PRELIMINARY SITE REPORT (STRUCTURAL)

Site: Hady Hill Site, Spital, Hady, Chesterfield, S41 0BL

Ref: 23289_CBC-XX-XX-RP-S-1001

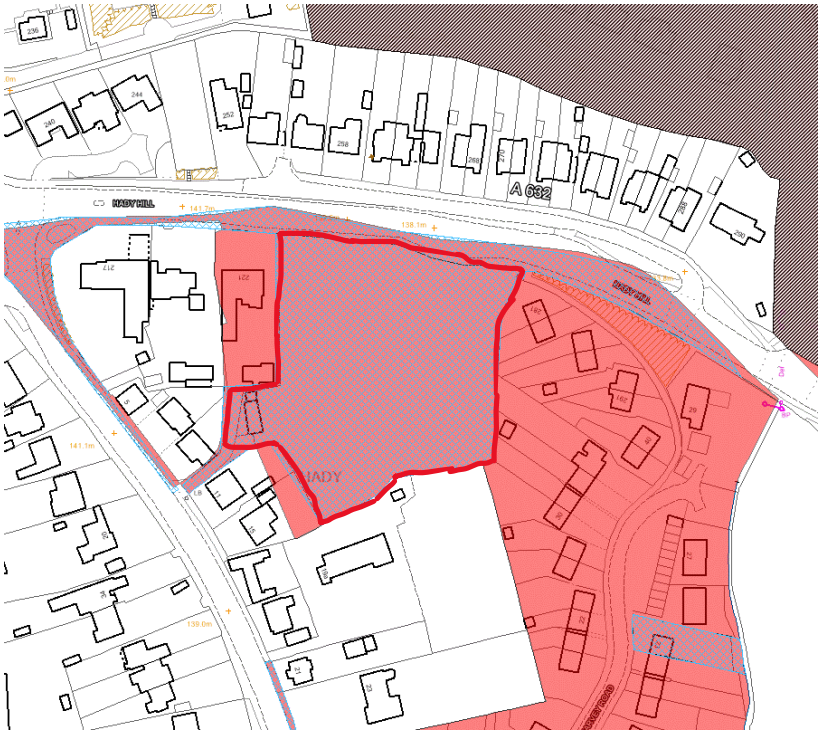
Grid Ref: SK 439962 370963

What3Words: rocket.mostly.judge

Project/Purpose: Development for New Housing Scheme

This report provides information on the known site conditions from Chesterfield Borough Council's in-house records. It does not represent a full phase 1 desk study and does not provide complete details of the information available from existing records. This report is to help guide the identification of potential site issue that will require full investigation.

The boundaries of the site referred to are indicated on the attached plan, bordered in red.



SITE LOCATION

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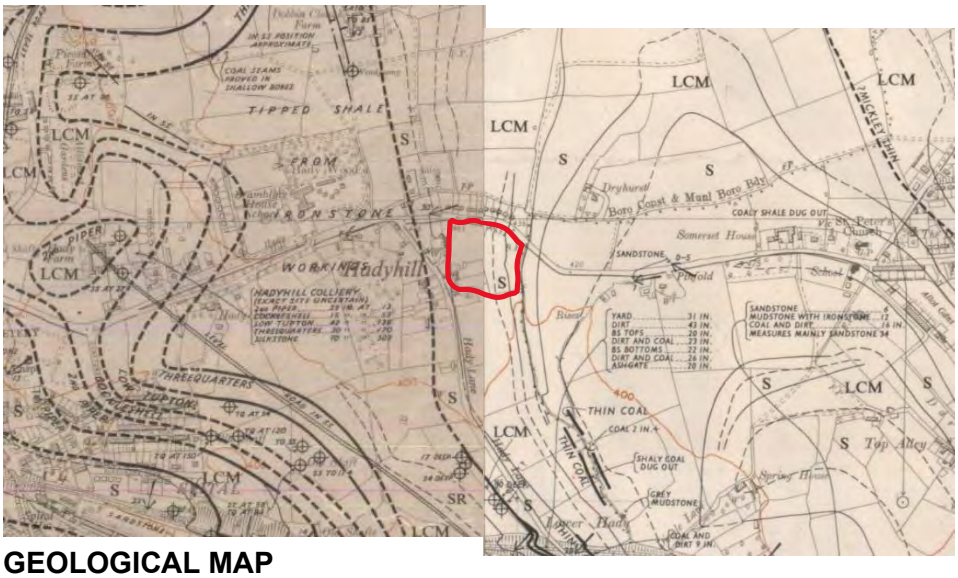
Preliminary desk studies of the site have revealed the following:-

1. **Geological location, conditions, faults etc and relevance to development**
from OS Geological maps (1 : 10,560 series)

The site overlays Pennine Lower Coal Measures Formation - Mudstone, siltstone and sandstone. Sedimentary bedrock formed between 319 and [illegible]on years ago during the Carboniferous period. A band of sandstone outcrops in the eastern side of the site.



GEOLOGICAL MAP

2. **Position regarding coal mining**

The site has not been checked with the Coal Authority. The Coal Authority database indicates that the site is within a coal mining reporting area but not located within a development high risk area. There are known workings and mine entries to the west of the site, but the site does not have known shallow workings identified within it. The risk of coal mining on site is considered to be low due to there being no outcrops of coal within the site due to the Brimington Anticline where the coal seams to dip and outcrop in the east and west of the ridge. The BGS Radon Mapping confirms the site is situated in a lower probability radon area.

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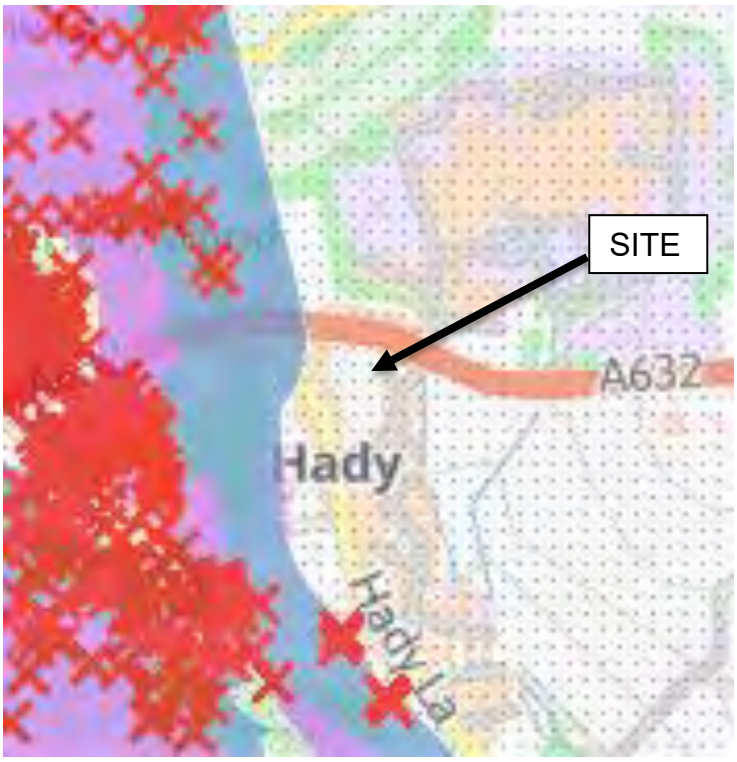

COAL AUTHORITY DATA

The Coal Authority has no record of a mine gas emission requiring action.

Information obtained from:

Geological Map reference SK 37 SE
CBC In-house records
Coal Authority on-line Interactive Map
(http://mapapps2.bgs.ac.uk/coalauthority/home.html)

Past mining:

There are no identified mineral sites either on the site or within the surrounding area. The property is in an area where the Coal Authority believe there is no coal at or close to the surface with no potential for unrecorded shallow workings to be encountered.

There are no BGS recorded mineral sites within 1km of the site boundary.

Therefore, the likelihood of encountering historic mining features on the site is considered to be low to moderate.

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Records of mining subsidence claims and repairs:

There are no known records of mining subsidence claims and repairs recorded for this site.

Proposed mining which is likely to affect the site:

It is unlikely that any active mining will occur in this area.

Existing shafts, records of incidents etc:

Shafts are known to exist in the locality although the Coal Authority Interactive Map and CBC records do not show any shafts within the site boundaries. However, because the site is in a mining area, the possibility of unknown shafts existing on the site cannot be totally disregarded. The site is identified as being outside an area where a number of Ironstone shafts have been found in the past.

MINING RECORDS (BLUE-IRONSTONE, RED-COAL)

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Coal outcrops, shallow workings, other comments:

There are no known coal outcrops within the site boundary.

3. **Position regarding more detailed information on coal or other mineral workings**

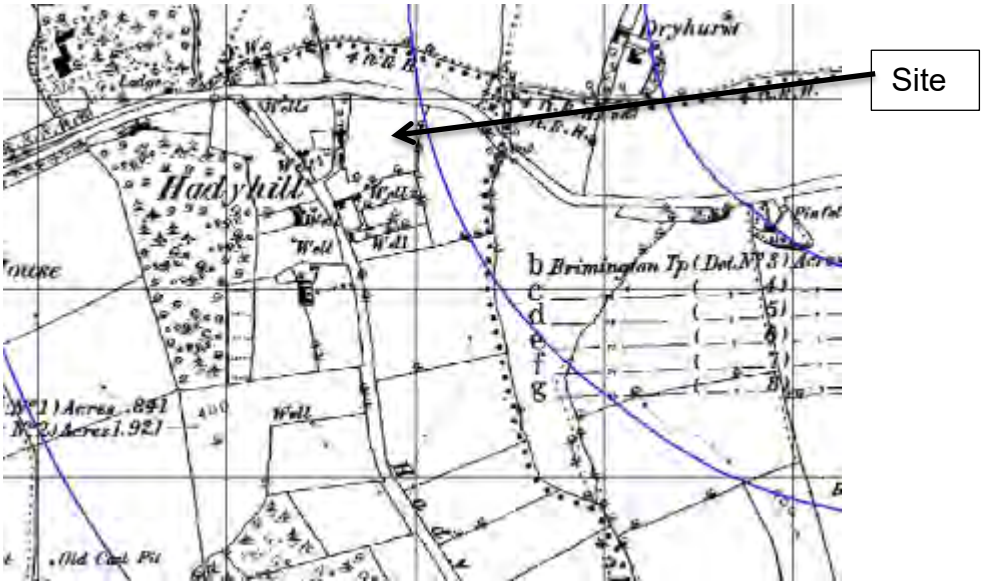
Mineral Valuer's report:

Not required for this site.

4. **Further information and general appraisal of site**

Former uses and features from historical maps:

The first available Ordnance Survey (OS). edition map, 1883 shows the site being undeveloped fields with and two current roads to the north and west of the site. There are a number of Wells indicated in this area. There are several old coal pits and shafts noted within 1km vicinity of the site to the west.



Residential developments occur from 1955 to the north of the site and along Hady Lane. Brambling House School and Children's Centre is shown to the north-west of the site. A reservoir is now show to the north of the site along with a wind pump.

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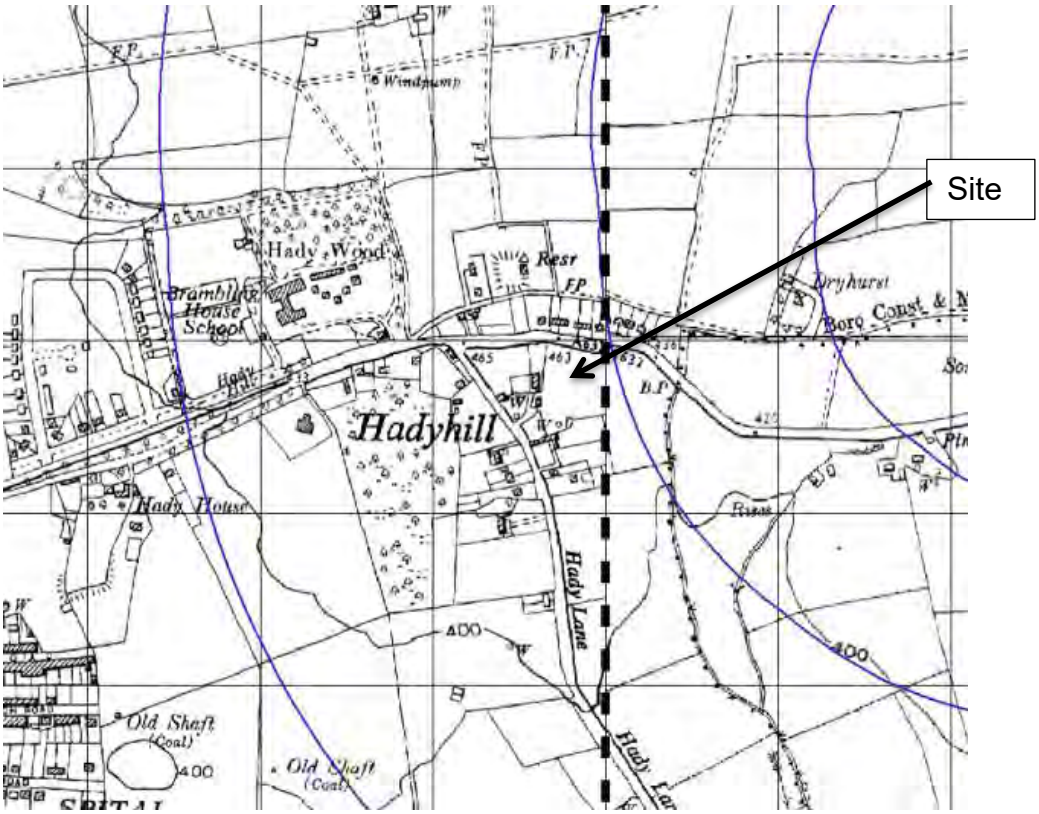

The 1973-78 OS maps indicate that the surrounding area developed further for residential accommodation.

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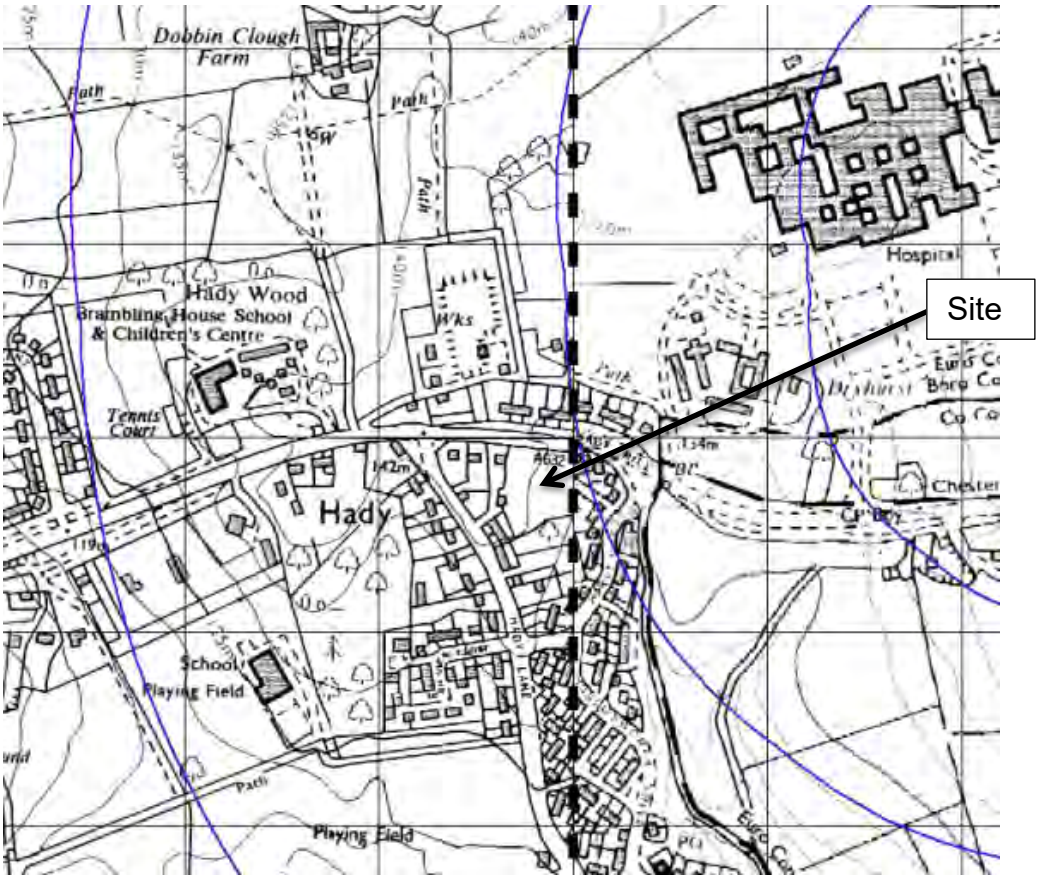
The 1991-1993 map shows he hospital to the north-east of the site that was opened in 1984 with associated roads and accommodations.



Existing site topography and surface features, from site inspection:

The site is currently a vacant overgrown area sloping down towards the south and the east. Currently access is via a gate in the south-east corner of the site off Hady Hill that forms a driveway to access 221 & 221A Hady Hill. There is a stone boundary retaining wall along the north side of the site retaining the site. There is also a bus pull-in adjacent the site on Chesterfield Road. There are a number of stacked tyres across the site that indicate that it may have been used for anti-social behaviour purposes.

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SITE ACCESS OFF HADY HILL

SLOPING SITE LOOKING NORTH-EAST. TYRES VISIBLE.

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SITE FROM NORTHERN BOUNDARY SHOWING STACKED TYRES

SITE SLOPE LOOKING SOUTH-EAST

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5. Potential contamination

From former uses, made ground, or surface evidence from inhouse records:

There are no known pollution incidents within 250m of the site recorded in Chesterfield Borough Council records.

From other sites in locality:

There are no records of any current, operational or historical landfills within 250m of the site. The closest is recorded to be approximately 300m south-west of the site and is associated with the BGS and Derbyshire County Council, with the deposited waste included inert, industrial, commercial, household, special waste, and liquid sludge.

Currently licensed landfill sites:

No records of any sites

Monitored landfill sites: None

Other landfill sites:

No information in CBC records

Risks of landfill gases/mine gases:

There is a risk of gases being present due to the previous mining activity in the area.

Presence of shallow groundwater/aquifers:

The site is in a zone where the underlying bedrock geology is classified as a Medium Vulnerability Secondary-A Aquifer.

The closest surface water receptor is recorded to be a drain approximately 600m north-east of the site and associated with the Don and Rother catchment area.

No water quality information is available for the area.

There are no surface water abstractions recorded within 1km of the site.

The site does not lie within an area depicted on the EA Flood Zone maps to be at risk of flooding from rivers or the sea. The site is not recorded to have an assigned risk for surface water flooding.

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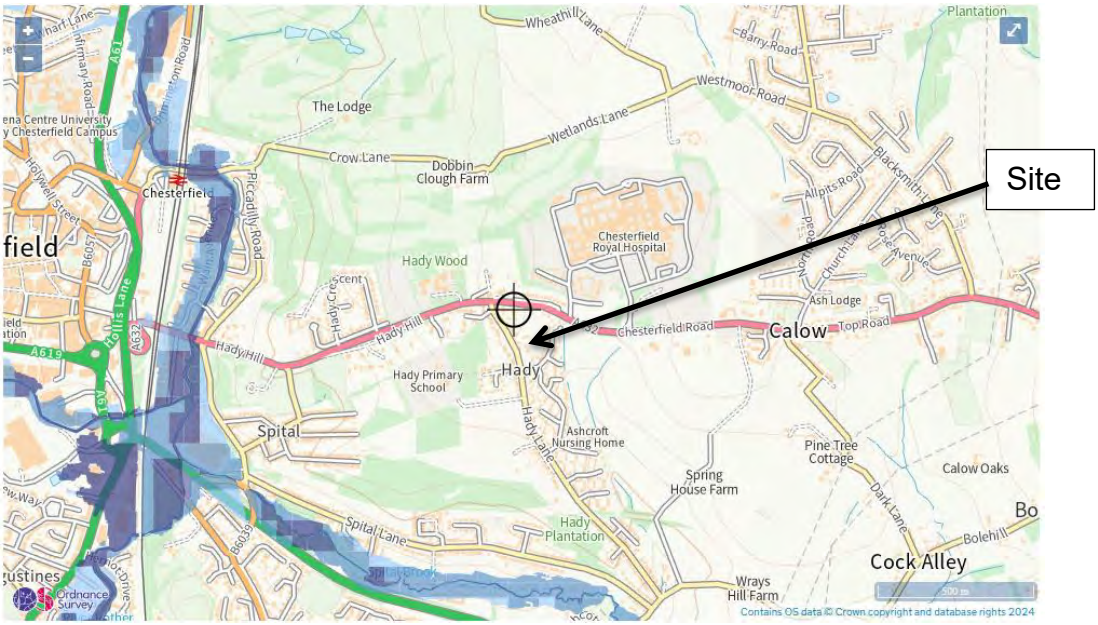
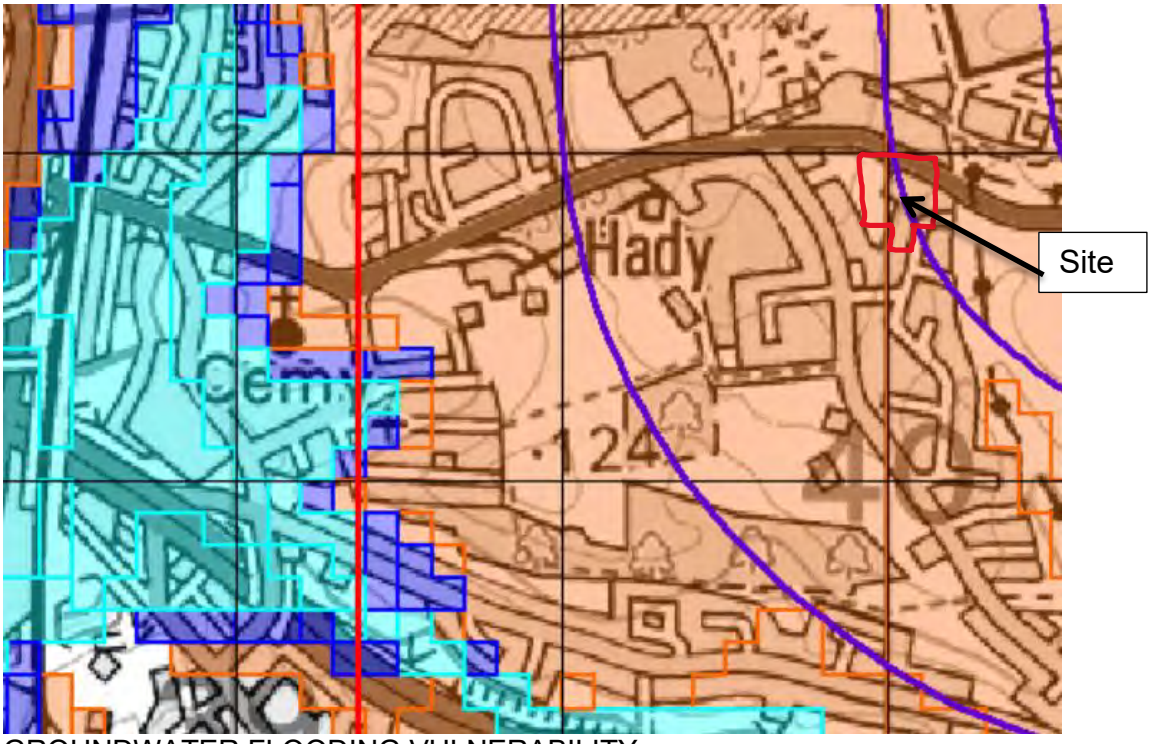


FLOOD RISK MAP

Designated ground water protection zone:

The site is not identified as being within a Groundwater source protection zone.

The British Geological Survey records the site is in an area of limited Potential for Groundwater Flooding to occur.



GROUNDWATER FLOODING VULNERABILITY

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Full environmental report with risk assessment:

Required as part of specialist ground investigations.

6. **Need for special precautions to be taken in foundations:**
(in respect of past/future mining, poor ground conditions, trees, potential contamination etc)

Site Investigation required to identify these.

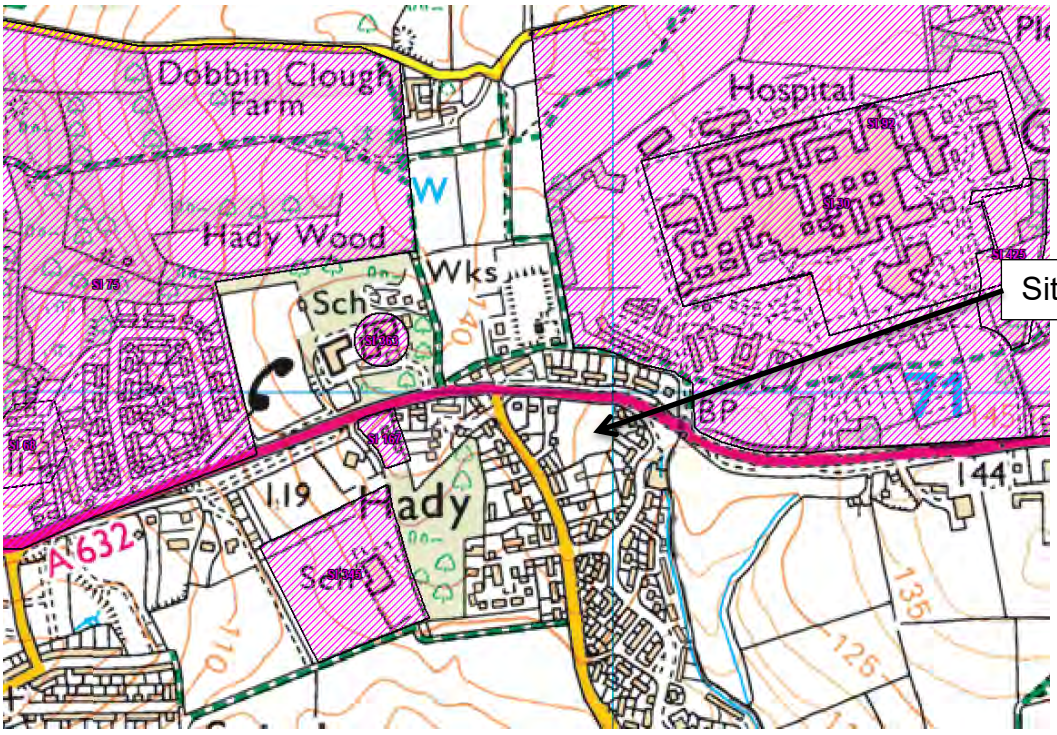
- *No precautions required against future active mining.*
- *Deeper foundations may be required where made ground present.*
- *Precautions against contaminants/gases, if found present in investigations*
- *Groundwater may be found present in excavations, subject to investigations.*
- *Additional depths of foundations within influencing distance of trees round the perimeter of the site.*

7. **Parts of site better than others for building on:**

Utilising the existing contours would minimise the requirements for accommodating the change in the site levels. Founding within the area of outcropping sandstone to the east of the site would provide more stable foundations.

8. **Need for ground investigations:**

Existing records of previous site appraisals and ground investigations:



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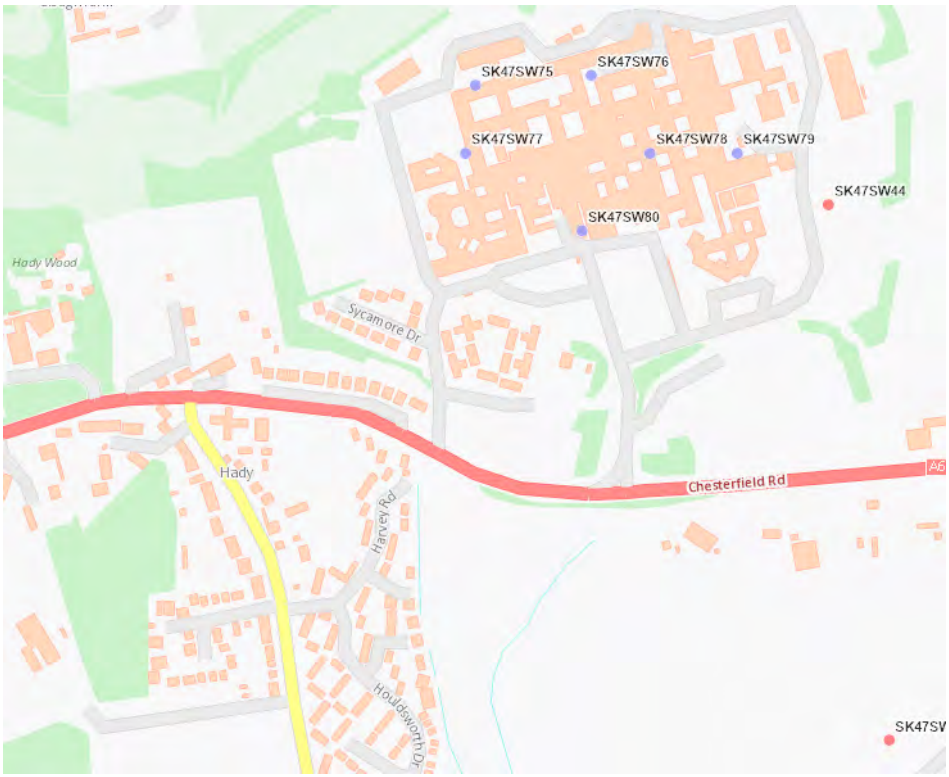
SI.345 New School Site. Topsoil over Clay over sandstone over shale. Shales had evidence of being disturbed due to the collapse of workings in the Top and Bottom Ironstone Rakes of the Blackshale Ironstone and in the underlying Silkstone and Ashgate coal.
SI.363 2m Made ground with stiff clay and mudstones at 0m to 2m bgl.
SI.425 Hospital Site 0.2-1.0m Topsoil over 0.2-2.5m Stiff to Very Stiff Clay over Mudstones and Sandstones.

Borehole data available from BGS:

There are 8 BGS boreholes known to be in this area 7 in the vicinity of the hospital SK47SW75 to 80 and SK47SW44 and one approximately 600m south-east of the site SK47SW14. These indicate silty clays and sandstones.



BGS BOREHOLE INFORMATION

Further study and ground investigations required:

A full site investigation will be required to determine the engineering properties of the site including the depths of made ground and the underlaying nature of the soils.

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9. Site topographical data for design

Altitude: 140m AOD

Distance from the sea = 97.7km @ 60°North

Topography: Orography Factor = 1.301

Basic wind speed Vb = 21.96m/s
(NA To BS EN 1991-1-4)

Wind exposure category = Country (Category II)

10. Existing buildings

Information from structural file records (not a full record of all buildings):

No records on file.

Condition:

Adjacent the gated access off Hady Hill there is a stone outbuilding. This is in a seriously dilapidated state with the roof collapsing and tiles falling off. The gable wall is also comping away from the front elevation with a large crack that has formed. This building is considered to be in a dangerous condition and should be demolished following an asbestos survey. The broken down-pipes appear to be asbestos cement.

DILAPIDATED BUILDING BY ENTRANCE

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High Alumina Cement records:

N/A.

Proposed alterations and extensions:

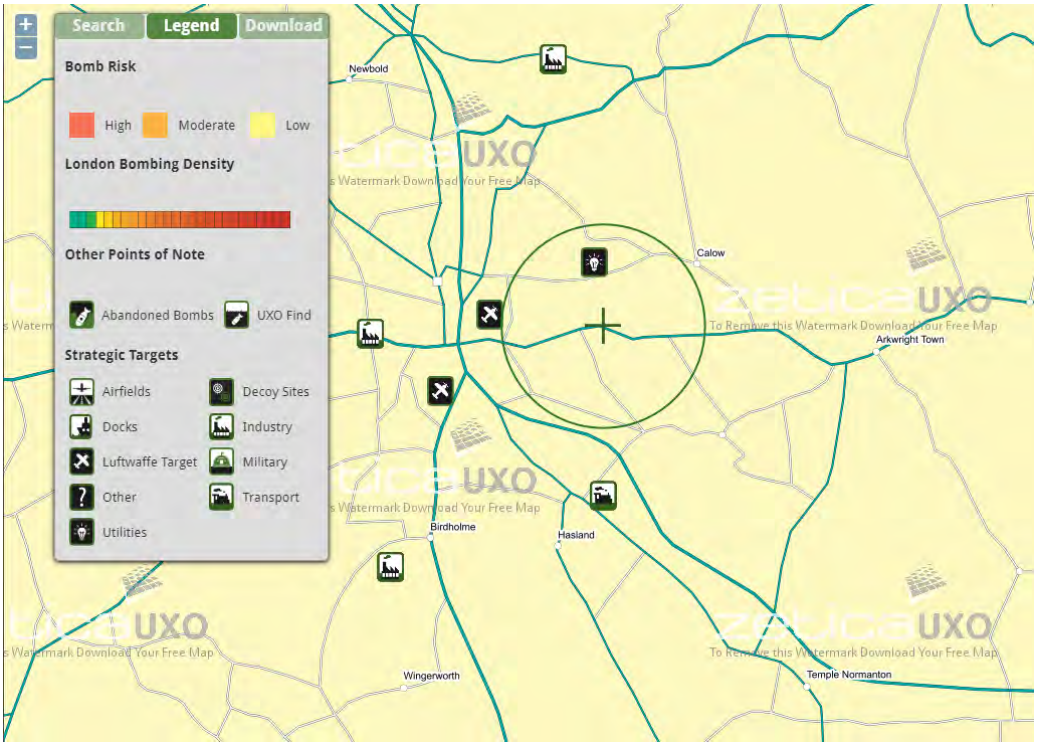
N/A.

Design Office photographic records:

None on file

11. Unexploded Ordnance

The Staveley iron, coal, and chemical works were Luftwaffe targets. Records indicate that the works were the subject of an unsuccessful raid in August 1942, during which a single Luftwaffe aircraft deployed 16 high explosive items over Staveley and Brimington. Newspaper records indicate that the aircraft also deployed a number of smaller incendiary bombs. A bomb tracing detailing the locations of the High Explosive strikes obtained from the National Archives indicate the strikes were situated some 4.0km north of the proposed site area. It is therefore considered unlikely that they would have encroached the boundaries of this site. The risk of Unexploded Ordnance is therefore considered to be Low which is confirmed by the Zetica map.



ZETICA UXO MAP © Zetica Ltd

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Although improbable, there remains a degree of risk as the ground conditions of the site in 1942 (open fields) would not have easily identified an explosive strike.

It is therefore recommended that a Site Specific Unexploded Ordnance Awareness Briefings is provided to all personnel conducting intrusive works prior to the commencement of any works.

12. NOTE:

- Mining and environmental reports will not be ordered without further instruction
- Site investigation will not proceed without further instruction and receipt of land survey plan marked to show proposed building outline, existing services, overhead cables, and drains.
- Investigation and assessment of all other aspects of the site not included above are subject of separate reports by others e.g. radon, rights of way, TPO's, ancient monuments, flooding, drains and services, environmental and planning considerations, and access.
- ***This report is for internal use by Chesterfield Borough Council as part of the initial feasibility studies and is not intended for use by other parties.***

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