

J&M MURDOCH, SHILLFORD

Phase 1 Desk Study & Coal Mining Risk Assessment



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Ironside Farrar Ltd

Environmental Consultants
111 McDonald Road
Edinburgh
EH7 4NW

0131 550 6500

www.ironsidefarrar.com

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EXECUTIVE SUMMARY

Introduction

J&M Murdoch & Son Ltd is proposing a major planning application for a transport depot, workshops, office and welfare facilities, museum, drainage works, landscape works including biodiversity enhancement, parking, formation of new access, and associated development on land to the south of Lochlibo Road and to the east of Cowden Brae, Shillford, East Renfrewshire.

To support a planning application, J&M Murdoch has commissioned Ironside Farrar Limited to carry out a Phase I Desk Study and Coal Mining Risk Assessment to understand potential geoenvironmental, mineral and geotechnical issues, which may have an impact on future development at the site. The scope of works included review of historic and geological mapping, collation of information relating to the site's environmental setting, consultation with relevant authorities and the completion of a site walkover. Following this an initial conceptual site model and preliminary risk assessment has been undertaken, alongside highlighting likely geotechnical considerations and completing a mineral stability assessment.

General

The desk study area comprises an irregular shaped parcel of land in Shillford, East Renfrewshire approximately 1.2 km north-east of Uplawmoor and approximately 2 km west of Neilston. The site comprises a combination of green belt (underutilised grassland) and brownfield land associated with a former bus/coach depot, with an unnamed minor watercourse flowing west to east through the site.

History and Current Site Uses

Historic land use includes the former Shillford Meal Mill in the western region of the site, likely used an agricultural mill to grind oatmeal, corn or grain for subsequent sale. The majority of the site has remained vacant grassland and brownfield land through the years, with the Meal Mill moved off-site and relabelled as a storage depot. More recent land use includes a bus/coach depot in the western region of the site and various small unlabelled structures surrounded by apparent fly-tipping in the eastern region of the site. Relevant historic land uses in the site surrounds include two fuel filling stations, a garage, a saw mill a tannery, railway land and various quarries.

Ground Conditions

There is likely to be limited made ground on site, as the majority of the site has remained vacant grassland. Any made ground present would likely be associated with the former mill, bus/depot and its affiliated hardstanding. Soils in the majority of the site are recorded to be predominantly alluvium of clay, silt, sand and gravel, while the southwestern corner of the site is underlain by diamicton till. Superficial soils may be absent in the most southern reaches of the site.

Bedrock below the majority of the site is recorded as part of the Neilston Lava Member comprising alkali basaltic rock from the Clyde Plateau Volcanic Formation. The northwest corner of the site is recorded as comprising cycles of sedimentary rock and marine limestone of the Upper Limestone Formation. Geological mapping and available BGS borehole logs suggest that bedrock may be close to the surface in places.

Mining and Mineral Stability

Coal mining and mineral extraction is not believed to have occurred beneath the site, such that no surface instability is expected to exist below the site area. The entirety of the site lies within the Coal Authority's Coal Mining Reporting Area, prompting the ordering of a CON29 report which revealed an overall low risk to future development from mineral instability.

Hydrogeology/ Hydrology

A minor surface water feature flows west-east through the site before discharging into the Cowdon Burn to the east of site borders. The groundwater aquifer within igneous bedrock beneath the site comprises unnamed extrusive rocks and is classified as a low productivity aquifer with limited potential. The region is generally without groundwater except at shallow depth. Alluvial soils may be expected to hold groundwater, however their thickness at the site is unlikely to be significant and therefore there is unlikely to be a superficial groundwater body of resource value.

SEPA has identified the Newton Mearns and Kilmarnock groundwater bodies to underly the site. The overall status of the former was considered to be "Good" in 2020 with no recorded pressures. The latter groundwater body has an overall status of poor due to mining legacy.

Contamination

The recent and former land uses raise the potential for several sources of contamination to exist in the shallow soils and groundwater (and in remaining structures). These include a former saw mill, former meal mill, tannery and recent bus depot with associated hardstanding (fuels, organic and inorganic compounds, chemicals, ash, metals) as well as filling stations directly flanking the western and eastern sides of the site which may release previously contained contaminants (hydrocarbons, oxygenates, sulphur, metals) onto the site. A former railway line is present to the north and various quarries are noted within 1km of the site boundary.

Contamination Preliminary Risk Assessment

Development of the Phase I preliminary risk assessment has identified low to moderate potential risks to future human health across the site for the proposed commercial/ industrial end use. These mostly relate to a variety of potential contaminants from former activities and risks are slightly higher for construction workers compared with end users of a fairly non-sensitive land use. Risks to groundwater are possible due to the potential presence of mobile contamination within the

shallow soils and the identification of relevant receptors below and adjacent to the site, although the sensitivity of groundwater to contamination is low due to underlying geology. The unnamed surface water flowing through the site is a potential receptor of concern that will require further consideration, although the proposed hardstanding ground cover, drainage systems and best practice operation of the site should reduce risks to the water environment. On average the Phase I risk assessment concludes that potential overall contamination-related risks as low to moderate for the site and the identified potential pollutant linkages will require characterisation.

Geotechnical Considerations

Foundations solutions for any development will be dependent on building design and size, loadings, layouts and ultimately ground conditions. The upper layers of natural soils or bedrock would be the preferred foundation horizon, however if these have the potential to be excessively compressible or fractured suitable foundation soils may only be found at depth. Depth to an appropriate foundation strata/ horizon would be identified from a programme of intrusive ground investigation works. Foundation requirements will also depend on the foundation loads. However, potential solutions could include conventional strip and pad foundations, trench fill foundations, raft foundations, ground improvement or piling. Former structures in parts of the site may mean that underground obstructions or foundations may remain in-situ which would require to be considered as part of a development at design, investigation and construction stages.

Recommendations

The following recommendations are made:

- A ground investigation should be carried out across the study area to further develop the initial conceptual site model, determine the geo-environmental condition of the site and provide geotechnical information to inform earthworks, foundation solutions and other engineering/ construction related matters.
- Chemical and geotechnical testing of soils, groundwater and surface waters to inform an updated risk assessment.
- Carry out ground gas risk assessment following installation of boreholes and an appropriate monitoring period.
- Investigate the potential presence of buried structures in areas around former buildings.
- Provide updated quantitative risk assessments with respect to soil and groundwater contamination, ground gas assessment and geotechnical considerations. Any need for remedial action will depend on the findings of the ground investigation.

1.0 INTRODUCTION

1.1 Background and Introduction

Prior to the future development of a site in Shillford, East Renfrewshire, J&M Murdoch wish to better understand land quality issues which may affect the developability of the land and identify likely design and construction constraints associated with potential mineral, geotechnical and land contamination issues.

Ironside Farrar Ltd (IFL) has been appointed by J&M Murdoch (the client) to undertake a desk based assessment of the site, including procuring and reporting on Envirocheck and Coal Authority information, consulting with relevant authorities and carrying out a site walkover.

This Phase I Desk Study Report has been prepared to develop an initial desk-based understanding of the site through reviewing available regulatory information, historical and geological mapping, Coal Authority records, available environmental information and consulting with relevant statutory bodies. The outputs from the Desk Study will inform any proposed ground investigations and support planning submissions to the Local Planning Authority.

1.2 Aims and Objectives

The aims of the Phase I Desk Study are to establish:

- The likely ground conditions below the site.
- Potential contamination risks with respect to the underlying soils and groundwater.
- Potential geotechnical issues with respect to the underlying soils and groundwater.
- The mineral position of the site and potential mining related constraints or issues.

The Desk Study findings have been used to:

- Develop an initial Conceptual Site Model and Preliminary Risk Assessment for the site.
- Carry out a preliminary geotechnical assessment in terms of foundation solutions and associated construction aspects.
- Carry out a Coal Mining Risk Assessment.
- Determine the outline scope of follow-on intrusive ground investigations.

1.3 Proposed End Use of Site

J&M Murdoch are proposing a major planning application for a transport depot, workshops, office and welfare facilities, museum, drainage works, landscape works including biodiversity enhancement, parking, formation of new access, and associated development on land to the south of Lochlibo Road and to the east of Cowden Brae, Shillford, East Renfrewshire. The site location is shown in Figure 1, a site boundary plan is presented as Figure 2 and an aerial photograph of the site as Figure 3. Development Characteristics are presented in Table 1A and a proposed development layout is presented in Figure 4.

Table 1A: Development Characteristics

Development	Description
Workshops	The existing workshop on site will be relocated on site to accommodate parking requirements. Additional vehicle and welding workshops are proposed. The workshop will have a floorspace of approx. 766 sqm.
Office	New office building will be two storeys in height, providing a gross internal floor area of approx. 307 sqm.
Museum	The proposed museum will display vintage vehicles and provide information on the history of the business. This will be open to visitors at arranged times. The museum will have a floorspace of approx. 766 sqm.

Development	Description
Landscape & Biodiversity Enhancement	The proposals will integrate nature-based solutions to protect and enhance biodiversity within the site. This will include: <ul style="list-style-type: none"> • Habitat provision: Integrating native planting, hedgerows etc can provide suitable nesting, foraging and shelter habitat. • Plants for Pollinators: Careful selection of plant and flowers can support a diverse range of insects, mammals and birds, whilst providing shade, carbon storage, and attractive spaces.
Drainage	Sustainable Drainage manage surface water which limits off-site flood-risk whilst creating new diverse habitats. It is proposed to realign sections of an existing minor watercourse to naturalise/enhance with added biodiversity. An element of culverting is expected, to be agreed with SEPA/East Renfrewshire Council.
Access	The existing access to the site from Lochlibo Road will be upgraded to allow HGV movements. Staff and visitor parking will require a new access from Cowden Brae.
Parking	Approximately 133 parking spaces will be provided on site for staff and visitors. Lorry & Truck parking will likely extend to 87 spaces.

1.4 Scope of Works

In general accordance with British Standards BS10175:2011+A2:2017 and BS5930:2015+A1:2020, the following outlines the scope of works undertaken as part of this assessment:

- Review of the historical land uses of the site and its immediate surrounds via procurement of historical Ordnance Survey (OS) mapping.
- Review of the environmental setting and published ground conditions below the site as determined by factors such as geology, hydrogeology and hydrology.
- Review environmental databases including the Scottish Environmental Protection Agency (SEPA), British Geological Survey (BGS) and the Coal Authority (CA).
- Review of regulatory environmental information through procurement of an Envirocheck Report.
- Obtain Coal Authority CON29M Coal Mining Report and review mining data held at the British Geological Survey.
- Carry out a site walkover to assess current site condition, check for visual and olfactory signs of contamination and assess geo-morphological features/ ground conditions.
- Develop an initial conceptual site model (CSM) and Preliminary Risk Assessment (PRA) with respect to land contamination.
- Completion of a desk-based Coal Mining Risk Assessment to assess the mineral stability of the site given its location in a former mining area within East Renfrewshire.
- Prepare Phase I Desk Study Reporting and provide recommendations for Phase II Intrusive Ground Investigation if considered necessary.

1.5 Notes on Limitations

Notes on limitations are included in Appendix A. It should be noted that an invasive species survey and a detailed flood risk assessment (FRA) are outside the scope of this report. An FRA has been prepared by Kaya Consulting Ltd.

2.0 METHODOLOGY AND CONSULTATIONS

2.1 Methodology and Information Sources

The following methodology has been used during this report:

- Collation/ review of background information – including site history, geology, existing site investigation reporting and mining information.
- Procurement of an Envirocheck Report for the site including historical OS mapping.
- Procurement of a Coal Authority Report for the site.
- Completion of walkover site survey, including collation of photographs.
- Consideration of Planning Advice Note 33 (PAN 33) – *Development of Contaminated Land* and other non-statutory guidance including CLR 11 *Model Procedures for the Management of Land Contamination* (EA, 2004) and *Land Contamination Risk Management* (LCRM) (EA, 2020)¹.
- Consultation with relevant organisations, statutory undertakers and public bodies on any other relevant information held.

Table 2A: List of Information Sources

Consultation/ Information Source	Type of Information
British Geological Survey	Geology, hydrogeology, hydrology and borehole information.
SEPA	Hydrology, hydrogeology, flood risks, waste and industrial process information.
East Renfrewshire Council	Environmental information held by the local authority.
Envirocheck / Landmark Information Group	Historical plans, regulatory (environmental) data.
Coal Authority	CON29M Coal Mining Report and online viewer to identify potential risks from coal mining.
Scotland's Environment Website	Ecological data, archaeological information/ land use data.

¹ Note that CLR 11 was withdrawn by the Environment Agency on 8th October 2020 following the publication of the LCRM guidance. The status of this guidance in Scotland has not yet been determined and so reference has been made to both documents during the preparation of this report.

3.0 SITE DETAILS

3.1 General

<i>Site address:</i>	Lochlibo Road, Shillford, Uplawmoor, East Renfrewshire
<i>National Grid Reference:</i>	Approximate centre of site NS 45041 56259
<i>Size of site:</i>	Approximately 3.98ha

A location plan is presented as Figure 1, a site plan as Figure 2 and an aerial photograph as Figure 3.

3.2 Site Description

The study area forms a 3.98ha parcel of land to the south of Lochlibo Road and east of Cowden Brae. The site is generally topographically level, although gradually rises from Lochlibo Road to Cowden Brae.

The site comprises a combination of green belt (underutilised grassland) and brownfield land associated with a former bus/coach depot, with an unnamed minor watercourse flowing west to east through the site. Further details of the current site conditions can be found in section 3.3 of the report.

3.3 Site Walkover Survey

A site visit was carried out on the 17th of December 2023. The site was fenced along the western, northern and eastern sides while open from the southern side, with one access point for vehicles located on the northern boundary from Lochlibo Road. While access could be gained from the northern entrance point into the area of hardstanding in the northwest of the site, access to the remainder of the site was obstructed by overgrown and unmanaged trees and vegetation, and consequently a visual inspection of the site had to be undertaken from the boundary. Therefore, detailed inspection of the southern half of the site and eastern area of the site was not possible.

The study area comprises a broadly irregular shaped parcel of land, located between the Lochlibo Road (A736) to the immediate north and Cowden Brae to the immediate west and surrounded largely by agricultural land.

The site is split roughly north-south into two distinct land types. The northern section of the site is mostly covered by dense trees and shrubs with a commercial area atop hardstanding in the northwest. The southern section of the site is predominantly unmanaged grassland and vegetation.

The northwestern section of land contains three main buildings and one derelict structure, namely a coach depot, an office associated with the coach depot, and the Shillford Mill house. There is also a garage that extends from the western border of the site, likely associated with the offsite Mundell Landscapes facility. This building was noted to have suspected asbestos corrugated roofing, although this appeared to be in good condition.

The most central structure, the coach depot, is square in shape and constructed of corrugated metal with a sloping roof and three large garage doors on the western face of the building. In front of these garage doors sit multiple parked coach buses. The structures that sit along the western site border, which are the Shillford Mill house, office and garages, are rectangular in shape. The Shillford Mill House and office are constructed of brick while the garages are constructed of corrugated metal with two large garage doors.

Located atop the hardstanding and sitting between the western border structures and the coach depot is an above ground fuel storage tank with fuel pump attached, although this appears disused. To the west of the site sits the remnants of an old filling station, evidenced by what appear to be access points for underground tanks/pumps. These are no longer in use, with rubbish and wooden pallets sat atop the access points. The Envirocheck notes an additional filling station to the east of the site, although this was not observable during the walkover and is occupied by a sign-writing business.

The ground across the entire site is generally flat, sloping slightly from Lochlibo Road towards Cowden Brae. Vegetation on the northern half of the site comprises dense trees and bushes while vegetation on the southern half of the site consists of long unmanaged grasses punctuated by small gorse bushes and thorny bushes.

Areas of fly tipping were observed to the east of the coach depot structure, comprised of wooden pallets, old fencing, tyres, gravel and asphalt material and general waste. Small areas of fly tipping were also noted along the northern site boundary.

In the eastern portion of the site there are overhead electricity lines that cross the site north-south, and two manhole covers are noted along the northern border of the site.

A minor water feature is noted entering the site from the western boundary flowing west-east. While water in the main channel is fast flowing and appears of good quality, drainage features entering the main channel coming from north to south and south to north are stagnant and full of overgrown and dead vegetation. While it is understood that this water feature crosses the entirety of the site, restricted access to the centre of the site meant that full visualisation of the water feature was not possible.

A selection of photographs taken during the site walkover are included as Appendix B.

3.4 Surrounding Land Use

The site is surrounded on the northern and north-eastern sides by employment and residential uses, with agricultural land to the immediate north and south and a small sign manufacturing business to the immediate east. Separating the site's northern boundary from the adjacent agricultural land is Lochlibo Road and a railway line. Overhead power cables run across the eastern section of the site.

To the immediate west of the site and meeting with Cowden Brae sits a small commercial area comprising a landscaping business, garage, and bus depot. Further west sits additional agricultural land as well as the Uplawmoor Wood, within which sits various disused quarries.

3.5 Topography

Topography of the site is generally flat, gradually rising from Lochlibo Road to Cowden Brae.

3.6 Site Access

The site is accessible by foot along the southern side of Lochlibo Road, and vehicle accessible through two entry road points located along Lochlibo Road and Cowdon Brae.

3.7 Utilities

Information on utilities on and in the vicinity of the site has been procured. There are no utilities on the site itself, although proposed BT infrastructure is marked on the western boundary.

A 90mm HPPE underground water pipe is located off the western boundary of the site running broadly north-south.

The nearest gas services from SGN are an intermediate pressure main to the south of the site running beside Uplawmoor Road.

There are no telecommunications services on the site although BT cabling runs along the upper western border of the site from an electricity pole up across Lochlibo Road to the north of site, and further cabling runs along the edge of Cowden Brea road to the west and south of the site. Two BT energy boxes sit along the northern edge of the site. There are electricity utilities crossing over the eastern region of the site as noted by SP Energy Networks, the utility being a 400kV transmission line.

4.0 SITE HISTORY

4.1 Historical Review

The history of the site has been examined using 1:2500, 1: 10,560 and 1:10,000 scale county series and Ordnance Survey Maps provided by Landmark via Envirocheck and are included within Appendix C. These maps date from 1858. Reference has also been made to aerial imagery provided by Google Earth Pro. The following significant features were identified on or within 1km of the site boundary on the historical maps, distances noted are approximate.

Table 4A: Historical Summary – Site Features

Map dates	Feature	Location within Site	Comment
On site Features			
1858 - 1897	Vacant, presumed agricultural land	Entire site	Vacant grassy land with some vegetation split into 4 main plots.
1913 - 1958	Shillford Meal Mill	Northwest of site	Small structure in northwest of site denoted as the Shillford Mill, part of large adjacent off-site building. By 1967 the smaller on-site structure is no longer present and the larger off-site structure is relabelled as Shillford Mill Storage Depot.
1913	Well	Southwest corner of site	Small well located in southwest corner of site on 1913 edition, immediately adjacent to off-site unlabelled road to the west. No longer noted by 1967.
1993 - 1999	Unlabelled structure	Northwest of site	Unlabelled rectangular structure located in northwest of site to the east of where the former on-site mill structure was present. By 2017 structure is replaced by larger building. Likely to be associated with former bus depot.
1992 - Present	Various small unlabelled structures within a fence	Northeast of site	Unlabelled rectangular fence with various small structures located in northeast of site, likely associated with adjacent off-site filling station.
2002 - Present	Hardstanding	West of the site	Hardstanding used as vehicle parking in the west of the site, first evident on Google Earth Pro imagery in 2002 but likely dates prior to this. Connects with adjacent A736 road to the north of site to form a site entrance. Likely to be associated with former bus depot.
2017 - Present	Pile of apparent fly-tipping/waste	Northwest of site	Large pile of waste/possible fly-tipping visible on Google Earth Pro imagery.

Table 4B: Historical Summary – Off Site Features

Map Dates	Feature	Distance and direction	Comment
Off Site Features			
1858 - Present	Lochlibo Road	Immediately adjacent north	(A736) Runs W-E immediately adjacent to the northern border of the site.
1858 - Present	Cowden Brae	Immediately adjacent southwest	Runs NW-SE immediately adjacent to the southwest border of the site.

Map Dates	Feature	Distance and direction	Comment
Off Site Features			
1913 - Present	Saw Mill	Approximately 10m west	Relabelled as Shillford Mill Storage Depot in 1967 and denoted as several different buildings connected together by 1992, labelled as Shillford Garage on Google Earth Pro imagery. An additional two building structures were also added 10m further west in 1992, labelled as Mundell Landscapes on Google Earth Pro imagery.
1967 - Present	Filling station	Approximately 20m east	Two structures make up the filling station adjacent to the eastern border of the site. Labelled as C.J. Strain and Son on Google Earth Pro imagery.
1858 - 1992	Blacksmith's workshop	Approximately 30m west	Labelled as a 'Smithy' in 1897 and 'Smithy Garage' in 1967.
1897 - Present	Glasgow and Kilmarnock Joint Railway	Approximately 40m north	Runs parallel to the northern border of the site, with cuttings along each side of the rail line. Relabelled as London Midland & Scottish Railway in 1938.
1992 - Present	Filling station/buildings	Approximately 60m west	Labelled in 1992, the filling station replaced the previously noted tank and blacksmith's workshop west of site borders. Subsequently labelled as Barrhead Leather (a tannery).
1967 - 1992	Tank	Approximately 80m west	Presumed part of filling station labelled in 1992.
1912 - Present	Lanarkshire & Ayrshire Railway	Approximately 140m south	Railway with cuttings along each side of the rail line, labelled as 'Dismantled Railway' by 1967 historical mapping edition.
1856 - Present	Uplawmoor road	Approximately 150m south	Runs W-E, separating Gravel Pit and Taphead Quarry from the site
1863 - Present	Residential property	Approximately 150m west	Residential property located on northern side of adjacent Lochlibo Road.
1967 - Present	Cowdenmill cottages	Approximately 160m southeast	Two main cottages and various smaller structures sit within a region of land separated into four plots.
1896 - Present	Residential properties	Approximately 200m west	Two residential properties located on southern side of adjacent Lochlibo Road, separated from the site by Lagavulin Road approximately 85m west of Cowden Brea Road.
1863 - Present	Cowdon Burn	Approximately 275m east	Flows S-N parallel to the eastern border of the site, then turns east flowing immediately adjacent to Lochlibo Road.
1863 - Present	Cowdenmoor Farm	Approximately 300m southwest	Not labelled as such until 1999 historical mapping edition.
1863 - Present	Uplawmoor Wood	Approximately 300m west	Multiple quarries sit within the Uplawmoor Wood, mostly labelled as disused at present day.
1863 - 1896	Gravel Pit	Approximately 600m southwest	No longer noted after 1896 historical mapping edition.
1863 - 1999	Taphead Quarry	Approximately 700m southwest	Labelled as disused by 1969.
1863 - 1896	Old Quarry	Approximately 750m west	No longer noted after 1896 historical mapping edition.
1863 - 1999	Shillford Quarry	Approximately 800m west	Labelled as disused by 1969.

4.2 Historical Summary

From the earliest available mapping editions, the site was vacant grassy land with some vegetation. In 1913 a small structure was denoted in the northwest of the site as the Shillford Mill and a well was noted in the southwest corner of the site. Following removal of the original structure before 1967, a second structure was present from 1993 mapping, and then replaced with a larger structure by 2017. Hardstanding is present in this area from 2002 aerial imagery but may have been constructed before this. The subsequent structures and hardstanding area likely to be associated with a former bus depot present on the site. In the northeast of the site, the land remained vacant until 1992 when various small unlabelled structures within a fence were constructed.

Various quarries and a gravel pit have been present in the surrounds since mapping as early as 1863, many of which are noted as disused at present day. Since 1863 a large area of woodland called the Uplawmoor Wood was noted west of the site, where multiple of the noted quarries reside. A railway line sits north of the site from 1897 to present, with an additional railway line north of the site first recorded in 1912 but labelled as dismantled by the 1967 historical mapping edition. In 1913 a sawmill is recorded just west of site borders, turned into a storage depot by 1967 and labelled as Shillford Garage by 1992.

Filling stations are denoted to both the west and east of the site, in 1992 and 1967 respectively. Neither are currently operated as filling stations, with the easternmost now operated as a sign manufacturer and the structures to the west now operated as a tannery.

5.0 ENVIRONMENTAL & GEOLOGICAL SETTING

5.1 Geology

An assessment of the geology of the site has been prepared using information from the following British Geological Survey (BGS) published data:

- BGS Sheet 22E (Kilmarnock) 2003 Solid Edition, 1:50,000 scale.
- BGS Sheet 22E (Kilmarnock) 2002 Solid and Draft Edition, 1:50,000 scale.
- BGS Sheet NS45NW, 1996, 1:10,000 scale, solid and drift editions.
- BGS Sheet NS45NE, 1996, 1:10,000 scale, solid and drift editions.
- BGS GeolIndex Interactive Viewer.
- BGS Boreholes (via Geology of Britain Viewer).

Made Ground

The 1:50,000 scale BGS map sheet does not record any made ground on site. However, the former land uses relating to a meal mill and hardstanding associated with unlabelled structures suggest that a layer of made ground may be present on the site, particularly in the western region. There are no historic BGS boreholes recorded on-site. One borehole is present approximately 130m west of site borders, which does not record any made ground.

Soils

The James Hutton Institute *Soil Map of Scotland* (1:25,000 scale) records soils at the site to be noncalcareous mineral gleys, with drifts derived from basaltic and intrusive basic igneous rocks. The NatureScot *Carbon and Peatland mapping (2016)* records no peatland vegetation at the site or surrounds.

Drift Geology

The 1:50,000 & 1:10,000 scale BGS mapping records the drift geology below the majority of the site as alluvium of the Quarternary Period, which is reported to comprise unconsolidated detrital material of clay, silt, sand and gravel deposited by a body of running water. The southwestern corner of the site is noted to record diamicton till of the Devensian Stage, likely to be firm to stiff clays with sand and gravel lenses. The southeastern region of the site does not report any superficial soils suggesting bedrock may be near to the surface in this location.

Solid Geology

The geological mapping indicates that the majority of the bedrock beneath the site comprises the Neilston Lava Member, extrusive igneous rocks comprising macroporphyrific olivine-augite-feldspar-phyrific alkali basalt. The strata are recorded as having a thickness of over 100m. An inferred fault is marked running broadly west-east through the central portion of the site.

A small portion of the northwest corner of the site is recorded as being underlain by sedimentary rock cycles and marine limestones of the Upper Limestone Formation from the Clackmannan Group.

BGS Historic Boreholes

There are no historic BGS boreholes recorded on the site. One borehole is recorded approximately 130m west of site borders (ref. NS45NW18) within the Upper Limestone Formation. This borehole recorded "soil" from ground surface to 0.3m and then "boulder clay" to 1.2m below ground level where shallow rock was encountered. Bedrock at this location comprised "sandstone" which extended to 14m depth in the borehole. The historic borehole log is presented in Appendix D.

5.2 Mining and Quarrying

The site lies within the Coal Authority's Coal Mining Reporting Area. A CON29M report was requested from The Coal Authority. The main points are provided below, while the full report is presented in Appendix E.

- The site is not within a surface area that could be affected by any past recorded underground coal mining.
- The property is not within a surface area that could be affected by present underground mining.
- The site is not in an area likely to be affected from any planned future underground coal mining, however, reserves of coal exist in the local area which could be worked at some point in the future.
- There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.
- The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.
- The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.
- The Coal Authority report states that coal mining related features are unlikely to impact on the stability of the site.

The Envirocheck report includes details of BGS Recorded Mineral Sites in the area surrounding the site. Those within 500m of the site have been summarised in Table 5A below.

Table 5A: Summary of BGS Recorded Mineral Sites

Site Name	Distance site (m)	Details
Cowdonmoore Gravel Pit	391m	Southwest of site borders. Opencast mining. Unknown operator with ceased status.

5.3 Hydrology

There are no classified surface water bodies on the site, although an unnamed drain is culverted under Cowden Brae and part of the former bus depot before daylighting near the western boundary of the site. The unnamed drain bisects the site, flowing from west to east. A tributary ditch to the unnamed drain flows north along the western boundary of the site, joining with the main drain in a short open section between the road and bus depot culverts. The unnamed drain flows across the site, connecting with the Cowdon Burn to the east of the site.

The Cowdon Burn is located 275m to the east and flows generally south to north. SEPA does not classify this water body. The nearest classified water body is the Lugton Water (ID: 10383), which is located approximately 120m north of the site flowing north to south and then east to west. The Lugton Water was classified by SEPA in 2020 as being Moderate Ecological Potential. The surface water has been designated as a heavily modified water body on account of physical alterations that cannot be addressed without a significant impact on the drainage of agricultural land.

5.4 Hydrogeology

The BGS UK Hydrogeology Viewer describes the rock unit throughout the site as unnamed extrusive rocks of the Dinantian unit with a low productivity aquifer underlying the site and surrounds with limited potential and within a region generally without significant groundwater except at shallow depth. Small amounts of groundwater can be found in near surface weathered zones and secondary fractures, with up to 2 L/s from rare springs.

The SEPA Water Classification Hub website records the groundwater body beneath the majority of the site as the Newton Mearns groundwater body (ID: 150622). The groundwater body is in the Scotland river basin district and is 166.7km² in area. SEPA classified the overall status of the groundwater body as Good in 2020, with no recorded pressures. A small portion of the northwest of the site is underlain by

the Kilmarnock groundwater body (ID: 150662), classified as Poor in 2020. Pressures are indicated as poor water quality caused by legacy mining or quarrying.

The Scottish Government Drinking Water Protection maps records that the groundwater body is protected as a Drinking Water Protection Zone (as is all groundwater across Scotland), however there is no surface water drinking protection zone within, or within the vicinity of, the site.

The Envirocheck report does not record any water abstraction points within 1km of the site. SEPA also confirmed that there are no groundwater abstractions authorised under Controlled Activities Regulations (CAR).

5.5 Flooding

SEPA's online Flood Maps indicate the likelihood of river, surface water and coastal flooding assessed at a community level and model flooding at a national scale. They do not show the interaction between or combined impacts of the different sources of flooding occurring at the same time. The maps show three likelihoods for flood extent, depth and velocity:

- High (10% chance of flooding each year)
- Medium (0.5% chance of flooding each year)
- Low (0.1% chance of flooding each year)

The flood maps do not record a risk of river or coastal flooding on site. An area of medium and high likelihood of surface water flooding is recorded running across most of the west to east length of the centre of the site, following the minor water feature referred to above. A small area of low likelihood flooding is present in the centre of the site, amongst the medium/high surface water flooding area.

In the vicinity of the site a medium and high likelihood of surface water flooding is noted to the east of the site between the site border and Cowdon Burn. An area of high likelihood for surface water flooding is also shown to the immediate west of the site.

The Envirocheck report records the site to be located in an area with limited potential for groundwater flooding to occur. A detailed flood risk assessment is outside the scope of this report, however an FRA has been prepared by Kaya Consulting Ltd (Kaya, 2023). The assessment included results of mathematical modelling, which indicated that small areas of low lying land parallel to the main surface water channel and tributary are inundated, however much of the site remains outwith the flood extent.

Based on National Planning Framework 4 (NPF4) areas of land outwith the 200 year + climate change flood extent is suitable for most types of development including commercial. Kaya recommends that surface water should be intercepted at the site boundary in a channel which can convey the water to the proposed site drainage system or through the site to an appropriate point of discharge. Landscaping should encourage surface water away from buildings and to an appropriate point of discharge or into the proposed site drainage system.

5.6 Ecological Setting

NatureScot SiteLink mapping provides information regarding areas of potential ecological sensitivity. Within the study area and immediate surrounds there are no Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Special Protection Areas (SPA), RAMSAR sites or Ancient Woodland.

The Pastmap website lists areas of historic sensitivity or buildings, sites and ancient monuments of archaeological, architectural and historical interest. A Canmore feature is noted just west of the site's western border, classified as a grain mill and saw mill under ref. 187121. This same location is noted as a Historic Environment Record under industrial classification, ref. 39994. The only other feature listed within proximity to the site is a Cultural Heritage Assessment of a large area of replacement overhead line under the classification of Archaeological Event Record ref. 4966, approximately 200m east.

The sensitive land uses recorded in the Envirocheck report include an area of Ancient Woodland 217m west, 565m north and 975m northwest of the site. This Ancient Woodland to the west is likely to be associated with the Uplawmoor Wood referenced on historic maps. Additionally, an area of adopted greenbelt is present on site.

5.7 Radon

The Envirocheck report notes that the property is in a Lower probability radon area where less than 1% of homes are estimated to be at or above the Action Level. The report states that no radon protective measures are necessary in the construction of new dwellings. This is confirmed by the UK Health Security Agency Radon mapping for the area.

5.8 Envirocheck Report Data Sheets

Environmental information supplied within the Envirocheck Report is summarised in Table 5B overleaf. A full copy of the report is included as Appendix F.

Table 5B: Summary of Environmental Data

Issue	Distance from site (m)			Details
	On site	0 – 250	251 – 500	
Discharge Consents	1	0	2	0m, W – Granted to Hamilton of Larkhall Limited and listed as a public sewage septic tank, received by a tributary of the Cowdon Burn. Positional accuracy given as 100m. 344m, NE – Granted to Mr and Mrs A E Jessel and listed as a sewage treatment works final effluent, part biological treatment, received by a tributary of the Cowdon Burn. Positional accuracy given as 100m. 347m, NE – Granted to William Mcmillan and listed as an unknown discharge type, received by the Cowdon Burn. Positional accuracy given as 100m.
Local Authority Pollution Prevention and Control	0	0	0	None within 500m.
Registered radioactive substances	0	0	0	None within 500m.
Registered Landfill Sites	0	0	0	Landfill data supplied by East Renfrewshire Council. Nearest recorded registered landfill is located 542m SW, with licence held by Scottish Teleprops & Burnthills Dem.Lt with status lapsed/cancelled/defunct.
Registered Waste Transfer Sites	0	0	0	None within 500m.
Registered Waste Treatment or Disposal Sites	0	0	0	None within 500m.
Contemporary trade directories (active)	0	3 (1 active)	0	14m W – Shillford Garage, classified as MOT Testing Centre.
Fuel Station Entries	0	1	0	83m W – Smithy Filling Station, status obsolete.

5.9 Local and Statutory Authority Consultations

Registered Waste Carriers and Brokers

The following table details from SEPA's Register of Waste Carriers and Brokers within 1km of the study area:

Table 5C: Registration list

Registration Number	Operator/ Address	Licence expires	Type
WCR/R/1100945	Mundell Landscapes Ltd (Lochlibo Road, G78 3BA)	March 2024	Waste Carrier

This is immediately adjacent to the western border of the site.

Scottish Pollutant Release Inventory (SPRI)

The SEPA SPRI is a database of annual mass releases of specified pollutants to air, water and land from SEPA regulated industrial sites. It also provides information about off-site transfers of waste from these sites. The SPRI provides emission values and waste transfers when they are over the reporting thresholds and indicates if a site releases a pollutant below the threshold. SPRI emissions data from 2002 to the present year (except 2003) are available and reported annually.

A search of the database, requesting all records within a 1km radius of the site's approximate postcode, did not find any SPRI records.

Consultation with East Renfrewshire Council and SEPA

A request was made under the *Environmental Information (Scotland) Regulations 2004* to both East Renfrewshire Council and SEPA for any relevant environmental information they may hold for the site.

Responses received from SEPA and East Renfrewshire Council are included in Appendix G and summarised below.

SEPA

- There are no waste management, controlled activities regulation, pollution prevention controls or radioactive substances authorizations within 500m of site borders.
- There is record of one pollution event, dated in May 2019 dealing with a quality of sewage effluent from Heatherbank Park, Neilston, located to the north of the site. Samples taken in June 2019 showed results were within consented limited detailed in the CAR license.
- There are no surface or groundwater abstractions within 500m of site borders.
- There is no record of any historic or current landfill within 500m of site borders.

East Renfrewshire Council

- There are no known landfill sites within 1km of site borders.
- There are a number of private water supplies within 1km of site borders, including all properties/mobile homes within the Boundary of Heather Bank Country Park, Residential Caravan Site, Ailsa View Cottage and Pattiston Arnail, Pattison Farm, Pattison Cottages, Viewpoint Cottage, Thorterburn Farm, Milnthird, Banklug Farm and Finniebrae.
- Contaminative land uses within 500m include:
 - The site boundary lies on a site recorded as having historical use as sawmill and food preparation (including brewing) which may have resulted in contamination to the land.
 - Recent uses include a transport garage/ depot mechanic and landscape business.
 - Adjacent to the immediate west of the site boundary there are records of there having been a filling station and current use as a leather tannery.
 - Risk of contamination to the land is also associated with the current railway line that runs parallel to the north site boundary at approximately 25 m and the dismantled railway line which runs parallel to the south site boundary at 200m.
 - Risk of contamination is also associated with the quarry and associated works within Uplawmoor Woods 660m west-south-west of the site.

- There is one fuel tank on record within 500m of site borders, namely “Smithy Filling Station,” recorded immediately adjacent to the site boundary.
- The site lies within a coal mining area which may contain unrecorded coal mining related hazards and therefore the developer should consult with the National Coal authority. There are a number of historical quarries within 1 km of the site.
- East Renfrewshire Council do not hold any records of pollution incidents at the site.

5.10 Unexploded Ordnance

Reference has been made to Zetica Limited’s bomb risk map for the area. The risk from unexploded ordnance is considered to be low. The UXO map is presented in Appendix H.

6.0 GEO-ENVIRONMENTAL PRELIMINARY RISK ASSESSMENT

6.1 Land Contamination Legislation and Guidance

Planning Advice Note (PAN) 33, (revised 2000), *Development of Contaminated Land*, was issued by the Scottish Executive (now Scottish Government) Development Department with the objectives of providing advice on development when contamination is known or suspected to be present. PAN 33 records that a number of definitions of contaminated land exist.

Contaminated land is defined in the Environmental Protection Act (1990) Part IIA, as amended in Paper SE/2006/44, as:

‘Any land which appears to the local authority in whose area it is situated to be in such a condition, by reasons of substances in, on or under the land, that significant harm is being caused or there is a significant possibility of such harm being caused’, or ‘significant pollution of the water environment is being caused or there is a significant possibility of such pollution being caused.’

PAN 33 further states,

“it is important to recognise that Part IIA definition reflects the intended role of the contaminated land regime, i.e. to enable the identification and remediation of land from which contamination currently represents an unacceptable risk to human health or the wider environment. Part IIA contaminated land does not necessarily include all land where contaminants are present. With regard to a planning regime, a site containing contaminants may not be likely to cause significant harm in its current use, but if a different use were proposed, then the potential for significant harm may be enhanced. Moreover, the mere presence (or suspected presence) of contaminants may prove an impediment to the successful development of a site”.

In considering the reuse of land, the Scottish Government considers the “suitable for use” approach as the most appropriate way of dealing with potentially contaminated land. This focuses on the risks that may be posed by contamination on the basis of the proposed future use of a particular site and serves to avoid future unacceptable risks to human health and the surrounding environment.

Planning Advice Note 33 further states, *“The possibility of contamination on a site proposed for development should trigger a response which takes into account the potential risk. Planning authorities, therefore, need to consider ‘contaminated land’ in its broadest sense. Contaminated sites, for planning purposes, may be regarded as any site where the presence or suspected presence of contaminants is an obstacle to development, regardless as to whether development is proposed.”*

6.2 Risk Assessment Approach

The initial conceptual site model draws together the potential sources of contamination or hazards that may require assessment as part of the development, as highlighted by review of the desk study information. It also identifies the specific contaminants of concern, where appropriate, the pertinent contaminant pathways that could be present and the sensitive receptors that could be affected in respect to the proposed development.

The hazard assessment allows the development of an initial Conceptual Site Model (CSM) for the site and surrounding area, clarifying the mechanisms by which the site may present a risk in terms of source-pathway-receptor theory, i.e. potential “pollutant linkages”.

Following the identification of potential pollutant linkages, a qualitative Preliminary Risk Assessment can be undertaken. The preliminary estimation of risk posed by each pollutant linkage can be made based on a combination of:

- The potential severity of the hazard; and
- The likelihood of the hazard occurring.

CIRIA C552 (2001) introduced a framework for undertaking preliminary risk assessment, including estimating ratings for severity and likelihood in respect of a land contamination context. CIRIA's examples of consequence (or severity) and probability (or likelihood) – adapted and updated to fit Ironside Farrar's risk assessment framework – are presented in Tables 6A and 6B below.

Table 6A: Classification of Consequence

Classification	Definition	Examples
Severe	Short term (acute) risk to human health likely to result in "significant harm". Short term risk of water environment pollution. Catastrophic damage to buildings. Short term risk to an ecosystem.	High concentrations of cyanide on the surface of a play area. Major spillage of oil from a tank into a surface water. Methane explosion causing building collapse.
Medium	Chronic human health effects. Pollution of important water environment receptors. A significant change to an ecosystem.	Concentrations of contaminants exceeding relevant assessment criteria. Leaching of contaminants from site into an aquifer meeting UKTAG criteria. Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Damage to crops, buildings, structures and services. Damage to sensitive buildings, structures, services.	Pollution of shallow groundwater (non-UKTAG aquifer). Damage to building rendering or foundations.
Minor	Harm which may result in a financial loss or expenditure to resolve. Non-permanent health effects that could be easily prevented. Easily repairable damage to buildings, structures or services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discolouration of concrete.

Table 6B: Classification of Probability

Classification	Definition
High Likelihood	There is a pollutant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence of harm or pollution at the receptor.
Likely	There is a pollutant linkage, and all the elements are present and in the right place, which means that it is probable that an event will occur in the future.
Low Likelihood	There is a pollutant linkage and circumstances under which an event could occur are possible, although not certain.
Unlikely	There is a pollutant linkage, but circumstances are such that it is improbable that an event would occur even in the long term.
Negligible	Although both a source and a receptor has been identified, no feasible pollutant linkage is in place.

A comparison of consequence against probability can then be undertaken using the risk matrix presented in Table 6C.

Table 6C: Comparison of Consequence against Probability

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low Likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk
	Negligible	Negligible risk	Negligible risk	Negligible risk	Negligible risk

6.3 Potential Sources of Contamination (Source Characterisation)

Taking into account the Desk Study information, Table 6D overleaf lists potential sources of contamination and likely contaminants of concern, derived from current and former site use and by review of Department of the Environment published Industry Profiles, where appropriate.

Table 6D: Potential Sources of Contamination/ Contaminants of Concern

Potential Source	Rationale	Site Area	Potential Contaminants of Concern	Notes
On Site				
Former bus depot	Structures and hardstanding used as a bus depot. Historic tank and fuel pump observed during site walkover.	Around existing structures in the west of site	Range of metals, PAHs, organics, inorganic compounds, petroleum hydrocarbons, diesel, solvents, asbestos.	Potential for contamination and disturbance of soils around existing and former building footprints. Tank represents potential point source.
Meal mill	Agricultural mill used to grind organic substances for subsequent sale	Northwest	Oils, inorganic compounds, asbestos (in buildings)	Moved offsite by 1967 and relabelled as Mill Storage Depot. Potential for contamination from this former land use likely to be limited.
Potential made ground arising from unlabelled structures	Likely to be a degree of made ground across the site. Possibly reworked natural materials but source unknown.	Northeast, northwest	Metals, hydrocarbons, asbestos, PAHs, inorganic compounds, Petroleum hydrocarbons, ground gases (CH ₄ , CO ₂)	Potential for contamination and disturbance of soils around existing and former unlabelled structures.
Off Site				
Saw mill	Former potentially contaminating land use	10m west of site	Metals, hydrocarbons, PAHs, VOC, SVOC, ground gas, solvents, lubricants, oils, CCA	Potential for contamination and disturbance of soils, soil biodegradation.
Tannery	Potentially contaminating land use in vicinity of site	60m west of site	Metals, oils, SVOCs, VOCs	The tannery appears to be a small scale family operated business.
Filling stations/ Garage/ MOT Test Centre	Potentially contaminating land uses in vicinity of site	20m east and 60m west of site	Hydrocarbons, oxygenates, sulphur, TPH, PAHs, BTEX, metals	Filling station to the west of site replaced previously noted tank in 1992. Potential for contamination due to storage, spillage, leakage, and disposal of raw materials or waste products. Status of underground fuel tanks is unknown.
Mundell Landscapes – suspected asbestos corrugated roofing	Potentially contaminating land use	Immediately west of site	Asbestos	Mundell Landscapes structure immediately west of site suspected to have asbestos corrugated roofing, although appeared to be in good condition and unlikely to represent a significant source of contamination for the site.
Quarries (various)	Potential for quarries to have been backfilled with unknown materials	300m – 800m west/ southwest	Metals, hydrocarbons, asbestos, ground gases (CH ₄ , CO ₂)	Given distances from site potential sources are unlikely to be significant. Migration of gas is possible but unlikely.

6.4 Potential Receptors

The following sets out the potential receptors within the conceptual model for the site based on a future industrial or commercial end use:

- **Future site users** – employees and site visitors at proposed J&M Murdoch facility.
- **Construction workers** during construction phase.
- **Water Environment: Groundwater** – the Newton Mearns/ Kilmarnock bedrock groundwater bodies. Superficial groundwater unlikely to be a receptor under UKTAG guidance.
- **Water Environment: Surface Water** – minor water feature flowing west-east through the site with likely eventual discharge to Cowdon Burn.
- **In-ground structures and buried services**, such as foundations and water supply pipes.
- **Landscaped areas** including plants and vegetation in peripheral landscaping.
- **Built Environment**, such as buildings and structures.

6.5 Potential Pathways

The following pathways are thought relevant in this site setting based on a future light industrial/commercial end use:

- **Dermal contact** with soils, dust or groundwater. This pathway is likely to be limited due to the proposed commercial / industrial end use and areas of hardstanding. Likely to be confined to landscaped areas.
- **Ingestion** of soil, dust and water. As with dermal contact, this pathway is likely to be limited due to the commercial / industrial end use and confined to landscaped areas.
- **Inhalation** of soil, dust or vapours within the built environment and outdoors, likely to be restricted due to soil sealing from hard surfaces, but potential sources of volatile substances have been identified.
- **Migration in the aqueous phase** – contaminant mobility in the aqueous phase by surface run-off and through soil via leaching and subsurface flow.
- **Attack and corrosion** of buried services and concrete.
- **Plant up-take** of phytotoxic substances in landscaped areas.
- **Migration and build-up of hazardous gas** resulting in asphyxiation, explosion or fire.
- **Migration from off-site sources** by transport of dust (possibly wind-borne), ground gas migration, leaching, subsurface groundwater flow and surface run-off.

6.6 Initial CSM and Preliminary Risk Assessment

Based on the above model, the following initial CSM and Preliminary Risk Assessment is presented in Table 6E. A graphical CSM is also included as Figure 5. There are currently a series of uncertainties and assumptions in the CSM presented below as this is based on desk study information only:

- Ground conditions have been characterised based on BGS geological maps and other primarily desk-based information.
- The current presence and extent of any suspected contamination is unknown in the absence of site investigation data.
- The presence and depth of any groundwater bodies at the site is currently unknown. Depth to bedrock may be shallow but this has not been confirmed.
- The ground gas regime within the site has not been characterised.

Table 6E: CSM and Preliminary Risk Assessment

Potential Sources	Possible Contaminants	Pathway	Receptor	Severity	Likelihood	Potential Risk	Comments
On-Site Sources Potential Pollutant Linkages							
Meal Mill / Mill Storage Depot Former Bus Depot	Metals, oils, inorganic and organic compounds, hydrocarbon impacted soils, chemical contaminants in the near surface soils, leachate or groundwater, asbestos from any uncontrolled demolition of buildings. Former above ground fuel tank present on the site.	Direct ingestion, dust/fibre/vapour inhalation and dermal contact	On-site human health receptors (future site users)	Medium	Low Likelihood	MODERATE /LOW	It is considered possible that contaminants will be present within soils/ groundwater, particularly in the north and northwest of the site, however the sensitivity of the proposed land use is low and therefore risks to future site users are moderate to low. Site investigation should confirm soil/ groundwater contamination profile.
		Direct ingestion, dust inhalation and dermal contact	Construction workers	Medium	Likely	MODERATE	Construction workers are at more risk of any contaminants in soils when building the facility, although this is short duration and can be managed through appropriate risk assessments and method statements. Site investigation should look to confirm contamination profile of soils.
		Leaching and migration of contaminants in aqueous phase/surface runoff	Groundwater (bedrock)	Medium	Unlikely	LOW	Bedrock is predominantly a low productivity aquifer with limited potential and within a region generally without significant groundwater. In areas of till, downward migration will be reduced. Should be confirmed through site investigation.
			Surface Waters (unnamed water feature within site boundary)	Medium	Low Likelihood	MODERATE /LOW	A minor water feature flowing west to east across the site, connecting with the Cowdon Burn to the east of the site. Potential for shallow groundwater/ surface runoff to be in continuity with surface water, requires further assessment through site investigation and sampling.

Potential Sources	Possible Contaminants	Pathway	Receptor	Severity	Likelihood	Potential Risk	Comments
		Direct contact with foundations or water service pipes	Concrete foundations, water supply pipes	Mild	Likely	MODERATE /LOW	The potential for contaminants in soils to cause corrosion or damage to buried foundations and services requires further investigation through soil sampling and analysis.
Made Ground	Permanent ground gases, e.g. methane, carbon dioxide	Generation and migration in geology and preferential pathways, migration and accumulation within enclosed spaces	On-site human health receptors, buildings	Severe	Unlikely	MODERATE /LOW	Although made ground is likely to be present, it is not likely to be present to significant depth and therefore the potential for made ground to act as a source of soil gas is unlikely. Should be confirmed in areas to be occupied by buildings through site investigation and monitoring.
Off-Site Sources Potential Pollutant Linkages							
Off-site Petrol Filling Stations/Garage/MOT Centre	Hydrocarbons, oxygenates, sulphur, TPH, PAHs, BTEX, metals	Migration on site through soil, dust but primary transport in shallow groundwater	On-site human health receptors, future site users and construction workers	Medium	Low Likelihood	MODERATE /LOW	With former filling stations sitting to both the east and west of the site, contamination is possible due to the storage, spillage, leakage, and disposal of petroleum products. Likelihood of significant contamination migrating onto the site is low, however should be confirmed through site investigation and monitoring.
Former off-site Saw Mill	Metals, PAHs, TPH, ground gases, hydrocarbons, VOC, SVOC, solvents, lubricants, oils, CCA	Migration in groundwater; migration of gas	On-site human health receptors, future site users and construction workers	Medium	Unlikely	LOW	Although it is possible that contaminants in offsite sources could influence the site, such as the potential for contamination and disturbance of soils and soil biodegradation, it is considered unlikely. Previous use as a saw mill ended many decades ago.

Potential Sources	Possible Contaminants	Pathway	Receptor	Severity	Likelihood	Potential Risk	Comments
Tannery	Metals, oils, SVOCs, VOCs	Migration on site through soil, dust but primary transport in shallow groundwater	On-site human health receptors, future site users and construction workers	Medium	Unlikely	LOW	The Tannery appears to be relatively small scale and migration of contaminants onto the site in significant quantities to affect human health given proposed end use appears to be unlikely. Contamination profile of groundwater to be further assessed through site investigation and monitoring.
Off-site Asbestos Corrugated Roofing	Asbestos	Migration on site from deterioration of existing buildings. Subsequent fibre inhalation.	On-site human health receptors	Medium	Unlikely	LOW	Likely asbestos corrugated roofing identified during site walkover. However, due to the structure's off-site location and its exclusion from development plans, the potential for the asbestos corrugated roofing to act as a source of contamination is considered unlikely.
Quarries (various)	Metals, hydrocarbons, asbestos, ground gases (CH ₄ , CO ₂)	Migration to site through groundwater or ground gas pathways	On-site human health receptors, buildings	Severe	Negligible	NEGLIGIBLE	For a pollutant linkage to exist the quarries would have had to be backfilled with waste, and then significant migration of gases, groundwater, etc to site. Given underlying geology is low permeability and the quarries are all >300m from site this appears very unlikely. Ground gas monitoring should form part of future site investigations to assess gas migration potential.
Overall Risk						MODERATE /LOW	The overall risk ranking for the site is low to moderate. Potential pollutant linkages should be further assessed through ground investigation, monitoring, sampling and laboratory testing.

7.0 PRELIMINARY GEOTECHNICAL ASSESSMENT

7.1 Ground Conditions

Made ground is anticipated to lie over parts of the site. Thicknesses are currently unknown but are likely to be relatively thin. The natural soils are anticipated to comprise alluvial soils across much of the site, glacial till in the southwest of the site, and could potentially be absent in the southernmost portions of the site. Bedrock comprises alkali basaltic rock and is potentially at shallow depth, although this is not confirmed.

7.2 Preliminary Engineering Assessment

Due to its inherent variable nature and unknown mode of compaction, any made ground would normally not be considered as a suitable foundation horizon. However, glacial till soils or the bedrock would normally be expected to provide adequate bearing to support structural loads from new buildings. Alluvial soils often comprise soft clays which are not generally suitable for foundations, however the nature of the superficial soils will require further assessment through site investigation and geotechnical testing.

The type of foundation required will primarily depend on the depth to a suitable bearing stratum which will be driven by the depth/ thickness and extent of made ground, the nature of the superficial soils and potentially the depth to bedrock.

Depth to an appropriate foundation strata/ horizon would be identified from a programme of intrusive works. Foundation requirements will also depend on the foundation loads. However, potential solutions could include conventional strip and pad foundations, trench fill foundations, raft foundations, ground improvement or piling.

Former structures in parts of the site may mean that underground obstructions or foundations may remain in-situ which would require to be considered as part of a development at design, investigation and construction stages.

It should be noted that the above comments are preliminary at this stage and ground conditions and associated engineering issues should be verified by a detailed ground investigation, preferably targeted to the proposed development layout. Engineering considerations due to mining are considered in the following section.

8.0 COAL MINING RISK ASSESSMENT

8.1 Introduction

As the site lies within a Coal Mining Reporting Area, the desk study has included a Coal Mining Risk Assessment. This has been prepared to provide available desk-based information on past/ present mining related activity on or within influencing distance of the site. The purpose of the assessment is to demonstrate to the Local Planning Authority and the relevant statutory consultees that any potential coal mining legacy related risks have been considered, and where relevant, can be appropriately managed.

The findings of the study will be used to provide an assessment of risk in respect to the potential presence of coal mining constraints, and where appropriate, provides recommendations for a mitigation strategy to minimise the risks of mining related ground instability impacting on the proposed development. Mining information is summarised in Section 5.2 and a Coal Authority CON29M Report is included in Appendix E.

8.2 Coal Mining Risk Assessment

Based on the findings and observations gathered in the foregoing desk study sections, Table 8A provides an assessment of potential risks associated with the coal mining legacy for the proposed development site.

Table 8A: Coal Mining Risk Assessment

Coal Mining Issue	Area of Site	Risk to Development	Risk Assessment
Recorded shallow mining	All Site Areas	LOW	The Coal Authority does not record any shallow workings beneath the site. The bedrock geology of the site comprises igneous rocks, therefore coal seams are highly unlikely to be present.
Potential for unrecorded shallow mining	All Site Areas	LOW	The Coal Authority does not record probable uncharted workings within the site boundary or immediate surrounds. This means that further workings beyond the known extent of mining is low.
Presence of mine entries	All Site Areas	LOW	The desk study information and coal mining report do not identify any mine entries on the site. The nearest recorded mine entry is approximately 1.2km southwest of the site, associated with an area of probable shallow coal mine workings at Uplawmoor.
Coal mining geology	All Site Areas	LOW	The Coal Authority report states that they are not aware of any evidence of damage arising due to geological faults or other lines of weakness that have been affected by coal mining. As noted, bedrock is primarily igneous rock and therefore presence of coal is highly unlikely. The Coal Authority does not record surface coal resources.
Potential for mine gas emissions	All Site Areas	LOW	The Coal Authority report indicates that there has been no record of mine gas emissions requiring action on the site. Given distance to nearest probably shallow mining, risks from mine gas are low.
Opencast mining	All Site Areas	LOW	The Coal Authority do not report any opencast workings on site or in the nearby surrounds.
OVERALL RISK			LOW

Based on the information on site geology and from the Coal Authority reporting, risks from mineral stability at the site are considered to be low.

9.0 CONCLUSIONS AND RECOMMENDATIONS

9.1 General

J&M Murdoch are proposing a major planning application for a transport depot, workshops, office and welfare facilities, museum, drainage works, landscape works including biodiversity enhancement, parking, formation of new access, and associated development on land to the south of Lochlibo Road and to the east of Cowden Brae, Shillford, East Renfrewshire. To inform on potential development/ground related constraints and support a planning application for the development, Ironside Farrar Ltd has prepared a Phase I Desk Study and Coal Mining Risk Assessment.

9.2 Site Details

The study area comprises an irregular shaped parcel of land, located between Lochlibo Road to the north and Cowden Brae to the west, with Uplawmoor Road further south. The majority of the site is underutilised grassland and brownfield land associated with a previous bus/coach depot, with hardstanding located in the northwest of the site.

The site is bounded by agricultural land on all sides, with commercial premises immediately west and east of the site, including a small tannery, a garage and a sign-writing manufacturer. Further west sits the Uplawmoor Wood, and residential properties are scattered throughout the wider surrounds. An unnamed surface water feature flows through the middle of the site broadly west to east.

9.3 Site History

From the earliest available mapping editions the site was vacant grassy land with some vegetation. In 1913 a small structure was denoted in the northwest of site as the Shillford Mill (meal). Following removal of the original structure before 1967, a second structure was present from 1993 mapping, and then replaced with a larger structure by 2017. Hardstanding is present in this area from 2002 aerial imagery but may have been constructed before this. The subsequent structures and hardstanding area likely to be associated with a former bus depot present on the site. In the northeast of the site, the land lay vacant until 1992 when various small unlabelled structures within a fence were constructed.

Various quarries and a gravel pit have been present in the surrounds since mapping as early as 1863, many of which are noted as disused at present day. Since 1863 a large area of woodland called the Uplawmoor Wood was noted west of the site, where multiple of the noted quarries reside. A railway line sits north of the site from 1897 to present, with an additional railway line north of the site first recorded in 1912 but labelled as dismantled by the 1967 historical mapping edition. In 1913 a sawmill is recorded just west of site borders, turned into a storage depot by 1967 and labelled as Shillford Garage by 1992. Filling stations are denoted to both the west and east of the site, in 1992 and 1967 respectively. Neither are currently operated as filling stations, with the easternmost now operated as a sign manufacturer and the structures to the west now operated as a tannery.

9.4 Geology and Ground Conditions

Any surface layer of made ground present on the site is expected to be shallow, associated with former land uses and remaining hardstanding.

Natural superficial soils are recorded as predominantly alluvium, with an area of till in the southwest. BGS mapping suggests that superficial soils may be absent from the southernmost portions of the site. The mapping indicates that the majority of the bedrock beneath the site comprises the Neilston Lava Member, extrusive igneous rocks comprising basalt. An inferred fault is marked running broadly west-east through the central portion of the site. A small portion of the northwest corner of the site is recorded as being underlain by sedimentary rock cycles and marine limestones of the Upper Limestone Formation from the Clackmannan Group.

Groundwater within superficial soils is likely to be fairly limited and unlikely to represent a groundwater body with resource potential. Bedrock hydrogeology is predominantly a low productivity aquifer with limited potential and within a region generally without significant groundwater.

9.5 Mining Risk Assessment

There are no records of recorded shallow mining, mine entries, or opencast mining on or immediately surrounding the site borders, with the potential for unrecorded shallow mining and coal mining geology classified as low.

Based on the findings and observations gathered in the foregoing desk study sections, The Coal Authority, and the procured CON29M report, the overall risk to development from coal mining instability is considered to be low.

9.6 Geo-Environmental Preliminary Risk Assessment

The presence of former and existing potentially contaminative developments on the site and in the surrounds presents potential sources of contamination in the near surface soils and groundwater. Contamination sources identified include the former bus depot, a fuel storage tank, asbestos in buildings, nearby former filling stations, a garage and a tannery.

The development of a Phase I preliminary risk assessment has determined an overall Low to Moderate Risk with respect to the proposed future commercial/ light industrial land use. Plausible pollutant linkages relate to the possible presence of contaminants within the soils, particularly in the north and northwest of the site, and impacts to human health, the built environment and the water environment. The surface water flowing through the site represents a potential water environment receptor, although risks to groundwater are likely to be lower due to the nature of the bedrock at the site. The potential for on site migration of contaminants in groundwater and through preferential pathways from off-site sources (filling stations, tannery, garage) requires further consideration.

9.7 Preliminary Geotechnical Assessment

The foundation solution for any future development will depend on the depth to a suitable bearing stratum, which should be determined by intrusive investigation. Potential solutions could include conventional strip and pad foundations, trench-fill foundations, raft foundations and ground improvement or piling dependant on the buildings and structural loadings proposed.

There may be existing underground obstructions or foundations from former buildings/structures that would also require consideration and potentially removal.

9.8 Recommendations

The following recommendations are provided:

- A ground investigation should be carried out across the study area to further develop the initial conceptual site model, determine the geo-environmental condition of the site and provide geotechnical information to inform earthworks, foundation solutions and other engineering/ construction related matters.
- Chemical and geotechnical testing of soils, groundwater and surface waters to inform an updated risk assessment.
- Carry out ground gas risk assessment following installation of boreholes and an appropriate monitoring period.
- Investigate the potential presence of buried structures in areas around former buildings.

As a full site walkover was not conducted due to limited access in the central and southern portions of the site. It is possible that pertinent site features such as surface contamination issues have not been identified. Therefore, a detailed walkover should be carried out as part of the ground investigation scoping works when summer vegetation is less prevalent.

The works should be designed and completed around proposed development layouts where possible. The following table provides an indicative scope of works:

Table 9A: Phase II Investigation Outline Scope of Works

Type of Investigation	Rationale
Soil boreholes	To investigate the depth of made ground and the nature and geotechnical properties of the natural soils to aid foundation design. Allow installation of monitoring wells.
Rotary boreholes.	To investigate the depth and condition of the bedrock.
Trial Pitting	To investigate shallow soils and allow sampling for chemical testing. Number and location of trial pits would be tailored to suit proposed development layout where possible. Also, to investigate buried structures.
Laboratory based chemical testing	To assess chemical status of the shallow soils, leachate, groundwater and surface water. Number and location of tests would be tailored to proposed development.
In situ and laboratory based geotechnical testing	To assess geotechnical properties of the soils. Number and location of tests would be tailored to proposed development.
Gas/ Groundwater Monitoring	To determine gas regime and standing water level beneath the site and to inform scope of any gas protection measures.

Following completion of the ground investigation and monitoring, the conceptual site model should be updated in interpretative reporting, to include quantitative risk assessments and updated geotechnical engineering considerations.

REFERENCES

The following references were utilised in the compilation of this report:

- Environmental Protection Act 1990: Part IIA Contaminated Land Statutory Guidance Edition 2. May 2006. Paper SE2006/44
 - Annex 1 - A Statement of Scottish Executive Policy
 - Annex 2 - A Description of the New Regime for Contaminated Land
 - Annex 3 - Statutory Guidance
 - Annex 4 - Guide to the Contaminated Land (Scotland) Regulations 2000
 - Annex 5 - The Contaminated Land (Scotland) Regulations 2005.
 - Annex 6 - Glossary of Terms.
- Planning Advice Note (PAN 33), Development of Contaminated Land, Scottish Executive, Revised October 2000.
- Hydrogeological Map of Scotland, NERC, 1988, 1:625,000 scale.
- BGS Groundwater Vulnerability Map of Scotland, BGS/ NERC, 1995, 1:625,000 scale.
- BGS Geology of Britain viewer (including historic borehole logs)
<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>
- Ó Dochartaigh, B É, Macdonald, A M, Fitzsimons, V, and Ward, R. 2015. Scotland's aquifers and groundwater bodies. British Geological Survey Open Report, OR/15/028.
- DOE Industry Profiles.
- Code of Practice for Investigation of Potentially Contaminated Sites. BS10175: 2011 + A2:2017. British Standards Institute.
- Scotland's Environment website, Scottish Government, 2014
<https://map.environment.gov.scot/sewebmap/>
- Environmental Protection Act, 1990.
- Contaminated Land (Scotland) Regulations 2005 (SSI 2005/658)
- Model Procedures for the Management of Land Contamination, Contaminated Land Report 11 (CLR11), Environment Agency, September 2004.
- Assessing risks posed by hazardous ground gases for buildings. CIRIA (C665) 2007.
- Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings, BS8485:2015.
- Ground Gas Handbook, CIEH, 2009
- Coal Authority Interactive Viewer (<http://mapapps2.bgs.ac.uk/coalauthority/home.html>)
- National Library Scotland (<http://maps.nls.uk/geo/explore/>)
- Scottish Environmental Protection Agency
<http://map.sepa.org.uk/floodmap/map.htm>
<http://www.sepa.org.uk/environment/environmental-data/>
- Commercial Development, Shillford, East Renfrewshire, Flood Risk Assessment; Kaya Consulting Limited; December 2023 (Draft)

FIGURES

FIGURE 1 LOCATION PLAN

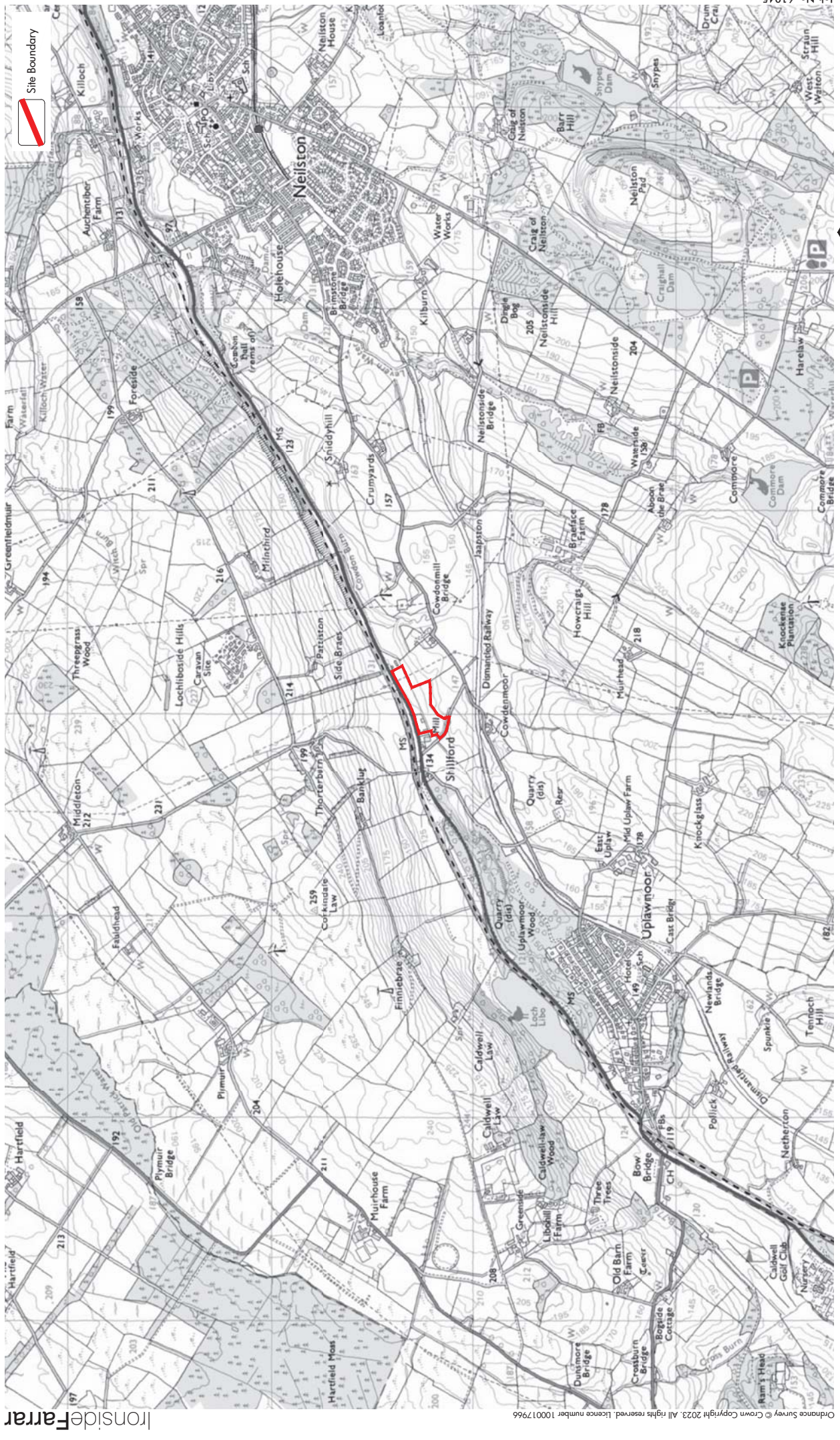


FIGURE 2 SITE PLAN



100m

FIGURE 3
AERIAL PHOTOGRAPH



FIGURE 4 PROPOSED DEVELOPMENT PLAN

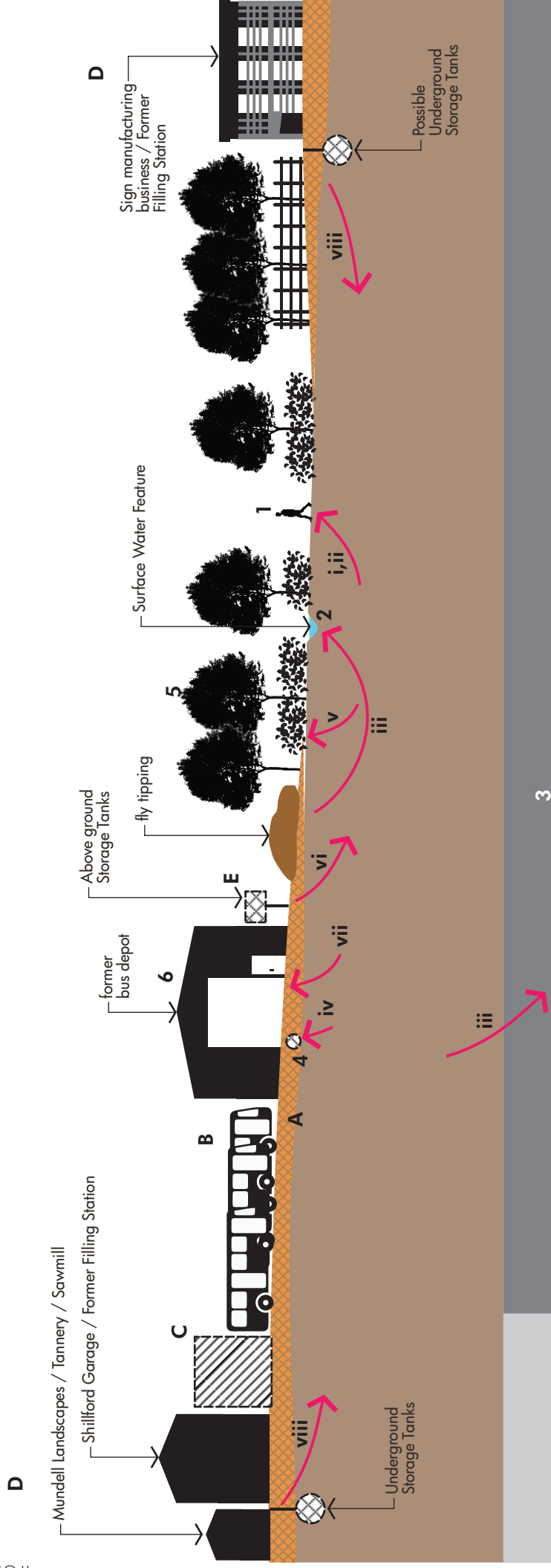


FIGURE 5 INITIAL CONCEPTUAL SITE MODEL

J&M MURDOCH, SHILLFORD
Extent of Site Boundary

West

East



Potential Made Ground
Superficial Soils: Noncalcareous mineral gleys with drift derived from basic igneous rocks and alluvium (possibly limited in thickness)
Bedrock: Neilston Lava Member of the Clyde Plateau Volcanic Formation
Bedrock: Upper Limestone Formation

Potential Sources of Contamination:
A - Potential made ground
B - Former Bus Depot
C - Former Mill
D - Off-site Sources (filling stations, tannery, sawmill, garage)
E - Former above and below ground storage tanks

Pathways:
i - inhalation
ii - Dermal contact, ingestion
iii - Soil leaching and groundwater migration
iv - Attack & corrosion of buried services
v - Plant uptake
vi - Surface runoff
vii - Migration and buildup of hazardous gas
viii - Migration from off site sources

Receptors:
1 - Future Site users, construction workers
2 - Surface Water Feature
3 - Newton Mearns / Kilmarnock groundwater bodies
4 - Buried services, building foundations
5 - Landscaped areas
6 - Proposed Buildings

3

APPENDIX A
Notes on Limitations

Geo Environmental Desk Study and Intrusive Ground Investigation, Assessment and Reporting Limitations

General

This report has been prepared by Ironside Farrar Ltd for the sole use of the client (s) as indicated within the text of the report. Should any additional party seek reliance of the contents, then approval from Ironside Farrar must be sought. Ironside Farrar Ltd cannot be held liable / responsible for the contents of this report if it is either used for purposes other than of which it was commissioned, or additional parties (s) use the report without the express permission of Ironside Farrar Ltd.

Desk Study Related Information

Information in this report is gathered from a number of sources including published documentation. Any information gathered from external sources has been accepted and reviewed in good faith and taken to provide true reflection of the site conditions. Ironside Farrar Ltd cannot be held responsible for any event where such data is inaccurate or incomplete. This would include future changes in site use or additional information that may be become available. Should additional information come to light in the future that may change the conclusions drawn, Ironside Farrar Ltd reserves the right to review this information and if necessary change any existing opinion drawn accordingly.

Other opinions developed within this study are formed from interpretation of historical data.

Intrusive Ground Investigations and Geo-environmental Phase II Report

The investigation has been carried out to provide appropriate information on the ground conditions below the site. The nature of intrusive ground investigation typically results in only a small proportion of ground being investigated in relation to the overall size of the site. Therefore, it is possible that unforeseen ground condition exist between investigation points which have not been picked up, including contamination hotspots. In addition, the depths and thicknesses of the various strata may vary including the average depths.

The scope of works for any ground investigation may be limited by financial and/or time constraints. Exploratory locations across any site can also be limited by services, utilities and physical obstructions. This may be particularly relevant for any given targeted ground investigation.

Guidance on the assessment of contaminated land within the UK is under continuous development. The assessments used within this report have been undertaken in general accordance with current assessment frameworks and industry best practise. Ironside Farrar Ltd cannot be held responsible any future changes to contaminated land assessment that may alter the findings of this report.

Outline foundation recommendations have been developed from the ground investigation data. However, specific foundation design for any structure should be undertaken by a qualified structural/civil engineer. In the case of abnormal foundations, advice and design should be sought from an appropriately qualified ground works contractor.

Groundwater conditions recorded are based on observations made at the time the site works were carried out. Groundwater levels will vary depending upon seasonal and weather related effects. In some circumstances, ground conditions can also be altered in response to changes in the groundwater regime.

Under certain circumstances, ground conditions can alter beneath a site over time. Any works requiring reliance on this report should ensure that the report is up to date and relevant at the time of the works.

APPENDIX B
Site Walkover Photographs

APPENDIX B SITE WALKOVER PHOTOGRAPHS 17.07.23



Plate 1: (looking northeast) Unmanaged grassland in majority of site with coach bus depot located in NW of site.



Plate 2: (looking north) Southwestern section of site, located south of adjacent commercial structures.



Plate 3: (looking east) Minor water feature entering site from western border, flowing W-E across entire site.



Plate 4: (looking northeast) Shillford Garage immediately adjacent to site's western boundary.

APPENDIX B SITE WALKOVER PHOTOGRAPHS 17.07.23



Plate 5: (looking south) Remnants of old filling station located immediately west of site suggesting the presence of underground tanks/pumps.

Plate 6: (looking east) Vehicle access point onto site from Lochlibo Road to the north.



Plate 7: (looking southeast) Hardstanding in northwest of site with coaches and couch bus depot/garage.



Plate 8: Onsite filling station and tank with pump and underground access.

APPENDIX B SITE WALKOVER PHOTOGRAPHS 17.07.23



Plate 9: (looking southeast) Fly tipping located east of onsite bus depot/garage and along northern site boundary.



Plate 10: (looking south) Overhead lines crossing eastern section of site.



Plate 11: (looking southwest) Small fenced section along eastern border of site with material stockpiles and rubbish from adjacent offsite sign manufacturing company.



Plate 12: (looking southwest) Overgrown vegetation across majority of site.

APPENDIX C

Historical Mapping

Historical Mapping & Photography included:

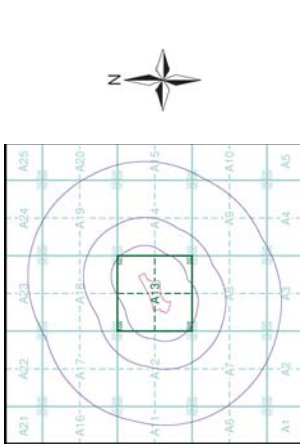
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Renfrewshire	1:10,560	1863	3
Renfrewshire	1:10,560	1888	4
Ayrshire	1:10,560	1898	5
Ayrshire	1:10,560	1912	6
Renfrewshire	1:10,560	1914 - 1915	7
Renfrewshire	1:10,560	1938	8
Ordnance Survey Plan	1:10,000	1968	9
Ordnance Survey Plan	1:10,000	1969	10
Ordnance Survey Plan	1:10,000	1970	11
Ordnance Survey Plan	1:10,000	1980 - 1985	12
10K Raster Mapping	1:10,000	1999	13
Street View	Variable		14

1:10,000 Raster Mapping

Ordnance Survey Plan 1:10,000

Ordnance Survey County Series 1:10,560

Historical Map - Slice A



Order Details

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Site Details

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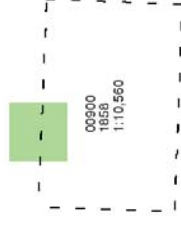
Ayrshire

Published 1858

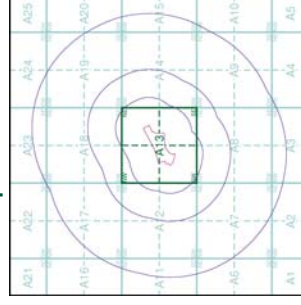
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The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Warley and Scotland in the 1840's. In 1854 the Ordnance Survey published a series of maps of Ayrshire. These maps are used to update the 1:10,560 maps. The published data on these maps are often some years later than the surveyed date. Before 1838, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear 'unfinished', with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



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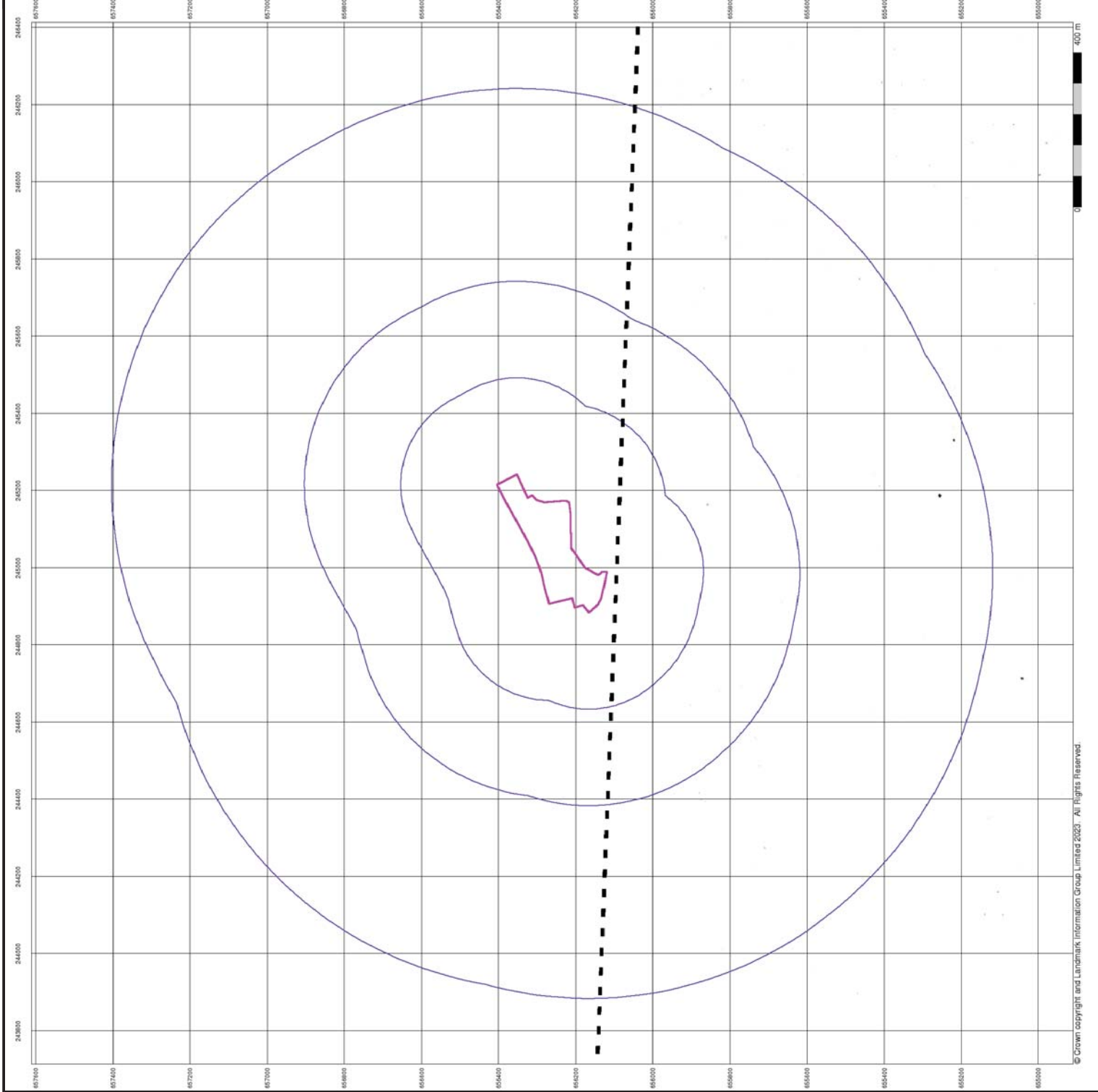


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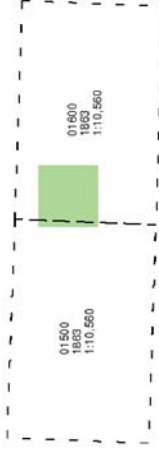
Renfrewshire

Published 1863

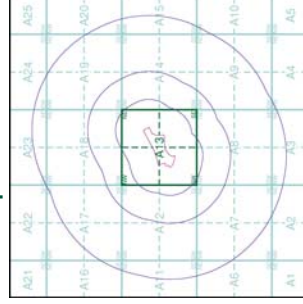
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Map Name(s) and Date(s)



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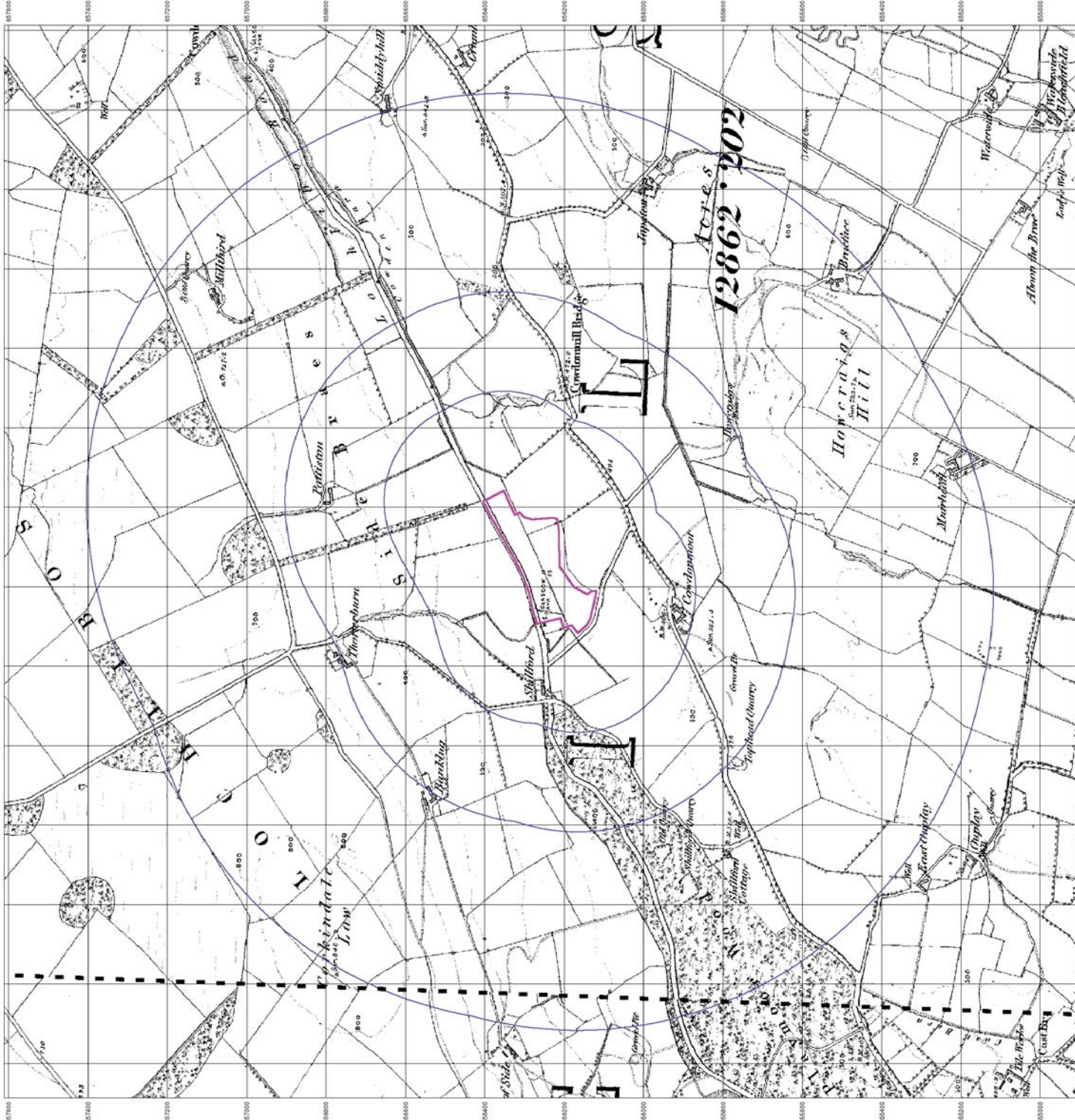


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Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



Renfrewshire

Published 1898

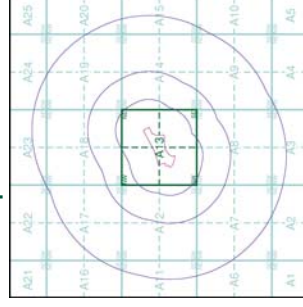
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Map Name(s) and Date(s)

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1898	1898
1:10,560	1:10,560

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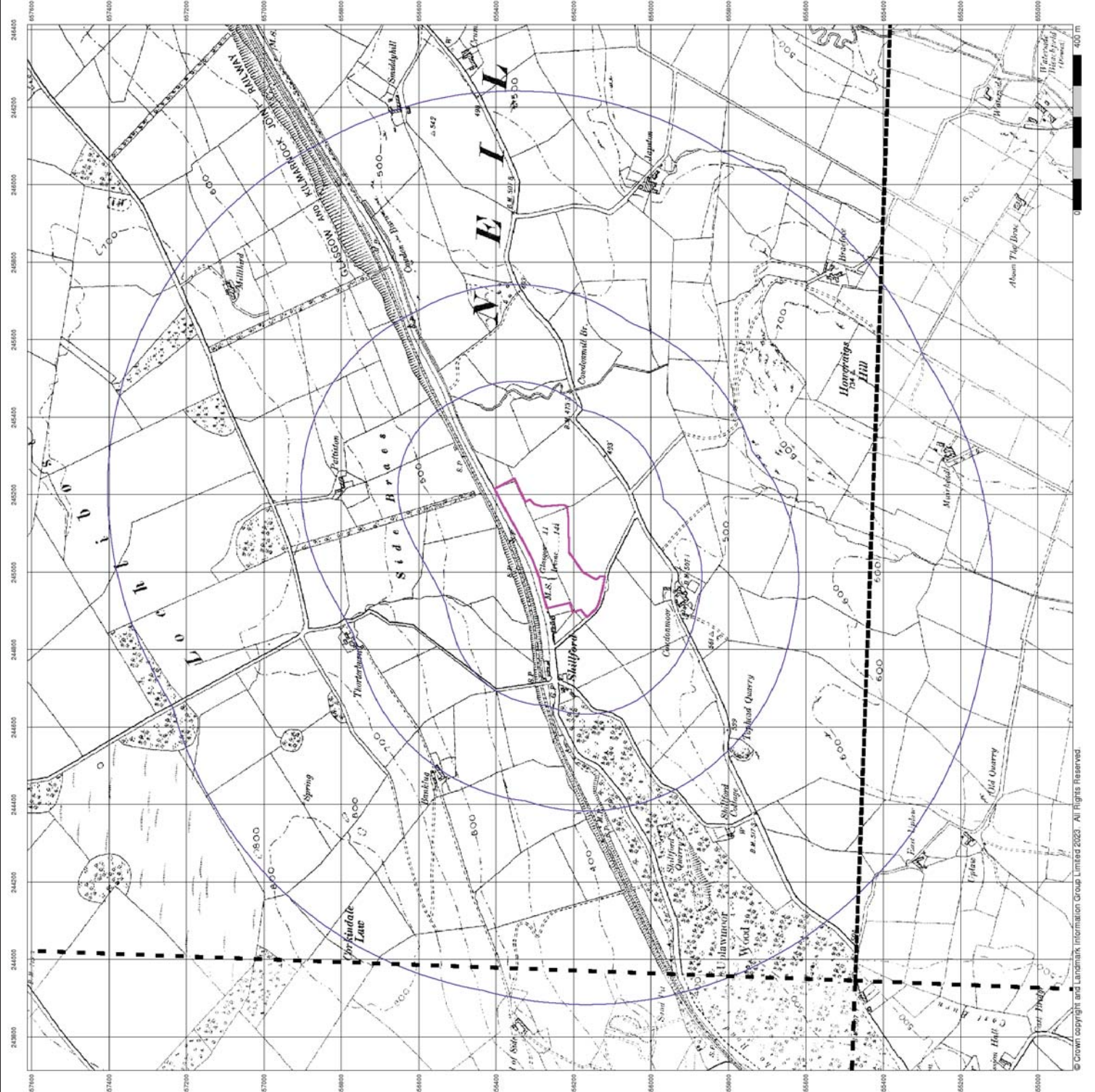


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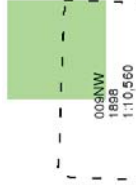
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Published 1898

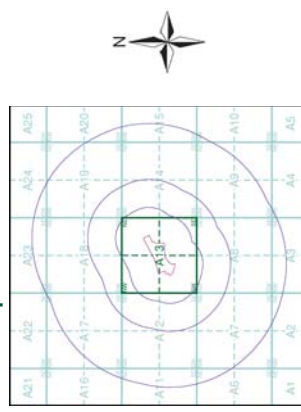
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Map Name(s) and Date(s)



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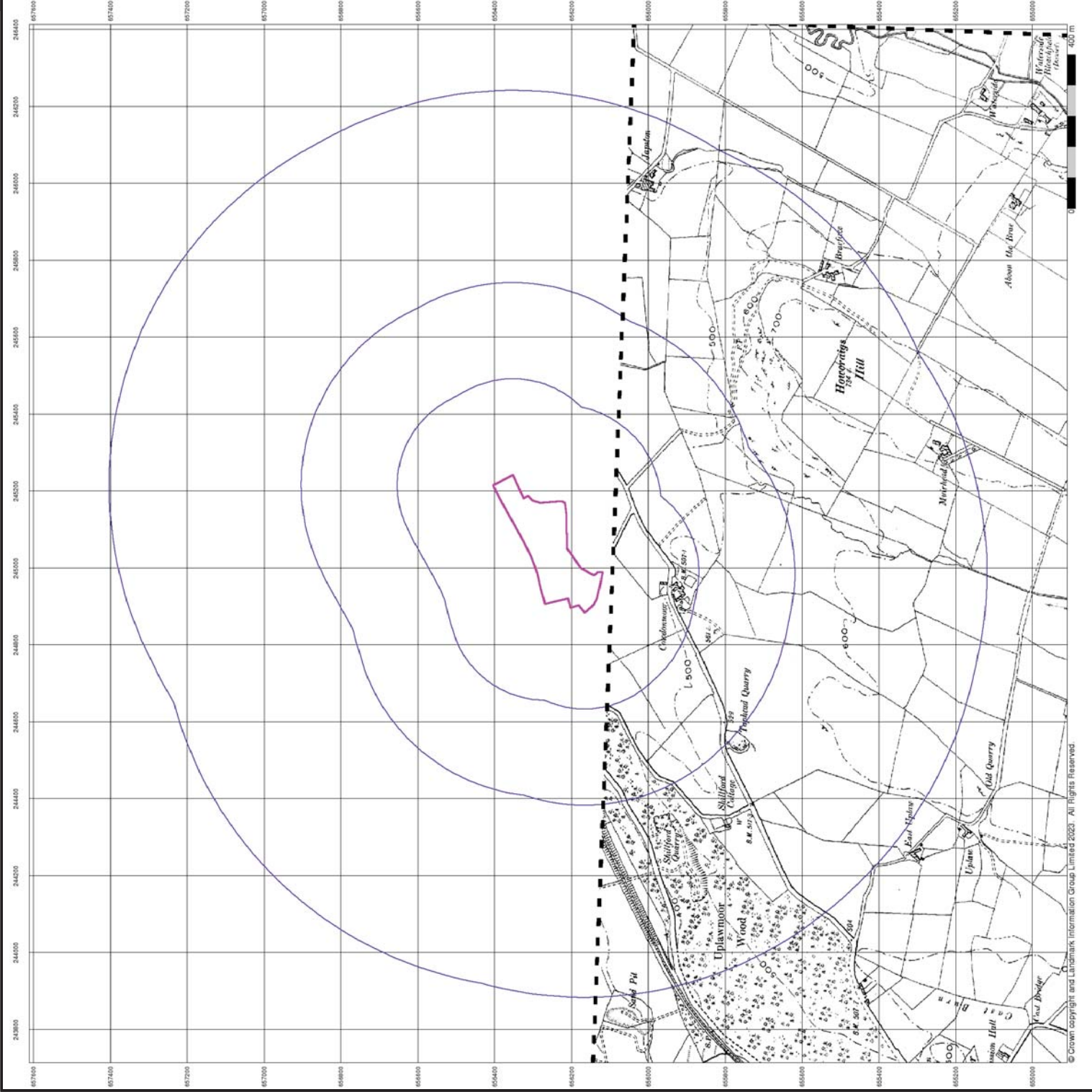


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Glasgow, G78 3BA



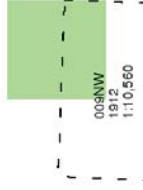
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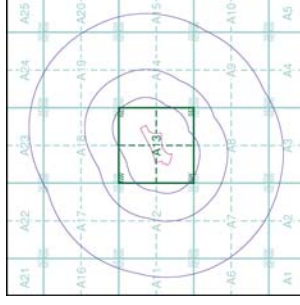
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The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, War and Scotland in the 1940's. In 1854 at a scale of 1:25,000, the Ordnance Survey maps were produced. These maps are used to update the 1:10,560 maps. The published data when there are often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in cutting areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



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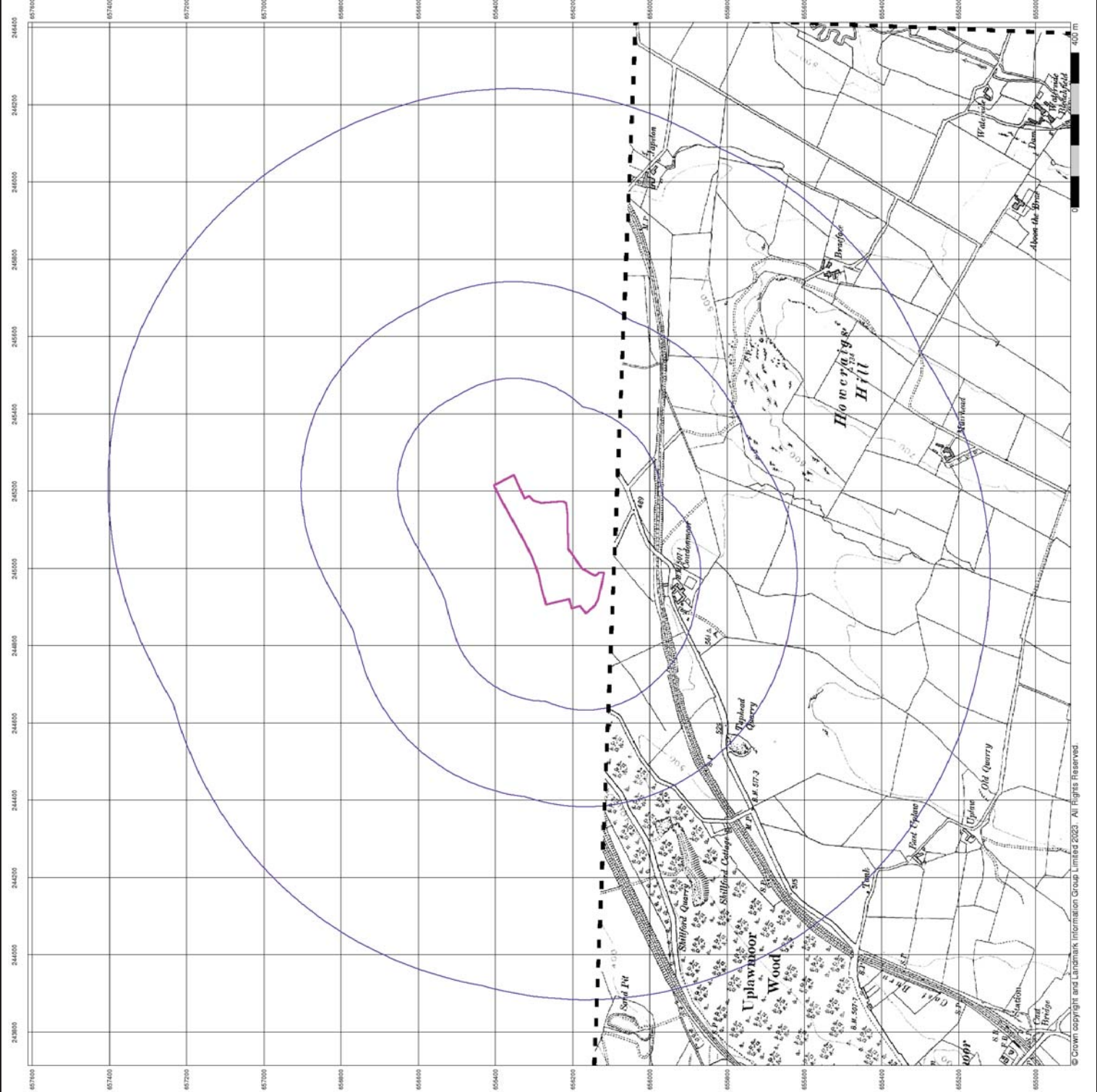


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Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston,
 Glasgow, G78 3BA



Renfrewshire

Published 1914 - 1915

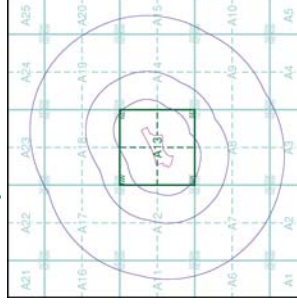
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Map Name(s) and Date(s)

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1:10,560	1:10,560	1:10,560	1:10,560

Historical Map - Slice A

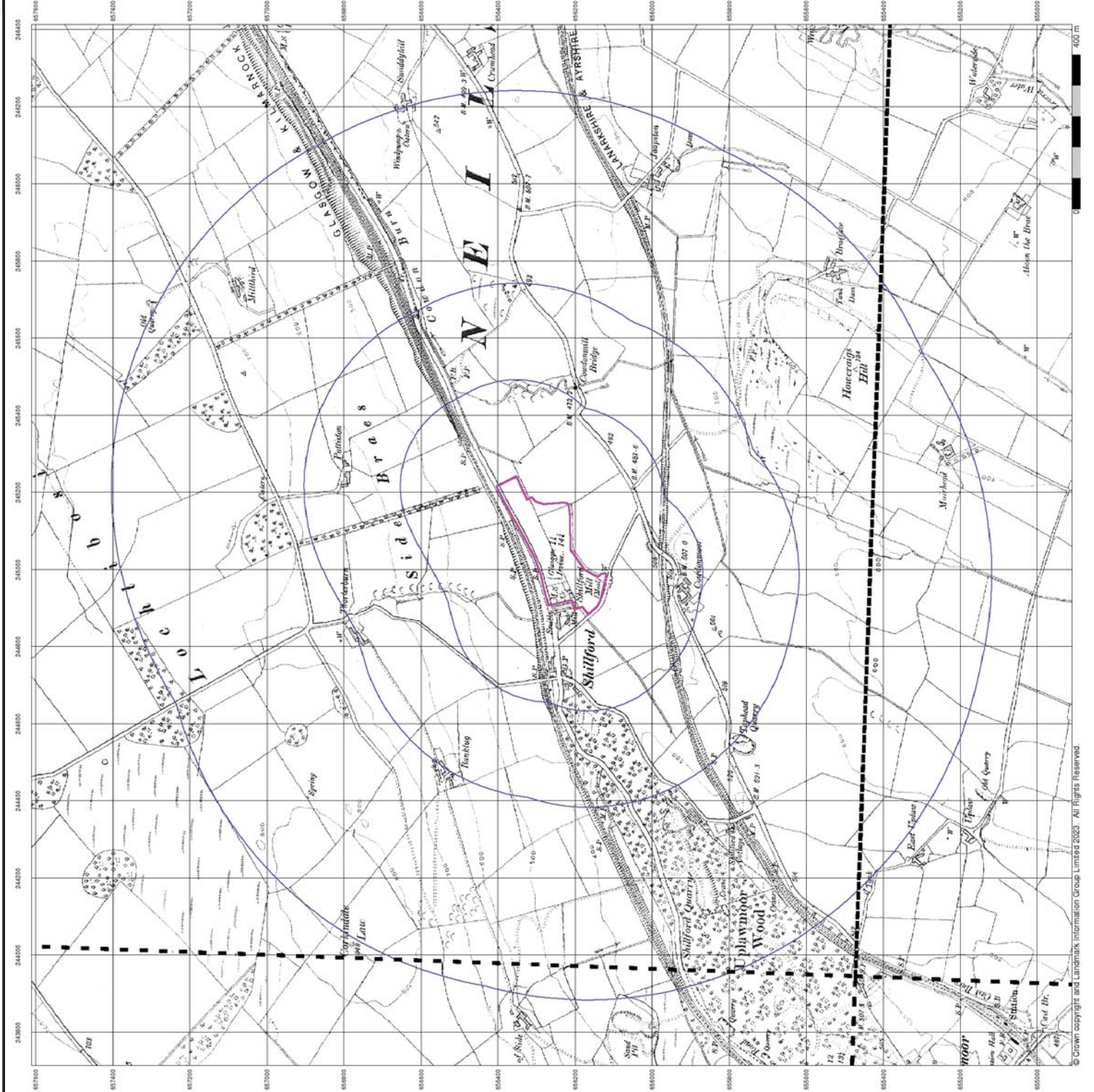


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 1000

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



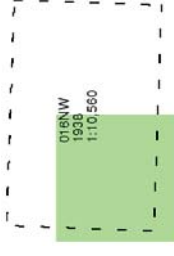
Renfrewshire

Published 1938

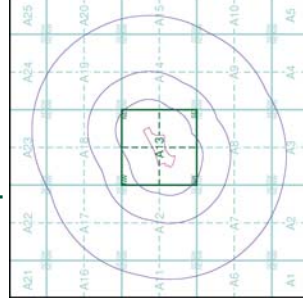
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Great Britain and Ireland in the 1940's. In 1854 the Ordnance Survey was established in Scotland. The maps shown here are used to update the 1:10,560 maps. The published data shown there are often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in cutting areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Site: A
 Site Area (Ha): 3.99
 Search Buffer (m): 1000

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



Ordnance Survey Plan Published 1958

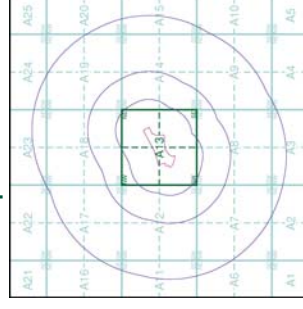
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Warley and Scotland in the 1940's. In 1854 at the 2,500 scale. The published data on these maps are used to update the 1:10,000 maps. The published data on these maps are often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in cutting areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,000 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NS45NW	1958	NS45NE	1958
1:10,560	1:10,560	1:10,560	1:10,560
NS45SW	1958	NS45SE	1958
1:10,560	1:10,560	1:10,560	1:10,560

Historical Map - Slice A

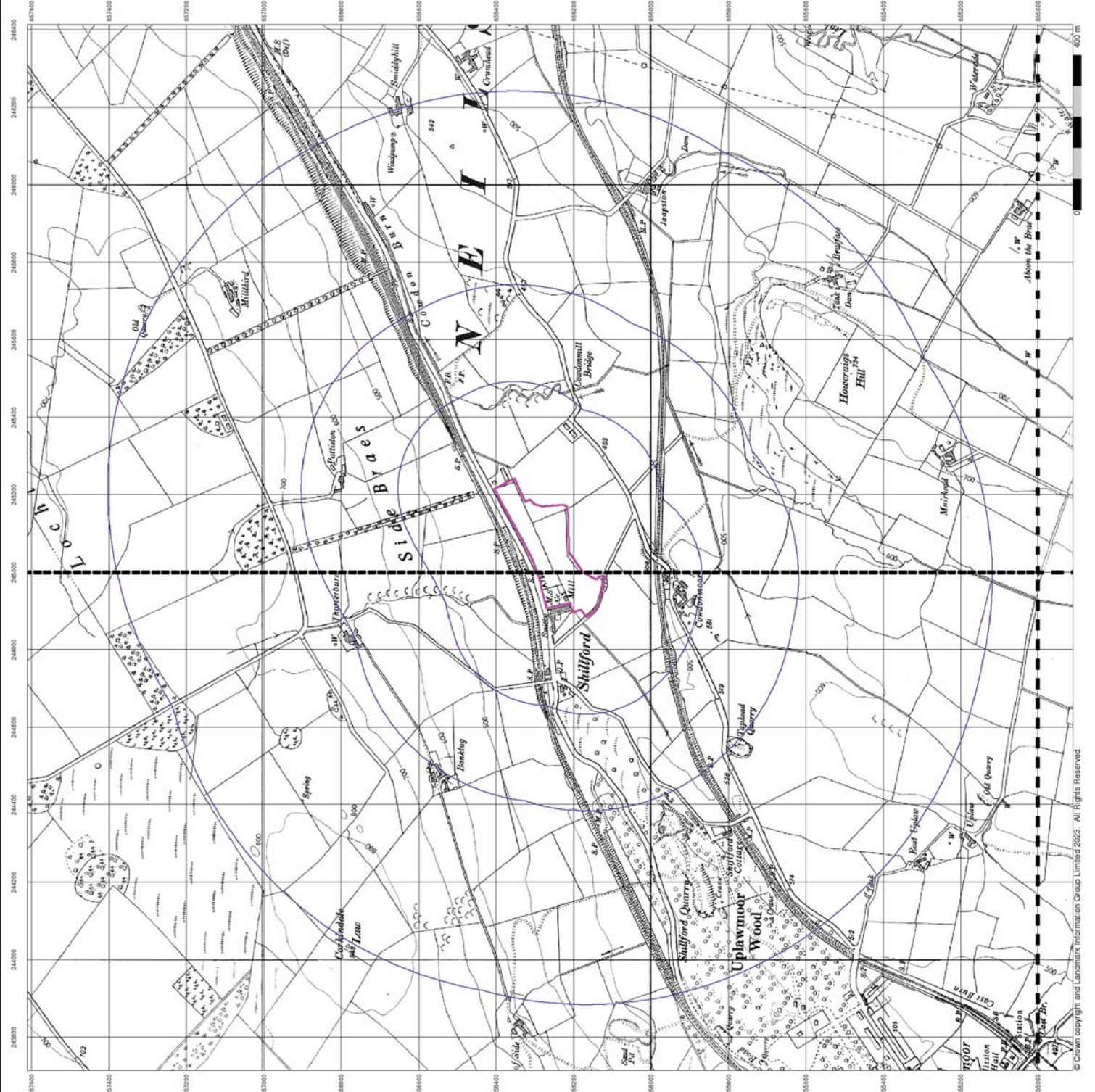


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 1000

Site Details

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Ordnance Survey Plan

Published 1969

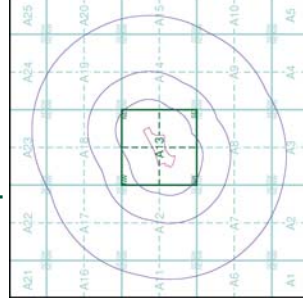
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Great Britain and Ireland in the 1940's. In 1854 the Ordnance Survey was established and the first maps were produced. These maps are used to update the 1:10,000 maps. The published data on these maps are often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in cutting areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,000 mapping from a number of sources. The maps appear 'unfinished' - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NS45ENW	1969
1:10,000	

Historical Map - Slice A

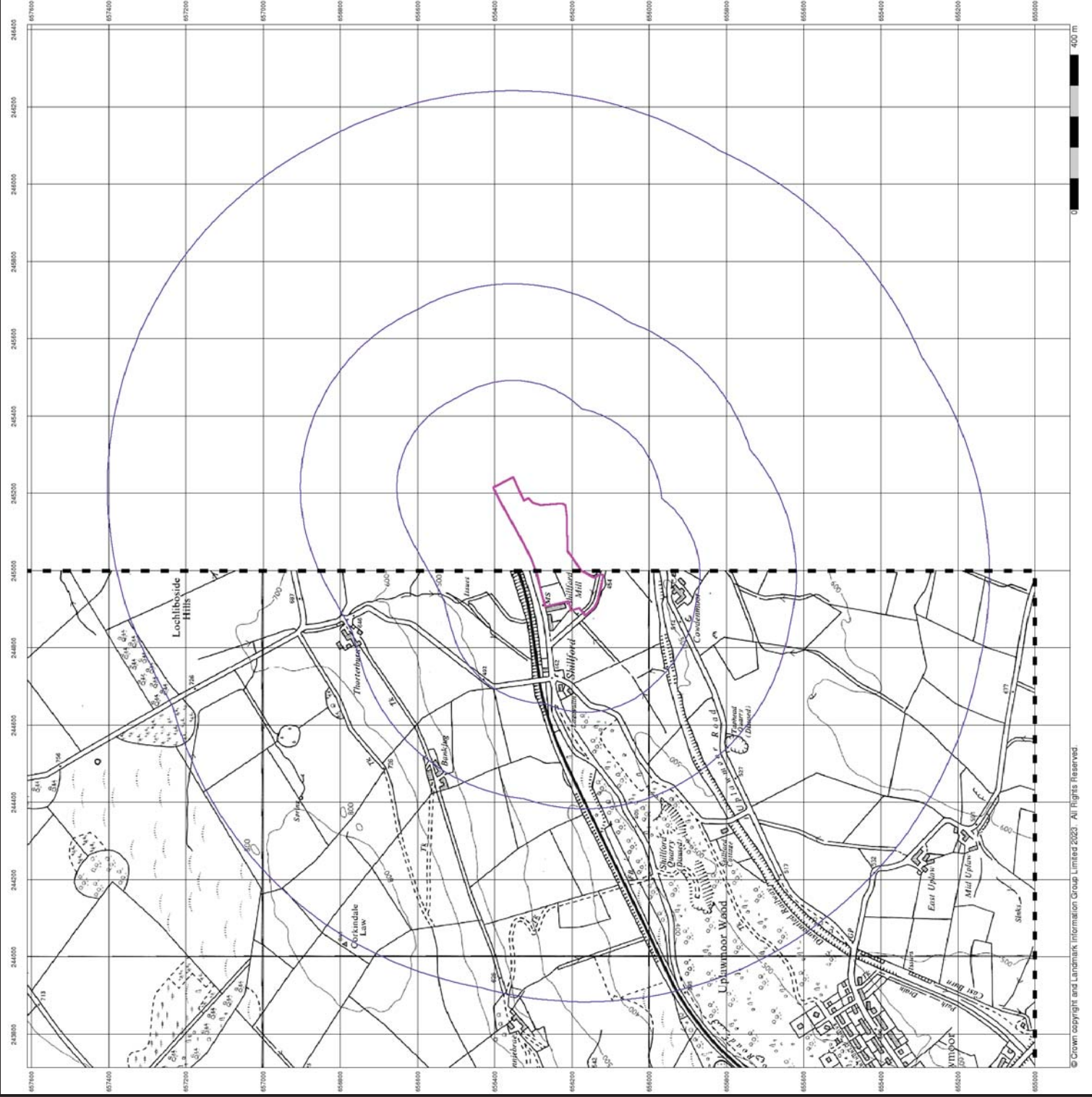


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 1000

Site Details

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Ordnance Survey Plan

Published 1970

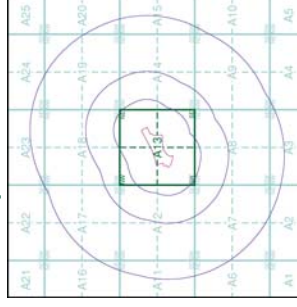
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Warley and Scotland in the 1940's. In 1854 the OS adopted the Transverse Mercator Projection. The maps are used to update the 1:10,000 maps. The published data on these maps often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in cutting areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,000 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NS45NE	1970
1:10,000	
NS45SW	1970
NS45SE	1970
1:10,000	1:10,000

Historical Map - Slice A

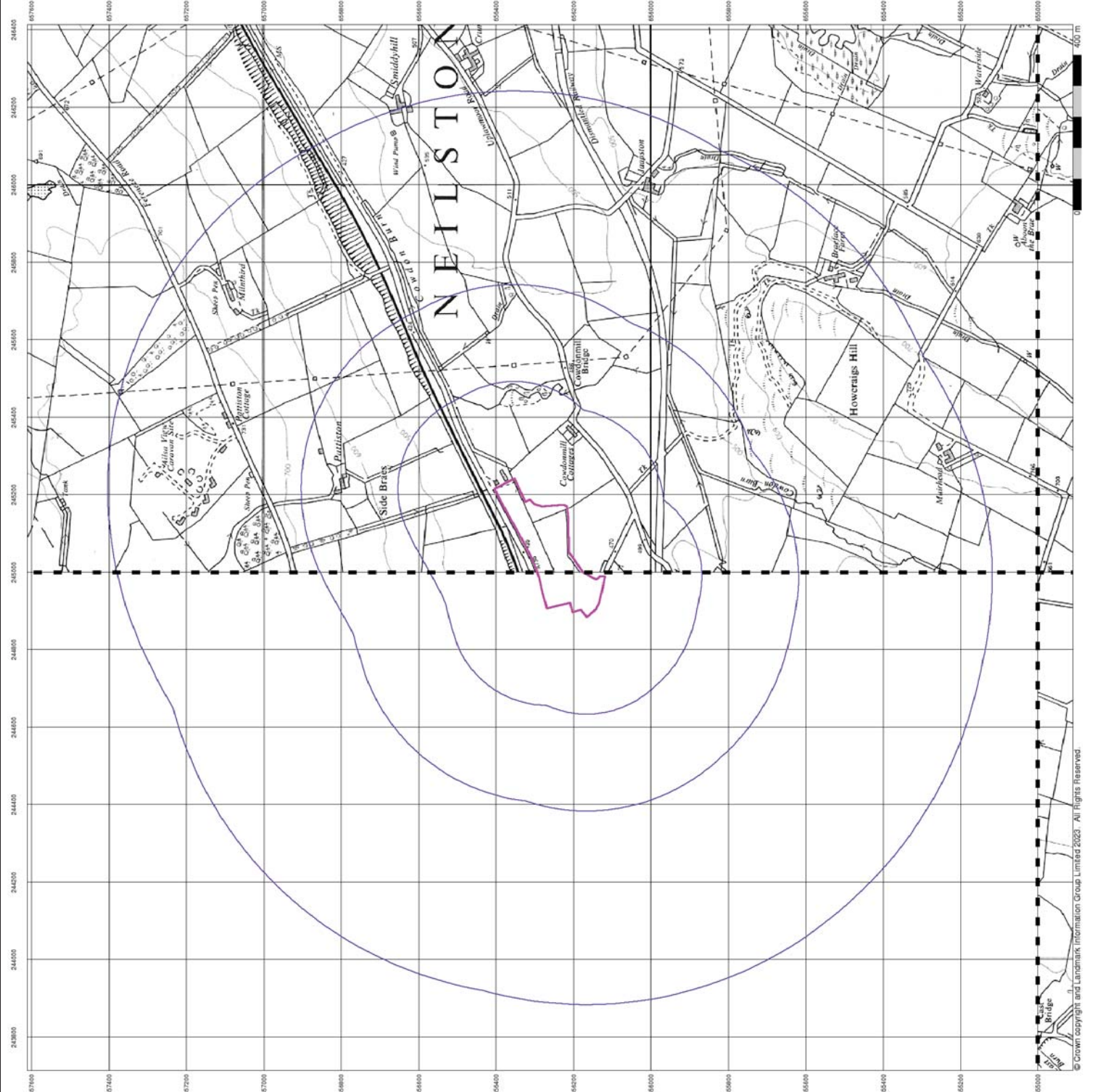


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 1000

Site Details

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Ordnance Survey Plan Published 1980 - 1985

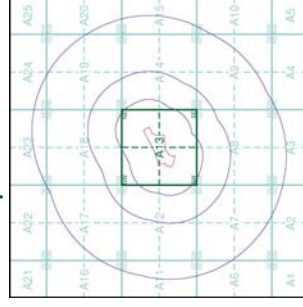
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Warley, Birmingham in the 1940's. In 1854 the Ordnance Survey was established in England, Wales and Scotland. The maps were produced in 1980 and 1985. The maps are used to update the 1:10,000 maps. The published data on these maps often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear 'unfinished' - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

NS45NE	1985
1:10,000	
NS45SE	1980
1:10,560	

Historical Map - Slice A

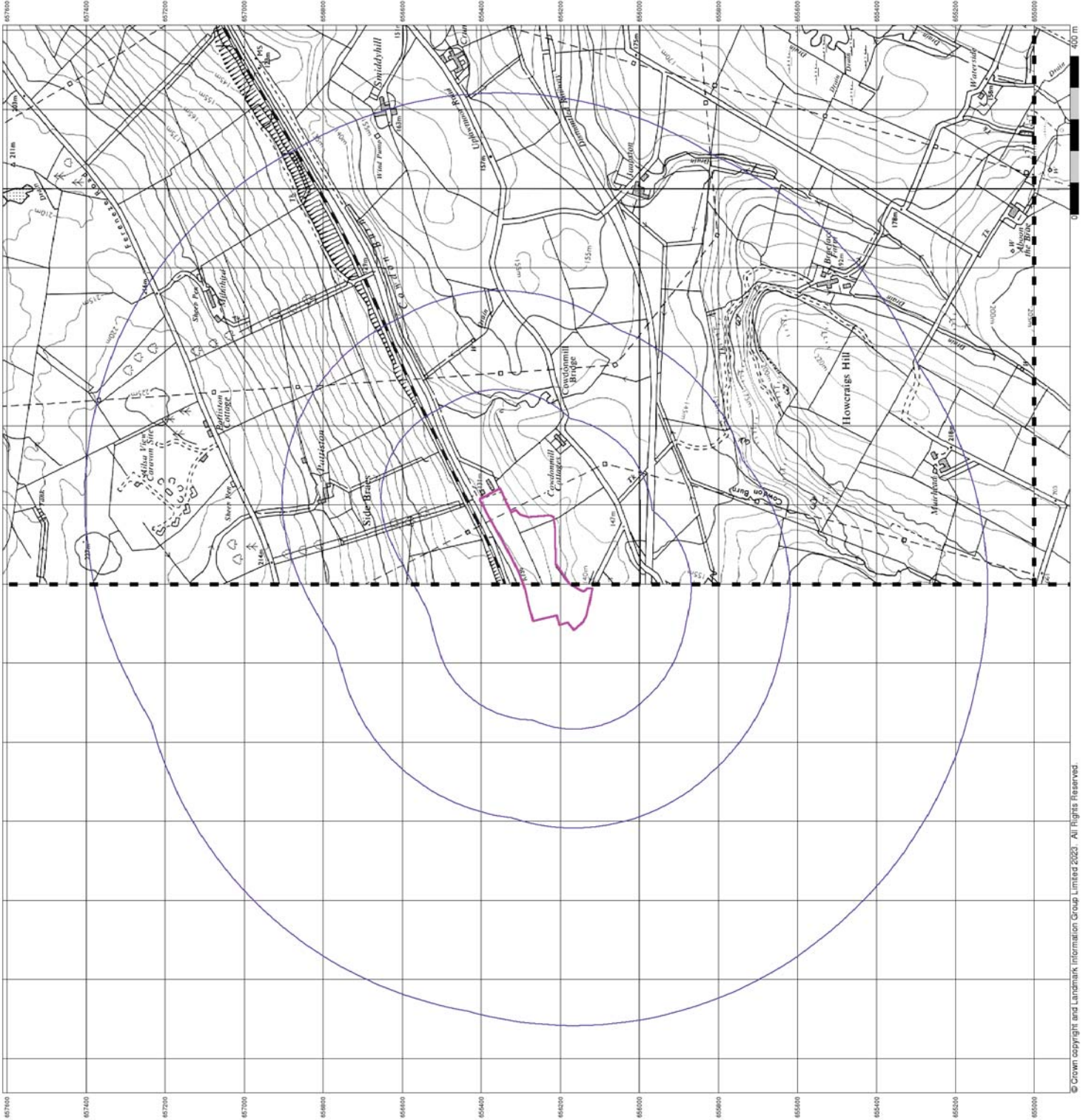


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 1000

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



10k Raster Mapping

Published 1999

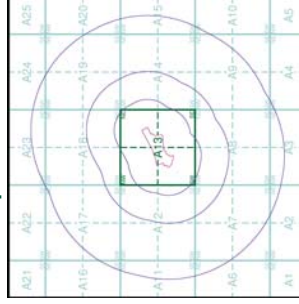
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster maps from the 1990s. These maps are published in a 1:10,000 scale. The data is highly detailed showing buildings, roads, tracks and field boundaries as well as all relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

NS45NW	1999	1:10,000
NS45NE	1999	1:10,000
NS45SW	1999	1:10,000
NS45SE	1999	1:10,000

Historical Map - Slice A

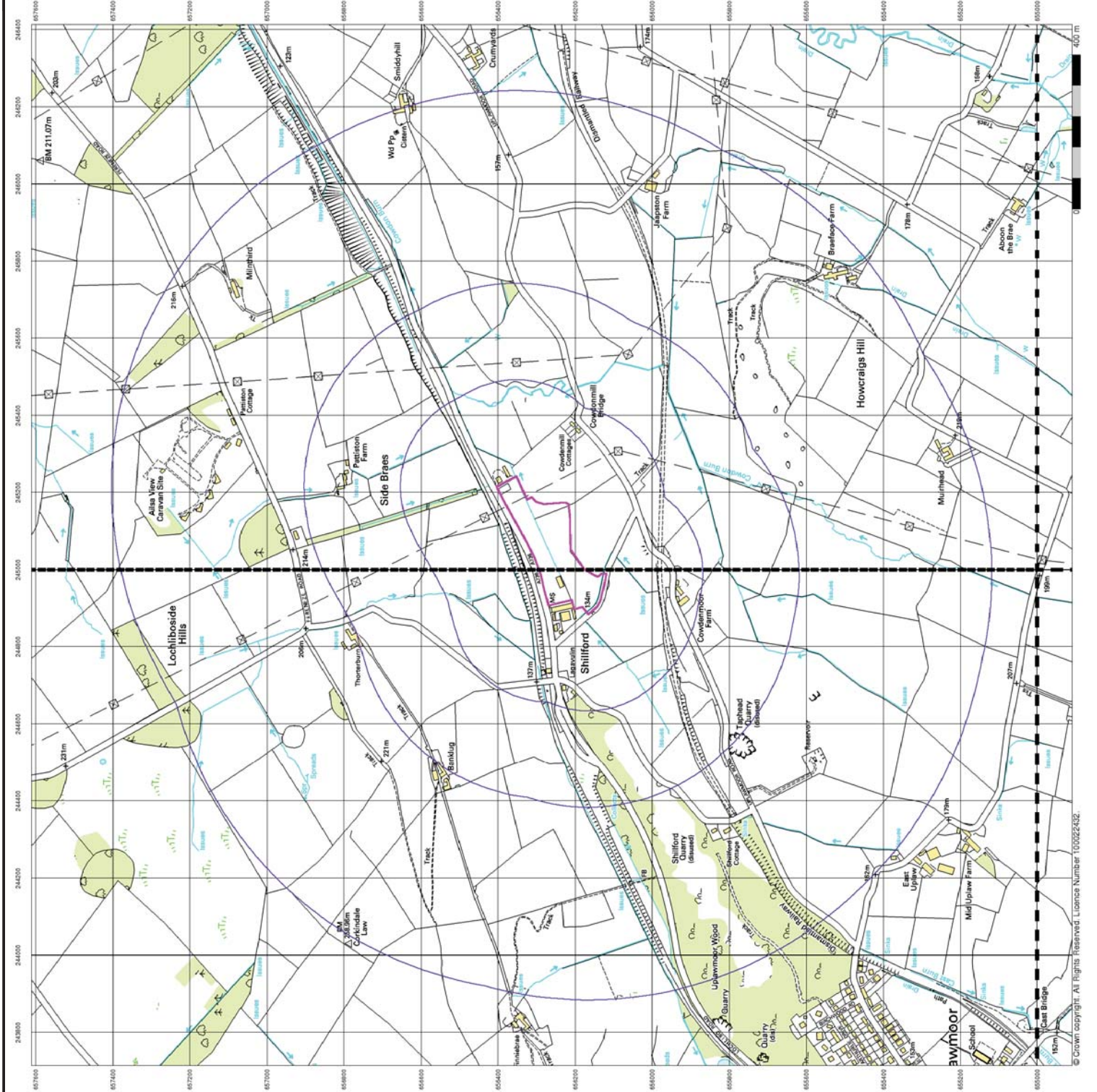


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 1000

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston,
 Glasgow, G78 3BA



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Street View

Published 2023

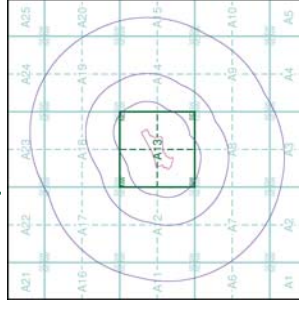
Source map scale - 1:10,000

Street View is a street-level map for the whole of Great Britain produced by the Ordnance Survey. These maps are provided at a nominal scale of 1:10,000

Map Name(s) and Date(s)



Street View Map - Slice A

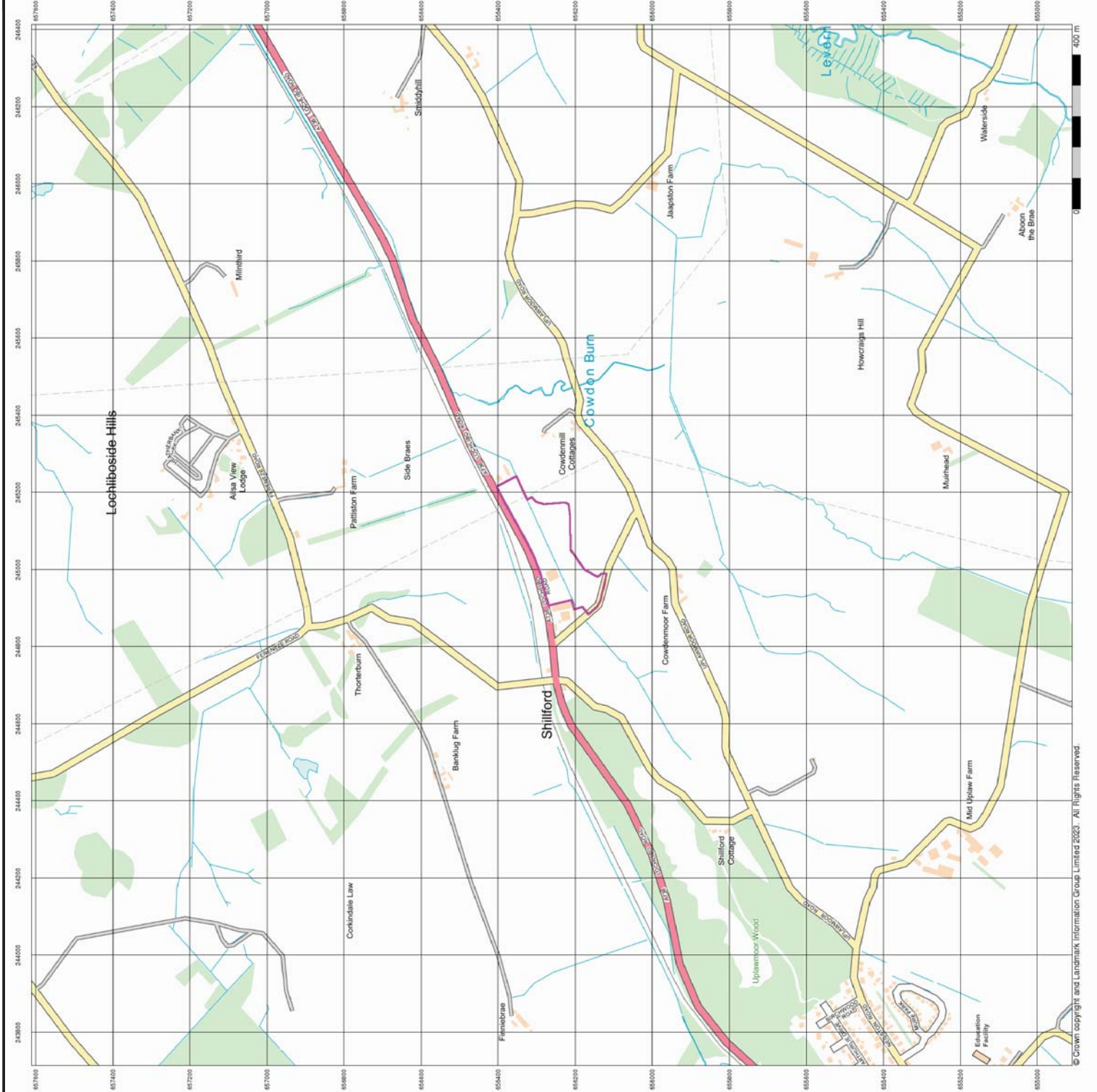


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 1000

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Renfrewshire	1:2,500	1858	2
Renfrewshire	1:2,500	1897	3
Renfrewshire	1:2,500	1913	4
Ordnance Survey Plan	1:2,500	1967	5
Large-Scale National Grid Data	1:2,500	1992 - 1993	6
Large-Scale National Grid Data	1:2,500	1995	7

Large-Scale National Grid Data 1:2,500 and 1:1,250

Symbol	Description	Symbol	Description
	Cliff		Rock
	Slopes		Boulders
	Positioned Boulder		Scree
	Non-Coniferous Tree (surveyed)		Coniferous Tree (surveyed)
	Non-Coniferous Trees (not surveyed)		Orchard Tree
	Coppice, Osier		Reeds
	Rough Grassland		Heath
	Direction of water flow		Triangulation Station
	Electricity Transmission Line		Electricity Pylon
	Bench Mark		Roofed Building
	Civil parish/community boundary		District boundary
	County boundary		Boundary post/stone
	Boundary merging symbol (note: these always appear in opposed pairs or groups of three)		

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

Symbol	Description	Symbol	Description
	Inactive Quarry, Chalk Pit or Clay Pit		Active Quarry, Chalk Pit or Clay Pit
	Rock		Boulders
	Cliff		Slopes
	Roofed Building		Glazed Roof Building
	Sloping Masonry		Archway
	Non-Coniferous Tree (surveyed)		Coniferous Tree (surveyed)
	Non-Coniferous Trees (not surveyed)		Orchard Tree
	Coppice, Osier		Reeds
	Rough Grassland		Heath
	Direction of water flow		Bench Mark
	Cave Entrance		Triangulation Station
	Electricity Transmission Line		Electricity Pylon
	County Boundary (Geographical)		County & Civil Parish Boundary
	Civil Parish Boundary		Admin. County or County Bor. Boundary
	London Borough Boundary		Symbol marking point where boundary merging changes

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

Symbol	Description	Symbol	Description
	Quarry		Sand Pit
	Clay Pit		Refuse Heap
	Sloping Masonry		Flat Rock
	Marsh		Osiers
	Rough Pasture		Wood
	Mixed Wood		Orchard
	Fir		Stepping Stones
	Ferry		Lock
	Trig. Station		Altitude at Trig. Station
	B.M. 325.9		Surface Level
	Arrow denotes flow of water		Antiquities (site of)
	Cutting		Embankment
	Railway crossing Road		Road crossing Railway
	Railway crossing River or Canal		Level Crossing
	Road over single stream		Road over River or Canal
	County Boundary (Geographical)		County & Civil Parish Boundary
	Administrative County & Civil Parish Boundary		County Borough Boundary (England)
	County Borough Boundary (Scotland)		Police Call Box
	B.P. B.S. Boundary Post or Stone		Pump
	B.R. Bridge Road		Signal Post
	E.P. Electricity Pylon		Sluice
	F.B. Foot Bridge		Spring
	F.P. Foot Path		Telephone Call Box
	G.P. Guide Post or Beard		Trough
	M.S. Mile Stone		Well
	M.P. M.R. Meeching Post or Ring		

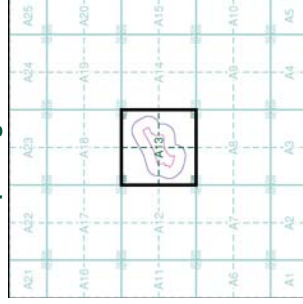
Historical Mapping Legends

Symbol	Description	Symbol	Description
	Cliff		Rock
	Slopes		Boulders
	Positioned Boulder		Scree
	Non-Coniferous Tree (surveyed)		Coniferous Tree (surveyed)
	Non-Coniferous Trees (not surveyed)		Orchard Tree
	Coppice, Osier		Reeds
	Rough Grassland		Heath
	Direction of water flow		Triangulation Station
	Electricity Transmission Line		Electricity Pylon
	Bench Mark		Roofed Building
	Civil parish/community boundary		District boundary
	County boundary		Boundary post/stone
	Boundary merging symbol (note: these always appear in opposed pairs or groups of three)		

Symbol	Description	Symbol	Description
	Inactive Quarry, Chalk Pit or Clay Pit		Active Quarry, Chalk Pit or Clay Pit
	Rock		Boulders
	Cliff		Slopes
	Roofed Building		Glazed Roof Building
	Sloping Masonry		Archway
	Non-Coniferous Tree (surveyed)		Coniferous Tree (surveyed)
	Non-Coniferous Trees (not surveyed)		Orchard Tree
	Coppice, Osier		Reeds
	Rough Grassland		Heath
	Direction of water flow		Bench Mark
	Cave Entrance		Triangulation Station
	Electricity Transmission Line		Electricity Pylon
	County Boundary (Geographical)		County & Civil Parish Boundary
	Civil Parish Boundary		Admin. County or County Bor. Boundary
	London Borough Boundary		Symbol marking point where boundary merging changes

Symbol	Description	Symbol	Description
	Quarry		Sand Pit
	Clay Pit		Refuse Heap
	Sloping Masonry		Flat Rock
	Marsh		Osiers
	Rough Pasture		Wood
	Mixed Wood		Orchard
	Fir		Stepping Stones
	Ferry		Lock
	Trig. Station		Altitude at Trig. Station
	B.M. 325.9		Surface Level
	Arrow denotes flow of water		Antiquities (site of)
	Cutting		Embankment
	Railway crossing Road		Road crossing Railway
	Railway crossing River or Canal		Level Crossing
	Road over single stream		Road over River or Canal
	County Boundary (Geographical)		County & Civil Parish Boundary
	Administrative County & Civil Parish Boundary		County Borough Boundary (England)
	County Borough Boundary (Scotland)		Police Call Box
	B.P. B.S. Boundary Post or Stone		Pump
	B.R. Bridge Road		Signal Post
	E.P. Electricity Pylon		Sluice
	F.B. Foot Bridge		Spring
	F.P. Foot Path		Telephone Call Box
	G.P. Guide Post or Beard		Trough
	M.S. Mile Stone		Well
	M.P. M.R. Meeching Post or Ring		

Historical Map - Segment A13



Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Site: A
 Site Area (Ha): 3.99
 Search Buffer (m): 100

Site Details

C J Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



Tel: 0844 844 9852
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

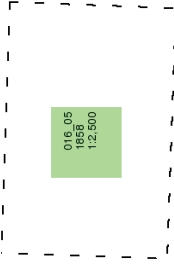
Renfrewshire

Published 1858

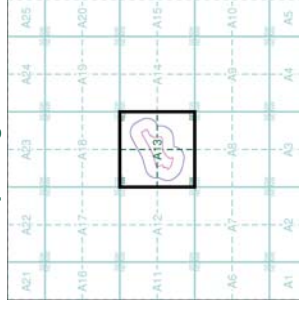
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Edinburgh and Glasgow in the 1940s. The 1854 map was published by the Ordnance Survey, Edinburgh. The 1858 map covered the whole of what was considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938 all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

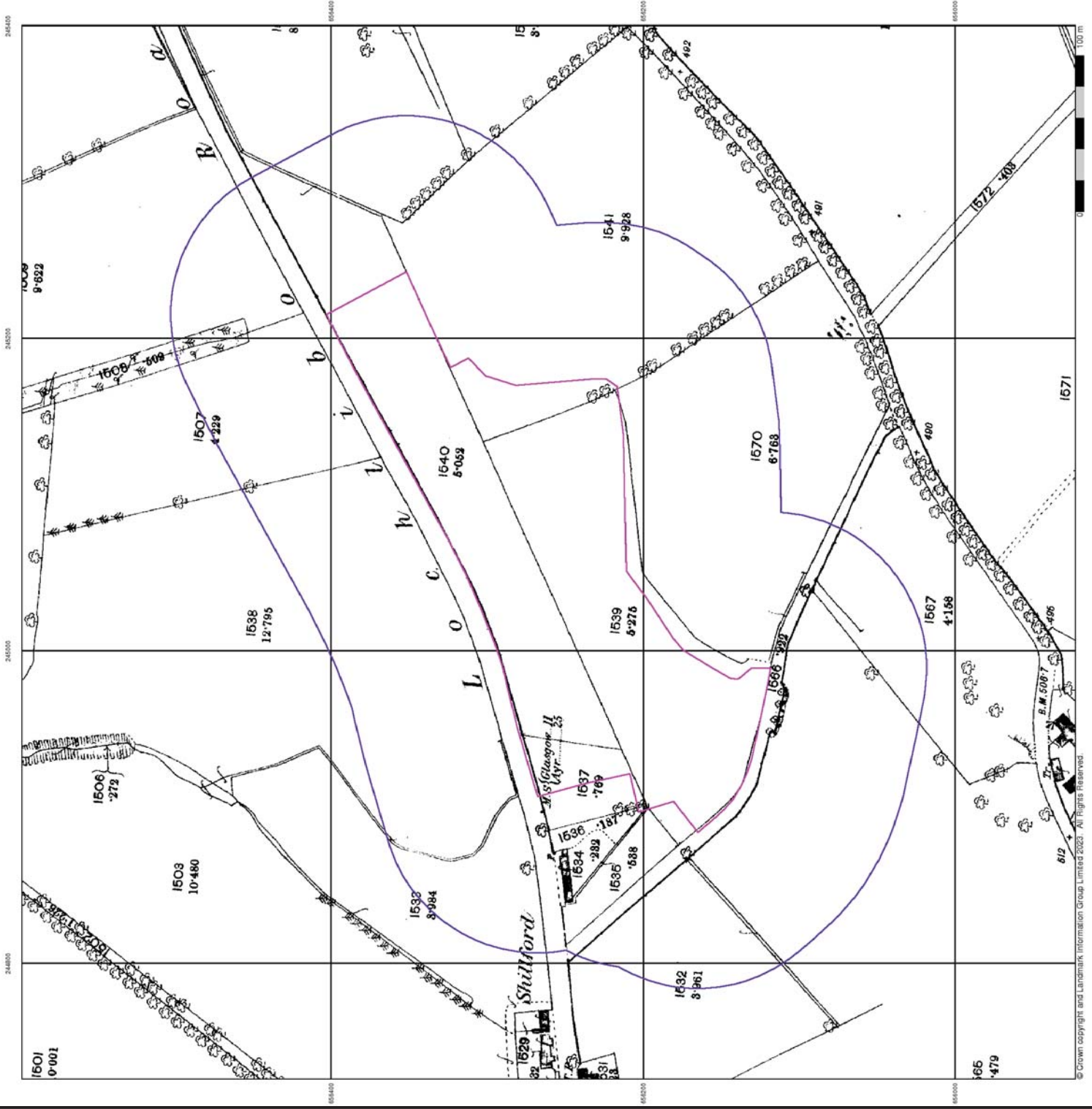


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
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 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 100

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



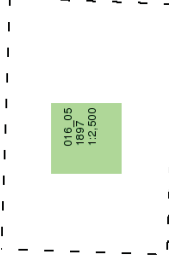
Renfrewshire

Published 1897

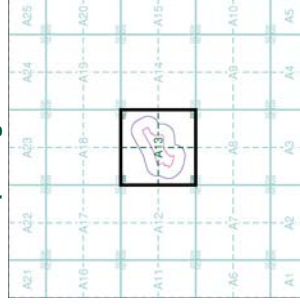
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Edinburgh in the 1940s. The original maps were published for England, Wales and Scotland in the 1840s, 1854 and 1860s. The maps were published at a scale of 1:2,500. The maps covered the whole of what was then considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938 all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

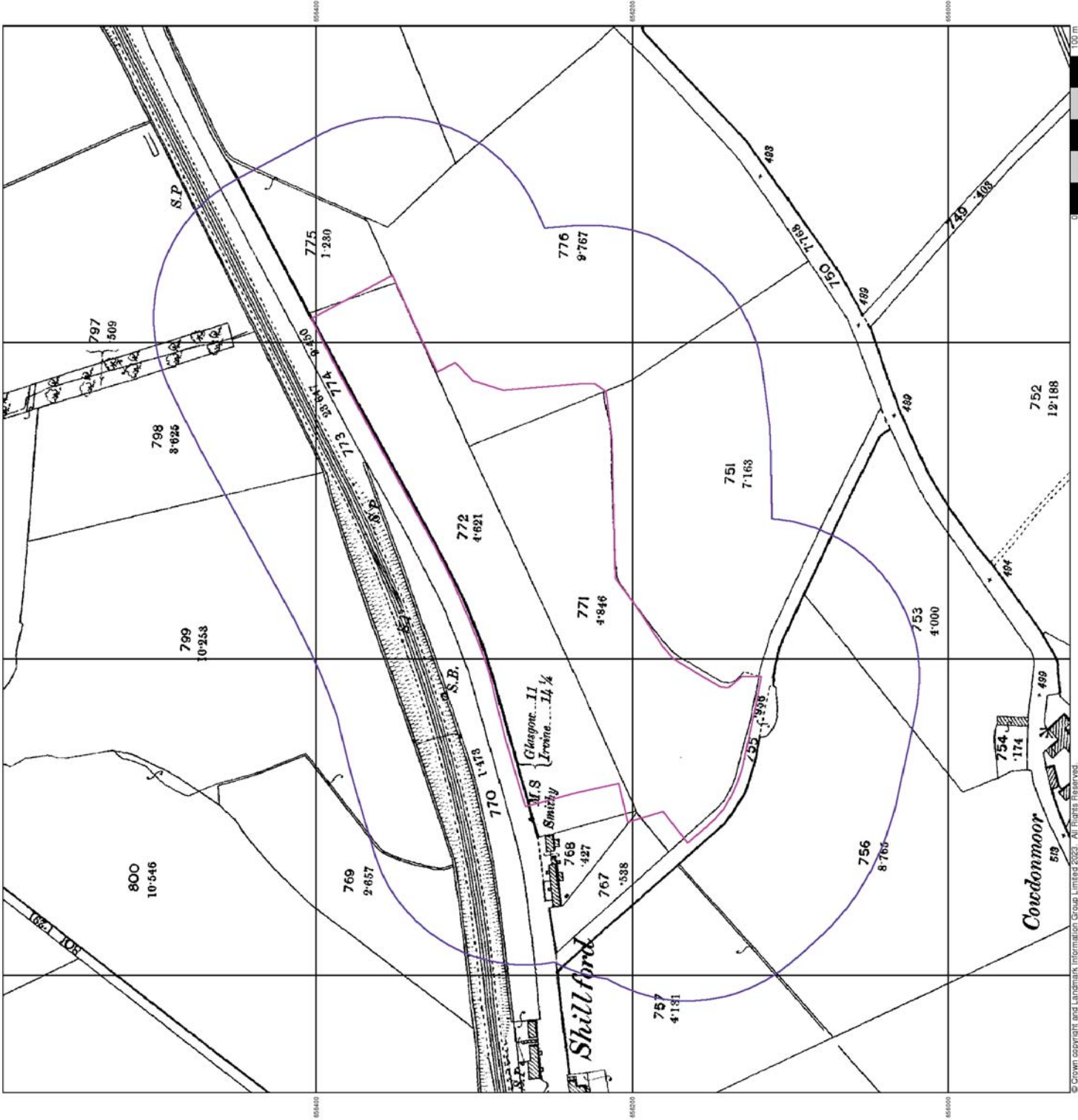


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 100

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



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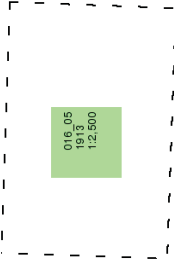
Renfrewshire

Published 1913

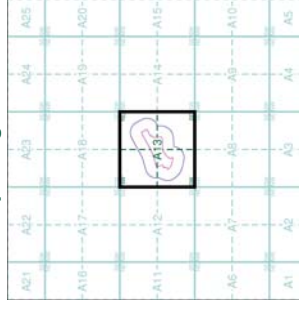
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Edinburgh, Scotland in the 1940s. The maps were adopted for England, Wales and Scotland in the 1940s. The maps covered the whole of what was considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938 all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
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 Site: A
 Site Area (Ha): 3.99
 Search Buffer (m): 100

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



Ordnance Survey Plan Published 1967

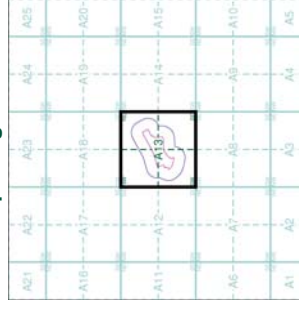
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the Ordnance Survey, Warley, Midlands and Scotland in the 1940s. 1854 was the date adopted for England, Wales and Scotland in the 1940s. 1854 was the date adopted for the Ordnance Survey of Scotland in 1854. The maps covered the whole of what was considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938 all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NS4456	1967	12,500	NS4456	1967	12,500
NS4455	1967	12,500	NS4455	1967	12,500

Historical Map - Segment A13

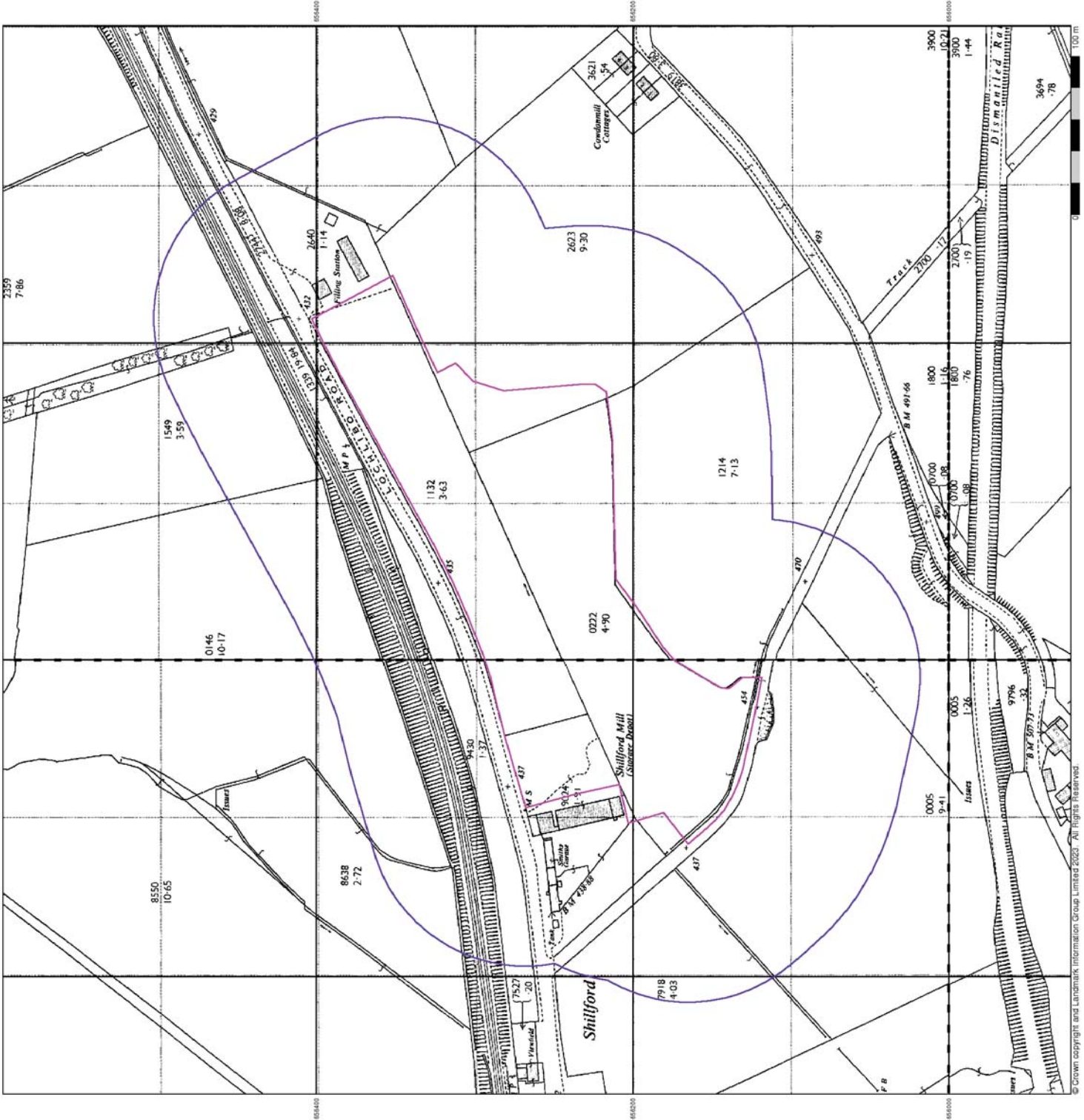


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 100

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



Large-Scale National Grid Data

Published 1992 - 1993

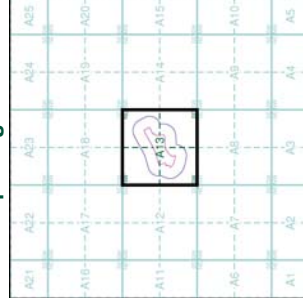
Source map scale - 1:2,500

Large Scale National Grid Data: superseded SIM cards (Ordnance Survey's information on MicroSIM) in 1992, and continued to be produced until 1999. The maps were produced at a scale of 1:2,500 and provide detailed information on houses and roads, but tend to miss topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NS4456	NS4556
1993	1992
1:2,500	1:2,500
NS4455	NS4555
1993	1992
1:2,500	1:2,500

Historical Map - Segment A13



Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 100

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



Large-Scale National Grid Data

Published 1995

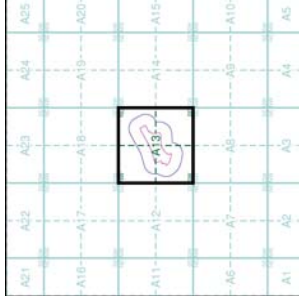
Source map scale - 1:2,500

Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's Survey Information on Microfilm) in 1992, and continued to be produced until 1999. These maps were of digital mapping and provide detailed information on houses and roads, but have fewer topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NS4455	1995	1:2,500
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Historical Map - Segment A13

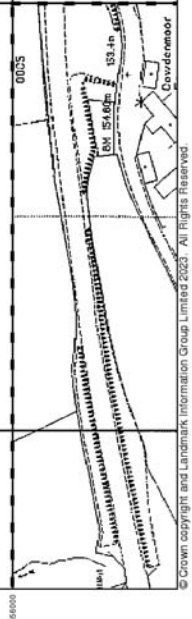
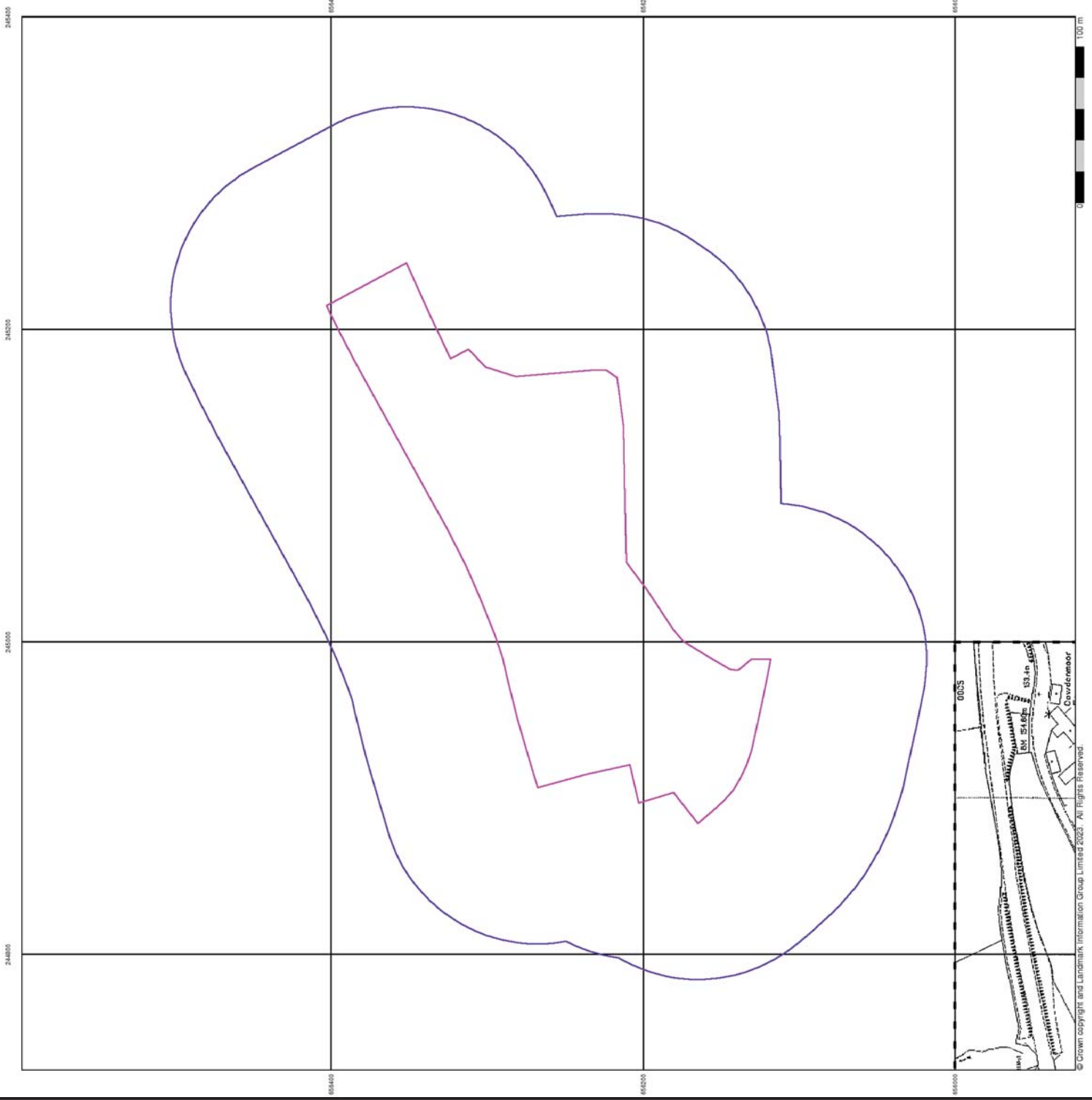


Order Details

Order Number: 312519065_1_1
 Customer Ref: 61045_AF
 National Grid Reference: 245060, 656260
 Slice: A
 Site Area (Ha): 3.99
 Search Buffer (m): 100

Site Details

C I Strain & Son Ltd, Anvers Works, Lochilbo Road, Neilston, Glasgow, G78 3BA



APPENDIX D
BGS Borehole Data



D RECORD OF WELL (SHAFT OR BORE)

1" N.S. 22/4343
1" O.S. _____
Grid _____
Ref. _____

At Shifford, nr. Neilston
Town or Village _____ County Renfrewshire Six-inch quarter sheet 16NW/10

Exact site _____ } (A rough sketch-map or a tracing from a map is very desirable)
_____ in parish of _____

Level of ground surface above sea-level (O.D.) _____ ft. If well starts below ground surface, state how far _____ ft.

Shaft _____ ft., diameter _____ ft. Bore 10' 0" 1/4 ft. Diameter of bore : at top _____ ins. ; at bottom _____ ins.

Details of permanent lining tubes (internal diameters preferred) _____

Water struck at depths of (feet) _____

Rest-level of water below top of well _____ feet. Suction at _____ feet. Yield on _____ hours' test above _____ days'

6 gallons per min. (with pump of capacity _____ g.p.h.); depressing water level to _____ feet below top. Time of recovery _____ hrs. Amount normally pumped daily _____ g.p.h. for _____ hours.

Quality (attach copy of analysis if available) _____
Sunk by J. Henderson & Son for Mr. T. J. Maxwell, Engineer, 14c Bridge St. Glasgow Date of well 1909

Information from Mitchell Library (Henderson Rowbotham) 1939

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	THICKNESS		DEPTH	
		Feet.	Inches.	Feet.	Inches.
	Surface		4' 3"	4' 3"	
<u>d2c</u>	<u>Silt & shales.</u>	9"	1' 10"	10"	0' 1"
	<u>001 7.3.4 water level 7'</u>				
	<u>" 7.5.1 " " 6' 10"</u>				
	<u>" 10.0.1 " " 7' 2"</u>				
	<u>Soil</u>	1		1	
	<u>Boulder clay</u>	3		4	
	<u>Sandstone</u>	41		45	
<u>d2c</u>	<u>Shales</u>	2		47	
	<u>Shales with hard flints</u>	13		60	

Visited September 1963 U.C.
No railway station at the Shifford but there used to be railway cottages which have since been pulled down. There was a handpump in passage between the two cottages but there is no sign of it now - the whole site is very overgrown.

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

For Survey use only

Date received	G.S.M. Office File No.	Site marked on 1" map (use symbol)
---------------	------------------------	------------------------------------

(*11815) Wt.20051/0.369 10,000 9/39
A. & E.W. Ltd. Gp. 686

APPENDIX E
Coal Authority Report



The Coal
Authority

CON29M

coal mining report

SHILFORD MILL, LOCHLIBO ROAD, NEILSTON, EAST RENFREWSHIRE, G78 3BA



Known or potential coal mining risks

Future underground coal mining

Page 4



Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit
www.groundstability.com



Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. It is unlikely that these features will impact on the stability of the enquiry boundary.

Your reference: **61045_AF**
Our reference: **51003360155001**
Date: **9 June 2023**

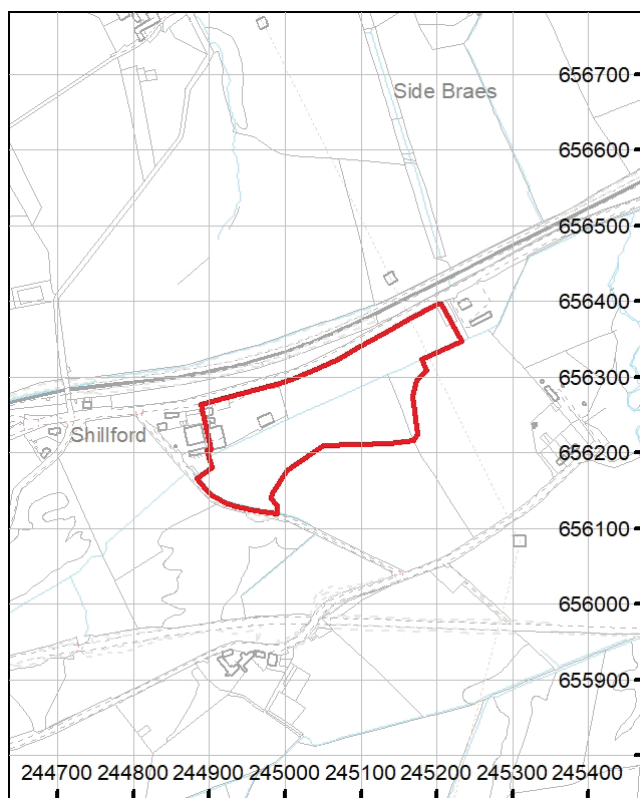
Client name:
IRONSIDE FARRAR

If you require any further assistance please
contact our experts on:
0345 762 6848
groundstability@coal.gov.uk

Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is
on the coalfield



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Ordnance Survey Licence number: 100020315.

This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.



Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Professional opinion



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 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.

If you are looking to develop, or undertake works, within a coal mining development high risk area your Local Authority planning department may require a Coal Mining Risk Assessment to be undertaken by a qualified mining geologist or engineer. Should you require any additional information then please contact the Coal Authority on **0345 762 6848** or email **cmra@coal.gov.uk**.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

The Coal Authority owns the copyright in this report and the information used to produce this report is protected by our database rights. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

1 Past underground coal mining

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

2 Present underground coal mining

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

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

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

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

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

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

4 Mine entries

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

5 Coal mining geology

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

6 Past opencast coal mining

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

7 Present opencast coal mining

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

8 Future opencast coal mining

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

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

9 Coal mining subsidence

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

10 Mine gas

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

11 Hazards related to coal mining

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

12 Withdrawal of support

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

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

13 Working facilities order

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

14 Payments to owners of former copyhold land

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

Statutory cover



Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.

www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form



Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **0800 288 4242**. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary



Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

mine gas - reports of alleged mine gas emissions received by the Coal Authority within 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

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings

APPENDIX F
Envirocheck Report

APPENDIX G
Consultation Responses

Neil Brown

From: EN EnvFoi <envfoi@eastrenfrewshire.gov.uk>
Sent: 03 July 2023 10:09
To: Audra Fabrizio
Subject: FOI - 6538-0690-4790-5398

Good Morning

Information Request under the Freedom of Information (Scotland) Act 2002

I refer to your recent freedom of information request regarding Lochlibo Road, Shillford dated 27th June 2023. Please find enclosed information as requested;

1. Any known landfill sites within 1km,
 - There are no known landfill sites within 1 Km.
2. Any private water supplies within 1km,

There are a number of private water supplies located within a 1Km radius:

 - All properties / mobile homes within the Boundary of Heather Bank Country Park, Residential Caravan Site, Ailsa View Cottage and Pattiston Arnail
 - Pattison Farm
 - Pattison Cottages
 - Viewpoint Cottage
 - Thorterburn Farm
 - Milnthird
 - Banklug Farm
 - Finniebrae
3. Any known contaminative land uses within 500m,
 - The site boundary lies on a site recorded as having historical use as Sawmill and food preparation (including Brewing) which may have resulted in contamination to the land
 - Recent uses include a transport garage/ depot mechanic and landscape business
 - Adjacent to the immediate west of the site boundary there are records of there having been a Filling station and current use as a leather tannery.
 - Risk of contamination to the land is also associated with the current Railway line that runs parallel to the North site boundary at approximately 25 m and the dismantled railway line which runs parallel to the South site boundary at 200m.
 - Risk of contamination is also associated with the quarry and associated works within Uplawmoor Woods at Easting 244,259 Northing 655,902
4. Any records on fuel tanks within 500m,
 - It should be noted that “Smithy Filling Station” is recorded as having been located immediately adjacent to the site boundary – Our Trading Standards Department may be able to supply additional information on the status of filling tanks by contacting Tradingstandards@eastrenfrewshire.gov.uk
5. Any previous reporting pertaining to the site or sites within 500m
6. Any records of previous or current mining :

- The site lies within a coal mining area which may contain unrecorded coal mining related hazards and therefore the developer should consult with the National Coal authority. There are a number of historical quarries within 1 Km of the site but not within 500m of the site.

7. Any known pollution incidents at the site or in the surrounds.

- East Renfrewshire Council do not hold any records of pollution incidents at the site

I hope this information is of assistance to you and if you require further information please do not hesitate to contact this office.

East Renfrewshire Council offers the opportunity to apply to the Council for a review of how we have dealt with your enquiry. If you wish to proceed to review, please apply in writing within 40 working days to:

The Chief Officer Legal & Procurement
Council Headquarters
Rouken Glen Road
Giffnock G46 6UG,

Or by email at FoIReviews@eastrenfrewshire.gov.uk

marking your letter "Freedom of Information, request for review", and stating the exact nature of the matter you wish to be reviewed.

The review will be carried out within 20 working days of receipt of your appeal. If you are dissatisfied with the outcome of the review, you have the right to then appeal to the Scottish Information Commissioner who has extensive powers to investigate such matters. His address is:

Scottish Information Commissioner
Kinburn Castle
St. Andrews
Fife KY16 9DS

Yours sincerely,

Tracey Morgan
Customer Relations Officer
Environment Department

www.eastrenfrewshire.gov.uk

Please consider the environment - do you need to print this email?



[Information security classification](#)

No marking No special handling practices

PROTECT Protective action required

Detail label	Detail value
Name	Audra Fabrizio
Address	
Email address	audra.fabrizio@ironsidefarrar.com
Phone number	-

Contact details

- 1.
- 1.

Highlight label	Highlight value
"Details of your request	Ironside Farrar Ltd is working on a land contamination and coal mining de Road, Shillford for J&M Murdoch Haulage. The approximate centre of sit (Scotland) Regulations 2004, please could you provide any information Ea within 1km, 2. any private water supplies within 1km, 3. any known conta within 500m, 5. any previous reporting pertaining to the site or sites withi opencast mining, within 500m of the site, 7. any known pollution incident

Case highlights



RESPONSE TO F0195631

Request Timeline

Date	Status
27/06/2023	EIR Request received [statutory deadline 25/07/2023]
27/06/2023	Clarification requested
03/07/2023	Clarification received [statutory deadline 31/07/2023]
19/07/2023	EIR Response issued

Requested Information

[...] carry out an environmental assessment of land within the grounds at Lochlibo Road, Shillford, East Renfrewshire. The first stage of this involves a desk-based analysis of the site.

The approximate centre of the site is NS 44909 56236 and a plan of the site is attached.

For the site, could we receive information SEPA has within with respect to:

1. WML, CAR, PPC and RSA authorisations within 500m of the site.
2. Pollution controls/incidents within 500m of the site,
3. Surface water or groundwater abstractions within 500m of the site;
4. Details of any known Flood Defences on or in the vicinity of the site, within 500m
5. Any historic or current landfill within 500m of the site, including monitoring data held for any identified.

Clarification Received

for Q2 could you please go back 5 years.

Response

We confirm that we have handled your request under the terms of the Environmental Information (Scotland) Regulations 2004 (EIRs).

Q	Response	Data Reuse
[1]	<p>WML, CAR, PPC and RSA authorisations within 500m of the site.</p> <p>There are no Waste Management/Controlled Activities Regulation/Pollution Prevention Control or Radioactive Substances authorisations within the scope of this request.</p> <p><u>Exceptions/Regulations Applied:</u></p> <p>Regulation 10(4)(a) – Information not held</p>	In cases where no information is held, data reuse does not apply.
[2]	<p>Pollution controls/incidents within 500m of the site,</p> <p>We hold one record of a pollution event from May 2019. Please see details below.</p> <p>Event description:</p> <p>Quality of sewage effluent from Heatherbank Park, Neilston</p> <p>Actions:</p> <p>30/05/19 REDACTED: Anonymous letter received by SEPA ASB [ANGUS SMITH BUILDING] to report concerns about quality of sewage effluent from Heatherbank Park.</p>	There are no restrictions, including commercial, to the re-use of this data.

Q	Response	Data Reuse
	<p>(CAR/L/1000394).</p> <p>06/06/19 REDACTED: REDACTED checked previous correspondences in REDACTED and sent an email to the resident manager to arrange a site visit. No replies received.</p> <p>10/06/19 REDACTED: Phone conversation with Laird Estate Office REDACTED and email sent to REDACTED to arrange a site visit.</p> <p>11/06/19 REDACTED: Private sewage treatment plant inspected today, REDACTED accompanied the inspection. Sewage effluent sample taken.</p> <p>26/06/19 REDACTED: Analytical report received today. Results for BOD [BIOCHEMICAL OXYGEN DEMAND] and suspended solids were within the consented limits detailed in the Controlled Activities Regulations licence. Email sent to REDACTED to inform about outcome of the inspection. NFA. [NO FURTHER ACTION]</p> <p><u>Exceptions/Regulations Applied:</u></p> <p>Regulation 11(2) – Personal Data</p>	

Q	Response	Data Reuse
[3]	<p>Surface water or groundwater abstractions within 500m of the site;</p> <p>There are no surface or groundwater abstractions within 500m of the site.</p> <p>Please note that private drinking water supply abstractions of 10m³ or less are covered by a General Binding Rule (GBR). As compliance with the GBR is mandatory and no formal SEPA authorisation or registration is required, we do not hold a record of these. It is the responsibility of the local authority to maintain a register of private drinking water supplies and we suggest you contact East Renfrewshire Council for this information, contact details are provided in 'Application of Regulation and Exceptions' section below.</p> <p>Please also note, in the interest of public safety, we cannot disclose the locations of public drinking water supply abstractions.</p> <p>SEPA's Public Register remains impacted by the cyber-attack and we are rebuilding in phases. We are providing you with the best information we currently have available but cannot confirm it is complete or accurate. Any use you make of this information will be at your own risk.</p> <p><u>Exceptions/Regulations Applied:</u></p> <p>Regulation 9 – Advice and assistance</p>	In cases where no information is held, data reuse does not apply.

Q	Response	Data Reuse
	<p>Regulation 10(4)(a) – Information not held Regulation 14(1)(b) – Other authority Regulation 10(5)(a) – International relations, national security, public safety</p>	
[4]	<p>Details of any known Flood Defences on or in the vicinity of the site, within 500m</p> <p>We do not hold this information.</p> <p>Information on flood defences in Scotland can be accessed through the Scottish Flood Defence Asset Database (SFDAD), which you can register to access here: www.scottishflooddefences.gov.uk/</p> <p>While this contains most defences, in some instances there are some for which information is not available.</p> <p>However, we can confirm that we are not currently aware of any defences at the site of interest at a 500m range.</p>	<p>Access to SFDAD technical information is available to named individuals from professional organisations who are flood risk management practitioners or from individuals who provide significant input to flood risk management activities in Scotland. Access is controlled by Username and Password management and is subject to acceptance of the Terms and Conditions of use.</p> <p>Please enquire via the contact details provided on the web page for the Terms and Conditions of use.</p> <p>This data is licenced under the current Open Government Licence:</p>

Q	Response	Data Reuse
	<p>We suggest that you contact the Flood Risk Management team at East Renfrewshire Council, who are the local flood risk management authority and are responsible for flood defences for that area. They should be able to provide further details on flooding and flood alleviation in this area. Contact details can be found in the Application of Regulations/Exceptions section, below.</p> <p>In Autumn 2022, SEPA made available the following spatial datasets under Open Government Licence (OGL): www.nationalarchives.gov.uk/doc/open-government-licence/version/3/</p> <ul style="list-style-type: none"> • Flood Hazard Maps (release version 2.0) • Flood Risk Management (FRM) Plan district boundaries • Potentially Vulnerable Areas • Flood Risk Management (FRM) Target Areas. <p>SEPA's flood hazard maps (release version 2.0) show the risk of flooding from rivers, the sea and surface water, and can be accessed in two ways:</p>	<p>www.nationalarchives.gov.uk/doc/open-government-licence/version/3/</p> <p>Scotland's Environment: www.environment.gov.scot/legal/terms-and-conditions/</p>

Q	Response	Data Reuse
	<ul style="list-style-type: none"> • Via the flood map viewer: map.sepa.org.uk/floodmaps • Data for use in Geographic Information Systems (GIS) can be downloaded from the Data publication page: www.sepa.org.uk/environment/environmental-data/ <p>These datasets are now available for anyone to view, use and download for free. Please refer to the frequently asked questions (FAQs) for further information: www.sepa.org.uk/environment/water/flooding/faqs/#floodmaps</p> <p><u>Exceptions/Regulations Applied:</u></p> <p>Regulation 6(1)(b) - Publicly Available Regulation 9 – Advise and Assist Regulation 10(4)(a) – Information not held Regulation 14(1)(b) – Other authority</p>	
[5]	<p>Any historic or current landfill within 500m of the site, including monitoring data held for any identified.</p> <p>There is an old quarry located about 600 metres to the southwest of the area of interest called Taphead Quarry. There is no indication that SEPA ever</p>	<p>This data is licenced under the current Open Government Licence: www.nationalarchives.gov.uk/doc/open-government-licence/version/3/</p>

Q	Response	Data Reuse
	<p>issued the site with a Waste Management Licence or a Pollution Prevention Control permit to operate a landfill. However, it may have been a landfill prior to 1996 and hence operated by the local authority. Such information may be held by the local authority's contaminated land officer. We advise you to contact East Renfrewshire Council for any information they may hold, their contact details are provided in the Application of Regulations/Exceptions section below.</p> <p>East Capellie is a closed landfill located about 3.6 km to the northeast of the area of interest. This site is now closed. We attach annual monitoring reports for East Capellie Landfill for 2021 and 2022.</p> <p>Please find attached, two annual monitoring reports for East Capellie Landfill.</p> <ul style="list-style-type: none"> • EC - Annual Report 2021 (3) RR • EC - Annual Report 2022 - Final RR <p><u>Exceptions/Regulations Applied:</u></p> <p>Regulation 9 – Advise and Assist Regulation 10(4)(a) – Information not held Regulation 11(2) – Personal data</p>	

Q	Response	Data Reuse
	Regulation 14(1)(b) – Other Authority	

Application of Regulations and Exceptions

Section 39(2)

The information you are requesting is environmental information. We have applied Section 39(2) of the Freedom of Information (Scotland) Act 2002 (FOISA). We are therefore handling your request under the Environmental Information (Scotland) Regulations 2004 (EIRs).

Regulation 6(1)(b) - Publicly Available and Easily Accessible

Where we have advised above that information is publicly available & easily accessible Regulation 6(1)(b) applies, the text of which is reproduced below;-

6(1) Where an applicant requests that environmental information be made available in a particular form or format, a Scottish public authority shall comply with that request unless-
(b) the information is already publicly available and easily accessible to the applicant in another form or format.

Regulation 9 – Advice and assistance

Where we have issued additional information or advice this is provided in line with SEPA's duty to advise and assist under Regulation 9 of The Environmental Information (Scotland) Regulations 2004.

Regulation 10(4)(a) – Information not held

Where we have advised above that SEPA does not hold this information it is excepted under Regulation 10(4)(a) of the Environmental Information Regulations 2004. The text of which is reproduced below;

(4) A Scottish public authority may refuse to make environmental information available to the extent that;- (a) it does not hold that information when an applicant's request is received.

The exception in regulation 10(4)(a) is subject to the public interest test in regulation 10(1)(b) of the EIRs. As SEPA does not hold the information in question there is no conceivable public interest in requiring that the information be made available.

Regulation 10(5)(a) – International relations, national security, public safety

The locations of public drinking water supply abstractions are withheld from release under the terms of Regulation 10(5)(a) of the EIRs. The text of which is reproduced below.

10 (5) A Scottish public authority may refuse to make environmental information available to the extent that its disclosure would, or would be likely to, prejudice substantially, (a) international relations, defence, national security or public safety;

The Public Interest Test was carried out in relation to the information which is to be withheld under Regulation 10(5)(a) of the EIRs. It is acknowledged that there are public interest arguments in favour of disclosure of the subject information. However, there is a stronger public interest in withholding information that if disclosed would likely to prejudice substantially public safety in providing the locations of the public's drinking water supplies.

Regulation 11(2) – Personal data

Personal data relating to SEPA staff and private individuals has been redacted from the released documents in accordance with Regulation 11(2) of the EIRs and Data Protection Principles. SEPA has not withheld complete documents which contain such personal data and have released all other information within the document.

Regulation 14(1)(b) – Other authority

As confirmed above SEPA does not hold this information. In accordance with the terms of the EIRs regulation 14(1)(b), The text of which is reproduced below.

14(1) Where a Scottish public authority has received a request to make environmental information available and does not hold that information but believes that another public authority holds the information requested then it shall (b) supply the applicant with the name and address of that other authority,

We advise that you contact:

East Renfrewshire Council

East Renfrewshire Council headquarters

Eastwood Park

Rouken Glen Road

Giffnock

G46 6UG

eastrenfrewshire.gov.uk/article/4091/Make-a-request-for-information

What to expect when making a Request for Information

Each request for information, under The Environmental Information (Scotland) Regulations 2004 or the Freedom of Information (Scotland) Act 2002, is formally logged by the authority. The request falls within a process that has two internal stages carried out by the authority; a right of appeal to the Scottish Information Commissioner followed by an appeal to the Court of Session on a point of law only.

- Stage 1 – Request for information
- Stage 2 – Formal Review
- Stage 3 – Appeal for decision by Scottish Information Commissioner (OSIC)
- Stage 4 – Appeal to the Court of Session on a point of law only.

Each enquiry will have a unique Reference Number which should be quoted when you contact us.

How you will be kept informed

You will receive an acknowledgement for your request and Formal Review. We aim to reply to all enquiries promptly, within 20 working days. You will receive a response along with the requested information and/or an explanation regarding any withheld information. We may also contact you if we require clarification or if we are issuing a fees notice.

What happens once your enquiry has been responded to?

If you are not happy with the response or have failed to receive a response, you have the right to request a Formal Review from SEPA.

Guidance on your rights and how to ask for a review is on the Scottish Information Commissioner's website; <http://itspublicknowledge.info/YourRights/Askingforareview.aspx>

We will ensure that all personal data is processed, recorded and retained in accordance with the requirements of the Data Protection Act 2018 throughout the handling of each request. You have a right to see information about yourself via submitting a Subject Access Request under the Data Protection Act 2018.

What to do if you are not happy with how your enquiry and review were handled

If you are unsatisfied with our Formal Review response or have failed to receive a response, you can then appeal to the Scottish Information Commissioner via the links below.

www.itspublicknowledge.info/appeal

<http://www.itspublicknowledge.info/home/ContactUs/ContactUs.aspx>

Should you wish to appeal against the Scottish Information Commissioner's decision, you have the right to appeal to the Court of Session on a point of law only. Any such appeal must be made within 42 days after the date of intimation of the decision.

APPENDIX H
Zetica Ltd Bomb Risk Map

UNEXPLODED BOMB RISK MAP



SITE LOCATION

Location: Shillford, East Renfrewshire
Map Centre: 244500,656500



LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.

- military
- industry
- UXO find
- transport
- dock
- Luftwaffe targets
- utilities
- Bombing decoy
- other

How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: +44 (0) 1993 886682

email: uxo@zetica.com

web: www.zeticauxo.com

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: (<https://zeticauxo.com/downloads-and-resources/risk-maps/>)

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgment. The copyright remains with Zetica Ltd.

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.