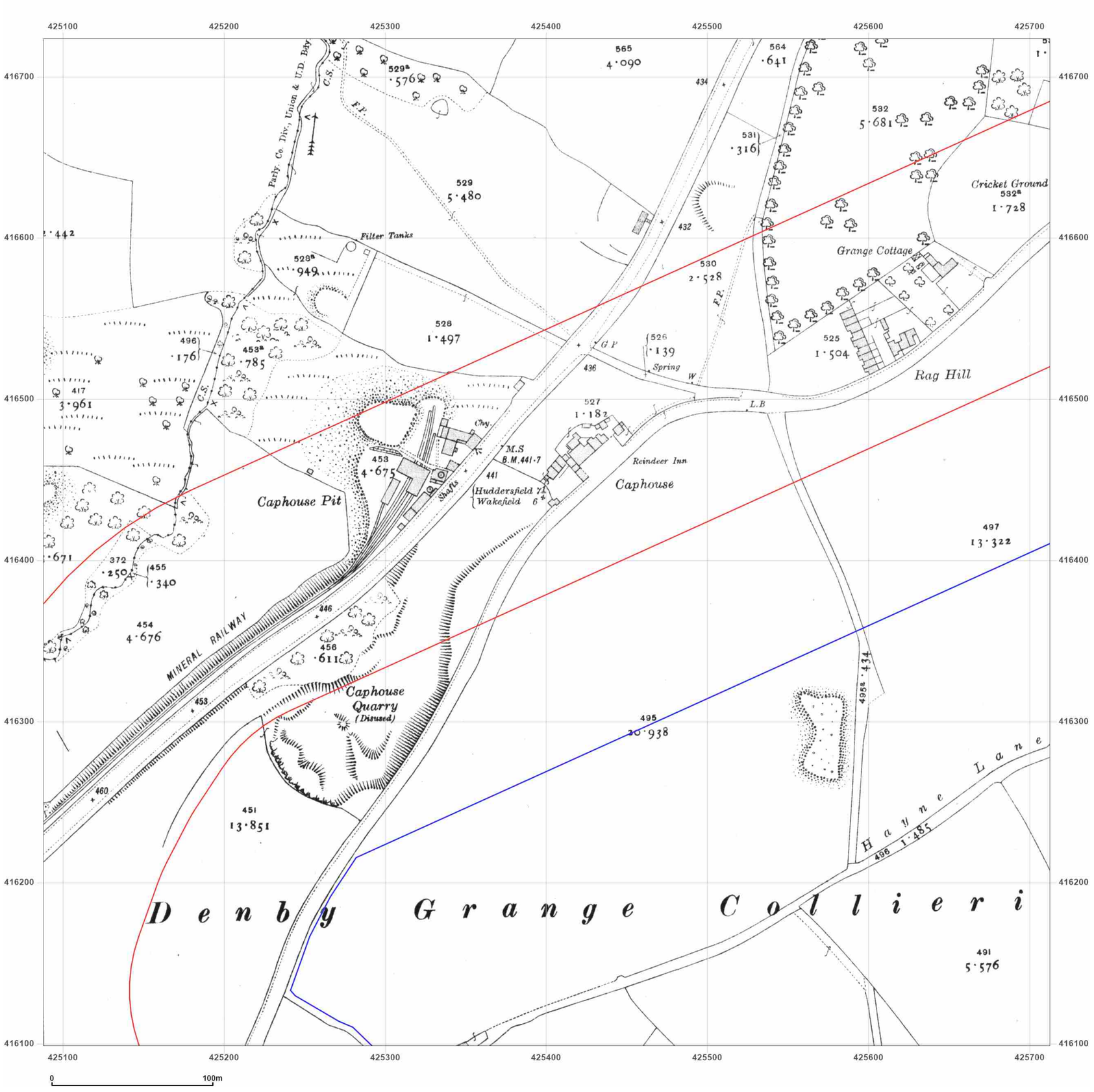

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_2
Grid Ref: 425400, 416411

Map Name: County Series

Map date: **1919**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A

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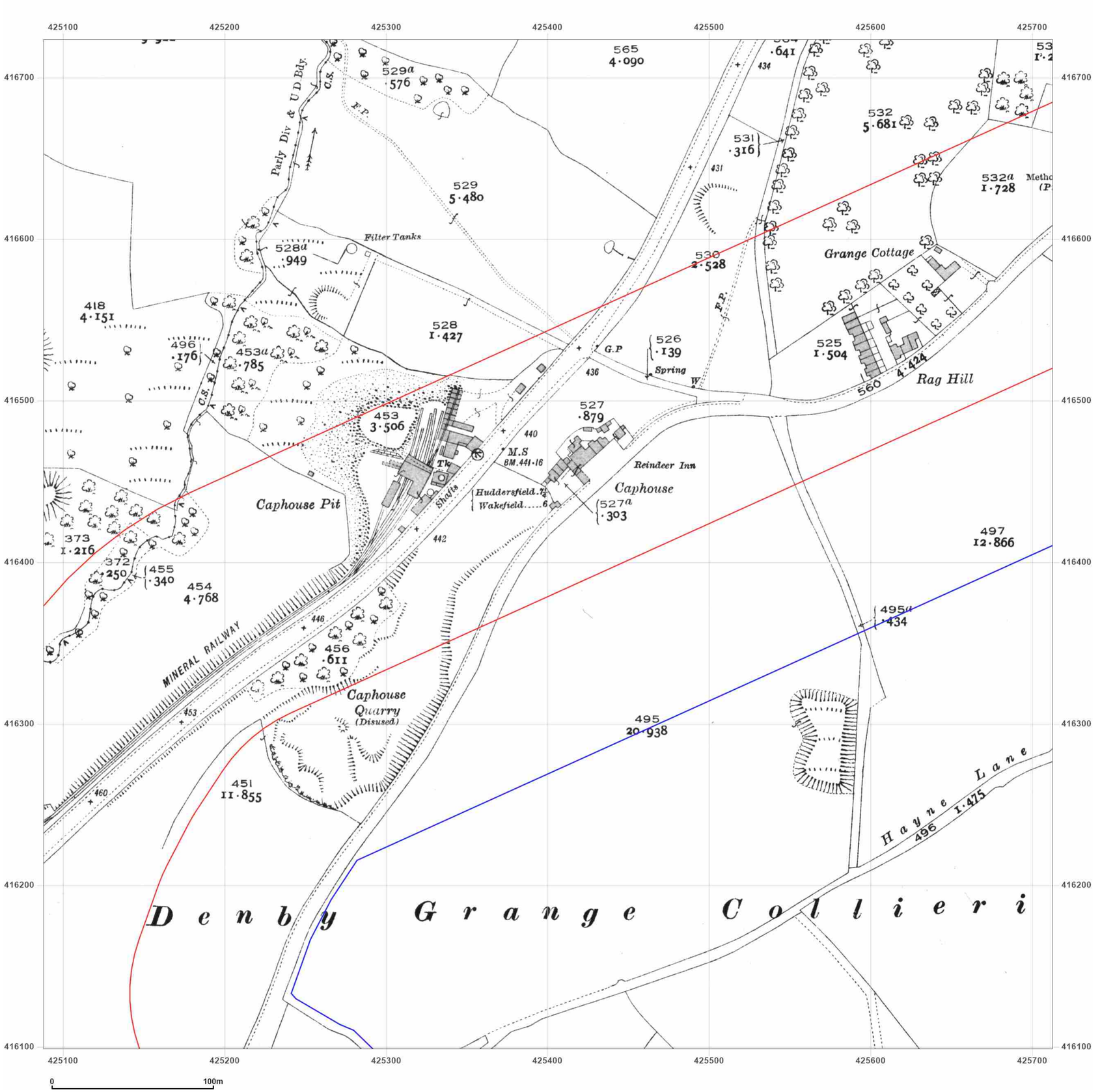

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_2
Grid Ref: 425400, 416411

Map Name: County Series

Map date: **1933**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1933
Revised 1933
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_2
Grid Ref: 425400, 416411

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1958

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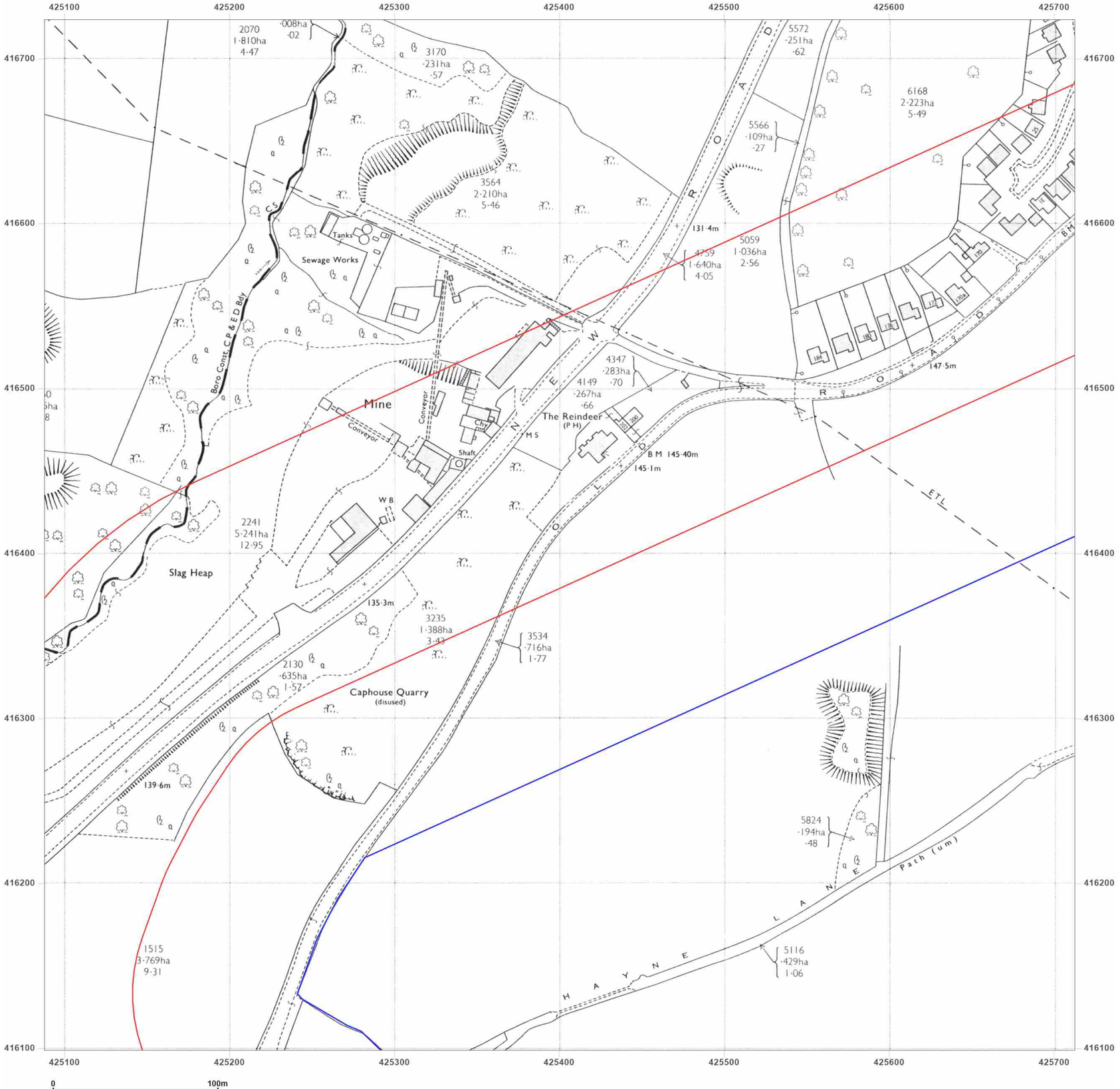

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_2
Grid Ref: 425400, 416411

Map Name: National Grid

Map date: **1979**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1978
Revised 1978
Edition N/A
Copyright 1979
Levelled 1963

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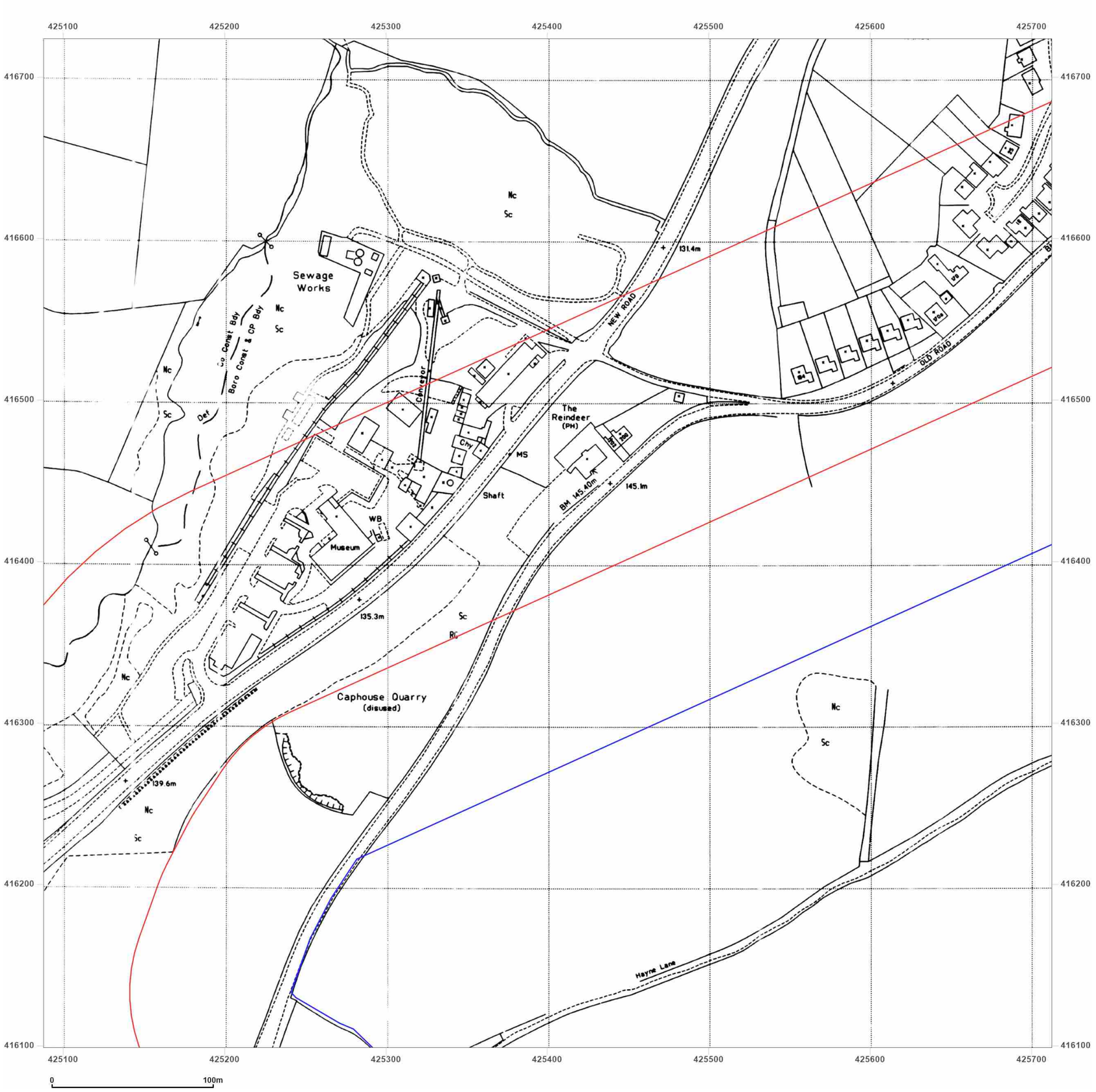

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_1_2
Grid Ref: 425400, 416411

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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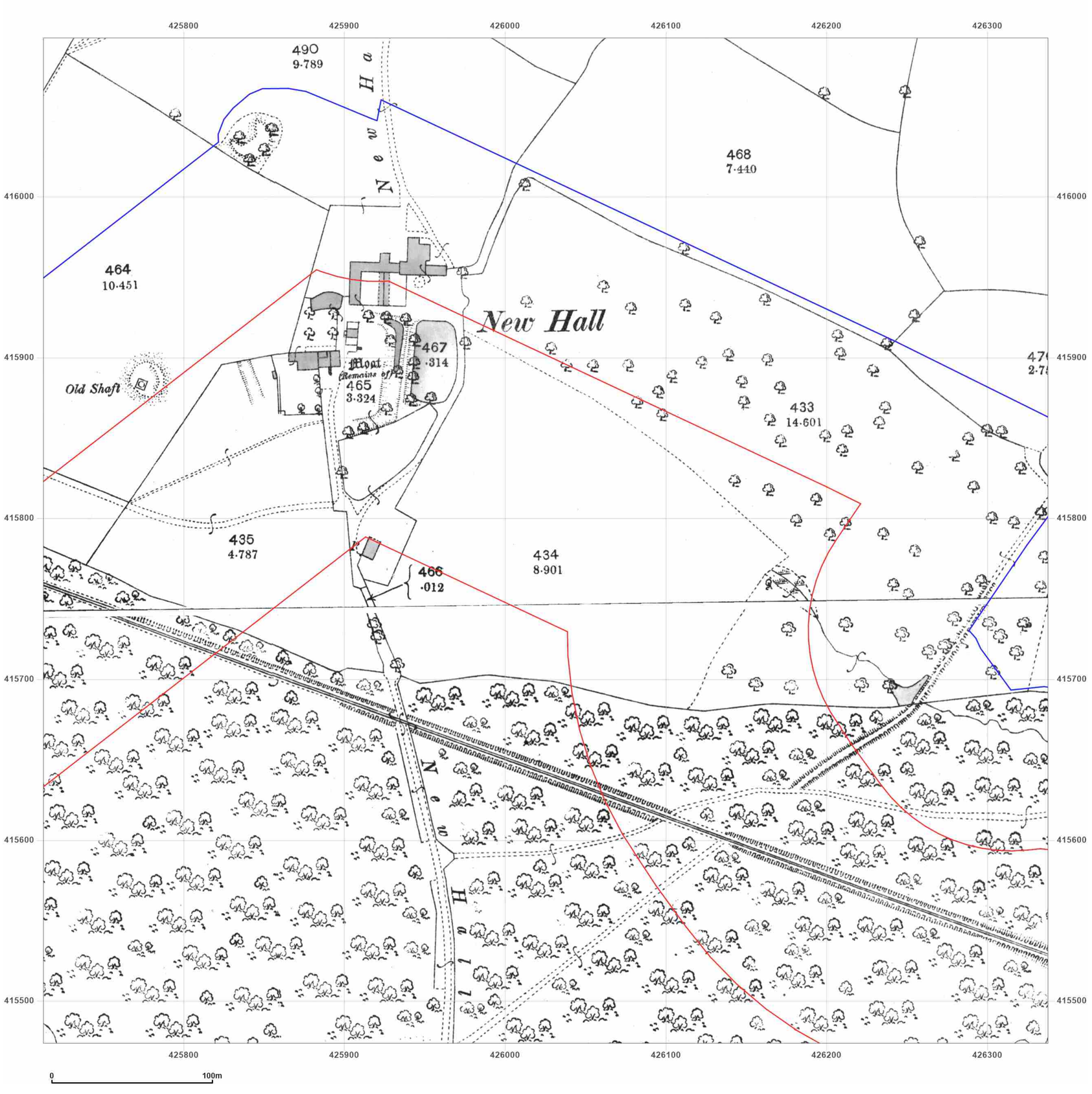

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_1
Grid Ref: 426025, 415786

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

N
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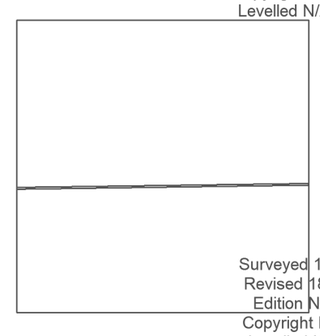

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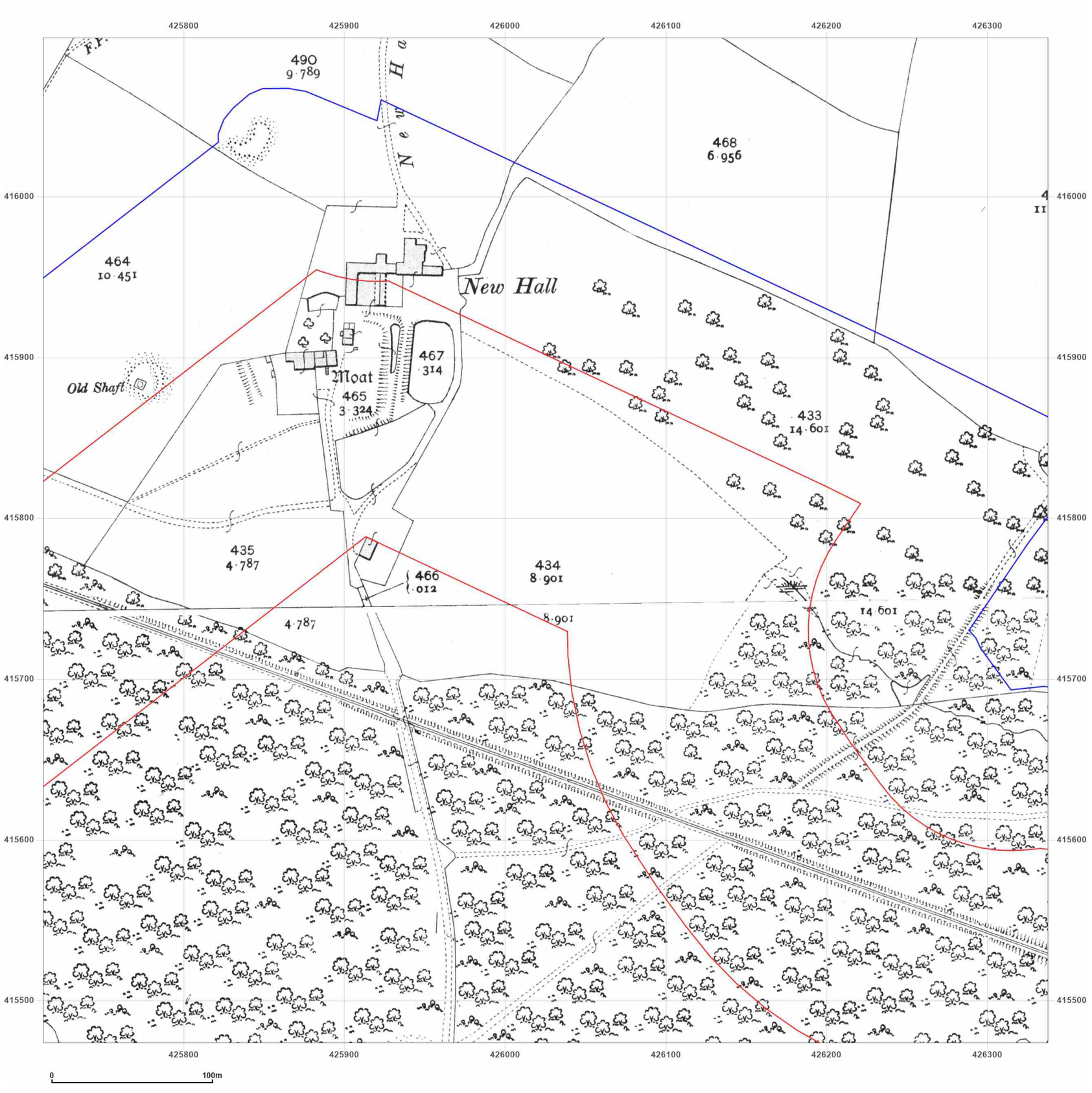

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_1
Grid Ref: 426025, 415786

Map Name: County Series

Map date: **1906-1907**

Scale: 1:2,500

Printed at: 1:2,500

N
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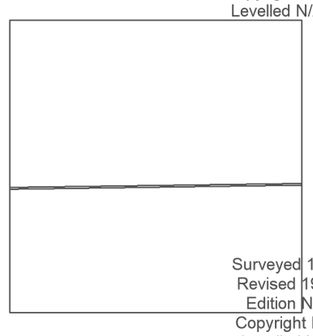
Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

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WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_1
Grid Ref: 426025, 415786

Map Name: County Series

Map date: **1919**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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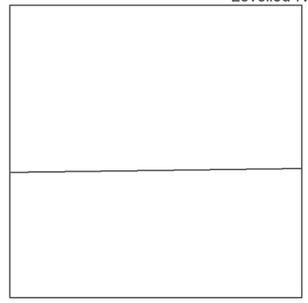
Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A



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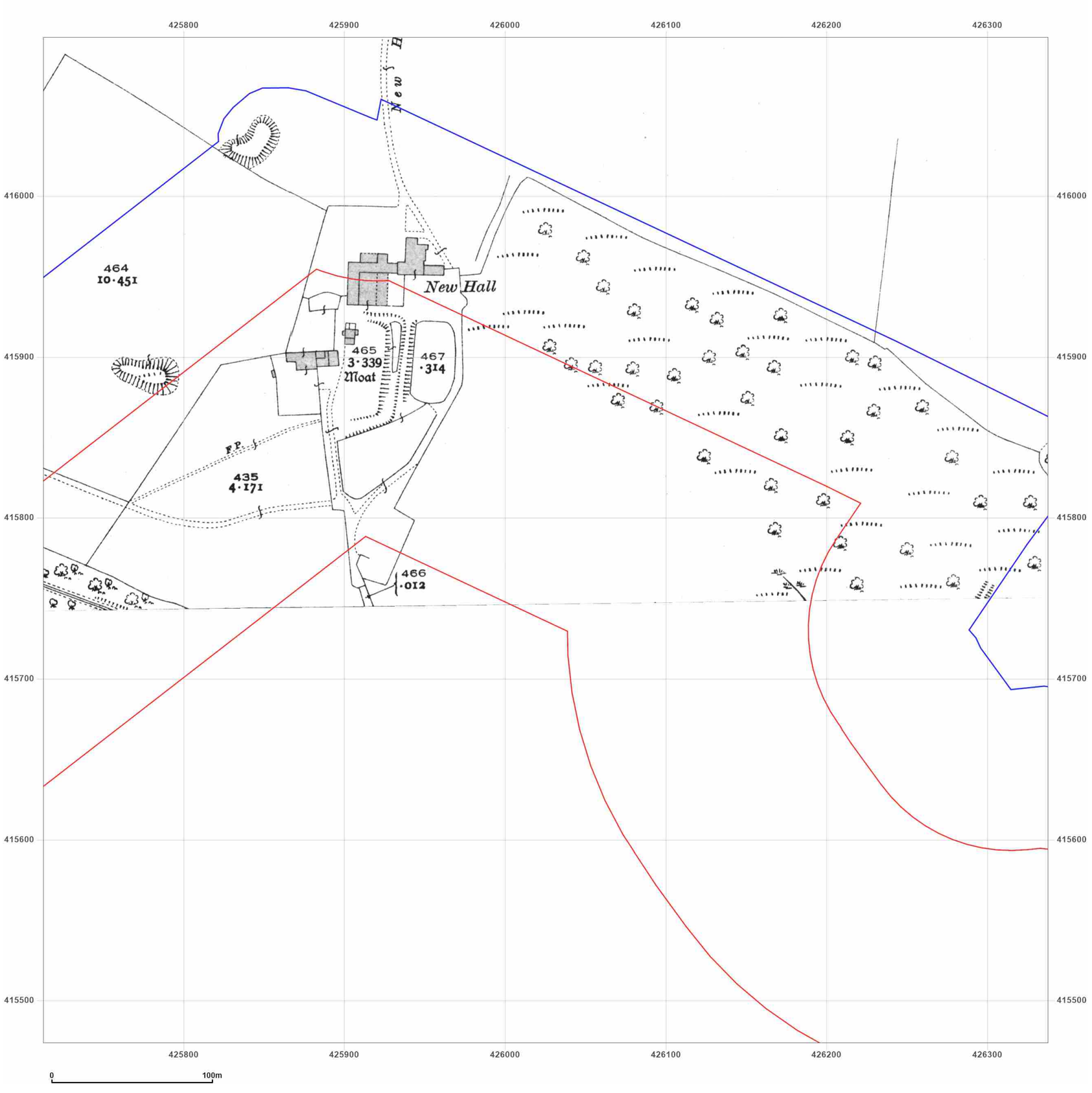

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_1
Grid Ref: 426025, 415786

Map Name: County Series

Map date: **1933**

Scale: 1:2,500

Printed at: 1:2,500

N
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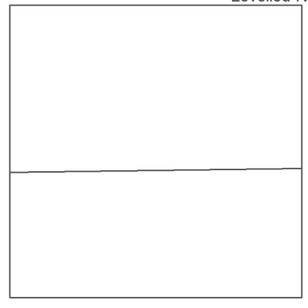
Surveyed 1933
Revised 1933
Edition N/A
Copyright N/A
Levelled N/A



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Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_1
Grid Ref: 426025, 415786

Map Name: National Grid

Map date: **1961**

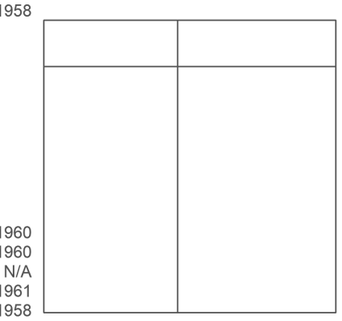
Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1958

Surveyed N/A
Revised 1960
Edition N/A
Copyright 1961
Levelled 1958



Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1958

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WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_1
Grid Ref: 426025, 415786

Map Name: National Grid

Map date: **1972-1975**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1971
Revised 1971
Edition N/A
Copyright 1972
Levelled 1963

Surveyed 1974
Revised 1974
Edition N/A
Copyright 1975
Levelled 1963

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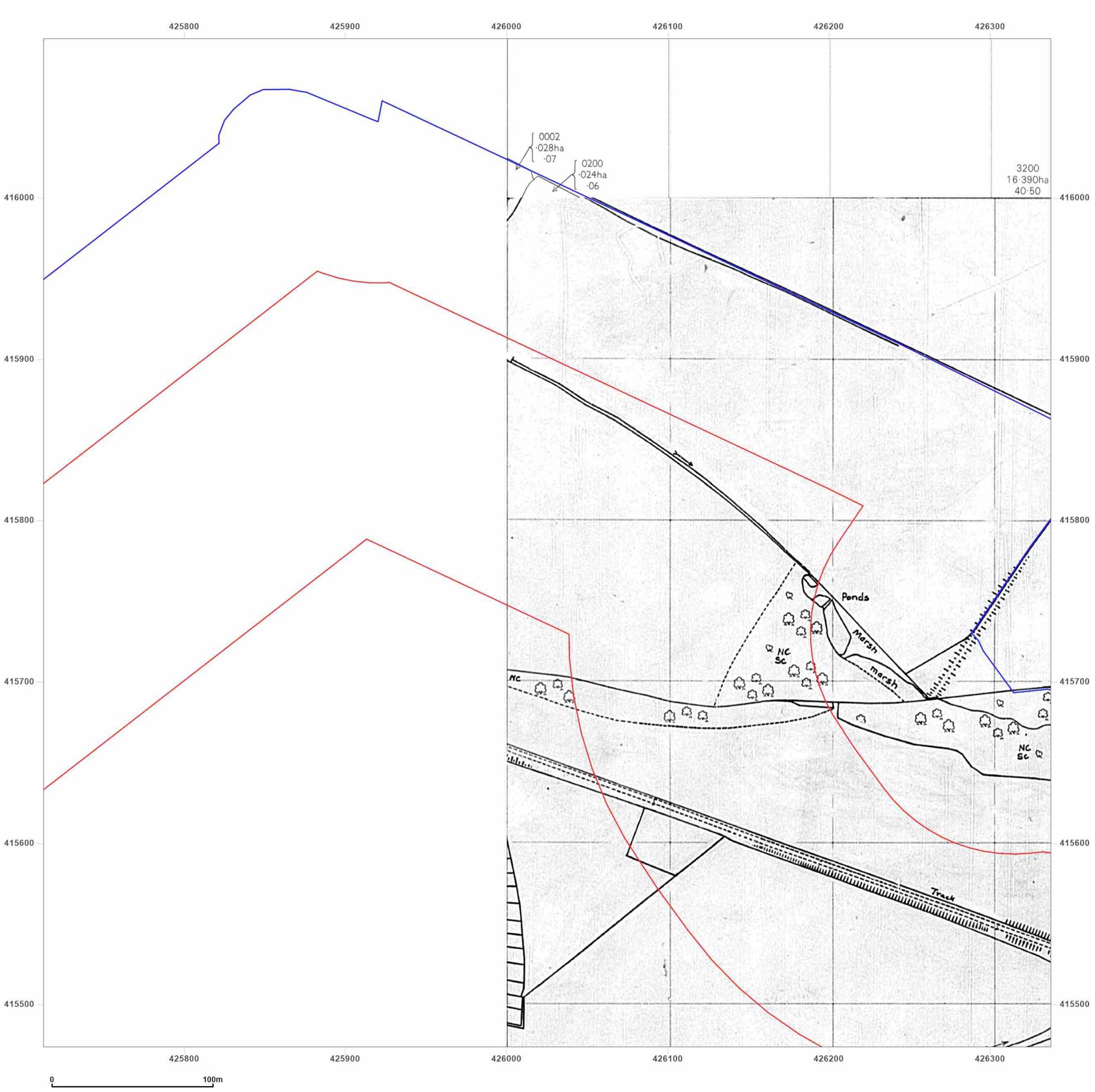

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_1
Grid Ref: 426025, 415786

Map Name: National Grid

Map date: **1983**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1982
Revised 1982
Edition N/A
Copyright 1983
Levelled 1963

Surveyed 1963
Revised 1983
Edition N/A
Copyright 1983
Levelled 1963

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WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_1
Grid Ref: 426025, 415786

Map Name: National Grid

Map date: **1990-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1990
Levelled 1973

Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
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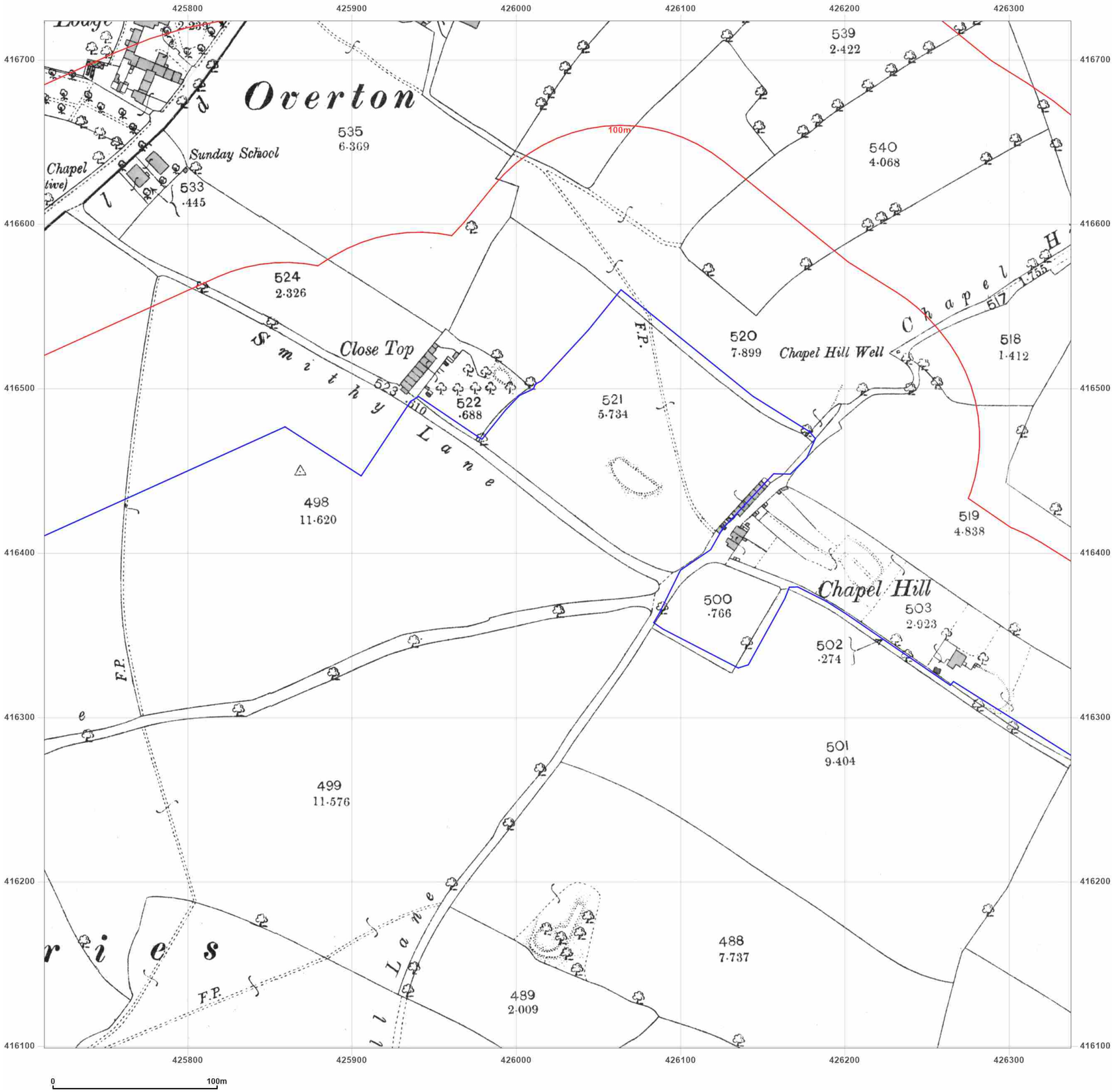

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_2
Grid Ref: 426025, 416411

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

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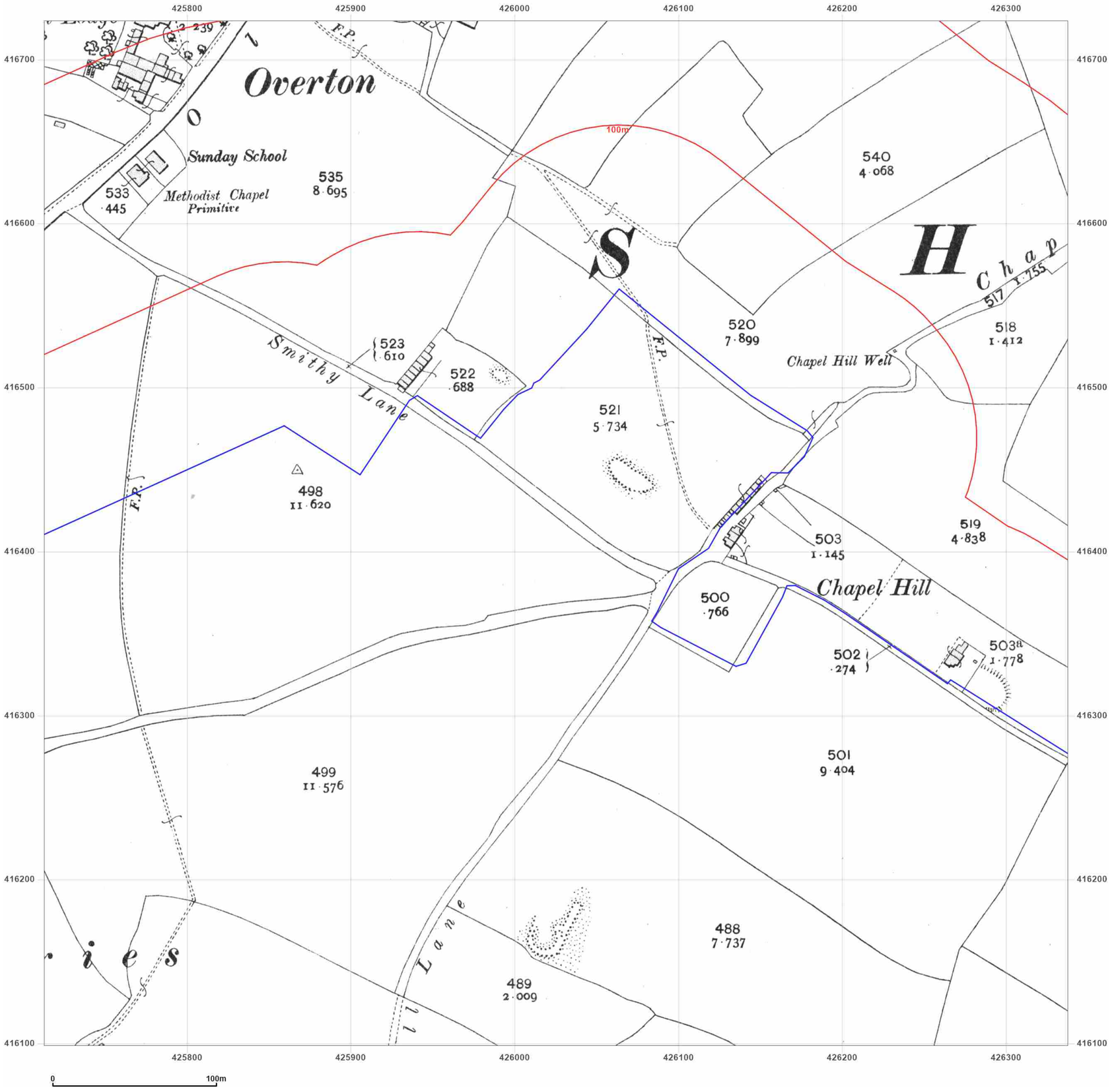

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_2
Grid Ref: 426025, 416411

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

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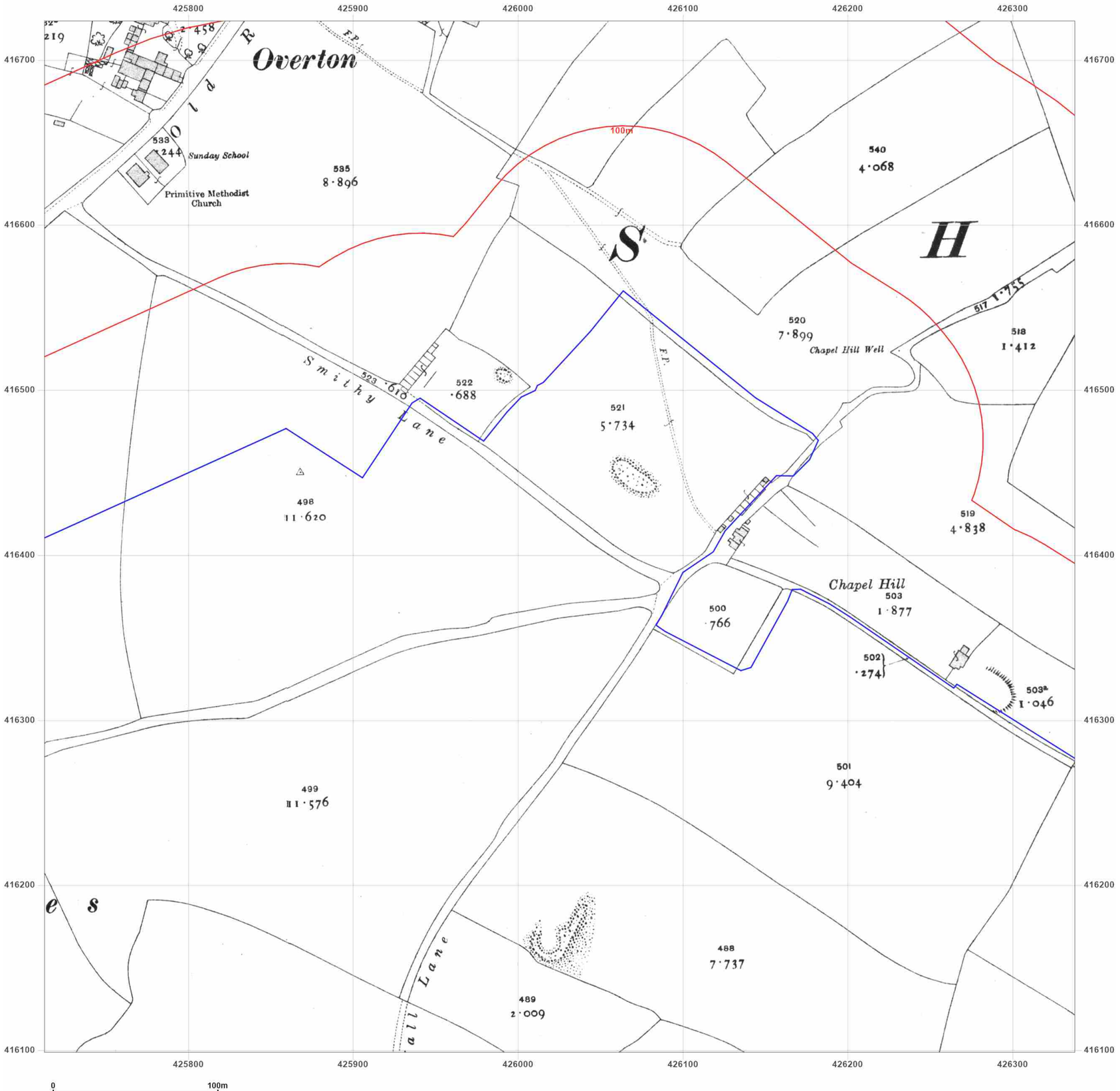

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_2
Grid Ref: 426025, 416411

Map Name: County Series

Map date: **1919**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
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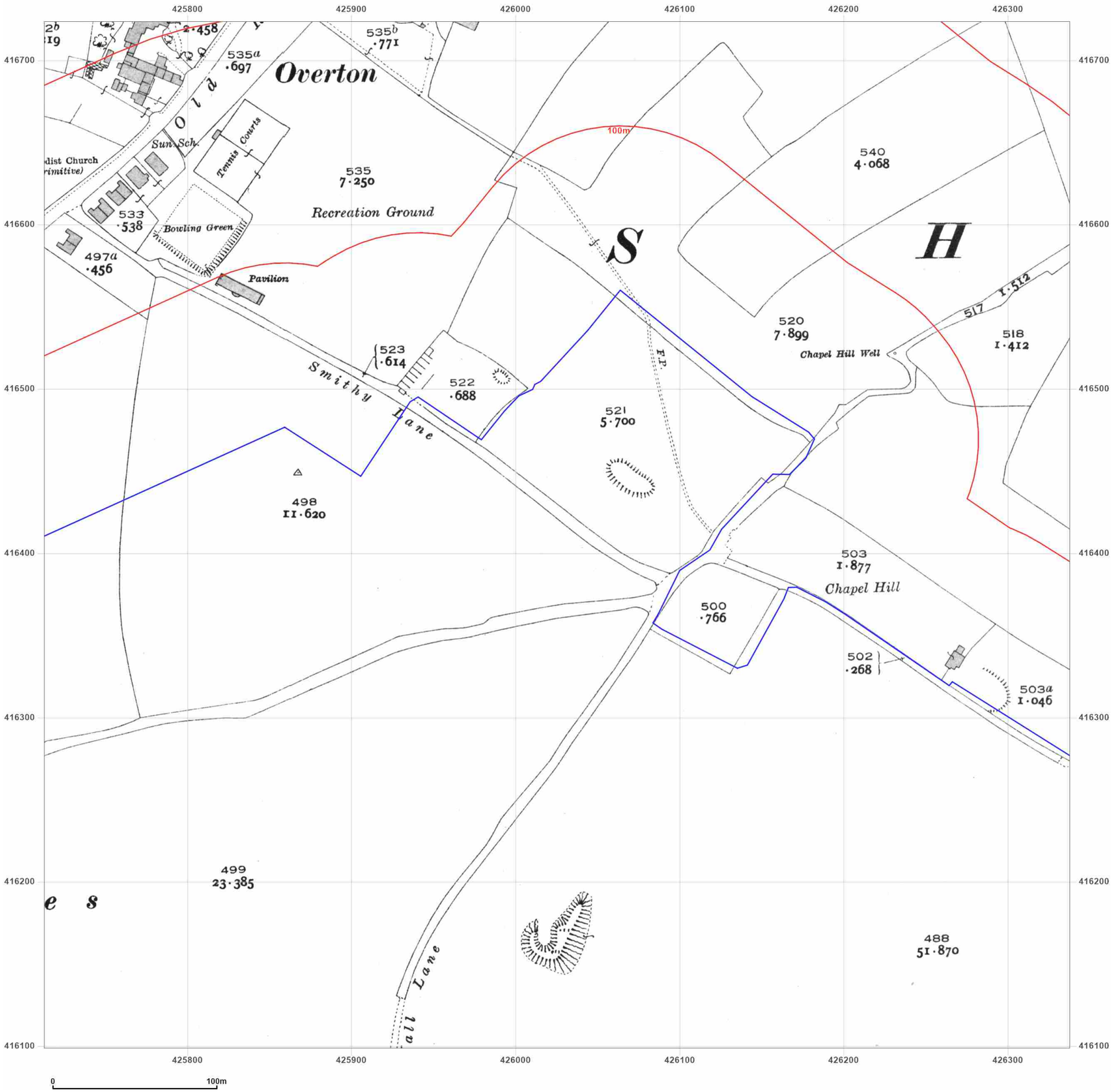

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_2
Grid Ref: 426025, 416411

Map Name: County Series

Map date: **1933**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1933
Revised 1933
Edition N/A
Copyright N/A
Levelled N/A

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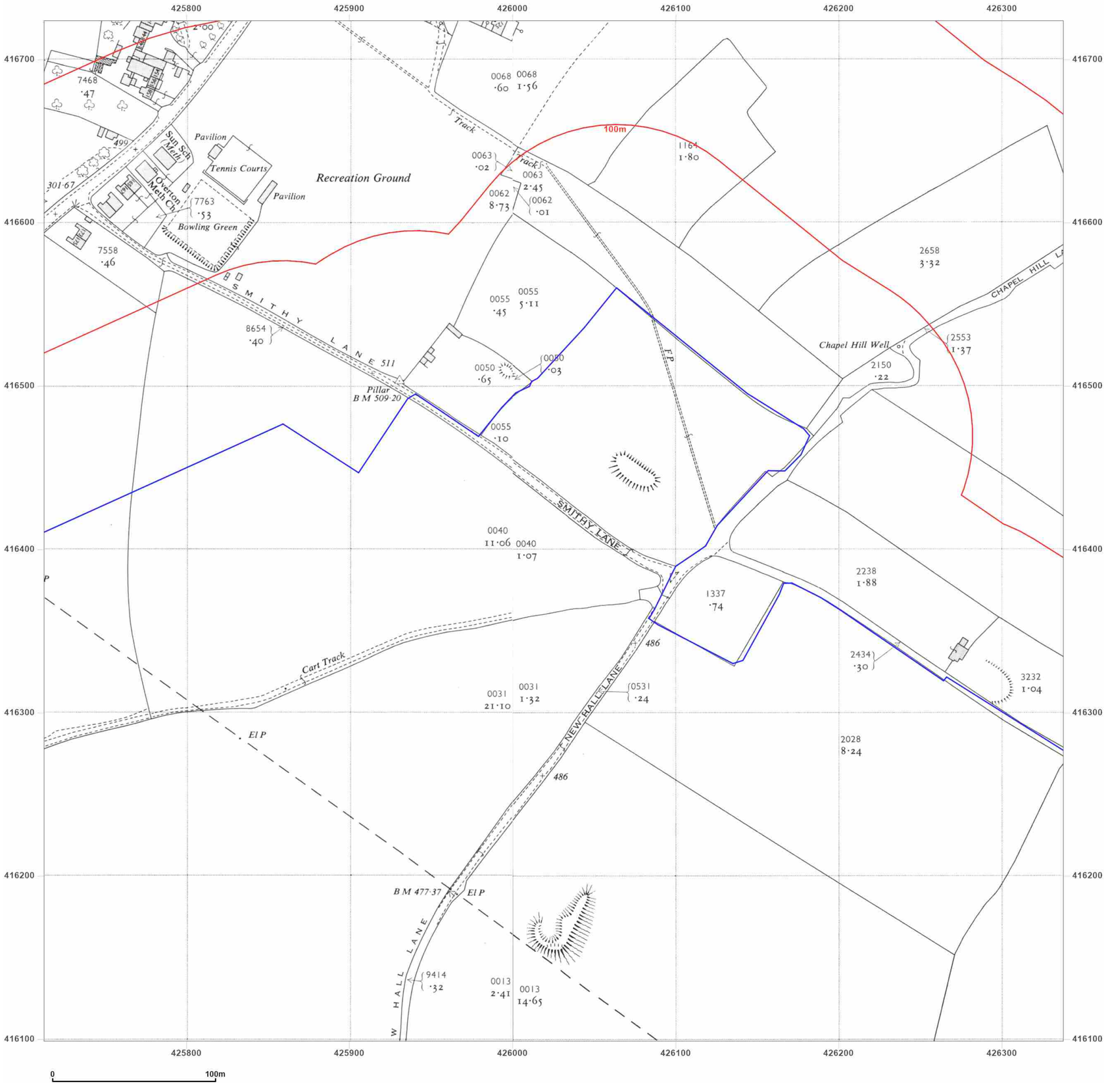

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_2
Grid Ref: 426025, 416411

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1960
Revised 1960
Edition N/A
Copyright 1961
Levelled 1958

Surveyed N/A
Revised 1960
Edition N/A
Copyright 1961
Levelled 1958

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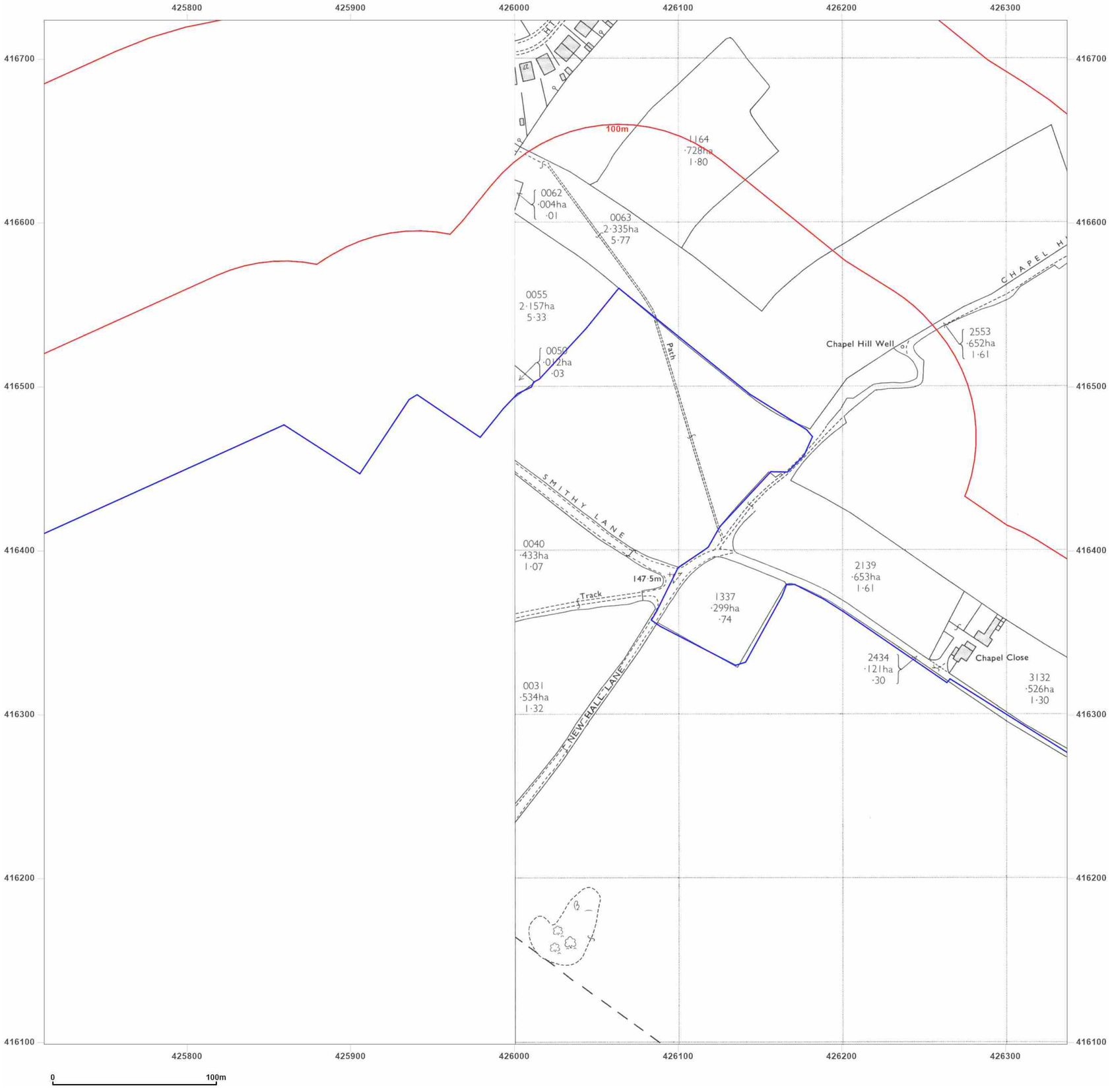

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_2
Grid Ref: 426025, 416411

Map Name: National Grid

Map date: **1972**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1971
Revised 1971
Edition N/A
Copyright 1972
Levelled 1963

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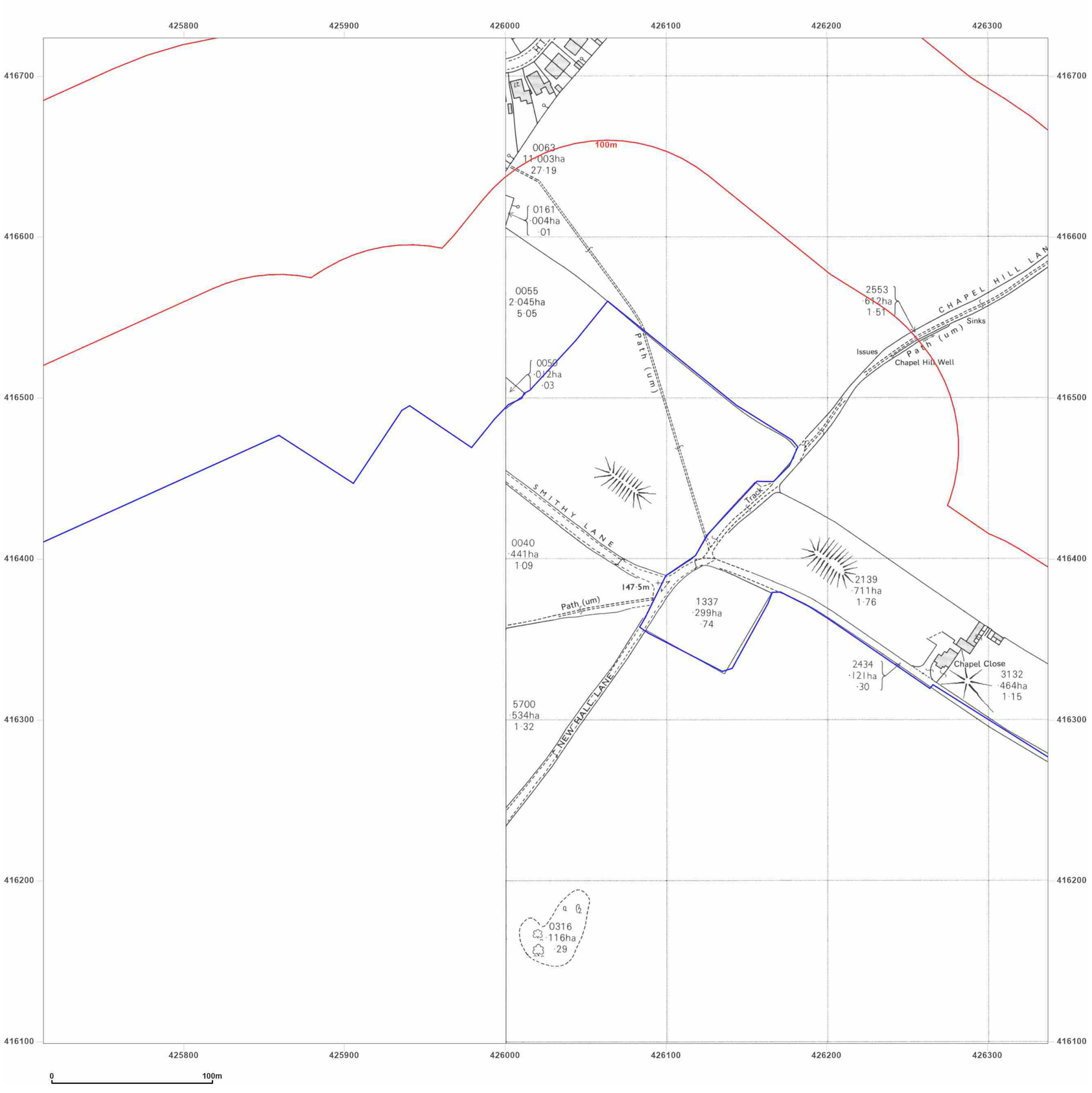

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_2
Grid Ref: 426025, 416411

Map Name: National Grid

Map date: **1983**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1982
Revised 1982
Edition N/A
Copyright 1983
Levelled 1963

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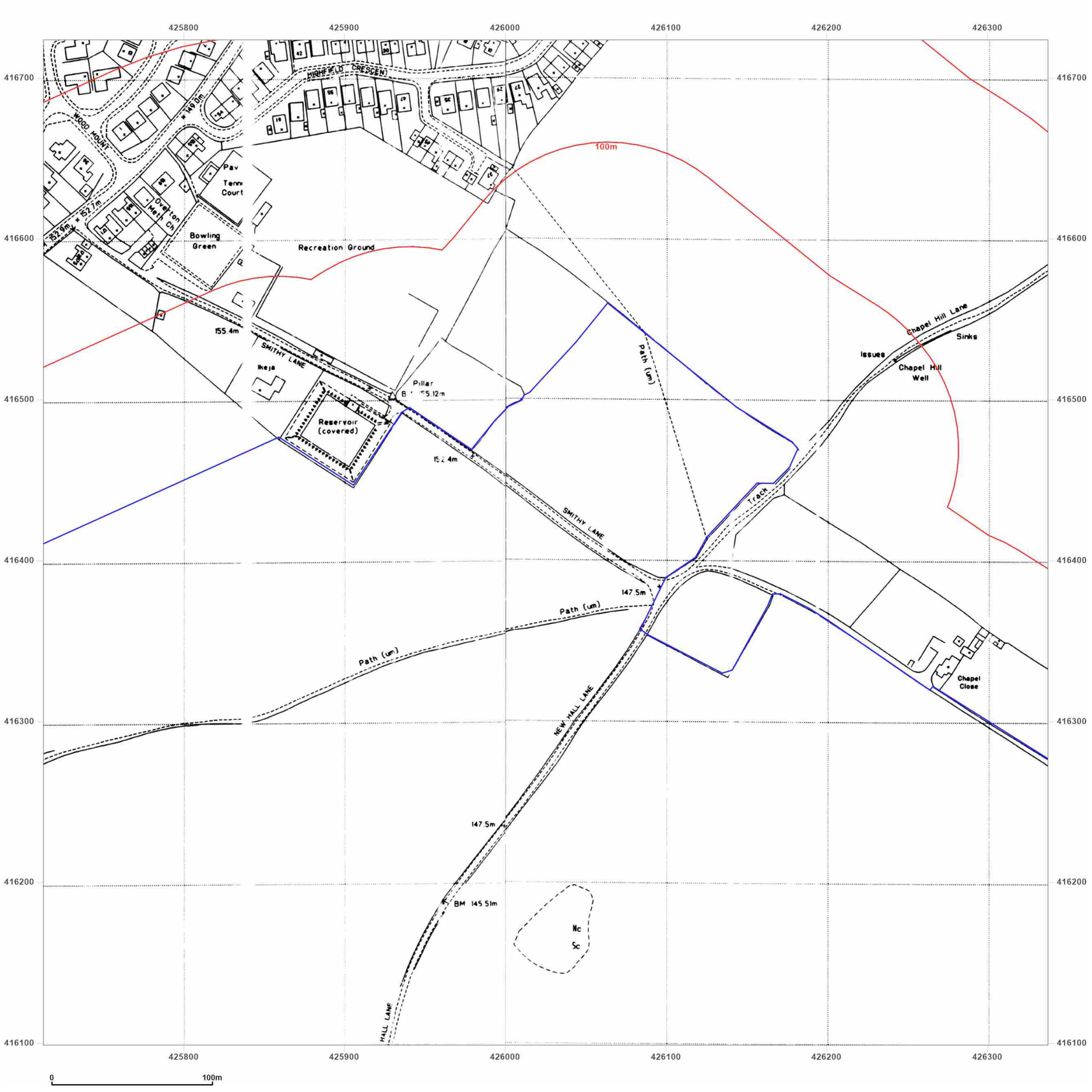

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_2_2
Grid Ref: 426025, 416411

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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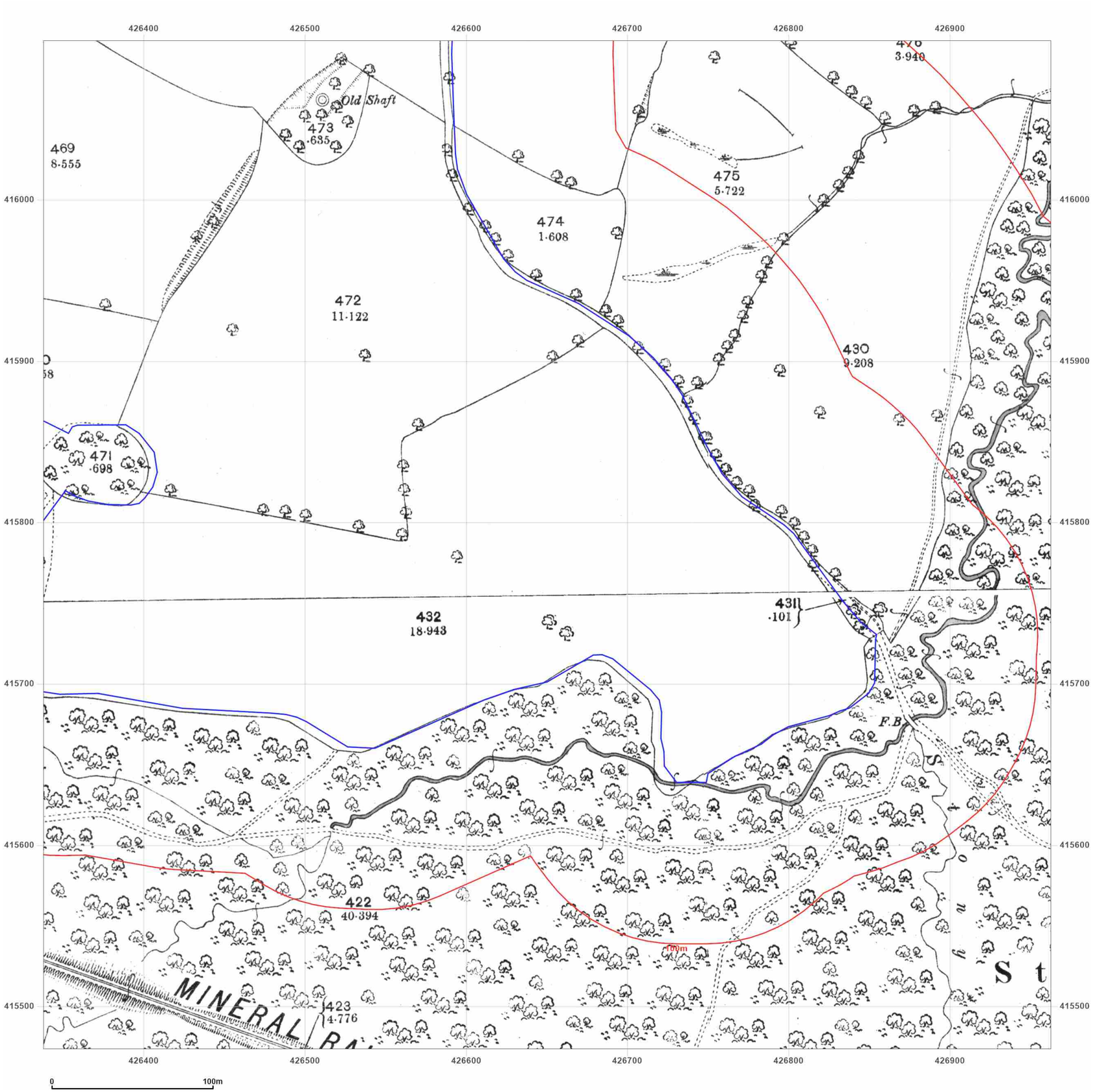

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_1
Grid Ref: 426650, 415786

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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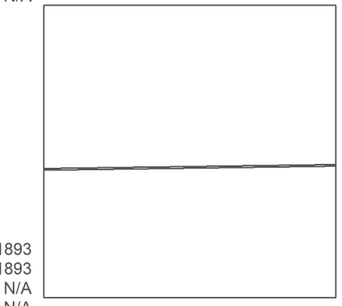
Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

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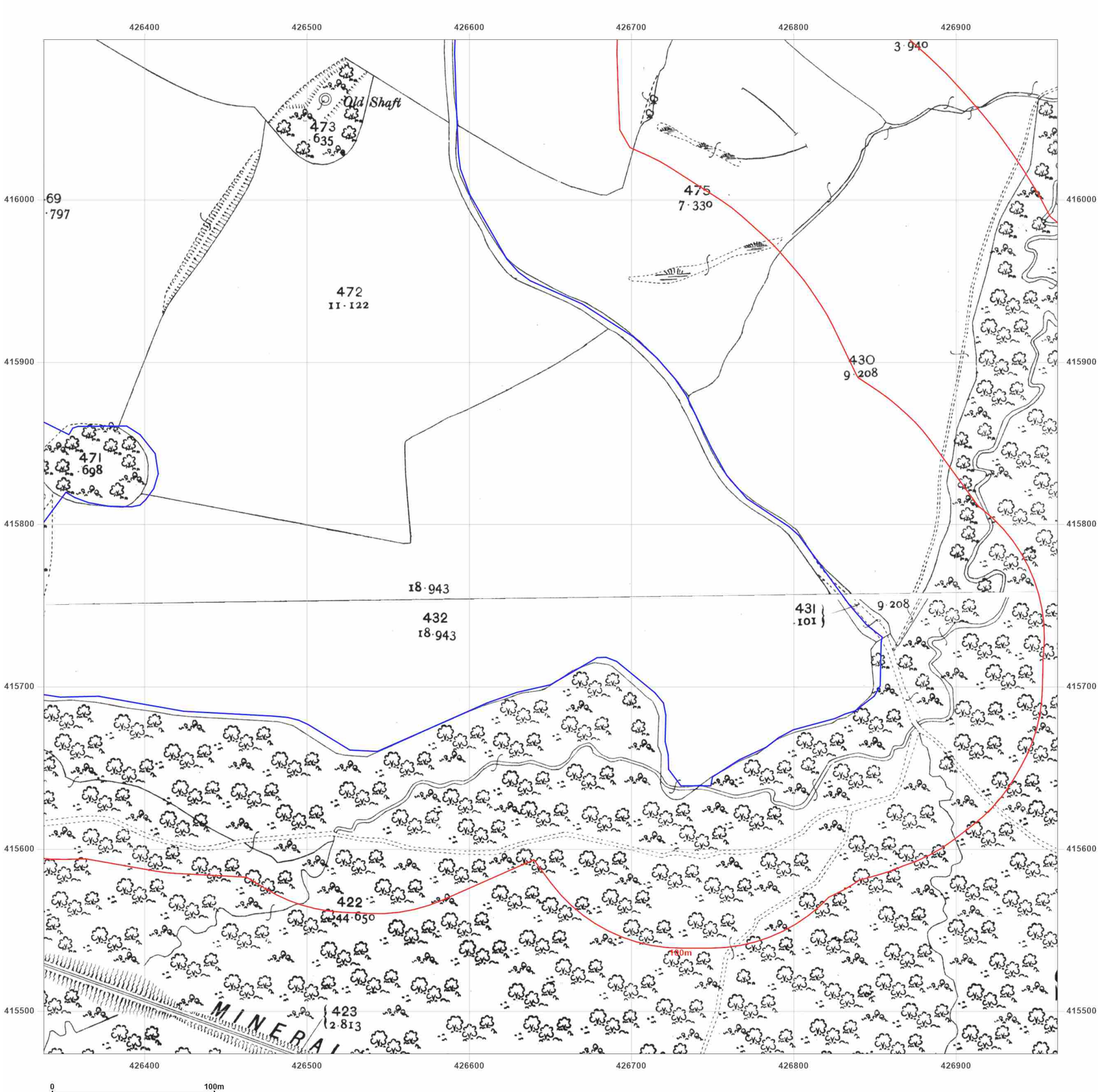

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_1
Grid Ref: 426650, 415786

Map Name: County Series

Map date: **1906-1907**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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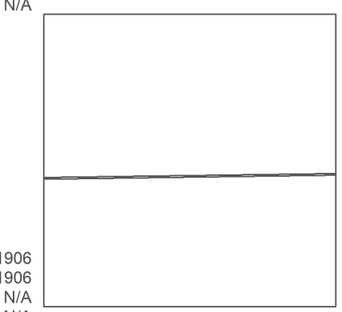
Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

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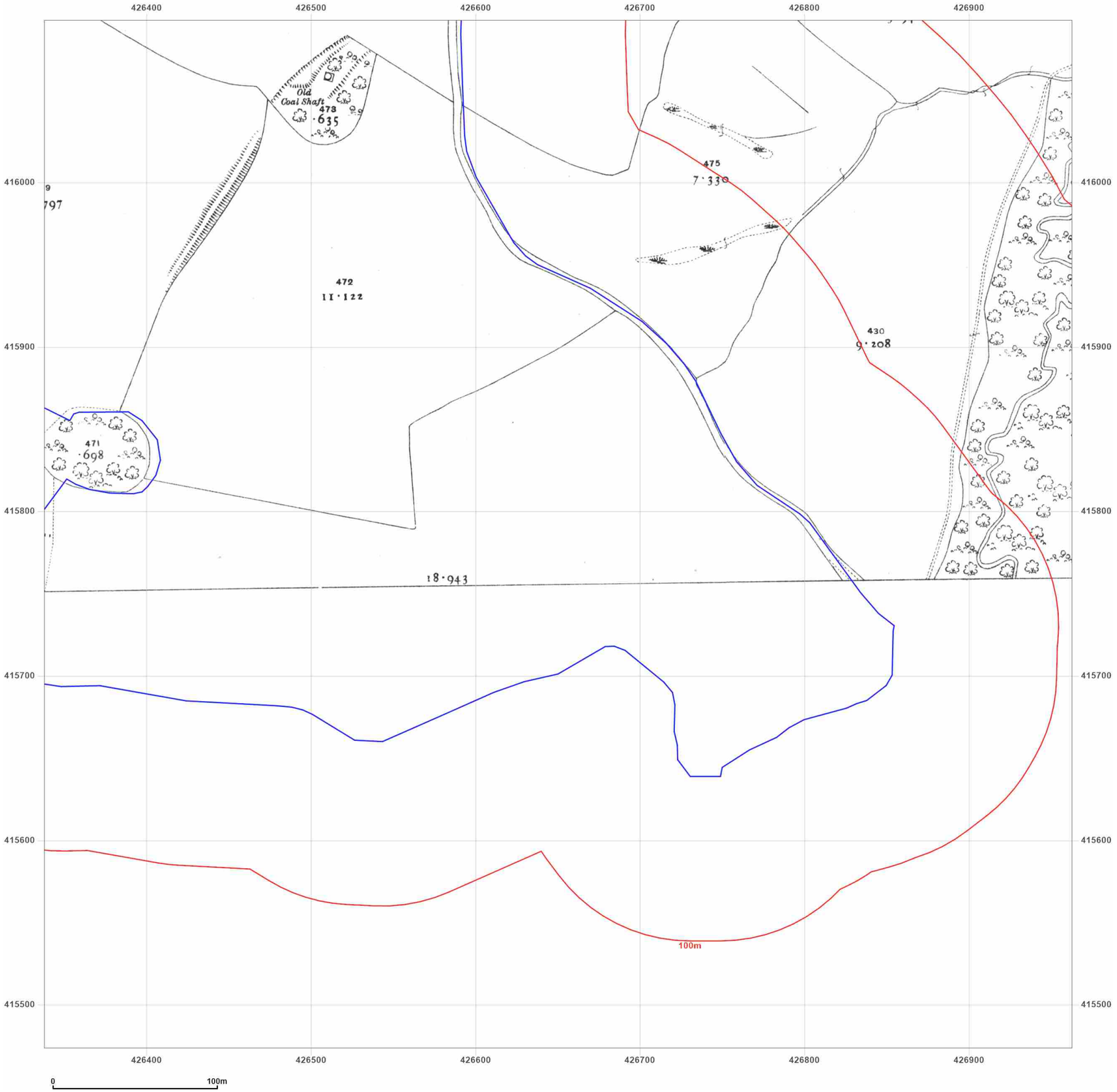

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_1
Grid Ref: 426650, 415786

Map Name: County Series

Map date: **1919**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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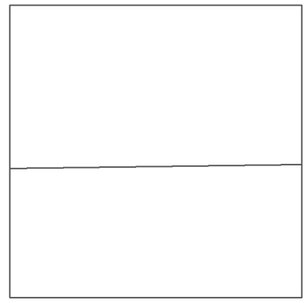
Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A



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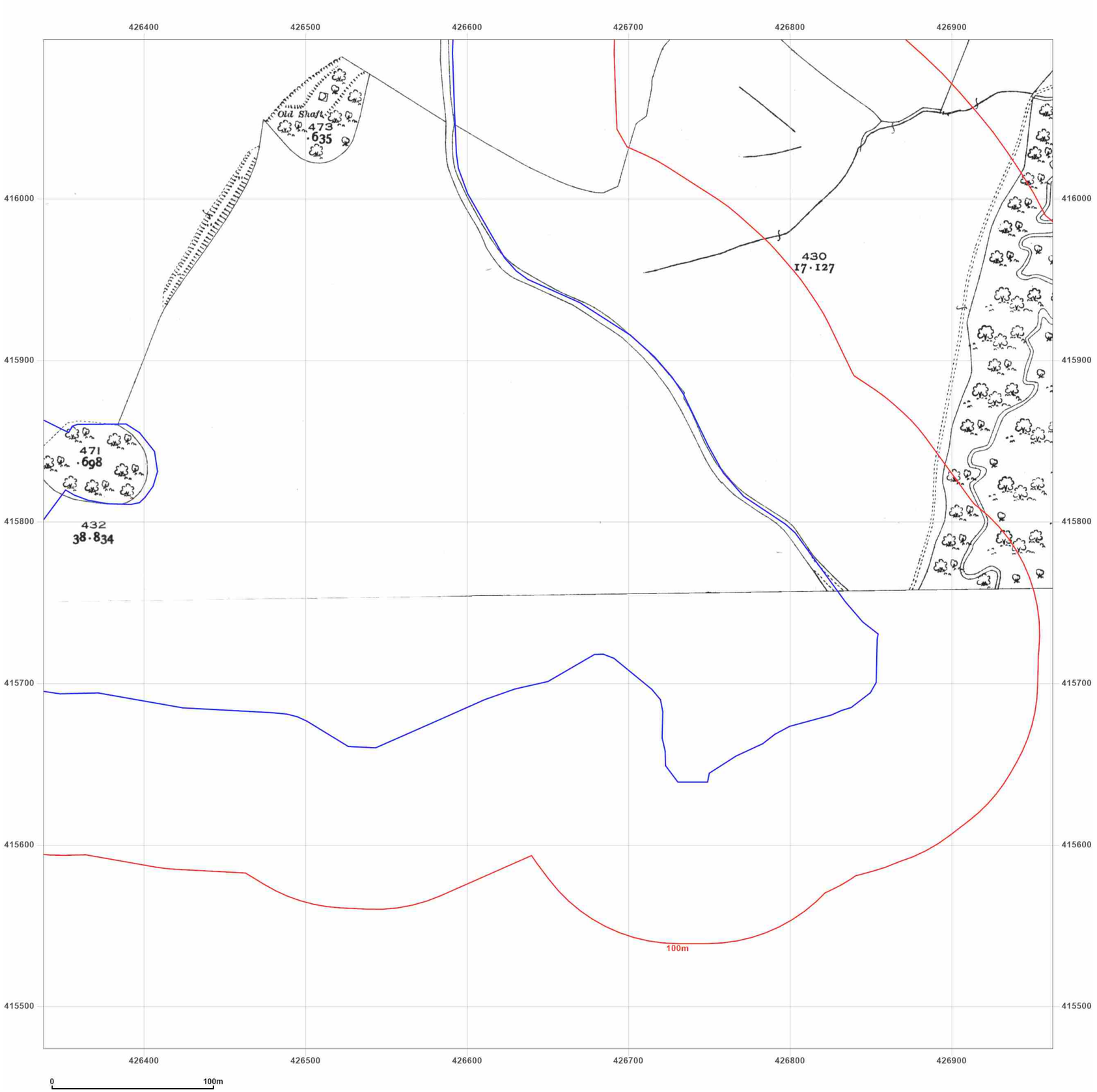

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_1
Grid Ref: 426650, 415786

Map Name: County Series

Map date: **1933**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1933
Revised 1933
Edition N/A
Copyright N/A
Levelled N/A

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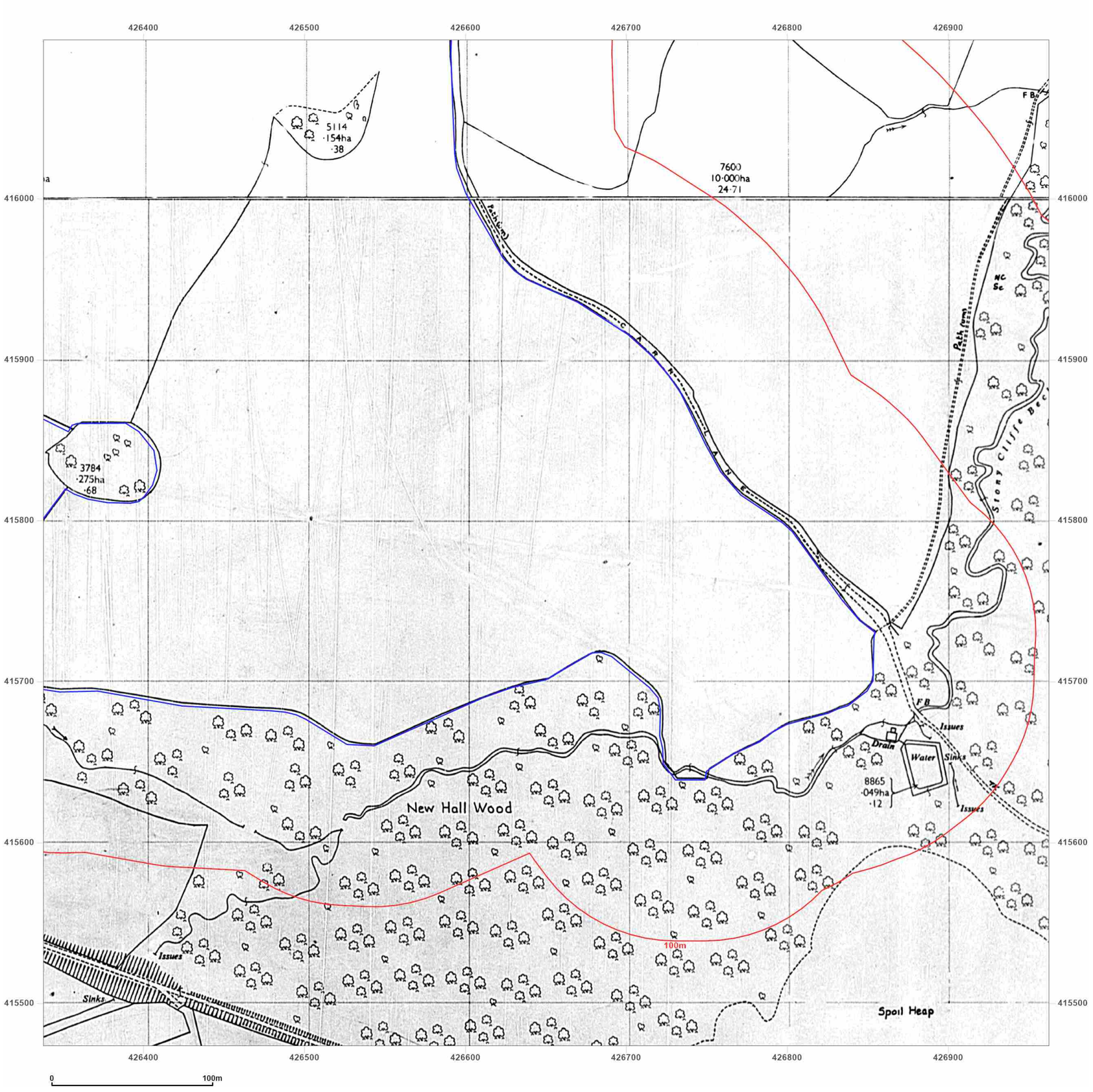

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_1
Grid Ref: 426650, 415786

Map Name: National Grid

Map date: **1978-1983**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1963
Revised 1983
Edition N/A
Copyright 1983
Levelled 1963

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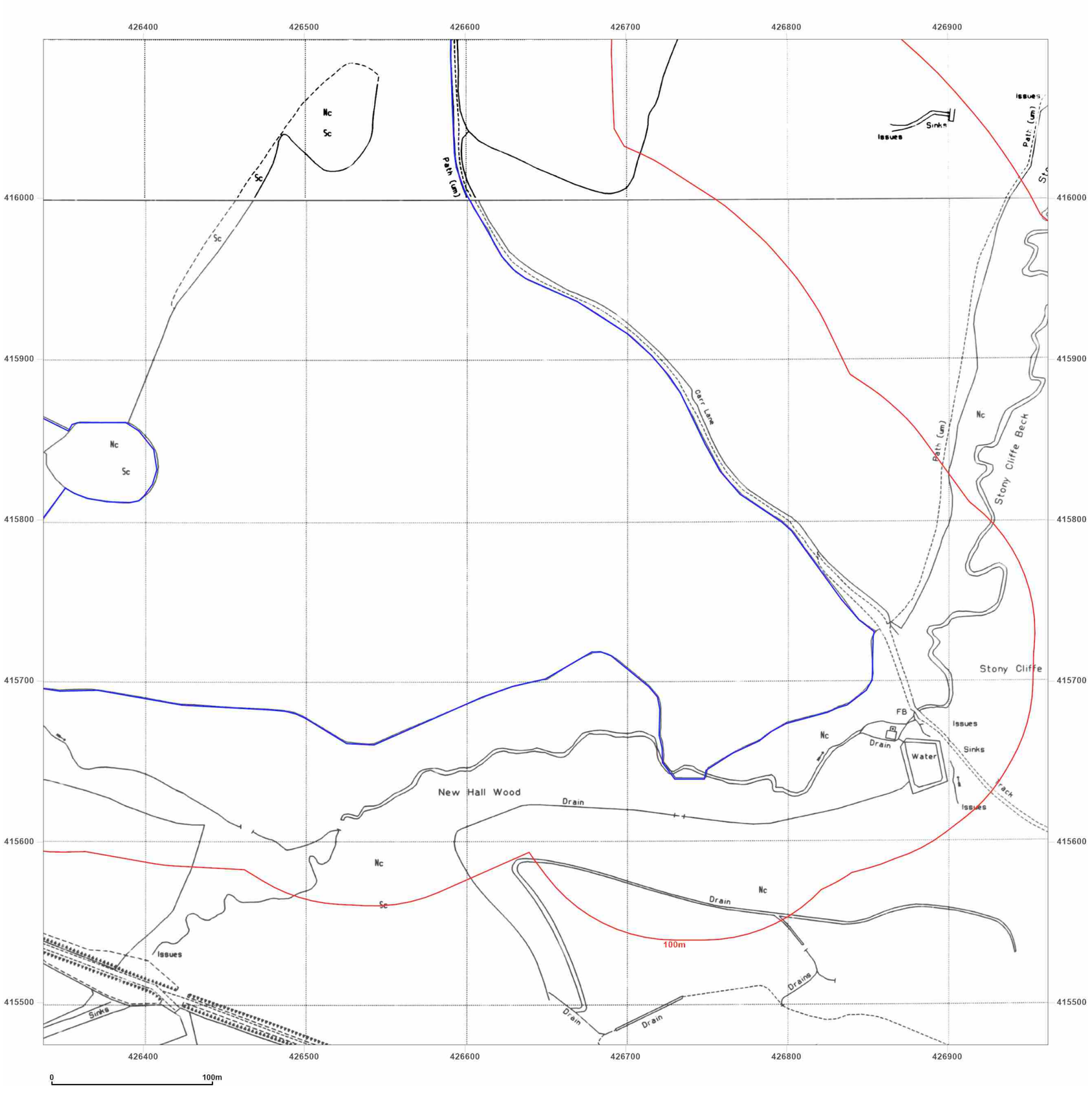

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_1
Grid Ref: 426650, 415786

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1993
Revised 1993
Edition N/A
Copyright N/A
Levelled N/A

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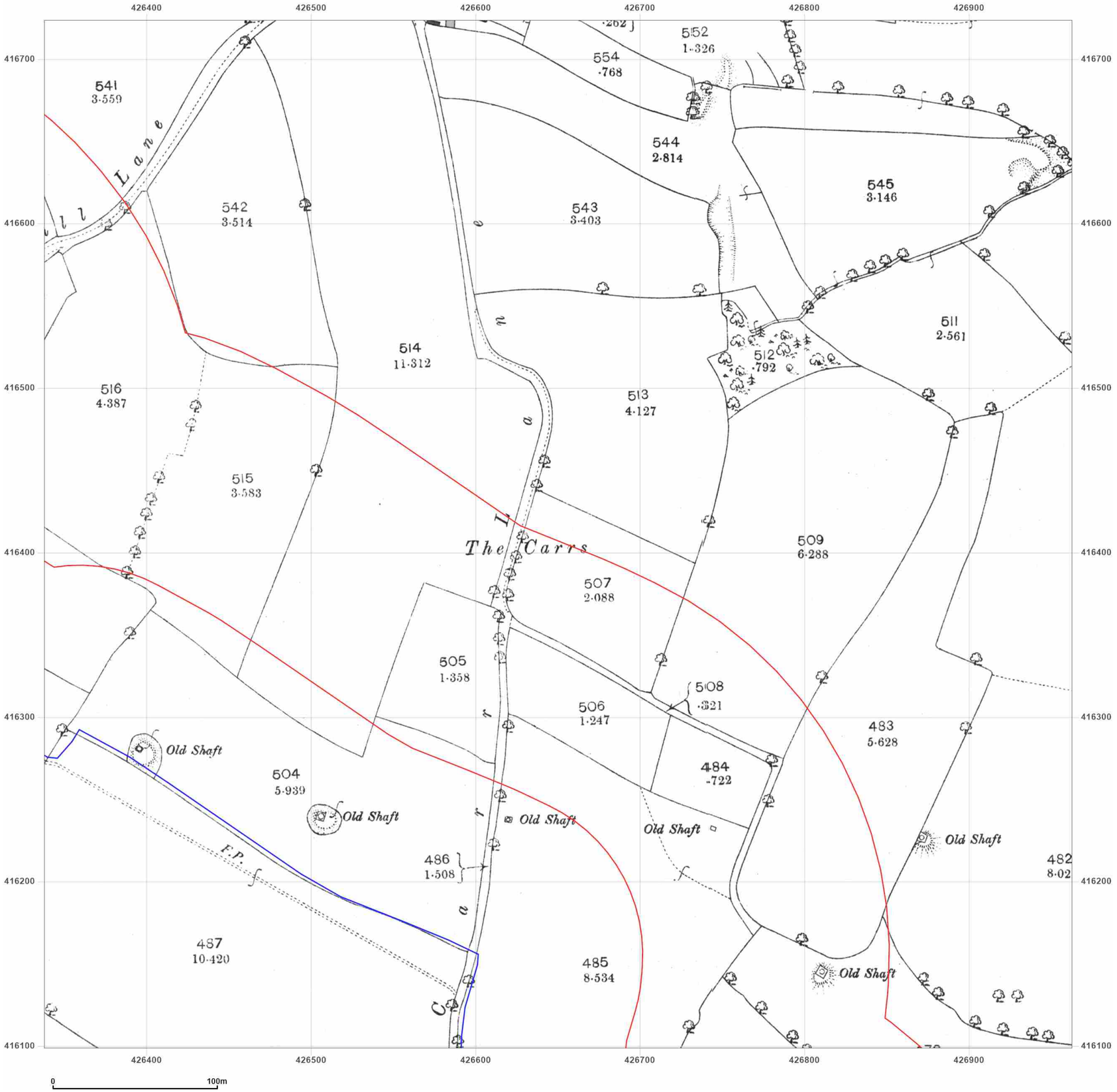

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_2
Grid Ref: 426650, 416411

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

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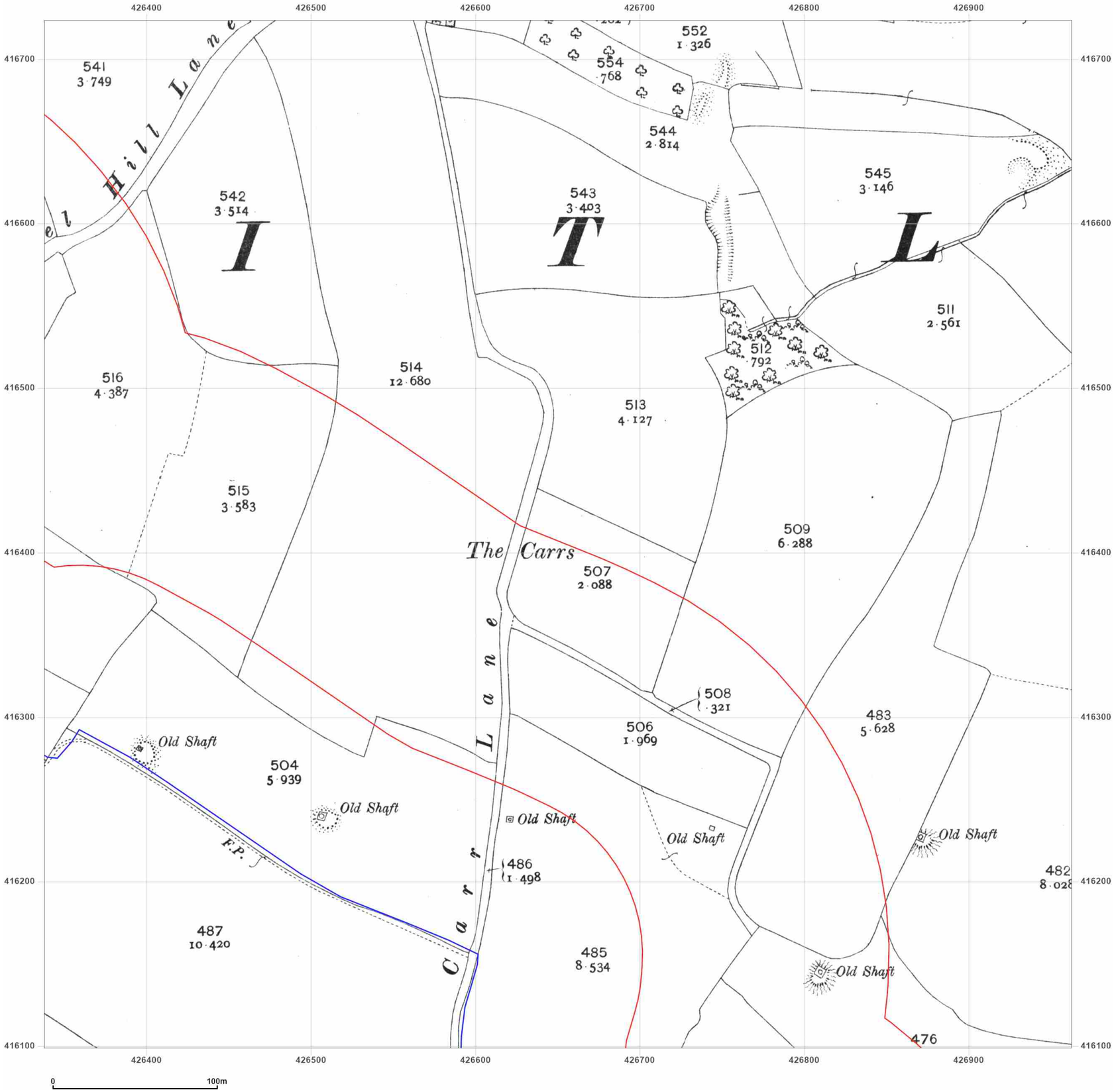

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_2
Grid Ref: 426650, 416411

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

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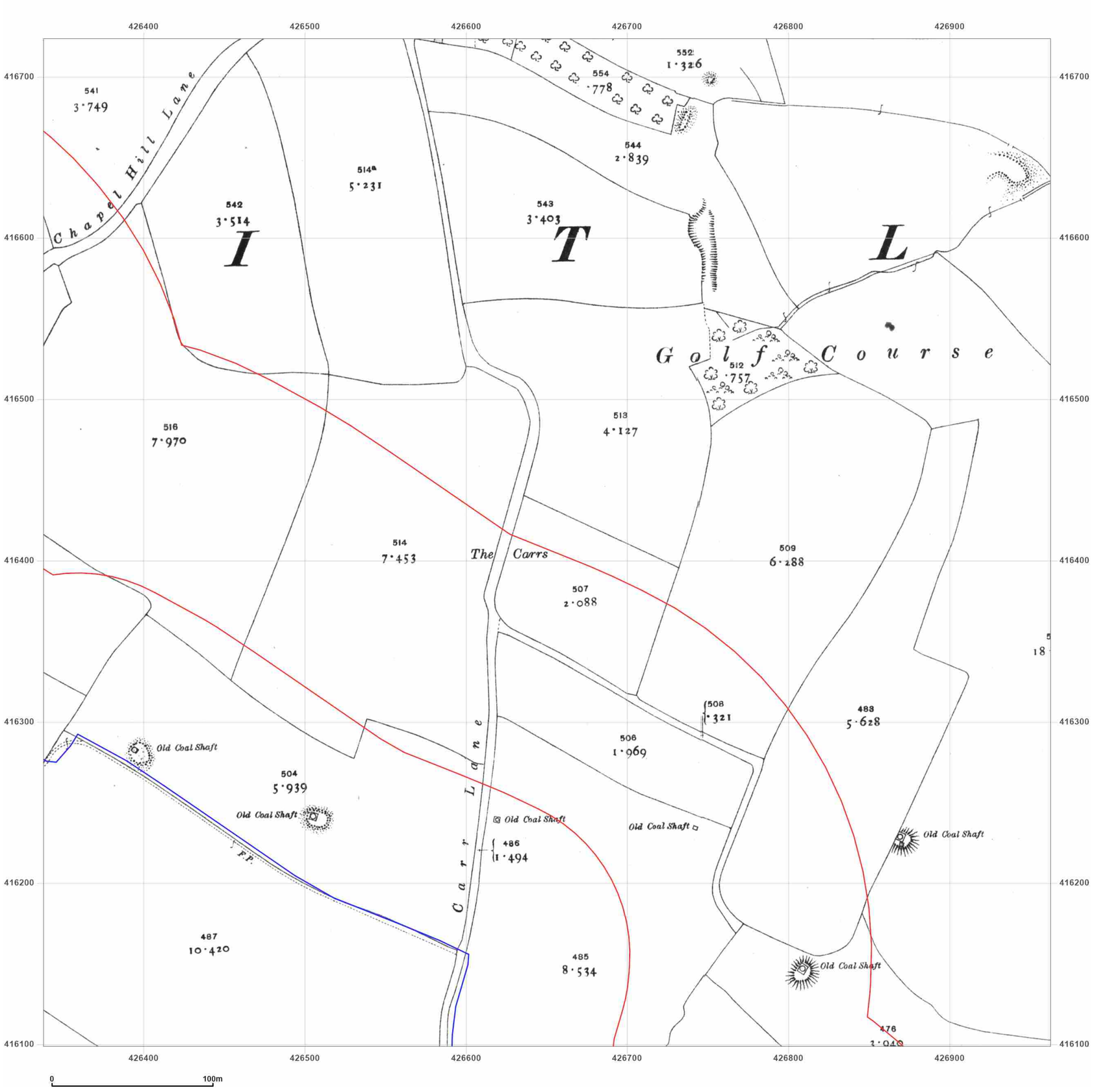

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_2
Grid Ref: 426650, 416411

Map Name: County Series

Map date: **1919**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1919
Revised 1919
Edition N/A
Copyright N/A
Levelled N/A

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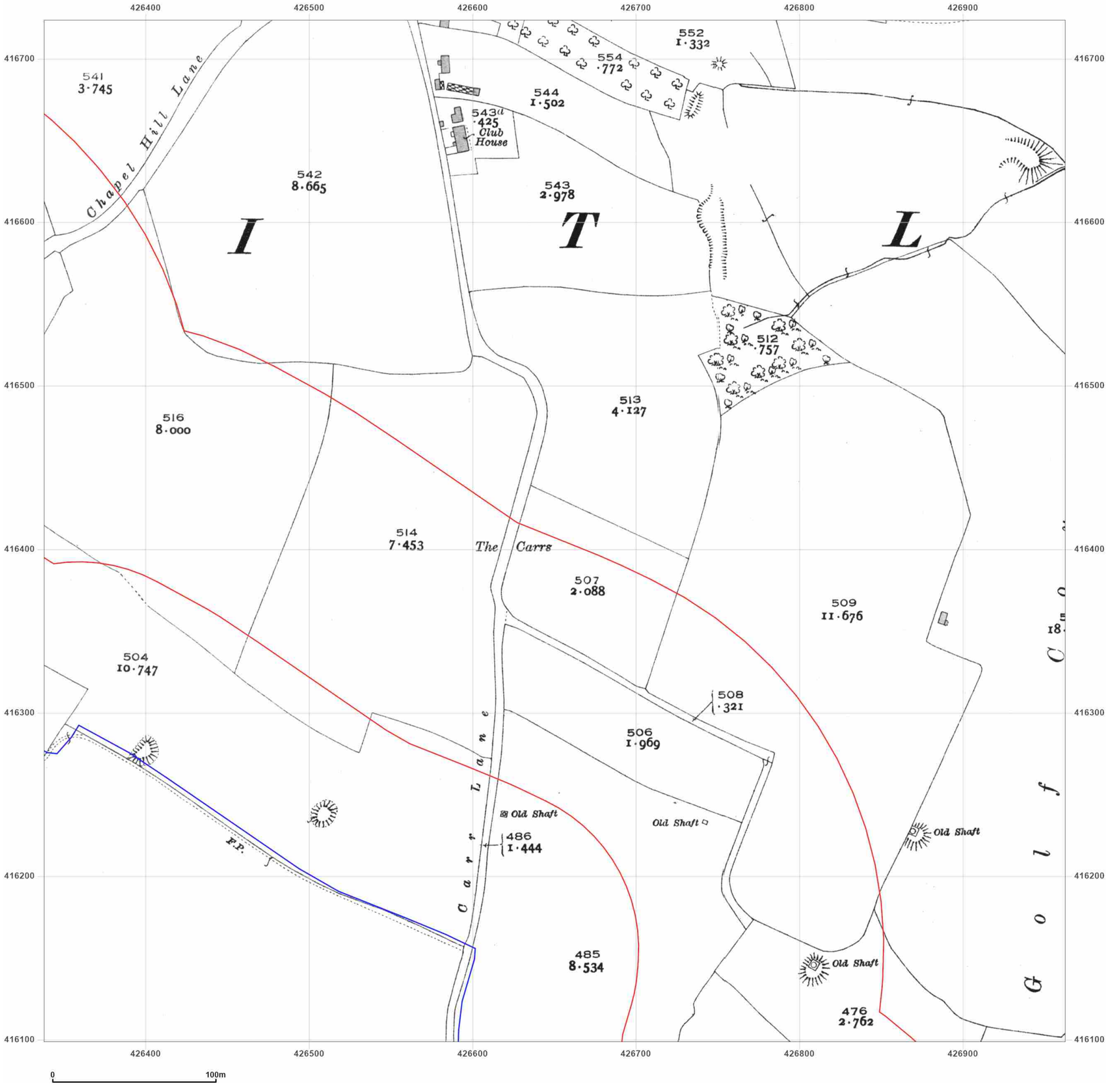

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_2
Grid Ref: 426650, 416411

Map Name: County Series

Map date: **1933**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1933
Revised 1933
Edition N/A
Copyright N/A
Levelled N/A

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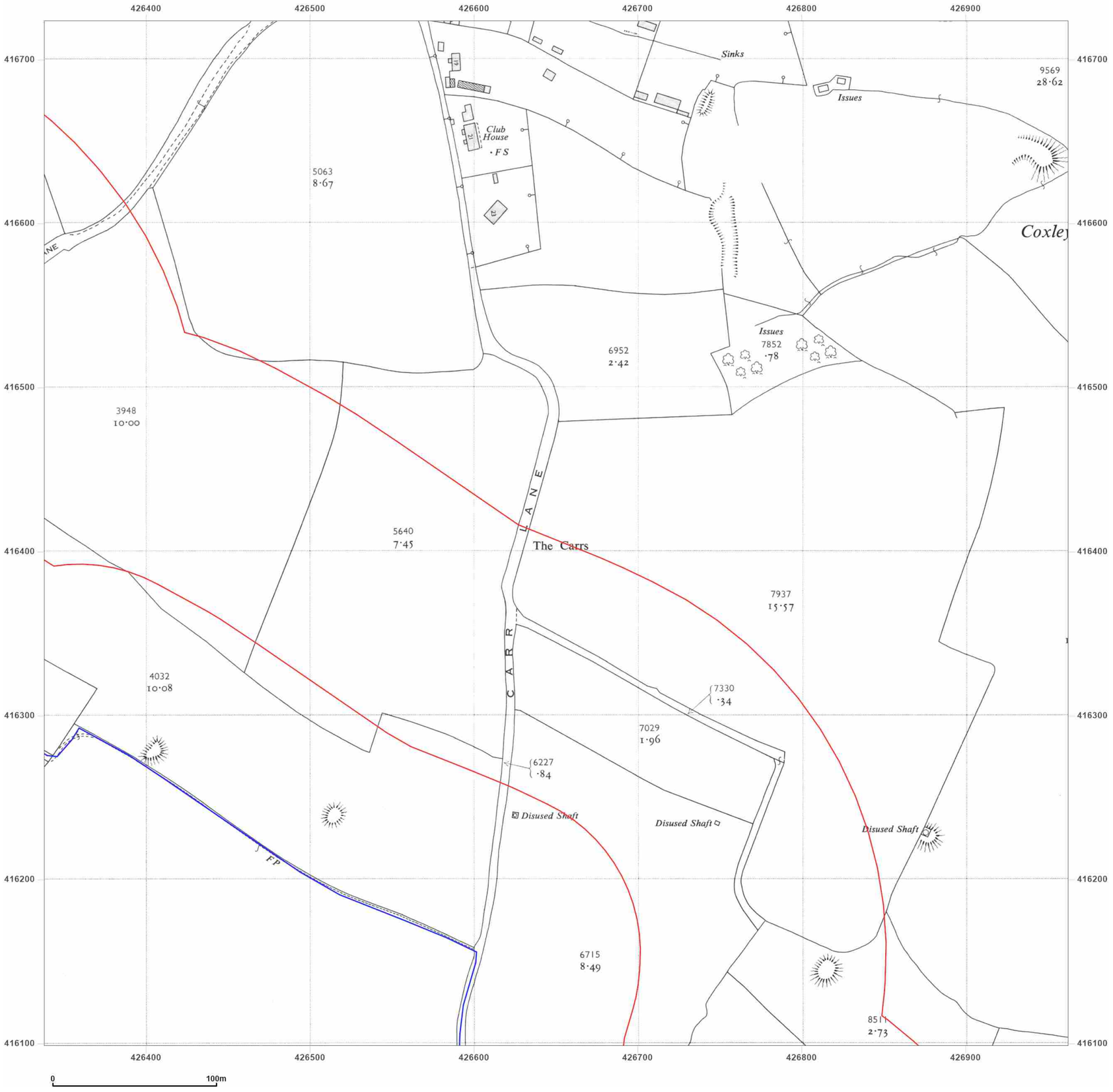

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_2
Grid Ref: 426650, 416411

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed N/A
Revised 1960
Edition N/A
Copyright 1961
Levelled 1958

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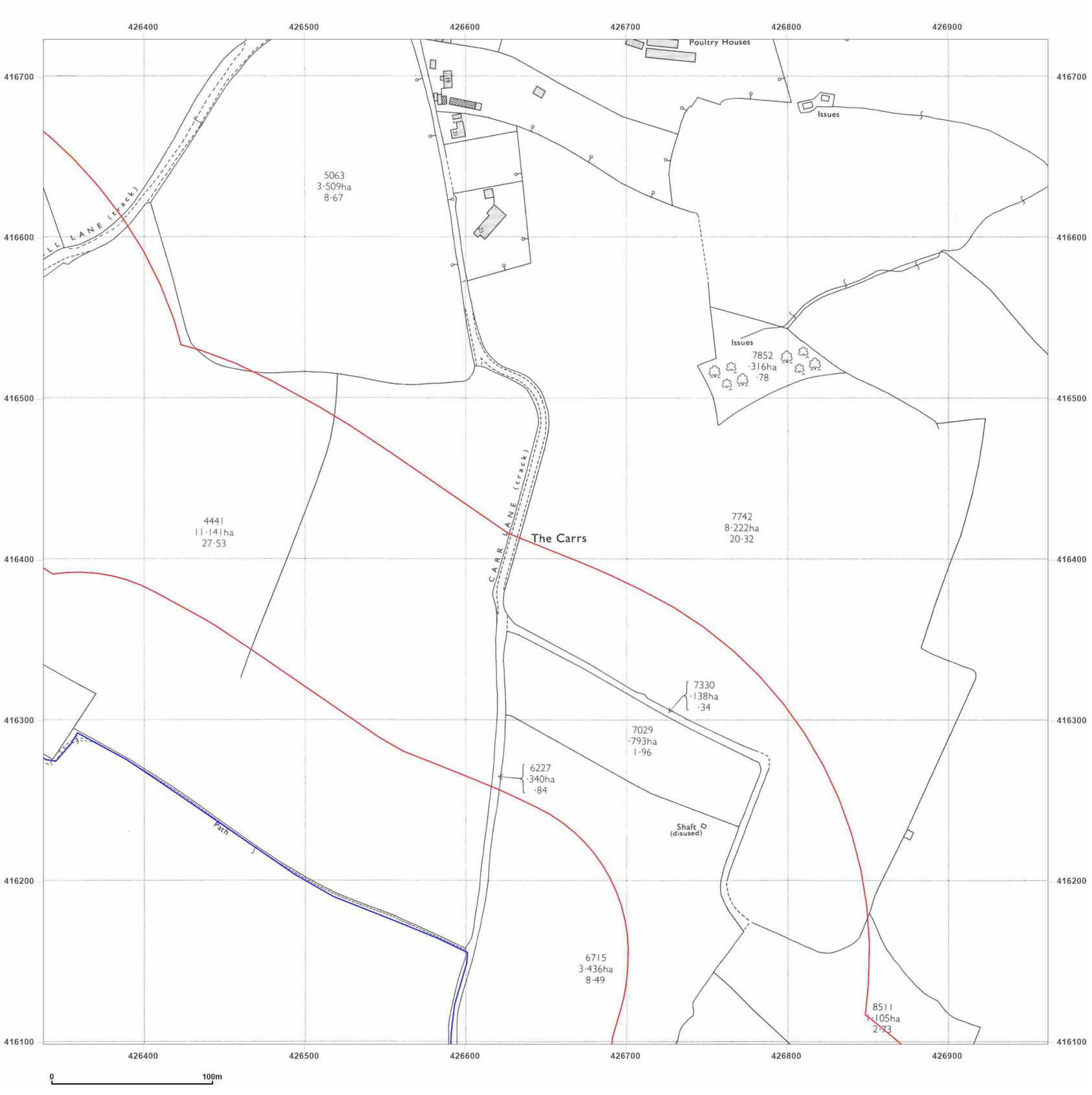

WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_2
Grid Ref: 426650, 416411

Map Name: National Grid

Map date: **1972**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1971
Revised 1971
Edition N/A
Copyright 1972
Levelled 1963

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WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_2
Grid Ref: 426650, 416411

Map Name: National Grid

Map date: **1983**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1982
Revised 1982
Edition N/A
Copyright 1983
Levelled 1963

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WSP

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_LS_3_2
Grid Ref: 426650, 416411

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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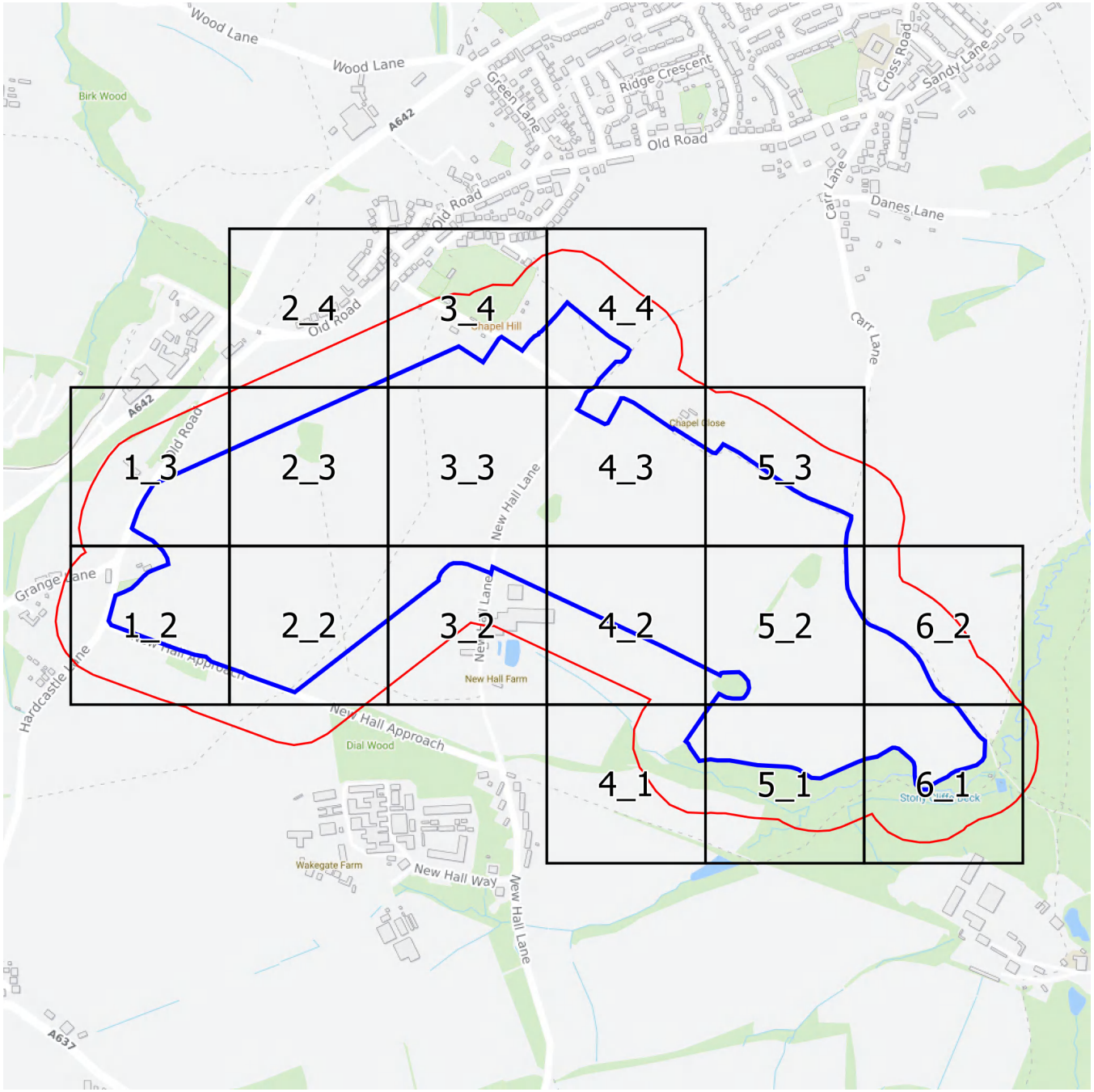

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Landline Scale Grid Index

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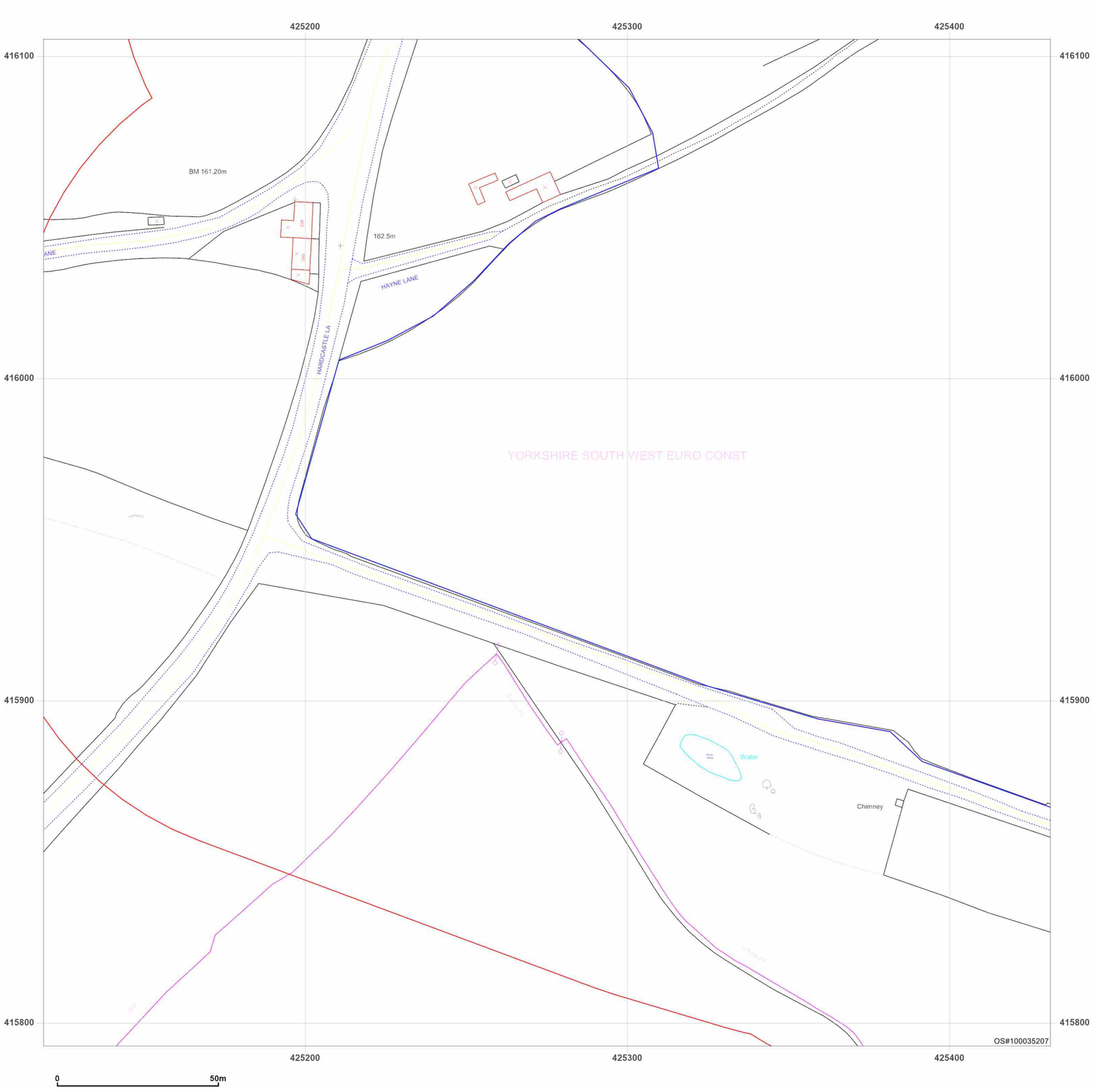

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_1_2
Grid Ref: 425275, 415949

Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

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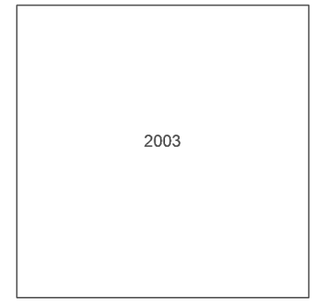

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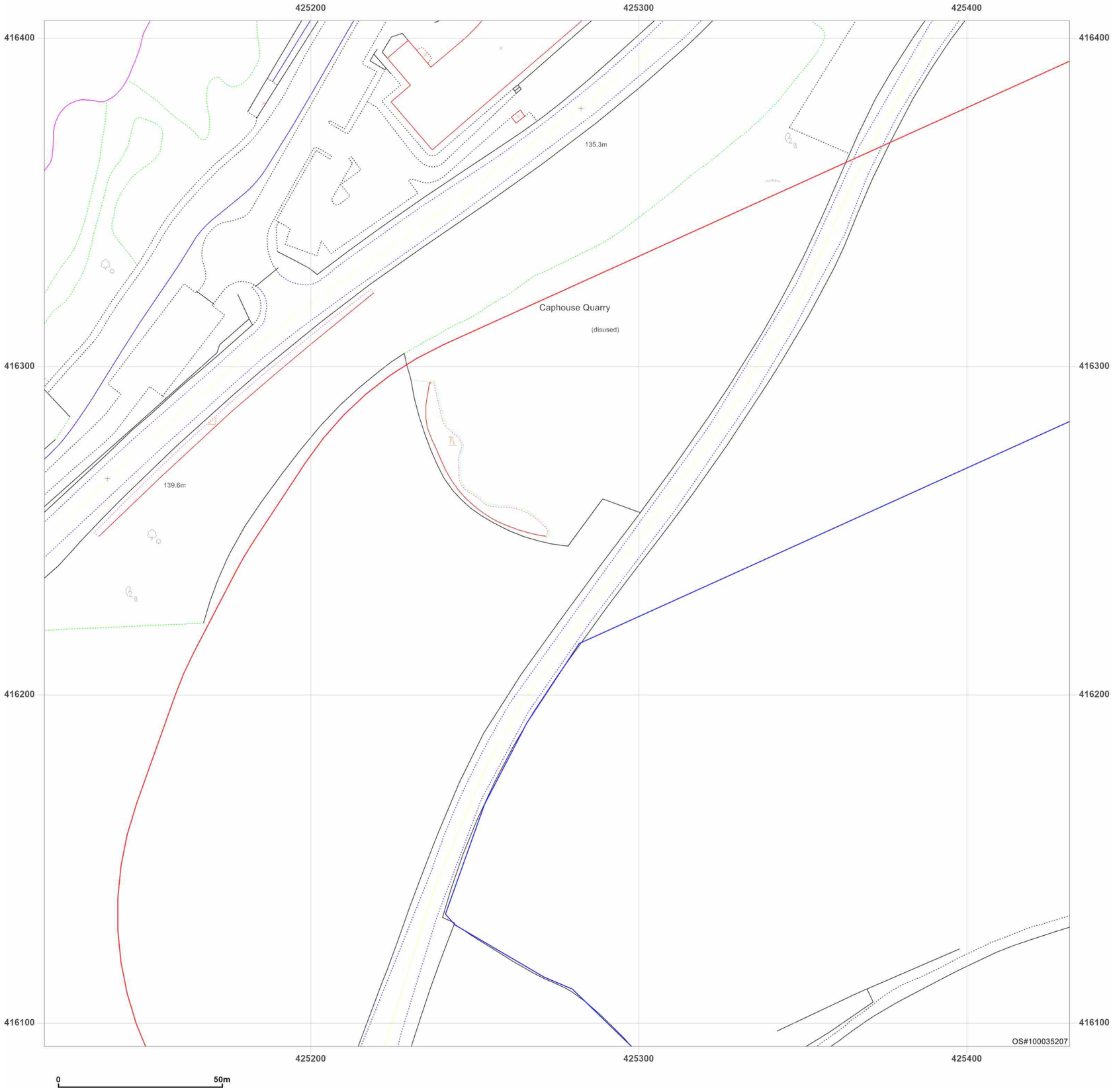

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_1_3
Grid Ref: 425275, 416249

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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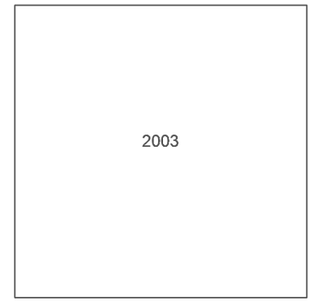

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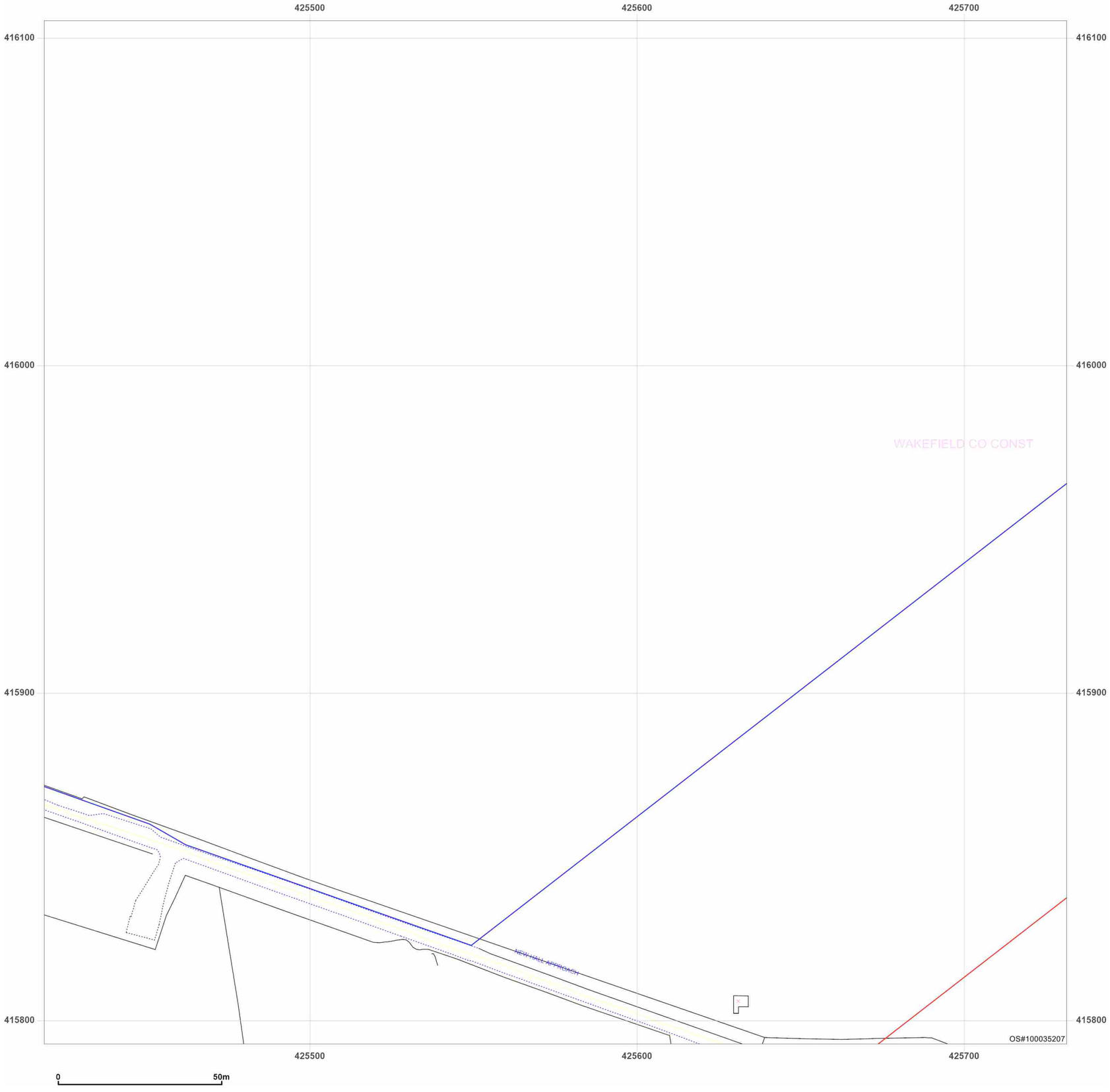

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_2_2
Grid Ref: 425575, 415949

Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

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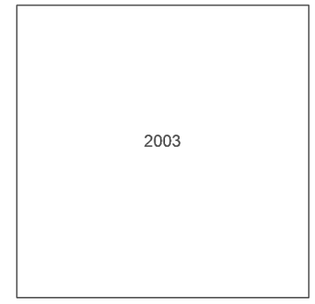

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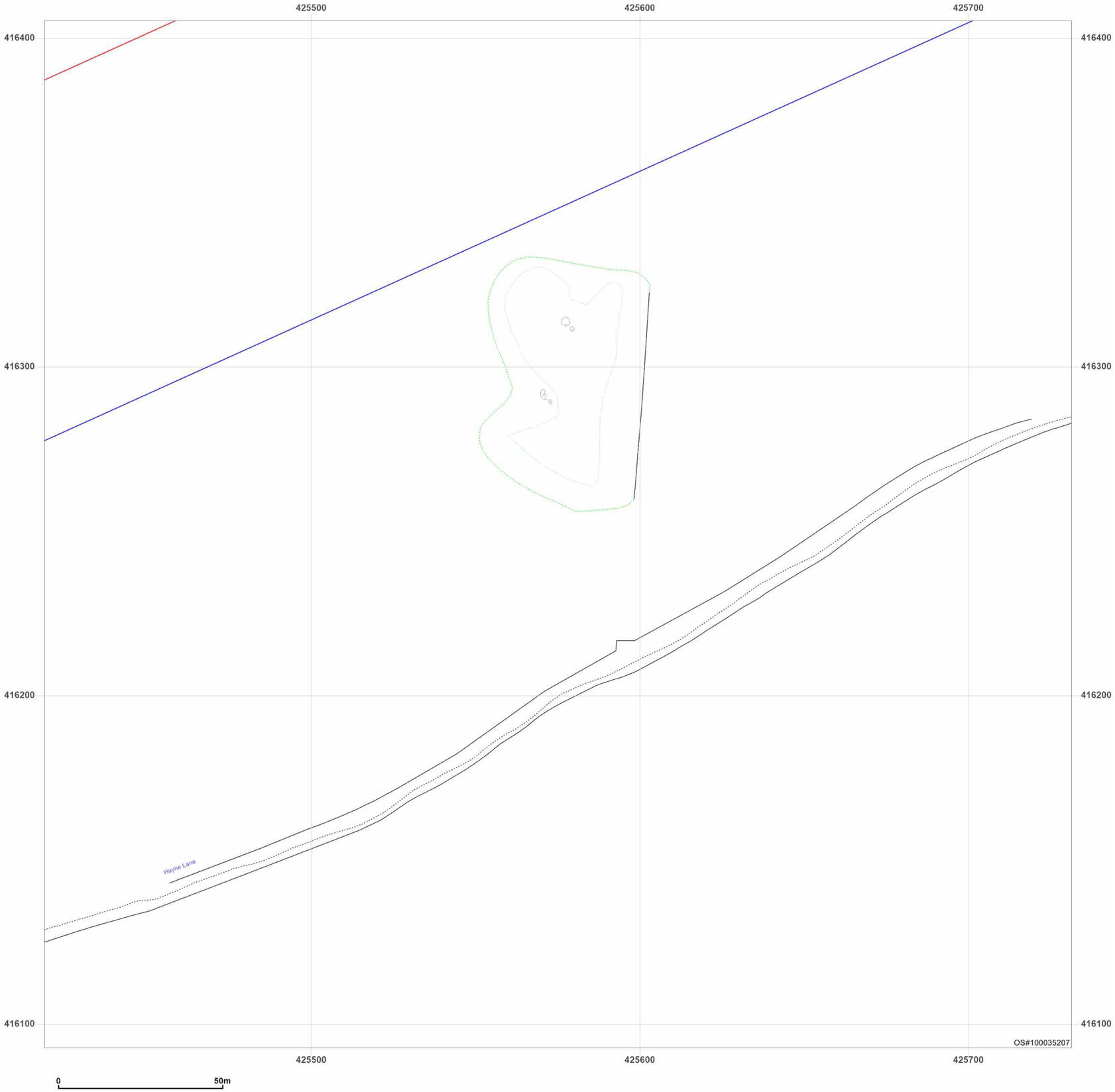

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_2_3
Grid Ref: 425575, 416249

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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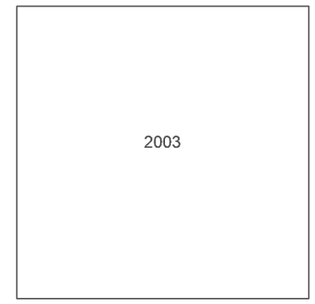

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Client Ref: 20149385
Report Ref: WSP-8991879_Landline_2_4
Grid Ref: 425575, 416549

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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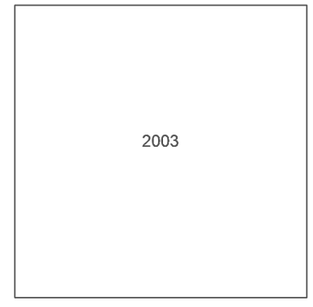

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NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_3_2
Grid Ref: 425875, 415949

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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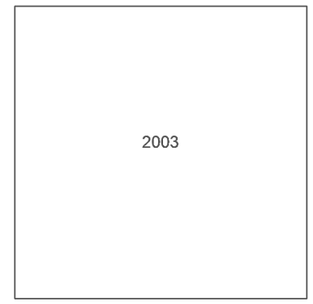

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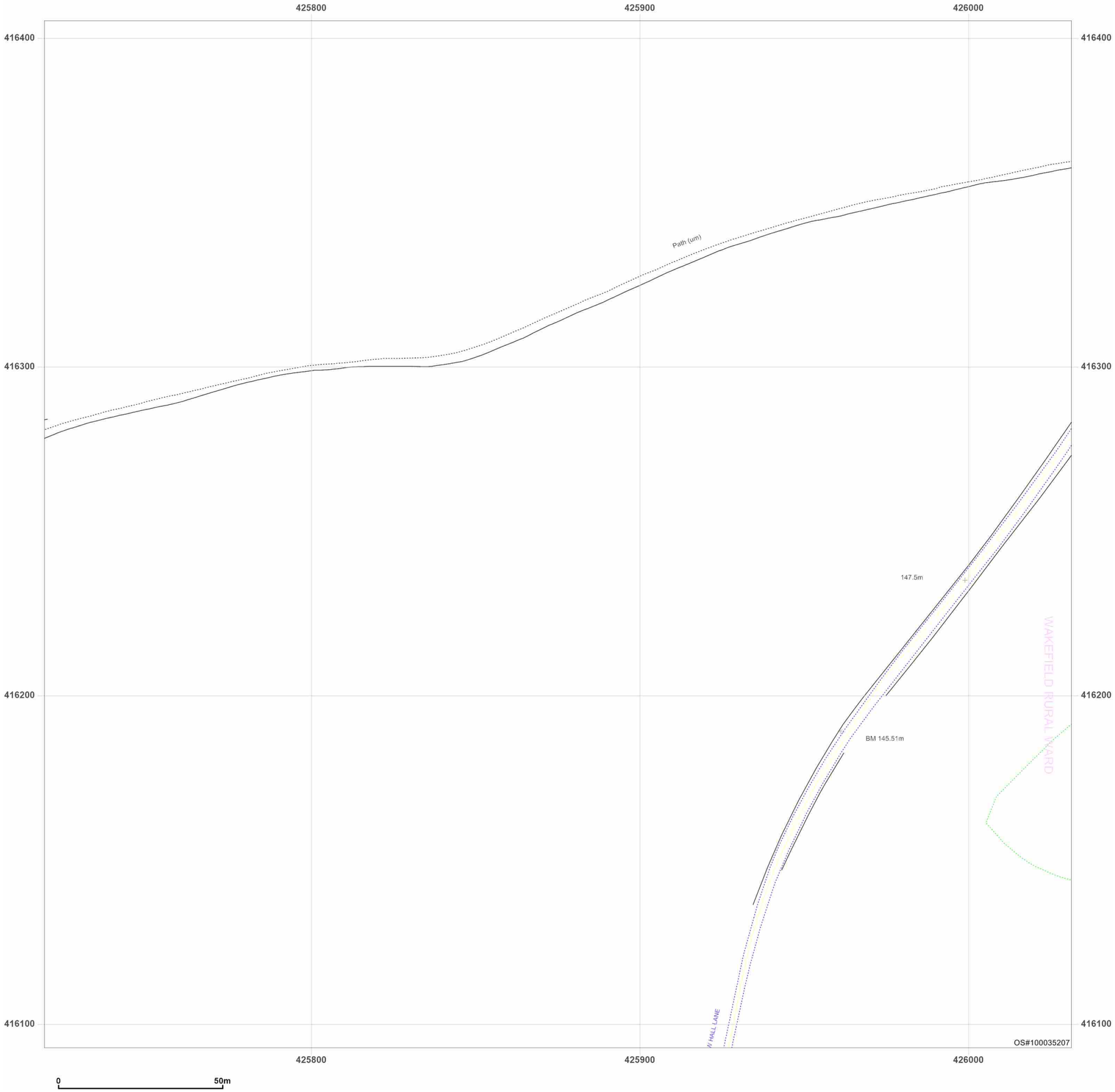

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_3_3
Grid Ref: 425875, 416249

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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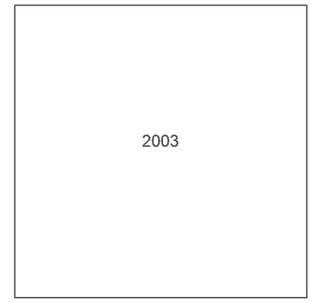

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Report Ref: WSP-8991879_Landline_3_4
Grid Ref: 425875, 416549

Map Name: LandLine
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Scale: 1:1,250
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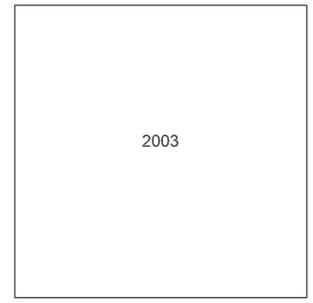

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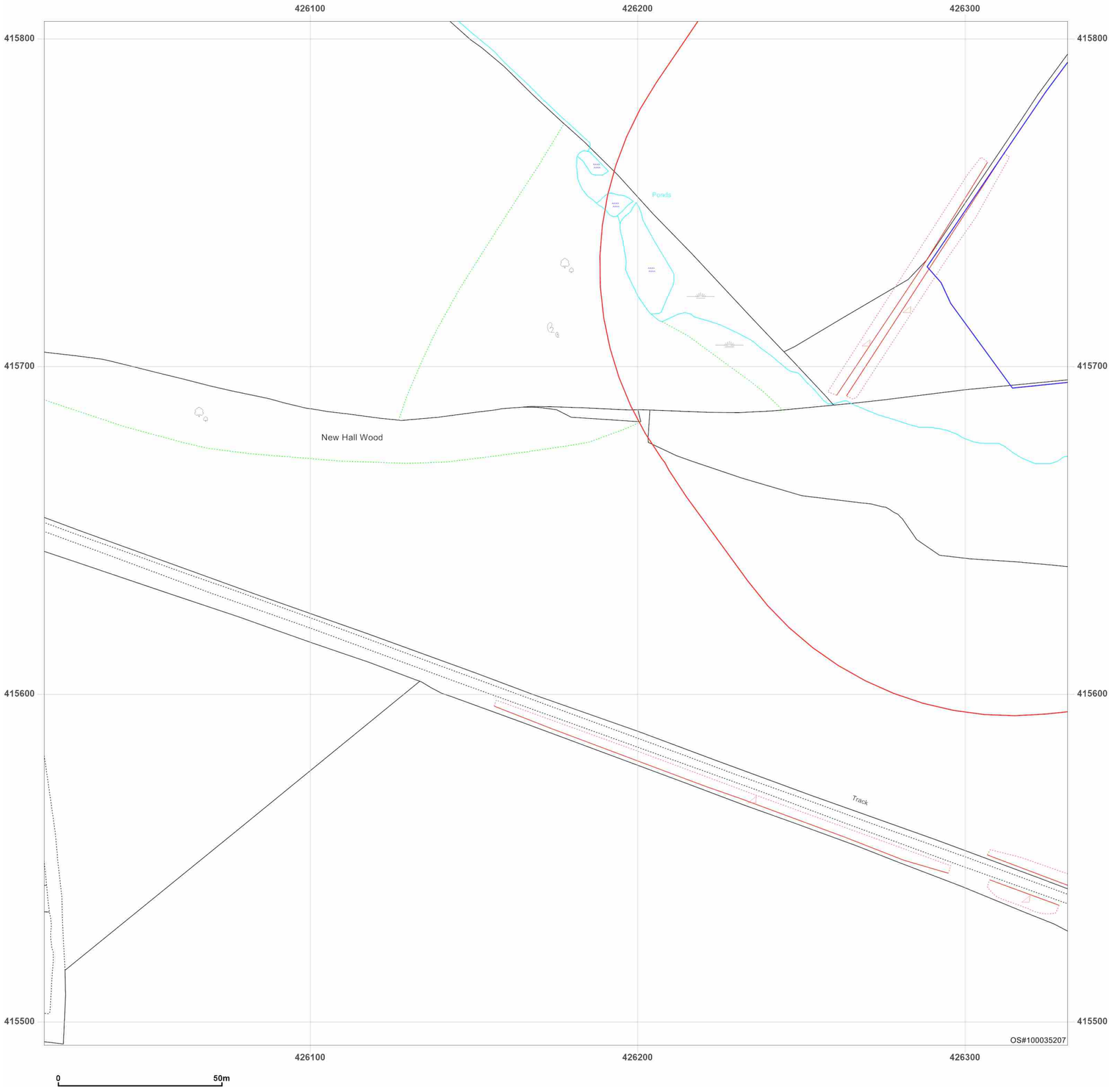

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_4_1
Grid Ref: 426175, 415649

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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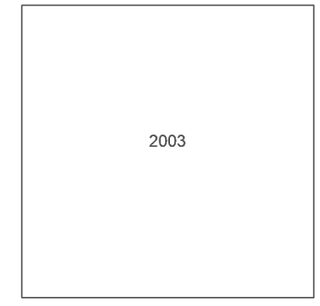

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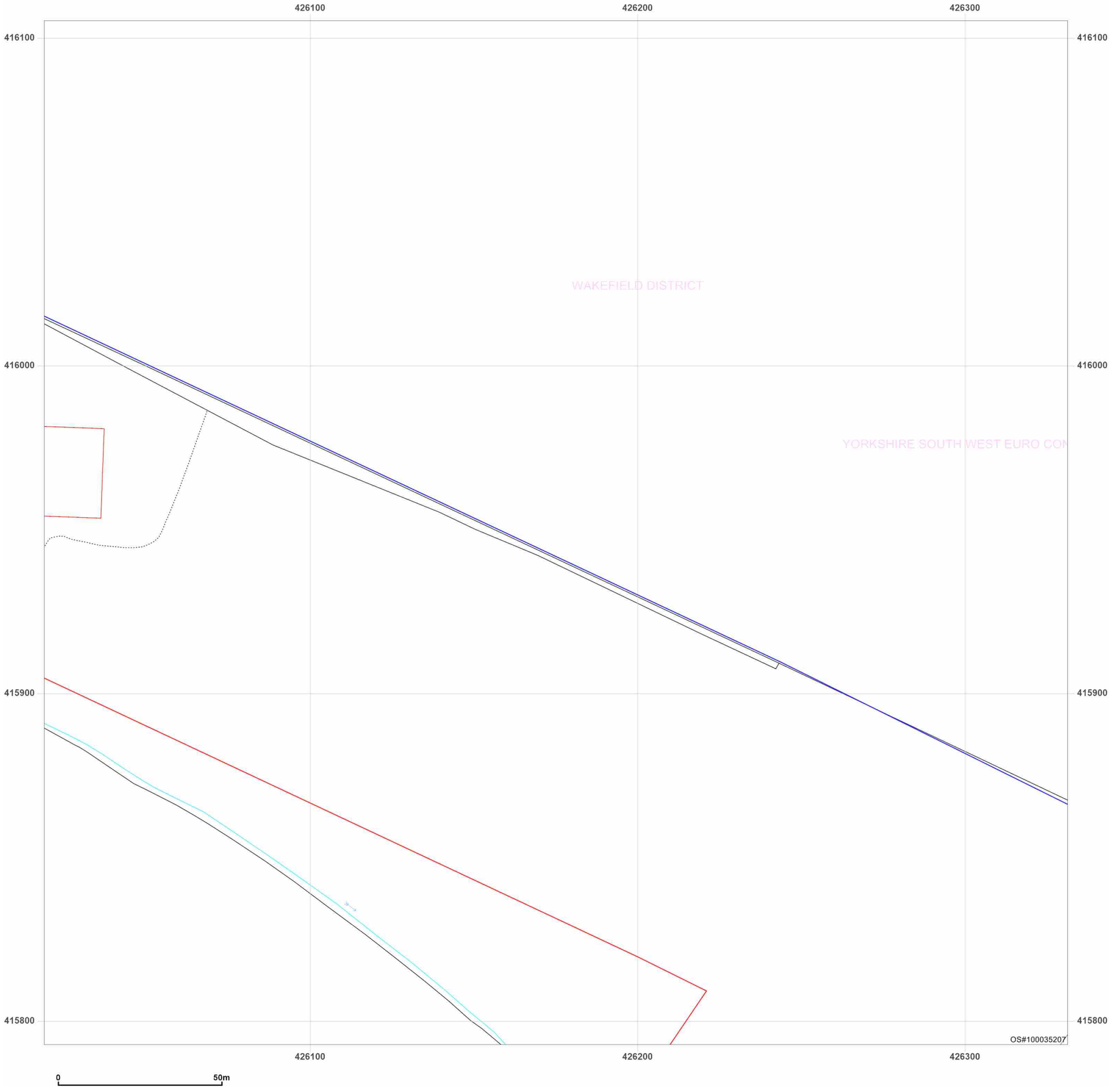

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_4_2
Grid Ref: 426175, 415949

Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

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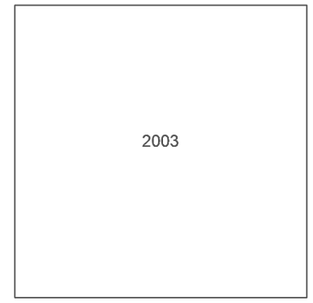

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Production date: 18 August 2022

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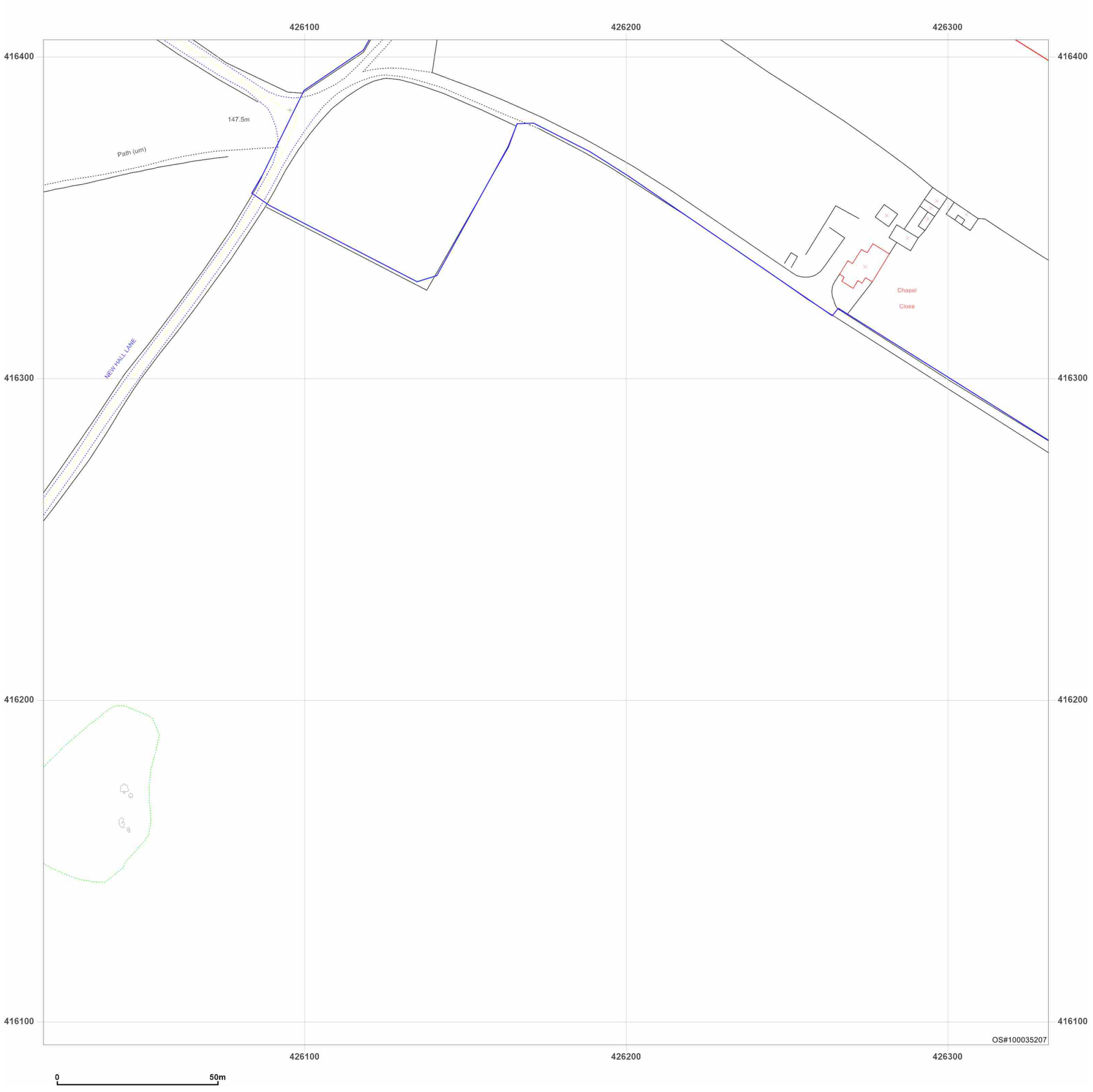

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_4_3
Grid Ref: 426175, 416249

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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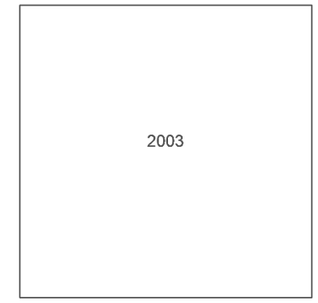

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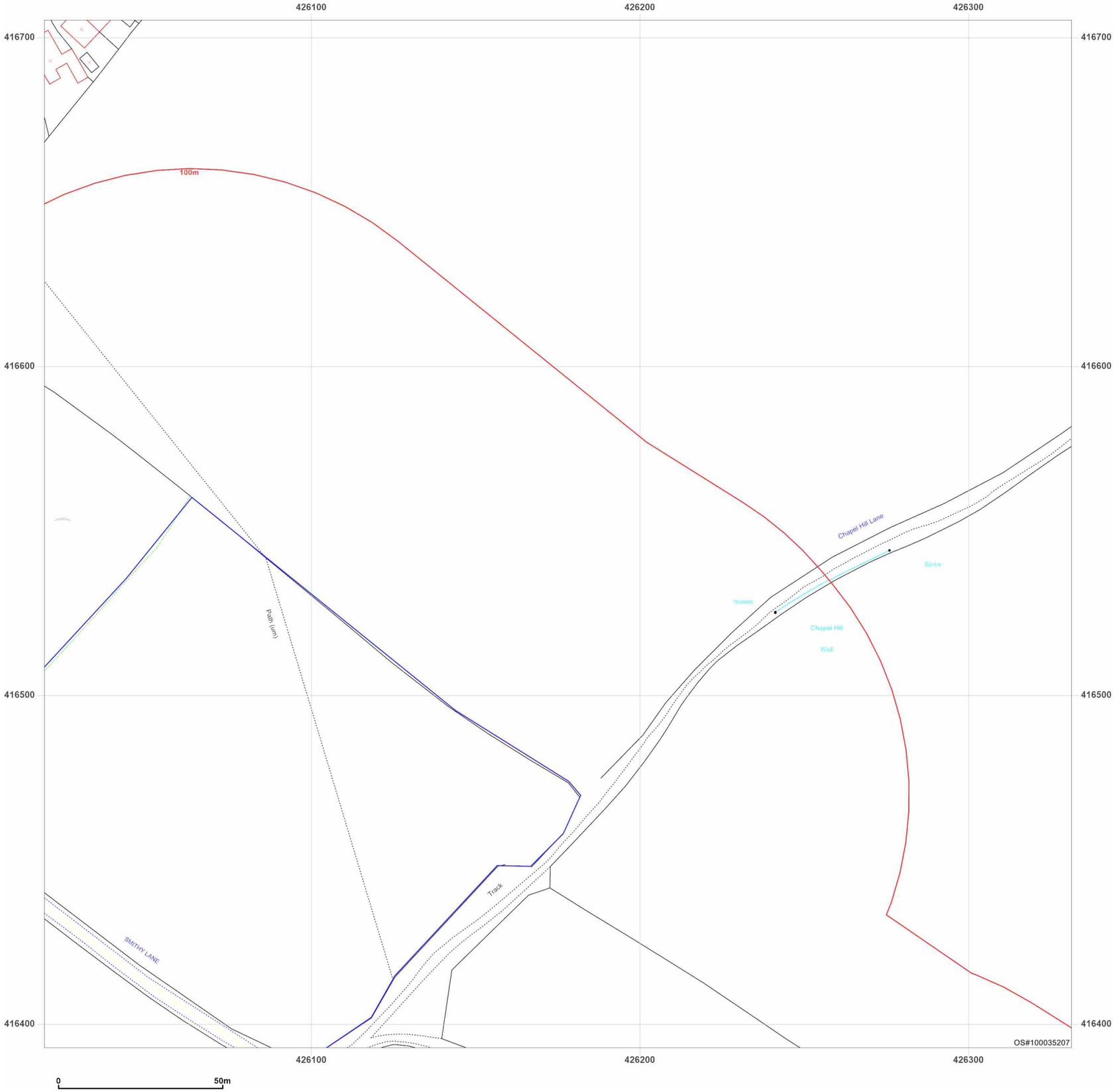

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_4_4
Grid Ref: 426175, 416549

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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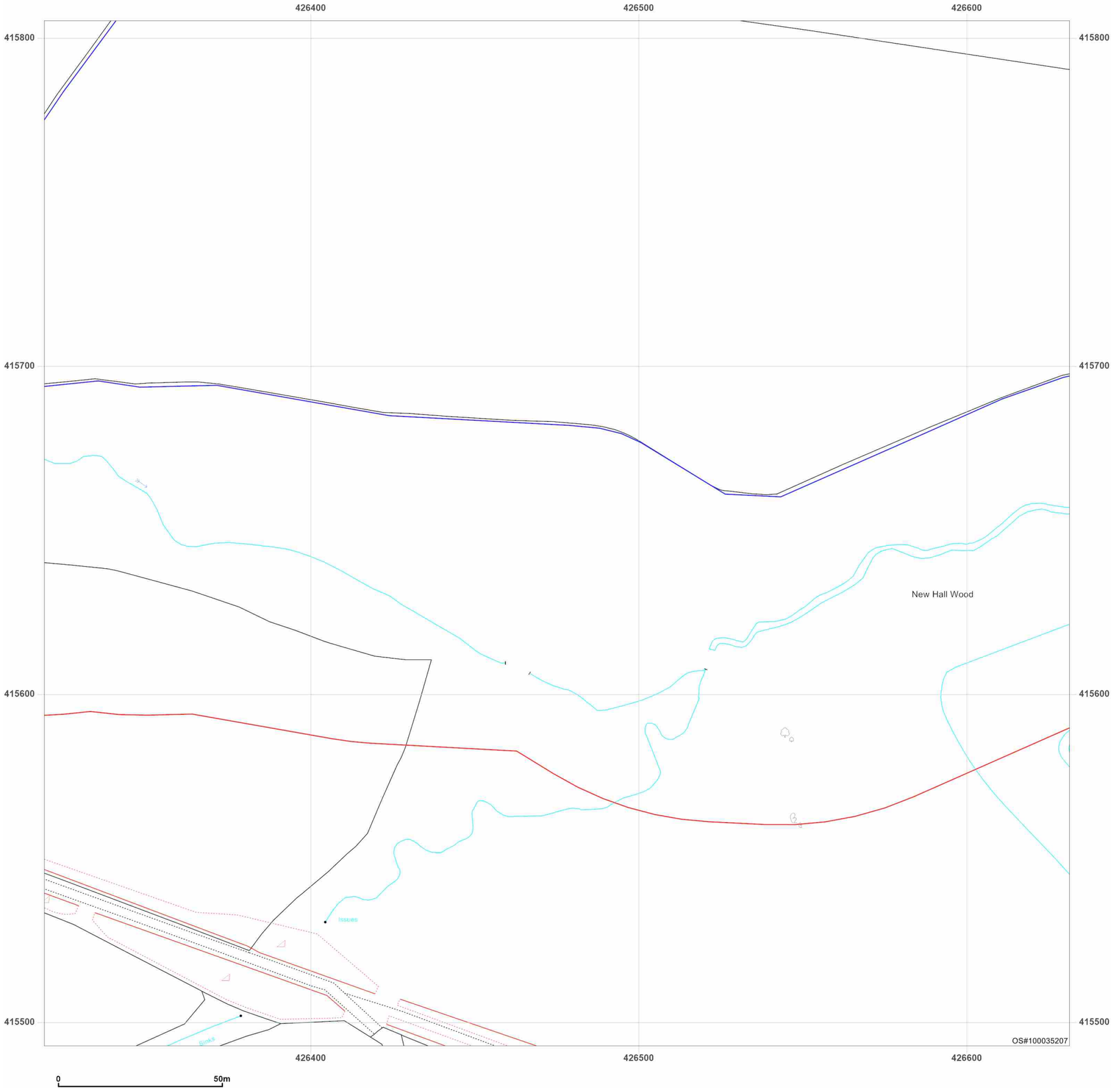

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_5_1
Grid Ref: 426475, 415649

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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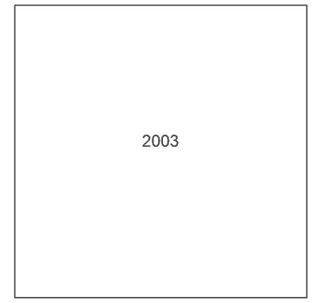

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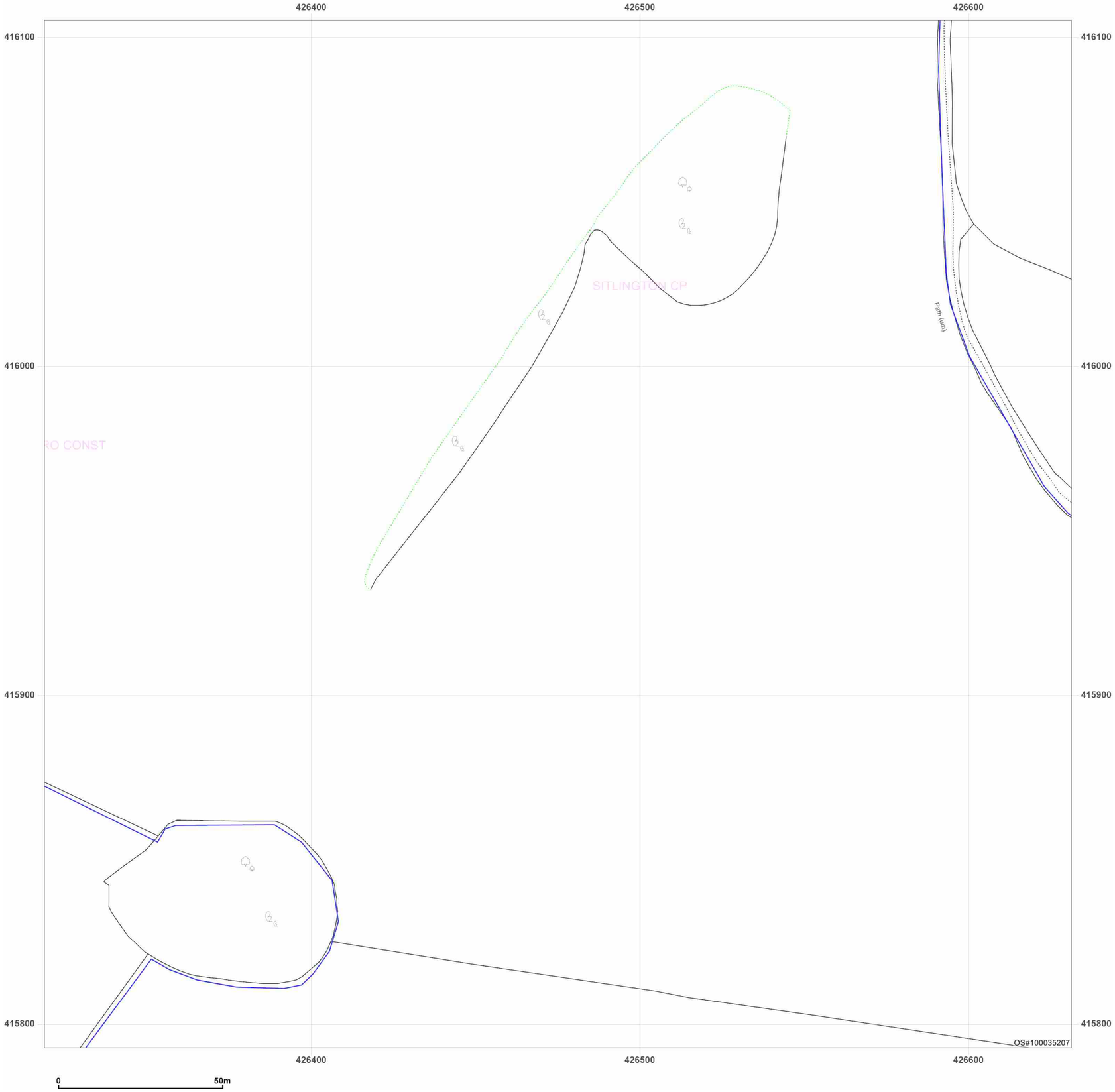

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_5_2
Grid Ref: 426475, 415949

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

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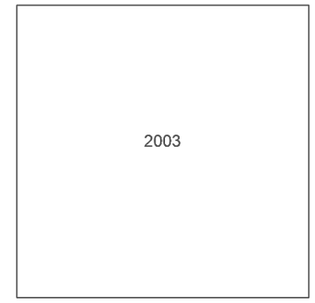

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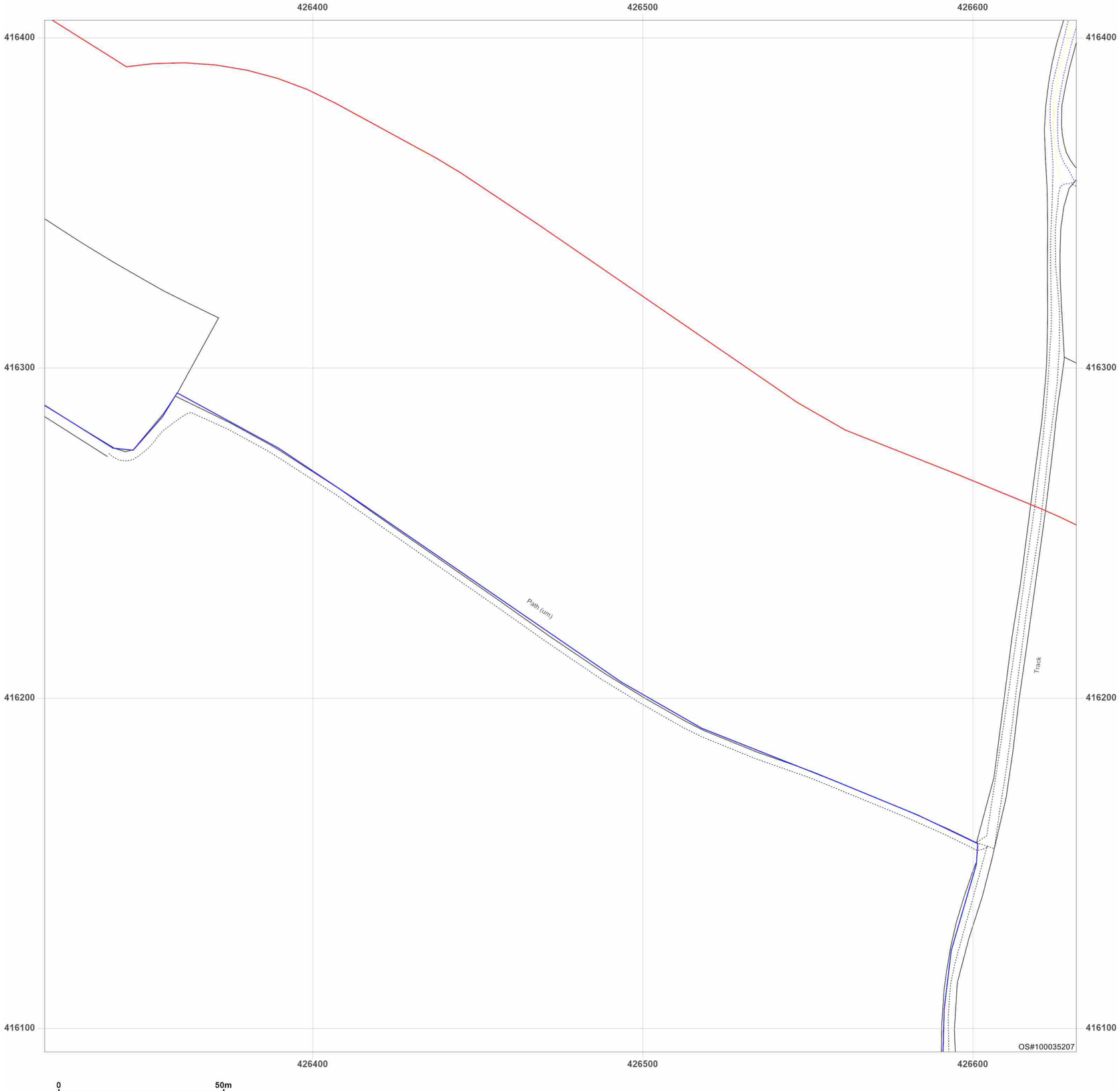

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_5_3
Grid Ref: 426475, 416249

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
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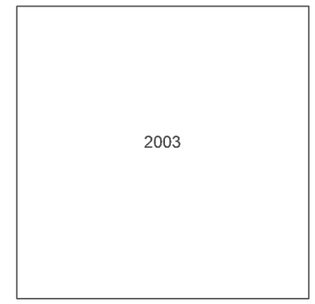

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Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_6_1
Grid Ref: 426775, 415649

Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

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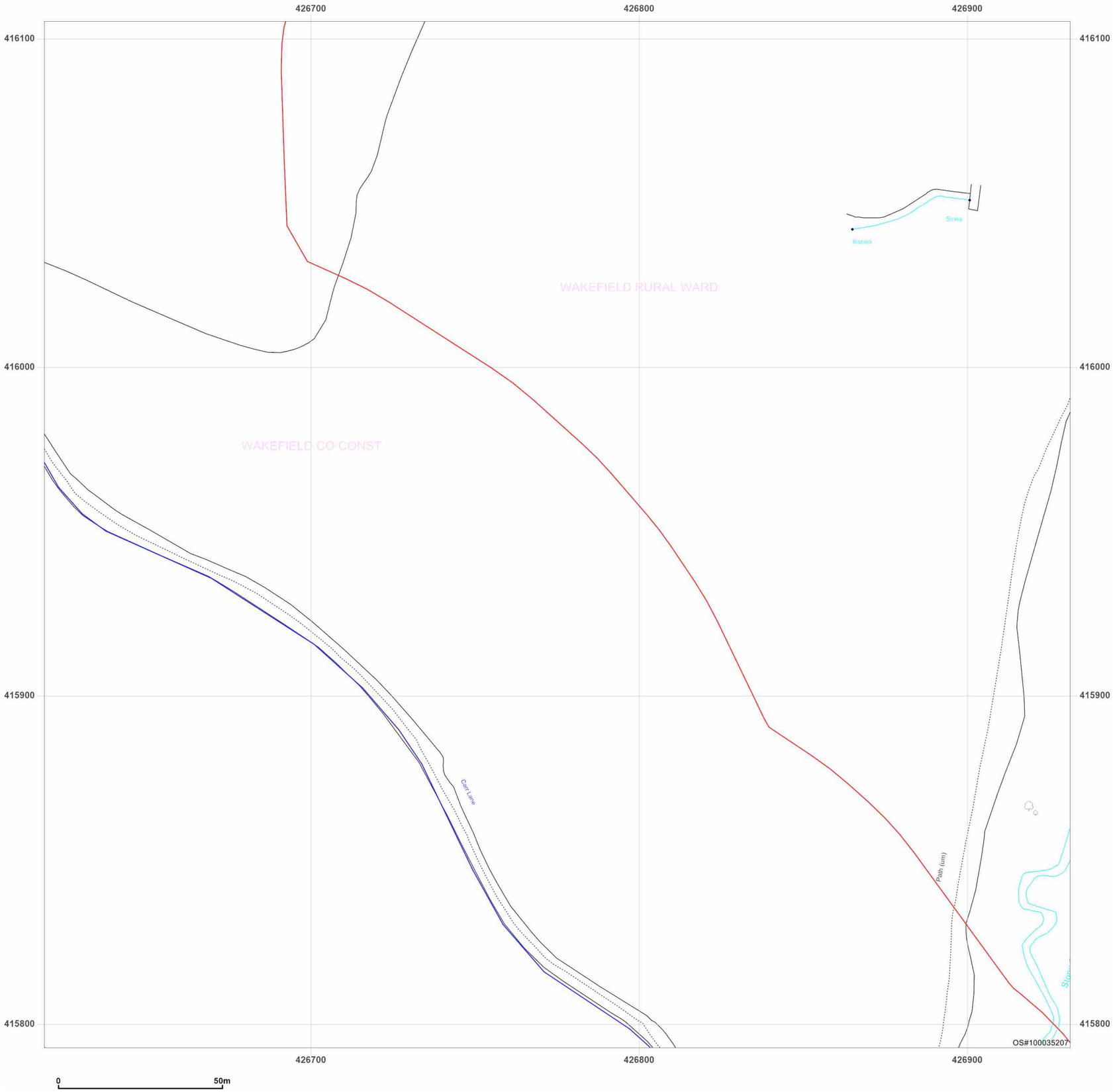

Site Details:

NEW HALL FARM, NEW HALL LANE, WAKEFIELD, WF4 4RP

Client Ref: 20149385
Report Ref: WSP-8991879_Landline_6_2
Grid Ref: 426775, 415949

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Appendix E

UXO RISK SUMMARY

Public

Pre-Desk Study Assessment

Site:	Land off New Hall Lane, Overton, West Yorkshire
Client:	WSP
Contact:	John Dickinson
Date:	23rd August 2022
Pre-WWI Military Activity on or Affecting the Site	None identified.
WWI Military Activity on or Affecting the Site	None identified.
WWI Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Transport infrastructure and public utilities. ■ Industries important to the war effort, including chemical works.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	None identified.
WWII Military Activity on or Affecting the Site	None identified.
WWII Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: ■ Transport infrastructure and public utilities. ■ Industries important to the war effort, including engineering works. ■ Anti-Aircraft (AA) Defences.
WWII Bombing Decoys (within 5km of Site)	2No. The closest was located approximately 2km south of the Site.
WWII Bombing	During WWII the Site was located in the Rural District (RD) of Wakefield, which officially recorded 12No. High Explosive (HE) bombs with a bombing density of 0.5 bombs per 405 hectares (ha). No readily available records have been found to indicate that the Site was bombed.
Post-WWII Military Activity on or Affecting the Site	None identified.
Recommendation	A detailed desk study, whilst always prudent, is not considered essential in this instance.
Further information	For information about Zetica's detailed UXO desk studies and other UXO services, please visit our website: www.zeticauxo.com. Details and downloadable resources covering the most common sources of UXO hazard affecting sites in the UK can be found **here**. If you have any further queries, please don't hesitate to get in contact with us at uxo@zetica.com or 01993 886 682.

This summary is based on a cursory review of readily available records. Caution is advised if you plan to action work based on this summary.

It should be noted that where a potentially significant source of UXO hazard has been identified on the Site, the requirement for a detailed desk study and risk assessment has been confirmed and no further research will be undertaken at this stage. It is possible that further in-depth research as part of a detailed UXO desk study and risk assessment may identify other potential sources of UXO hazard on the Site.

Appendix F

COAL AUTHORITY COAL MINING REPORTS

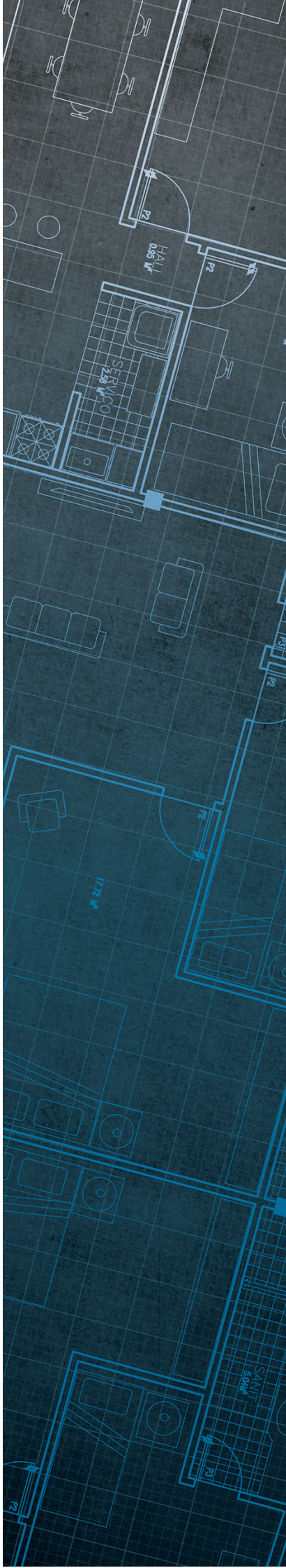
Public

The Coal Authority

Consultants

Coal Mining Report

New Hall Farm, New Hall Lane,
Wakefield, Wf4 4rp
West Yorkshire



Date of enquiry:	**20 June 2023**
Date enquiry received:	**20 June 2023**
Issue date:	**20 June 2023**
Our reference:	**51003362140001**
Your reference:	**WSP-S5B-WU1-Q78-I4A**

Consultants

Coal Mining Report

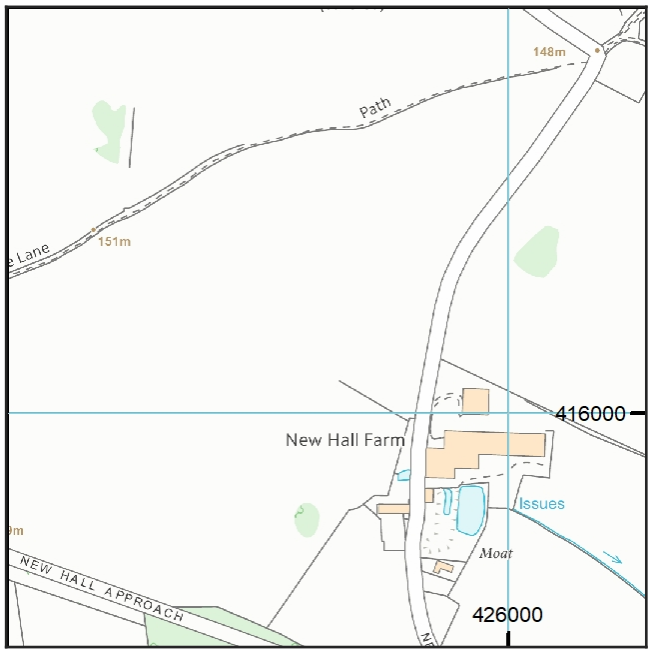
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

GROUNDSURE LIMITED

Enquiry address

New Hall Farm, New Hall Lane, Wakefield, Wf4 4rp
West Yorkshire



Approximate position of property

Map data

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How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

@coalauthority
/company/the-coal-authority
/thecoalauthority
/thecoalauthority

Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	FLOCKTON THICK	Coal	6HTC	23	Beneath Property	1.6	North-East	135	1841
unnamed	FLOCKTON THIN	Coal	6HTF	27	Beneath Property	3.9	North	64	1844
unnamed	FLOCKTON THICK	Coal	6BTA	27	Beneath Property	3.4	North-East	135	1798
unnamed	FLOCKTON THICK	Coal	6HTB	29	Beneath Property	1.4	East	145	1824
unnamed	FLOCKTON THICK	Coal	6HUR	30	Beneath Property	2.9	East	145	1824
unnamed	FLOCKTON THIN	Coal	6HTE	40	Beneath Property	3.8	North-East	64	1845
unnamed	FLOCKTON THIN	Coal	6O8B	43	Beneath Property	3.8	South-East	46	1871
unnamed	FLOCKTON THICK	Coal	6HUS	47	South-West	2.9	East	145	1824
unnamed	LOW FENTON	Coal	6HTK	57	Beneath Property	0.9	North	91	1856
unnamed	FLOCKTON THICK	Coal	6O8A	66	Beneath Property	4.7	South	122	1830
unnamed	FLOCKTON THIN	Coal	6O8J	76	Beneath Property	3.8	North-East	64	1845
unnamed	LOW FENTON	Coal	6O8K	81	Beneath Property	2.8	East	69	1875
unnamed	LOW FENTON	Coal	6HTJ	81	Beneath Property	2.2	North	91	1859
unnamed	FLOCKTON THIN	Coal	6HUU	89	Beneath Property	3.8	North-East	64	1834
unnamed	FLOCKTON THICK	Coal	6YOX	89	Beneath Property	4.2	North	120	1830
unnamed	FLOCKTON THIN	Coal	6YOZ	95	Beneath Property	3.8	North-East	60	1845
unnamed	MIDDLETON MAIN	Coal	6HTN	105	Beneath Property	2.7	East	91	1884
unnamed	WHEATLEY LIME	Coal	6HTV	111	Beneath Property	2.4	South-East	76	1887
unnamed	MIDDLETON MAIN	Coal	6HT1	119	South	2.4	East	63	1884
unnamed	MIDDLETON MAIN	Coal	6HUZ	119	South	2.4	East	63	1861
UNAMED	WHEATLEY LIME	Coal	6HTW	120	South-West	2.4	South-East	76	1932
unnamed	MIDDLETON MAIN	Coal	6HT3	126	West	2.4	East	91	1856

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Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	MIDDLETON MAIN	Coal	6O8M	127	Beneath Property	3.0	East	84	1917
unnamed	MIDDLETON MAIN	Coal	6HTQ	127	Beneath Property	2.4	East	66	1889
unnamed	MIDDLETON MAIN	Coal	6HUW	129	Beneath Property	2.4	East	66	1889
unnamed	LOW FENTON	Coal	6YP4	133	Beneath Property	5.0	South-East	74	1912
unnamed	WHEATLEY LIME	Coal	6HTS	136	Beneath Property	1.6	South-East	76	1920
unnamed	MIDDLETON MAIN	Coal	6O8P	136	South-West	2.8	East	51	1895
unnamed	MIDDLETON MAIN	Coal	6O8O	139	Beneath Property	2.3	South-East	61	1897
unnamed	MIDDLETON MAIN	Coal	6HTM	140	Beneath Property	2.3	South-East	107	1900
unnamed	WHEATLEY LIME	Coal	6O8S	144	Beneath Property	3.3	East	79	1963
unnamed	SILKSTONE	Coal	6HTY	145	North-West	2.8	South-East	53	1959
unnamed	MIDDLETON MAIN	Coal	6HUX	150	Beneath Property	2.3	South-East	60	1889
unnamed	SILKSTONE	Coal	6HT8	152	South	2.4	East	61	1960
unnamed	WHEATLEY LIME	Coal	6O8U	155	Beneath Property	5.3	South-East	89	1955
unnamed	MIDDLETON MAIN	Coal	6YPH	157	Beneath Property	2.3	South-East	51	1897
unnamed	WHEATLEY LIME	Coal	6HTT	161	Beneath Property	1.6	South-East	76	1940
unnamed	SILKSTONE	Coal	6O8V	165	Beneath Property	2.5	East	58	1927
unnamed	WHEATLEY LIME	Coal	6HT5	166	Beneath Property	8.5	South	84	1938
unnamed	WHEATLEY LIME	Coal	6YPE	177	Beneath Property	4.8	South-East	74	1962
unnamed	TOP BEESTON	Coal	6HV3	194	South-West	2.4	South-East	99	1942
unnamed	TOP BEESTON	Coal	6HT9	205	Beneath Property	3.0	East	76	1944
unnamed	TOP BEESTON	Coal	6HV2	216	North-East	2.6	South	152	1975
unnamed	TOP BEESTON	Coal	6HV1	217	East	2.6	South	152	1976
unnamed	TOP BEESTON	Coal	6HV4	217	Beneath Property	2.4	South-East	77	1963
DENBY GRANGE	TOP BEESTON	Coal	YZ30	232	Beneath Property	2.9	East	223	1980
unnamed	TOP BEESTON	Coal	6O8W	238	Beneath Property	3.9	East	66	1968
DENBY GRANGE	TOP BEESTON	Coal	YZ31	238	East	2.9	East	213	1982

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Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	TOP BEESTON	Coal	6HTZ	242	Beneath Property	2.6	South	139	1979
unnamed	TOP BEESTON	Coal	Y25	245	Beneath Property	5.1	East	145	1980
unnamed	TOP BEESTON	Coal	6HV0	249	Beneath Property	2.6	South	139	1979
unnamed	TOP BEESTON	Coal	Y28	257	Beneath Property	5.2	East	156	1980
unnamed	TOP BEESTON	Coal	Y29	261	Beneath Property	5.1	East	147	1981

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	424416-001	424864 416189		Coal	Kirklees Council - Yorkshire Mining Museums Trust 26/10/1994
Shaft	424416-005	424870 416222	has been filled to an unknown specification	Coal	
Shaft	424416-006	424970 416068	following a collapse in 1997 the shaft was filled with clean graded stone to within 3.0m of ground level and was plugged with concrete above the fill material	Coal	
Shaft	424416-007	424872 416200		Coal	
Shaft	424416-016	424770 416251		Coal	
Shaft	424416-017	424878 416063		Coal	
Shaft	424416-018	424864 416050		Coal	
Shaft	424416-019	424924 416131		Coal	
Shaft	425415-002	425781 415886	has been filled to an unknown specification	Coal	
Shaft	425415-006	425653 415816	has been filled to an unknown specification	Coal	
Shaft	425415-007	425658 415799	has been filled to an unknown specification	Coal	
Shaft	425415-015	425198 415899		Coal	
Shaft	425415-016	425301 415897		Coal	
Shaft	425415-017	425375 415854		Coal	
Shaft	425415-018	425505 415776		Coal	
Shaft	425415-019	425489 415749		Coal	
Shaft	425416-001	425339 416451	is open and active	Coal	
Shaft	425416-005	425332 416446	is capped with concrete and steel girders and is void beneath the cap	Coal	
Adit	425416-006	425047 416214	has been filled to an unknown specification	Coal	
Adit	425416-015	425044 416302		Coal	
Shaft	425416-016	425580 416303		Coal	
Shaft	425416-017	425807 416257		Coal	
Shaft	425416-018	425851 416037		Coal	
Shaft	425416-026	425972 416374		Coal	

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Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Adit	425416-027	425335 416557		Coal	
Shaft	425416-030	425300 416310		Coal	
Shaft	425416-031	425437 416194		Coal	
Shaft	425416-033	425010 416288		Coal	
Adit	425416-034	425024 416107		Coal	
Shaft	425416-036	425123 416047		Coal	
Shaft	425416-037	425386 416017		Coal	
Shaft	425416-038	425624 416051		Coal	
Shaft	425416-039	425612 416320		Coal	
Shaft	425416-040	425838 416062		Coal	
Shaft	425416-042	425590 416531	this is a possible infilled shaft found during site development. However excavation of the entire garage floor of 180 Old Road Overton (beneath which the shaft plots) by Fennel Green and Bates Mining Engineers and Surveyors of Wakefield. in 1993 found no evidence of any such shaft. Additionally the records of City of Wakefield District Council show no evidence of a shaft discovered during excavations or at any other time. Further an impulse radar survey carried out at the property by Site Scan Ltd of Swindon in March 1994 concluded that there was no evidence from the radar survey for the presence of a mine shaft	Coal	
Shaft	425416-043	425345 416535		Coal	
Adit	425416-047	425067 416334		Coal	
Shaft	425416-049	425028 416220		Coal	
Shaft	426415-004	426360 415836		Coal	
Shaft	426416-003	426627 416238	has been capped	Coal	
Shaft	426416-005	426519 416063	has been filled and capped	Coal	
Shaft	426416-006	426401 416281	has been filled to an unknown specification	Coal	
Shaft	426416-007	426512 416239	has been filled to an unknown specification	Coal	
Shaft	426416-009	426036 416167		Coal	
Shaft	426416-015	426068 416453		Coal	

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Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	426416-016	426190 416389	has been filled to an unknown specification	Coal	
Shaft	426416-017	426282 416330	has been filled to an unknown specification	Coal	
Shaft	426416-018	426099 416307		Coal	
Shaft	426416-019	426193 416254		Coal	
Shaft	426416-020	426567 416271		Coal	
Shaft	426416-026	426082 416416		Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

GCR223	11802	10431
GCR238	8613	NE877
16355	GCR1	NE1079

Our records show we have more plans than those shown above which could affect the enquiry boundary.

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
FLOCKTON THICK	Coal	Yes	90.0	North-West	55
FLOCKTON THICK	Coal	Yes	Within	N/A	186
FLOCKTON THICK	Coal	Yes	10.5	North-West	196

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

Opencast mines

Please refer to the “Summary of findings” map (on separate sheet) for details of any opencast areas within 500 metres of the enquiry boundary.

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Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

There are 1 claim(s) within 50 metres of the property boundary that do not match the property address. These are shown on the enquiry boundary plot.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

If further subsidence damage claims information is required, please visit www.groundstability.com.

See Section 4 for further information.

Mine gas

Distance to gas incident/remediation (m)	Direction
334.5	South

See Section 4 for further information.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

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Section 3 – Licensing and future mining activity

Future underground mining
None recorded.

Coal mining licensing

Status	Licence type	Distance (m)	Direction
Current	Underground	Within	N/A

See Section 4 for further information.

Court orders
None recorded.

Section 46 notices
No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices
The property is in an area where notices to withdraw support were given in 1943, 1977, 1979, 1981 and 1982.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land
The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

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Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

Coal mining subsidence

The site is within an area of previous interest. It is close to where the Coal Authority or licensed mine operator has investigated and where necessary remediated issues relating to coal mining subsidence.

The site requires further investigation and may influence your risk assessment. We recommend that you order the appropriate **Coal Authority Subsidence Claims Report**, which will include more information about the hazard.

Mine gas remedial works

The site is within an area of previous interest. It is close to where the Coal Authority has investigated and subsequently remediated the effects of mine or ground gas emissions following specific reported hazards.

The site requires further investigation and may influence your risk assessment. We recommend that you order the **Coal Authority Mine Gas Emission Report**, which will include more information about the hazard.

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Coal mining licensing

The report has highlighted that the site is close to a Coal Authority license area for coal mining operations. Please contact us if you require further information.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk.**

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

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Opencast mines
Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips
Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations
Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites
Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence
Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas
Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

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Mine water treatment schemes
Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining
Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing
Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders
Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices
Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices
Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land
Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

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Summary of findings

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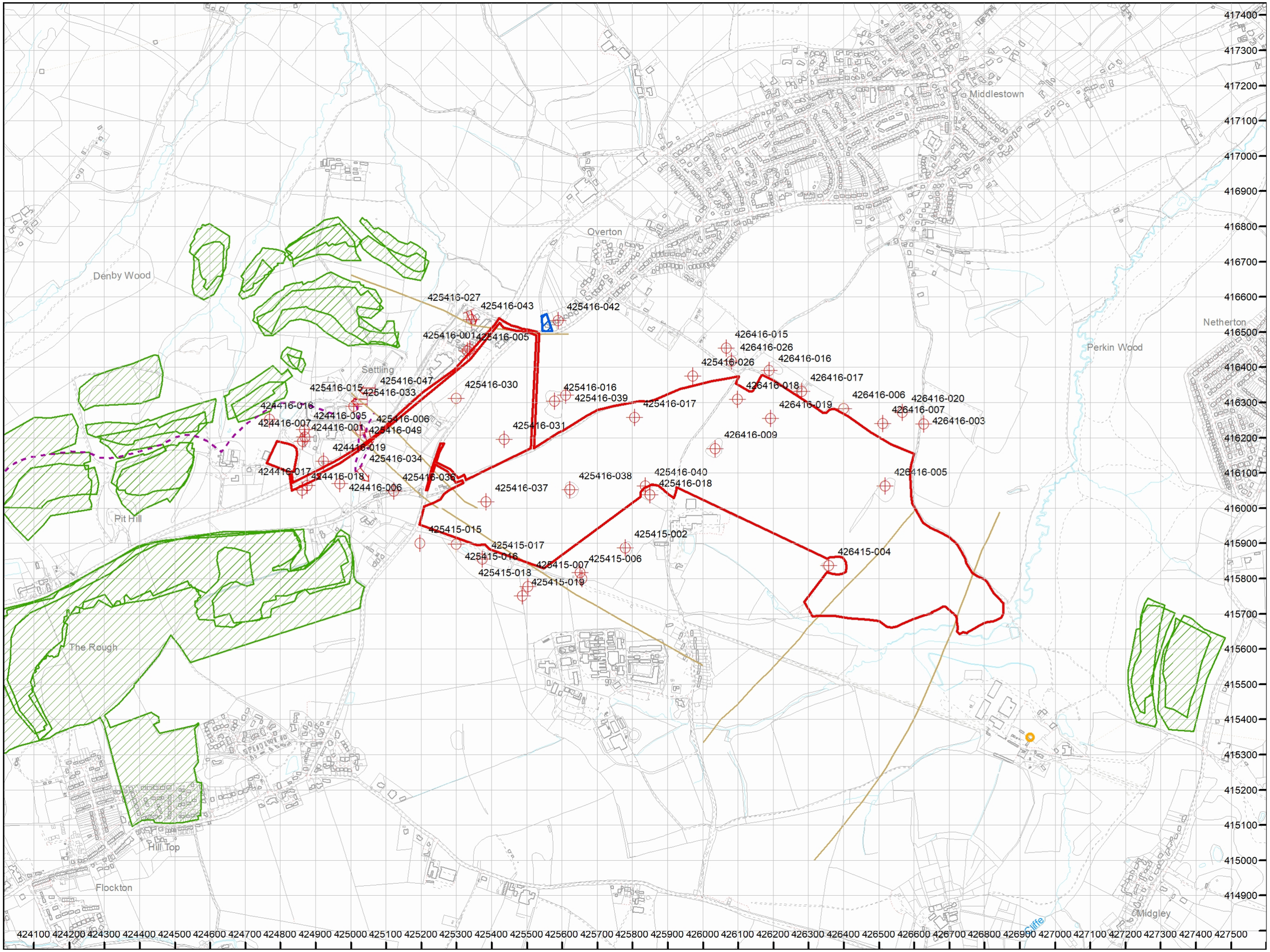
The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown
- Disused mine shaft
- Disused adit
- Outcrop (Conjectured)
- Geological faults
- Unlicensed opencast site
- Mine gas remedial works
- Coal claim



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Appendix G

CONTAMINATED LAND RISK RATING MATRIX

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CIRIA RISK APPRAISAL METHODOLOGY

Assessing potential risks from potentially complete "contaminant linkages" is key to the evaluation of contaminated land. An approach based on the UK CIRIA report C552 (Contaminated Land Risk Assessment: A Guide to Good Practice, 2001) has been adopted within this report to estimate the level of risk associated with each potentially viable contaminant linkage. Risk from contamination is determined by a combination of:

- The magnitude of harm that will be caused if the contaminant linkage is present; and
- The likelihood that the contaminant linkage is present.

Table 1 summarises the CIRIA definition of four levels of severity / magnitude of harm. The probability of the harm occurring is classified by criteria given in Table 2.

TABLE 1 CLASSIFICATION FOR SEVERITY

Classification	Definition
Severe	Acute effects on human health; Major pollution of controlled waters (watercourses or groundwater)
Medium	Chronic (long-term) effects on human health; Pollution of sensitive controlled waters (surface waters or aquifers)
Mild	Pollution of non-sensitive water resources.
Minor	Requirement for protective equipment during site works to mitigate health effects; Damage to non-sensitive ecosystems or species

TABLE 2 PROBABILITY OF RISK OCCURRING

Classification	Definition
High Likelihood	Contaminant linkage may be present, and harm is almost certain to occur in the long term, or there is evidence of harm to the receptor.
Likely	Contaminant linkage may be present, and it is probable that harm will occur over the long term.
Low Likelihood	Contaminant linkage may be present and there is a possibility of harm occurring, although there is no certainty that it will do so.
Unlikely	Contaminant linkage may be present but the circumstances under which harm would occur are improbable.

The risk levels are determined by combining severity and probability, as presented in Table 3.

TABLE 3 RISK CATEGORY FROM COMBINATION OF SEVERITY AND PROBABILITY

RISK CATEGORIES		Severity of Harm			
		Severe	Medium	Mild	Minor
Probability of Harm	High Likelihood	Very high risk	High risk	Moderate risk	Moderate / low risk
	Likely	High risk	Moderate risk	Moderate/ low risk	Low risk
	Low Likelihood	Moderate risk	Moderate/ low risk	Low risk	Very low risk
	Unlikely	Moderate / low risk	Low risk	Very low risk	Very low risk

Table 4 then provides a description of the typical consequences and potential actions required following each risk definition.

TABLE 4 QUALITATIVE RISK ASSESSMENT - CLASSIFICATION OF CONSEQUENCE

Classification	Definition
Very High Risk	Severe harm to a receptor may already be occurring, or a high likelihood severe harm will arise to a receptor, unless immediate remedial works / mitigation measures are undertaken.
High Risk	Harm is likely to arise to a receptor, and is likely to be severe, unless appropriate remedial actions / mitigation measures are undertaken. Remedial works may be required in the short-term, but likely to be required over the long-term.
Moderate Risk	Possible that harm could arise to a receptor, but low likelihood that such harm would be severe. Harm is likely to be mild. Some remedial works may be required in the long-term.
Moderate / Low Risk	Possible that harm could arise to a receptor, but where a combination of likelihood and consequence results in a risk that is above low, but is not of sufficient concern to be classified as Moderate. Limited further investigation may be required to clarify the risk. If necessary, remediation works are likely to be limited in extent.
Low Risk	Possible that harm could arise to a receptor. Such harm, at worst, would normally be mild.
Very Low Risk	Low likelihood that harm could arise to a receptor. Such harm is unlikely to be any worse than mild.



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