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LYONS CMC
COAL MINING & GEOTECHNICAL
CONSULTANCY

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Date: 4th April 2025
Your ref: (S63 9LQ).
My Ref: CMRA 00399

FOR THE ATTENTION OF MR HARINDA SINGH

Dear Sir,

COAL MINING RISK ASSESSMENT (CMRA) - FOR PROPOSED EXTENSION AT 83 HIGH STREET, GOLDTHORPE, ROTHERHAM S63 9LQ

Introduction

Planning permission is being sought for a single storey rear extension at the above named site, the location of which can be seen outlined in red on the attached plan No. 00399/A in Appendix 1. The site is centred around national grid reference 446232E / 404047N. A Coal Mining Risk Assessment is required for the proposals; in order to competently address the mining legacy for the site and determine what impact this may have had upon the land. The assessment is intended to be included as a supporting document to a future planning application to Barnsley MBC.

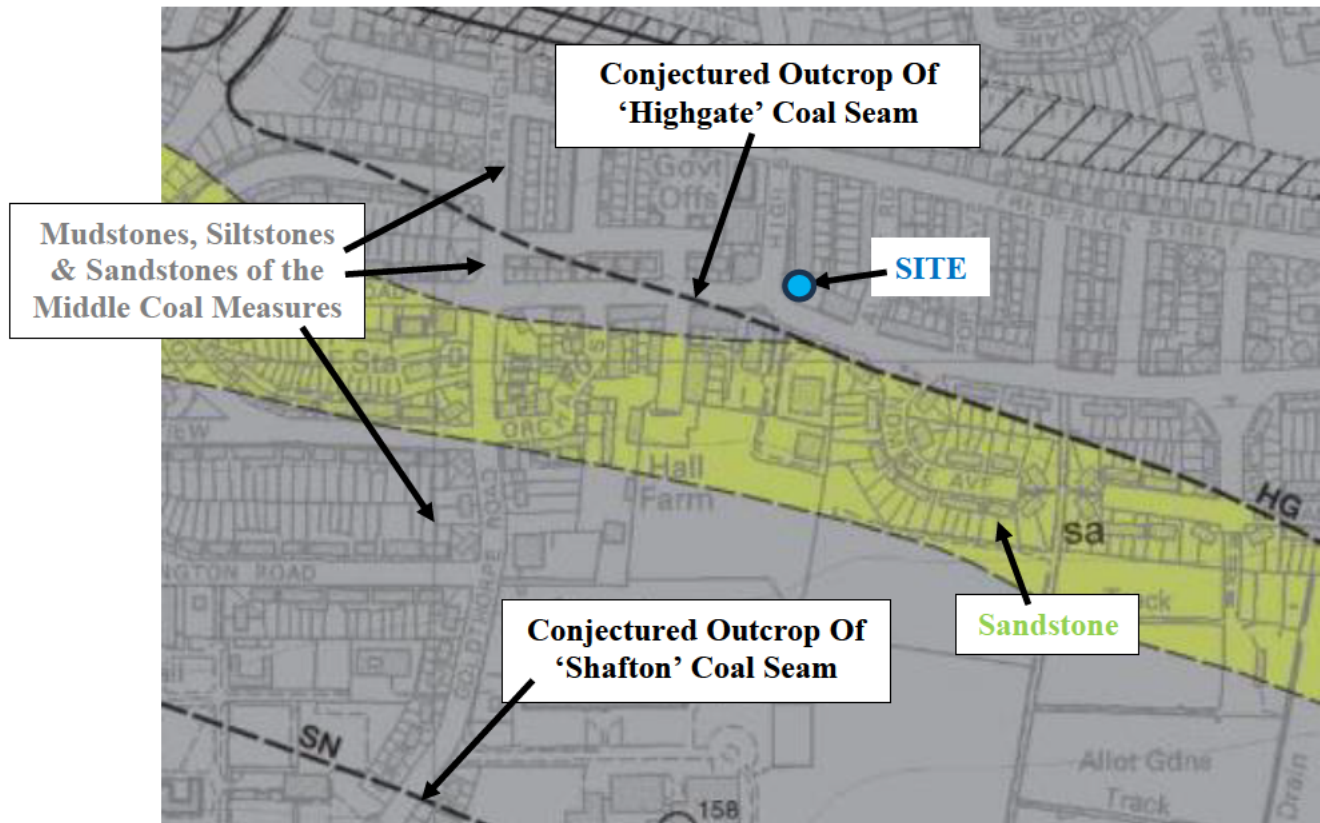
Scope of the Coal Mining Risk Assessment

The purpose of this Coal Mining Risk Assessment Report is to:

- Present a desk-based review of all available information on the coal mining issues which are relevant to the application site;
- Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues;
- Set out appropriate mitigation measures to address the coal mining legacy issues affecting the site, including any further works that may be necessary; and
- Demonstrate to the Local Planning Authority that the application site is, or can be made, safe and stable to meet the requirements of national planning policy with regard to development on unstable land.
- The report will not consider other geotechnical and/or geo-environmental issues, such as contamination from past land use.

Surface Geology (inc. any superficial deposits)

Records indicate the site to be located on mudstones, siltstones and sandstones of the Pennine Middle Coal Measure series from the Carboniferous formation. No superficial deposits are shown in the vicinity of the site. Strata is shown to dip steadily towards the north-east in this vicinity at around 1 in 12 (5°). A summary of the surface geology is illustrated on the image below which is an extract from the BGS SE40SE 2005 Edition:



Fault Planes or Fissures

No geological faulting is known or conjectured within 250m of this site. No fissuring is known in the vicinity, however a small potential will exist for unrecorded natural fissures being present within any sandstone that could have been 'opened out' by historic mining subsidence in the area.

Coal Seam Outcrops

As shown above, the 'Highgate' coal seam is conjectured to outcrop some 20m away to the south-west and therefore, given the lay of the land and dip of the strata, it should be present beneath the site at around 2m deep, should the conjectured detail be accurate. This coal seam is known to be circa 0.45m thick in this vicinity.

The 'Shafton' coal seam is conjectured to outcrop over 350m away to the south-west, which will dip beneath the site at around 27m deep (some 25m below the Highgate seam given nearby shaft section detail) should the conjectured detail be accurate. Local information suggests a seam thickness of the Shafton coal seam as around 1.5m.

Made Ground / Opencast Coal Workings

No areas of made ground or former opencast coal operations are known within 250m of the site.

Underground Coal Workings - Deep

Deep coal mining (over 30m deep) has taken place beneath the site in various coal seams, all settlement from which will be long complete. As no coalfields now exist, the site should remain stable from the deep coal mining perspective for the foreseeable future.

Underground Coal Workings - Shallow

No workings are known beneath this area in the Highgate coal seam, and given the position the likelihood of any associated historic workings being present at such shallow depths in the thin and relatively poor quality coal is considered very low. The Shafton coal seam is anticipated to be at a depth that should not affect surface stability be it worked or otherwise. The site photographs taken (as illustrated in appendix 2) supports evidence of sound stability with no evidence of settlement damage to the existing building, which is particularly encouraging given its age (built circa early 1900's).

Mine Entries

As can be seen on the following image which forms an extract from the Coal Authorities Interactive viewer, no mine entries are known within 20m of the site; the closest is recorded some 65m away to the north, which is known to have been treated to 44.8m deep. This depth is likely to be the Shafton coal seam which corresponds well with the anticipated depth beneath the site given the lay of the land and dip of the strata.



Fugitive Gases

As far as we are aware, no evidence of coal mining related fugitive gas emissions are known within 250m of the site. However, there will be some risk for associated gases in relation to the shallow coal and potentially fissured sandstone bedrock.

Coal Mining Risk Assessment (based on the above).

Coal Seam / Coal Mining Issue	Risk Assessment (VeryHigh/High/Moderate/Low/VeryLow)
Underground coal mining (at shallow depths)	Low
Mine entries (shafts and adits)	Low
Geological faulting	Low
Geological fissures	Low to Moderate
Fugitive gas emissions	Moderate
Surface mining (opencast workings)	Low
Aggressive ground	Moderate to High
Coal exposed / near foundation level	Moderate to High

Defined Risk Assessment

(Where 'Underground Coal Mining' above = Very High to Moderate)

Extent of known underground mining in this/these shallow coal seam/s in the wider vicinity	(Extensive / Much / Occasional / None Known) N/A
Intrusive Site Investigation of Coal Seam / Mines of Coal (given nature of proposals).	(Required / Recommended / Unnecessary)** N/A
Advised critical depth beneath rock-head /foundation level to investigate considering geology and nature of the shallow coal/s*	N/A

Key:

** The critical depth is calculated according to Ciria C758D guidance which details that for the land to be regarded as stable from any voided mineworkings, then a suitable section of competent rock cover above the workings should be proved that is equal or greater than ten times the 'in-tact' coal seam thickness. The advised critical depth to investigate to in this report takes into account the available geological information, any nearby mining records and may include a contingency for the seam to be of a slightly greater thickness than anticipated. Due care and diligence should be employed on-site to ensure that sound information is gathered of the in-tact seam thickness, particularly if concluding that old workings are outside the critical depth of affecting stability for the proposed development.*

**** Where :**

Required	<i>Intrusive Site Investigation required of the shallow coal/s and/or mine entries to determine any necessary stabilisation works for the given development.</i>
Recommended	<i>Intrusive Site investigation recommended – given a lower level of risk in relation to the nature of proposed development some proposals may reduce the risk to an acceptable level via suitable design considerations.</i>
Unnecessary	<i>Intrusive Site Investigation deemed unnecessary – given geological/mining information and nature of proposed development.</i>

Coal Authority

Prior written permission from The Coal Authority is required for intrusive activities which will disturb or enter any coal seams, coal mine workings or coal mine entries (shafts and adits). Further information on The Coal Authority's permissions process can be found at:

www.coal.gov.uk/services/permissions/index.cfm

Information sources:

- *British Geological Survey Map Sheet BGS SE40SE 2005 Edition*
- *British Geological Survey – Geology Of Britain Viewer*
- *Coal Authority Interactive Viewer and Mine Abandonment Plans*
- *Historical Mapping*

CONCLUSIONS

- 1) The site can be regarded as stable from the **Deep Coal Mining** perspective, and as no coal fields now remain this position should continue for the foreseeable future.
- 2) Given the **Shallow Coal Mining** position, no further works would be considered necessary to check the nature of the coal seams. Usual foundation designs can therefore be considered to the advice of the appointed architect/engineer and building control department at the time of construction, upon appropriate inspections of ground conditions - ***note the following conclusions however.***
- 3) Any coal exposed during future foundation works should be removed and blinded off with an appropriate sulphur resistant grade concrete to mitigate spontaneous combustion risks and protect the integrity of the construction. Foundations should be sited on firm bedrock beneath the coal seam.
- 4) A watching brief should be employed for any signs of fissured sandstone bedrock which would require prior stabilisation works and possibly appropriately designed foundations to span the feature.
- 5) Should shallow coal be encountered then ground gas mitigation measures (such as a methane membrane for example; which could also address radon issues if required) would be a prudent consideration within future foundation designs unless a period of gas monitoring proves that this is not required.
- 6) Although a low risk, watching brief should be employed during any future grounds works for any signs of unrecorded mine entries; circular areas of grey fill within natural ground/bedrock would be an indication. If suspected the Coal Authority (as owners) should be notified immediately for appropriate deliberations.

Note: should there be any uncertainty of actual conditions during future ground works Lyons CMC or indeed the Coal Authority themselves can be further consulted for on site assessment if necessary.

A suitably qualified and competent professional should be employed to use this report to determine the conditions on site, and ultimately advise on what action, if any, is necessary to safeguard the development. It should be noted that any future works to investigate any coal seam, mines of coal or associated mine entries will need the prior consent of the Coal Authority via their permitting procedure.

I trust that this satisfies your requirements, however please do not hesitate to contact myself at any time for further clarification or advice.

Yours Sincerely,

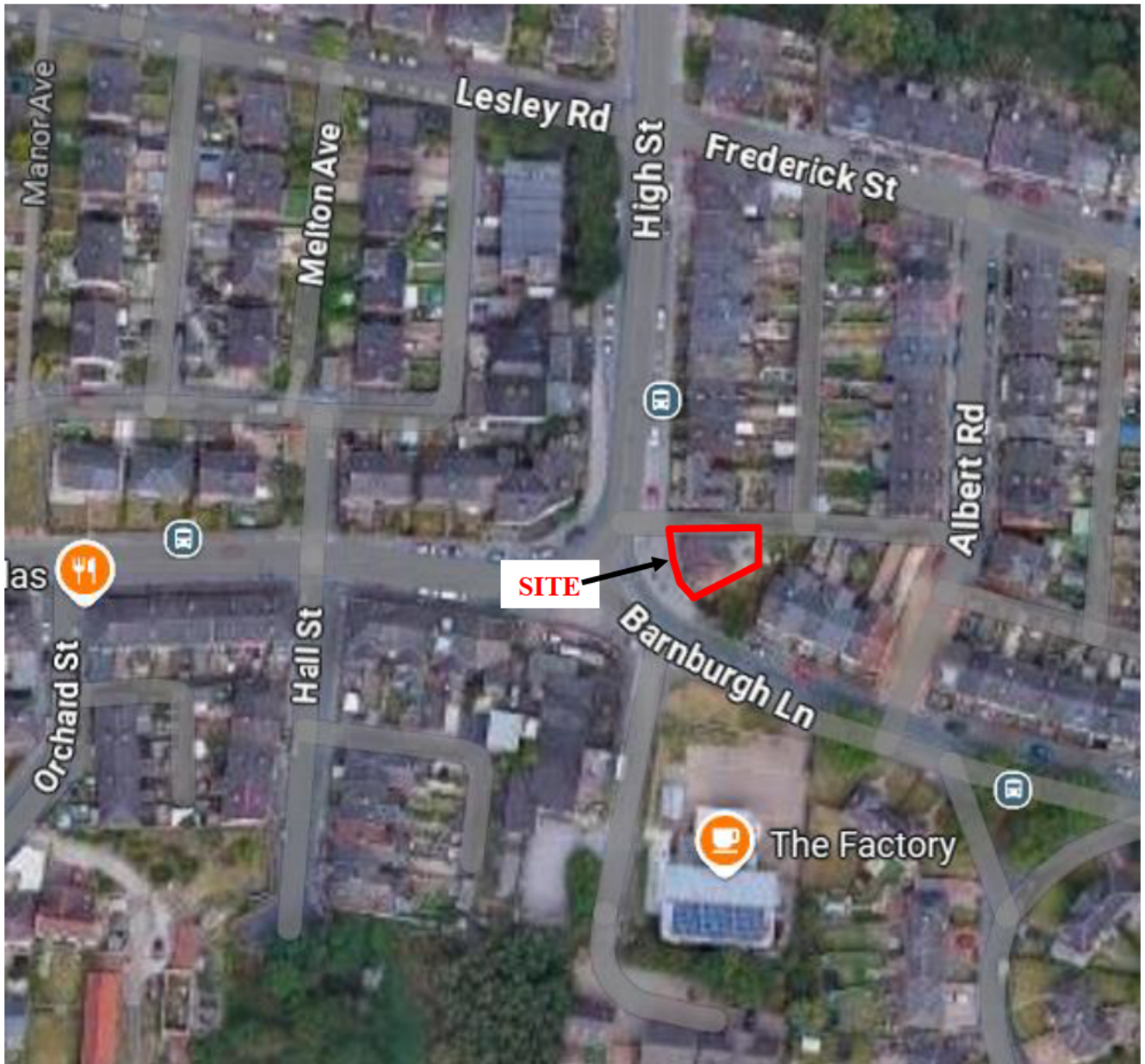


M. Lyons
Consultant Mining Engineer
BSc CSci MIMMM

Enc.

THIS COAL MINING RISK ASSESSMENT IS BASED ON AND LIMITED TO THE INFORMATION IN MY RECORD AT THE TIME THE ENQUIRY IS ANSWERED. It is based on my professional opinion in line with the guidelines set out in CIRIA C758D "Abandoned mine workings manual." The opinion may be overruled by Government Authorities decisions based on other information not in my record. If a site investigation is recommended then this risk assessment will be superseded by the factual findings of that investigation. All site investigation work should be carried out by a competent professional from which independent conclusions and recommendations for safe development should be provided. It should be noted that: no operation should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. The investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases; these risks both under and adjacent the site should be fully considered in any proposals both for personnel and public safety. Copyright in this CMRA belongs to M.A.Lyons. All rights are reserved and unauthorised use is prohibited. Copyright is not transferred to external parties by possession of this report, however, those for whom the report is compiled have the right to use it. If any unauthorised third party comes into possession of this report, they rely upon it entirely at their own risk and the author does not owe them any Duty of Care or Skill.

Appendix 1 – Location Plan No. 00399A
(Not To Scale)
Site centred at NGR: 446232E / 404047N



Appendix 2 – Site Photographs



Photo 1
(rear elevation)



Photo 2
(southern side elevation)