

**REPORT ON COAL MINING RELATED SITE INVESTIGATIVE WORKS
UNDERTAKEN ON LAND AT THE FORMER
MILLWOOD SCHOOL SITE, FLETCHER FOLD ROAD, BURY BL9 9RX**

Report Initially Prepared for LK Consult Limited

On behalf of The Metropolitan Borough of Bury

Report Re-assigned to:-

Bolton at Home on 8th March 2024

**The Land Consultancy Limited
Fairweather House
4 Parker Lane
Whitestake
Preston
Lancashire
PR4 4JX**

**T012 SFK (TLC1136) rep BS LKConsult 140121
January 2021**

**Project Quality Assurance
Information Sheet**

Report on Coal Mining Site Investigative Works undertaken on Land at the Former Millwood School Site, Fletcher Fold Road, Bury BL9 9RX.

Report Number : TLC1136 **Report Status** : Final

Survey Dates : 5th to 7th January 2021 **Report Date** : January 2021

Prepared for : LK Consult Limited
29 Eton Business Park
Eton Hill Road
Radcliffe
M26 2ZS

On behalf of : The Metropolitan Borough of Bury

Report Re-assigned to : Bolton at Home on 8th March 2024

Prepared by : The Land Consultancy Ltd
Fairweather House
4 Parker Lane
Whitestake
Preston
Lancashire
PR4 4JX



Written by : _____
Stephen F. Knott B.Sc. (Hons), Ph.D., F.G.S.
Director

Report Issue Record		
Revision	Date of Issue	Comments
0	14/01/2021	First Issue
A	08/03/2024	Report re-assigned to Bolton at Home

CONTENTS

1.0	INTRODUCTION
2.0	SITE LOCATION AND DESCRIPTION
3.0	GEOLOGY AND MINING
4.0	FIELDWORKS
5.0	GROUND CONDITIONS
6.0	CONCLUSIONS AND RECOMMENDATIONS

APPENDICES

APPENDIX A	-	DRAWINGS
APPENDIX B	-	ROTARY DRILL HOLE LOGS
APPENDIX C	-	COAL AUTHORITY PERMIT

1.0 INTRODUCTION

- 1.1 LK Consult Ltd has been appointed to support a planning application, on behalf of The Metropolitan Borough of Bury, for the proposed residential redevelopment of the former Millwood School site in Bury, Greater Manchester; the site is located off Fletcher Fold Road and the nearest postcode to the property is BL9 9RX. The site boundary, edged in red, is indicated on Drawing No. TLC1136/02 in Appendix A. A proposed development plan has not been made available to The Land Consultancy Ltd (TLC).
- 1.2 A desk-based coal mining risk assessment (CMRA) has recently been completed for the site by LK Consult Ltd¹. The CMRA, which also completed on behalf of The Metropolitan Borough of Bury, identified that the site was potentially being at risk of being affected by shallow coal mining related ground subsidence. LK Consult Ltd subsequently approached TLC to review the potential for the site to be affected by shallow coal seams/workings and mine entries, and to provide advice related to investigating the site using rotary drill holes.
- 1.3 LK Consult Ltd then instructed TLC to investigate the site for mining related legacy issues. Specifically, LK Consult's remit to TLC included:
- Scoping the amount of site investigation work required to investigate the property for shallow coal seams/workings;
 - Obtaining permission from The Coal Authority to carry out the site investigation work; and,
 - Producing a factual and interpretive report on the findings of the site investigation work. This report would indicate whether the site is affected by shallow coal seams/workings, and whether the consolidation of shallow workings/potential workings is necessary prior to development works proceeding.
- 1.4 This report was re-assigned to Bolton at Home on 8th March 2024.

1.5 Limitations

- 1.5.1 The assessment and interpretation of the factual data obtained as part of this investigation has been undertaken in accordance with generally accepted consulting practice, and in line with the following document: CIRIA, C758D dated 2019 and entitled 'Abandoned mine workings manual'.
- 1.5.2 The conclusions and recommendations made in this report are limited to those which can be made based on the findings of this survey and information provided by third parties. TLC assumes all third-party data to be true and correct. No responsibility can be accepted by TLC for inaccuracies in the information supplied by any other party.
- 1.5.3 Ground conditions can change rapidly, especially in areas of Made Ground; however, it is assumed that the ground conditions observed are typical and representative of the site as a whole. The ground conditions have been determined from a limited number of exploratory holes, therefore only a small percentage of the total area of the property has been investigated. Conclusions drawn from the ground investigation should be read in this context. TLC cannot accept responsibility for any situations resulting from locally unforeseen ground conditions occurring between exploratory holes.

¹ LK Consult Ltd report dated December 2020, referenced LKC 20 1837 and entitled 'Former Millwood School, Bury, 'Desk Based Coal Mining Risk Assessment'.

- 1.5.4 This report is written in the context of an agreed scope of works and should not be used in a different context. Furthermore, new information, improved practices and changes in legislation may require a re-interpretation of the report in whole or in part after its original submission. TLC reserves the right to alter its conclusions and recommendations in the light of further information which may become available. This report is provided for the sole use of the Client and is confidential to them and their professional advisors.

2.0 SITE LOCATION AND DESCRIPTION

- 2.1 The site is situated within a residential setting within the Redvales district of south Bury, Greater Manchester. Bury Town Hall is located 1.8km to the north. The site can be centred approximately at the following coordinates: 380640E, 408660 and is accessed from Fletcher Fold Road to the north.
- 2.2 Site location plans are presented in Drawing Nos. TLC1136/01a and 01b in Appendix A, and an aerial image of the site, displaying the site in its existing configuration, is presented in Drawing No. TLC1136/02.
- 2.3 The north-western half of the site is largely taken up by former school buildings, access and areas of hardstanding. The south-eastern portion of the site comprises of a grass, weed and tree covered south-east facing slope.
- 2.4 The site is irregular in shape and has an area of ≈ 0.91 Ha. The site is approximately level in the vicinity of the school buildings. The south-eastern portion of the site slopes down moderately to the south-east, towards the River Roch. The River Roch is located 105m away from the site.
- 2.5 The site is generally surrounded by residential property. A large pond is also located to the south of the property.

3.0 PUBLISHED GEOLOGY AND MINING SUMMARY

3.1 The likely site geology and mining situation (coal focussed), as determined by LK Consult's CMRA and supplemented by information reviewed by TLC, is summarised in the table below:

MADE GROUND	None indicated on BGS mapping. A site investigation carried out on the site in 2018 by e3p (4no. hand dug pits and 3no. mechanically excavated trial pits) encountered Made Ground deposits to depths of between 0.30-0.90m bgl.
DRIFT	Devensian Glacial Till (Diamicton) is indicated to be present over the majority of the site. River Terrace Deposits are indicated to be present over the SE of the site. Glacial Till deposits in the Bury area typically comprises of sandy gravelly CLAY with cobbles and occasional boulders. The River Terrace Deposits will most likely comprise of various proportions of sand and gravel. The e3p 2018 investigation did not penetrate the drift deposits; the drift deposits were proven only to a maximum depth of 2.7m bgl. Historical boreholes sunk ≈47m NE of the site suggest that the drift deposits may be in the order of 5-7m thick. A historical well sunk ≈145m to the SE (source 1:10,560 scale geology plan, Lancashire Sheet 88SW dated 1928) didn't record any drift. The superficial deposit thickness map for the Manchester area presented within the BGS Sheet 85 explanatory notes document (dated 2012), suggests that the drift beneath the site could be in the order of 5-10m thick.
ROCK	Carboniferous rock strata: Pennine Middle Coal Measures Strata (CMS) – Trencherbone Rock (sandstone)
ROCK DIP	Rock dips are expected to be ≈10° and south-westerly.
FAULTING	The site and immediate surrounding area are not affected by known faulting.
COAL SEAMS	The site is not shown to be affected by sub-cropping coal seams. The Trencherbone (a.k.a. Wigan Six Feet, Oldham Great) coal seam is indicated to sub-crop (at rockhead) ≈73m to the NE. The site is not expected to be at risk from known/unrecorded workings within any further coal seams. With a 10° south-westerly dip angle the: - Trencherbone coal seam would be expected to present at depths of ≈13-29m (deepening to the SW) below the rock head surface beneath the site. The BGS Sheet 85 explanatory notes document (dated 2012) indicates that in the Manchester coalfield: - The Trencherbone coal seam is between 2.0-4.8m thick and has been deep and surface mined. The historical well sunk ≈145m to the SE encountered the Trencherbone coal seam at ≈28.50m below the rockhead surface. The seam was only ≈0.45m thick. The 1:10,560 scale geology plan also indicates that there is likely to be a canal tunnel within the CMS at ≈45.7m below the rockhead surface beneath the SE portion of the site (see Drawing No. TLC1136/04 in Appendix A). According to Hayes², the Trencherbone coal seam has been the best, if not the best coal in the West Manchester coalfield. It has been extensively worked to considerable depth. The Trencherbone coal seam is usually divided by a dirt parting into top and bottom coals with the total thickness varying from ≈0.90-2.45m. The coal was subject to erosion or washouts prior to deposition of the overlying Trencherbone Rock. Hayes also indicates that the Trencherbone Rock in places has a red colouration. The site is not considered to be at risk from coal mining subsidence related to workings/potential workings within any further coal seams.
COAL AUTHORITY (CA) INFORMATION	The CA indicated that: - There are no known coal workings beneath the site. - Probable unrecorded shallow workings are present beneath the site within the Trencherbone coal seam. - The site is not affected by known mine entries. There are no known mine entries within at least ≈900m of the site. - The site and surrounding area are not affected by known fissures or breaklines. - The site and immediate surrounding area are not affected by known opencast coal mining. It should be noted that CA records are incomplete prior to 1872.
OTHER INFORMATION	The CA indicate that the Trencherbone coal seams is at high risk of succumbing to spontaneous combustion when entered into, worked or disturbed. Historical maps reviewed by LK Consult did not identify any significant coal mining features within influencing distance of the site.

² 'Collieries and Their Railways in the Manchester Coalfields' by G. Hayes, dated 2004 and published by Landmark Publishing Ltd.

- 3.2 In summary, desk study information suggests that the site is at moderate risk from ground subsidence related to roof collapse and surface crown hole formation over probable unrecorded shallow workings within the Trencherbone coal seam. The risk to the proposed development from potential workings within any other coal seams is considered to be very low to negligible.
- 3.3 The proposed development is not at risk from known mine entries. However, the site is considered to be at low risk from unrecorded mine entries.

4.0 FIELDWORKS

4.1 Open Hole Rotary Drilling

- 4.1.1 Open hole rotary drilling, to determine whether the property is actually affected by shallow coal seams/workings, has been undertaken at 3no. locations (RH1 to RH3) across the site.
- 4.1.2 The drilling works were undertaken by Rotary Test Drilling Ltd between the 5th and 7th January 2021, using a Dando 220 rotary rig, fitted with a pcd drill bit. Each rotary hole was sunk to 40m bgl using a water flush.
- 4.1.3 Drill hole locations are indicated on Drawing No. TLC1136/03 in Appendix A and the logs are presented in Appendix B.
- 4.1.4 The rotary holes were sited away from known service runs (LK Consult Ltd had obtained service plans and made these available to TLC). Hole locations were cleared with a cable avoidance tool. As a final check for services, hand pits were excavated to 1.20m depth. Rotary drilling commenced from the base of each hand pit.

4.2 General

- 4.2.1 Prior to drilling, permission to intersect shallow coal seams beneath the site was first obtained by TLC from the Coal Authority. The permit certificate is presented in Appendix C.
- 4.2.2 During drilling operations, gas readings were taken at regular intervals from around the mouth of the drill hole and from around the rig using a calibrated gas analyser.
- 4.2.3 Upon reaching completion depth, all drill holes were backfilled with a mixture of arisings and bentonite.

5.0 GROUND CONDITIONS

5.1 Made Ground

- 5.1.1 Made Ground was encountered within RH1 and RH2 only.
- 5.1.2 In RH1, the Made Ground was 0.90m thick and comprised of yellow/brown clayey GRAVEL with a high cobble content.
- 5.1.3 In RH2, the Made Ground was 0.30m thick and comprised of a surface layer of tarmac over a grey limestone GRAVEL sub-base.

5.2 Natural Soil

- 5.2.1 Natural soil strata were considered to have been encountered by the drilling foreman beneath the Made Ground and from ground level in RH3. The natural soil was penetrated at depths of between 9.50m (RH3) and 10.90m (RH1). The encountered soil material to depths of between 6.90m (RH1) to 7.60m (RH2) may represent Glacial Till, with the soils encountered below these depths representing completely/highly weathered Coal Measures Strata.
- 5.2.2 The natural soils typically comprised of a shaley (i.e. gravelly) CLAY which often contained cobbles; gravel and cobbles were sometimes absent. Coal traces were noted in the soils recovered from RH2 (0.50-7.10m).
- 5.2.3 The natural soils were variously coloured; the following colours were noted: grey, brown, brown/grey, grey/black, brown/ yellow, grey/brown and pink.

5.3 Pennine Lower Coal Measures Strata (CMS)

- 5.3.1 Much less weathered and more competent CMS, comprising of horizons of MUDSTONE and SANDSTONE, was encountered beneath the drift and proven to 40m bgl within each drill hole.
- 5.3.2 In RH1 and RH3, and in RH2 to 14.60m bgl, the CMS comprised of red/pink MUDSTONE and SANDSTONE. In RH2 below 14.60m bgl the CMS comprised of a dark grey/red MUDSTONE which contained occasional bands on black mudstone.
- 5.3.3 It should be noted that no coal seams or evidence for the presence of coal workings was recorded within the drill holes. Such evidence can include any of the following: partial or total loss of the flushing medium, broken drilling, fast drilling, or a sudden dropping of the drill string (indicating the presence of voids).

5.4 Groundwater

- 5.4.1 It was not possible to record groundwater strikes within the rotary drill holes during drilling operations due to the recirculated water flushing medium which was used.

5.5 Ground Gas

- 5.5.1 No detectable concentrations of methane, carbon dioxide, carbon monoxide or hydrogen sulphide, or any oxygen depletions were measured during rotary drilling operations.

6.0 CONCLUSIONS AND RECOMMENDATIONS

- 6.1 Desk study researches indicated that the site would be underlain by Made Ground (up to $\approx 0.90\text{m}$ thick) over Glacial Till and River Terrace Deposits, over Pennine Lower Coal Measures strata (CMS). The CMS was anticipated to comprise of Trencherbone Rock (sandstone) dipping down to the SW at $\approx 10^\circ$. The site was not indicated to be affected by known faulting.
- 6.2 Geological mapping indicates that the Trencherbone coal seam sub-crops beneath the drift $\approx 73\text{m}$ to the NE of the site. With an $\approx 10^\circ$ SW rock dip angle, this seam was anticipated to be present below the site at shallow depth. Although the BGS record this coal seam as being between $2.0\text{--}4.8\text{m}$ thick, it is well known for being affected by erosion or washouts prior to deposition of the overlying Trencherbone Rock. A historical well sunk $\approx 145\text{m}$ to the SE encountered this coal seam ($\approx 0.45\text{m}$ thick) at $\approx 28.50\text{m}$ bgl; the thickness of the coal seam at this nearby location suggests that it was affected by erosion prior to deposition of the overlying Trencherbone Rock.
- 6.3 A canal tunnel is likely to encroach into the SE of the site at $\approx 45.7\text{m}$ below the rockhead surface.
- 6.4 The Coal Authority (CA) have no record of any known coal workings having had taken place beneath the site. The CA indicate that the site is at risk from probable unrecorded workings within the Trencherbone coal seam. No known mine entries are indicated to be present within the site boundary or within at least $\approx 900\text{m}$ of the site.
- 6.5 To investigate the Trencherbone coal seam shallow mining risk to the proposed development, 3no. rotary drill holes were sunk across the site to a depth of 40.00m bgl.
- 6.6 Made Ground ($0.00\text{--}0.90\text{m}$ thick) overlay, natural soil deposits to depths of between 9.50m to 10.90m bgl. The natural soils are likely to comprise of clay Glacial Till over completely/highly weathered CMS. Much less weathered and more competent CMS was encountered beneath the natural soil and proven to 40m bgl. The CMS comprised of horizons of SANDSTONE and MUDSTONE.
- 6.7 No coal seams or evidence for the potential presence of coal workings was recorded within any of the drill holes.

6.8 Shallow Coal Mining

- 6.8.1 Shallow workings related ground subsidence events may manifest as localised crown hole collapses at the surface (which are related to workings roof failures), or can be associated with more extensive ground movements, typically associated with pillar collapse, floor heave, or a combination of roof and pillar failure. As there is limited evidence for structural damage caused by pillar failure compared with that resulting from roof collapses, the focus of engineering assessments of the potential for instability at the ground surface has focussed on roof collapses as the more likely mechanism of failure.
- 6.8.2 The limit height on void migration for roof collapses, where no appreciable surface subsidence can result is termed 'acceptable cover'. The calculation of the amount of acceptable cover is determined by the worked thickness of the seam (t) and the amount of overlying rock cover (h) (and potentially overconsolidated Glacial Till cover – see below). The acceptable cover criterion is generally referred to as ht . The worked thickness of a coal seam (t) is often taken as being whichever is the greater of the following: 1.50m (the typical height of a mining roadway), or the coal seam thickness. It is noted that a thickness greater than that of the coal seam may have been extracted during mining – for example to remove

a weak underlying seat earth horizon (for use as fireclay and/or to aid access through the mine).

- 6.8.3 According to CIRIA C758D, from the examination of mines within CMS, the height of collapse migration might exceptionally extend to 10t the height of the original extraction. As a result of this, the 10t criterion has been adopted by the industry as providing reasonable assurance against surface subsidence from roof collapses in old pillar and stall mines. However, there are documented cases (albeit rare) where migrations in excess of 20t have been observed.
- 6.8.4 According to CIRIA C758D, soils overburden can contribute to the mitigation of the extent of void migration, which is based on the capability of soils to bulk in a subsidence scenario. Specifically, it is noted that thick superficial deposits (>10m) of a more brittle nature (e.g. heavily over-consolidated Glacial Till), can contribute to stability where there may otherwise be marginally insufficient rock cover. CIRIA C758D states that a commonly accepted rule of thumb is that competent Glacial Till may provide a contribution to the rock cover equivalent to half its thickness. However, the CA adopts the rule that the rock cover contribution should be >80%. The implication of this is that soils cover alone may not be sufficient to prevent upwardly migrating roof collapses above pillar and stall workings from causing subsidence effects at the ground surface. For this site, the strength of the encountered natural soil material has not been proven. Therefore, the encountered natural soil deposits have not been used in the calculation of 10t.
- 6.8.5 CIRIA C758D lists a number of circumstances where the acceptable cover criterion may need to be increased from 10t. These include:
- Where the strata dip is >20° (unlikely to be the case on this site).
 - Where there are strong groundwater flows within workings and/or where there are rising or falling groundwater levels. The deep groundwater regime beneath the site is unknown.
 - Where multi-seam extractions have taken place (unlikely to be the case for this site).
- 6.8.6 The Trencherbone coal seam was expected to be present beneath the site at depths of between ≈13-29m bgl (deepening to the SW). As this coal seam, or potential workings within this seam, were not encountered within the drill holes, it is considered that the most likely explanation for its absence is that it was removed by weathering prior to the deposition of the overlying Trencherbone Rock.
- 6.8.7 Consequently, the risk to the proposed development from unrecorded shallow workings within the Trencherbone coal seam is considered to be very low, and consolidation works (by drilling and grouting) are not considered necessary.
- 6.8.8 The canal tunnel beneath the SE of the site is likely to be overlain by ≈45m of CMS. Due to the amount of overlying rock cover, the subsidence risk that the canal tunnel poses to the proposed development, should it collapse, is also likely to be very low; consequently, consolidation works with respect to this feature are not considered necessary.

6.9 General Advice

- 6.9.1 There remains a risk (albeit low) of encountering unrecorded mine entries during the redevelopment of the site. Mine entries are likely to manifest as potentially square, rectangular or circular areas of dark deep Made Ground (which may or may not be brick lined) surrounded by natural soils/weathered rock; mine shafts could also be potentially be capped – e.g. with a large block of concrete. A watching brief should be maintained during

the site strip for the presence of unrecorded mine entries. If the presence of a mine entry is suspected, the affected area should be cordoned off immediately and the advice of a coal mining engineer sought.

APPENDICES

APPENDIX A

DRAWINGS



THE LAND CONSULTANCY LIMITED

Fairweather House, 4 Parker Lane, Whitestake, Preston PR4 4JX
Tel: 01772 610609; M: 07771 800859
email: sfknot@thelandconsultancy.co.uk; www.thelandconsultancy.co.uk

Project:

Former Millwood School, Fletcher Fold Road, Bury
BL9 9RX

Title:

Site Location Plan

Scale:

Km Grid Squares

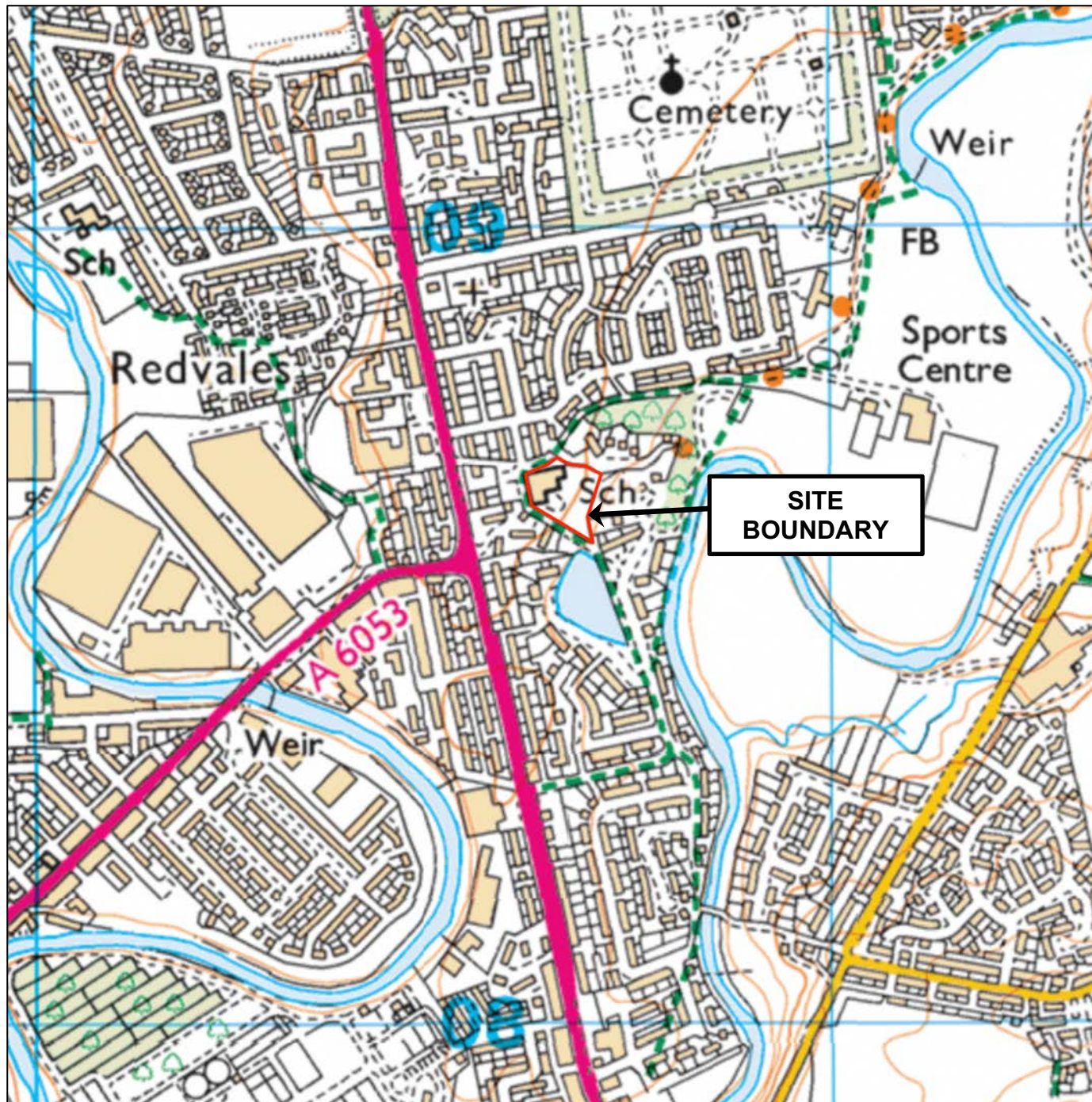
Drawn by:

SFK

Date:

04/12/2020

Drawing No.: TLC1136/01a



Reproduced from Ordnance Survey Mapping with permission
 ©Crown Copyright The Land Consultancy Limited License No. 100043992



THE LAND CONSULTANCY LIMITED

Fairweather House, 4 Parker Lane, Whitestake, Preston PR4 4JX
 Tel: 01772 610609; M: 07771 800859
 email: sfknot@thelandconsultancy.co.uk; www.thelandconsultancy.co.uk

Project:

Former Millwood School, Fletcher Fold Road, Bury
 BL9 9RX

Title:

Site Location Plan

Scale:

Km Grid Squares

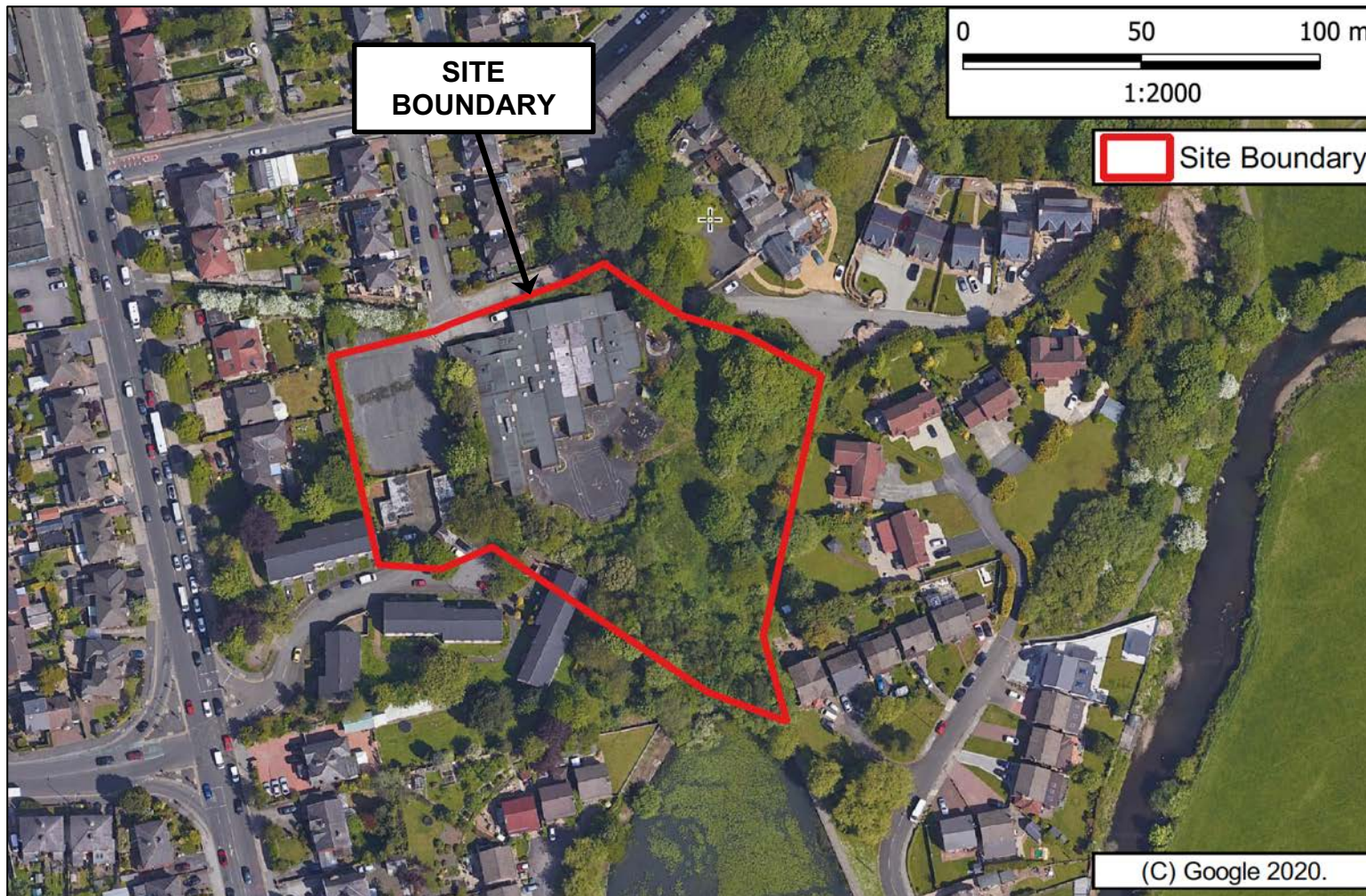
Drawn by:

SFK

Date:

04/12/2020

Drawing No.: TLC1136/01b



THE LAND CONSULTANCY LIMITED

Fairweather House, 4 Parker Lane, Whitestake, Preston PR4 4JX
 Tel: 01772 610609; M: 07771 800859
 email: sfknot@thelandconsultancy.co.uk; www.thelandconsultancy.co.uk

Project:

Former Millwood School, Fletcher Fold Road, Bury
 BL9 9RX

Title:

Google Earth Aerial Imagery showing Site Boundary

Scale:

As Shown

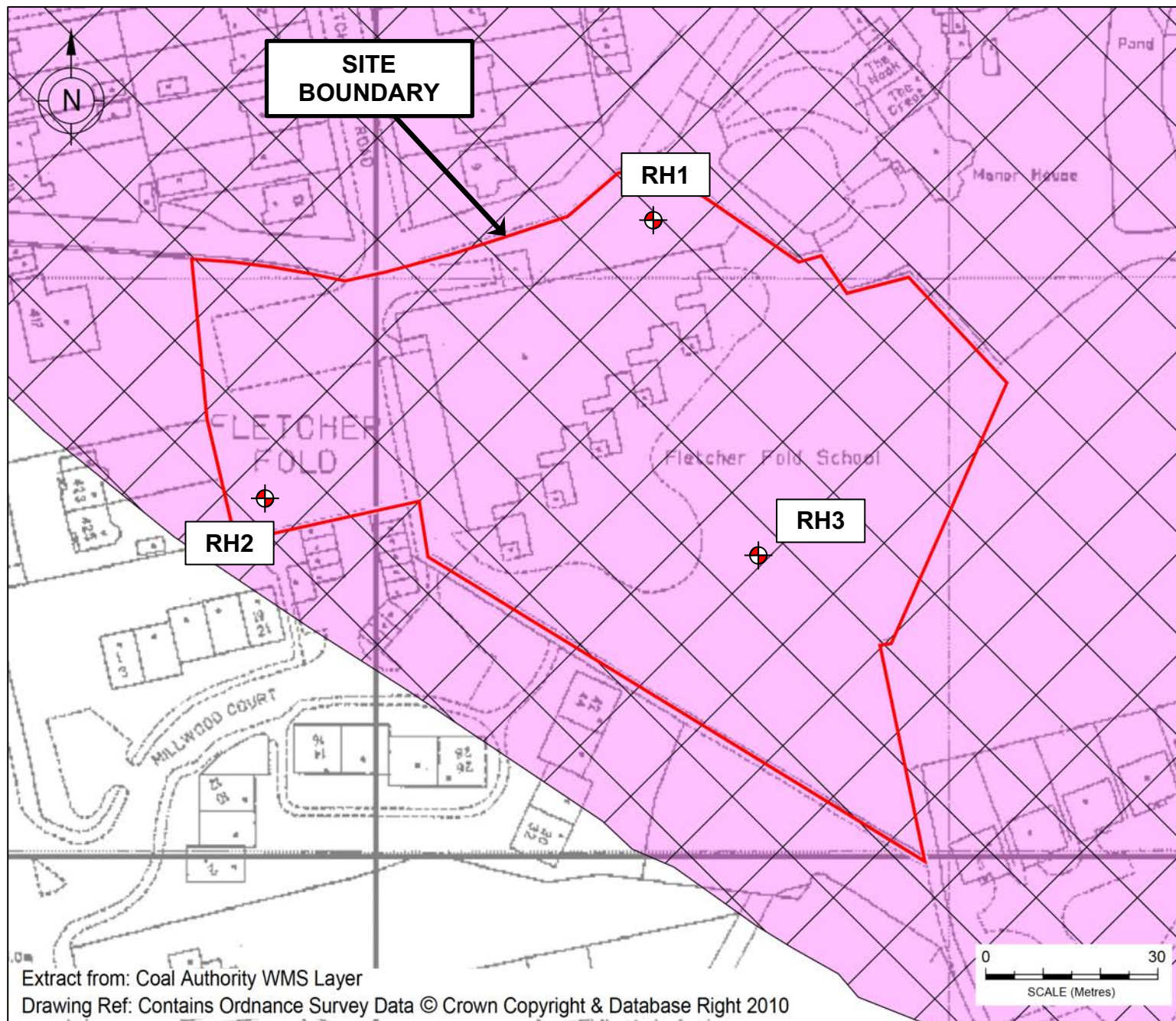
Drawn by:

SFK

Date:

04/12/2020

Drawing No.: TLC1136/02



KEY

-  Site Boundary
 Development
 High Risk Area


Rotary drill hole location

THE LAND CONSULTANCY LIMITED

Fairweather House, 4 Parker Lane, Whitestake, Preston PR4 4JX
Tel: 01772 610609; M: 07771 800859
email: sfknot@thelandconsultancy.co.uk; www.thelandconsultancy.co.uk

Project:

Former Millwood School, Fletcher Fold Road, Bury
BL9 9RX

Title:

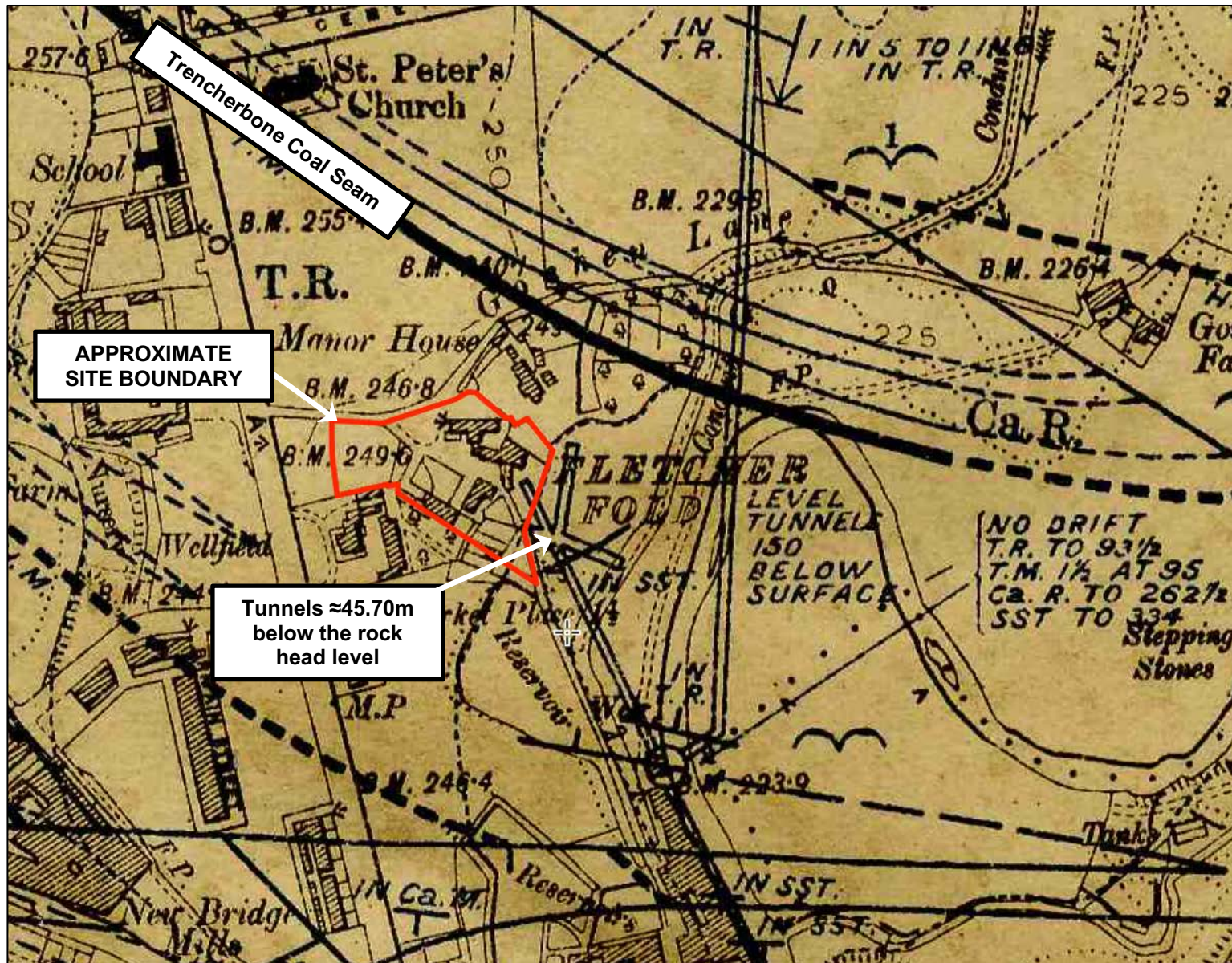
Plan displaying Coal Authority Data and Rotary Drill Hole Locations

Scale:
As Shown

Drawn by:
SFK

Date:
14/01/2021

Drawing No.: TLC1136/03



THE LAND CONSULTANCY LIMITED

Fairweather House, 4 Parker Lane, Whitestake, Preston PR4 4JX
 Tel: 01772 610609; M: 07771 800859
 email: sfknott@thelandconsultancy.co.uk; www.thelandconsultancy.co.uk

Project:
 Former Millwood School, Fletcher Fold Road, Bury
 BL9 9RX

Title:
 Lancashire Sheet 88SW 1:10,560 (original scale)
 Geological Map Extract

Scale: NTS	Drawn by: SFK	Date: 014/01/2021
----------------------	-------------------------	-----------------------------

Drawing No.: TLC1136/04

APPENDIX B
ROTARY DRILL HOLE LOGS

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

APPENDIX C

COAL AUTHORITY PERMISSIONS CERTIFICATE



The Coal
Authority

Permit to Enter or Disturb Coal Authority Interests

Permit 21205

Name and Address of Permit Holder:

*The Metropolitan Borough of Bury
Knowsley Place
Knowsley Street
Bury
BL9 0SW*

Site Location:

*Former Millwood School
Fletcher Fold Road
Bury
BL9 9RX*

This certificate hereby grants the above named Permit Holder a Permit to carry out:-

Ground investigation by three boreholes to 40mbgl to determine the presence of shallow mine workings within the Authority's interests at the identified site location above as shown on the Grant Permit Boundary (overleaf) for the period of 12 months from the granted date shown below. *The granting of this Permit does not constitute advice given by the Authority in relation to the proposed operations. It is the Permit Holder's responsibility to obtain appropriate health, safety, environmental, technical and legal advice.*

Conditions:

- *Water flush*
- *Gas Monitoring CO, CH₄, CO₂, O₂, H₂S at borehole and rig*
- *Operators undertaking the work must be in possession of this certificate and the Permit boundary plan at the time of works*
- *Appropriate borehole sealing without delay and to withstand site level changes*

Signed: Kevin Waite Granted Date: 17th December 2020

For and on behalf of The Coal Authority

Nominated Representative: Kevin Waite, Permitting Manager;

The Coal Authority, Permitting Office, 200 Lichfield Lane, Mansfield, Notts, NG18 4RG

Tel: 01623 637450; E-Mail: permissions@coal.gov.uk



The Coal
Authority

Granted Permit Boundary

Permit Ref: 21205

Permit Boundary:



These maps are reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationary Office. © Crown Copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. The Coal Authority. Licence No: 100020315. [216]