PEAK ENVIRONMENTAL SOLUTIONS

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23rd November 2017 **PDF BY EMAIL ONLY**
Our Ref: 41887LR1/Iss-RevA

Mr P Bussey
Valley Lodge
Valley View
Conisbrough
South Yorkshire
DN12 3GD

Dear Sirs,

PHASE 1 ENVIRONMENTAL ASSESSMENT
LAND AT FIELDS END ROAD & BARNSLEY ROAD, GOLDTHORPE, SOUTH YORKSHIRE, S63 9LX

Overview

We write following your instruction to provide a Phase 1 environmental assessment to assist in the residential development of a ~0.16 hectare area of land located at the junction of Fields End Road and Barnsley Road in Goldthorpe, South Yorkshire, S63 9LX and centred on National Grid Reference (NGR) 445960, 404360 ('the site'). Figure 1 shows the site location and Figures 2 and 3, the current site layout.

Planning permission for residential development at the site will be sought from Barnsley Metropolitan Borough Council (BMBC). This report has been prepared to assist in the process of obtaining planning permission for the development. It is based on details gathered from publicly available environmental/geological information from public bodies (including the Environment Agency (EA) and British Geological Survey (BGS)) and review of current and historical Ordnance Survey mapping data. The report includes a preliminary risk assessment (PRA) and provides conclusions and recommendations to assist in furthering the development at the site. A site walkover was undertaken on the 2nd November 2017, photographs of the site are included in Appendix B.

Limitations of Assessment

The letter report has been produced in accordance with the umbrella framework laid out in DEFRA/EA CLR-11 '*Model Procedures for the Management of Land Contamination',* BSI 10175:2011 '*Investigation of Potentially Contaminated Sites'* Code of Practice and NHBC/EA Publication R&D66 (*'Guidance for the Safe Development of Housing on Land Affected by Contamination'*), as well as in general accordance with the National Planning Policy Framework 2012. The report and appendices should be read in the light of any subsequent changes in legislation, statutory requirements, statutory and non-statutory guidance, relevant research and industry practices.

Information provided to or obtained by Peak Environmental Solutions has been relied upon in good faith. This report is subject to the standard terms and conditions of Peak Environmental Solutions and the attached limitations and exceptions.

Existing Site Layout

Barnsley Road is present at the southern tip of the approximately triangular ~0.16 hectare site and Fields End Road is present at the western site boundary along its entire length. Vehicular access to the site is via Fields End Road. The site consists of:

- An asphalt surfaced car park with parking for ~40 cars.
- An area of dense shrubbery/planting along the eastern site boundary and at the north of the site.
- A short, asphalt surfaced access driveway for an area of land off-site to the north.
- A block paved pedestrian site access in the eastern site boundary.
- Block paved areas and low boundary fence along Fields End Road (the western boundary) and around the site entrance.

The site, slopes very gently down to the west and is at an elevation of ~52m above Ordnance Datum (AOD).

No informal or formal areas of waste storage or disposal were identified during the site walkover. Evidence of recent burning was present in the north-east of the site, some of the shrub vegetation appeared to have been set on fire.

No below ground structures were identified during the walkover. Underground services may be present.

No evidence for any form of potential ground contamination, above or below ground storage of any significant quantities of potentially contaminative substances or bulk liquids (including oil) were noted during the site walkover.

Surrounding Land Use

The site is located in a mixed land use area. Land uses around the site are as follows:

- **North**: A grass and tree covered embankment along the side of Fields End Road extends directly north from the northern site boundary. Housing and further areas of open space are present to the north-east. North-west of the site and to the west of Fields End Road are large industrial warehouse units, the closest of which (~70m north-west) is used for kitchen equipment manufacture/assembly.
- **East**: Houses on Charles Street are present immediately to the east of the site. A Chapel of Rest and further housing are present immediately to the east fronting onto Barnsley Road.
- **South**: A small number of houses and a disused area of land where the ground levels fall away for several meters before rising again to approximately the level of Barnsley Road is present to the south. Further houses are present beyond.
- **West**: Fields End Road is present to the west, with a car sales garage and a motor repair garage beyond. A Texaco petrol filling station is present ~75m to the west.

Ground levels fall gently to the west.

Proposed Site Layout

An indicative development layout is shown in the attached JK Planning and Design Drawing 'Proposed Site Plan 1:500' The proposed layout includes two terraces of five properties with private gardens. The southern part of the site will be used for car parking.

Geological, Hydrogeological & Hydrological Setting

The 1:50,000 scale BGS geology map for the area does not records the presence of superficial deposits beneath the site. The mapping indicates that solid geology in the area consists of the Carboniferous Pennine Middle Coal Measures Formation. This consists of mudstones, siltstones and sandstones with subordinate coal seams and forms part of the Pennine Coal Measures Group.

The BGS also hold a database of borehole logs that can provide additional information about local ground conditions. The database includes records for four boreholes that were drilled in 1973 within the site boundaries, or in close proximity to the west of the site. The four holes were drilled through between 4.2m and 6.8m of made ground described as 'Colliery Waste: Weathered mudstone and coal fragments'. This was underlain by either sandstone or siltstone which extended to the base of the deepest borehole at 9.5m below ground level (bgl). All four of the boreholes remained dry during drilling.

Coal Authority data indicates that the site is within both the Coal Authority Reporting Area and the Development High Risk Area. Underground coal mining may affect the development. Mining issues have been considered in a separate report provided by the South Yorkshire Mining Advisory Service (Ref M2150/3).

Radon Maps provided by the Health Protection Agency (HPA) indicate that the site is within an area where an estimated 1-3% of homes are above the radon action level. Radon protection measures in the proposed properties should be considered as part of the development.

The bedrock deposits beneath the site are classified by the EA as a 'Secondary A' aquifer. These are described as '*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 aquif*ers'.

The Groundwater Vulnerability map for the area records the site as being located over a minor aquifer with a low vulnerability to surface pollution. The site is not located within a Source Protection Zone (SPZ) set by the EA for the protection of important groundwater resources.

The nearest surface water feature is the Thurnscoe Dike located ~430m to the north of the site at its closest point. The Dike flows to the west to a confluence with the Carr Dike and eventually the River Dearne.

The site is in an area that the EA have categorised as having a low probability of flooding (less than 1 in 1,000 annual probability of river or sea flooding).

Ecologically Sensitive Areas

The Government Information website www.magic.gov.uk lists conservation designations for the area. The site is not located within an environmentally sensitive area. There are no designated areas or sites within 1 km, including Area of Outstanding Natural Beauty (AONB), Environmentally Sensitive Areas (ESA), Local Nature Reserves (LNR), National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI) or Specially Protected Areas (SPA). No Scheduled Ancient Monuments are located near the site.

Site History & Potentially Contaminative Landuse

Historical Ordnance Survey maps for the site and the surrounding area (1851-1855 to present day) are attached and provide supporting information on previous on and off-site landuse, including potentially contaminative land uses on or around the site.

The 1851-1855 County Series mapping shows the site forming part of a network of fields. Barnsley Road is an established thoroughfare to the south of the site and the (much smaller) village of Goldthorpe is located ~300m to the south-east. No industrial developments are recorded within 500m of the site.

By 1894, the Midland and North Eastern Railway has been built ~350m to the west of the site and by 1903, a branch line has been extended across the site within a railway cutting established for the purpose. The branch line passes beneath Barnsley Road to the south of the site, heading south-west. It is related to Hickleton Main Colliery which has been established ~1km to the north-east. Houses have been built to the east of the site and a 'Railway in course of construction' is shown to the south of Barnsley Road to the south of the site running from west to east.

Mapping from the 1930s shows the completed Hickleton Colliery Branch Line in a deep cutting to the south of Barnsley Road and to the south of the site. Goldthorpe has expanded considerably to the east and south. Land to the west is occupied by the railway cutting, allotment gardens, a club and open fields. The Highgate Colliery has been established ~400m to the north of the site.

The 1962 1:1,250 and 1:2,500 scale OS plans record the railway that crosses the site as 'Dismantled'. The railway cutting is shown and the railway to the south of Barnsley Road is recorded as active. A road or track and some additional developments are shown to the west of the cutting and a garage is recorded in the location of the current petrol filling station on Barnsley Road ~75m to the west of the site.

Mapping from 1966 appears to show that the cutting to the south of the site and Barnsley Road has been partially infilled. A mine spoil heap from the Highgate mine to the north is shown extending to within ~200m to the north-east.

The 1:10,000 scale plan from 1976 no longer shows the railway cutting and it is assumed that it was infilled sometime between 1966 and 1976 (BGS borehole logs from 1973 record that the cutting has already been infilled by this date). Mapping from this time also records a car park in the south of the site for the first time. The current site layout is first shown on mapping from 1995 when Fields End Road is widened and the current car park layout is established. This map also records an embankment to the north of the site for the first time.

The railway to the south of the site is first recorded as dismantled in 2006. This plan also shows the large industrial site to the north-west for the first time. The railway to the south remains as a disused area of green space with a significant cutting obvious along the line of the former railway.

Contemporary Potentially Contaminative On-Site & Off-site Landuses

One industrial plant or facility permitted to operate by the EA has been identified on the site or within 500m of the site. The Goldthorpe household waste recycling centre is located ~400m to the north-west of the site.

Contemporary industrial land use is on-going ~75m to the north-west of the site where kitchen equipment manufacture is on-going. A petrol filling station and garage operations are also located to the west of the site within ~50-75m. No other contemporary industrial activities or potential contamination sources have been identified within 200m of the site.

Contamination Sources - Registered Waste Operations, Infilled Land and Pollution Incidents

The EA database does not record the presence of any currently operational landfill sites within 1km of the site. One historic landfill is recorded within 1km of the site. The 'Railway Cutting' landfill site is located ~90m to the south of the site within the former railway cutting that crossed the site. This site accepted inert, commercial and liquid and sludge waste (industrial wastewater, sewage sludge and chemical wastes mixed with municipal solid waste) between 1985 and 1986. BMBC are recorded as the site operator.

No pollution incidents are recorded on the EA database within 500m of the site.

Contaminants of Concern

The site was first developed as a railway cutting and line in ~1903. The railway was used for ~60 years before being dismantled. A short time after the railway was dismantled, the cutting was infilled. Evidence from the BGS borehole log records suggests that the cutting was up to ~7m deep and was infilled with colliery spoil material, probably from the nearby Highgate mine. Colliery spoil can have a low pH and contain elevated concentrations of metals and coaliferous material containing polyaromatic hydrocarbons (PAH).

Car parking has occurred at the site since the 1960s, with the current surfacing and site layout established in ~1995. Limited hydrocarbon ground contamination as a result of this land use is considered possible.

The railway cutting was also infilled to the north. An embankment presumed to be formed of placed colliery spoil material is present immediately to the north. To the south of Barnsley Road, the cutting remains open, as this area formerly accommodated a further railway line within a deep cutting. South of this cutting (~90m to the south) is a landfill site filled by BMBC in the 1980s with a range of potentially contaminative materials. Contamination from this landfill is unlikely to affect the development site owing to the deep cutting present between the site and the landfill.

A petrol filling station, garage and car sales area are all present in relatively close proximity to the west of the site. Any contamination from resulting from these land uses will migrate hydraulically and topographically down gradient to the west and is therefore unlikely to affect the site.

Industrial land use is on-going to the north-west in recently constructed purpose built units. Contamination from these land uses is considered unlikely to affect the site.

No other potentially contaminative activities or potentially significant sources of ground contamination that are likely to affect the development have been identified during the Phase 1 process.

Concentrations of the following potential contaminants in particular may be present in existing site soils as a result of the deposit of colliery spoil at the site and it's subsequent use as a car park:

- Low pH soils.
- Arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, vanadium, zinc.
- Asbestos containing materials (ACMs).
- Banded total petroleum hydrocarbons (TPH) fractions C6-C35.
- Priority 16 polyaromatic hydrocarbons (PAHs): naphthalene, acenaphthene, acenaphthylene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo-a-anthracene, chrysene, benzo-b-fluoranthene, benzo-k-fluoranthene, benzo-a-pyrene, dibenzo-a,h-anthracene, benzo-g,h,i-perylene, indeno-1,2,3-c,d-pyrene.

Risk Assessment

The qualitative PRA is presented in Table 1 and considers the proposed residential development. The PRA includes an initial conceptual site model (CSM) to assess the relative significance of risks associated with relevant pollutant linkages (RPLs) identified by a source-pathway-receptor analysis. The relative assessment of risk is based on the following:

- The likelihood (probability) of an event occurring, taking into account the presence of the hazard & receptor, as well the plausibility of the pathway. The likelihood is defined as the chance of a particular event occurring in a given period of time;
- The severity of the potential consequence, taking into account the relative significance the hazard (typically site specific) and the relative sensitivity of the receptor. Severity or consequence can be defined as adverse effect(s) or harm arising from a hazard that impairs receptor function/condition in the short term (acute) or longer term (chronic);
- Risk classification (very low to very high) using a risk matrix that combines 'consequence' and 'likelihood'; the risk matrix is detailed in Appendix A;
- For the purposes of the qualitative assessment, identified very low and low risks will be considered acceptable for the redeveloped use.

The PRA indicates that potential risks to the identified receptors from the developed site are moderate to low.

Table 1: Post-Development Conceptual Site Model & Preliminary Risk Assessment

Relevant Pollutant Linkages			**Risk Assessment**		
Source/Hazard	**Pathway**	**Sensitive Receptor**	**Consequence**	**Likelihood**	**Preliminary Risk Classification**
Inorganic/organic substances in soils & groundwater	Direct contact (Ingestion & Dermal) Inhalation of dust Inhalation of organic vapour Ingestion of site grown vegetables	**Land Contamination** **Human Health** Future site occupants	Medium	Likely	Moderate Risk
	Soils leaching to groundwater Perched water discharge to groundwater Lateral groundwater flow	**Land Contamination** **Controlled Waters**	Medium	Unlikely	Low Risk
	Groundwater Discharge to surface waters Direct surface run-off	**Land Contamination** **Controlled Waters** Surface water is not present within close proximity.	Medium	Unlikely	Low Risk
Aggressive ground conditions	Direct contact with contaminated soils & pore water	**Geotechnical** **BBM&S** Buildings, building materials and services	Medium	Unlikely	Low Risk

Note: Identified Very Low and Low risks are considered acceptable for the redeveloped use
BBM&S – Buildings, building materials and services.

Conclusions and Recommendations

A Phase 1 environmental assessment has been undertaken for the site to support the application to redevelop the site for residential landuse. The purpose of the assessment was to:

1. Determine the potential for land contamination issues arising from the current or historical uses of the site and surrounding area; and
2. Provide an assessment of potential risks that identified land contamination issues may pose to sensitive receptors on the developed site (including future site users, controlled waters and infrastructure).

The PRA has identified moderate to low risks to the identified receptors associated with contamination at the site.

The following recommendations should be implemented at the appropriate stage during the development process.

- A Phase 2 site investigation and generic quantitative/qualitative human health risk assessments should be completed to identify the presence, character, extent and significance of any soil contamination sources that are present. The scope of the investigation should be determined based on the findings of the Phase 1 investigation and the final development proposal. Following the Phase 2 investigation, the initial conceptual model and risk evaluation should be refined. The Phase 2 report should include conclusions and recommendations for any further investigation or risk assessment work.
- Following completion of necessary site investigation and risk assessment works, a remediation/protection strategy is recommended to ensure that new buildings, site soils (including imported soils/sub-soil) do not represent a potentially unacceptable risk to the future site occupants, off-site properties, controlled waters and other sensitive receptors following redevelopment. Imported materials and re-use of site-won soils should be managed and verified in an appropriately controlled and documented manner agreed with BMBC.
- The remediation/protection strategy should include a Discovery Strategy for use during the redevelopment should unexpected impacted made ground deposits and/or natural soils and waste deposits be encountered. The strategy should include a protocol for characterising and dealing with any encountered contamination, including liaison with BMBC.
- The design and specification of below ground water supply services should comply with industry best practice for site development.
- Potential ACMs in the site soils should be managed in-line with HSE guidance (http://www.hse.gov.uk/Asbestos/managing/index.htm).
- The requirement for radon protection measures in the proposed buildings should be discussed and agreed with building control.

Risks associated with shallow underground coal workings at the site may also require investigation.

We trust that the above meets your requirements. If you have queries, please do not hesitate to contact us.

Yours faithfully,
For and on behalf of Peak Environmental Solutions Limited

[redacted]

Clare Dainton
Director

Enc.
- Figures:
  Figure 1: Site Location plan
  Figure 2: Site Layout Plan 1
  Figure 3: Site Layout Plan 2
  JK Planning and Design Drawing 'Proposed Site Plan 1:500'
- Appendix A: Limitations & Exceptions
- Appendix B: Site Walkover Photographs
- Appendix C: Historical Map Pack
- Appendix D: Risk Matrix

FIGURES

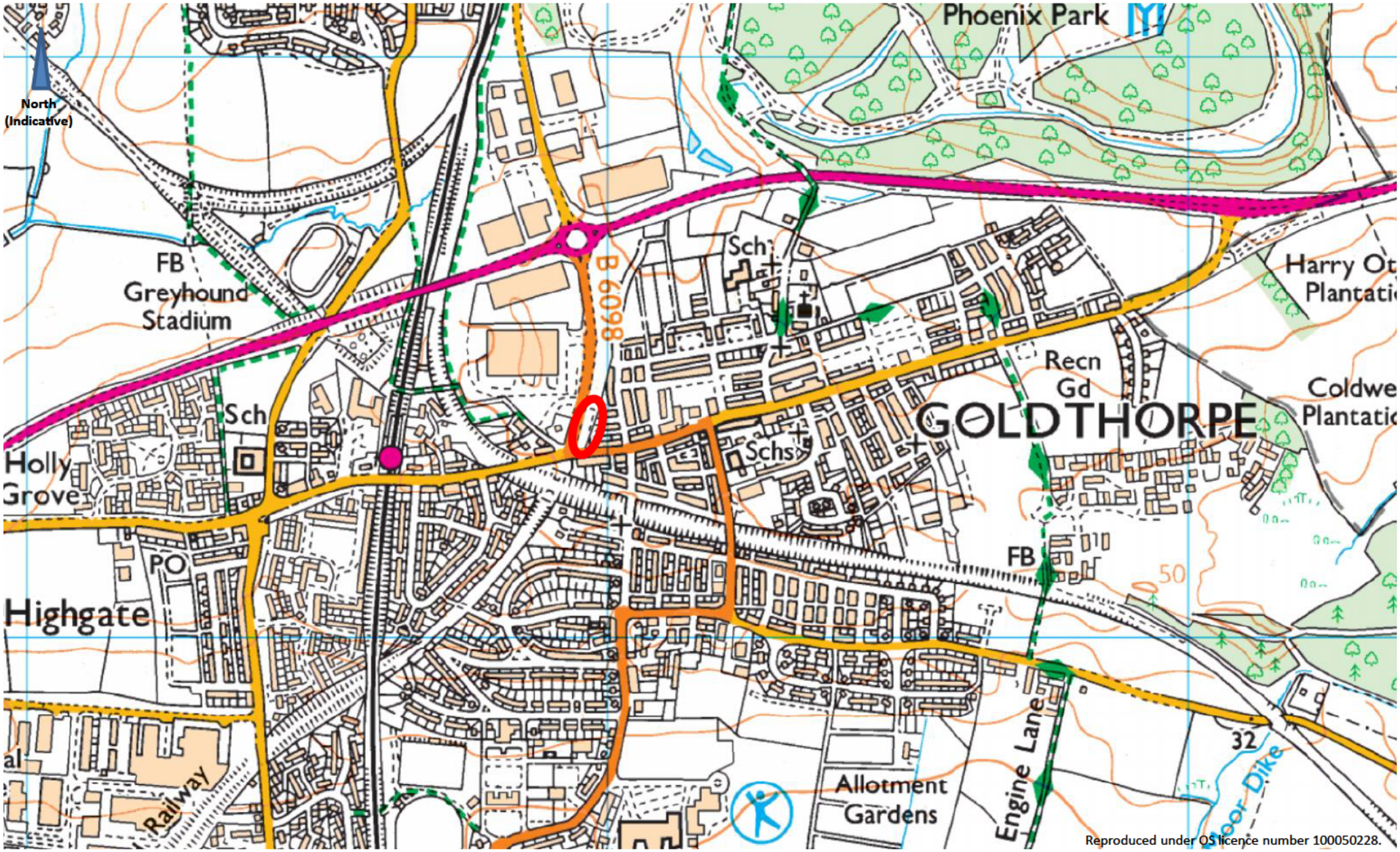

Figure 1	Site Location Plan	0 Site Location	Scale: Not to scale

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Site: Land at Fields End Road & Barnsley Road, Goldthorpe, South Yorkshire, S63 9LX

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North
(Indicative)

Figure 2	Site Layout Plan 1	Site Boundary	Scale: Not to scale

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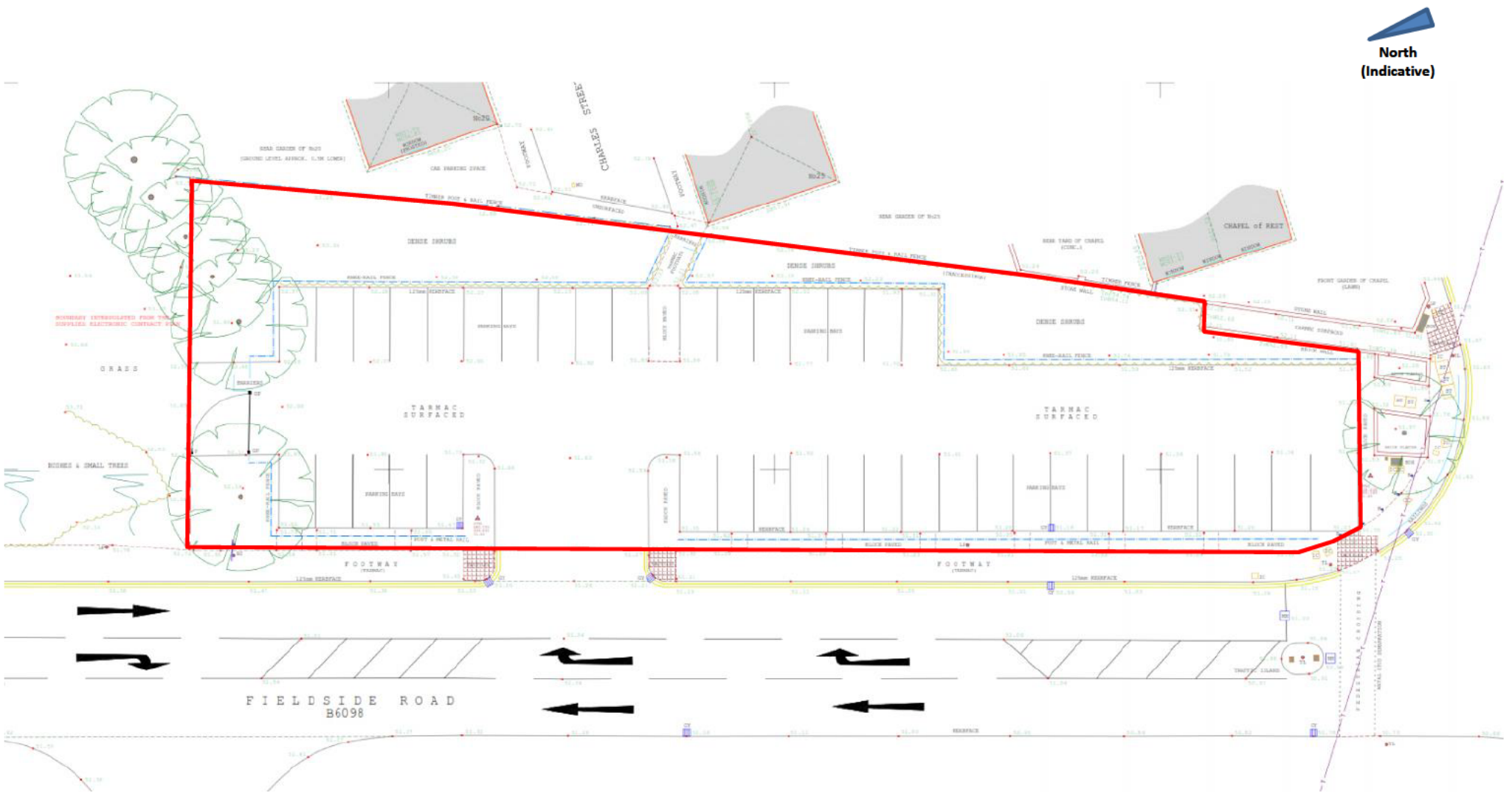

Figure 3	Site Layout Plan 2	Site Boundary	Scale: Not to scale

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APPENDIX A

LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

Mr P Bussey (the Client) has requested that a Phase 1 Environmental Assessment (the 'Project') be performed at the site. The report (and any copies of it) have been prepared for the sole use and reliance of the Client. This report s (and any copies of it) shall not be relied upon or transferred to any other parties without the express written authorisation of Peak Environmental Solutions limited. If an unauthorised third party comes into possession of this report, (and any copies of it) they rely on it at their peril and the authors owe them no duty of care and skill. Findings and opinions conveyed in the services should only be used by competent persons acting on the behalf of the Client and the findings and opinions conveyed in the services should only be used for the intended use. Copyright of reports & documents remains with Peak Environmental Solutions Limited. The project and report are subject to Peak Environmental Solutions standard terms and conditions.

Authorised or unauthorised copies of this document may come into the possession of organisations that are designated under the Freedom of Information Act 2000 ("the Act"). Such organisations that are designated in the Act are requested by Peak Environmental Solutions to respect the above statements relating to confidentiality and copyright.

The findings and opinions conveyed via this report are based on information obtained from a variety of sources as detailed within this report, and which Peak Environmental Solutions Limited believes are reliable. Nevertheless, Peak Environmental Solutions Limited cannot and does not guarantee the authenticity or reliability of the information it has relied upon. The report represents the findings and opinions of experienced geo-environmental consultants. Peak Environmental Solutions Limited does not provide legal advice and the advice of lawyers may also be required.

The opinions presented in this report are based on a review of records, available investigation reports and historical sources. Peak Environmental Solutions Limited has found indicators that suggest that geo-environmental hazards may exist at the site and these may warrant mitigation or consideration appropriate to the end use stated by the Client. Not finding such indicators does not mean that geo-environmental hazards do not exist at the site. In addition, the Risk Assessment did not include any enquiry with respect to substances not included within the substances of concern.

The Client is advised that the geo-environmental conditions stated within reports supplied to Peak Environmental Solutions Limited are subject to change. Certain indicators of the presence of geo-environmental hazards may have been latent at the time of the most recent site reconnaissance and may subsequently have become observable. It is possible that Peak Environmental Solutions research, while fully appropriate for the Project, failed to indicate the existence of important information sources. Assuming such sources actually exist, their information could not have been considered in the formulation of Peak Environmental Solutions findings and opinions.

Certain indicators or evidence of geo-environmental hazards may have been outside the very limited portion of the subsurface investigated or monitored, latent at the time of this work or only partially intercepted by the works and thus their full significance could not have been appreciated. Groundwater levels are particularly susceptible to variations due to seasonal or other effects. Accordingly, it is possible that Peak Environmental Solutions work, whilst fully appropriate for the Project failed to indicate the presence or significance of geo-environmental hazards. Assuming the presence of a hazard, it could not have been considered in the formulation of Peak Environmental Solutions findings and opinions. The subsurface geological profiles and other descriptions are generalised by necessity and have been based on the information found at the locations of the exploratory holes and depths sampled and tested.

The geotechnical comments given in this report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of geotechnical and analytical tests made in the field and laboratory. However, there may be special geotechnical conditions prevailing at the site which have not been disclosed by the investigation and which have not been taken into account in the report. Accordingly, a careful watch should be maintained in any future groundworks and the geotechnical findings and recommendations of this report reviewed, if necessary as work proceeds.

Any interpretation of the results of the Project have been based on the proposed site usage and the findings are not valid should the proposed land use and/or the regulatory regime/guidance change. Where interpretation is based on public domain guidance/protocols/models/software/code, Peak Environmental Solutions is not liable for errors in the guidance/protocols/models/software/code.

Peak Environmental Solutions Limited believes that providing information about limitations is essential to help the Client identify and thereby manage their risks. These risks can be mitigated, but they cannot be eliminated, through additional research. Peak Environmental Solutions Limited will on request, advise the client of the additional research opportunities available, their impact on risk, and their cost.

In preparing this report, it has been assumed that all past and present occupants have provided all relevant and other information, especially relating to known or potential geo-environmental hazards. This report is not required to identify insufficiencies or mistakes in the information provided by the user/owner or from any other source, but has sought to compensate for these where obvious in the light of other information.

APPENDIX B

Photo 1	Looking south across the site

Photo 2	Looking north across the site. Off-site Chapel of Rest on the right of the photograph

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Photo 3	Looking south towards the site from the adjacent embankment

Photo 4	Looking towards the site across the junction of Fields End Road & Barnsley Road

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Photo 5	Looking across the north of the site towards houses on Charles Street

Photo 6	Looking across the south of the site towards houses on Charles Street

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APPENDIX C

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Pylon
Electricity Transmission Line
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Mud
Sand
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

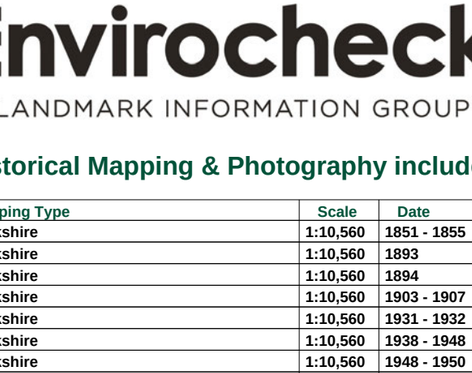
Envirocheck®

LANDMARK INFORMATION GROUP®

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:10,560	1851 - 1855	2
Yorkshire	1:10,560	1893	3
Yorkshire	1:10,560	1894	4
Yorkshire	1:10,560	1903 - 1907	5
Yorkshire	1:10,560	1931 - 1932	6
Yorkshire	1:10,560	1938 - 1948	7
Yorkshire	1:10,560	1948 - 1950	8
Ordnance Survey Plan	1:10,000	1955 - 1956	9
Ordnance Survey Plan	1:10,000	1966 - 1967	10
Ordnance Survey Plan	1:10,000	1976	11
Ordnance Survey Plan	1:10,000	1980 - 1988	12
Ordnance Survey Plan	1:10,000	1989	13
Ordnance Survey Plan	1:10,000	1991	14
10K Raster Mapping	1:10,000	2000	15
10K Raster Mapping	1:10,000	2006	16
VectorMap Local	1:10,000	2017	17

Historical Map - Slice A



Order Details

Order Number: 144949074_1_1
Customer Ref: 41887
National Grid Reference: 445960, 404360
Slice: A
Site Area (Ha): 0.16
Search Buffer (m): 1000

Site Details

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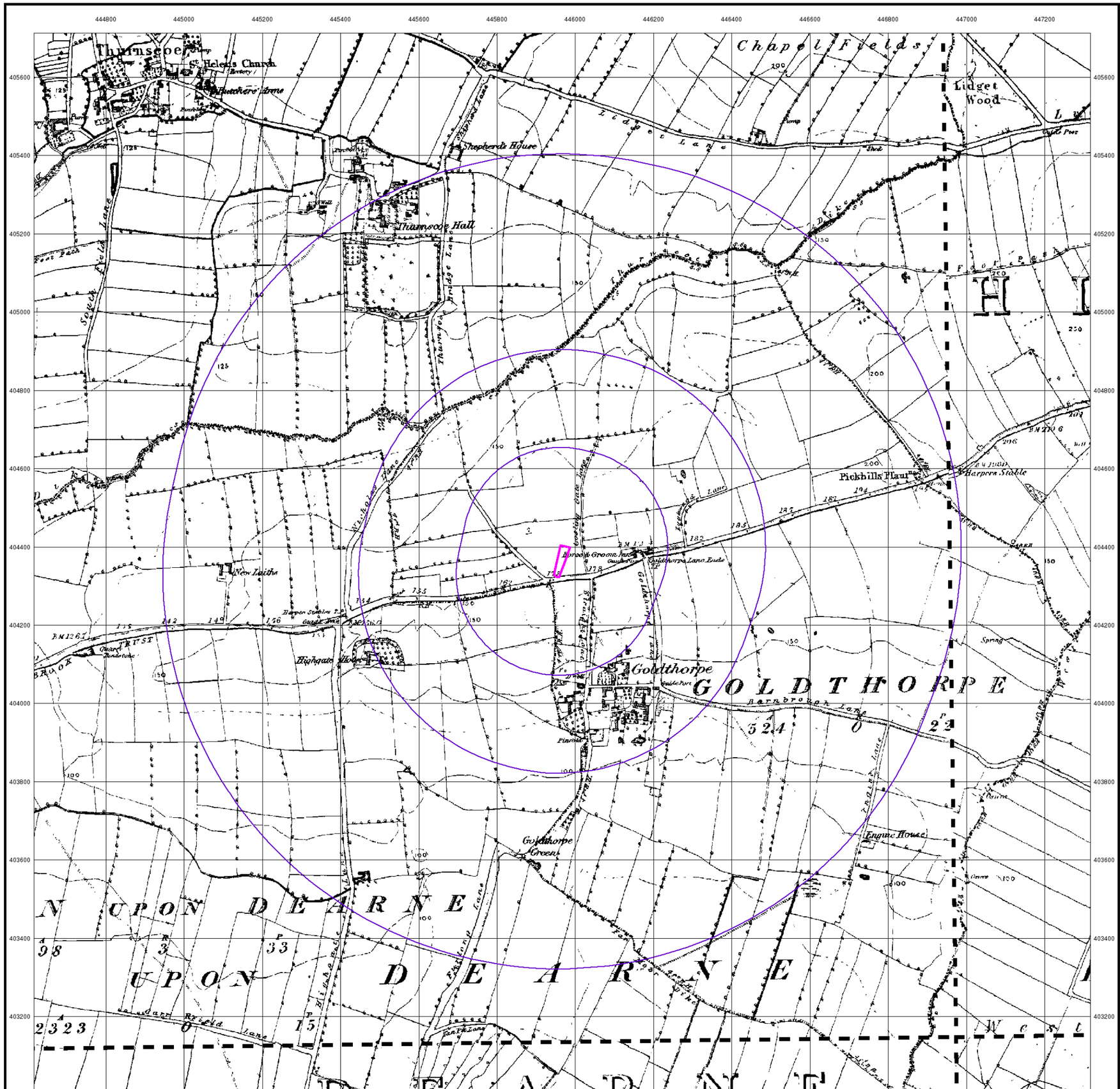

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Yorkshire

Published 1851 - 1855

Source map scale - 1:10,560

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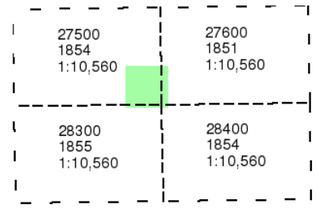
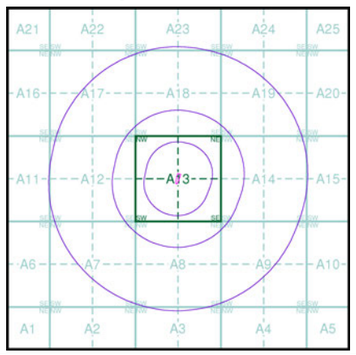
Map Name(s) and Date(s)



Historical Map - Slice A



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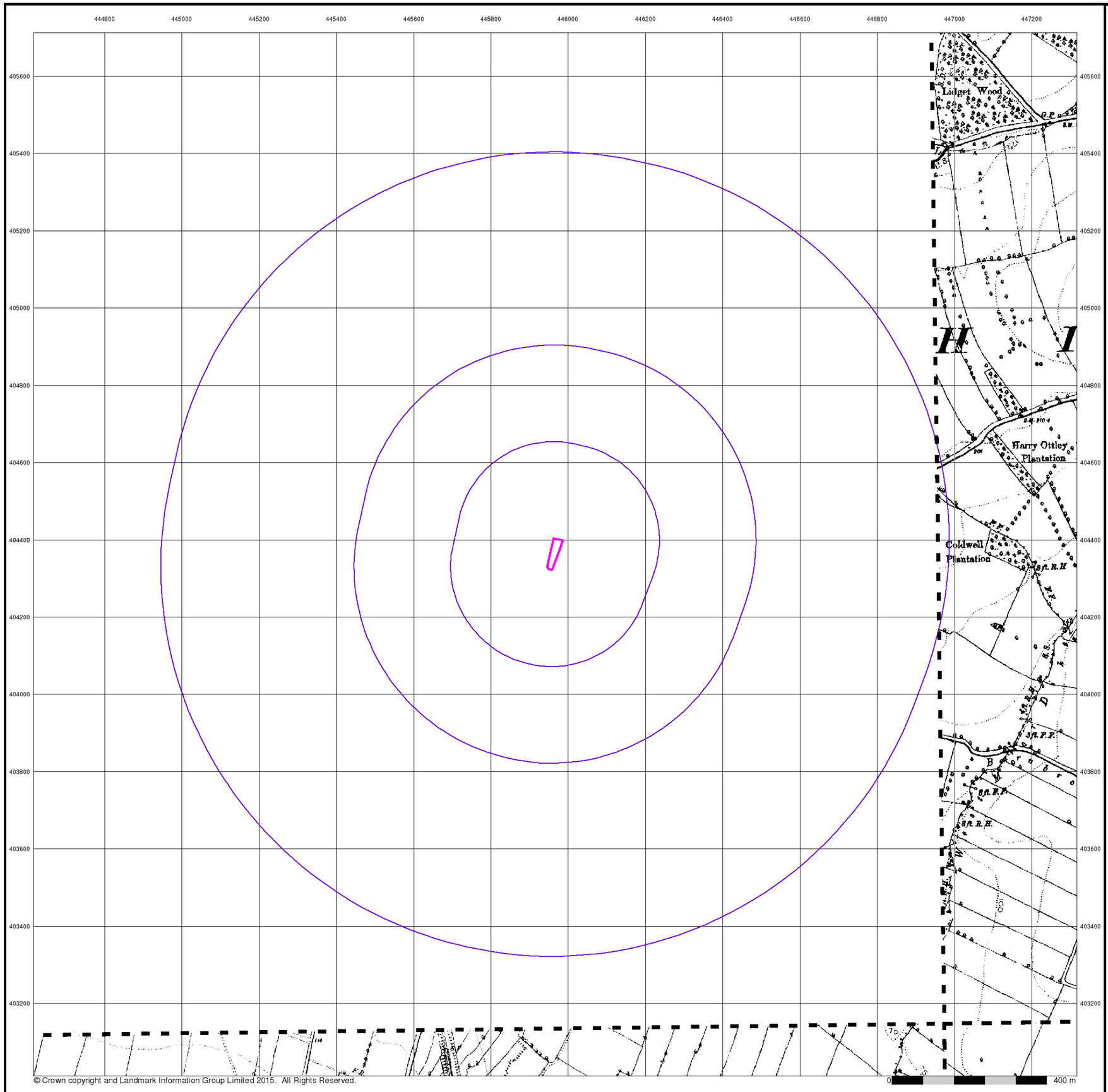

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Published 1893

Source map scale - 1:10,560

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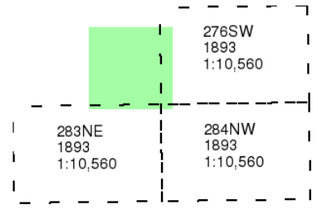

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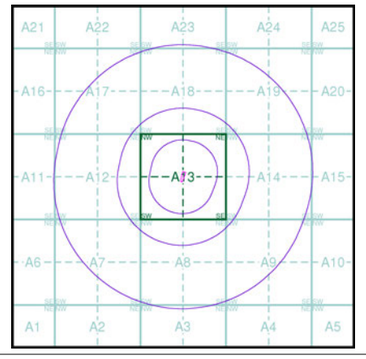

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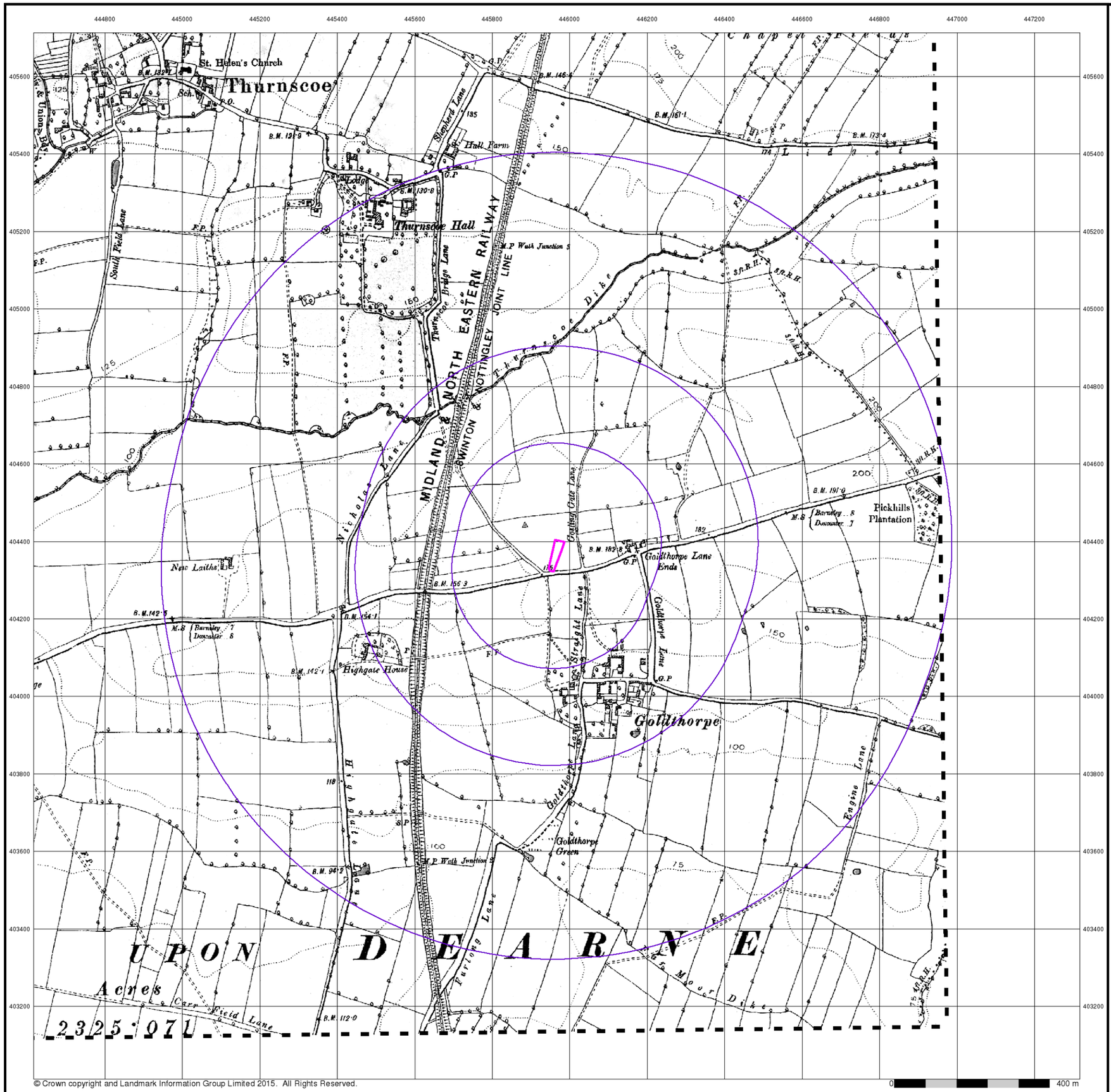

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Published 1894

Source map scale - 1:10,560

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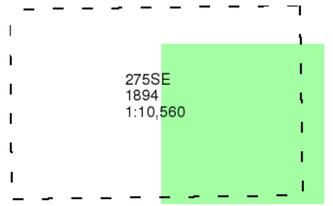
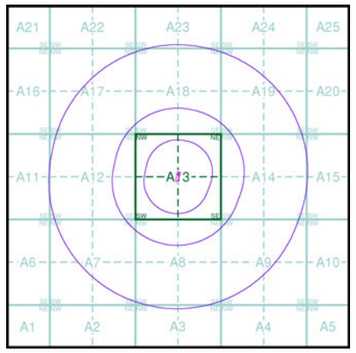


Historical Map - Slice A



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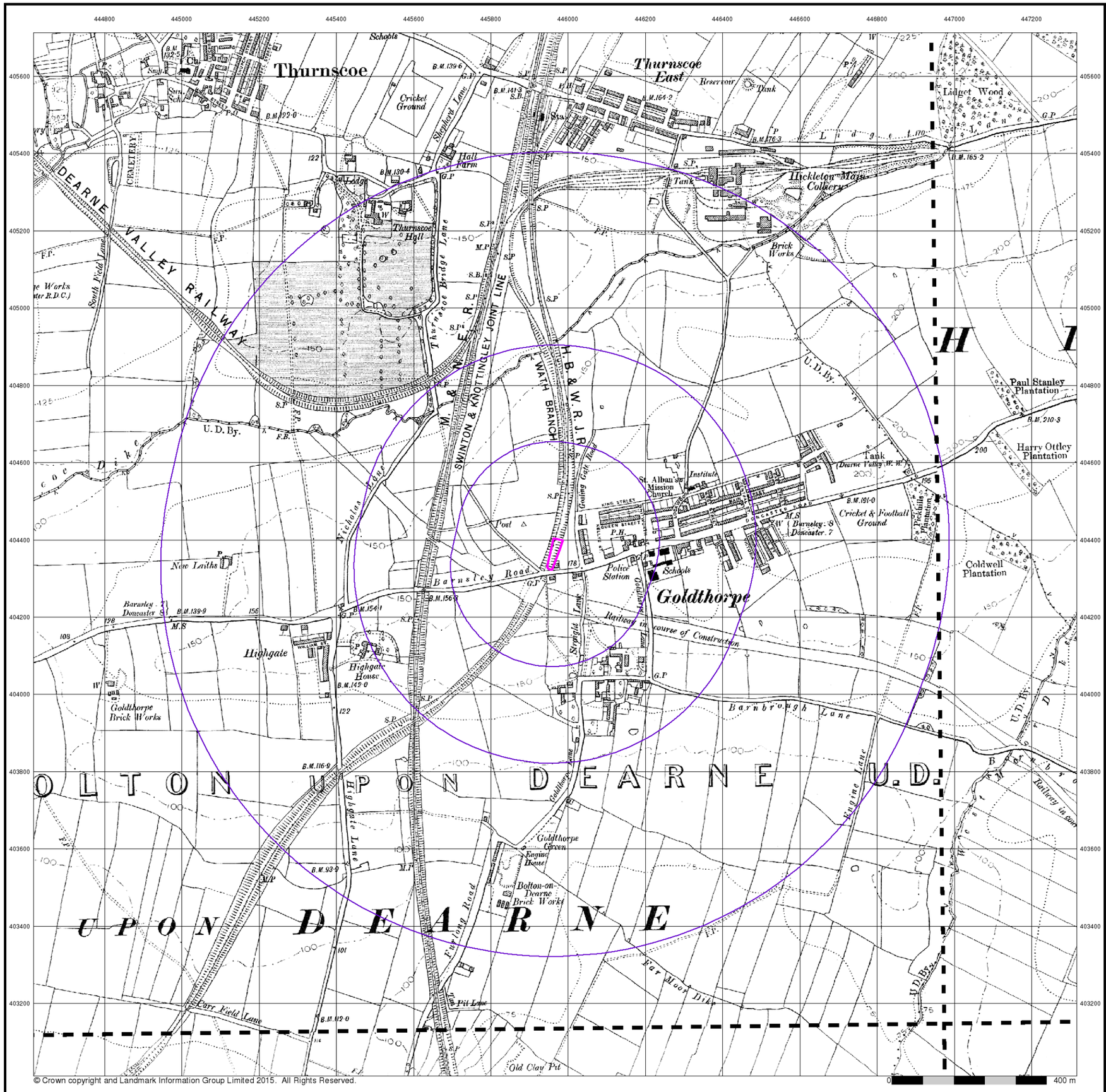

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Yorkshire

Published 1903 - 1907

Source map scale - 1:10,560

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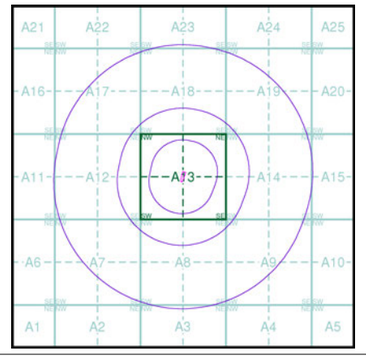
Map Name(s) and Date(s)

275SE 1906 1:10,560	276SW 1907 1:10,560
283NE 1905 1:10,560	284NW 1903 1:10,560

Historical Map - Slice A



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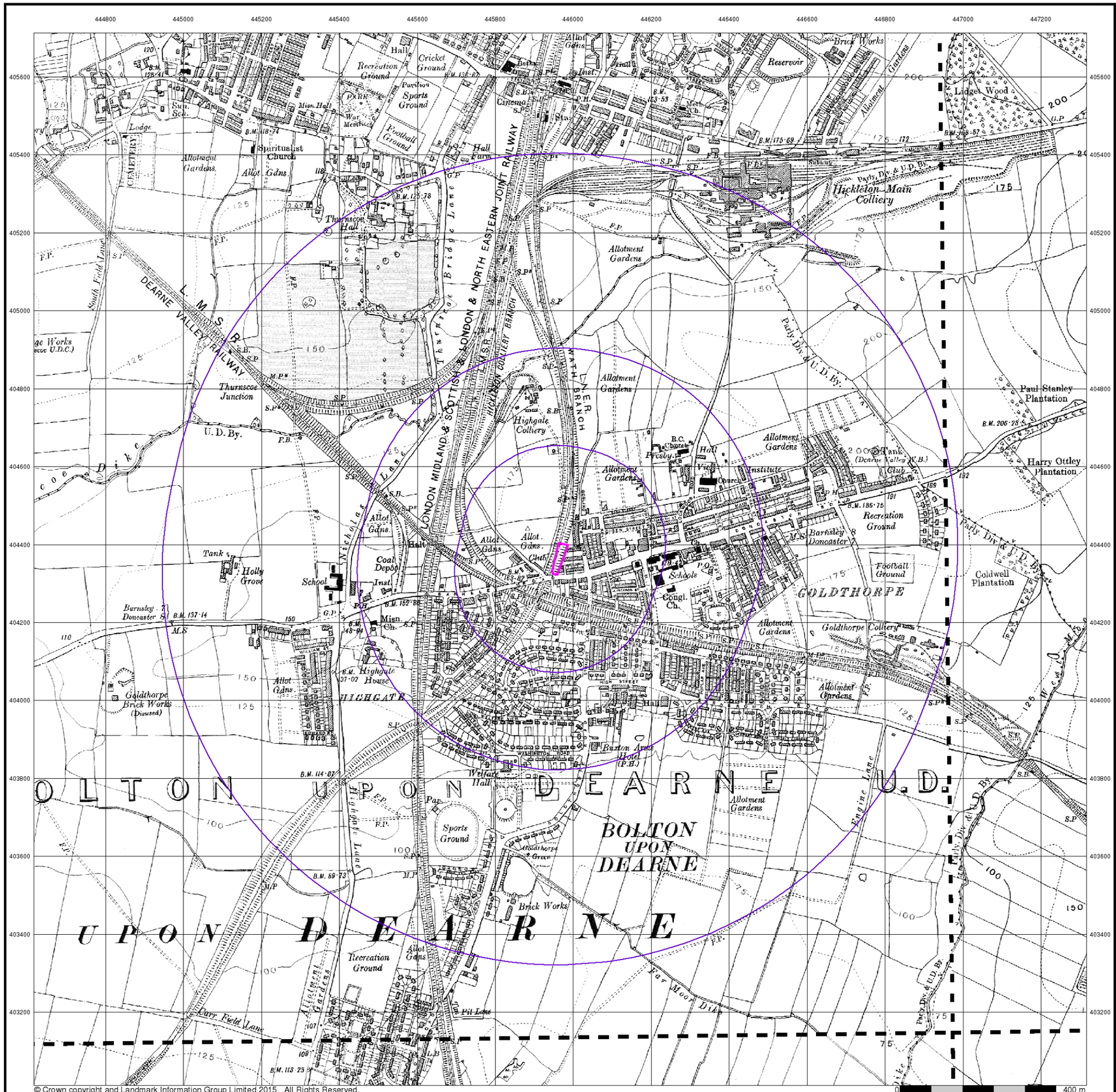

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Yorkshire

Published 1931 - 1932

Source map scale - 1:10,560

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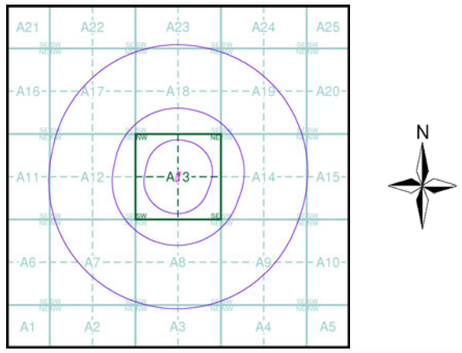
Map Name(s) and Date(s)

275SE 1931 1:10,560	276SW 1932 1:10,560
283NE 1932 1:10,560	284NW 1932 1:10,560

Historical Map - Slice A



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APPENDIX D

Table A - Qualitative Risk Classification Matrix

Probability (likelihood)	Consequence			
	Severe	Medium	Mild	Minor
High likelihood	Very High Risk	High risk	Moderate risk	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
No Pollutant Linkage	No potential risk			

Table B - Consequence Ratings

Minor	Mild	Medium	Severe
- No measurable effect on humans - Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems - Repairable effects of damage to buildings, structures and services	- Exposure to human health unlikely to lead to "significant harm" - Equivalent to EA Category 3 pollution incident including minimal or short-lived effect on water quality; marginal effect on amenity value, agriculture or commerce - Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long term maintenance of the population - Minor damage to crops, buildings or property	- Elevated concentrations which could result in "significant harm" to humans health as defined by EPA 1990, Part 2A if exposure occurs - Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce - Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long term maintenance of the population - Significant damage to crops, buildings or property	- Highly elevated concentrations likely to result in "significant harm" to humans health as defined by EPA 1990, Part 2A if exposure occurs - Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce - Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long term maintenance of the population - Catastrophic damage to crops, buildings or property

Notes: Impacts that are a breach relevant legislation are considered to be of major significance

Table C - Probability Classification of Pollutant Linkages

Unlikely	Low likelihood	Likely	High likelihood
Improbable that exposure/event would occur even in the long term	Possible that exposure/event could occur. However, not certain that even over a long period that exposure/event would occur and is less likely in the shorter term	Probable that exposure/event would occur. However, exposure/event is not inevitable, but is possible in the short term and likely over the long term.	Exposure/event very likely in the short term and almost inevitable over the long term, or evidence at the receptor of harm or pollution

Notes: Only applies if there is a possibility of a pollutant linkage being present