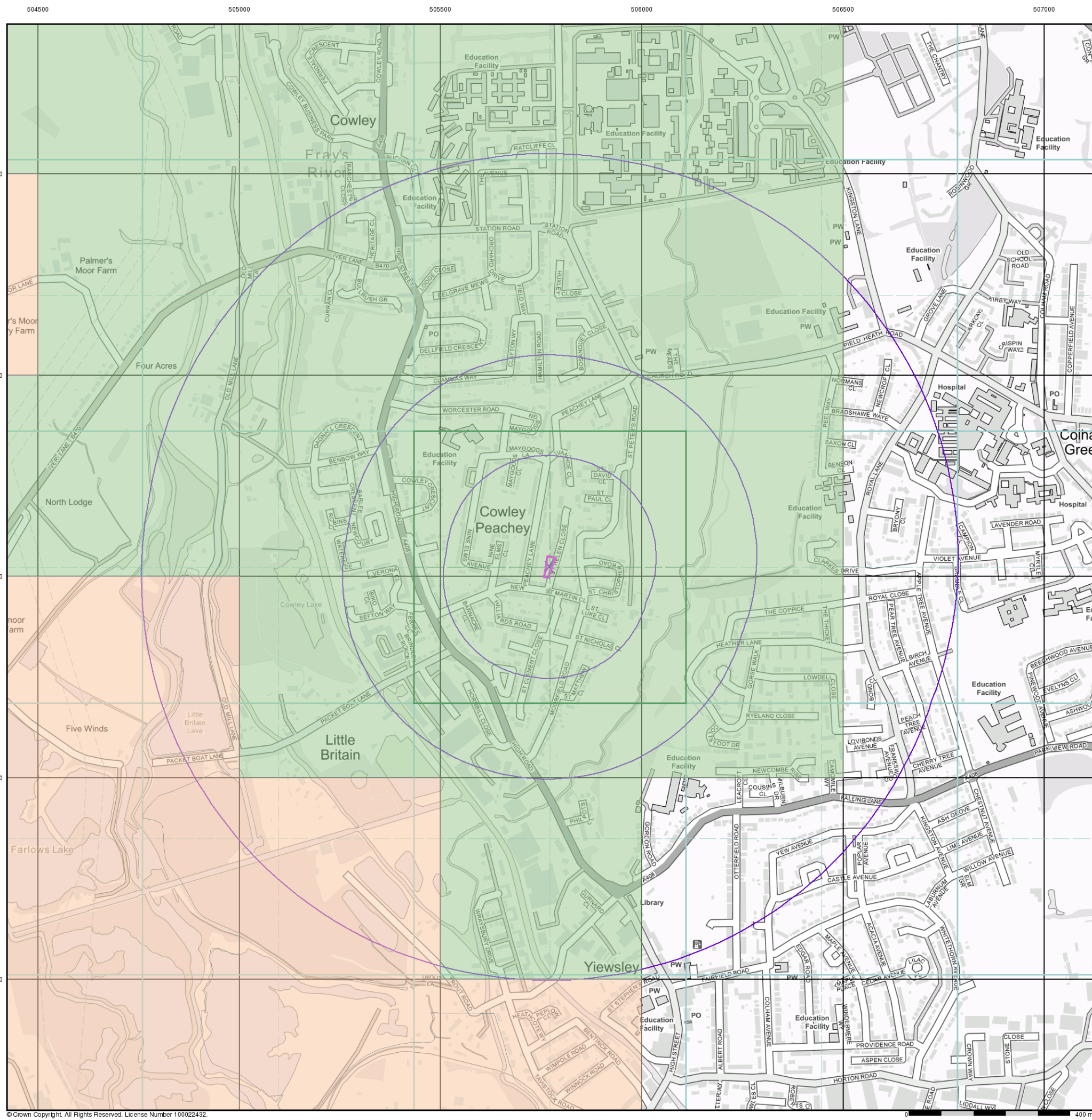


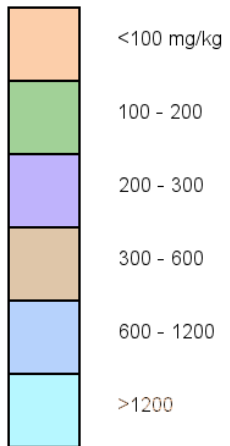


General

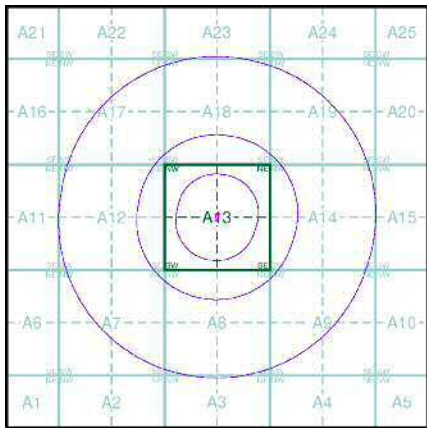
- Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A



Order Details

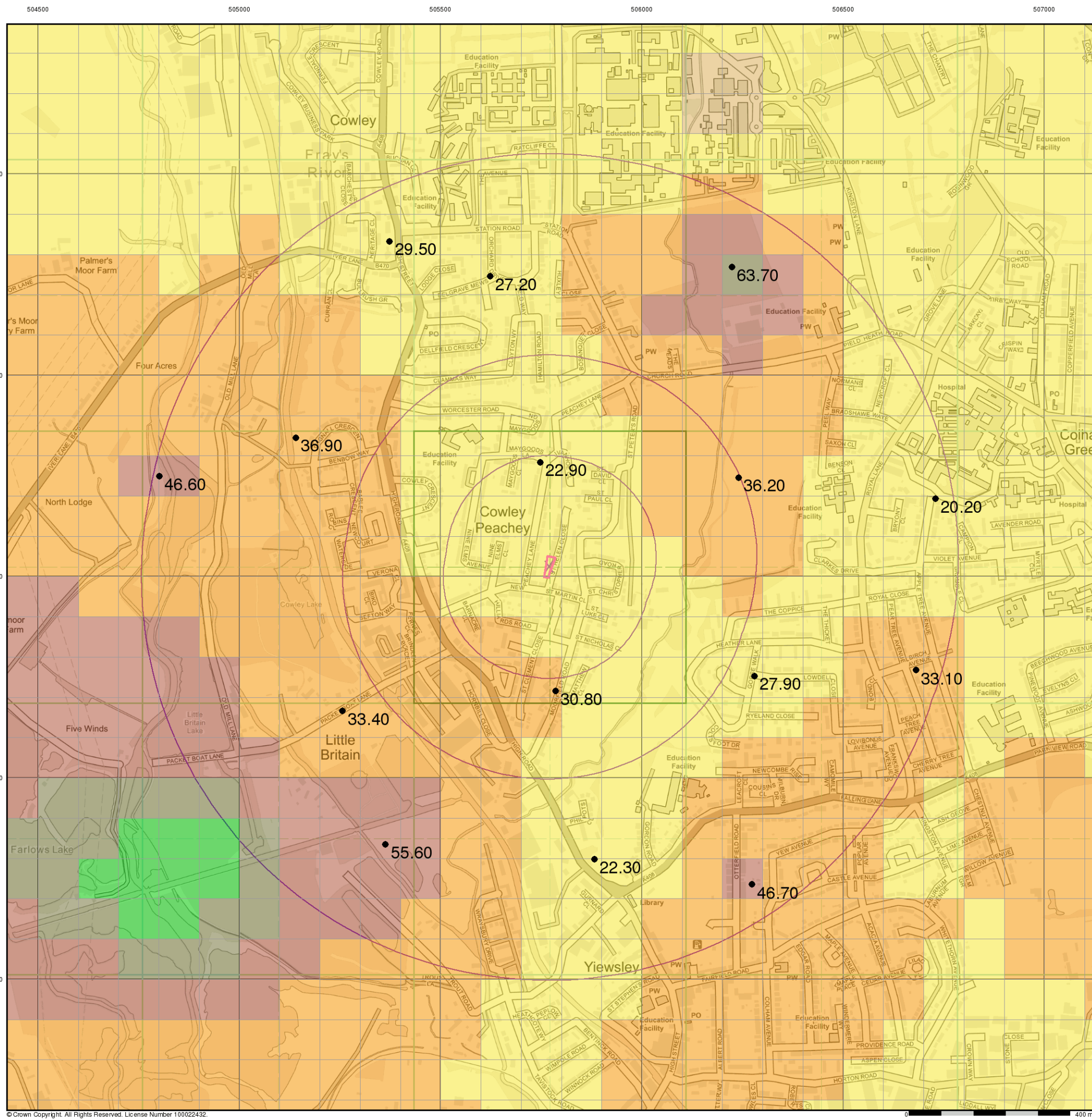
Order Details: 236916254_1_1
Customer Ref: 18255
National Grid Reference: 505770, 181520
Slice: A
Site Area (Ha): 0.08
Search buffer (m): 1000

Site Details

St Helens Close, Cowley, UXBRIDGE, UB8 5SZ



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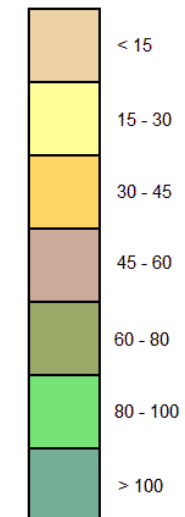
General

Specified Site Specified Buffer(s) Bearing Reference Point

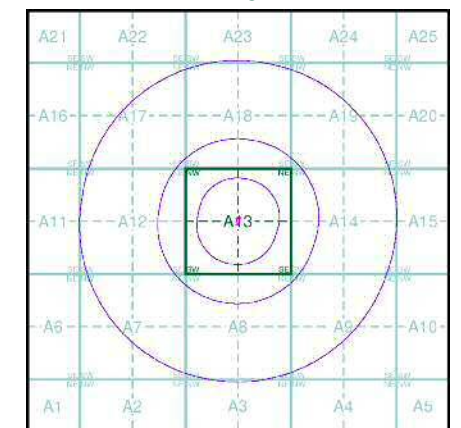
Urban Soil Chemistry Nickel

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Nickel Concentrations mg/kg



Urban Soil Chemistry Nickel - Slice A



Order Details

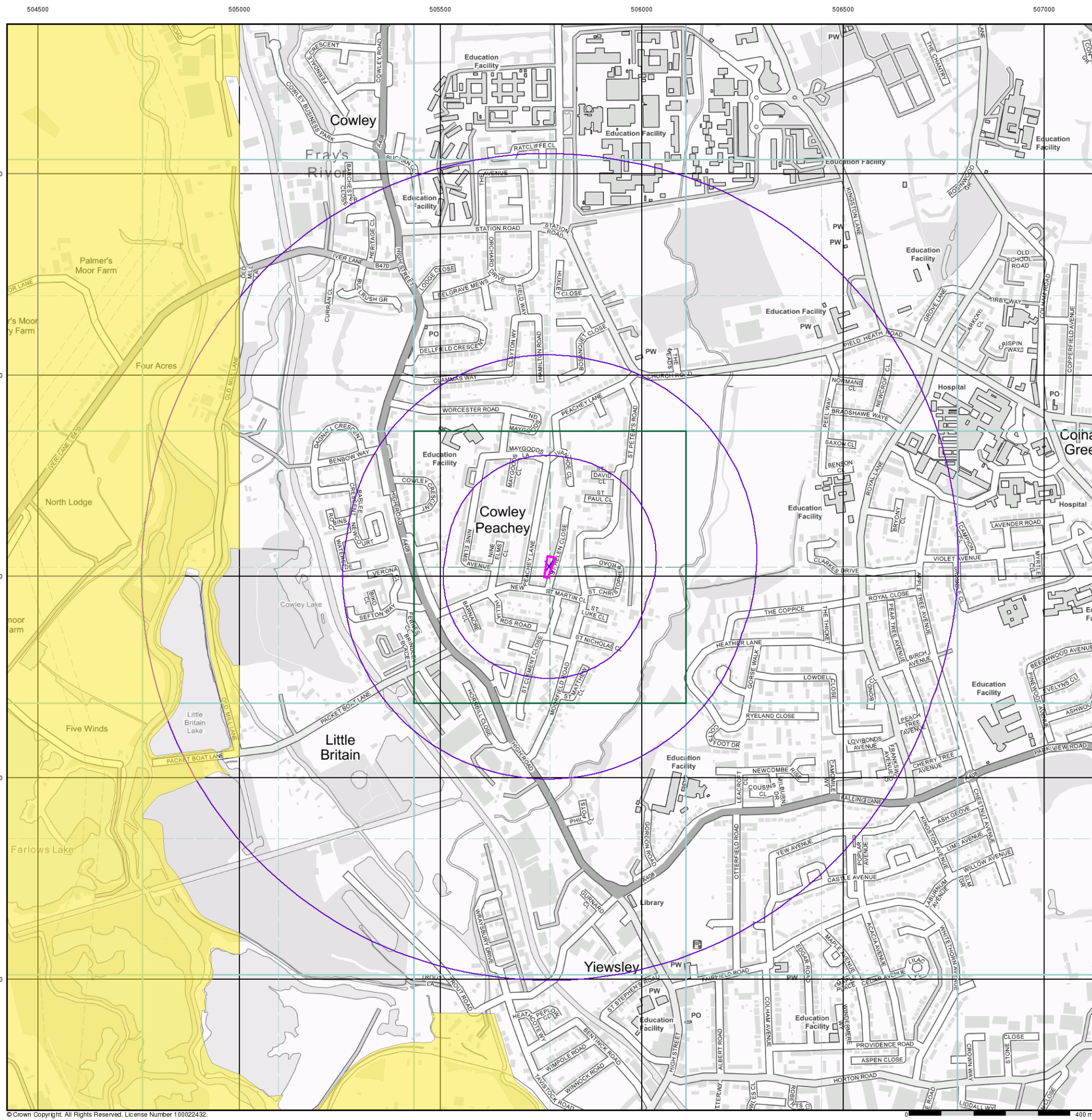
Order Details: 236916254_1_1
Customer Ref: 18255
National Grid Reference: 505770, 181520
Slice: A
Site Area (Ha): 0.08
Search buffer (m): 1000

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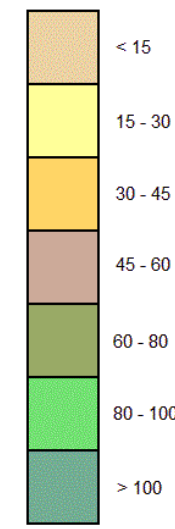


General

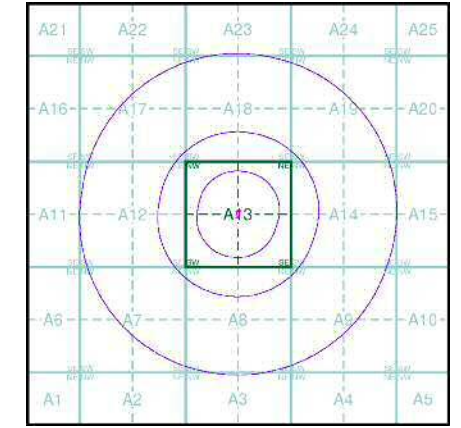
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

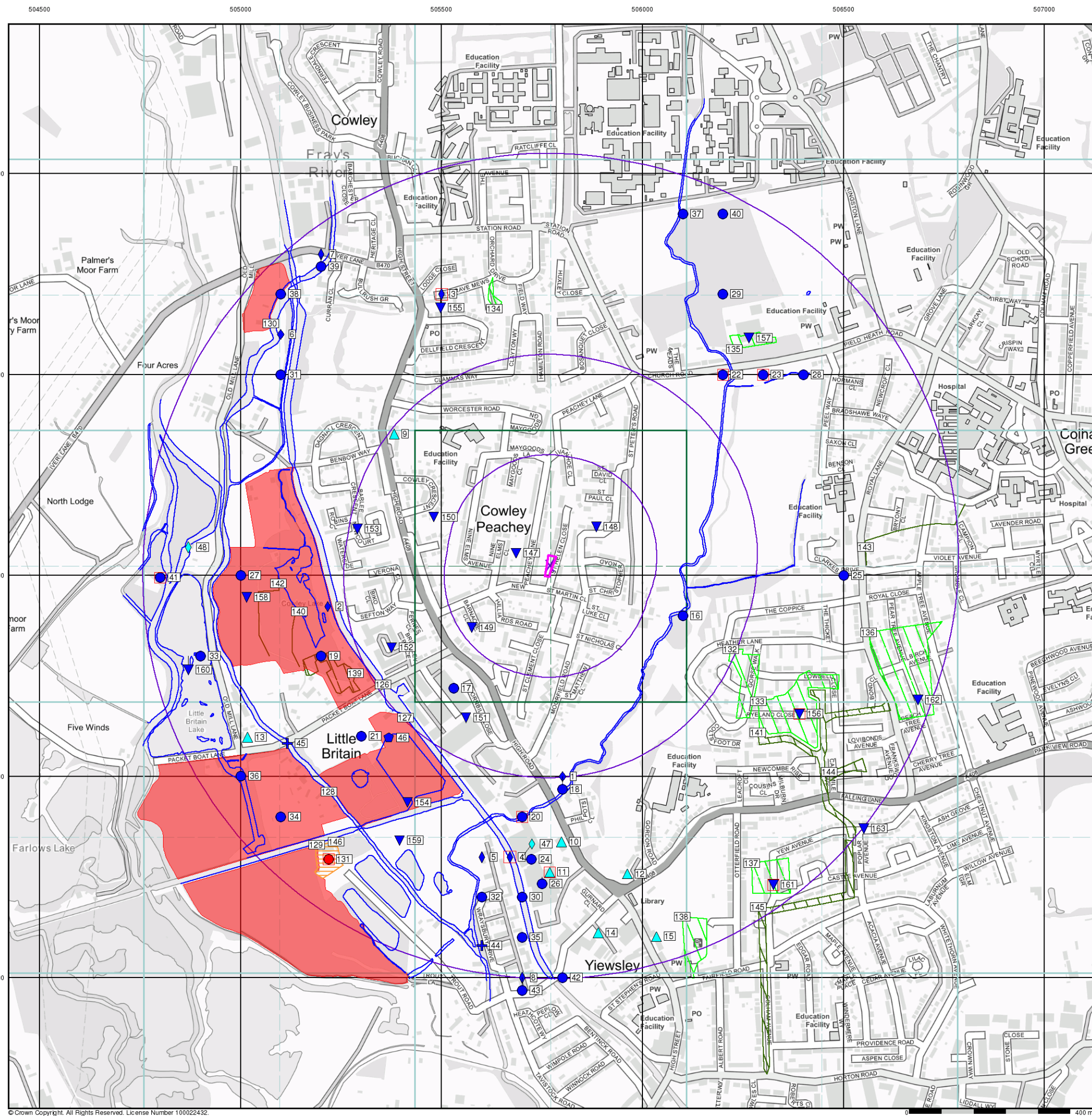
Order Details: 236916254_1_1
Customer Ref: 18255
National Grid Reference: 505770, 181520
Slice: A
Site Area (Ha): 0.08
Search buffer (m): 1000

Site Details

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General

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

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention and Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement
- BGS Recorded Mineral Site

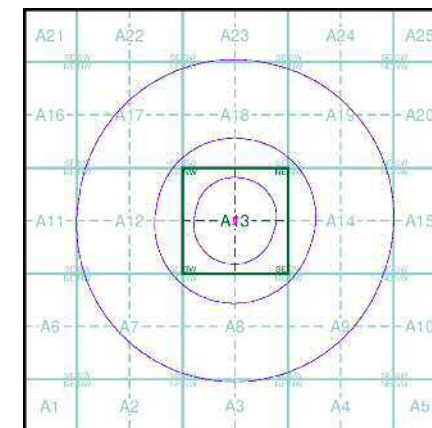
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Slice A



Order Details

Order Number: 236916254_1_1
 Customer Ref: 18255
 National Grid Reference: 505770, 181520
 Slice: A
 Site Area (Ha): 0.08
 Search Buffer (m): 1000

Site Details

St Helens Close, Cowley, UXBRIDGE, UB8 5SZ



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Industrial Land Use Map

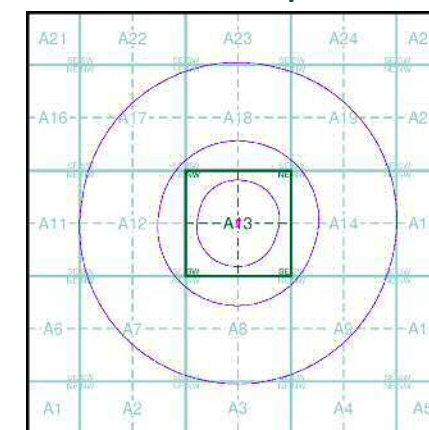
General

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

Industrial Land Use

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

Industrial Land Use Map - Slice A

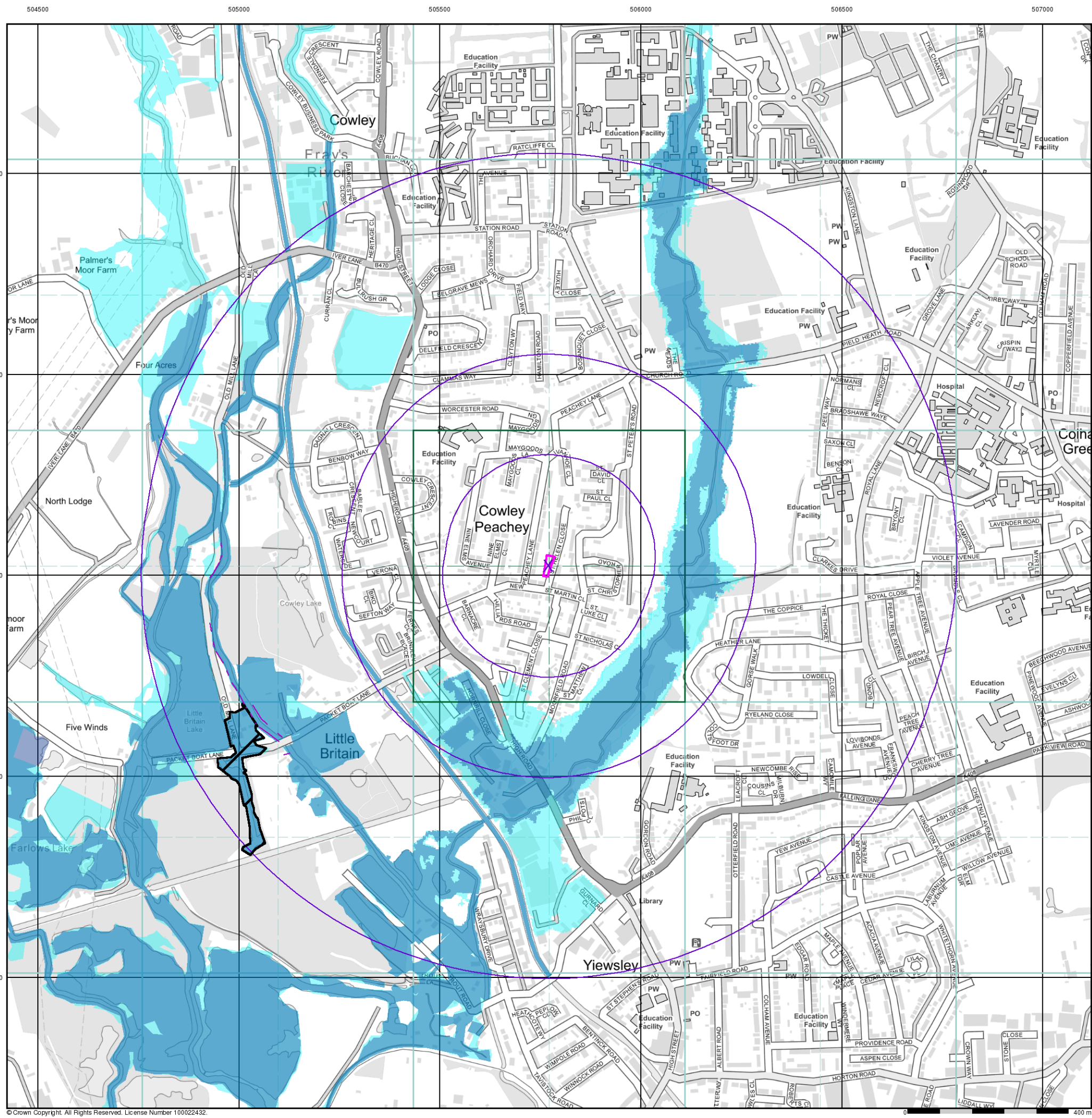


Order Details

Order Number: 236916254_1_1
Customer Ref: 18255
National Grid Reference: 505770, 181520
Slice: A
Site Area (Ha): 0.08
Search Buffer (m): 1000

Site Details

St Helens Close, Cowley, UXBRIDGE, UB8 5SZ



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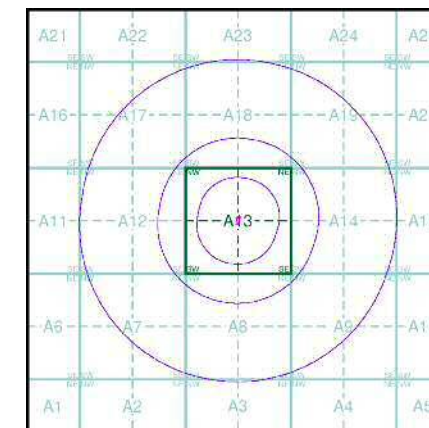
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



Order Details

Order Number: 236916254_1_1
Customer Ref: 18255
National Grid Reference: 505770, 181520
Slice: A
Site Area (Ha): 0.08
Search Buffer (m): 1000

Site Details

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General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Map ID
- Several of Type at Location

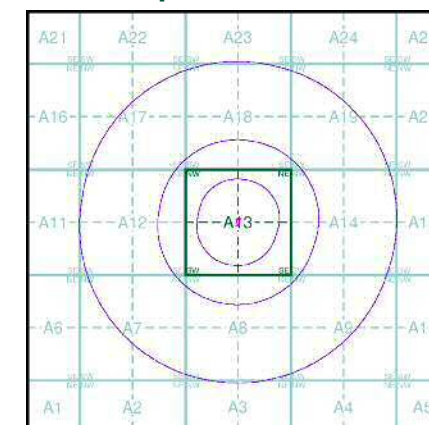
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A

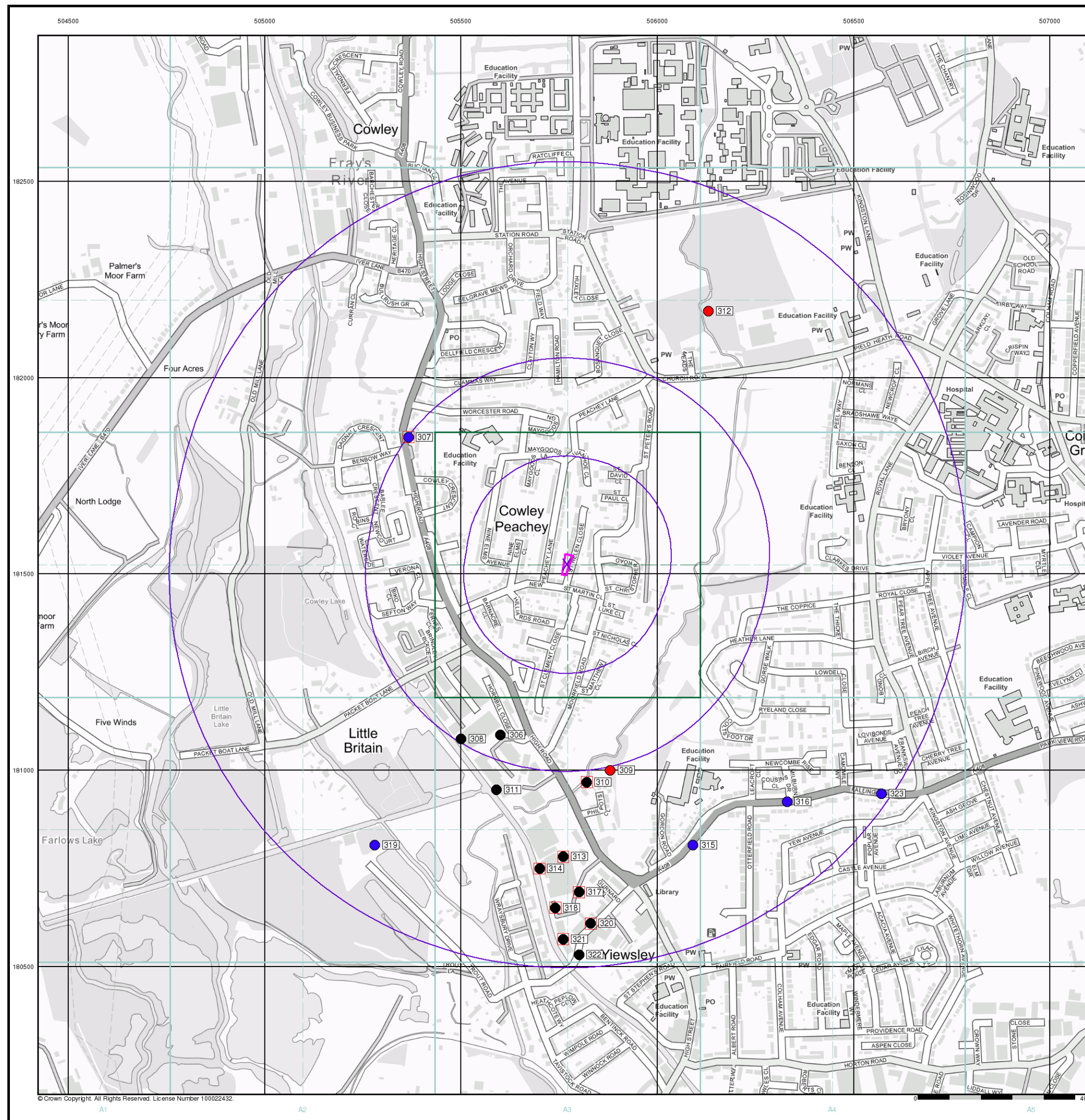


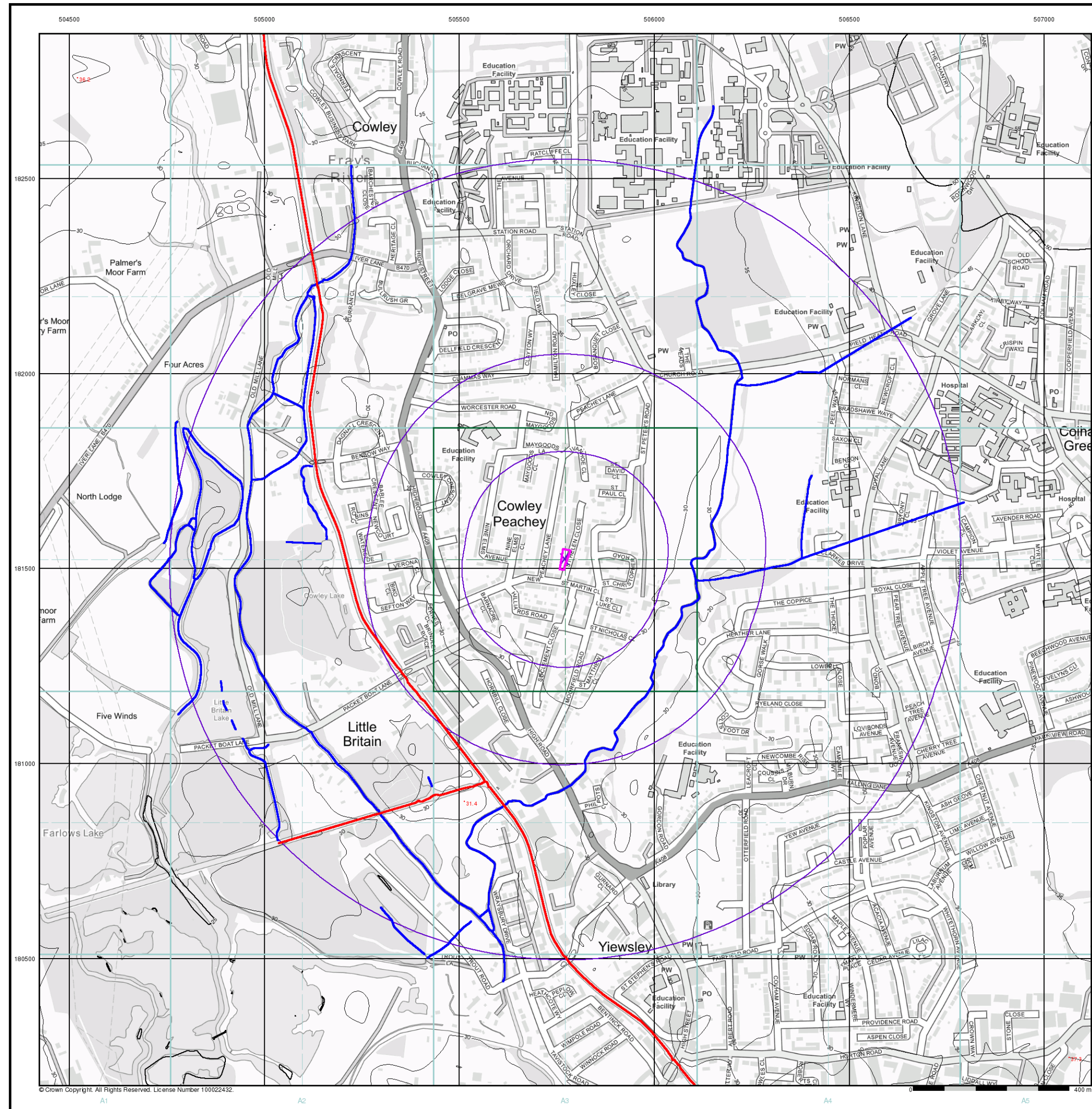
Order Details

Order Number: 236916254_1_1
Customer Ref: 18255
National Grid Reference: 505770, 181520
Slice: A
Site Area (Ha): 0.08
Search Buffer (m): 1000

Site Details

St Helens Close, Cowley, UXBRIDGE, UB8 5SZ



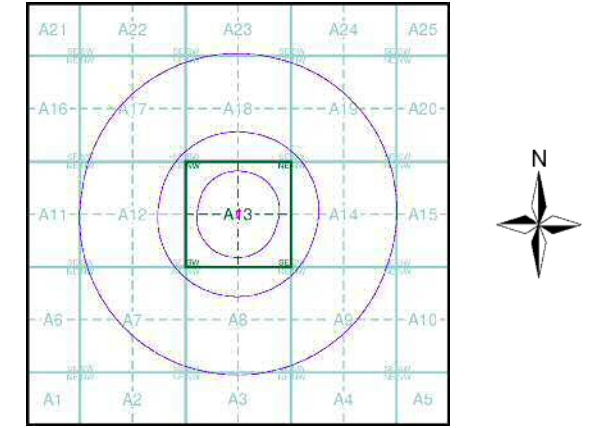


- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point

- OS Water Network Data**
- | | |
|--------------|-------------------------|
| Canal | Drain |
| Reservoir | Other |
| Foreshore | Lake |
| Marsh | Transfer |
| Tidal River | Lock Or Flight Of Locks |
| Inland River | Sea |

- Contours (height in meters)**
- Standard Contour 105 100 95
- Master Contour
- Spot Height 167.3
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

Order Number: 236916254_1_1

Customer Ref: 18255

National Grid Reference: 505770, 181520

Slice: A

Site Area (Ha): 0.08

Search Buffer (m): 1000

Site Details

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Risk of Flooding from Surface Water

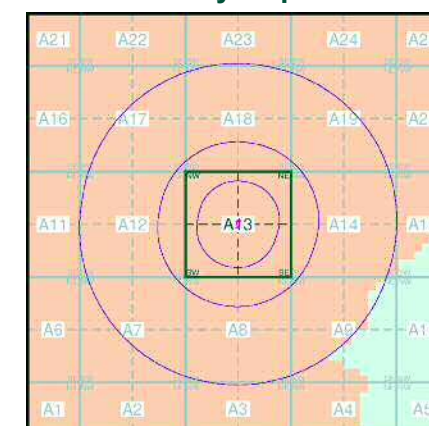
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EANRW Suitability Map - Slice A



Order Details

Order Number: 236916254_1_1
Customer Ref: 18255
National Grid Reference: 505770, 181520
Slice: A
Site Area (Ha): 0.08
Search Buffer (m): 1000

Site Details

St Helens Close, Cowley, UXBRIDGE, UB8 5SZ



Express Preliminary UXO Risk Assessment

Client	Soils Ltd.
Project	St Helens Close, Cowley
Site Address	St Helens Close, Cowley, Middlesex, UB8 5SZ
Report Reference	EP12327-00
Date	25/11/20
Originator	AJB

Assessment Objective

This preliminary risk assessment is a qualitative screening exercise to assess the likely potential of encountering unexploded ordnance (UXO) at the St Helens Close, Cowley site. The assessment involves the consideration of the basic factors that affect the potential for UXO to be present at a site as outlined in Stage One of the UXO risk management process.

Background

This assessment uses the sources of information available in-house to 1st Line Defence Ltd to enable the placement of a development site in context with events that may have led to the presence of German air-delivered or Allied military UXO. The report will identify any immediate necessity for risk mitigation or additional research in the form of a Detailed UXO Risk Assessment. It makes use of 1st Line Defence's extensive historical archives, library and unique geo-databases, as well as internet resources, and is researched and compiled by UXO specialists and graduate researchers.

The assessment directly follows CIRIA C681 guidelines "Unexploded Ordnance, a Guide for the Construction Industry". The document will therefore assess the following factors:

- Basic Site Data
- Previous Military Use
- Indicators of potential aerial delivered UXO threat
- Consideration of any Mitigating Factors
- Extent of Proposed Intrusive Works
- Any requirement for Further Work

It should be noted that the vast majority of construction sites in the UK will have a low or negligible risk of encountering UXO and should be able to be screened out at this preliminary stage. The report is meant as a common sense 'first step' in the UXO risk management process. The content of the report and conclusions drawn are based on basic, preliminary research using the information available to 1st Line Defence at the time this report was produced. It should be noted that the only way to entirely negate risk from UXO to a project would be to support the works proposed with appropriate UXO risk mitigation measures. It is rarely possible to state that there is absolutely 'no' risk from UXO to a project.



Risk Assessment Considerations	
Site location and description/current use	The site is located within the London Borough of Hillingdon. Recent aerial imagery indicates that the site is comprised of open, hardstanding ground, with no structures found on site. The site is bound by St Helens Close to the east, and residential housing with associated gardens to the north, south and west. The site is approximately centred on the OS grid reference: TQ 05771 81524. 
Are there any indicators of current/historical military activity on/close to the site?	In-house records do not indicate that the site footprint had any former military use. No features such as WWII defensive positions, encampments or firing ranges are recorded to have been located at or in the immediate vicinity of the site. In addition, no information of ordnance being stored, produced, or disposed of within the proposed site boundary could be found. The closest recorded Heavy Anti-Aircraft (HAA) battery was situated approximately 2km to the south-west of the site. The conditions in which unexploded anti-aircraft ordnance may have fallen unrecorded within the proposed site are analogous to that of aerially delivered Luftwaffe bombs.
What was the pre- and post-WWII history of the site?	Pre-WWII, historical OS mapping dated 1934-1935 indicates that the site was comprised of open, undeveloped land, bordered by a railway line to the east. In the surrounding area, the closest roadway is <i>Peachey Lane</i> to the north-west, beyond further open land, and leading to <i>Nine Elms Farm</i> and some residential housing to the south-west. <i>Sewage Works</i> are seen to the north-east and the south-east, across the train tracks. Post-WWII, low quality historical OS mapping dated 1960 indicates development within the area; the open land previously seen to the north and west of the site has now seen the construction of multiple new roadways and residential housing. The site itself remains undeveloped, but is bordered by residential properties with associated gardens to the south and west. The railway line still borders the site to the east, and the former sewage works across the tracks to the north and south-east are now both labelled as <i>Works (Disused)</i>.
Was the area subject to bombing during WWII?	During WWII the site was situated within the Urban District of Uxbridge. According to official Home Office statistics, this district sustained an overall low-moderate density of bombing, with an average of 21 bombs recorded per 1,000 acres. This consisted of 192 high explosive (HE) bombs, two parachute mines, 13 oil bombs, five phosphorus bombs, five V-1 flying bombs and one V-2 long range rocket, culminating in 218 incidents over 10,240 acres. Available sets of consolidated and weekly London Bomb Census mapping do not record any HE bomb strikes within the site boundary or surrounding area; the only incident recorded over the site footprint was an incendiary bombing 'shower' recorded between the 11th – 18th November 1940.

Is there any evidence of bomb damage on/close to the site?	As the site appears to have been undeveloped during the war, signs of bomb damage, such as missing or ruined pre-war structures, cannot be interpreted from comparing pre and post-war historical OS mapping, and any damage, if sustained, would not be recorded on Middlesex County Council (MCC) war damage mapping. However, low resolution WWII-era imagery, available in-house on this occasion, depicts a circular depression within open ground bordering/in proximity to the immediate western vicinity of the site. This may be potentially indicative of cratering.
To what degree would the site have been subject to access?	Generally, the wartime level of access to undeveloped land is considered to have been infrequent, and it is unlikely that specific post-raid inspections for evidence of UXO would have been undertaken. Infrequent access may increase the risk that obvious signs of UXO, such as entry holes or craters, could go unnoticed and unreported.
To what degree has the site been developed post-WWII?	The site has seen some post-war development; OS mapping dated 1963-1965 appears to show multiple small structures built on site, likely garages, though these have since been demolished as the site is currently undeveloped. There has been extensive development within the surrounding area, with the construction of residential housing and new roadways. The railway line which formed the eastern border of the site has been removed post-war; St Helens Close was constructed in its place. The risk of UXO is only considered to be mitigated at the locations of, and to the depths of, post-war excavations and foundations.
What is the nature and extent of the intrusive works proposed?	The nature and extent of works proposed was not available at the time of writing.

Summary and Conclusions
During WWII, the site was located within the Urban District of Uxbridge. Home Office statistics suggest that this district sustained an overall low-moderate density of bombing, with an average of 21 bombs recorded per 1,000 acres. London Bomb Census mapping does not record any HE incidents on site or in the surrounding area, with the only recorded incident being an incendiary shower. Despite this, low-resolution WWII-era aerial imagery depicts a circular depression within open land bordering/around the western vicinity of the site, east of Peachey Lane. This may be potentially indicative of cratering. Moreover, as the site area comprised open land during WWII it is anticipated that the site would have been infrequently accessed. Infrequent access may increase the risk that obvious signs of UXO, such as entry holes or craters, could go unnoticed and unreported.





Recommendations

Further research is recommended in the form of a **Detailed UXO Risk Assessment** in accordance with CIRIA guidelines. This is recommended in order to better assess the wartime conditions within and around the proposed area of works, and to determine whether additional research may better account for the circular depression seen around the site areas on low-resolution aerial imagery. Further research would involve the acquisition of any available written local bombing records, higher quality WWII-era aerial photography and other archival material.

Prior to or in lieu of a Detailed Assessment, it is recommended that appropriate UXO Risk Mitigation Measures are provided for intrusive works proposed.

If the client has any anecdotal or empirical evidence of UXO risk on site, please contact 1st Line Defence.



Appendix E Local Authority Search Data

Appendix F Site Photographs



Photo 1: From the middle of the site looking north.



Photo 2: From just off site to the south looking north.

Appendix G Risk Assessment Criteria

The classification presented in Tables A1-A4 below are modified from, 'contaminated land risk assessment: A guide to good practice, 2001, CIRIA C552'.

Table A.1. Classification of Consequence

Classification	Definition
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environmental Protection Act 1990, Part IIA. Short term risk of pollution (note: Water Recourses Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000.)
Medium	Chronic damage to Human Health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water recourse (note: Water Recourses Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000.)
Mild	Pollution of non-sensitive water recourses. Significant damage to crops, buildings, structures and services ("significant harm" as defined in the Draft Circular on Contaminated Land, DETR, 2000.)
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.)

Table A.2. Classification of Probability

Classification	Definition
High likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptors of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the short term.
Unlikely	There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the long term.

Table A.3. Comparison of Consequence Against Probability

Probability	Consequence			
	Severe	Medium	Mild	Minor
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 risk	Low risk	Very low risk	Very low risk

Table A.4. Risk Classifications

Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.
High	Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.
Low	It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.
Very low	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.
None	No potential risk if no pollution linkage has been established.

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