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Atkore

PROPOSED EXTENSION AT DELTA POINT BUSINESS PARK
GREET'S GREEN ROAD, WEST BROMWICH

Coal Mining Risk Assessment

August 2023

Report No P23065/01

Issued By:



Date Issued:

14th August 2023

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1.0 INTRODUCTION

Spilman Associates Limited have been appointed by Halas PBC on behalf of Atkore to carry out a coal mining risk assessment for a proposed industrial extension at Delta Point Business Park, Greets Green Road, West Bromwich, West Midlands, B70 9PL.

The proposed development layout is shown on the Architect's drawing reproduced at Appendix A and comprises a portal frame buildings for steel storage.

This report has been prepared in accordance with guidance issued by the Coal Authority and is intended to demonstrate that the site is or can be made stable and safe in relation to mining legacy issues.

2.0 SITE LOCATION & DESCRIPTION

2.1 Site Location

The site is located at National Grid Reference 398830E 291240N approximately 0.8km west of West Bromwich Town Centre (Figure 1).

2.2 Site Description

A site visit has not made as part of the current study although recent aerial photographs and maps have been reviewed.

The site of the proposed extension is rectangular in shape with approximate maximum dimensions of 34m by 14m (Figure 2).

The site currently comprises an open yard area bounded to the southeast and southwest by existing industrial buildings. An office block is located to the northwest with an access road to the northeast.

The site is flat and lies at an approximate elevation of 140m AOD.

3.0 SITE HISTORY

The site history has been assessed by reference to readily available historic Ordnance Survey (OS) Plans.

The 1st Edition 1887 OS Plan shows the site to comprise an area of open undeveloped ground immediately to the southeast of the Nelson Iron Works. Much of the site appears to be occupied by spoil. No mining related features are recorded on or immediately adjacent to the site, although an Old Coal Pit and Shafts are marked around 30m to the east of the site.

The site is unchanged on the 1904 and 1919 OS Plans with the Coal Pit and Shafts still present to the east.

The site remains unchanged on the 1938 OS Plan, although by this time some reconfiguring of the spoil heap within the site has occurred. The Coal Pits and Shafts to the east are no longer recorded.

By 1965 the current industrial buildings to the southeast of the site has been constructed together with a new building to the northwest of the site within the formerly marked Nelson Iron Works which is now simply referred to as "Works".

The 1977 OS Plan shows the building to the southeast to have been extended to the northwest and now abuts the site's southwest boundary.

Since 1977 the works building to the northwest of the site has been demolished and replaced with a smaller office unit.

The available information records the site as a spoil heap with a recorded Coal Pit and Shafts to the east of the site, however, the plans do not record any shafts on the site.

4.0 GEOLOGY & GROUND CONDITIONS

4.1 Geology

The site geology has been assessed by reference to the 1:10,000 scale Geological Map Sheet SO99SE (Dudley & Wednesbury) published by the British Geological Survey.

The site and entire surrounding area is shown to be underlain by made ground which, given the mining and industrial history of the area, may comprise predominantly colliery spoil and industrial waste materials.

The made ground is shown to be underlain by solid strata of the Pennine Middle Coal Measures of the Carboniferous Period. The Pennine Middle Coal Measures comprise interbedded mudstone, siltstone and sandstone with numerous historically important seams of coal, fireclay and ironstone.

The Pennine Middle Coal Measures is overlain by the Etruria Formation and a north south trending boundary with this strata is marked around 80m to the west of the site.

A north-south trending subcrop of the Two Foot Coal and Brooch Coal is marked crossing the eastern tip of the site.

The dip of the solid strata is not recorded but is anticipated to be at a few degrees towards the west. This would suggest the presence of both the Two Foot Coal and Brooch Coal at shallow depth beneath the site.

An unnamed east-west trending geological fault is marked around 30m north of the site. The fault downthrows to the north, although the actual throw is not recorded. The strata to the north comprises Etruria Formation.

A shaft is shown on the Geological Map 70m to the northeast of the site. This comprises part of the Bush Farm Colliery and recorded the Thick Coal at 42.1m and the New Mine Coal at 50.3m.

4.2 Ground Conditions

Previous boreholes were drilled around 130m to the southeast of the site by Spilman Associates in 2006. Copies of the borehole records are reproduced at Appendix B.

The boreholes indicated between 4.30m and 4.70m of made ground overlying weathered Pennine Middle Coal Measures. The made ground comprised very loose to medium dense silty gravelly sand of ash and clinker with occasional refractory brick and slag. The weathered Pennine Middle Coal Measures comprised soft to firm clay.

5.0 **MINING**

A Coal Authority Consultants Mining Report has been obtained for the site and is reproduced at Appendix C.

The Coal Authority indicates that the site lies within the zone of likely physical influence of workings in three seams of coal at depths between 46m and 61m. The workings are in the Thick Coal, Heathen Coal and New Mine Coal with the last year of workings recorded as 1908, 1909 and 1911 respectively.

In addition the site lies in an area where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30m deep). Such workings could be in the Two Foot Coal and/or the Brooch Coal.

There are two recorded mine shafts within the site or very close to the southern tip of the site. Both shafts are recorded to have worked coal, although there are no records of either shaft having been stabilised or received any treatment. A Shaft Plan and Data Sheets have been obtained from the Coal Authority and are reproduced at Appendix D. No details of the shaft depths or diameters are recorded on the shaft data sheets.

However, reference to the Coal Authority Interactive Map Viewer suggests an assumed shaft diameter of 2.5m with a stated departure (potential missplot) of 10m.

The shaft depths are not indicated, however, given that coal workings are recorded to depths up to 61m it would seem likely that the shafts extend to at least this depth.

6.0 GROUND MODEL

A ground model has been developed for the site based on available geological, mining and borehole information and is shown on Figure 3. The model suggest the following sequence of seams and strata beneath the site to a depth of 70m:

Seam/Strata	Thickness* (m)	Depth+ (m)
Made ground/ Superficial deposits	6	6
Two Foot Coal	0.5 – 1.0	9
Brooch Coal	0.5 – 1.5	14
Thick Coal	5.5 – 12.0	46
Heathen Coal	0.9 – 1.8	49
Rubble Coal	0.5 – 1.8	52
Stinking Coal	0.5 – 2.3	57
New Mine Coal	1.0 – 3.5	61

* range of thicknesses of coal seams from geological map

+ assumed depth to base of seam or strata

7.0 SITE SPECIFIC RISK ASSESSMENT

7.1 Mine Workings

The potential for shallow abandoned mine workings to impact surface stability can be assessed in accordance with CIRIA C758D (2019) "Abandoned Mine Workings Manual".

Residual voids within mined coals seams have the potential to migrate upwards through the progressive collapse of the roof strata. The distance a void can migrate depends on a number of factors including the nature of the overlying rock strata. The maximum upward void migration is generally taken as 10 times the original void height (often taken as the maximum seam thickness) for thin seams. The potential for the made ground or overlying superficial deposits to reduce upward void migration is generally ignored where these deposits are thin.

The Coal Authority have records of workings in two three seams of coal between 46m and 61m (to the base of each seam). The workings in the Heathen Coal at 49m and New Mine Coal at 61m are considered to be too deep to impact surface stability.

The ground model would suggest the top of the Thick Coal being at a depth of 34m (assuming a worst case seam thickness of 12m). The Coal Authority report suggests a worked a thickness of 9.14m.

The full height of the Thick Coal was rarely worked as single seam. More commonly it was worked in a series of leaves often between 2m and 3m in height, The first set of workings would then be allowed to collapse before further workings were carried out. Accordingly it is not usual to take 10 times the seam thickness as the worst case upward void migration and maximum void heights of around 3m are often considered. This would give a maximum upward void migration of 30m and since there is assumed to be

around 29m of rock cover then any residual voids could just have the potential to impact surface stability.

In addition any unrecorded workings in the shallower Two Foot Coal and Brooch Coal could also have the potential to impact surface stability.

The above assessment is based on published nearby data rather than site specific data and consequently some variations could occur. An intrusive mining investigation is recommended to verify the ground model and determine any requirements of remedial works.

7.2 Mine Entries

There is one recorded shaft within the proposed extension footprint and one approximately 3m to the southeast. Neither of the shafts is recorded to having received any treatment.

The statistical risk of the collapse of an individual shaft is small. There are many thousands of untreated shafts within the Black Country yet actual collapse incidents are limited to a few each year.

However, predicting when or if a collapse might occur is virtually impossible and it will depend on numerous factors including the shaft size (depth and diameter) and the nature of any infill material.

Old shafts may be empty, partially filled or fully filled. However, the vast majority of shafts are infilled to some degree from some form of staging or obstruction or are completely filled particularly where the shaft is shallow. Deterioration of staging or obstructions supporting the fill can eventually lead to the collapse of the infilling. When shaft linings deteriorate, the linings may collapse into an empty shaft or one which has lost its filling, thereby creating a crater at surface. Depending on the nature of the ground the crater can be several times the shaft diameter.

Shaft collapses can be triggered by changes in equilibrium as a result of groundwater movement, degradation, vibration, ground movements or increase in surface loadings.

The maximum extent of a shaft crater is generally taken as the angle of repose of the superficial deposits and is shown of the shaft ground model at Figure 4.

The potential worst-case zone of influence of a shaft collapse can be calculated taking into account the thickness of superficial deposits, the departure (potential difference between the actual and plotted position) of the shaft and the diameter/maximum width. The maximum shaft diameter is not detailed on the Shaft Plan and Data Sheets reproduced at Appendix D. However, reference to the Coal Authority Interactive Map Viewer suggests an assumed diameter of 2.5m. The potential difference between the actual and plotted position of the mine entry (departure) is recorded as 10m on the Coal Authority Interactive Map Viewer. The probable thickness of made ground and superficial deposits is estimated at 6m.

Taking into account the above factors potential worst-case zones of influence can be calculated as follows:

Shaft No	Maximum Diameter (m)	Depth of Superficial Deposits (m)	Potential Departure (m)	Zone of Influence (m)
398291-058	2.5	6.0	10.0	17.25
398291-059	2.5	6.0	10.0	17.25

The potential worst-case zones of influence of shaft collapses are shown on Figure 5. The proposed extension is within the zone of influence from both shafts.

As in all mining areas there would remain a slight risk of unrecorded mine entries being present on or within the site.

7.3 Other Risks

Coal seams, worked or otherwise, may pose a surface ground gas hazard due to the presence of methane and carbon dioxide. If underground burning of coal seams or workings has occurred then carbon monoxide could also be present.

Ground gases could migrate to the surface through fractures and fissures in the solid strata or via shafts within or adjacent to the site.

8.0 **MITIGATION STRATEGY**

8.1 Mine Workings

This Coal Mining Risk Assessment indicates that recorded workings in the Thick Coal may be sufficiently shallow to have the potential to impact surface stability. In addition any unrecorded workings in the shallower Two Foot Coal and Brooch Coal may have the potential to impact surface stability.

Accordingly it is recommended that a mining investigation comprising 2 rotary boreholes be carried out beneath the proposed extension. The boreholes should extend to below the base of the Thick Coal and to a nominal depth of 50m.

The boreholes should be used to validate or amend the postulated ground model and allow a more accurate quantification of the risk of instability.

In the event of workings being sufficiently shallow to have the potential to impact surface stability then a programme of stabilisation works should be

carried out which is likely to include grid drilling and grouting beneath the extension footprint (together with a suitable curtilage around the extension).

It will be necessary to obtain Coal Authority approval for all investigation and stabilisation works. A permit will be required from the Coal Authority which typically takes four weeks to obtain.

8.2 Mine Entries

8.2.1 General

This Coal Mining Risk Assessment indicates that both shafts have the potential to impact the proposed extension in the unlikely event of a collapse occurring.

For any ongoing use of the site not requiring planning approval responsibility for any damage associated with the shafts would rest with the Coal Authority under the Coal Mining Subsidence Act. However, in the event of any redevelopment of the site covered by a planning application the Coal Authority would expect that the shafts would be located and stabilised, or their presence disproved as a condition of the planning.

8.2.2 Locate & Stabilise Shafts

As a development requiring planning permission is proposed then the two shafts should be either located by grid drilling on a spiral 1m centre grid commencing at the best-plot shaft position or disproved by grid drilling within their potential zone of influence. The extent of proposed shaft probing work within the extension footprint is shown on Figure 5. It should be noted that the Coal Authority may also require that the probing works extend inside the adjacent building.

Once the shafts are located they should be stabilised by drilling to the base and pressure grouting with a 10:1 pulverised fuel ash and cement grout. Depending on grout takes a full or partial depth re-drill and regrout would be required.

A reinforced concrete cap should be constructed above the shaft. The cap should ideally be founded at rockhead (or other competent horizon) and should be a minimum of twice the shaft diameter. The cap should be fully designed by a Structural Engineer and approved by the Coal Authority.

It should be noted that the Coal Authority may require that the shafts are located before planning permission is granted to allow for any discrepancy between the actual shaft locations compared to their best-plot positions.

8.2.3 Coal Authority Approval

It will be necessary to obtain Coal Authority approval for all shaft investigation and stabilisation works. A permit will be required from the Coal Authority which typically takes four weeks to obtain.

8.2.4 Liability During Works

It should be noted that liability for any damage associated with the collapse of the shafts during any investigation or stabilisation works would rest with the Client and due to the proximity of nearby properties appropriate insurances would be required by the Coal Authority.

8.2.5 Building Over or Close to Shafts

Building above or close to shafts even once located and stabilised is not generally acceptable to the Coal Authority (see attached Coal Authority “Policy For Building Over Or Within The Influencing Distance Of A Mine Entry” reproduced at Appendix E).

However, where no other development options are available and subject to appropriate engineering and safety considerations the Coal Authority may accept an industrial extension of the nature proposed. Early discussions are recommended with the Coal Authority to ensure that their requirements can be adequately addressed in any stabilisation and building works.

8.3 Other Risks

The risk of the site being impacted by ground gases could be assessed by undertaking a programme of ground gas monitoring. Alternatively it may be acceptable to provide ground gas protection measures in lieu of monitoring. Such measures could include the provision of gas membrane and sub-slab ventilation.

The potential for the development works including the investigation and stabilisation of mine workings or shafts, should be considered in assessing the potential for mine gases to impact the proposed extension.

9.0 **CONCLUSIONS & RECOMMENDATIONS**

This Coal Mining Risk Assessment has indicated that both recorded and possible unrecorded mining beneath the site may be sufficiently shallow to have the potential to impact surface stability. Accordingly, appropriate mining investigation works are recommended. If these identify an unacceptable risk of surface instability then stabilisation by grid drilling and grouting would be required.

Two shafts are recorded within influencing distance of the site. It is recommended that works be carried out to locate the two shafts or to disprove their presence. If the shafts are identified they should be drilled, grouted and capped. Building foundations should be designed to accommodate any residual impacts associated with the stabilised workings and shafts.

Appropriate investigation and remedial proposals should be agreed with the Coal Authority and carried out under the necessary Coal Authority Permit.

Following completion of the above works, and subject to the recommendations contained in this report, it is considered that the site would be stable (with respect to mining legacy issues) and capable of safe development.

FIGURES



Reproduced from the Ordnance Survey Map © Crown Copyright
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Geotechnical &
Environmental
Engineers

Tel: 01384 820578

Client
Atkore

Scheme
Greets Green Road
West Bromwich

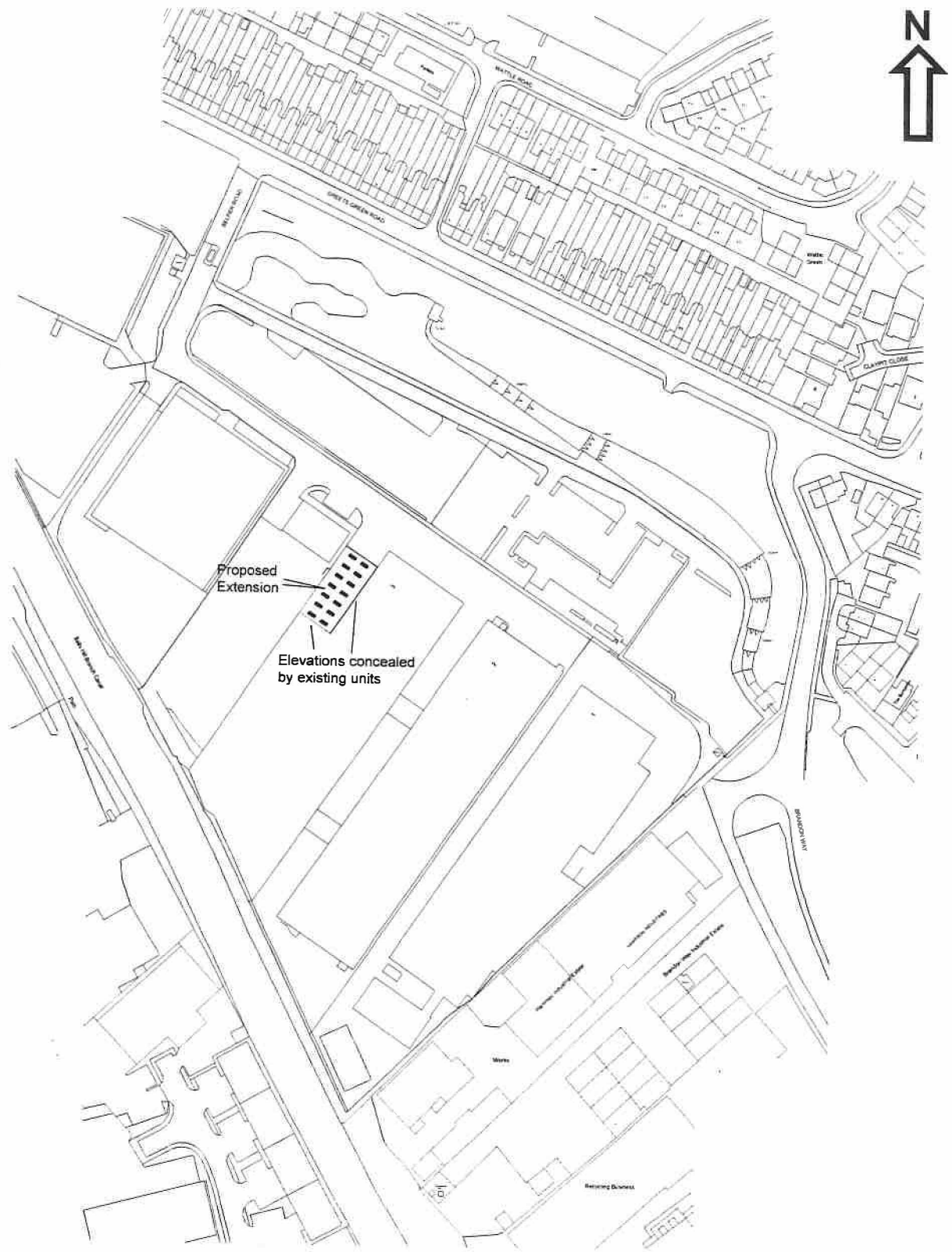
Date
August 2023

Ref
P23065/01

Title
Site Location Plan

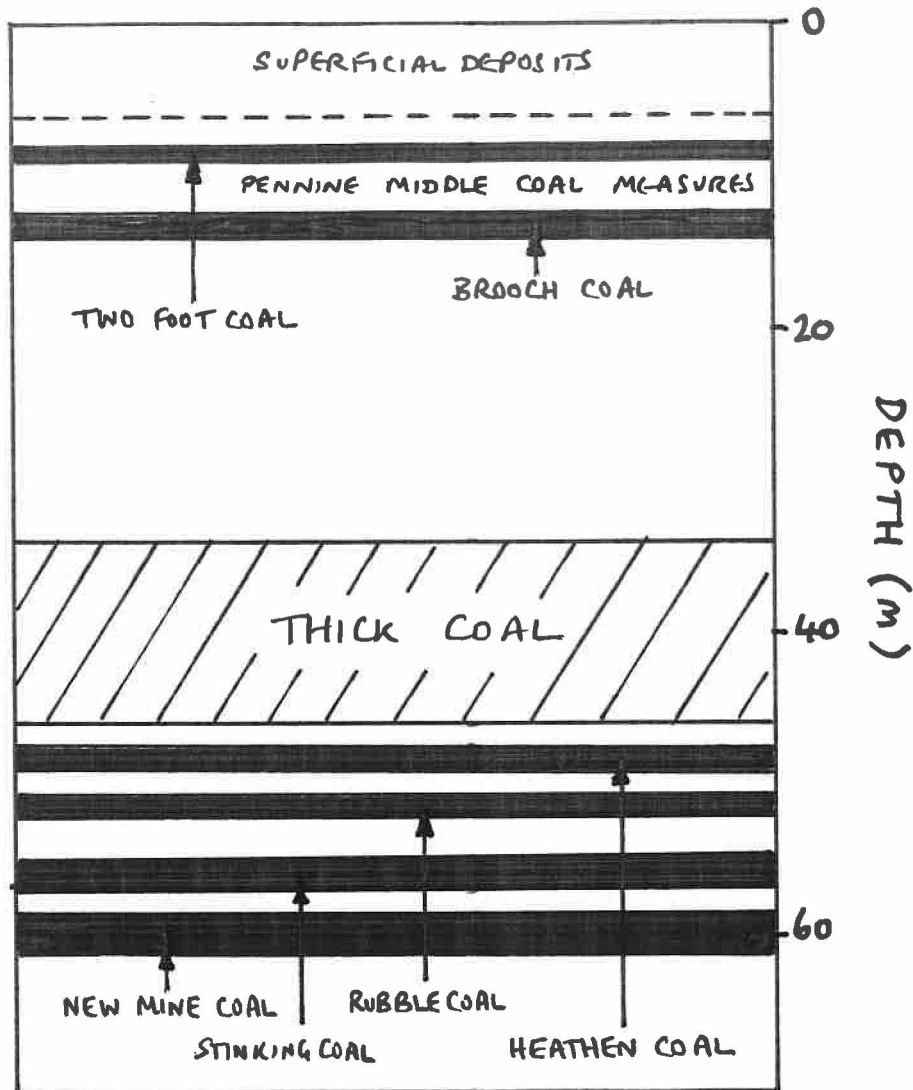
Scale
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Fig
1

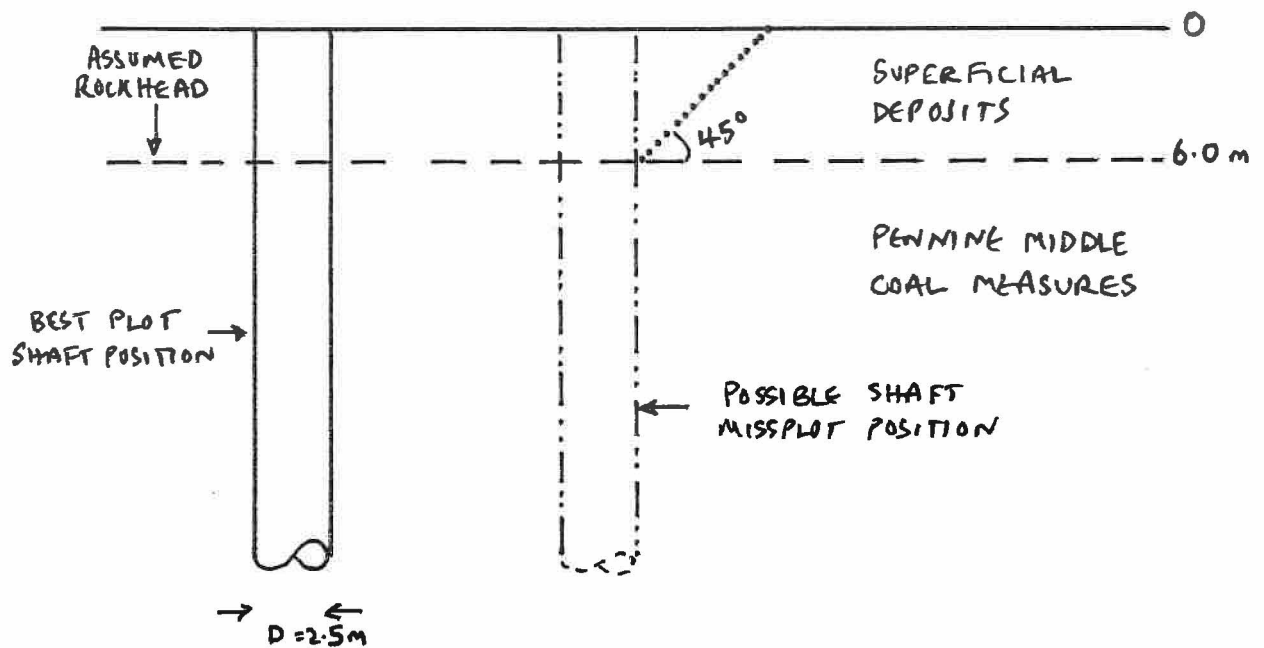
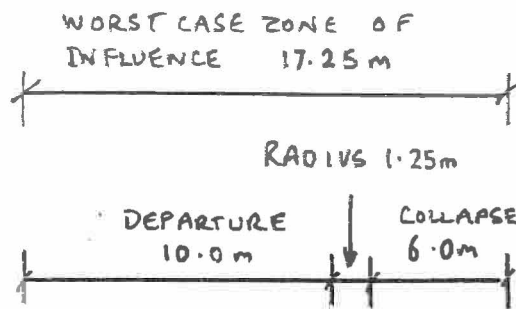


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 Licence No: AL100014630.

SPILMAN ASSOCIATES Geotechnical & Environmental Engineers Tel: 01384 820578	Client Atkore		Title Site Layout Plan	
	Scheme Greet's Green Road West Bromwich			
	Date August 2023	Ref P23065/01	Scale 1:2500	Fig 2



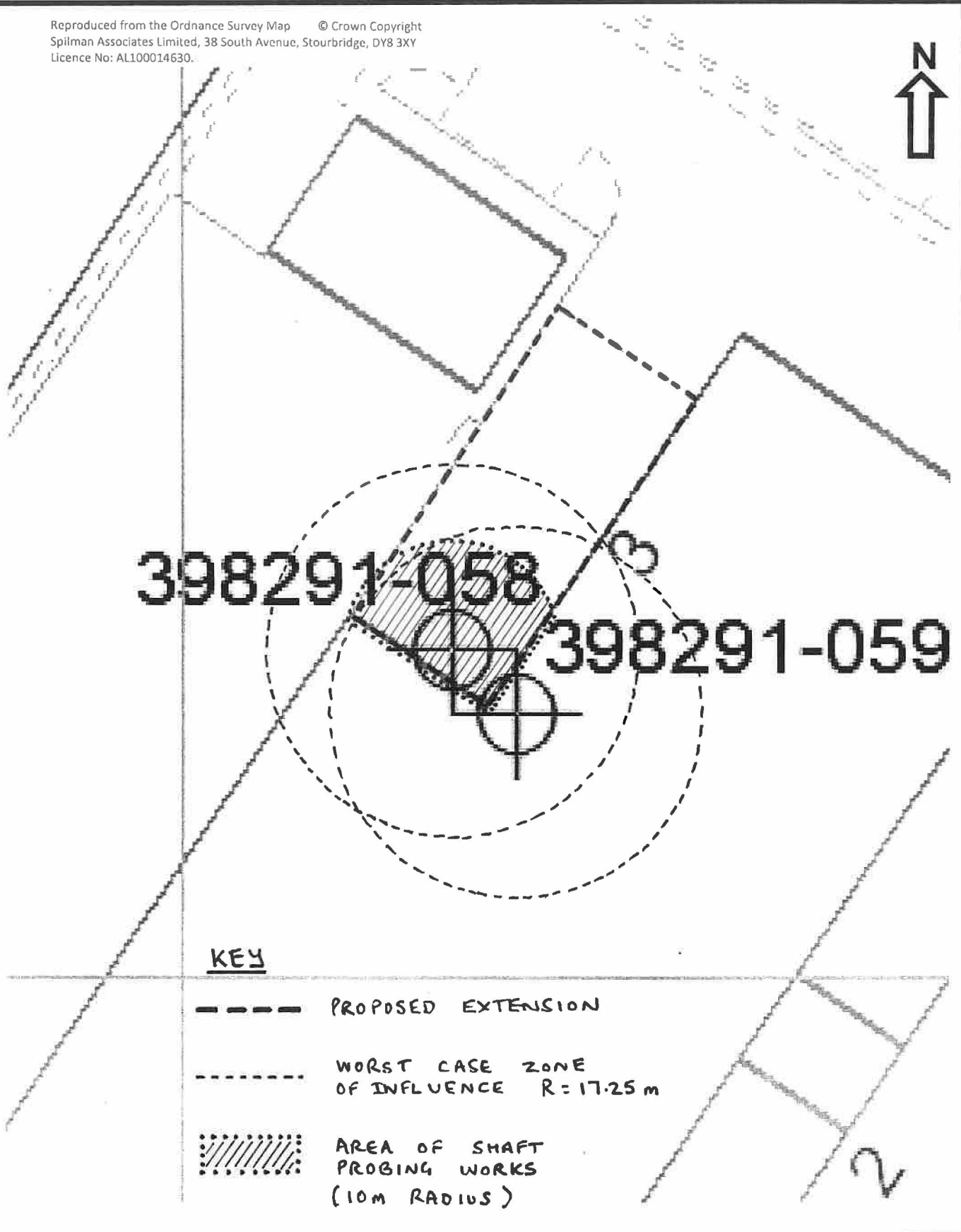
SPILMAN ASSOCIATES Geotechnical & Environmental Engineers Tel: 01384 820578	Client Atkore	Title Ground Model		
	Scheme Greets Green Road West Bromwich			
	Date August 2023	Ref P23065/01	Scale Not to scale	Fig 3



NOTE

ROCKHEAD DEPTH TO BE VERIFIED DURING SHAFT SEARCHING WORKS

<p>SPILMAN ASSOCIATES Geotechnical & Environmental Engineers Tel: 01384 820578</p>	<p>Client Atkore</p>	<p>Title Shaft Ground Model</p>		
	<p>Scheme Greets Green Road West Bromwich</p>			
	<p>Date August 2023</p>	<p>Ref P23065/01</p>	<p>Scale Not to scale</p>	<p>Fig 4</p>



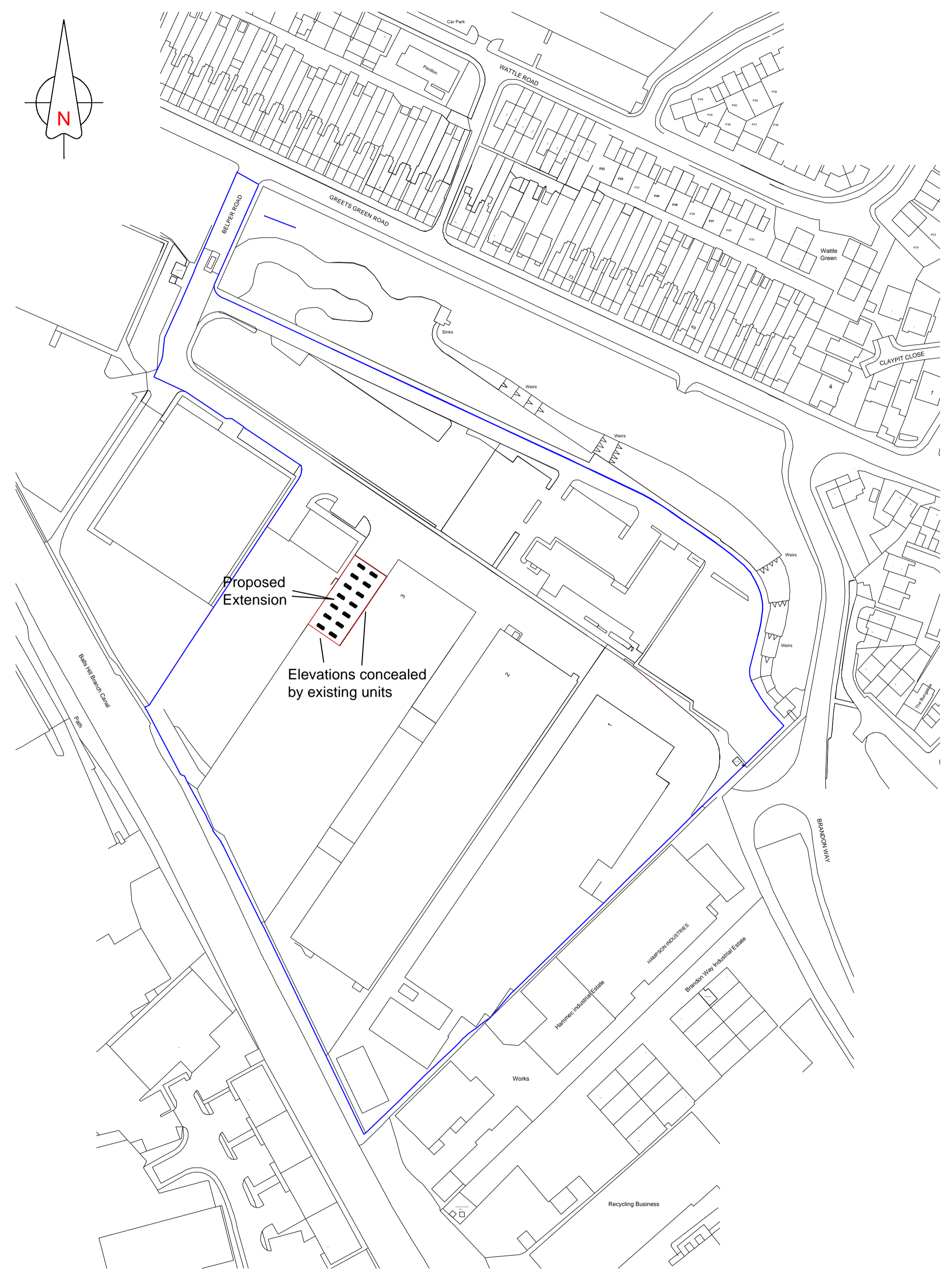
KEY

- PROPOSED EXTENSION
- WORST CASE ZONE OF INFLUENCE R=17.25m
- AREA OF SHAFT PROBING WORKS (10m RADIUS)

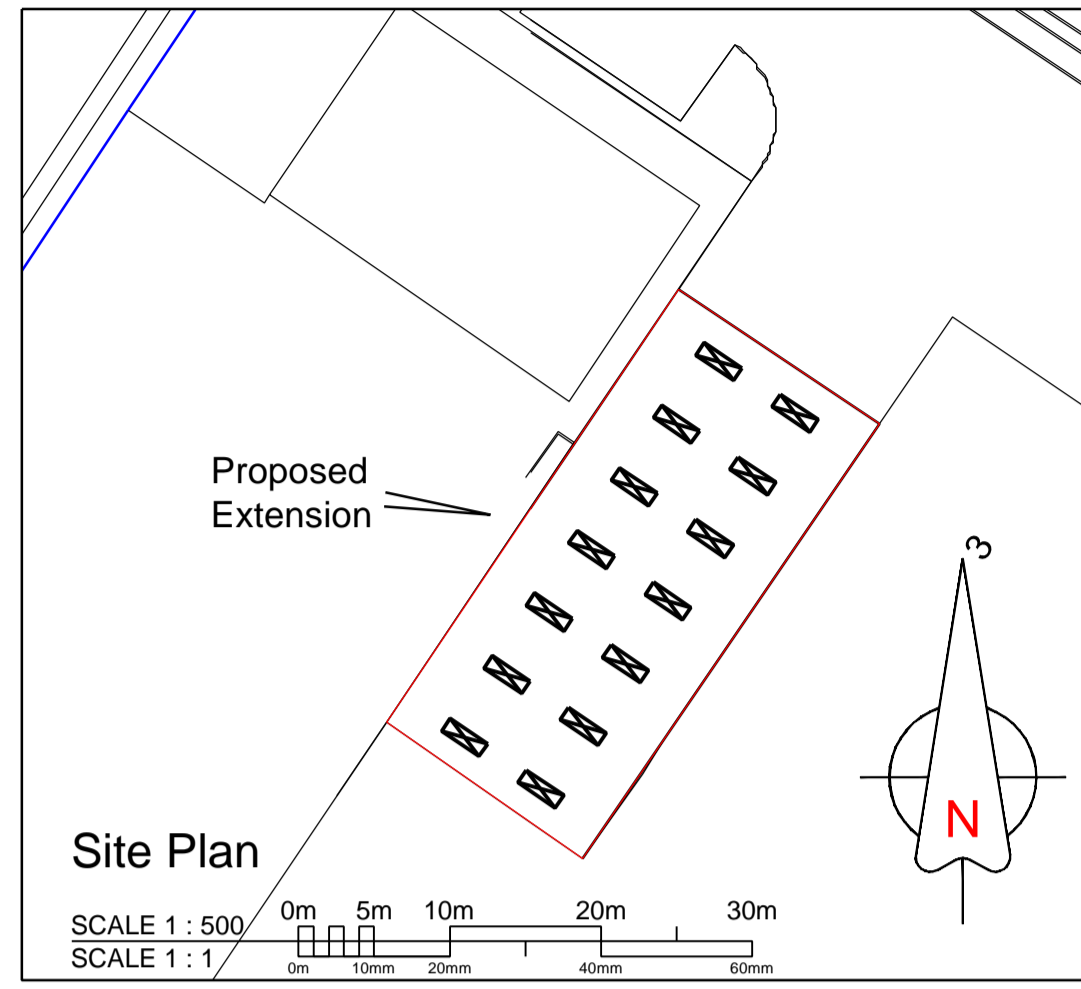
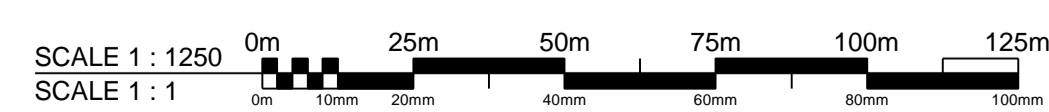
SPILMAN ASSOCIATES Geotechnical & Environmental Engineers Tel: 01384 820578	Client Atkore		Title Shaft Zones of Influence	
	Scheme Greets Green Road West Bromwich			
	Date August 2023	Ref P23065/01	Scale 1:500	Fig 5

APPENDIX A

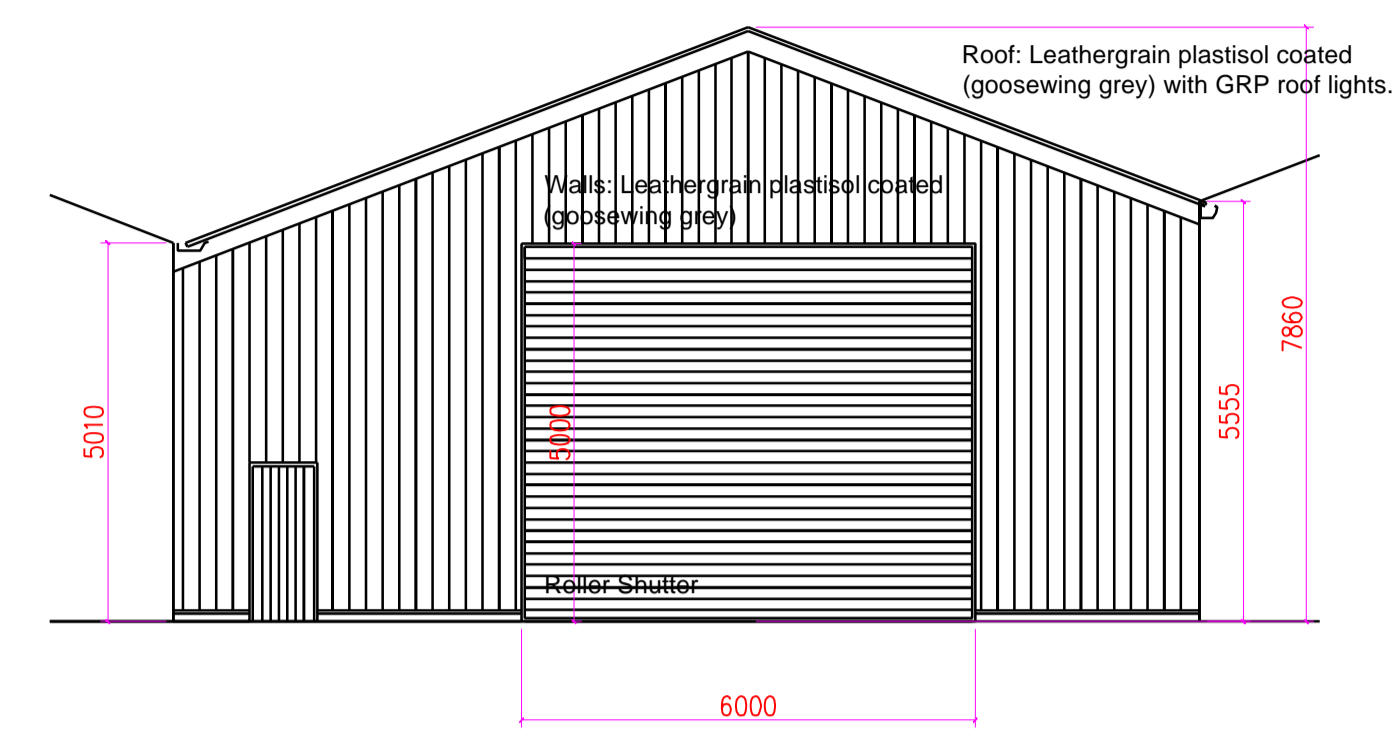
Proposed Extension - Delta Point Business Park, Greet's Green Road, West Bromwich.



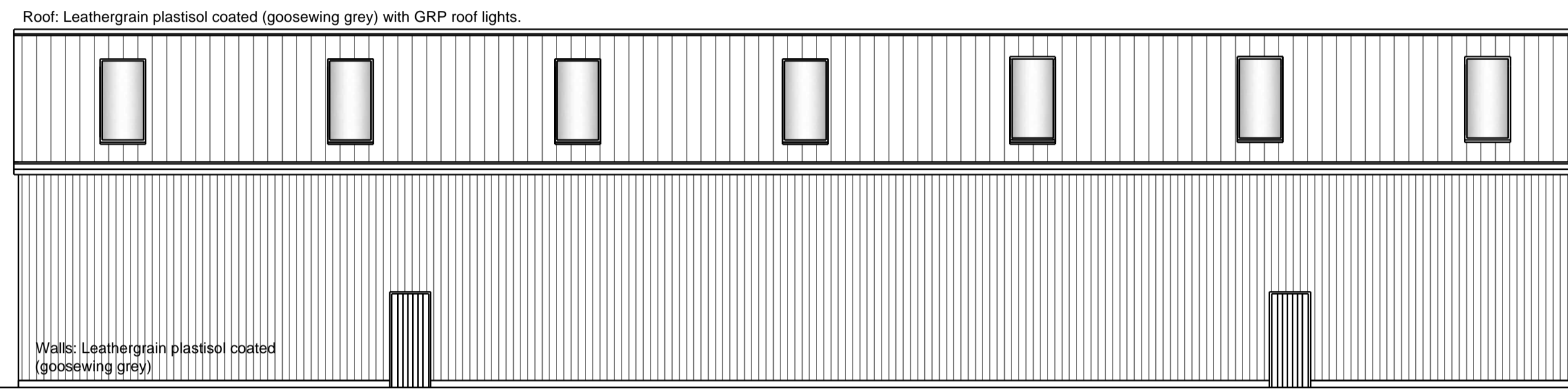
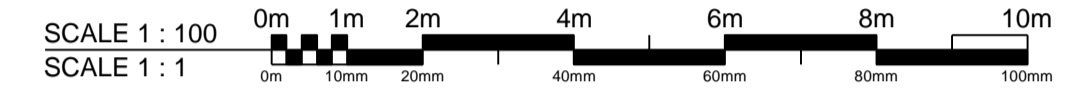
Location Plan - Scale 1:1250



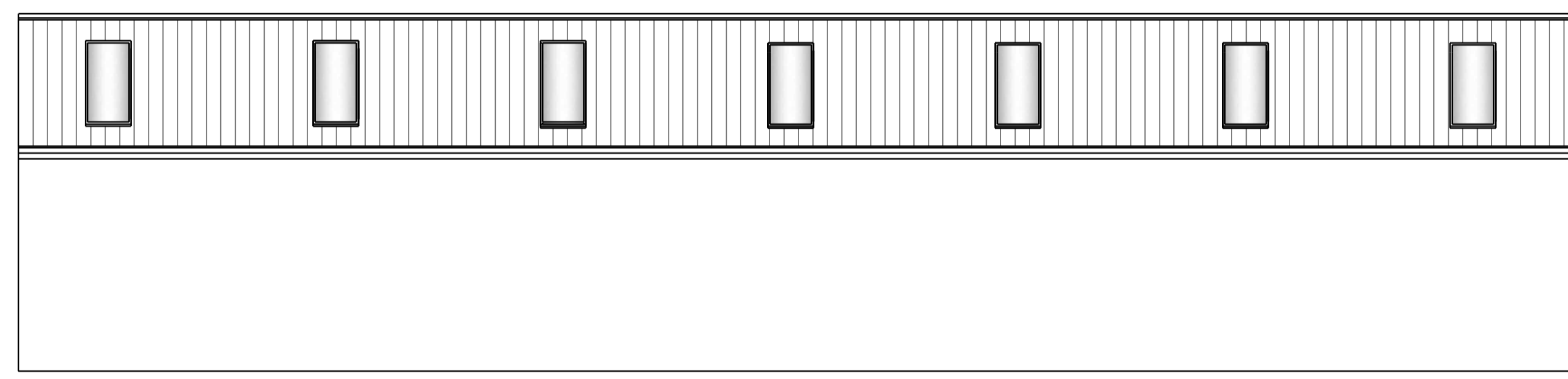
Site Plan



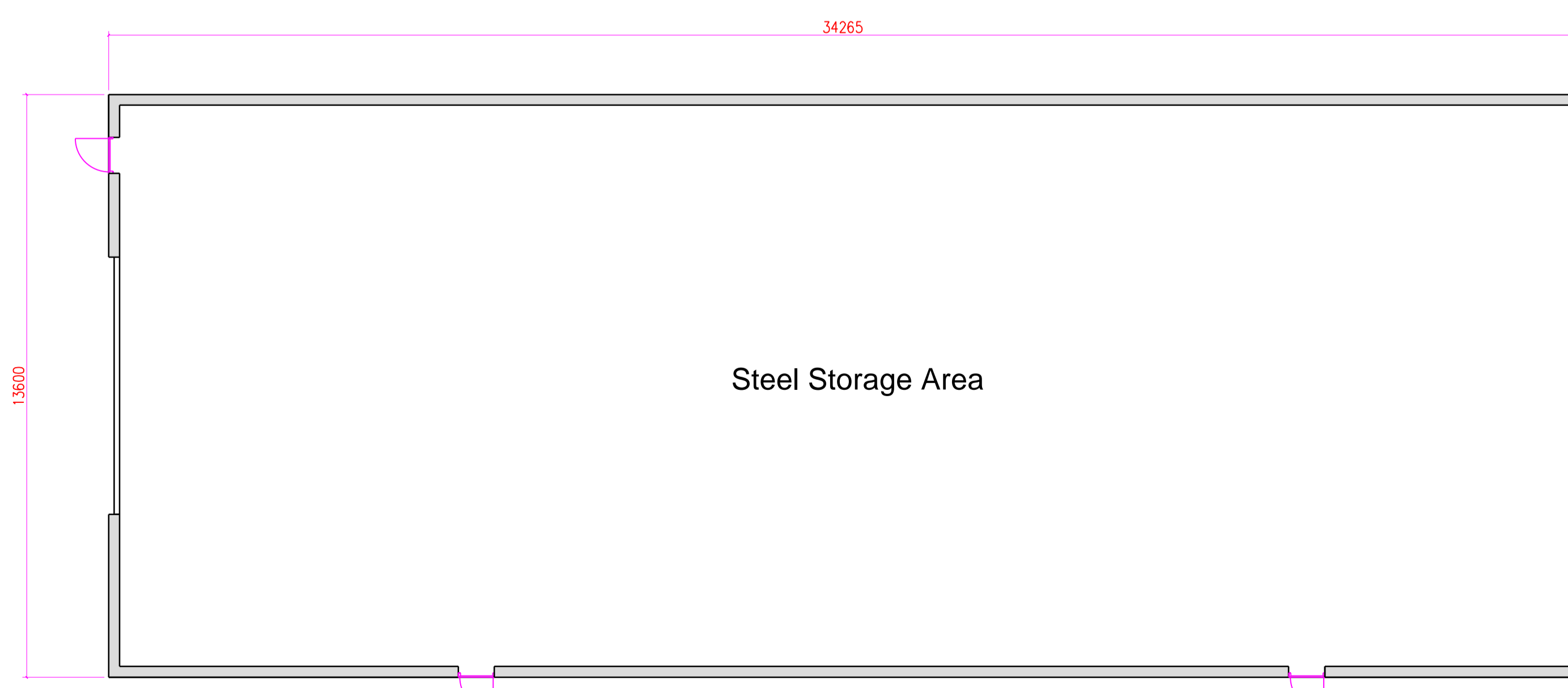
Entrance Elevation



Side Elevation (North West Facing)



Side Elevation (South East Facing - partially concealed by adjacent unit)



Floor Plan

DESIGNERS RISK ASSESSMENT

At all times the Contractor shall strictly observe the requirements of the Health & Safety at Work, etc. Act 1974 and all relevant health & safety regulations relating thereto, including where applicable the Construction (Design and Management) Regulations, 2015. Without prejudice to the generality of the foregoing, the attention of the Contractor is specifically drawn to any principal residual hazards where noted in this or any accompanying documents. The risks are associated therewith must be adequately and effectively managed, using all suitable and appropriate measures to safeguard all work persons, building occupants, visitors, adjoining occupants and members of the public from harm or injury.

The Contractor must comply fully with the Construction (Health, Safety and Welfare) Regulations 1996 and provide any necessary equipment, offices, welfare facilities and the like to ensure a safe place of work.

Allow all costs in complying with the relevant Codes, Regulations, Agreements and Statutes governing welfare facilities relating to the Building Industry and provide attendance and maintain all amenities throughout the duration of the contract to a suitable standard.

The Contractor shall indemnify the Employer against any liability for claim, or in legal proceedings, resulting from any breach of the relevant legislation.

The Contractor shall have regard particularly to the following health and safety matters in that:-

- x He has a clearly defined safety policy and that all site operatives (including sub-contractors) are aware of it.
- x He has established satisfactory and safe systems of working and storage (including chemical and flammable liquid storage).
- x He provides all sanitary, welfare, canteen and first aid facilities.
- x Safe passage is maintained by the Contractor for pedestrians near the Works.
- x Have pre-determined emergency procedures including those for fire prevention and escape.
- x Monitoring procedures to ensure compliance with site safety rules, selection and management procedures, health and safety standards and statutory requirements.

For the purpose of this project the General Contractor will assume the responsibilities of the Principal Designer.

ALL WORKS TO COMPLY WITH BUILDING REGULATION APPROVAL AND BRITISH STANDARD CODES OF PRACTICE. ALL MEASUREMENTS TO BE VERIFIED ON SITE & FIGURED DIMENSIONS TO TAKE PREFERENCE TO SCALED DIMENSIONS

Preliminary

A	Jun. 2023	Minor Elevations Added.
-	Date.	Revisions.

**Proposed Extension,
Delta Point Business Park,
Greet's Green Road,
West Bromwich.
B70 9PL**

FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.			
Scale	Job No.	Dwg No.	Rev.
1:1250 & 1:100	ARF/JK	1744 - 01	A
Date: June 2023			

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APPENDIX B

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BOREHOLE NO: BH1

BOREHOLE RECORD

Client: Unistrut Limited **Excavation Method:** Mini-rig
Site: Unit 2, Delta Point, Greets Green **Logged By:** HDS
Date: 22/09/06 **Job Number:** J06144

Depth (m)	Strata Description
0 – 0.34	Concrete slab (MADE GROUND)
0.34 – 4.70	Very loose to medium dense red brown and black very silty gravelly sand of ash and clinker with occasional refractory brick and slag (MADE GROUND) ... very oily below 3.80m ... becoming very clayey at 4.30m
4.70 – 5.90	Firm mottled brown and greenish grey slightly sandy slightly gravelly CLAY. Gravel is lithorelicts of mudstone (WEATHERED COAL MEASURES)

Groundwater Observations: Water entry between 4.00m and 5.00m

Samples Taken: Continuous sample

Insitu Testing:	Blows for 75mm Penetration		
	Depth (m)	SPT (N Value)	Blows for 75mm Penetration
	1.00 – 1.45	1	2/1/-/1/-
	2.00 – 2.45	17	3/4/7/4/3/3
	3.00 – 3.45	26	4/5/5/3/8/10
	4.00 – 4.45	8	2/1/2/3/2/1
	5.00 – 5.45	11	2/3/2/3/3/3
	5.45 – 5.90	13	2/3/3/3/4/3

Instrumentation: None

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BOREHOLE NO: BH2

BOREHOLE RECORD

Client: Unistrut Limited **Excavation Method:** Mini-rig
Site: Unit 2, Delta Point, Greets Green **Logged By:** HDS
Date: 22/09/06 **Job Number:** J06144

Depth (m)	Strata Description
0 – 0.31	Concrete slab (MADE GROUND)
0.31 – 4.30	Very loose to medium dense red brown and black very silty gravelly sand of ash and clinker with occasional refractory brick and slag (MADE GROUND) ... very oily below 4.00m
4.30 – 5.45	Soft becoming firm friable mottled brown and light grey slightly sandy slightly gravelly CLAY. Gravel is lithorelicts of mudstone (WEATHERED COAL MEASURES)

Groundwater Observations: Water ingress between 4.00m and 5.00m

Samples Taken: Continuous sample

Insitu Testing:

Depth (m)	SPT (N Value)	Blows for 75mm Penetration
1.00 – 1.45	3	1/2/1/1/-/1
2.00 – 2.45	9	1/2/2/2/3/2
3.00 – 3.45	33	3/3/4/7/10/12
4.00 – 4.45	25	4/6/3/7/9/6
5.00 – 5.45	15	4/3/4/3/4/4

Instrumentation: None

APPENDIX C



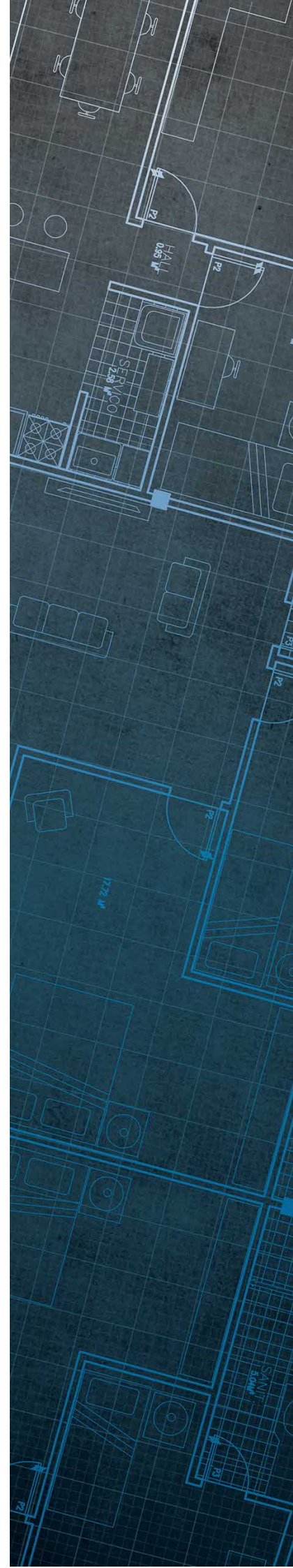
The Coal
Authority

Consultants Coal Mining Report

Greets Green Road
West Bromwich
Sandwell
B70 9PL

Date of enquiry: 26 July 2023
Date enquiry received: 26 July 2023
Issue date: 26 July 2023

Our reference: 51003368985001
Your reference: P23065



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

SPILMAN ASSOCIATES LIMITED

Enquiry address

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West Bromwich
Sandwell
B70 9PL

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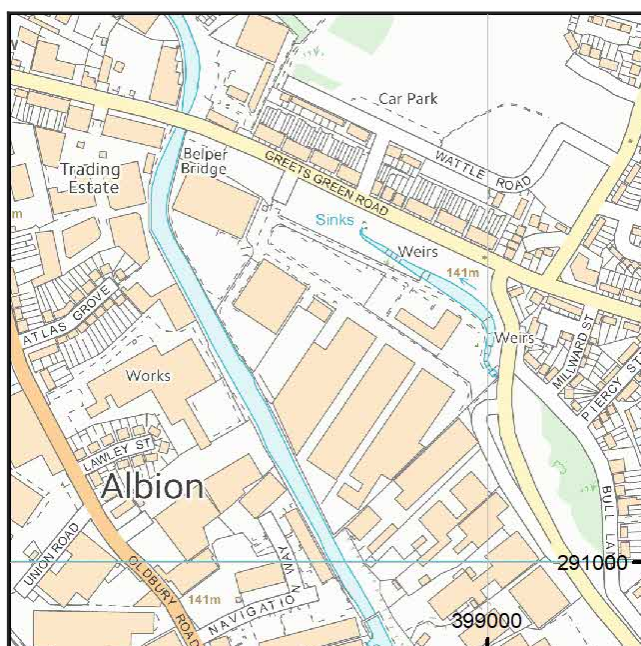
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Approximate position of property



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Section 1 –Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
ALBION BUSH FARM NO 1	THICK	Coal	2BU7	46	East	12.5	West	914	1908
unnamed	HEATHEN	Coal	2AXD	49	South-East	0.0	East	122	1909
unnamed	NEW MINE COAL	Coal	2BAW	61	South-East	0.0	East	168	1911

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	398291-033	398910 291282	grouted to 23 metres by Groundworks (Dudley) Limited for the Harry Bloomer Partnership in 1974, grouted and capped with a 550mm reinforced concrete cap by Curtains Consulting in 2022.	Coal	Delta Metal (B.W.) Limited 14/10/1976
Shaft	398291-034	398912 291275	grouted to 23 metres by Groundworks (Dudley) Limited for the Harry Bloomer Partnership in 1974, grouted and capped with a 550mm reinforced concrete cap by Curtains Consulting in 2022.	Coal	Delta Metal (B.W.) Limited 17/10/1976
Shaft	398291-037	398890 291162		Coal	
Shaft	398291-038	398896 291162		Coal	
Shaft	398291-039	398892 291156		Coal	
Shaft	398291-056	398828 291350		Coal	
Shaft	398291-057	398860 291350		Coal	
Shaft	398291-058	398825 291230		Coal	
Shaft	398291-059	398831 291224		Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

726	4957	5432
WM617	5731	4867
14802	3112	3180

Our records show we have more plans than those shown above which could affect the enquiry boundary.

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 –Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

Distance to site investigation (m)	Direction
17.4	North-East
Within	N/A
37.7	North-West

See Section 4 for further information.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 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.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 –Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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.

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.

Section 4 –Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Future development

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 specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 –Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial –mitigating the impact of existing pollution or Preventative –preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices




Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

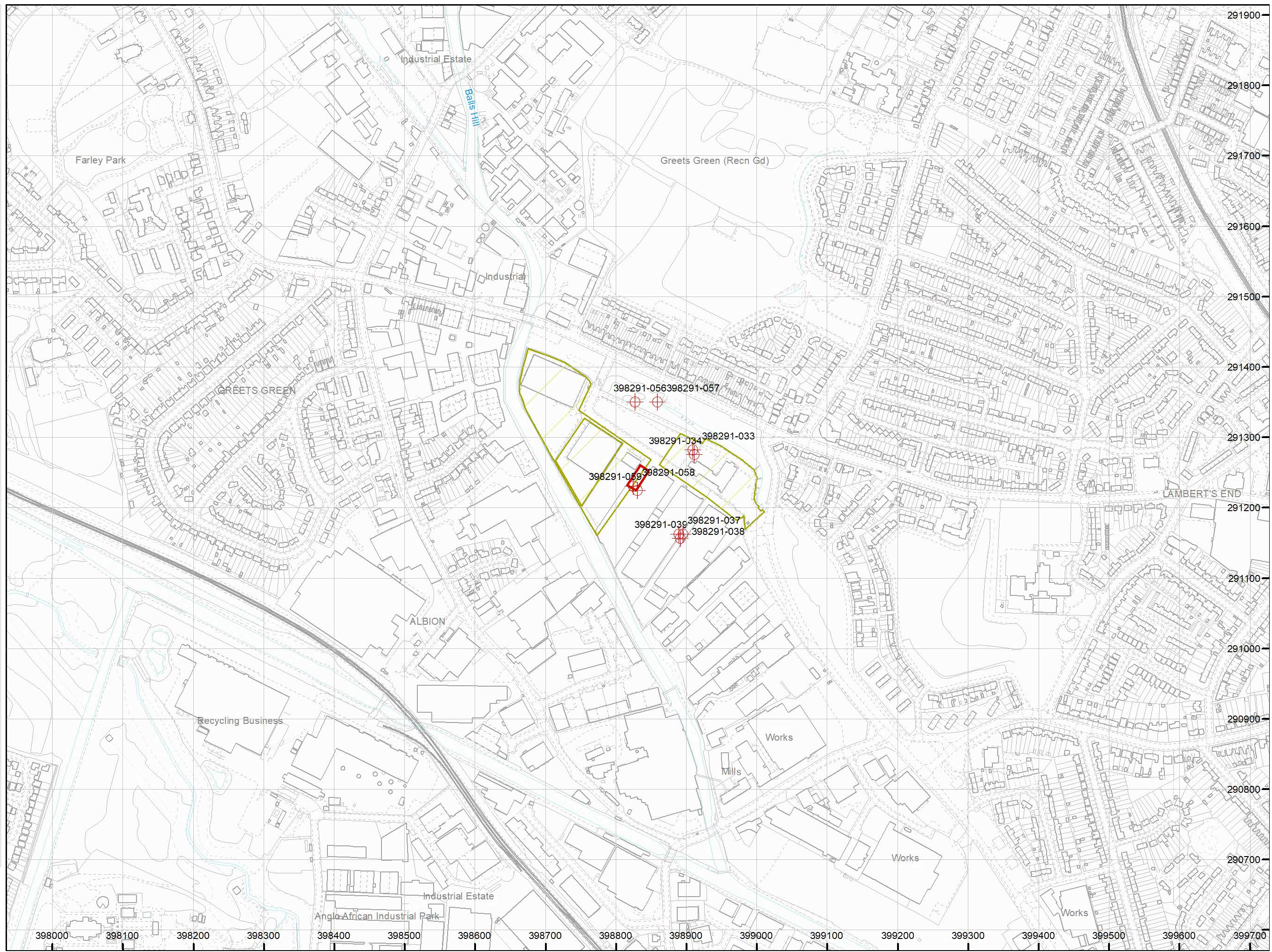
Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Site investigations 



How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com

APPENDIX D



The Coal
Authority

Issued by:

The Coal Authority, Property Search Services, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, NG18 4RG
Website: www.groundstability.com Phone: 0345 762 6848

SPILMAN ASSOCIATES LIMITED
38 SOUTH AVENUE
STOURBRIDGE
WEST MIDLANDS
DY8 3XY

Our reference:	51003371587001
Your reference:	P23065
Date of your enquiry:	09 August 2023
Date we received your enquiry:	09 August 2023
Date of issue:	09 August 2023

This report is for the property described in the address below and the attached plan.

Shaft Plan and Data Sheets

GREETS GREEN ROAD, WEST BROMWICH, SANDWELL, B70 9PL

I refer to the enquiry dated 09 August 2023, received 09 August 2023, in connection with the above.

As requested I enclose the mine entry data sheet(s) held for the mine entry/entries referred to.

Mine Entry Data

Shaft/adit:	Shaft
Reference:	398291-034
Source:	O.S. 1/2500 1st, 2nd, 3rd editions - Ab plans 4651, 4867, 5577, 5731, 14806, WM806 - West Bromwich Parish map 1856
Colliery name:	Unknown
Entry name:	Bush
Date abandoned:	Unknown
Depth of superficial deposits (m):	Unknown
Depth of shaft (m):	54.0
Diameter of shaft (m):	2.4
Probable adit azimuth:	Not Applicable
Treatment details:	grouted to 23 metres by Groundworks (Dudley) Limited for the Harry Bloomer Partnership in 1974, grouted and capped with a 550mm reinforced concrete cap by Curtains Consulting in 2022.
Conveyance:	17-OCT-1976 to Delta Metal (B.W.) Limited
Easting:	398912
Northing:	291275
Other information:	Yes

Mine Entry Data (continued)

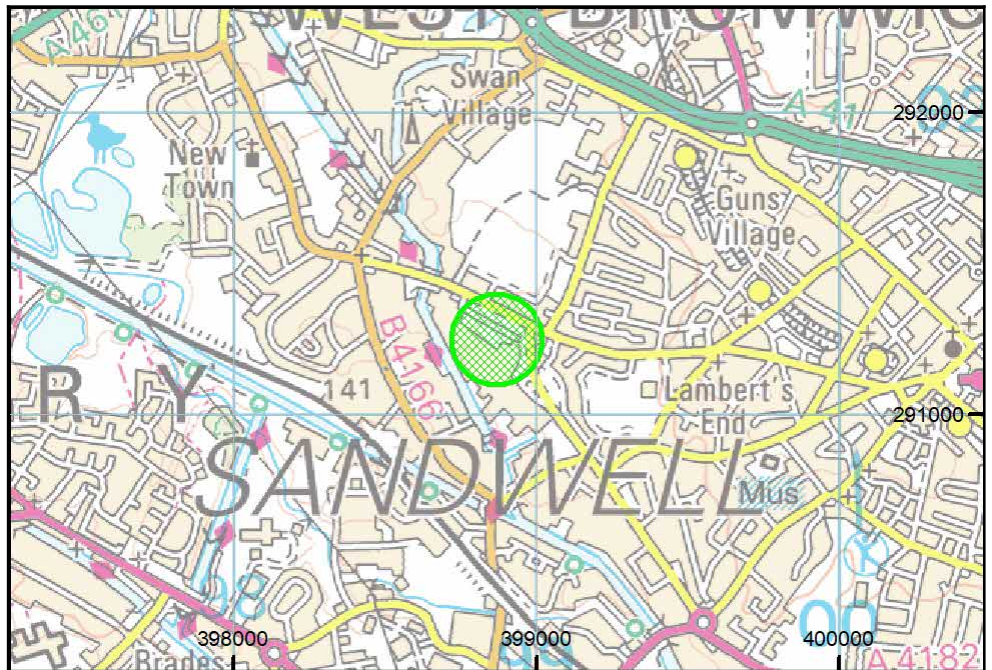
Shaft/adit:	Shaft
Reference:	398291-058
Source:	West Bromwich Parish map 1856
Colliery name:	Unknown
Entry name:	Unknown
Date abandoned:	Unknown
Depth of superficial deposits (m):	Unknown
Depth of shaft (m):	Unknown
Diameter of shaft (m):	Unknown
Probable adit azimuth:	Not Applicable
Treatment details:	Unknown
Conveyance:	Not Applicable
Easting:	398825
Northing:	291230
Other information:	None

Mine Entry Data (continued)

Shaft/adit:	Shaft
Reference:	398291-059
Source:	West Bromwich Parish map 1856
Colliery name:	Unknown
Entry name:	Unknown
Date abandoned:	Unknown
Depth of superficial deposits (m):	Unknown
Depth of shaft (m):	Unknown
Diameter of shaft (m):	Unknown
Probable adit azimuth:	Not Applicable
Treatment details:	Unknown
Conveyance:	Not Applicable
Easting:	398831
Northing:	291224
Other information:	None

Location map

Approximate position of enquiry



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This plan shows the approximate location of the disused mine entry / entries referred to in the attached mining report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan.

Property owners have the benefit of statutory protection (under the Coal Mining Subsidence Act 1991). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by visiting www.groundstability.com.

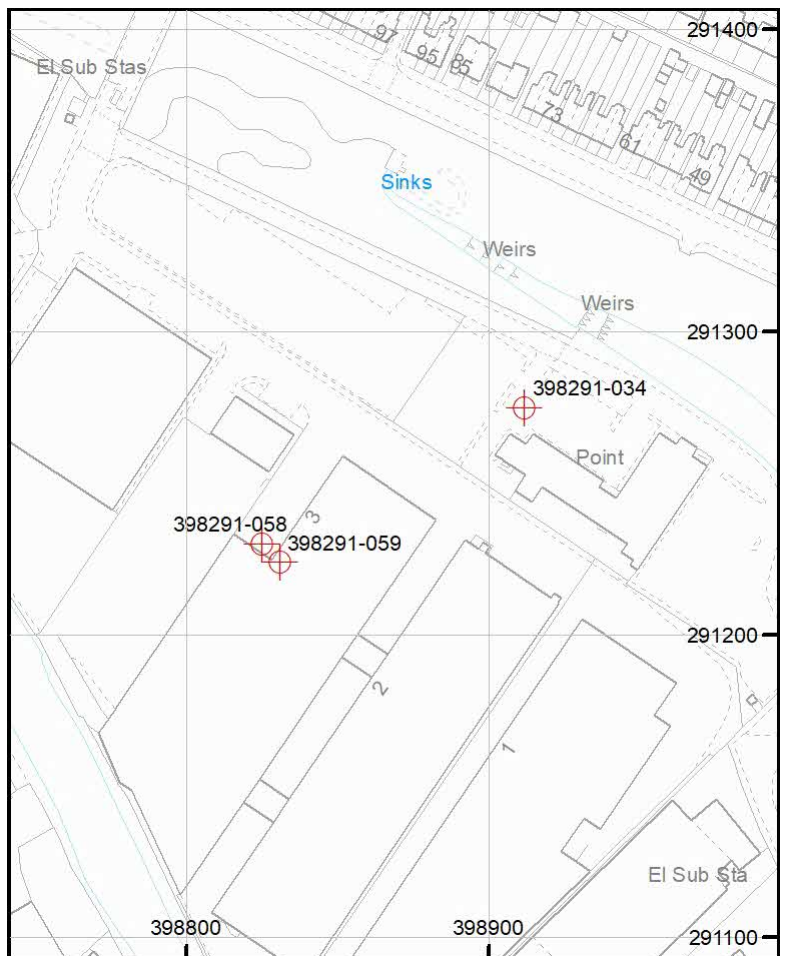
If you wish to discuss the relevance of any of the information contained in this report, you should seek the advice of a qualified mining engineer or surveyor. If you or your advisor wish to examine the source plans from which the information has been taken, these are available to view, free of charge, at our Head Office in Mansfield. To book an appointment please ring 01623 637225. Should you or your advisor wish to carry out a physical investigation that may enter, disturb or interfere with any disused mine entry, prior permission of the owner must be sought. For coal mine entries, the owner will normally be the Coal Authority.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries).

Our emergency telephone number is 0800 288 4242.

Key

Disused Adit or Mineshaft



APPENDIX E



**The Coal
Authority**

Policy For Building Over Or Within The Influencing Distance Of A Mine Entry

Building over or within the influencing distance of a mine entry (shaft or adit) can be dangerous and has the potential for significant risks to both the development and the occupiers if not undertaken appropriately.

The Coal Authority own the majority of the coal mine entries in Britain and has adopted the following policy position for landowners and/or developers when considering building over or within the influencing distance of a mine entry.

1. Building over or within the influencing distance of a mine entry raises significant safety and engineering risks and exposes all parties to potential financial liabilities and as a general precautionary principle, should wherever possible be avoided
2. Building over or within the influencing distance of a mine entry will only be permissible when:
 - Expertise advice allows a suitable engineering design to be developed and agreed to take account of all the relevant safety and environmental risk factors including gas and mine-water.
 - The Coal Authority will not be responsible for financial or maintenance liabilities associated with the design and implementation of the works.
 - Appropriate engineering precautions are taken to safeguard the safety of the public and any structure during and following the completion of the works.
 - Approval for the works is obtained from The Coal Authority Permissions Service which will also monitor the implementation of the works to ensure public safety.
3. The position and recorded treatment details for the mine entry will be revealed in any future coal mining report produced for prospective purchasers of the property. Consequently it is necessary for the landowner and/or developer to undertake any work precisely in accordance with the agreed scheme and provide detailed information to The Coal Authority for inclusion within its records for future reference and disclosure.
4. Where any damages result as a consequence of failing to comply with this policy the Coal Authority will seek to recover any costs incurred.

Policy Approved by: S Reed, Director of Operations, January 2012