

COAL MINING INVESTIGATION

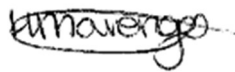
**BURNT HOUSE FARM, TOTTINGTON, BURY
FOR
BURNT HOUSE FARM AGRICULTURAL LTD**

**JUNE 2025
CMI/1007/00**





Document Assurance Form

PROJECT NAME	BURNT HOUSE FARM
CLIENT	BURNT HOUSE FARM AGRICULTURAL LTD
SITE LOCATION	BURNT HOUSE FARM, TURTON ROAD, TOTTINGTON, BURY
REPORT NAME	COAL MINING INVESTIGATION
REPORT REFERENCE	CM1/1007/00
PROGRESS REPORT	FINAL
ISSUE DATE	JUNE 2025
REVISION	00
SIGNATURE	
AUTHOR	HOLLIE MARENGO

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Introduction

Objectives

Marengo Engineering & Geotechnical (MEG) have been appointed by Burnt House Farm Agricultural Ltd to undertake a Coal Mining Investigation for a site at Burnt House Farm, Turton Road, Tottington, Bury, in which they intend to redevelop.

This Coal Mining Investigation Report has been prepared by MEG in response to the findings of a preceding Coal Mining Risk Assessment (CMRA), which identified the potential presence of shallow coal mine workings beneath the site. The purpose of this report is to investigate and evaluate the nature, extent, and condition of any shallow workings that may present a risk to ground stability or future development. The investigation has been undertaken in accordance with current Coal Authority guidance and relevant British Standards, and the findings are intended to inform safe and appropriate development of the site.

The objectives of this Coal Mining Investigation Report are as follows:

- ✉ To investigate the potential for shallow coal mine workings beneath the site, as identified in the preceding CMRA, through intrusive ground investigation.
- ✉ To determine the depth, thickness, and condition of any coal seams or voids encountered during drilling, with particular focus on assessing the presence of unrecorded or inadequately treated historic workings.
- ✉ To assess the level of risk posed by shallow mine workings to the proposed development, including the potential for ground movement, subsidence, or collapse.
- ✉ To undertake rotary open hole drilling using water flush techniques, in accordance with Coal Authority guidance and relevant British Standards (e.g., BS 5930 and BS EN ISO 22475-1), to enable the identification of voids, fractured ground, or other mining-related features.
- ✉ To inform appropriate remediation or mitigation strategies, where required, such as grouting or foundation design modifications, to manage and reduce coal mining-related ground risks.
- ✉ To produce a formal post-investigation report presenting all findings, risk assessments, and recommendations in a format suitable for submission to the Local Planning Authority and the Coal Authority, in support of planning and regulatory compliance.
- ✉ To ensure that all investigative and reporting work is undertaken in accordance with current health, safety, environmental, and industry best practice standards.



Site Location & Description

The development site is located roughly 6.00km northwest of Bury Town Centre, located down an access track off Turton Road. The centre of the site is located at the approximate National Grid Reference SD 76209 14260, with the proposed development area circa 0.05 hectares. The location of the site is shown in figures 1 below.

The site contains a detached, two-storey property constructed from stone and brick, which has sustained fire damage due to a historical incident. The building is currently unoccupied and is set within a landscape that includes both soft and hard elements. Access to the property is provided via a track extending northward from Turton Road, which curves around to facilitate easier entry. Mature trees and vegetation are present throughout the site and the surrounding area.

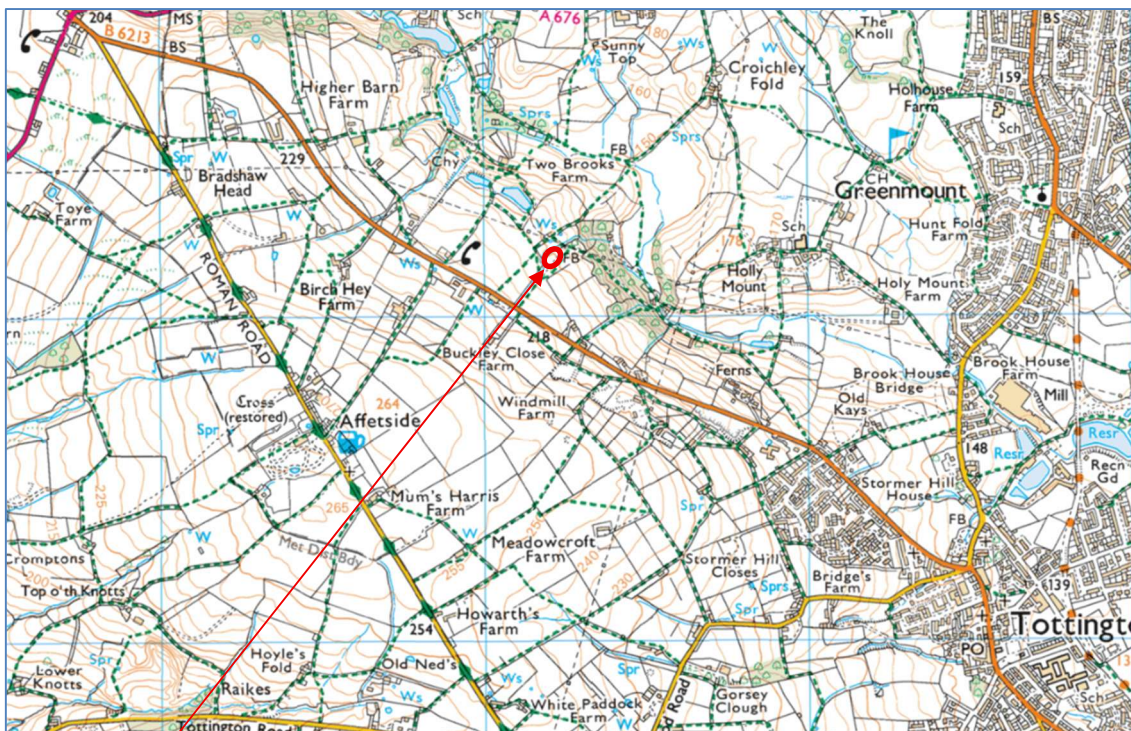


Figure 1: Site Location (Ordnance Survey Mapping)

Development Proposals

The site is proposed for redevelopment, which will involve the demolition of the existing structure and the construction of a new two-storey farmhouse, built in stone and positioned slightly to the south of the original building's footprint. A designated hardstanding area for parking is planned to the north of the new dwelling, while a soft-landscaped garden will encompass the property. Additional details can be found in the attached Proposed Plans, within Appendix A.



Summary of Coal Mining Risk Assessment

A Coal Mining Risk Assessment for the development site was previously undertaken by The LK Group, dated June 2022, under reference LKC 22 1267. A summary of the key findings from the report is presented in Table 1.

Table 1: Summary of Consultants Coal Mining Report	
Section 1 - Mining Activity & Geology	
Past Underground Mining	No.
<i>Details of all recorded underground mining relative to the site boundary. Only past underground workings where the boundary is within 0.7 times the depth of the workings allowing for seam inclination.</i>	
Probably Unrecorded Shallow Workings	Yes
<i>Areas where there is believed to unrecorded coal workings that exist at or close to the surface <30.00m</i>	
Spine Roadways at Shallow Depth	No
<i>Connecting roadways either working to working or surface to working, both in-seam and cross measures that exist at or close to the surface, within 10m of the search boundary.</i>	No spine road recorded at shallow depth
Mine Entries	No
<i>Any shaft of adit within 100m of the search boundary.</i>	
Abandoned Mine Plan Catalogue Numbers	Yes
<i>Plan numbers extracted from the abandoned mine catalogues containing details of coal or other mineral abandonment plans.</i>	16820
Outcrops	No
<i>Seam outcrops including where in the search boundary, with a conjectured or actual seam outcrop location.</i>	However, outcrops are recorded in the wider surrounding area including 15 north west of site boundary.
Geological Faults, Fissures & Break lines	No
<i>Geological disturbances or fractures in the bedrock. In some circumstances, faults, fissures and breaklines have been known to contribute to surface subsidence as a consequence of underground coal mining.</i>	Two faults recorded in the wider area but not within the development site.
Opencast Mines	No
<i>Site in which coal has been removed in the past by opencast / surface methods.</i>	None recorded within 500m of search boundary.
Coal Authority Managed Tips	No
<i>Location of disused colliery tips owned and managed by the Mining Remediation Authority, located within 500m of the search boundary.</i>	None recorded within 500m of search boundary.
Section 2 – Investigation or Remedial Activity	
Site Investigations	No
<i>Details of site investigations within 50m of the search boundary where the Mining Remediation Authority have received information relating to coal mining risk or remediation by third parties.</i>	
Remediated Sites	No
<i>Site where the Mining Remediation Authority have undertaken remediation works within 50m following a</i>	



<i>report of a hazard to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.</i>	
Coal Mining Subsidence	No
<i>Details of alleged coal mining subsidence claims made since 31st October 1994, within 50m of the search boundary.</i>	No damage notice of claim for the subject property, or any property within 50m.
Mine Gas	No
<i>Reports of alleged mine gas emissions received within 500m of the search boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emissions.</i>	None recorded within 500m of the search boundary.
Mine Water Treatment Schemes	No
<i>CA Constructed or operates assets that remove pollutants from mine water before being discharged into the receiving water body.</i>	None recorded within 500m of the search boundary.
Section 3 – Licensing & Future Mining Activity	
Future Underground Mining	No
<i>Details of planned underground mining relative to search boundary.</i>	None recorded,
Coal Mining Licensing	No
<i>Details of all licenses within 200m of the search boundary for either surface coal mining, underground coal mining or underground coal gasification.</i>	None recorded within 200m of the search boundary.

Coal Mining Risk Assessment Recommendations

The LK Report concluded that a site-specific intrusive ground investigation is required to assess and quantify potential geotechnical and ground stability risks associated with suspected historical shallow coal workings. This recommendation aligns with The Coal Authority's guidance document "Risk Based Approach to Development Management in Areas of Coal Mining Risk" (2017), which outlines the requirement for rotary borehole drilling and geotechnical analysis to confirm the presence, depth, and condition of any underlying mine workings.



Intrusive Coal Mining Investigation

Scope of Works

As part of the ongoing CMRA for the proposed redevelopment of the site, intrusive ground investigation works were undertaken to assess the potential presence of shallow underground coal workings and associated ground stability risks.

The investigation comprised the drilling of two rotary open hole (ROH) boreholes, designated ROH-01 and ROH-02, each to a depth of 29.50 metres below ground level (bgl). Drilling works were carried out on the 2nd of June 2025, using water flush techniques to facilitate safe and effective borehole advancement.

A Coal Authority permit was obtained prior to the commencement of works, in accordance with the regulatory requirements for development within coal mining reporting areas. The permit was issued under Certificate Number 29907.

All drilling activities were conducted under full-time supervision by a qualified engineer to ensure adherence to health, safety, and technical quality standards.

A plan indicating the exploratory hole locations is presented in Appendix B, the Coal Authority permit is included in Appendix C, and the borehole logs are provided in Appendix D of this report.

Summary of Ground Conditions

Made Ground

Made ground was encountered in both exploratory locations, extending to a depth of 2.00 m bgl in ROH-01 and 1.00 m bgl in ROH-02. The made ground is considered to be associated with the historical residential use of the site and includes minor quantities of rubble, likely resulting from the past fire damage to the former property.

Superficial deposits

Superficial deposits were encountered exclusively in ROH-02, underlying the made ground between 1.00 m and 1.90 m bgl. These deposits comprised brown glacial till, typically described as a firm, slightly gravelly, silty clay, consistent with glacial origin.



Bedrock

Bedrock was encountered in both ROH-01 and ROH-02, initially comprising orangish-brown sandstone. In ROH-01, the sandstone was observed from 2.00m to 9.50m bgl, and in ROH-02 from 1.90m to 10.00 m bgl. This was underlain in both boreholes by dark grey mudstone with frequent interbedded sandstone bands, extending to the full depth of investigation (29.50m bgl). The encountered bedrock sequence is characteristic of the Pennine Lower Coal Measures Formation, which is known to consist of cyclic sequences of mudstone, siltstone, sandstone, and coal.

Table 2: Summary of Ground Conditions

Borehole ID	Made Ground Depth (m bgl)	Superficial Deposits (m bgl)	Bedrock Type	Bedrock Depth Range (m bgl)	Coal/Mining Evidence
ROH-01	0.00 – 2.00	Not encountered	Sandstone → Mudstone with bands	2.00 – 29.50	None Observed
ROH-02	0.00 – 1.00	1.00 – 1.90	Sandstone → Mudstone with bands	1.90 – 29.50	None Observed

No evidence of worked or unworked coal seams, broken ground, or other indicators of historical underground mining activity was encountered during the drilling works in either ROH-01 or ROH-02. The borehole logs did not record any voids, soft zones, loss of flush, or anomalous ground conditions typically associated with past coal extraction.



Conclusions & Recommendations

Intrusive ground investigations were completed on 2nd June 2025 in accordance with The Coal Authority's Risk Based Approach to Development Management in Areas of Coal Mining Risk (2017), involving the drilling of two rotary open hole boreholes (ROH-01 and ROH-02) to 29.50m bgl using water flush techniques under full-time engineering supervision. A Coal Authority permit (Certificate No. 29907) was secured prior to works.

Made ground was encountered to depths of 2.00m in ROH-01 and 1.00m in ROH-02, likely associated with the site's historical residential use and fire-damaged structure. In ROH-02, glacial till was present between 1.00m and 1.90m, described as a firm, slightly gravelly, silty clay.

Bedrock comprised orangish-brown sandstone overlying dark grey mudstone with frequent sandstone bands, recorded from 2.00m–29.50m in ROH-01 and 1.90m–29.50m in ROH-02. The sequence is representative of the Pennine Lower Coal Measures Formation.

No evidence of worked or unworked coal, voids, or broken ground was identified. Ground conditions were intact and consistent with undisturbed geology throughout the full depth investigated.

Coal Mining Risk Rating

Based on the results of the intrusive investigation:

-  No evidence of worked or unworked coal seams, voids, or broken ground was encountered to depths of 29.50 m bgl in either borehole.
-  The encountered strata are consistent with the Pennine Lower Coal Measures Formation, but no coal-bearing horizons were identified within the investigation depth.

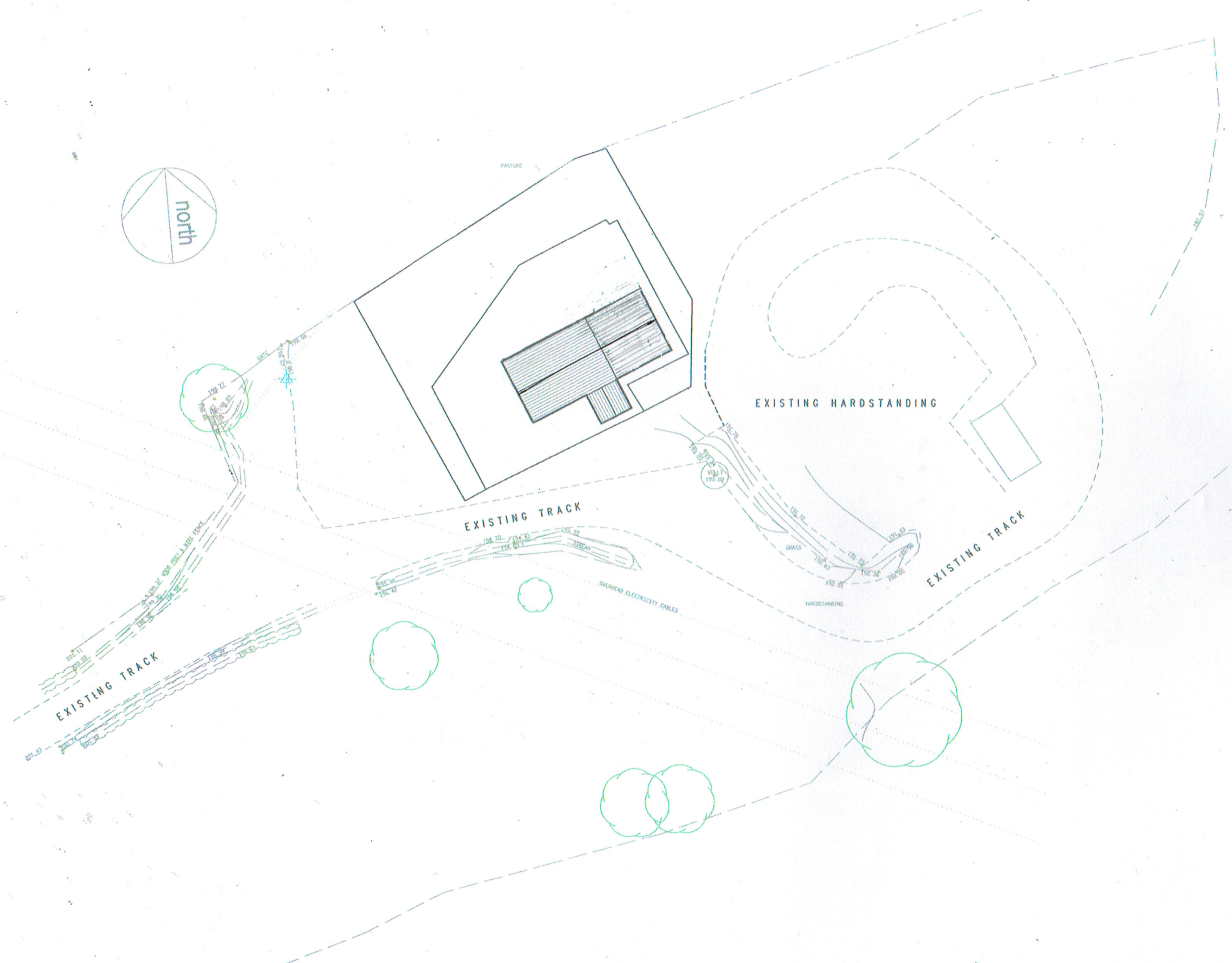
Coal Mining Risk Classification for the Site: **Low Risk**

Accordingly, no further investigation or remedial works are considered necessary with respect to historical coal mining activity. The findings are considered suitable for submission to The Coal Authority as part of the planning approval process.

Appendix A

Proposed Development Plans





proposed site plan illustrating
access track and field boundaries

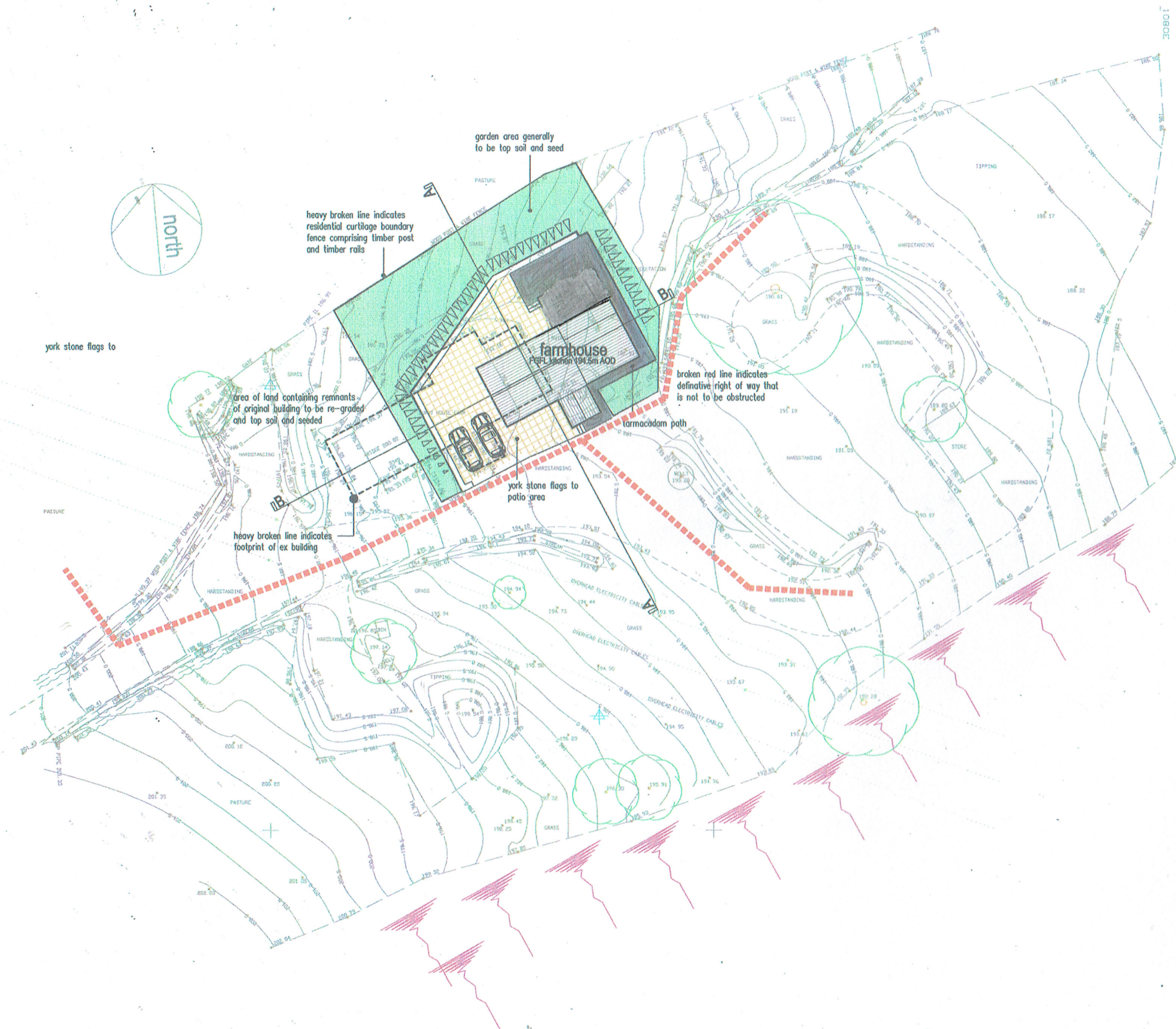
proposed replacement farmhouse at
Burnt House Farm
Turton Road
Tottington
Bury

scale 1:200 @ A1

0m 20m
linear scale 1:200 @ A1

drawing number BHF-24-03-22-E

Rae Connell Associates Building Design and Planning Consultants
214 Burnley Road Bacup Lancashire 01706 879000



amended 10-01-23

footprint of existing building included as overlay on proposed site plan

the volume of the proposed building amounts to approx 472m³

proposed

proposed replacement farmhouse at
Burnt House Farm
 Turton Road
 Tottington
 Bury

scale 1:200 @ A1

0m 20m

linear scale 1:200 @ A1

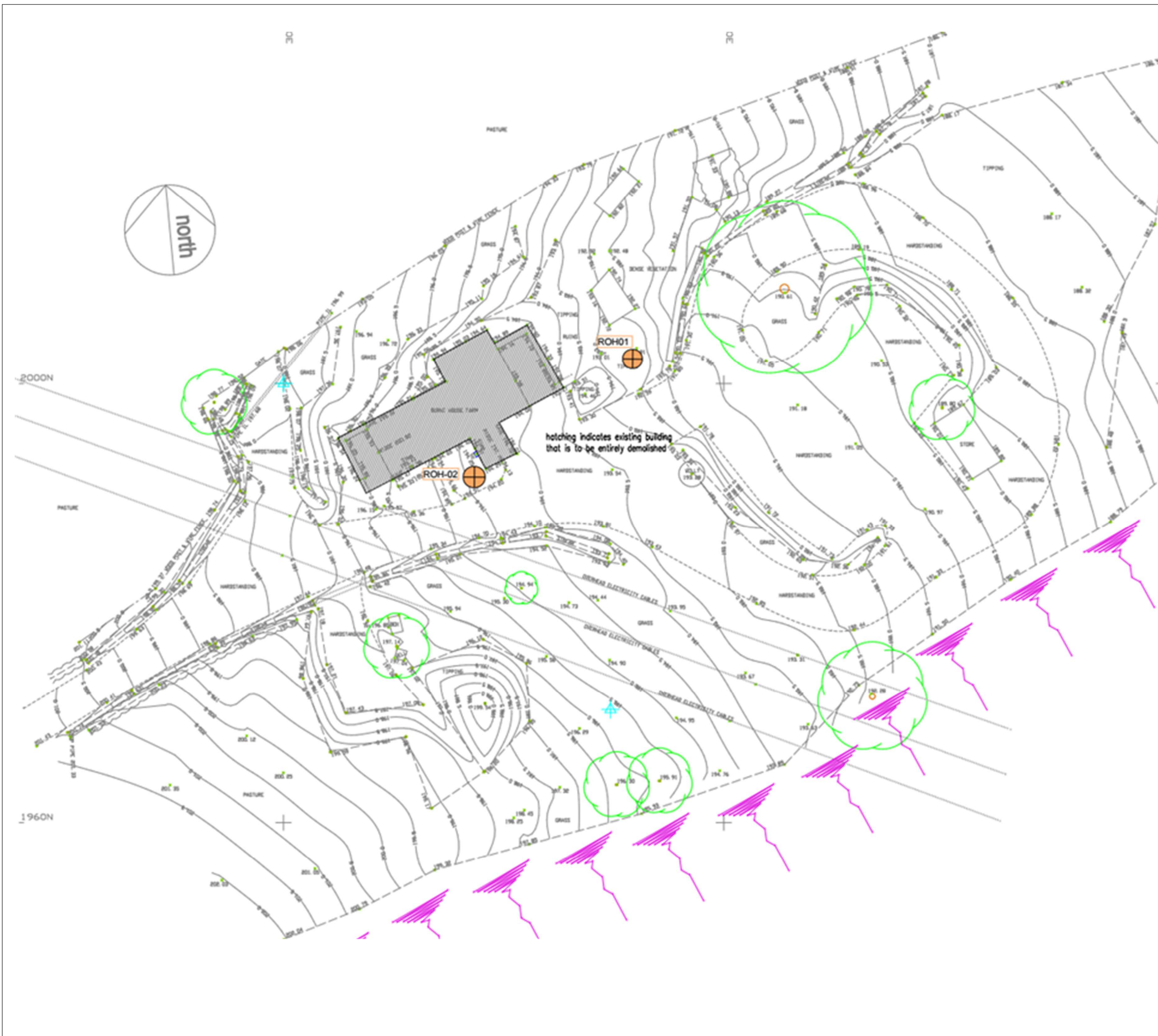
drawing number BHF-24-03-22-C (amended)

Rae Connell Associates Building Design and Planning Consultants
 214 Burnley Road Bacup Lancashire
 01706 873000

Appendix B

Exploratory Hole Location Plan





Legend:

 Rotary Open Hole Location - Utilising Water Flush

Drawing No: 1007/02
Drawn By: HM
Scale: NTS

Exploratory Hole Location Plan

Project Name:
Burnt House Farm,
Turton Road,
Tottingham, Bury

Client: Burnt House Farm
Agricultural Ltd

Date: 03/06/2025

This drawing remains the exclusive property of MEG and may not be copied, utilised or its contents disclosed without prior written authorisation.

Appendix C

Coal Authority Permit





Mining
Remediation
Authority

Permit to Enter or Disturb Mining Remediation Authority Interests

Permit 29907

Name and Address of Permit Holder:

*Burnt House Farm Agricultural Ltd
11 Bridge Street
Bury
Lancashire
BL0 9AB*

Site Location:

*Burnt House Farm
Turton Road
Tottington
Bury*

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

Ground investigation by two boreholes to 29.5m to determine 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:

- *Manned entry (i.e.) into mine entries/workings) is strictly prohibited.*
- *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: Christopher Bunyan Granted Date: 28th May 2025

For and on behalf of the Mining Remediation Authority

Nominated Representative: Christopher Bunyan, Permitting Manager;



Mining
Remediation
Authority

Granted Permit Boundary

Permit Ref: 29907

Permit Boundary:



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The Mining Remediation Authority is the trading name of the Coal Authority ('TCA') established pursuant to Section 1 of the Coal Industry Act 1994, of 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG. The Coal Authority remains the legal name of the Authority

Appendix D

Rotary Open Hole Logs





Open Hole Log

ROH-01
Sheet 1 of 3

Hole Type RO	Easting 376221.00	Northing 414262.00	Ground Level (m)	Scale 1:50
Project Name Burnt House Farm	Project No.		Start Date 2025-06-02	End Date 2025-06-02

Client Burnt House Farm Agricultural Ltd	Consultant Marengo Engineering & Geotechnical	Contractor Zord Geo Ltd
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Inst/ Backfill	Water Levels	Samples and Tests			Coring				Frac	Level (m)	Depth (thickness) (m)	Strata		
		Depth (m)	Type/ Ref	Results	Core Run	TCR (%)	SCR (%)	RQD (%)				Legend	Description	
													MADE GROUND	0.5
											(2.00)			1.0
														1.5
											2.00		Orangish brown SANDSTONE	2.0
														2.5
														3.0
														3.5
														4.0
														4.5
											(7.50)			5.0
														5.5
														6.0
														6.5
														7.0
														7.5
											9.50		Dark grey MUDSTONE with frequent sandstone bands	9.5
											(20.00)			8.0
														8.5
														9.0
														9.5
														10.0

Continued on next page

Remarks	Method, Plant, Stability, Dimensions	Logger
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Inst/ Backfill	Water Levels	Samples and Tests			Coring				Frac	Level	Depth (thickness) (m)	Strata		
		Depth (m)	Type/ Ref	Results	Core Run	TCR (%)	SCR (%)	RQD (%)				Legend	Description	
													As previous page.	10.5
														11.0
														11.5
														12.0
														12.5
														13.0
														13.5
														14.0
														14.5
														15.0
														15.5
														16.0
														16.5
														17.0
														17.5
														18.0
														18.5
														19.0
														19.5
														20.0

Remarks	Method, Plant, Stability, Dimensions	Logger



Open Hole Log

ROH-01
Sheet 3 of 3

Hole Type RO	Easting 376221.00	Northing 414262.00	Ground Level (m)	Scale 1:50
Project Name Burnt House Farm	Project No.		Start Date 2025-06-02	End Date 2025-06-02

Client Burnt House Farm Agricultural Ltd	Consultant Marengo Engineering & Geotechnical	Contractor Zord Geo Ltd
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Inst/ Backfill	Water Levels	Samples and Tests			Coring				Frac	Level (m)	Depth (m) (thickness)	Strata	
		Depth (m)	Type/ Ref	Results	Core Run	TCR (%)	SCR (%)	RQD (%)				Legend	Description
													As previous page.
											29.50		End of Borehole at 29.50m

Remarks	Method, Plant, Stability, Dimensions	Logger
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Open Hole Log

ROH-01
SUPPLEMENTARY INFO

Hole Type RO	Easting 376221.00	Northing 414262.00	Ground Level (m)	Scale 1:50
Project Name Burnt House Farm	Project No.	Start Date 2025-06-02	End Date 2025-06-02	

Client Burnt House Farm Agricultural Ltd	Consultant Marengo Engineering & Geotechnical	Contractor Zord Geo Ltd
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Casing Diameter

Base Depth (m)	Casing Diameter (mm)	Remarks
1.50	120	

Remarks	Method, Plant, Stability, Dimensions	Logger
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Open Hole Log

ROH-02
Sheet 1 of 3

Hole Type RO	Easting 376212.00	Northing 414253.00	Ground Level (m)	Scale 1:50
Project Name Burnt House Farm	Project No.		Start Date 2025-06-02	End Date 2025-06-02

Client Burnt House Farm Agricultural Ltd	Consultant Marengo Engineering & Geotechnical	Contractor Zord Geo Ltd
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Inst/ Backfill	Water Levels	Samples and Tests			Coring				Frac	Level (m)	Depth (m)	Strata		
		Depth (m)	Type/ Ref	Results	Core Run	TCR (%)	SCR (%)	RQD (%)				Legend	Description	
													MADE GROUND	0.5
											1.00		Brown CLAY	1.0
											(0.90)			1.5
											1.90		Orangish Brown SANDSTONE	2.0
														2.5
														3.0
														3.5
														4.0
														4.5
														5.0
											(8.10)			6.0
														6.5
														7.0
														7.5
														8.0
														8.5
														9.0
														9.5
											10.00			10.0
Continued on next page														

Remarks	Method, Plant, Stability, Dimensions	Logger
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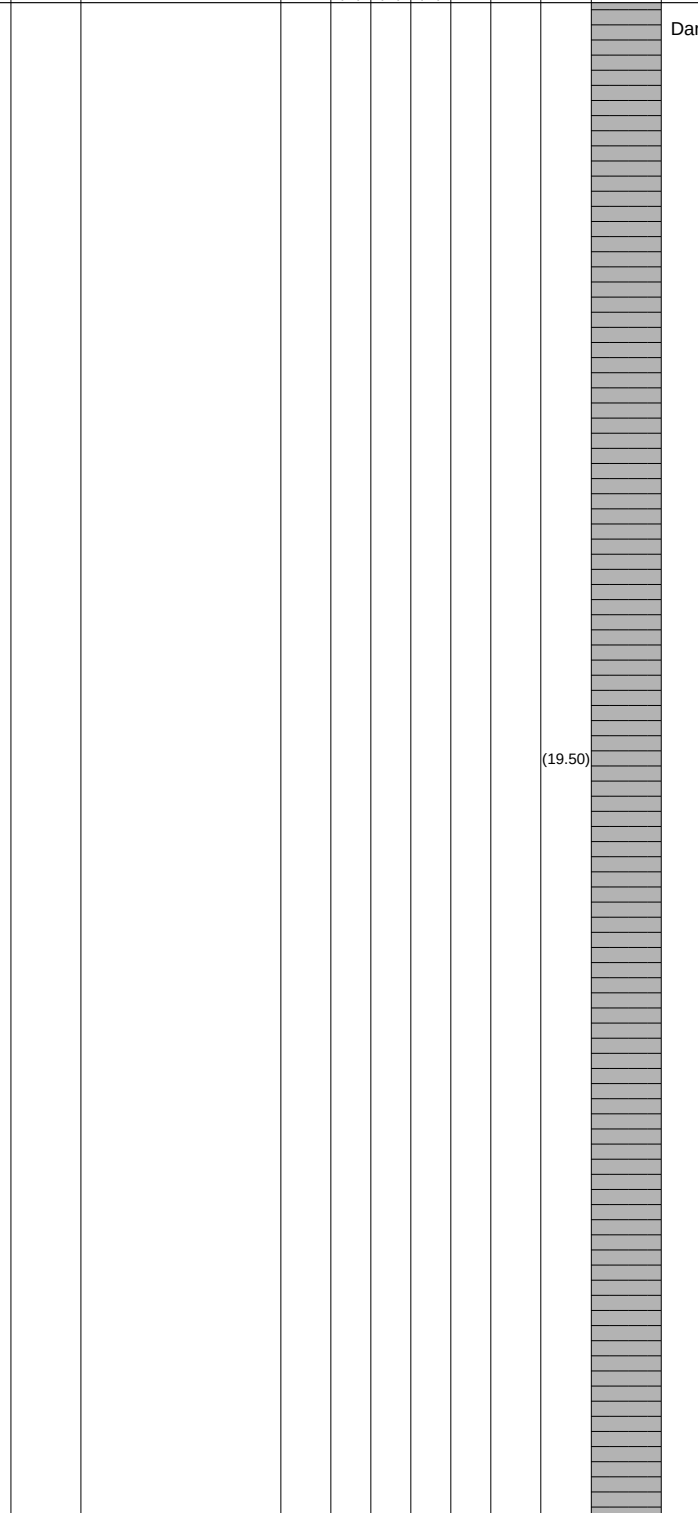


Open Hole Log

ROH-02
Sheet 2 of 3

Hole Type RO	Easting 376212.00	Northing 414253.00	Ground Level (m)	Scale 1:50
Project Name Burnt House Farm	Project No.		Start Date 2025-06-02	End Date 2025-06-02

Client Burnt House Farm Agricultural Ltd	Consultant Marengo Engineering & Geotechnical	Contractor Zord Geo Ltd
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Inst/ Backfill	Water Levels	Samples and Tests			Coring				Frac	Level	Depth (thickness)	Strata		
		Depth (m)	Type/ Ref	Results	Core Run	TCR (%)	SCR (%)	RQD (%)				Legend	Description	
										(19.50)		Dark grey MUDSTONE with frequent sandstone bands	10.5	
													11.0	
													11.5	
													12.0	
													12.5	
													13.0	
													13.5	
													14.0	
													14.5	
													15.0	
													15.5	
													16.0	
													16.5	
													17.0	
													17.5	
													18.0	
													18.5	
													19.0	
													19.5	
Continued on next page														

Remarks	Method, Plant, Stability, Dimensions	Logger



Open Hole Log

ROH-02
Sheet 3 of 3

Hole Type RO	Easting 376212.00	Northing 414253.00	Ground Level (m)	Scale 1:50
Project Name Burnt House Farm	Project No.		Start Date 2025-06-02	End Date 2025-06-02

Client Burnt House Farm Agricultural Ltd	Consultant Marengo Engineering & Geotechnical	Contractor Zord Geo Ltd
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Inst/ Backfill	Water Levels	Samples and Tests			Coring				Frac	Level (m)	Depth (m) (thickness)	Strata	
		Depth (m)	Type/ Ref	Results	Core Run	TCR (%)	SCR (%)	RQD (%)				Legend	Description
													As previous page.
										29.50			End of Borehole at 29.50m

Remarks	Method, Plant, Stability, Dimensions	Logger
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Open Hole Log

ROH-02
SUPPLEMENTARY INFO

Hole Type RO	Easting 376212.00	Northing 414253.00	Ground Level (m)	Scale 1:50
Project Name Burnt House Farm	Project No.		Start Date 2025-06-02	End Date 2025-06-02

Client Burnt House Farm Agricultural Ltd	Consultant Marengo Engineering & Geotechnical	Contractor Zord Geo Ltd
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Casing Diameter

Base Depth (m)	Casing Diameter (mm)	Remarks
1.50	120	

Remarks	Method, Plant, Stability, Dimensions	Logger
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