

Coal Mining Risk Assessment – Proposed Residential Development**Sources of information:**

Coal Authority Mining Report Ref 51001249427001

Wardell Armstrong LLP archive records

Published British Geological Survey geological mapping – SJ95SW

British Geological Survey Datasets available under the Open Government Licence v3.0.

Coal Authority Datasets available under the Open Government Licence v3.0.

Issue	Hazard	Site Affected (Yes/No) (Detail – where appropriate)	Consequences (where appropriate)	Recommended Mitigation Measures (where appropriate)
1. Are there any recorded coal mine entries within the site or within 20m of the site boundary?	<ul style="list-style-type: none"> Catastrophic collapse of mine entry leading to ground instability or voids at the ground surface. Settlement of the ground surface above/adjacent to the mine entry. Generation of crown holes at the ground surface. Mines gas emissions 	No: There are no recorded mine entries within or within 20m of the site boundary.	N/A	N/A
2. Is the proposed development in the likely zone of influence of past deep underground mining?	<ul style="list-style-type: none"> Ground subsidence. Ground instability. 	No: There is no recorded deep underground mining within influencing distance of the site.	N/A	N/A
3. Is the proposed development in the likely zone of influence of any present underground mine workings?	<ul style="list-style-type: none"> Ground subsidence. Ground instability, loss of ground, generation of crown holes. 	<p>Active Mining: There are no active underground mines in the locality.</p> <p>Future Mining: Reserves are available, but are unlikely to be worked in the foreseeable future.</p>	N/A	N/A

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4. Is the proposed development within the likely zone of influence of recorded underground workings at shallow depth (depths of less than 30m)?	<ul style="list-style-type: none"> Ground subsidence. Ground instability, loss of ground, generation of crown holes. 	No: The Coal Authority holds no records of abandoned shallow mine workings below the site.	N/A	N/A
5. Is there a possibility of unrecorded shallow mine workings and/or mine entries?	<ul style="list-style-type: none"> Ground subsidence. Ground instability, loss of ground, generation of crown holes. Catastrophic collapse of mine entry leading to ground instability or voids at the ground surface. Settlement of the ground surface above/adjacent to the mine entry. Mine gas emissions 	<p>Yes: The Coal Authority believe that there may be coal at or close to the surface which may have been worked some time in the past.</p> <p>In addition, unrecorded mine entries may exist on or within influencing distance of the development area.</p> <p>Reference to published geological mapping conjectures that the Ribbon seam of coal subcrops beneath the site, and dips at c25° to the west, and that the Two Foot seam subcrops to the east of the site and dips beneath the site.</p>	Ground subsidence associated with past shallow underground mining and mine entries can result in severe localised ground instability and damage to the built environment, harm to human health, injury or death of construction workers using the site.	<p>Shallow Mine Workings: Based upon the available CA data and BGS geological mapping, unstable coal mine workings may possibly be present at shallow/influencing depth beneath the site. The published geological mapping indicates that the Ribbon seam outcrops within the site and the Two Foot seam to the east of the site, and is indicated to dip towards the site. Therefore, there is the potential for unrecorded mine workings within either seam to be present at shallow depth beneath the site (<30m).</p> <p>An intrusive investigation would be appropriate in order to confirm the presence of any coal at shallow depth beneath the site. Thereafter, stabilisation as necessary, is recommended to facilitate secure development. This could be achieved by the drilling of a number of boreholes across the footprint of the proposed development. If shallow workings are confirmed then a programme of stabilisation works would need to be undertaken. Mitigation by excavation is not generally considered appropriate in view of the size and location of the site within an urban area. However, if coal is identified at very shallow depths then consideration could be given to the excavation and removal of the coal horizon, as an alternative to stabilisation by drilling and pressure grouting.</p> <p>Mine Entries: The potential exists for unrecorded mine entries to be located beneath the site, and construction work should</p>

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				proceed cautiously, recognizing that unstable entries could be present. Should any anomalous ground conditions be encountered during the course of the development works then specialist advice should be sought regarding further investigation and remedial works.
6. Is there a record of mine gas emissions within the site boundary?	<ul style="list-style-type: none"> Mixtures of noxious or explosive gases reaching the ground surface via superficial deposits, faulted/broken strata or poorly filled mine entries and entering structures, confined spaces etc, when an explosive or asphyxiating hazard may be generated. 	No: The Coal Authority has no record of any gas emissions requiring action within the site.	N/A	N/A
7. Is the proposed development in an area for which the Coal Authority is determining or has granted a licence to remove coal by underground methods?	<ul style="list-style-type: none"> Ground subsidence. Ground instability. 	No.	N/A	N/A
8. Are there known faults or other lines of weakness (eg. fissures) due to mining at the site?	<ul style="list-style-type: none"> Ground subsidence. Mixtures of noxious or explosive gases reaching the ground surface via faulted/broken strata and entering buildings, 	No: The Coal Authority has no record of lines of weakness at the site.	N/A	N/A

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	structures, confined spaces etc, when an explosive or asphyxiating hazard may be generated. <ul style="list-style-type: none"> Stepped rockhead profiles where there has been subsidence across faults, impacting settlement. Of proposed structures. 			
9. Has the site been subject to remedial works by, or on behalf of, the Coal Authority under its surface hazard call out procedures?	<ul style="list-style-type: none"> Indication of past and potential future subsidence issues on site. 	No.	N/A	N/A
10. Is the proposed development within the boundary of a surface mining/opencast site from which minerals have been removed by surface mining/opencast methods?	<ul style="list-style-type: none"> Potential of a ground gas source and/or migration pathway. Potential settlement problems. 	No.	N/A	N/A
11. Is the proposed development within 200m of a surface mining/opencast site from which minerals are being removed?	<ul style="list-style-type: none"> Development constraints associated with environment/noise/dust 	No.	N/A	N/A

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Assessment of Cumulative Impact of Mining Issues:

This risk assessment has identified the principal risk to the proposed development to be the potential presence of unrecorded mine entries and unrecorded coal mine workings at potential influencing depth beneath the surface; likely to be within the Ribbon and Two Foot seams of coal.

Accordingly, a potentially unstable shallow mining setting has been identified at the site. The proposed development is regarded to be sensitive to differential settlements and residual risks presented by shallow mine workings and crown-hole type collapses impacting upon both public safety and the structural longevity of development. In the circumstances it is appropriate to undertake targeted investigation to a minimum depth of 30m, to confirm whether there is a shallow mining setting at the site and to undertake stabilisation of any remnant voiding at the mining horizons. If coal is identified to be present at very shallow depths beneath the site then consideration could be given to stabilisation by excavation rather than stabilisation by drilling and pressure grouting.

Furthermore, construction should proceed with caution in consideration of the potential for the Yard coal to be present at very shallow depth beneath the site. Care should be taken to prevent any coal being exposed to air for an extended period of time due to the possibility of spontaneous combustion. Further guidance should be sought in the event of encountering coal at shallow depth (within the foundation excavations) or possible evidence of an unrecorded mine entry is identified. Consideration of the likely presence of shallow coal seams is recommended in the design and selection of foundation solutions for the new development.

Prior to carrying out any works which may intersect, disturb or enter any coal seams, coal mine workings or mine entries (within the ownership of the Coal Authority), the written permission of the Coal Authority shall be obtained (www.coal.gov.uk/services/permissions/index.cfm).

N/A = Not Applicable

Prepared by



K Sunderland, Geologist

Approved by



C Smith, Technical Director



The Coal
Authority

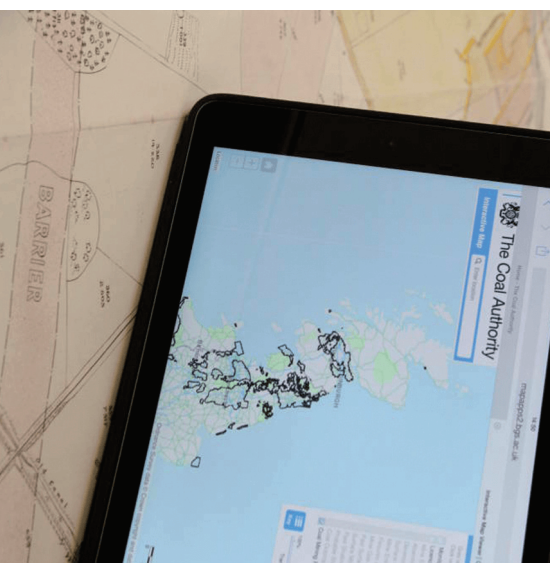
Resolving the **impacts** of mining

CON29M Non-Residential Mining Report

NEWFOLD FARM
SYTCH ROAD
BROWN EDGE
STOKE-ON-TRENT
ST6 8QX

Date of enquiry: 15 September 2016
Date enquiry received: 15 September 2016
Issue date: 15 September 2016

Our reference: 51001249427001
Your reference: NL05100-109



CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

Wardell Armstrong LLP

Enquiry address

NEWFOLD FARM, SYTCH ROAD, BROWN EDGE,
STOKE-ON-TRENT, ST6 8QX

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.gov.uk/coalauthority

[in /company/the-coal-authority](https://www.linkedin.com/company/the-coal-authority)

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Approximate position of property



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Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	Yes
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	No
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is not within a surface area that could be affected by past underground mining.

However the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered prior to any site works or future development activity. Your attention is drawn to the Comments on the Coal Authority information section of the report.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

There may however be mine entries/additional mine entries in the local area which the Coal Authority has no knowledge of.

5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31st October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10. Mine gas

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

11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Comments on the Coal Authority information

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In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

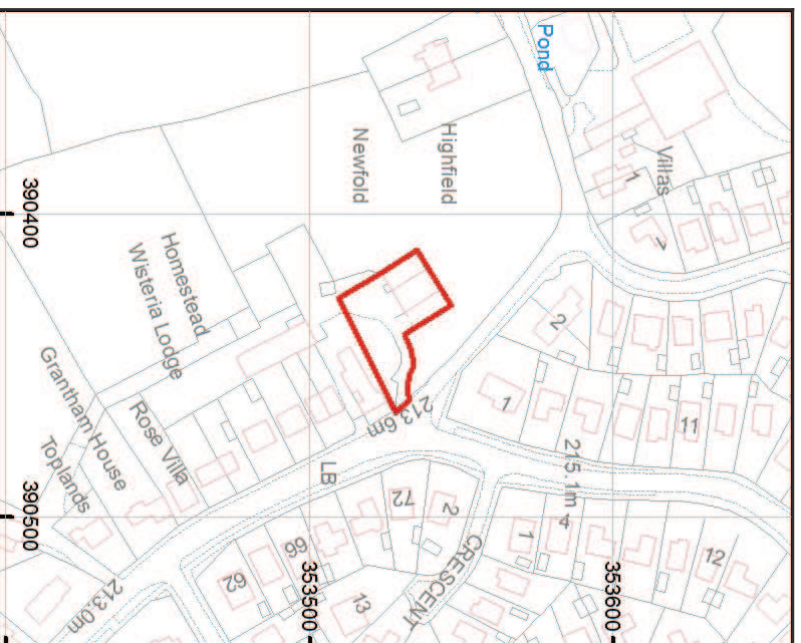
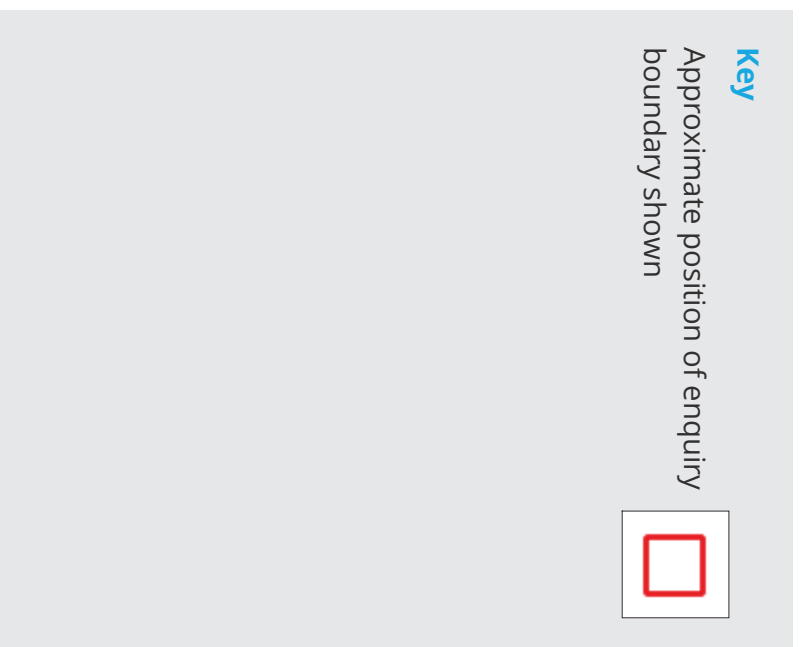
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How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

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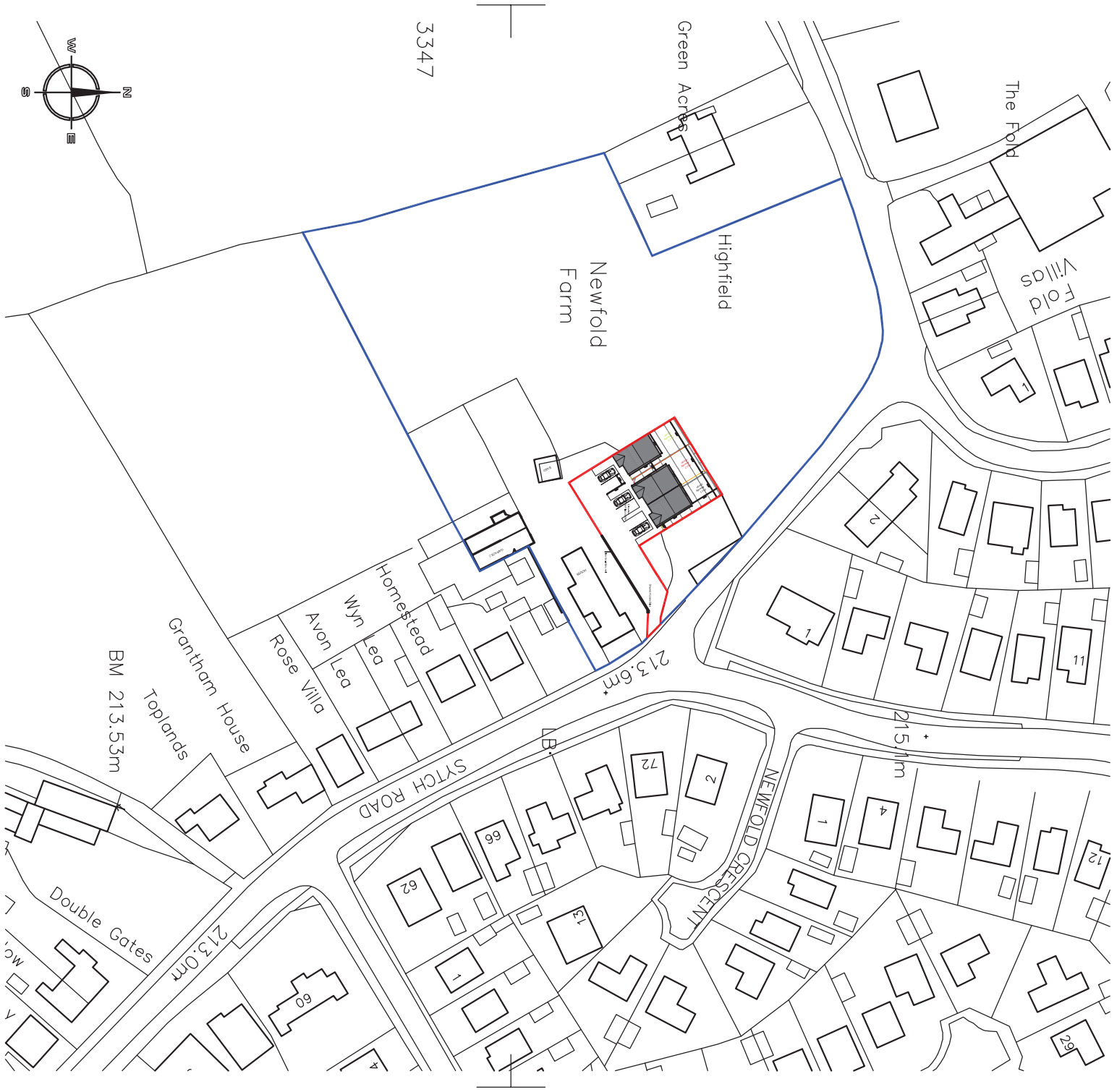
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Rev	Drawn	Comments	Date
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Client Mr A Slater
Project Newfold Farm, Sytch Road, Brown Edge
Title Site Location Plan
Project No 00537 _ AL(0)02
Drawing No.
Rev A

Status
Date JUNE 2016
Scale @A4 1:1250
Drawn NJH
Checked

Hewitt&Carr Architects
A: 2-4 Cross Street | Cheadle | Staffordshire | ST10 1NP
T: 01538 756888
E: enquiries@hcarcarchitects.co.uk
W: www.hcarcarchitects.co.uk