

Solum House
Unit 1 Elliott Court
St. Johns Road
Meadowfield
Durham, DH7 8PN

Tel: (0191) 378 6380

e-mail: admin@arc-environmental.com
www.arc-environmental.com



PHASE 1: DESK TOP STUDY & COAL MINING RISK ASSESSMENT REPORT
THIRTEEN GROUP
PROPOSED RESIDENTIAL DEVELOPMENT
LAND AT AMBERLEY STREET & HARROGATE STREET
HENDON
SUNDERLAND
SR2 8ES

Project No: 20-794

Prepared By:

Darren M^cGrath

A handwritten signature in black ink, appearing to read 'Darren M'Grath', written over a horizontal line.

Date:

31/03/2021

Rev. 28/04/22

Approved By:

Mark R. Berriman

A handwritten signature in black ink, appearing to read 'Mark R. Berriman', written over a horizontal line.

Date:

31/03/2021

The information and/or advice contained in this Phase 1: Desk Top Study Report is based solely on, and is limited to, the boundaries of the site, the immediate area around the site, and the historical use(s) unless otherwise stated. This 'Report' has been prepared in order to collate information relating to the physical, environmental and industrial setting of the site, and to highlight, where possible, the likely problems that might be encountered when considering the future development of this site for the proposed end use. All comments, opinions, diagrams, cross sections and/or sketches contained within the report, and/or any configuration of the findings is conjectural and given for guidance only and confirmation of the anticipated ground conditions should be considered before development proceeds. Agreement for the use or copying of this report by any Third Party must be obtained in writing from Arc Environmental Limited (ARC). If a change in the proposed land use is envisaged, then a reassessment of the site should be carried out.

CONTENTS

1.0 INTRODUCTION	Page 3
2.0 PHYSICAL SETTING	Page 3
2.1 – Site Details	Page 3
3.0 ENVIRONMENTAL SETTING	Page 4
3.1 – Site Geology	Page 4
3.2 – Coal Mining Risk Assessment & Mineral Extraction	Page 4
3.3 – Site Hydrogeology	Page 5
3.4 – Site Hydrology	Page 5
3.5 – Site Ecology	Page 6
3.6 – Estimated Soil Chemistry	Page 6
3.7 – Radon Assessment	Page 7
4.0 INDUSTRIAL SETTING	Page 7
4.1 – Recent Site History	Page 7
4.2 – Landfill & Waste	Page 8
4.3 – Unexploded Ordnance (UXO) Risk	Page 9
4.4 – Statutory Requirements / Authorisations	Page 9
4.5 – Pollution Incidents and Discharge Consents	Page 9
5.0 PRELIMINARY RISK ASSESSMENT SUMMARY	Page 10
5.1 – Preliminary Conceptual Site Model (CSM)	Page 10
5.2 – Geotechnical Considerations	Page 11
5.3 – Sources of Contamination and Probable Contaminants	Page 11
6.0 RECOMMENDATIONS FOR PHASE 2 INTRUSIVE INVESTIGATION WORKS	Page 12
Appendix I	Location Plan, Aerial Photograph, Existing Site Layout Plan, Proposed Development Layout Plan & Site Photographic Record Sheets
Appendix II	BGS Boreholes, Coal Authority Consultants Coal Mining Report
Appendix III	Landmark Envirocheck Report, Detailed UXO Risk Assessment Report
Appendix IV	Conceptual Site Model (CSM)



1.0 Introduction

March 2021

Arc Environmental Limited (ARC), were instructed by Engie Regeneration, on behalf of Thirteen Group, to undertake a Phase 1: Desk Top Study & Coal Mining Risk Assessment Report for areas of land located at Amberley Street & Harrogate Street, Sunderland, where proposals have been made to redevelop the site for residential use comprising the construction of c.103 residential dwellings with private gardens and areas of hardstanding.

The primary objectives of the report are to assess the geological and land contamination conditions on and beneath the surface, and a preliminary Conceptual Site Model (CSM) has been developed to define the scope and extent of investigation works deemed necessary, prior to commencing with any future developments. A site reconnaissance (walkover) survey was undertaken as part of this report which involved an inspection of the site and its vicinity. Site photographs were taken during the survey and these can be seen attached in Appendix I, with all relevant observations noted in Section 2.1.

A freedom of information request has been emailed to Sunderland City Council (SCC) requesting information in any contamination issues on site or to the surrounding areas. However, no response has been received at the time of completing this report. Should any information be issued by SCC, this will be forwarded as an addendum to this report.

2.0 Physical Setting

2.1 Site Details: -

Table 2.1

Site Name & Address:	Amberley Street & Harrogate Street, Hendon, Sunderland, SR2 8ES.
National Grid Reference:	440230, 5562520 – representative for the centre of the site.
Description of Location:	The site is located off Mowbray Road within the Hendon area of Sunderland.
Site Boundaries:	N= Residential dwellings, E= Medical Centre and carpark, S = Ward Court with residential properties beyond, W = Salem Street with residential properties beyond.
Site Shape & Area:	The site is irregular in shape and occupies an approximate area of c.3.1 Hectares.
Proposed Development Details:	Proposals involve the construction c.103 residential dwellings with private gardens and areas of hardstanding.
General Topography:	No topographical survey was available at the time of writing this report. The reconnaissance (walkover) indicated that the site displays a slight fall in gradient to the south-east.
Site surfacing:	The site is mainly covered in grass surfacing although the current road / footpath infrastructure remains.
Above Ground Structures:	None present on site.
Below Ground Structures:	Relic foundations / floor slabs may be present across the site associated with the former residential dwellings recorded on site. In addition, services (i.e. drains, water, electric, gas, etc.) may be present associated with the former dwellings.
Summary of Recorded Historical Features:	Residential properties have been recorded on the far north-western portion of the site with potential allotment type gardens on the western portion from as early as c.1857. By c.1897 residential properties are recorded across the whole site, by c.2000 the majority of these had been demolished with only the properties recorded on the western & southern boundaries of the site (adjacent to Salem Street & Ward Court). From the site walkover carried out, the whole of the site is clear of residential properties although the road infrastructure remains. The immediate surrounding areas have generally been developed with residential housing from c.1897.
Additional Comments:	From, the site walkover carried out, several small areas where former fires have occurred were noted across the site.

3.0 Environmental Setting

3.1 Site Geology: -

The geological assessment for this site has been based on records produced by the British Geological Survey (BGS). The following documents have been reviewed;

- Sunderland 1:50,000 Scale (Solid & Drift Editions) Map Sheet 21
- Sheet NZ45NW 1:10,560 Scale (Solid & Drift)
- BGS Boreholes Record Sheets (NZ45NW750 - 753)
- GeoIndex Onshore Online Interactive Map Viewer
- Coal Authority Online Interactive Map Viewer
- Coal Consultants Coal Mining Report; 51002453486001

3.1.1 Made Ground: -

In accordance with published BGS maps, significant thicknesses of made ground deposits are not recorded on site. However, when considering the historical development of the site (residential dwellings now demolished), made ground deposits are anticipated to be present below the site. BGS boreholes NZ45NW750 - 753 completed on the western boundary of the site, record demolition rubble to depths of between c.0.70m to c.0.85m below ground level (bgl). At this stage, any made ground is likely to comprise disturbed natural strata with anthropogenic debris (i.e. brick, concrete, etc.).

3.1.2 Drift Deposits: -

In accordance with published BGS maps, the north-western portion of the site is shown to be underlain by Glacial Till deposits, generally comprising sandy gravelly clays with occasional bands of sands and gravels. The remaining portion of the site is recorded to be underlain by Glaciolacustrine deposits with these generally comprising laminated clays and silts with occasional organic layers. BGS boreholes completed on the western boundary of the site (close to the geological boundary with the Glacial Till & Glaciolacustrine deposits) generally record drift deposits to be absent with a single borehole recording medium dense sand to a depth of c.1.40m bgl.

3.1.3 Solid Geology: -

The solid geology underlying the site comprises the Roker Formation deposited during the Period of Earth's history known as the Permian. The Roker Formation comprises oolitic dolostones with subordinate thin beds of fine-grained dolomite. The Thornhill Fault is recorded on the far northern portion of the site trending east / west with a downthrow to the south. This is not felt to represent a significant risk to the proposed development however, this should be further assessed (i.e. by completing a series of trenches) during any intrusive investigation works. The BGS boreholes completed on the western boundary of the site record Magnesian Limestone to a depth of at least c.2.05m bgl.

3.2 Coal Mining Risk Assessment & Mineral Extraction: -

3.2.1 Coal Mining Risk Assessment: -

According to the Coal Authority (CA) Online Interactive Map Viewer, this area lies within a coal mining reporting area but does not fall within a defined development high risk area. In order to assist with the risk assessment, a Coal Authority Consultants Coal Mining Report (ref no. 51002453486001) was obtained for this site, a copy of which is attached in Appendix II. From information included within the Coal Mining Report, the shallowest recorded workings beneath the site are associated with deep underground mining activity within the Maudlin seam at c.485m bgl, last worked in 1947 and recorded locally to be up to c.2.00m in thickness.

3.0 Environmental Setting (Cont'd)

3.2 Coal Mining Risk Assessment & Mineral Extraction (Cont'd): -

3.2.1 Coal Mining Risk Assessment (Cont'd): -

Based on the geological setting, the site is underlain by c.>150m of non-coal bearing Permian strata, before Carboniferous coal bearing strata is expected.

Additionally, it is recorded that there are no probable unrecorded shallow workings, spine roadways recorded at shallow depths, mine entries within c.100m or opencast mines within c.500m of the site. Therefore, the site is not thought to be at risk from potential future surface stability issues that can arise from shallow coal mining activities. As such no further assessment or intrusive works are required with regards this potential geohazard.

3.2.2 Surface Mineral Extraction / Quarrying: -

Based on published OS maps dating c.1857 & c.1861, brickfields (clay extraction pits) are recorded c.188m to the east and c.250m to the north of the site. These appear to have been infilled by c.1897. When considering the age of the infilling of these features, these are not felt to represent a risk of hazardous ground gas migration and no further assessment of these features will be required.

3.3 Site Hydrogeology: -

- There are no Source Protection Zones (SPZ) recorded within 1km from the boundaries of the site.
- There are no Water Abstractions recorded within 500m from the boundaries of the site.
- Groundwater is anticipated to be present at depth within the solid geological deposits.

Table 3.1

<u>GROUNDWATER</u>	<u>Aquifer / Soil Vulnerability Classification</u>	<u>Comments</u>
Groundwater Vulnerability Map:	Combined: Medium Vulnerability.	Combined Aquifer: Productive Bedrock & Productive / Unproductive Superficial Aquifers. Low pollutant speed (<300mm/year).
Groundwater Vulnerability – Soluble Rock Risk:	Significant Risk – None.	~
Superficial Geology:	Unproductive Strata across majority of the site with Secondary Aquifer (Undifferentiated) on north-western portion.	Secondary Aquifer (undifferentiated) - assigned in cases where it has not been possible to attribute either category A or B to a rock type.
Solid Geology:	Principal Aquifer.	These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.

3.4 Site Hydrology: -

Table 3.2

<u>SURFACE WATER FEATURE</u>	<u>Location</u>	<u>Comments</u>
GQA Classified River:	None recorded within c.250m.	~
Unclassified Watercourse(s), Canals, Ponds & Lakes:	None recorded within c.250m.	~

3.0 Environmental Setting (Cont'd)

3.4 Site Hydrology (Cont'd): -

Table 3.2 (Cont'd)

<u>SURFACE WATER FEATURE</u>	<u>Location</u>	<u>Comments</u>
Flooding:	The site does not fall within a designated Flood Zone II or III.	Although the site does not fall within a designated Flood Zone II or III, it is recommended that further consultation with the Local Authority (LA) and Environment Agency (EA) should be made with respect to the potential for flood events in this area and to establish local knowledge of periodic flooding problems. Due to the size of the site (i.e. >1 Hectare) a flood risk assessment may be required.
Surface Water Flooding (EA):	Small areas on the south-western portion of the site are at low risk – 1000year return.	Surface water flooding occurs when rainwater does not drain away through the standard drainage systems or soak into the ground but lies on or flows over the ground instead. However, flooding events, considered a very low risk, may still occur
Groundwater Flooding at Surface (BGS):	The far northern portion of the site is recorded as being within an area of limited potential for groundwater flooding to occur.	Information obtained from Landmark, including recently published new maps indicating the potential for groundwater flooding at surface and below ground level, proposed by the British Geological Survey (BGS). This information is based on areas which may be potentially influenced by geological factors.
<u>RAINFALL</u>	<u>Measurements (mm)</u>	<u>Comments</u>
Annual	597.2	Based on 'station average' records from Tynemouth, dated from 1981-2010
Precipitation: Max (Nov)	62.8	
Precipitation: Min (Feb)	37.8	

3.5 Site Ecology: -

Table 3.3

<u>FEATURES</u>	<u>Location</u>	<u>Comments</u>
Local Nature Reserves:	None recorded within c.250m.	~
Areas of Adopted / Unadopted Green Belt:	None recorded within c.250m.	~
Special Protection Areas:	None recorded within c.250m.	~
Nitrate Vulnerable Zone:	None recorded within c.250m.	~
Sites of Special Scientific Interest:	None recorded within c.250m.	~

There was no visual evidence to suggest the site was affected by the presence of invasive weed species (i.e. Japanese Knotweed, Giant Hogweed or Himalayan Balsam) at the time of the site walkover survey. However, a detailed invasive weed survey has not been undertaken, therefore, site awareness during future investigation works and during the construction phase for any potential invasive weed species would be considered prudent.

3.6 Estimated Soil Chemistry: -

Data provided by the BGS in relation to estimated soil chemistry for a number of key metals and metalloid elements are summarised in Table 3.4 on the following page.

3.0 Environmental Setting (Cont'd)

3.6 Estimated Soil Chemistry (Cont'd): -

Table 3.4

Element	Soil Type	Estimated Soil Concentrations (mg/kg)
Arsenic	Sediment	<15
Cadmium	Sediment	<1.8
Chromium (total)	Sediment	60-90
Lead	Sediment	100-200
Nickel	Sediment	15-30

Note; the references to the anticipated background concentrations of contaminants, sourced from the BGS, should not be relied upon. They are not site-specific and do not represent the condition of the ground at the proposed development site.

3.7 Radon Assessment: -

The site lies in a lower probability radon area, as less than 1% of homes are above the action level, in accordance with the BGS, National Geoscience Information Service and their assessment suggests that no radon protection measures are necessary for the site. This corresponds with the BRE Digest, BR211 (2015) Radon: Guidance on Protective Measures for New Buildings, which shows the site is situated within a clear grid square (1km), and therefore no radon protective measures are required for the site.

4.0 Industrial Setting

4.1 Recent Site History: -

Copies of old survey plans covering this site area and adjacent land are included in Appendix II, and a summary of the site history based on these plans is given in Table 4.1 below and continued on the following page.

Table 4.1

Significant features / potentially contaminative uses highlighted in **bold** text

Date	Site	Adjacent Areas
c.1857 – c.1862	The majority of the site is recorded as undeveloped. However, residential properties are recorded on the far north-western boundary of the site with allotment type gardens recorded on the western portion of the site	Residential properties and allotment type gardens are recorded to the surrounding areas. Brickfields (clay pits) are recorded c.188m to the east and c.250m to the north of the site. A Timber Yard is recorded c.120m to the north of the site. A Railway Line with cutting is recorded c.140m to the north of the site.
c.1897 – c.1951	Residential properties with associated road infrastructure is recorded across whole of the site.	Extensive residential development has occurred to the surrounding areas. The brickfields to the north and east are no longer recorded (infilled). A Tramway is recorded to the east and south of the site. The Timber Yard to the north is no longer recorded. A Coal Depot is recorded c.150m to the north of the site. A Livery Stables is recorded c.40m to the north-west of the site.
c.1954 – c.1966	A small Electrical Substation is recorded on the northern portion of the site.	The residential properties to the immediate north have changed in layout. A Bank and slight change in layout of the buildings is recorded to the immediate east of the site boundary. The Livery Stables to the north-west are recorded as a Ruin. A Garage is recorded adjacent to the south-western boundary of the site. The Tramway to the east and south are no longer recorded.

4.0 Industrial Setting

4.1 Recent Site History (Cont'd): -

Table 4.1 (Cont'd)

Significant features / potentially contaminative uses highlighted in **bold** text

<u>Date</u>	<u>Site</u>	<u>Adjacent Areas</u>
c.1970 – c.1976	As c.1954 – c.1966.	Large areas to the immediate east, west, north and south of the site are recorded as undeveloped (residential dwellings demolished). Ward Court (residential) is recorded to the immediate south of the site by c.1975.
c.1981 – c.1993	As c.1970 – c.1976.	Residential housing is recorded to the immediate north and the east and west of the site (areas of previously demolished houses) of the site. The Railway Line to the north is no longer recorded. The Garage adjacent to the south-western boundary of the site is no longer recorded although the building remains. A Surgery & Pharmacy are recorded to the immediate east of the site.
c.2000 – c.2006	The majority of the residential properties have been demolished with on dwellings recorded on the western and southern boundaries of the site with the properties on the southern boundary no longer recorded on plans dated c.2006.	Generally, as c.1981 – c.1993.
c.2021	The remaining buildings are no longer recorded and have been demolished . Large areas of grass and present across the site. The road infrastructure remains as does the Electric Substation .	Generally, as c.1981 to c.2006.

4.2 Landfill & Waste: -

The following information relating to Landfill and Waste has been obtained from Landmark Information Group, the Environment Agency and walkover survey completed;

- There are no BGS or Historical Landfill Sites recorded within c.250m of the site.
- There are no Local Authority Recorded Landfill Sites recorded within c c.250m of the site.
- There is 1 no. Licensed Waste Management Facility recorded within c.250m of the site, .131m to the north of the site, associated with household, commercial and industrial transfer station.
- There are 3 no. area of potentially infilled land (Non-water) recorded c.6m to the east, 170m to the north & c.223m to the south of the site with the date of mapping recorded as c.1991. The feature to the north is likely to be associated with the infilling of the railway line. No evidence of the remaining features are recorded on historical plans.
- There are 3 no. area of potentially infilled land (Water) recorded c.3m & c.86m to the north & c.169m to the south-east of the site with the date of mapping recorded as c.1861 / c.1862. No evidence of these features are recorded on historical plans and it is felt that these may be associated with the infilling of small ponds. When considering the age of these features, these are no felt to represent a risk of hazardous ground gas migration.

Taking into account the above assessment, although considered a low risk, it is recommended that a programme of ground gas monitoring is undertaken, as part of any intrusive investigation works in accordance with CIRIA 665 and BS8485:2015+A1:2019.

4.0 Industrial Setting (Cont'd)

4.3 Unexploded Ordnance (UXO) Risk: -

The site lies within an area at risk from unexploded ordnance. As a result, further assessment was required for this site and a Detailed UXO Risk Assessment Report was procured and is included in Appendix III. Whilst the majority of the site is at low risk from UXO, the northern and eastern portions of the site are considered to be at medium risk from UXO. Risk mitigation measures are recommended to support the proposed works as follows:

All works:

- UXO Risk Management Plan.
- Site Specific UXO Awareness Briefings to all personnel conducting intrusive works.

Medium Risk Areas only:

- UXO Specialist On-site Support (open intrusive works – trial pits, service pits shallow foundations).
- Intrusive Magnetometer Survey of all borehole and pile locations/clusters down to maximum bomb penetration depth (boreholes & piled foundations).

4.4 Statutory Requirements / Authorisations: -

Table 4.2

Type	Location	Comments
Pollution Prevention and Controls	None recorded within c.250m.	~
Registered Radioactive Substances	None recorded within c.250m.	~
Prosecutions Relating to Authorised Processes	None recorded within c.250m.	~
Enforcement and Prohibition Notices	None recorded within c.250m.	~
Planning Hazardous Substances Consents / Enforcements	None recorded within c.250m.	~
COMAH / NIHS Sites	None recorded within c.250m.	~
Contemporary Trade Entries	Twelve recorded within c.250m.	The closest active entries are associated with Joinery Manufacturers c.155m to the east, Garage services c.184m to the south-west & Blinds & Awnings c.244m to the south-east. Not considered to represent a significant risk.
Fuel Station Entries	One recorded within c.250m.	Associated with Toward Road Service Station c.211m to the north-west (obsolete). Not considered to represent as significant risk to the proposed development.

4.5 Pollution Incidents and Discharge Consents: -

Table 4.3

Type	Location	Comments
Discharge Consents	One recorded within c.250m.	Associated with sewage discharge (final treated effluent) into the North Sea c.66m to the east of the site.

4.0 Industrial Setting (Cont'd)

4.5 Pollution Incidents and Discharge Consents (Cont'd): -

Table 4.3 (Cont'd)

Type	Location	Comments
Water Industry Act Referrals	None recorded within c.250m.	~
Prosecutions Relating to Controlled Waters	None recorded within c.250m.	~
Pollution Incidents to Controlled Waters	Two recorded within c.250m.	Associated with Category 3 Minor Incidents c.164m to the east for Industrial General spillage dated 6 th September 1993 and c.213m to the south-west for diesel oil spillage dated 26 th March 1996. Not felt to represent a potential risk.
Substantiated Pollution Incident Register	None recorded within c.250m.	~

5.0 Preliminary Risk Assessment Summary

5.1 Preliminary Conceptual Site Model (CSM): -

The Conceptual Site Model (CSM) is one of the primary planning tools that can be used to support the decision making process of managing contaminated land and groundwater on any given site, and allows a better understanding of what needs to be done to achieve risk management, and from this appropriate remediation techniques, if required for those risk management goals can be chosen. This can be done by undertaking a *source-pathway-receptor* analysis of the site.

The anticipated sources, pathways and receptors for this site are summarised in Table 5.1 below, and a graphical representation of the preliminary CSM has been produced for this site and this can be seen attached in Appendix IV.

Table 5.1

Sources (S)		Pathways (P)		Receptors (R)	
S1	Made ground deposits associated with the construction and demolition of the previous buildings on site and also historical site use as allotment gardens on western portion of the site.	P1	Ingestion & Dermal Contact.	R1	Human health – Future end users (Residents).
		P2	Air – Inhalation of vapours (indoor & outdoors) and contact with dust.	R2	Groundwater anticipated at depth within the solid geology (Principal Aquifer).
S2	Potential for localised 'hot spots' of PCB contamination associated with the electricity Substation on the northern portion of the site.	P3	Plant uptake.	R3	Building materials & protection of water pipes*.
		P4	Migration through existing services.		
S3	Potential hazardous ground gas migration associated with off-site sources (infilled land).	P5	Direct contact with building materials.	R4	Adjacent sites.
		P6	Surface run off & Infiltration.	R5	Flora and fauna*.

* = Not included in the Human Health & Controlled Waters Risk Assessment

5.0 Preliminary Risk Assessment Summary (Cont'd)

5.2 Geotechnical Considerations: -

The following potential geotechnical issues and hazards have been identified for this site, and these issues should be considered before future development of the site is to take place;

- Type, thickness and nature of the made ground deposits present below the proposed development area.
- Geotechnical parameters of natural drift / solid geological deposits.
- Stability of excavations should significant thicknesses of made ground deposits, loose / soft natural drift deposits be identified on site.
- Control of surface drainage – suitability of natural deposits for utilising sustainable urban drainage systems (SUDS).
- Chemical attack on buried concrete.
- The possible presence of buried services which may pass below the site
- Unexploded bomb risk.

It is recommended that in order to determine the geotechnical considerations above with more certainty that intrusive investigation works with associated geotechnical testing are carried out on this site, to aid in assessing the extent of any potential issues prior to commencing with any development in the future. Following this work detailed foundation proposals for the proposed residential development can then be prepared.

The information reviewed indicates that the site can be considered as being located within a **LOW - MODERATE** geotechnical risk setting.

5.3 Sources of Contamination and Probable Contaminants: -

The historical OS maps, the Landmark Envirocheck Report and other environmental information have revealed that the site has been developed predominantly with residential properties from as early as c.1857 albeit for potential allotment gardens on the western portion of the site up until c.1897. By c.2000 the majority of these had been demolished. From the site walkover carried out, the whole of the site is clear of residential properties although the road infrastructure remains. In addition, an electricity substation has been recorded on the northern portion of the site from around c.1954 with this remaining until present day.

Considering the site history, made ground deposits are anticipated below the site. In addition, potential 'hot spots' of contamination may be present on the northern portion of the site associated with the electricity substation. Therefore, ground contamination screening will need to be incorporated within any future investigation works to confirm the level of risk posed to human health (future end users).

In addition, laboratory testing should also be undertaken on representative samples taken from site for naturally aggressive chemicals which could have a detrimental effect on building materials (i.e. pH value and soluble sulphate).

Soils – Human Health:

In consideration of the above it would be prudent to test selected samples of soil from this site for the following analytes;

- Generic contamination, typically comprising; Arsenic, Cadmium, Chromium (III & VI), Copper, Lead, Mercury, Nickel, Selenium, Zinc and Total Organic Carbon (TOC).
- Asbestos screening.

5.0 Preliminary Risk Assessment Summary (Cont'd)

5.3 Sources of Contamination and Probable Contaminants (Cont'd): -

Soils – Human Health (Cont'd): -

- Speciated Poly-Aromatic Hydrocarbons (PAHs) and Total Petroleum Hydrocarbons (TPHs) should be undertaken, where ashy type deposits are encountered, or fuels/oils are suspected.
- Polychlorinated biphenyls (PCB's) if evidence is noted during the fieldworks.

The information reviewed indicates that the site can be considered as being located within a **LOW - MODERATE** ground contamination risk setting for Human Health.

Groundwater / Leachate – Controlled Waters: -

The following factors have been taken into consideration when assessing the risks posed towards Controlled Waters;

- There are no Source Protection Zones (SPZ) within c.1km of the site.
- There are no Water Abstractions within c.500m of the site.
- There are no surface water features within c.250m of the site.
- Groundwater beneath the site has been classified as Secondary Aquifer (Undifferentiated) on the north-western portion within the underlying superficial deposits and Principal Aquifer within the solid geology.

The information reviewed indicates that the site can be considered as being located within a **LOW** ground contamination risk setting for Controlled Waters.

6.0 Recommendations for Phase 2 Intrusive Investigation Works

The conclusions contained within this report have been based on a review of geological maps, historical plans, and available environmental data relating to the site and adjacent land and forms the basis of a preliminary risk assessment. The primary benefits of undertaking this report are as follows;

- (i) Identify the geotechnical and/or geo-environmental characteristics of the ground in enough detail to enable the economic design of the proposed building, construction or remedial works.
- (ii) Minimise the risk of unforeseen ground conditions which might cause increased costs and/or programme (construction) delays later.

Therefore, it is recommended that a Phase 2: Ground Investigation (intrusive investigation) is completed for this site prior to commencing with the construction of the proposed new development. The intrusive investigation works will need to consider the geotechnical parameters of the natural soil deposits with a view to determining appropriate foundation designs as well as determining if any ground contamination is present on the site which could pose a potential risk towards the proposed end users and / or the environment (if any made ground is recorded on site).

The investigation should be completed prior to commencing with any future development works and should include for the following or similar investigation detailed below and continued on the following page;

- A series of windowless sampling boreholes with insitu sampling and testing (i.e. shear vane tests, SPT's). The information obtained will help assist with future foundation designs.

6.0 Recommendations for Phase 2 Intrusive Investigation Works (Cont'd)

- A series of mechanically excavated trial pits, relevant insitu testing, where possible (i.e. CBR's) to be carried out at varying depths within the trial pits.
- Installation of series of combined ground gas & groundwater monitoring wells, followed by a programme of periodic data collection visits.
- Appropriate UXO mitigation measures will be required during any intrusive works.
- Appropriate laboratory geotechnical classification testing.
- Appropriate laboratory contamination screening on samples recovered from the investigation to assess the risks to Human Health and Controlled Waters. As highlighted in section 5.3.
- Project management, production of RAMS, site supervision and production of a detailed Ground Investigation Report, including a Ground Contamination Risk Assessment.

The samples of soil collected should be forwarded to a UKAS and MCERTS accredited laboratory to undertake the recommended testing. Prior to site investigation works commencing on site, all existing utilities/services should be identified and recorded, such that any potential damage to services crossing the site can be prevented, as well as ensuring the health and safety of future site workers.

End of Report

APPENDIX I

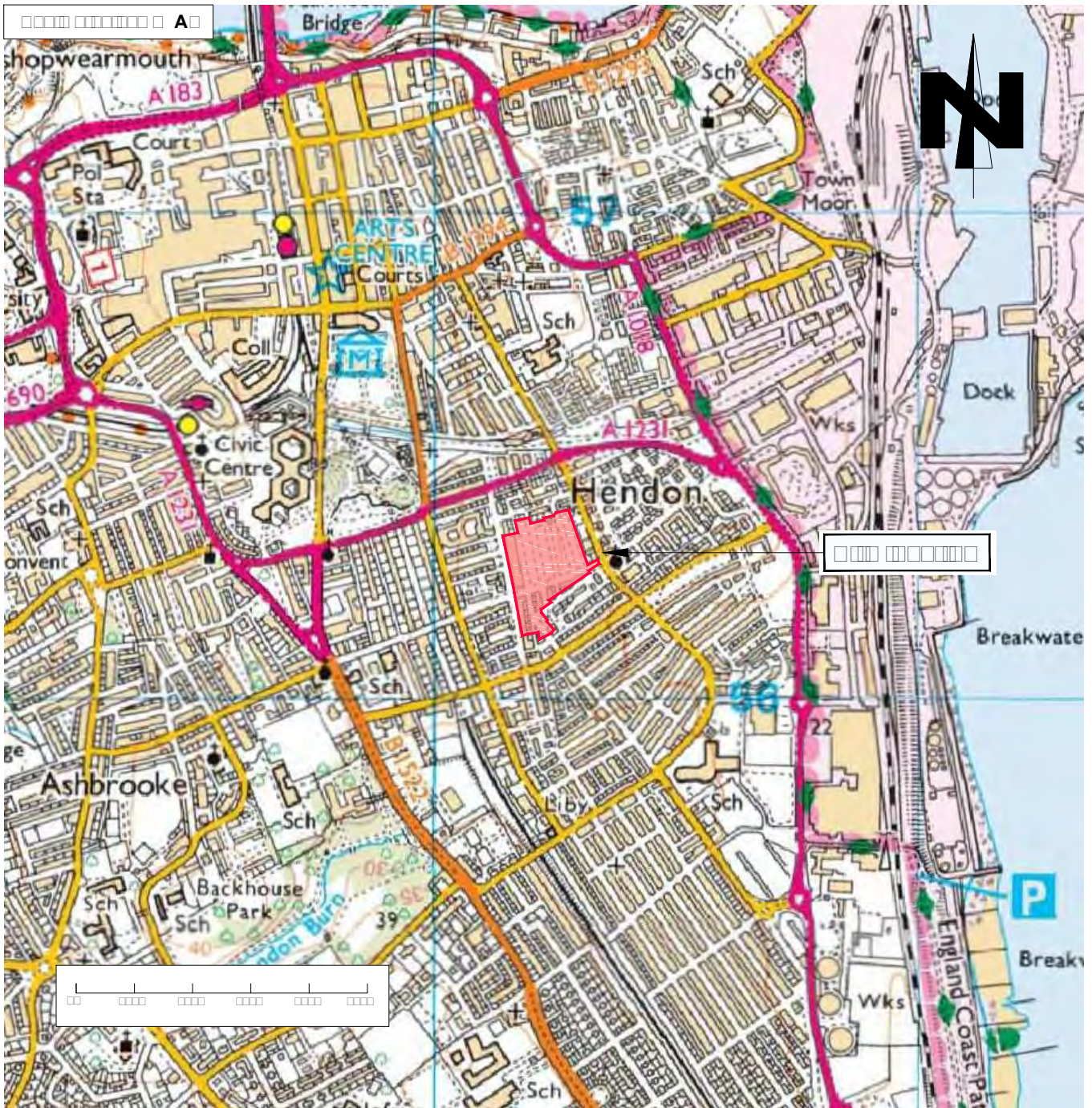
Location Plan

Aerial Photograph

Existing Site Layout Plan

Proposed Development Layout Plan

Site Photographic Record Sheet



Client:
ENGIE REGENERATION

Project Title:
 Proposed Residential Development
 Land at Amberley Street &
 Harrogate Street, Hendon, SR2 8ES

Drawing Title:
 Location Plan

Job Reference:
 20-794

Drawing Number:
 -

Revision:
 -

Drawn by:
 P.D

Date:
 30.03.21

Scale at A4:
 As Shown

Checked by:
 D.M

Approved by:
 D.M

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
 © Copyright Reserved

rev.	date	amendments	drawn	chckd

ARC ENVIRONMENTAL LTD
 Solum House
 Unit 1 Elliott Court
 St. John's Road
 Meadowfield
 Durham
 DH7 8PN
 Tel: (0191) 378 6380
 Fax: (0191) 378 0494
 e-mail: admin@arc-environmental.com
 web: www.arc-environmental.com






ARC ENVIRONMENTAL LTD

Solum House
 Unit 1 Elliott Court
 St. John's Road
 Meadowfield
 Durham, DH7 8PN
 Tel: (0191) 378 6380
 Fax: (0191) 378 0494
 e-mail: admin@arc-environmental.com
 web: www.arc-environmental.com

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
 © Copyright Reserved

LEGEND	
	APPROXIMATE SITE BOUNDARY

rev.	date	amendments	drawn	chckd

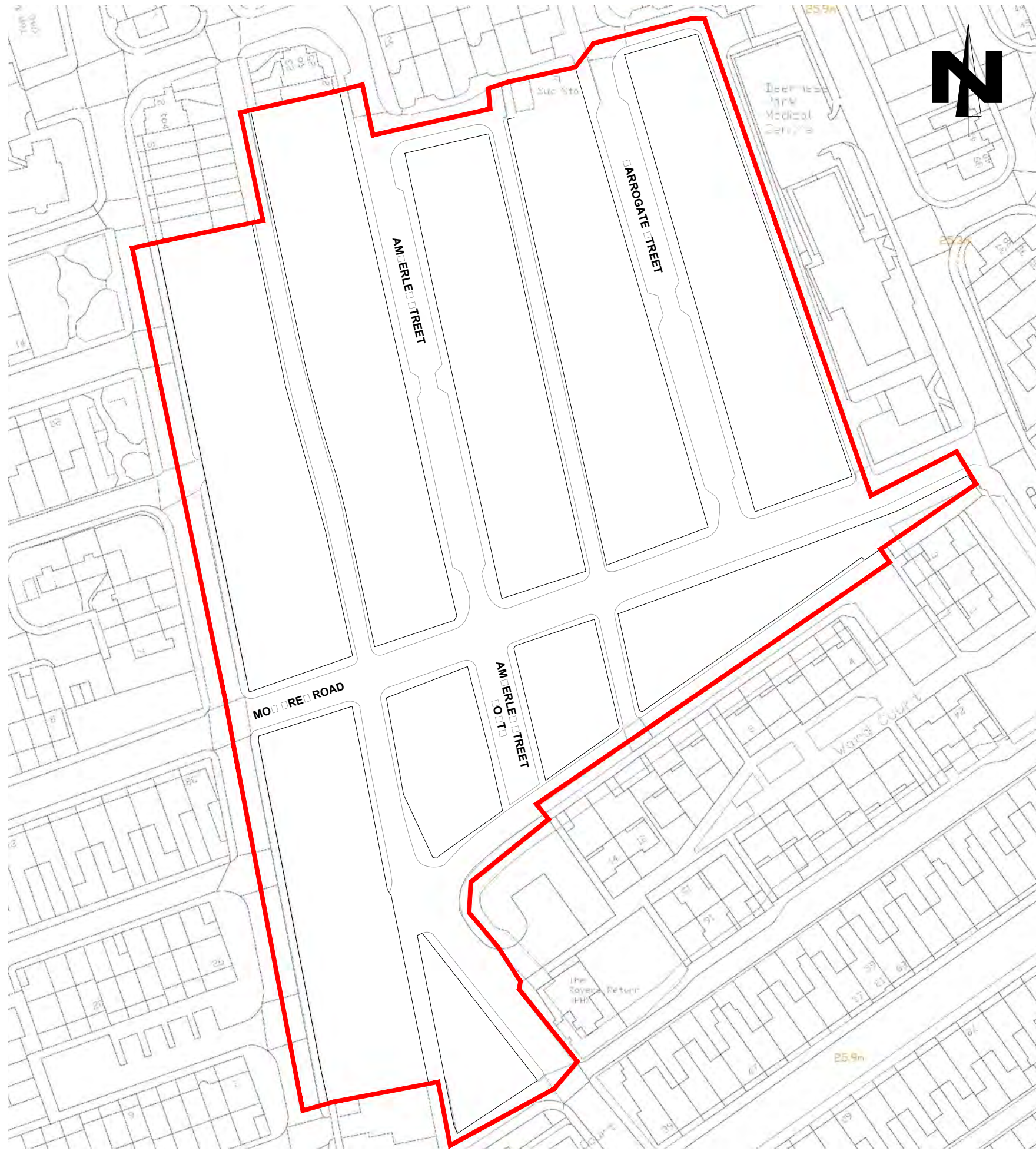
Client:
ENGIE REGENERATION

Project Title:
 Proposed Residential Development
 Land at Amberley Street & Harrogate Street
 Hendon, Sunderland, SR2 8ES

Drawing Title:
 Aerial Photograph

Scale at A3: NTS @ A3	Date: 30.03.21	Drawn by: P.D	Approved by: D.M
--------------------------	-------------------	------------------	---------------------


Job Ref: 20-794	Drg no: -	Rev: -
--------------------	--------------	-----------



ARC ENVIRONMENTAL LTD

Solum House
 Unit 1 Elliott Court
 St. John's Road
 Meadowfield
 Durham, DH7 8PN
 Tel: (0191) 378 6380
 Fax: (0191) 378 0494
 e-mail: admin@arc-environmental.com
 web: www.arc-environmental.com

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
 © Copyright Reserved

LEGEND	
	APPROXIMATE SITE BOUNDARY

rev.	date	amendments	drawn	chckd

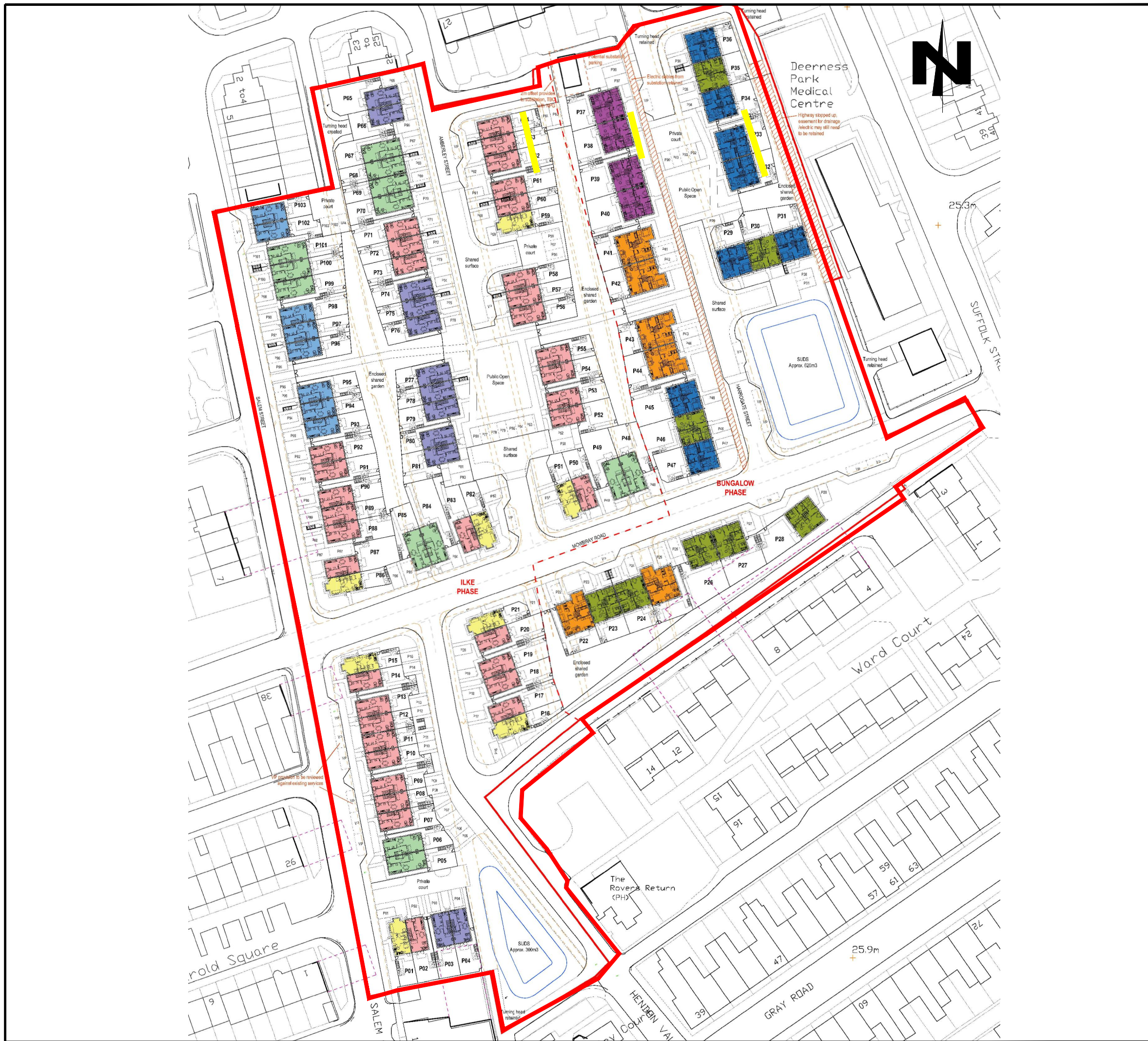
Client:
ENGIE REGENERATION

Project Title:
 Proposed Residential Development
 Land at Amberley Street & Harrogate Street
 Hendon, Sunderland, SR2 8ES

Drawing Title:
 Existing Site Layout Plan

Scale at A3: NTS @ A3	Date: 30.03.21	Drawn by: P.D	Approved by: D.M
--------------------------	-------------------	------------------	---------------------

Job Ref: 20-794	Drg no: -	Rev: -
--------------------	--------------	-----------



ARC ENVIRONMENTAL LTD

Solum House
 Unit 1 Elliott Court
 St. John's Road
 Meadowfield
 Durham, DH7 8PN
 Tel: (0191) 378 6380
 Fax: (0191) 378 0494
 e-mail: admin@arc-environmental.com
 web: www.arc-environmental.com

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
 © Copyright Reserved

LEGEND	
	APPROXIMATE SITE BOUNDARY

rev.	date	amendments	drawn	chckd
01	28.04.22	Updated Proposed Layout Added	P.D	L.J

Client:
ENGIE REGENERATION

Project Title:
 Proposed Residential Development
 Land at Amberley Street & Harrogate Street
 Hendon, Sunderland, SR2 8ES

Drawing Title:
 Proposed Development Layout Plan

Scale at A3: NTS @ A3	Date: 30.03.21	Drawn by: P.D	Approved by: D.M
--------------------------	-------------------	------------------	---------------------

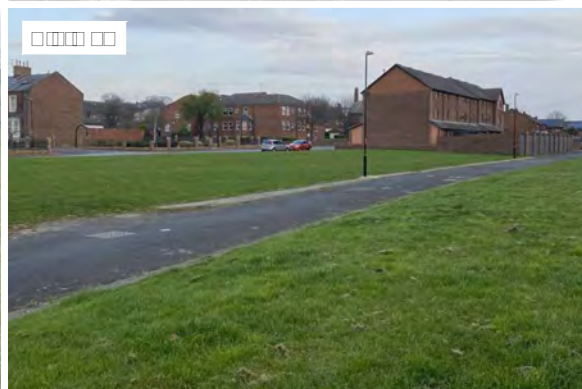
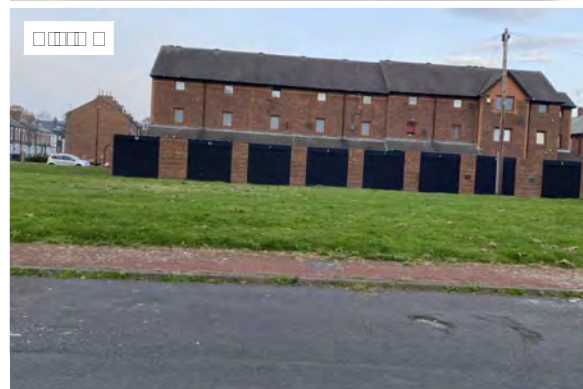
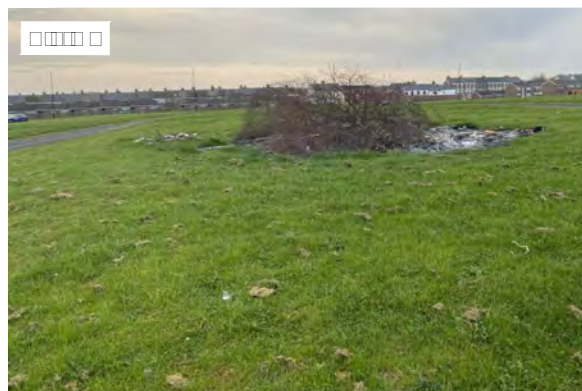
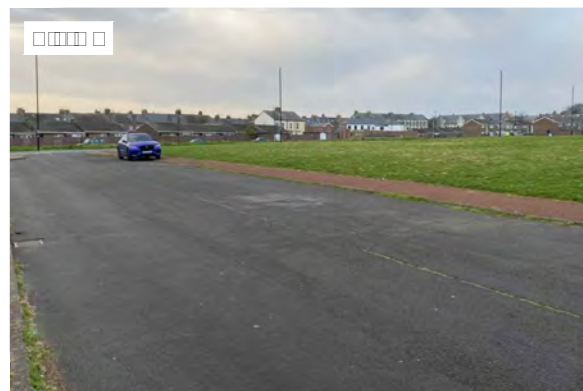
Job Ref: 20-794	Drg no: -	Rev: 01
--------------------	--------------	------------



ARC ENVIRONMENTAL LTD

Solum House
 Unit 1 Elliott Court
 St. John's Road
 Meadowfield
 Durham, DH7 8PN
 Tel: (0191) 378 6380
 Fax: (0191) 378 0494
 e-mail: admin@arc-environmental.com
 web: www.arc-environmental.com

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
 © Copyright Reserved



rev.	date	amendments	drawn	chckd

Client:
ENGIE REGENERATION

Project Title:
 Proposed Residential Development
 Land at Amberley Street & Harrogate Street
 Hendon, Sunderland, SR2 8ES

Drawing Title:
 Site Photographic Record Sheet 1

Scale at A3: NTS @ A3	Date: 30.03.21	Drawn by: P.D	Approved by: D.M
--------------------------	-------------------	------------------	---------------------

Job Ref: 20-794	Drg no: -	Rev: -
--------------------	--------------	-----------

APPENDIX II


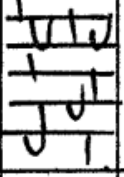

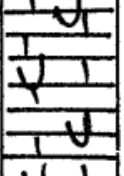

BGS Boreholes

Coal Authority Consultants Coal Mining Report

DUNELM DRILLING CO.

BOREHOLE RECORD

Contract No. C3989 Client BANKS OF THE WEAR - HOUSING SOLUTIONS LTD
 Ground Level..... Location SALEM ST DEVELOPMENT - SUNDRAND
 Date MAY 1989 BOREHOLE No.s 1 + 2

Depth	Thick-ness	Legend	Description of Strata	Type of Sample	C kN/m ²	M %	Ø	Density Kg/m ³	N
<u>BH 1</u>									
0.85	0.85		DEMOLITION RUBBLE	P					
1.80	0.95		MAGNESIAN LIMESTONE HARD + SOFT BANDS.	P					47
			CHISELING 1/2 HR.	P					52
			<u>Dry</u>						
<u>BH 2</u>									
0.85	0.85		DEMOLITION RUBBLE	P					
1.15	1.15		MAGNESIAN LIMESTONE HARD + SOFT BANDS	P					40
2.00	0.85		MAGNESIAN LIMESTONE HARD + SOFT BANDS	P					48
			CHISELING 3/4 HR						

Water Struck at..... Standing Water Level.....

DUNELM DRILLING CO.

BOREHOLE RECORD

Contract No. C3989 Client BANKS OF THE WEAR - HOUSINK SCHIERS LTD
 Ground Level..... Location SALTM ST DEVELOPMENT - SUNDERLAND
 Date MAY 1989 BOREHOLE No.s 3 + 4

Depth	Thick-ness	Legend	Description of Strata	Type of Sample	C kN/m ²	M %	Ø	Density Kg/m ³	N
BH3									
0.85	0.85		DEMOLITION RUBBLE						
1.45	0.60		HARD & SOFTER BANDS OF MAGNESIAN LIMESTONE	P 1.00					87
			CHISELING $\frac{1}{2}$ HR.						
			<u>Dry</u>						
BH4									
0.70	0.70		DEMOLITION RUBBLE						
1.40	0.70		MEDIUM DENSE DOLOMITIC SAND	P 0.90					17
2.05	0.65		HARD & SOFTER BANDS OF MAGNESIAN LIMESTONE	P 2.00					51
			CHISELING $\frac{1}{4}$ HR.						
			<u>Dry</u>						

Water Struck at..... Standing Water Level.....



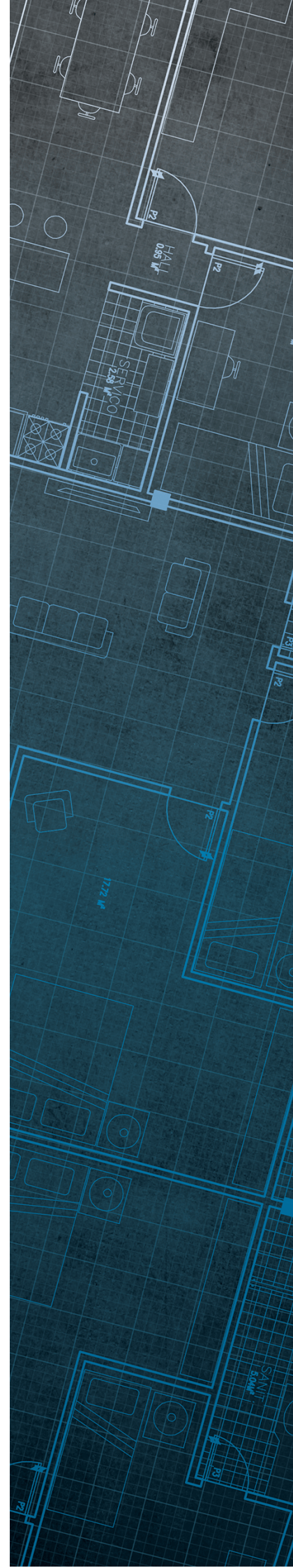
The Coal
Authority

Consultants Coal Mining Report

Amberley Street & Harrogate Street
Sunderland
SR2 8ES

Date of enquiry: 30 March 2021
Date enquiry received: 30 March 2021
Issue date: 30 March 2021

Our reference: 51002453486001
Your reference: 20-794



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

Arc Environmental Ltd

Enquiry address

Amberley Street & Harrogate Street
Sunderland
SR2 8ES

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

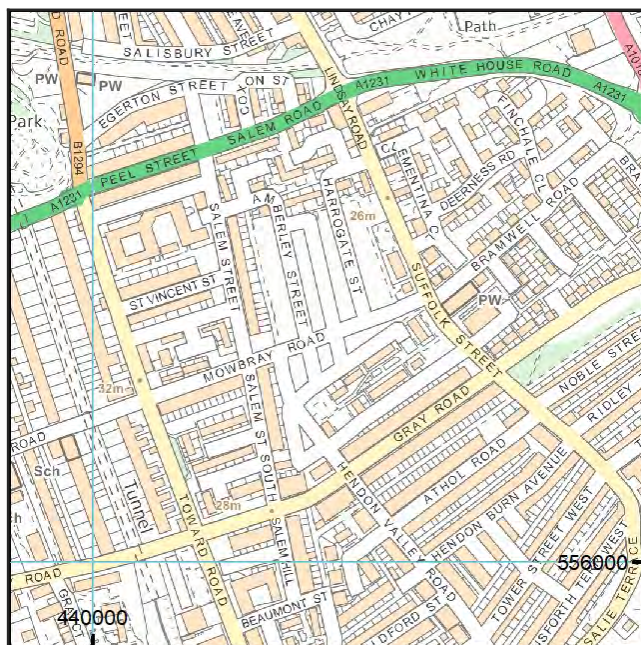
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2018. All rights reserved.

Ordnance Survey Licence number: 100020315

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
unnamed	MAUDLIN	Coal	3RS4	483	West	3.9	South	198	1913
unnamed	MAUDLIN	Coal	55QF	485	Beneath Property	1.4	North-East	100	1900
unnamed	MAUDLIN	Coal	3RTW	485	West	2.1	East	198	1922
unnamed	MAUDLIN	Coal	55QE	486	Beneath Property	1.9	North-East	180	1947
unnamed	MAUDLIN	Coal	55QA	490	South-East	1.8	East	200	1937
unnamed	MAUDLIN	Coal	55QC	492	South	2.2	North	100	1900
unnamed	MAUDLIN	Coal	3RRW	492	South-West	0.7	South-West	200	1920

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

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

15029	16516	
-------	-------	--

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

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Fault under or close to the property 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

None recorded within 50 metres of the enquiry boundary.

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.

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.

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.

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

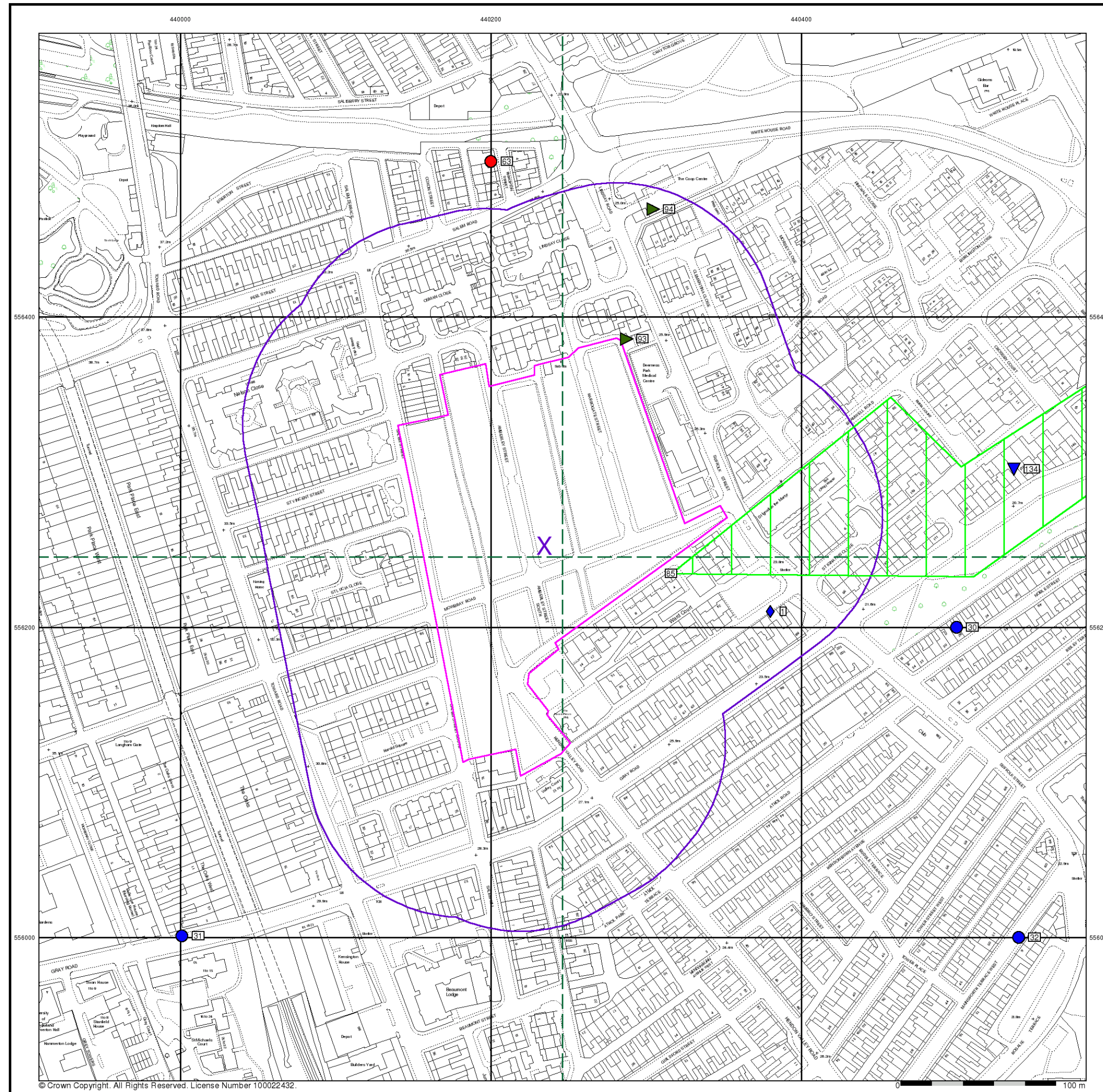
- Approximate position of the enquiry boundary shown 
- Geological faults 

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



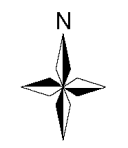
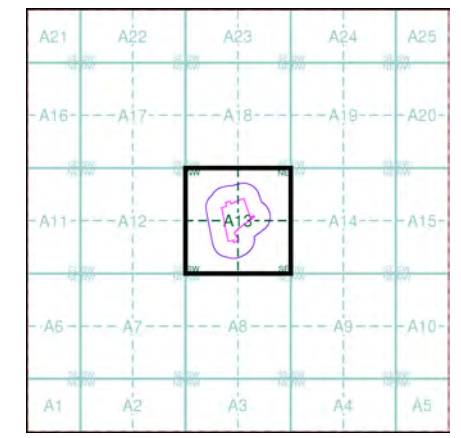
APPENDIX III

Landmark Envirocheck Report Detailed UXO Risk Assessment Report



- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Pylon
 - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A13



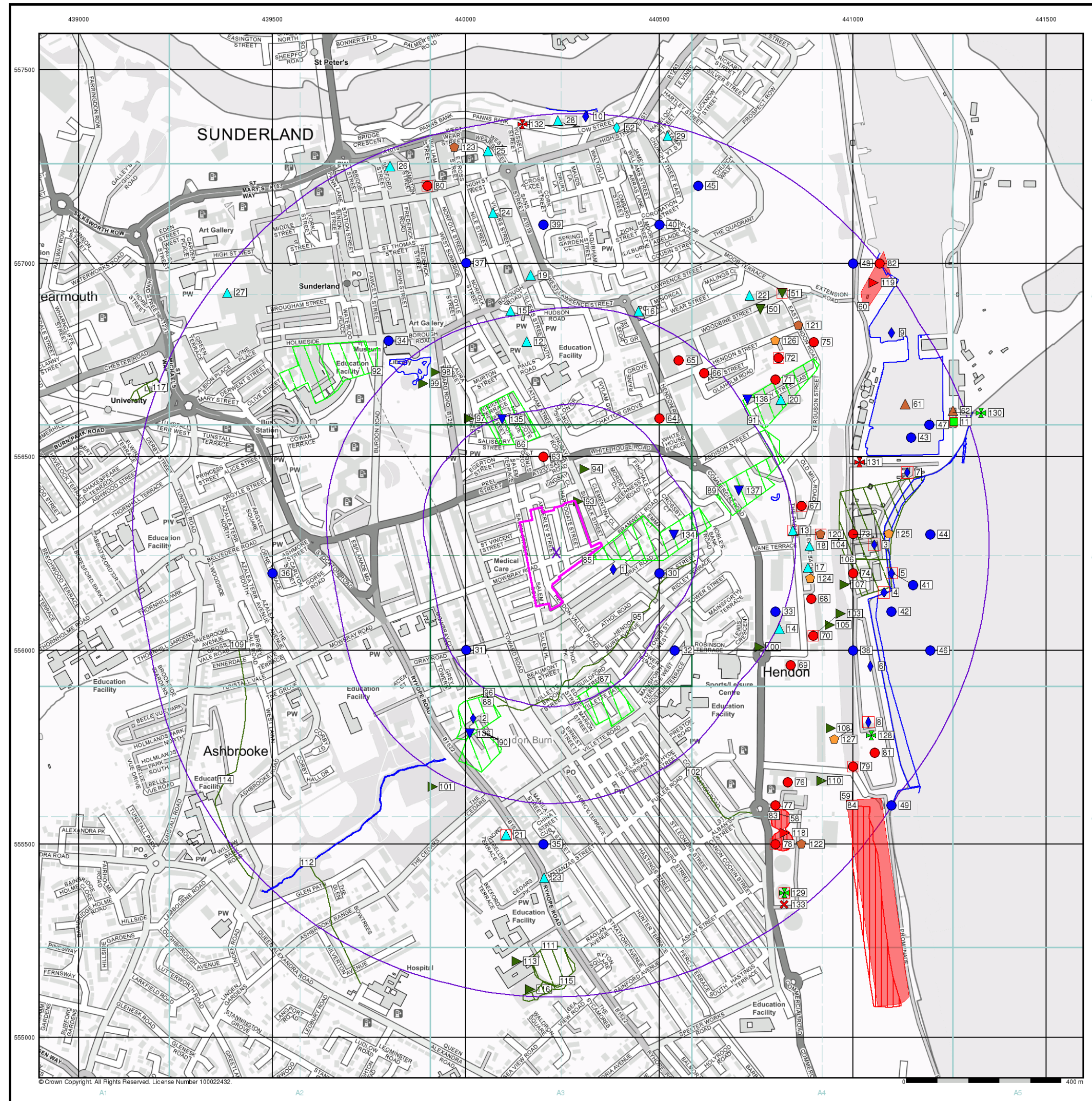
Order Details

Order Number: 275856325_1_1
 Customer Ref: 20-794
 National Grid Reference: 440230, 556250
 Slice: A
 Site Area (Ha): 3.1
 Plot Buffer (m): 100

Site Details
 Harrogate Street, Sunderland

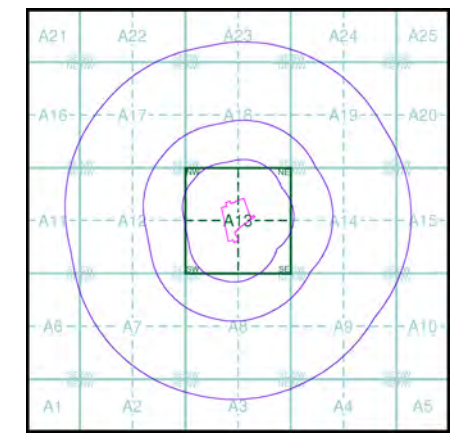
Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention and Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BGS Recorded Landfill Site (Location)
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHNS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
 - BGS Recorded Mineral Site

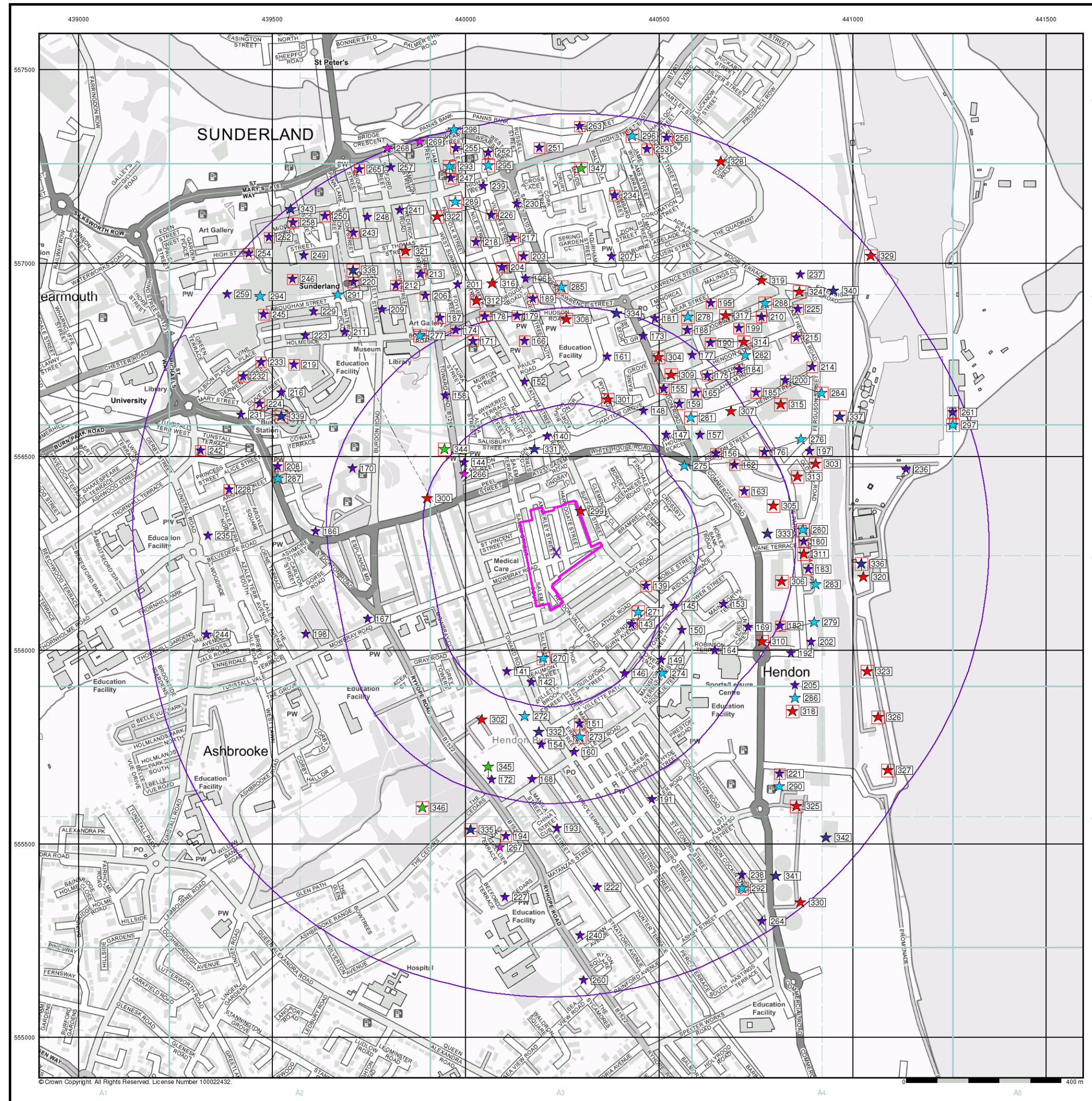
Site Sensitivity Map - Slice A



Order Details

Order Number: 275856325_1_1
 Customer Ref: 20-794
 National Grid Reference: 440230, 556250
 Slice: A
 Site Area (Ha): 3.1
 Search Buffer (m): 1000

Site Details
 Harrogate Street, Sunderland



Industrial Land Use Map

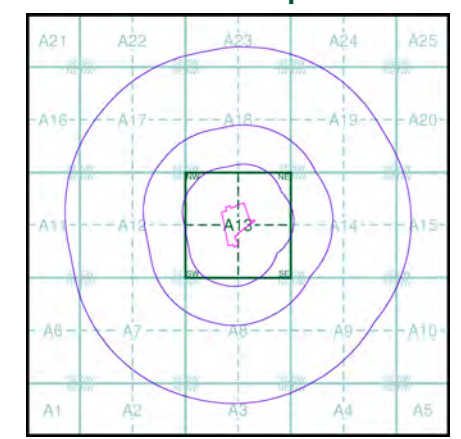
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

Order Number: 275856325_1_1
 Customer Ref: 20-794
 National Grid Reference: 440230, 556250
 Slice: A
 Site Area (Ha): 3.1
 Search Buffer (m): 1000

Site Details

Harrogate Street, Sunderland



Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk