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PHASE 1: DESK TOP STUDY REPORT

JM GUTHRIE 1965 SETTLEMENT

PROPOSED CONVERSION OF FORMER AGRICULTURAL BARNs TO

RESIDENTIAL DWELLINGS

BILTON KENNELS

138 MAIN ROAD

BILTON

HU11 4AA

Project No: 20-241

Prepared By:

Tarric Igun

A handwritten signature in black ink, appearing to read 'Tarric Igun', is written over a light grey rectangular background.

Date: 30/09/2020

Approved By:

John Ditchburn

A handwritten signature in black ink, appearing to read 'J.P. Ditchburn', is written over a light grey rectangular background.

Date: 30/09/2020

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

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Arc Environmental Limited (ARC) were instructed by Graham Binnington Architects, on behalf of JM Guthrie 1965 Settlement, to undertake a Phase 1: Desk Top Study Report for an area Bilton Kennels 138 Main Road, Bilton where proposals have been made for the demolition of a Dutch barn and conversion of former agricultural barns to 7 no. residential dwellings and associated garden areas.

The primary objectives of this report are to assess the geological, geotechnical, and potential ground contamination conditions. A Preliminary Conceptual Site Model (CSM) has been developed to define the scope and extent of any further investigation works deemed necessary, prior to commencing with any future development works. A site walkover (reconnaissance) survey was completed as part of this report with site photographs included within Appendix I, and all relevant observations noted in Section 2.1 below.

2.0 Physical Setting

2.1 Site Details: -

Table 2.1

Site Name & Address:	Bilton Kennels, 138 Main road, Bilton, HU11 4AA.
National Grid Reference:	515500, 432750 (representative of the central part of the site).
Description of Location:	The site is located to the east of the A165, sited within Bilton, c.6.0km to the east of Hull and c.19.0km to the southwest.
Site Boundaries:	N = Main Road & Village Hall, E = Field & Allotment gardens, S = Grass / Farmland, W = Farmhouse / field with a supermarket beyond.
Site Shape:	The site is irregular in shape, occupying a total area of c.0.41 Hectares (Ha).
Development Details:	Conversion of former agricultural barns to 7no. residential dwellings and garden areas.
General Topography:	No topographical survey was available at time of writing this report. The reconnaissance (walkover) indicated that the site is relatively level, however along the south western portion of the site, slopes & undulations have been identified.
Site surfacing:	The site is mainly covered in grass and shrubs. There is an asphalt track that cuts into site at the eastern boundary.
Above Ground Structures:	There are six derelict / abandoned above ground structures currently on site, which includes brick built agricultural barns with clay tiled, metal corrugated, and asbestos sheet pitched roofing. There is also an asbestos sheet roofed Dutch barn.
Sub-surface Structures & Services:	Services (i.e. electricity, drainage, etc.) are recorded to be present below the site. Yorkshire water services public sewer network (PU 300 & 750) running across the northern portion of site boundary.
Additional Comments:	Access to the site is via Main Road. There are water storage tanks, scrap metals and dumped materials including fragments of asbestos roofing sheets within the eastern portion of the site. There is evidence of burning at the southeast corner of the site. Part of the western portion of the site is currently used as dog kennel and there are horses present on site.

3.0 Environmental Setting

3.1 Site Geology: -

The geological and mining assessment for this site has been based on geological plans published by the British Geological Survey (BGS). The following documents have been reviewed as part of this study:

- BGS Sheet 73, Hornsea, Solid & Drift Edition, 1:50,000 scale, 1998.
- Landmark Information Group: Envirocheck Report Ref. 250992254_1_1.
- BGS borehole Ref. TA13SE12 c.0.22km to the northeast.
- Coal Authority Online Interactive Map Viewer.
- BGS Digital Mapping (Geindex Onshore) & Online BGS Geology of Britain Viewer.

3.0 Environmental Setting (Cont'd)

3.1 Site Geology (Cont'd): -

3.1.1 Made Ground: -

In accordance with published BGS maps the site is not recorded to be underlain by significant thicknesses of made ground deposits. The site reconnaissance recorded several brick-built barns and a Dutch barn on site. There is also an asphalt track that cuts into the site at the eastern boundary. The historic Ordnance Survey (OS) maps record development on site from as early as c.1855 which is very similar to the existing development. Therefore, up to 2m of made ground is anticipated at this stage.

3.1.2 Superficial Deposits: -

Based on published BGS maps, the site is shown to be underlain by Glacial Till deposits which typically comprise sandy gravelly clays often with cobbles and boulders. A BGS borehole Ref. TA13SE12 to the northeast, records boulder clay to a depth of at least c.5.33mbgl.

3.1.3 Solid Geology: -

According to published BGS maps the site is underlain by the Flamborough Chalk Formation which are sedimentary rocks deposited during the period of the earth's history known as the Cretaceous.

3.2 Coal Mining Risk Assessment: -

In accordance with published BGS maps the site is underlain by deposits of chalk formation which are absent of productive coal seams.

In accordance with the Coal Authority Interactive Map viewer, the site does not fall within a coal mining reporting area or a designated 'Development High Risk Area'.

When considering the nature of the bedrock deposits present below the site area, the site is not deemed to be at risk from potential future surface instability issues arising from shallow coal mining activities and no further assessment or intrusive investigation works are required with regards to historical coal mining activities.

3.3 Site Hydrogeology: -

Table 3.1

<u>Strata</u>	<u>Aquifer / Soil Leachability EA Classification</u>	<u>Comments</u>
Groundwater Vulnerability:	Combined Medium Vulnerability.	Low superficial recharge and low pollutant speeds.
Superficial Geology:	Secondary Undifferentiated Aquifer.	Assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations.
Solid Geology:	Principal Aquifer.	These are layers of rock or drift deposits that have high intergranular and / or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and / or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

3.0 Environmental Setting (Cont'd)

3.3 Site Hydrogeology (Cont'd): -

- The site does not lie within a Source Protection Zone (SPZ) and there are no SPZ's within c.500m.
- There are no water abstractions recorded on or within c.500m of the site boundary.

3.4 Site Hydrology: -

Table 3.2

<u>Surface Water Feature</u>	<u>Location</u>	<u>Comments</u>
GQA Classified River	None recorded within c.250m.	~
OS Water Network	Three recorded within c.250m.	There are three entries for inland rivers recorded c.147m west, c.170m north and 186m northwest.
Unclassified Watercourse(s), Canals, Ponds, Lakes & Other Bodies of Water.	None recorded within c.250m.	~
Flooding (Fluvial & Tidal)	The site falls within a designated Flood Zone II.	A portion of the eastern corner of the site falls within the designated Flood Zone II extreme flooding from rivers or seas without defences. Further consultation with the LA and EA should be made with respect to flood events in this area and to establish local knowledge of periodic flooding, standing water or poor drainage problems.
Surface Water Flooding (Environment Agency)	The published maps show that the site area is not at risk from surface water flooding and is considered at a low risk from surface water flooding events.	Surface water flooding occurs when rainwater does not drain away through the standard drainage systems or soak into the ground but lies on or flows over the ground instead. However, flooding events, although considered a low risk may still occur.
Groundwater Flooding at Surface (BGS)	The site is shown within an area with limited potential for groundwater flooding to occur.	Information obtained from Landmark which publish maps indicating the potential for groundwater flooding at surface, proposed by the British Geological Survey (BGS). This information is based on areas which may be potentially influenced by geological factors.
<u>Rainfall</u>	<u>Measurements (mm)</u>	<u>Comments</u>
Annual	679.7	Based on 'station average' records from Hull, dated from 1981-2010.
Precipitation, Min (Feb)	44.1	
Precipitation, Max (Jun)	66.5	

3.5 Radon Assessment: -

The site is recorded to lie within a lower probability radon area, with less than 1% of homes estimated to be at or above the action level, in accordance with the BGS, National Geoscience Information Service, and their assessment suggests that no radon protective measures are necessary in the construction of new dwellings or extensions.

3.0 Environmental Setting (Cont'd)

3.5 Radon Assessment (Cont'd): -

This corresponds with the BRE Digest, BR211 (2015) Radon: Guidance on Protective Measures for New Buildings, where the site is situated within a clear grid square (1km), where no radon protective measures are recommended.

3.6 Site Ecology: -

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

Table 3.3

Features	Location	Comments
Local Nature Reserves	None recorded within c.250m.	~
Areas of Adopted Green Belt	None recorded within c.250m..	~
Special Protection Areas	None recorded within c.250m.	~
Nitrate Vulnerable Zone	On site and one recorded within c.250m.	Surface water (Wyton drain / Sproatley Dr from Sourse to Humber NVz) recorded on site and surface water (Holderness drain from Fordyke stream to Humber NVz) recorded c.177m to the northwest.
Other	None recorded within c.250m.	~

3.7 Estimated Soil Chemistry: -

Data provided by the BGS in relation to estimated soil chemistry for a number of key metals and metalloid elements are summarised in Table 3.4 below. Note, the references to the anticipated background concentrations of contaminants, sourced from the BGS, should not be relied upon. They are not site-specific and do not represent the condition of the ground at the proposed development site. The background levels of lead have the potential to exceed critical concentration for human health.

Table 3.4

Element	Soil Type	Estimated Soil Concentrations (mg/kg)
Arsenic	Sediment	15-25
Cadmium	Sediment	3.0-6.0
Chromium (total)	Sediment	60-90
Lead	Sediment	200-300
Nickel	Sediment	15-30

4.0 Industrial Setting

4.1 Site History: -

Copies of old survey plans covering the site area & adjacent land are included in Appendix III and a summary of the site history based on these plans is provided in Table 4.1 on the next page.

4.0 Industrial Setting (Cont'd)

4.1 Site History (Cont'd): -

Table 4.1

Significant features / potential contamination sources highlighted in **bold**.

<u>Date</u>	<u>Site</u>	<u>Adjacent Areas</u>
c.1855 – c.1946	There is a track which cuts across the eastern portion of the site and a building development recorded on site which is similar to the existing on site buildings.	There is a road at the northern boundary of the site and building recorded at the south western boundary of the site. There is a smithy recorded c.110m to the northeast and ponds recorded c.30m & c.150m to the southeast and c.120m southwest. There is a post office recorded c.50m to c.100m to the northeast of the site. There is a graveyard recorded c.100m to the southeast of the site. There is an area recorded as lynch gate and a war memorial recorded c.60m to the southeast and a pump recorded c.80m to the east of the site. There is a moat recorded c.200m to the southeast and allotment gardens recorded c.80m to the southeast of the site. There are buildings developments recorded c.120m to 250m to the west and High Farm with orchards recorded c.240m to the northeast of the site.
c.1952 – c.1957	There is a further above ground structure recorded within the northern portion of the site.	There are further rural developments recorded c.250m to the east and west. The moat recorded to the south east if partially filled.
c.1960 – c.1979	The site is now recorded as Middle Farm .	There is a cemetery recorded c.100m to the southeast. The ponds recorded c.30m to the southeast and c.120m to the southeast are no longer recorded. The road at the northern boundary is now recorded as Main Road. There are dense rural developments to the northeast, west and southwest of the site. There is a memorial playing field recorded c.100m to the north of the site.
c.1984 – c.2020.	The above ground structure within the northern portion of the site is no longer recorded.	There is building recorded as Hall to the north of the site and a pond recorded c.200m to the southeast. There is allotments to the southeast, a supermarket to the west, a village hall to the north and a church recorded to the east of the site.

4.2 Landfill & Waste: -

The information relating to Landfill and Waste has been obtained from the Envirocheck Report (attached in Appendix III).

- There are no Historical landfill sites, Local Authority Landfill Site, BGS Recorded Landfill Sites, Potential Infilled land (Non-water), Registered Landfill Sites, Licensed Waste Management Facilities, Registered Waste Transfer Sites or Registered Waste Treatment or Disposal Site recorded within c.250m of the site.
- There are no recorded BGS Mineral Sites within c.250m of the site.
- There are five areas of potentially infilled land (water) for areas of unknown filled ground, the closest of which is recorded c.26m to the southeast (Map dated 1956) which is possibly associated with a former pond. The following are recorded c.129m southwest, c.158m south, c.179m northeast and c.227m to the north (All dated 1956).

4.0 Industrial Setting (Cont'd)

4.2 Landfill & Waste (Cont'd): -

On review of the information outlined above, a potential off-site source of ground gas is recorded to the southeast, southwest, south, northeast, and north of the site, where last inputs were at least c.64 years ago north. Given the age they are unlikely to represent a significant risk of gas generation.

4.3 Statutory Requirements /Authorisations: -

Table 4.2

Type	Location	Comments
Local Authority Pollution Prevention and Controls	One recorded within c.250m..	There is one recorded c.141m southwest for an Asda petrol filling station.
Registered Radioactive Substances	None recorded within c.250m.	~
Prosecutions Relating to Authorised Processes	None recorded within c.250m.	~
Enforcement and Prohibition Notices	None recorded within c.250m.	~
Planning Hazardous Substances Consents / Enforcements	None recorded within c.250m.	~
COMAH/NIHHS Sites	None recorded within c.250m.	~.
Contemporary Trade Entries	One recorded within c.250m.	There is one active entry for a commercial cleaning services site recorded c.11m to the northwest of the site.
Fuel Station Entries	One recorded within c.250m..	There is one entry for an Asda Hull Bilton Automat recorded c.141m to the southwest of the site.
Points of Interest – Manufacturing and Production	One recorded within c.250m.	There is one entry for a vehicle cleaning services (Asda Hull Bilton Automat) recorded c.142m to the southwest of the site.

4.4 Pollution Incidents and Discharge Consents: -

Table 4.3

Type	Location	Comments
Discharge Consents	Four recorded within c.250m.	There are four entries for a discharge consents for sewerage matter recorded c.99m west (status: transferred) and c.115m northeast (status: surrendered) for Yorkshire water services Ltd.
Water Industry Act Referrals	None recorded within c.250m.	~
Prosecutions Relating to Controlled Waters	None recorded within c.250m.	~
Pollution Incidents to Controlled Waters	One recorded within c.250m.	There is an entry recorded c.134m to the northeast for a minor incident resulting in the release of oil (diesel), no adverse effects recorded.
Substantiated Pollution Incident Register	None recorded within c.250m.	~

5.0 Conceptual Site Model (CSM)

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

This can be done by undertaking a *source-pathway-receptor* analysis of the site. The anticipated *sources*, *pathways* and *receptors* for this site are summarised in Table 5.1 on following page.

A graphical representation of the CSM has been produced for this site and can be seen attached in Appendix IV, which also sets out the critical pollutant linkages of concern for this particular site, with regard to contamination as on the following page.

Table 5.1

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

<i>Sources (S)</i>		<i>Pathways (P)</i>		<i>Receptors (R)</i>	
S1	Made ground deposits associated with the construction of existing buildings on site & demolition of a Dutch barn. Any demolition rubble may contain asbestos.	P1	Ingestion & Dermal Contact.	R1	Human health – Future end users (Residents and workers).
S2	Cemented asbestos roofing sheet and fragments noted.	P2	Air – inhalation of vapours and direct contact with dust.	R2	Groundwater – superficial geology underlying the site: secondary undifferentiated Aquifer, solid geology underlying the site: Principal Aquifer.
S3	Localised contamination associated with burning.	P3	Consumption of home-grown produce and attached soil.	R3	OS water network recorded within 250m of site boundary.
S4	Possible historical bulk fuel / chemical storage - No evidence of this from reconnaissance survey.	P4	Migration through existing services.	R4	Adjacent sites.
		P5	Direct contact with building materials.	R5	Building materials & protection of water pipes.
		P6	Surface run-off and infiltration.	R6	Flora and fauna.

5.1 Geotechnical Considerations: -

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

- Geotechnical parameters of the superficial deposits underlying the site.
- Actual thickness, variability, and condition of made ground where present beneath the site due to the historical development.
- Control of surface water drainage.
- Existing services below the site.
- Chemical attack on buried concrete.

5.0 Conceptual Site Model (CSM) (Cont'd)

5.1 Geotechnical Considerations (Cont'd): -

To determine the geotechnical considerations above with more certainty, a programme of intrusive geotechnical investigation works and associated geotechnical testing would be recommended, to aid in assessing the extent of any potential issues. Following this work, foundation proposals for the development can then be prepared.

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

5.2 Sources of Contamination and Probable Contaminants: -

The OS maps, Landmark Envirocheck Report and other environmental information show the site as developed from c.1855 with addition up to c.1952 with structures (farm buildings) and a track which runs along the eastern portion of the site. The walkover survey noted the presence of up to six agricultural structures split into 14 no. barns.

Considering the above, the following potential on-site contaminative issues have been identified for this site, as listed below: -

- Made ground deposits associated with historical site usage, proposed conversion and demolition of agricultural barns. Demolition may contain asbestos.
- Presence of cemented asbestos sheets
- Evidence of burning on site.
- Possible historical bulk fuel / chemical storage.

Soils – Human Health:

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

- Heavy Metals, typically comprising; Arsenic, Cadmium, Chromium (III & VI), Copper, Lead, Mercury, Nickel, Selenium, Zinc and Total Organic Carbon (TOC) & Asbestos.
- Screening for speciated Polycyclic Aromatic Hydrocarbon (PAHs) and Total Petroleum Hydrocarbons (TPHs) should be undertaken, where fuels / oils are suspected, and if ashy type / burnt deposits are encountered.

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

Groundwater / Leachate – Controlled Waters:

The following issues have been taken into consideration when assessing the risks towards groundwater / controlled waters:

- There are no Water Abstractions or SPZ's on-site or within c.500m.
- There are three entries for inland rivers recorded within c.250m.
- Groundwater beneath the site has been classified as Secondary Undifferentiated Aquifer within the superficial geology and Principal Aquifer within the solid geology.
- The low permeability drift deposits will afford protection to the chalk aquifer.

5.0 Conceptual Site Model (CSM) (Cont'd)

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

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

6.0 Recommendations for Ground Investigation Works

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

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

Therefore, it is recommended that a programme of Ground Investigation (intrusive investigation) works are completed for this site, taking into account the different elements of the proposed development works, to provide an assessment of the contamination characteristics of the site. These intrusive investigation works should be completed prior to commencing with any future development works and should include for the following or a similar scope of investigation works;

- Undertake a series of manually excavated trial pits site wide including in-situ sampling also targeting the proposed gardens to aid with the ground contamination risk assessment.
- Project management, site supervision and production of a detailed interpretive Ground Contamination Investigation Report.

The samples of soil collected should be forwarded to UKAS and MCERTS accredited laboratory to undertake the recommended testing.

END OF REPORT

APPENDIX I

Location Plan

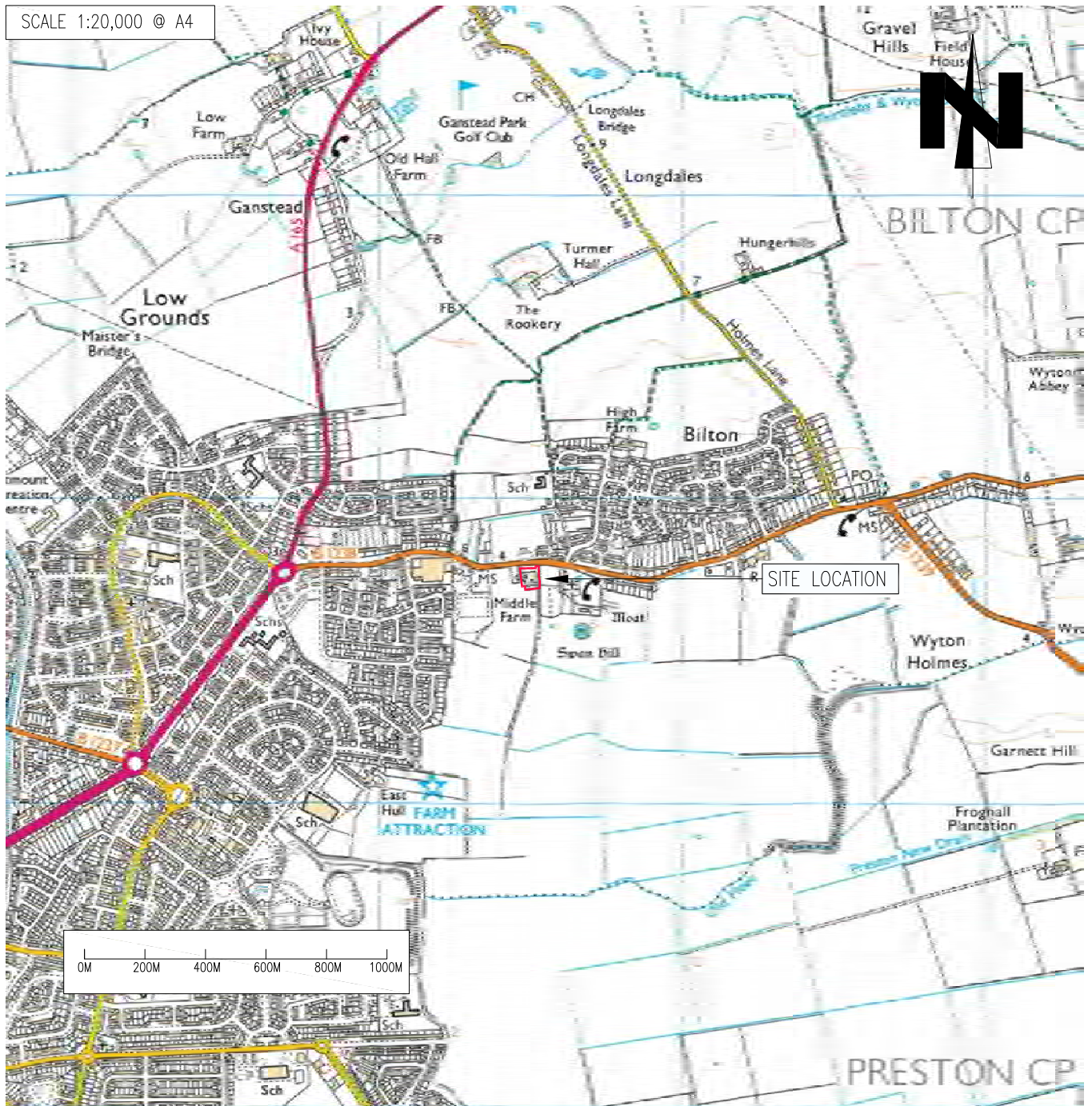
Aerial Photograph

Existing Site Layout Plan

Proposed Development Layout Plan

Site Observations – Site Photographic Record Sheet

SCALE 1:20,000 @ A4



Client: **JM GUTHRIE**
1965 SETTLEMENT

Project Title:
Proposed Conversion of Agricultural
Barns to Residential Dwellings
138 Main Road, Bilton, HU11 4AA

Drawing Title:
Location Plan

rev.	date	amendments	drawn	checked

Job Reference:
20-241

Drawing Number:
-

Revision:
-

Drawn by:
P.D

Date:
24.08.20

Scale at A4:
As Shown

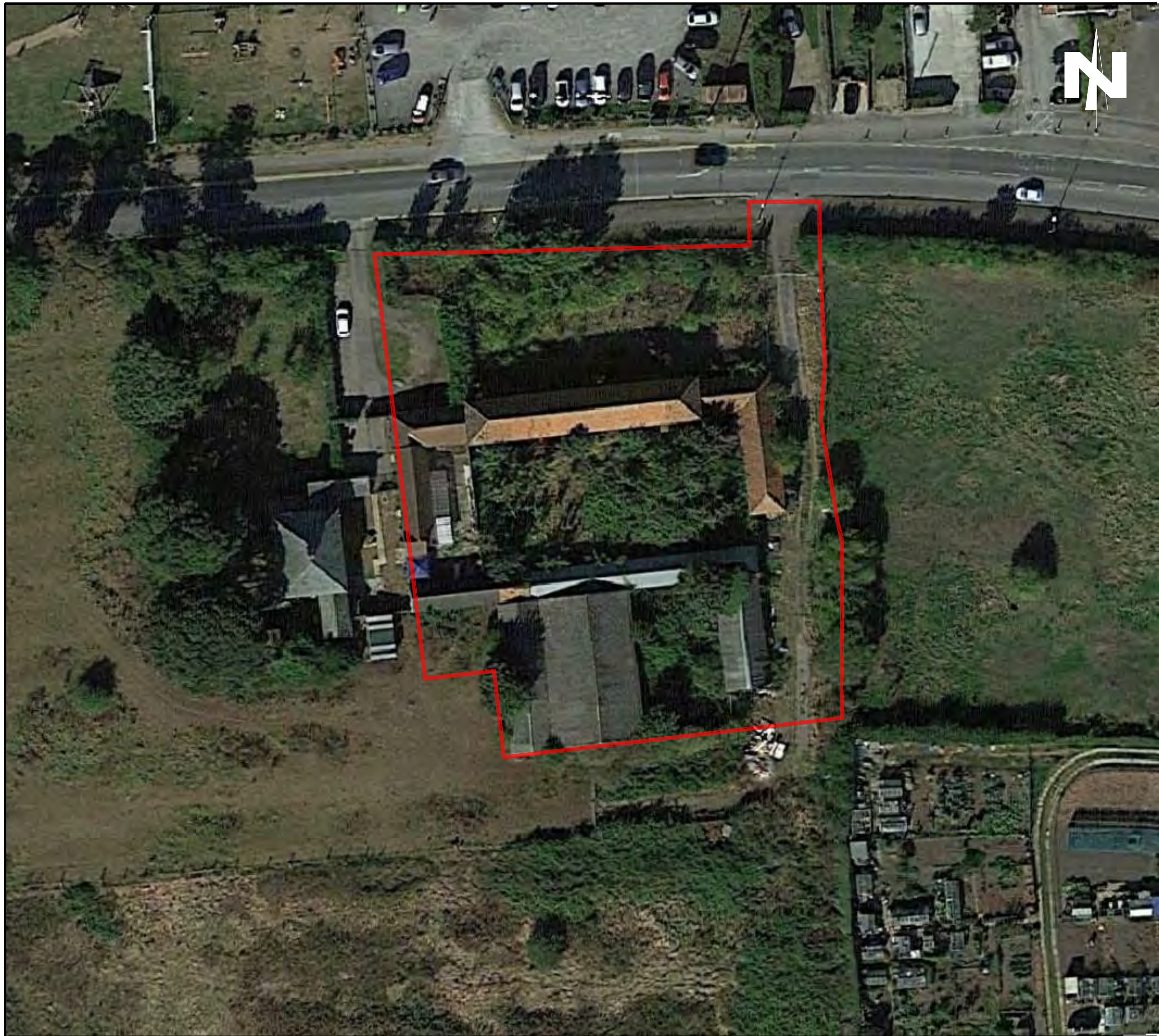
Checked by:
T.I

Approved by:
T.I

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
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LEGEND	
	APPROXIMATE SITE BOUNDARY

rev.	date	amendments	drawn	chckd

Client: **JM GUTHRIE
 1965 SETTLEMENT**

Project Title:
 Proposed Conversion of Agricultural Barns
 to Residential Dwellings, 138 Main Road
 Bilton, HU11 4AA

Drawing Title:
 Aerial Photograph

Scale at A3: NTS @ A3	Date: 24.08.20	Drawn by: P.D	Approved by: T.I
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Job Ref: 20-241	Drg no: -	Rev: -
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LEGEND	
	APPROXIMATE SITE BOUNDARY

rev.	date	amendments	drawn	chckd

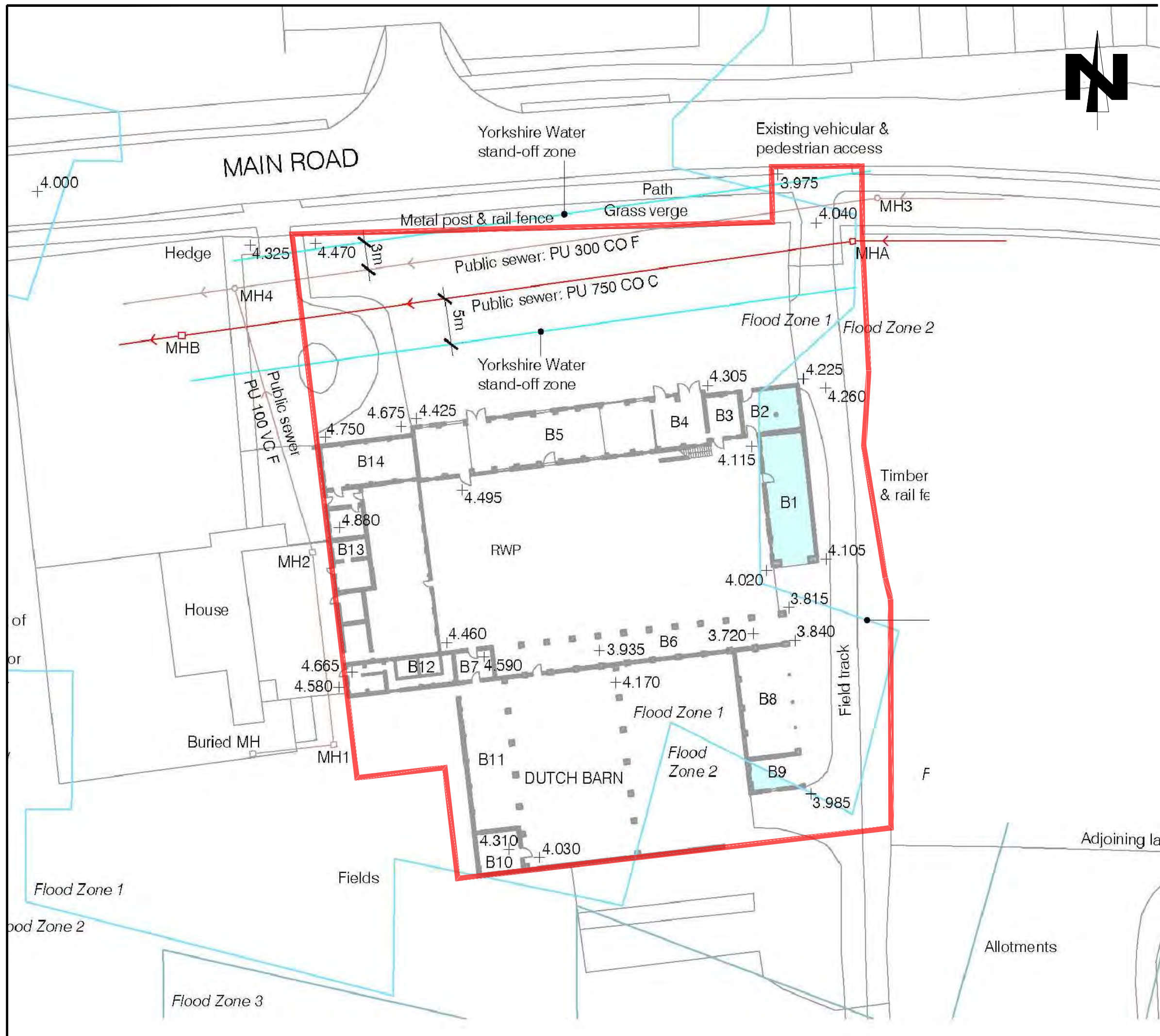
Client: **JM GUTHRIE
1965 SETTLEMENT**

Project Title:
Proposed Conversion of Agricultural Barns to Residential Dwellings, 138 Main Road Bilton, HU11 4AA

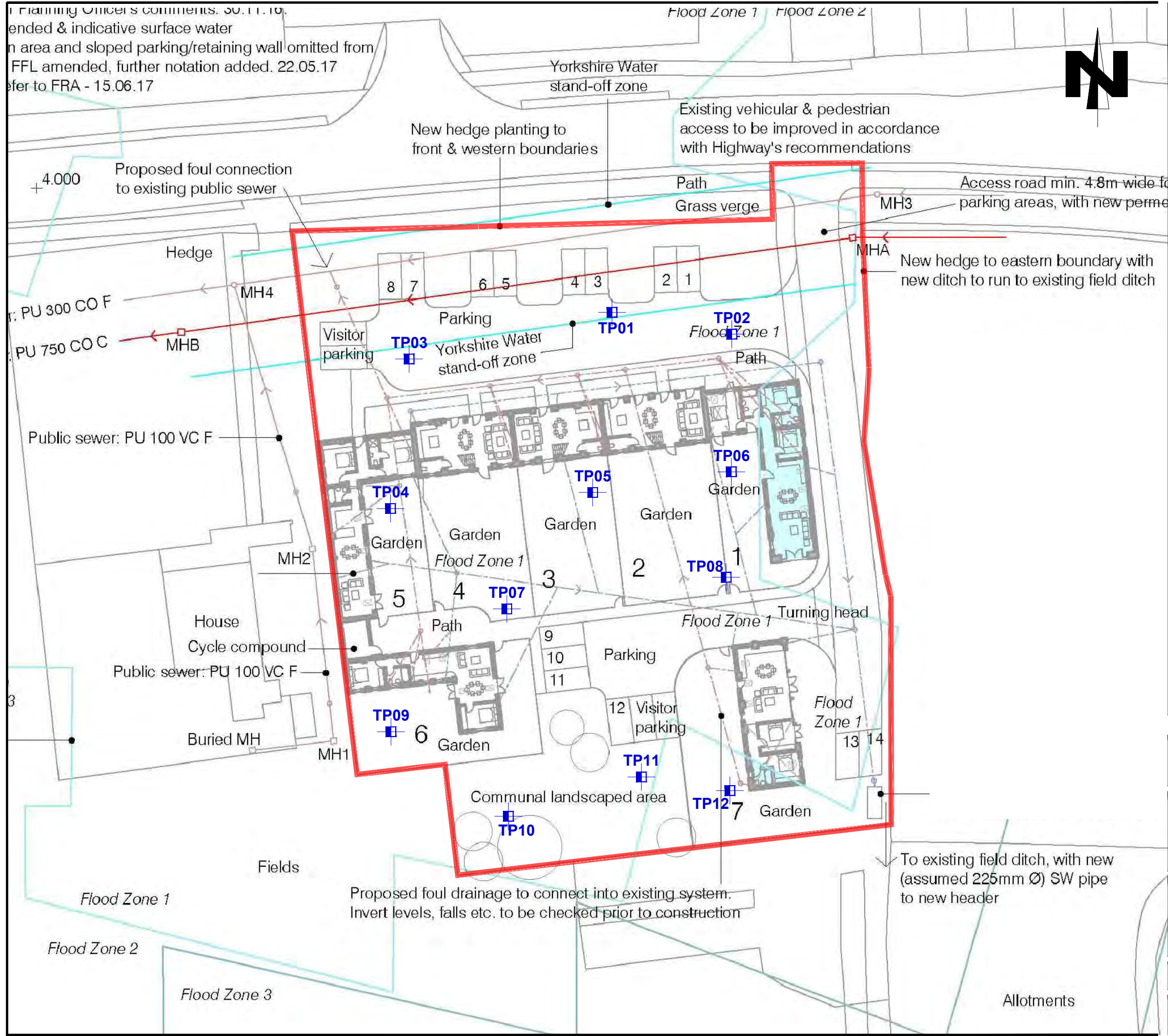
Drawing Title:
Existing Site Layout Plan

Scale at A3: NTS @ A3	Date: 24.08.20	Drawn by: P.D	Approved by: T.I
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Job Ref: 20-241	Drg no: -	Rev: -
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Planning Officer's comments: 30.11.19.
 ended & indicative surface water
 n area and sloped parking/retaining wall omitted from
 FFL amended, further notation added. 22.05.17
 refer to FRA - 15.06.17



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LEGEND	
	APPROXIMATE SITE BOUNDARY
	MANUALLY EXCAVATED TRIAL PIT POSITION

rev.	date	amendments	drawn	chkd

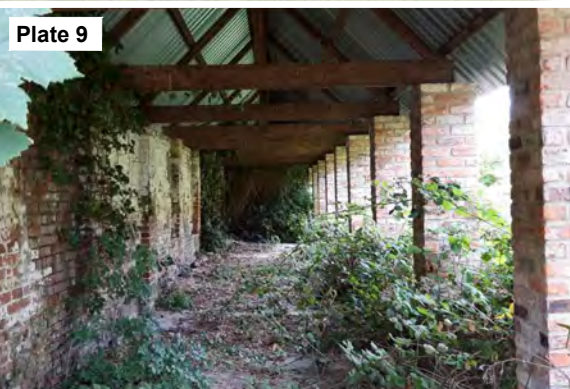
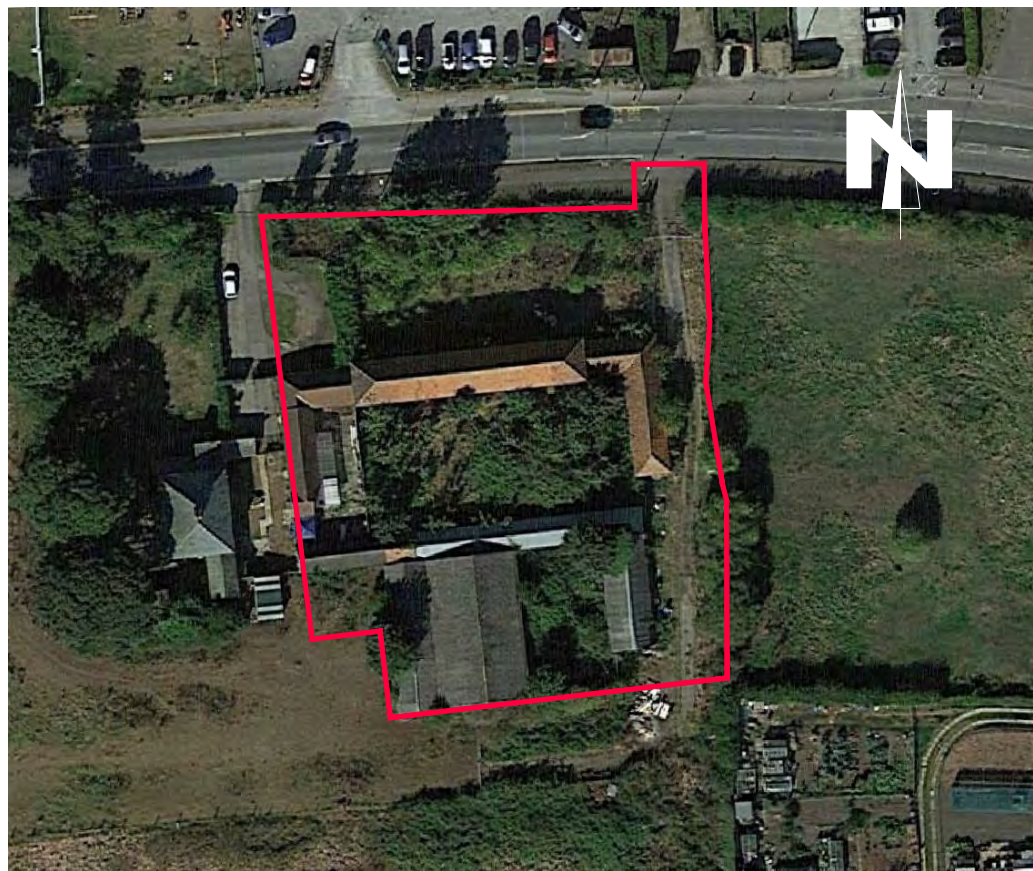
Client: **JM GUTHRIE
1965 SETTLEMENT**

Project Title:
 Proposed Conversion of Agricultural Barns
 to Residential Dwellings, 138 Main Road
 Bilton, HU11 4AA

Drawing Title:
 Trial Pit Location Plan

Scale at A3: NTS @ A3 | Date: 24.08.20 | Drawn by: P.D | Approved by: T.I

Job Ref: 20-241 | Drg no: - | Rev: -



ARC ENVIRONMENTAL LTD

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

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
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rev.	date	amendments	drawn	chckd

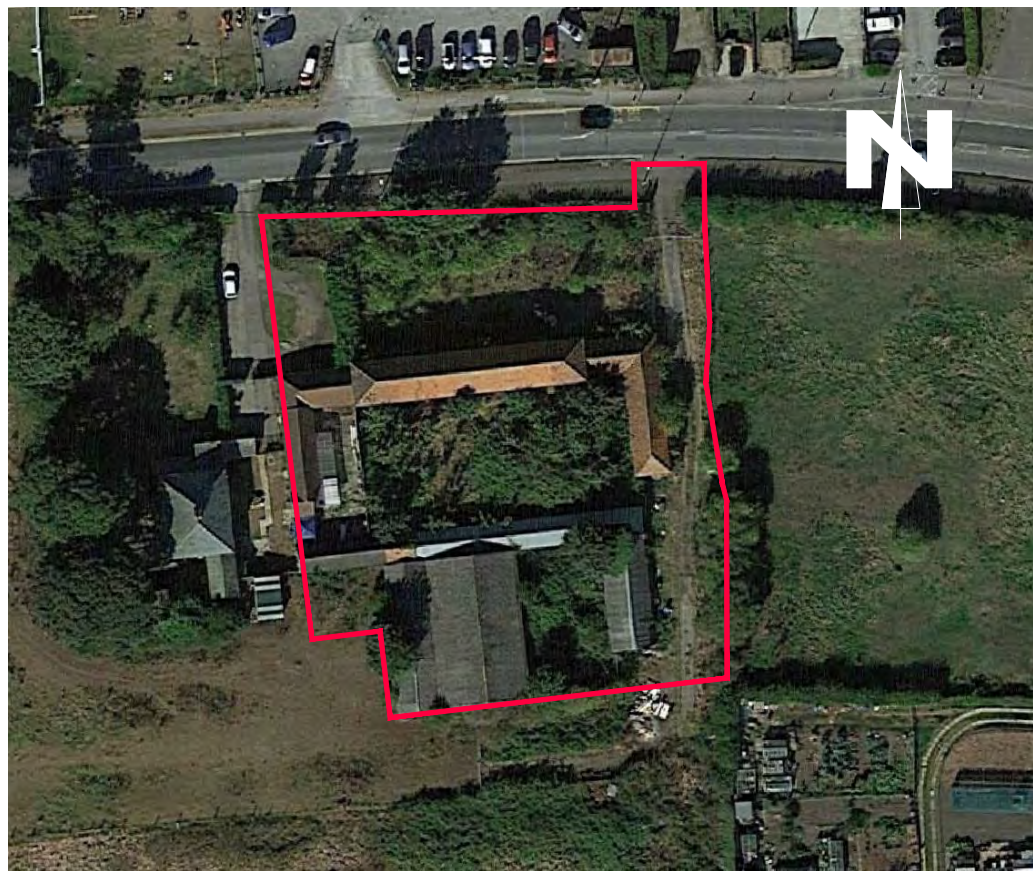
Client: **JM GUTHRIE
 1965 SETTLEMENT**

Project Title:
 Proposed Conversion of Agricultural Barns
 to Residential Dwellings, 138 Main Road
 Bilton, HU11 4AA

Drawing Title:
 Site Photographic Record Sheet 1

Scale at A3: NTS @ A3	Date: 24.08.20	Drawn by: P.D	Approved by: T.I
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Job Ref: 20-241	Drg no: -	Rev: -
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rev.	date	amendments	drawn	chckd

Client: **JM GUTHRIE
1965 SETTLEMENT**

Project Title:
 Proposed Conversion of Agricultural Barns
 to Residential Dwellings, 138 Main Road
 Bilton, HU11 4AA

Drawing Title:
 Site Photographic Record Sheet 2

Scale at A3: NTS @ A3	Date: 24.08.20	Drawn by: P.D	Approved by: T.I
--------------------------	-------------------	------------------	---------------------

Job Ref: 20-241	Drg no: -	Rev: -
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APPENDIX II

BGS Borehole Information



British Geological Survey

NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 463046 : BGS Reference: TA13SE12
British National Grid (27700) : 515746,432966

[Report an issue with this borehole](#)

<<

< Prev

Page 1 of 2 v

Next >

>>

BGS TA13SE12

HOLDERNESS R.D.C. (5763297)

**JOURNAL OF TEST BORE N^o.4.
TAKEN AT:- BILTON**

Feet

0	0.15	6"	Top soil
1.32	4'-0"		Sandy clay & stones
5.33	17'-6"		Boulder clay

10

20

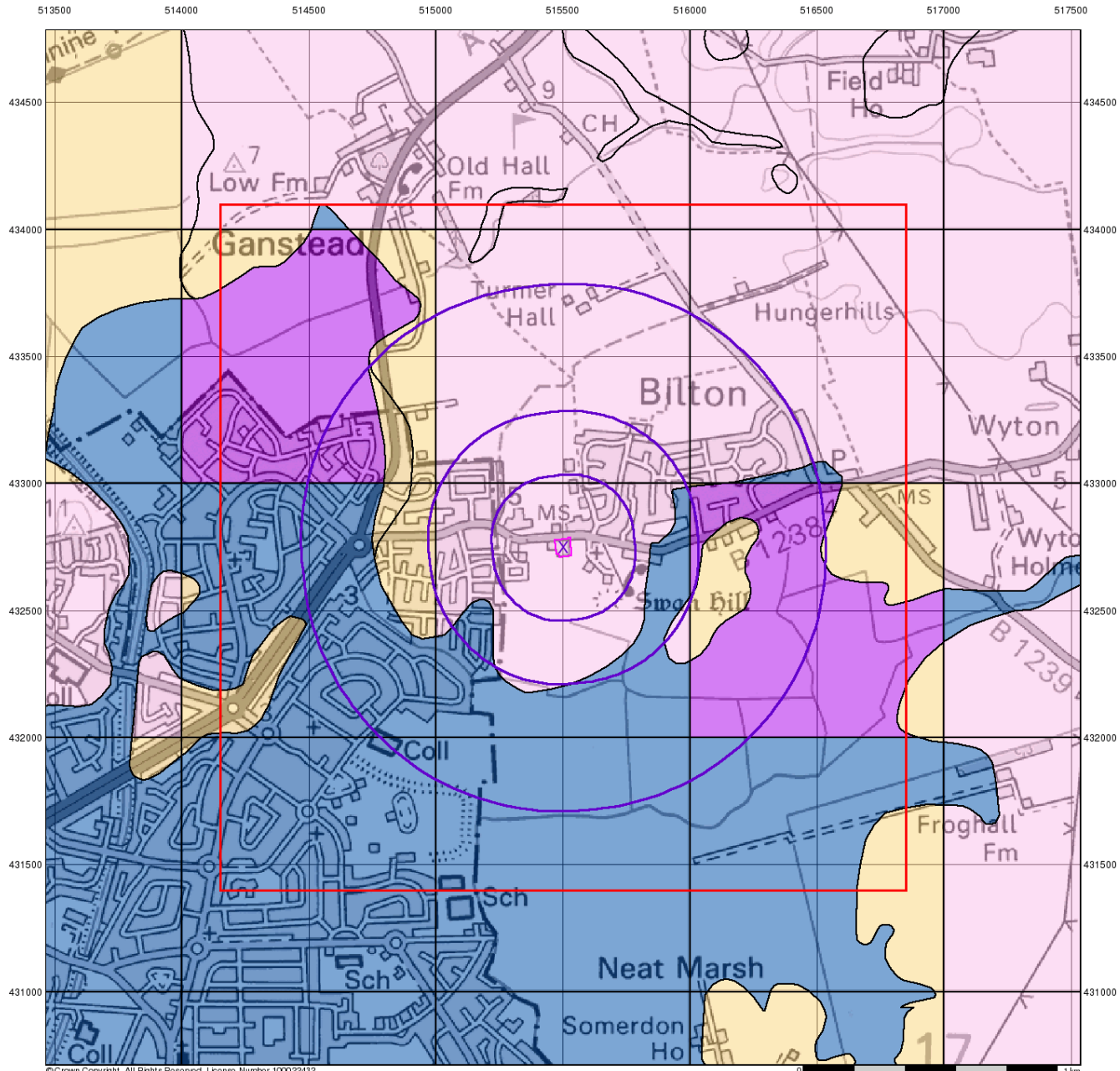
30

**CONTRACTOR :
A. B. HOLMES, HULL.**

**JOHN BOSSOR & ASSOCIATES
CONSULTING ENGINEERS
MONK BAR CHAMBERS
YORK.**

APPENDIX III

Landmark Information Group Envirocheck Report



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Groundwater Vulnerability

General

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

Agency and Hydrological

Bedrock Aquifers

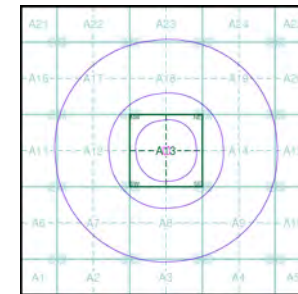
- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

- Unproductive Aquifer
- Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

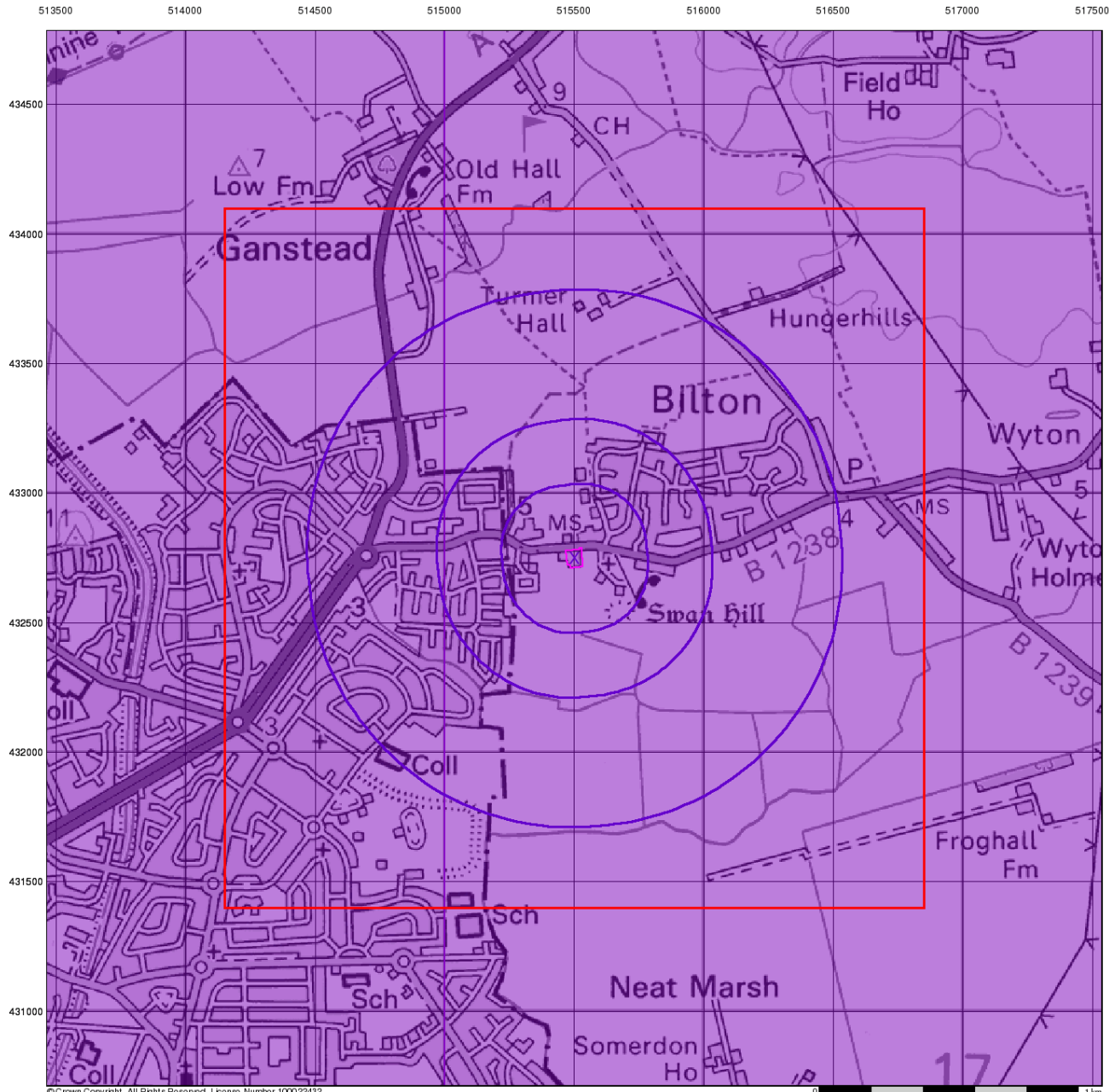
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 National Grid Reference: 515500, 432750
 Slice: A
 Site Area (Ha): 0.41
 Search Buffer (m): 1000

Site Details

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0 1 km



Bedrock Aquifer Designation

General

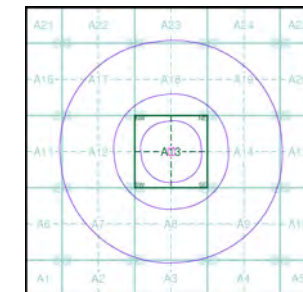
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

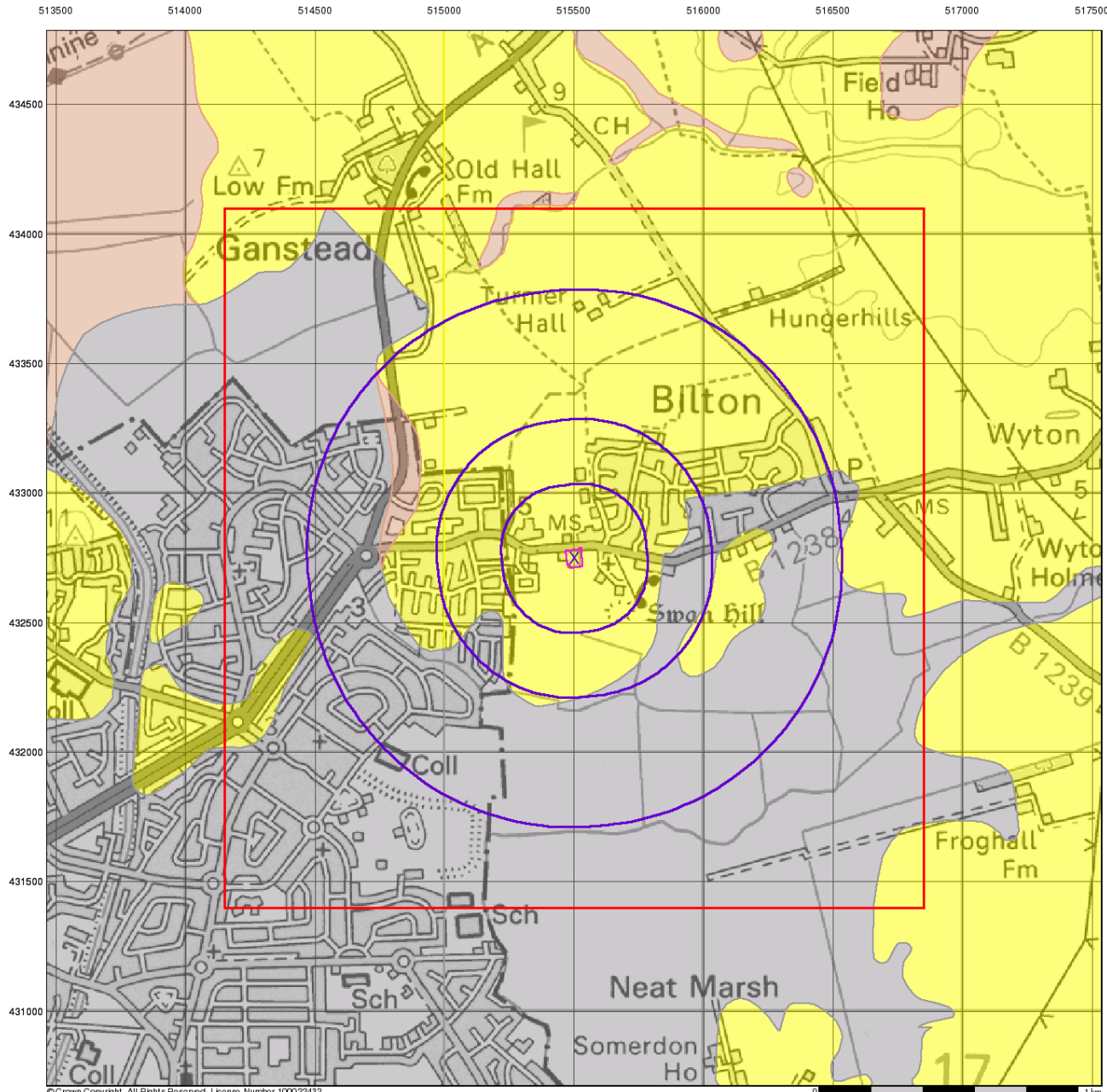
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 Site Area (Ha): 0.41
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0 1 km



Superficial Aquifer Designation

General

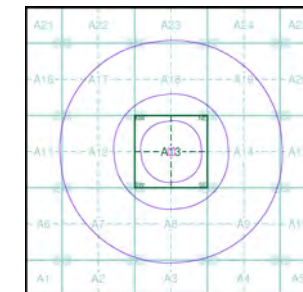
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

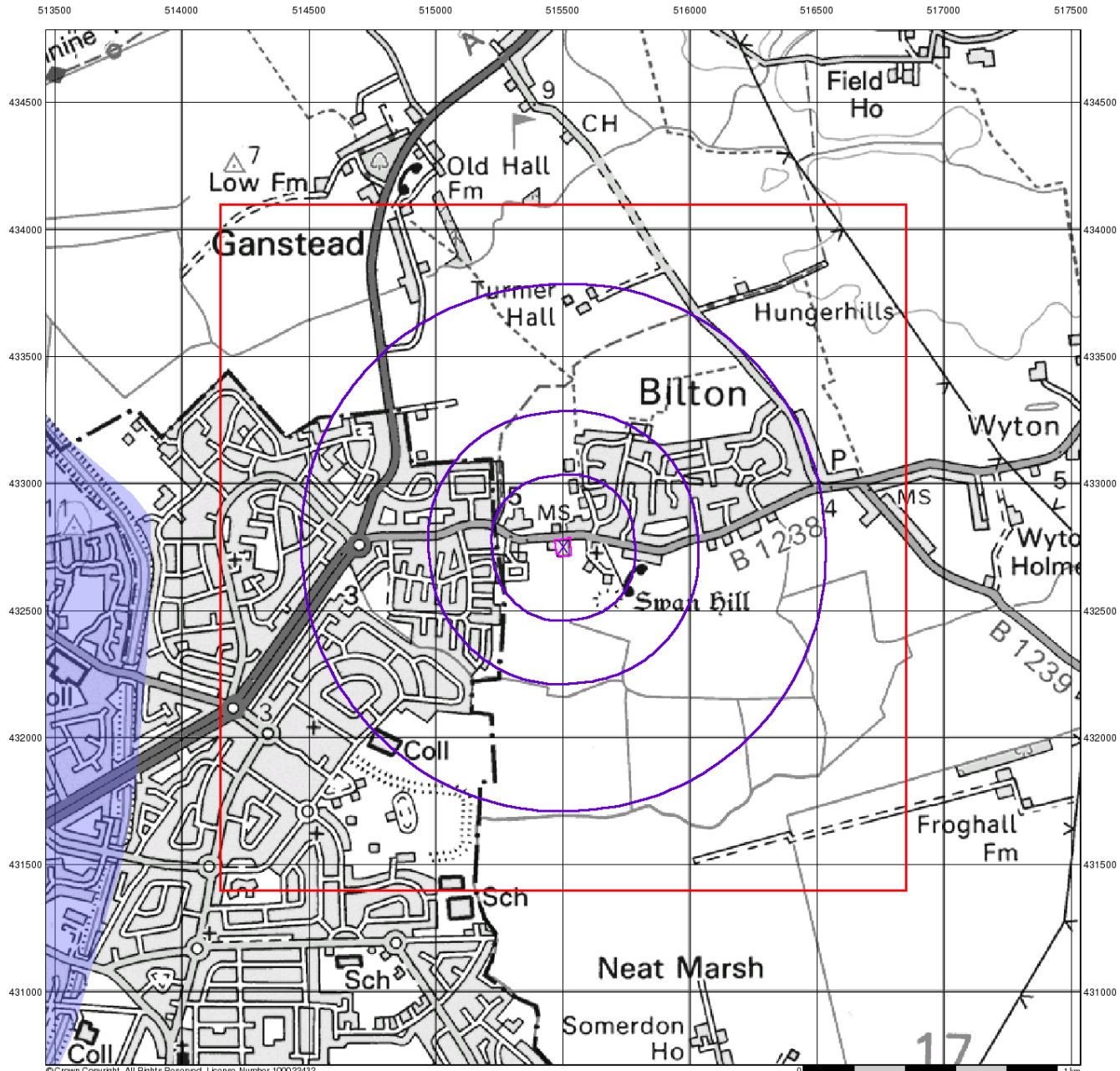
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Source Protection Zones

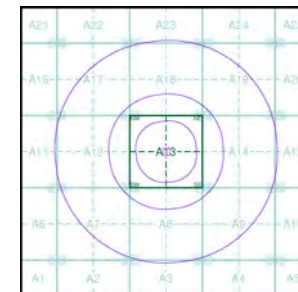
General

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

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



Order Details

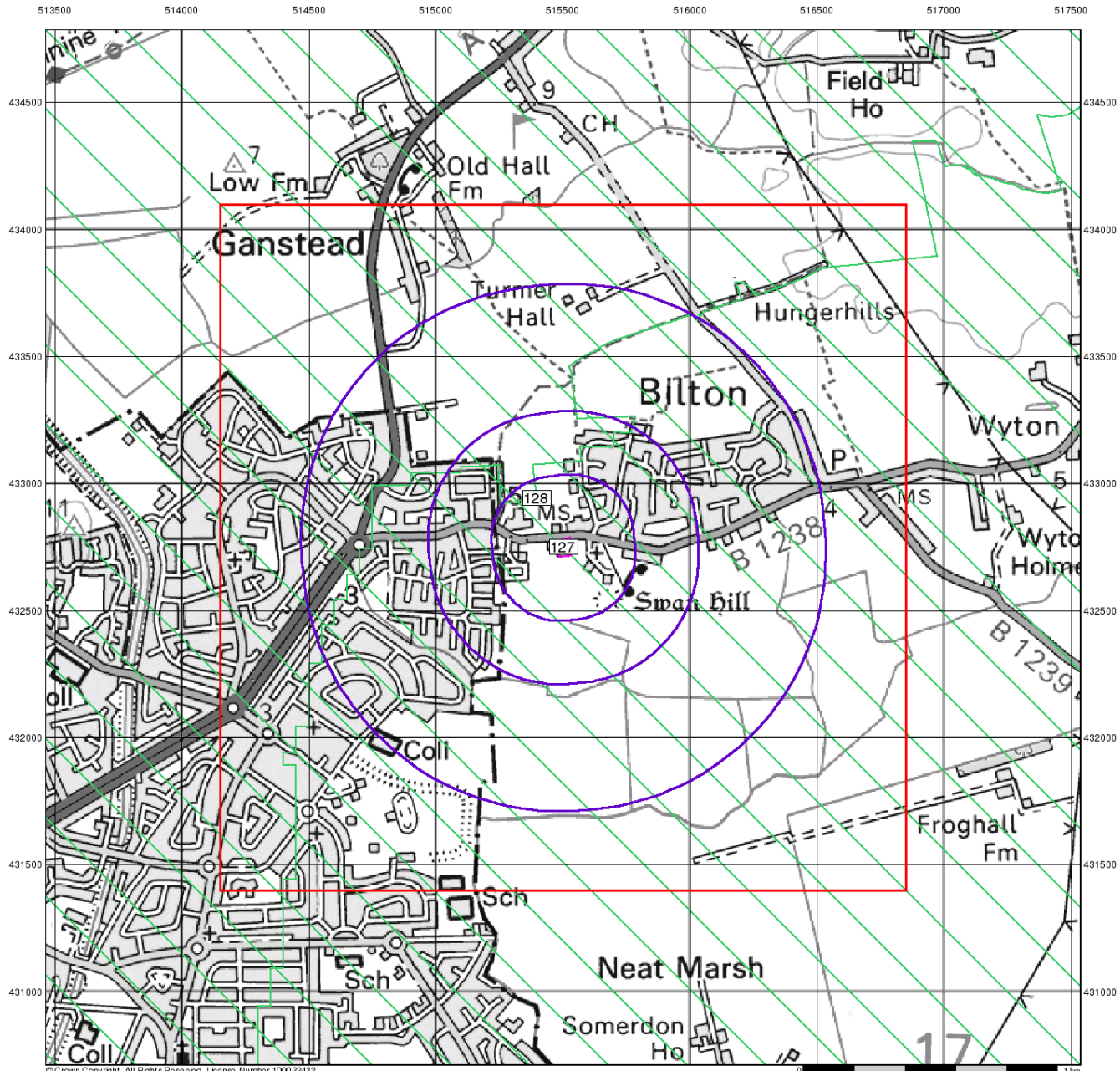
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Sensitive Land Uses

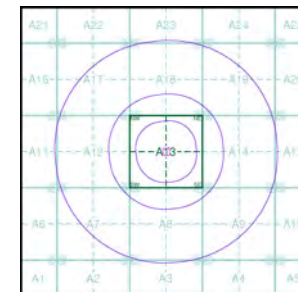
General

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

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

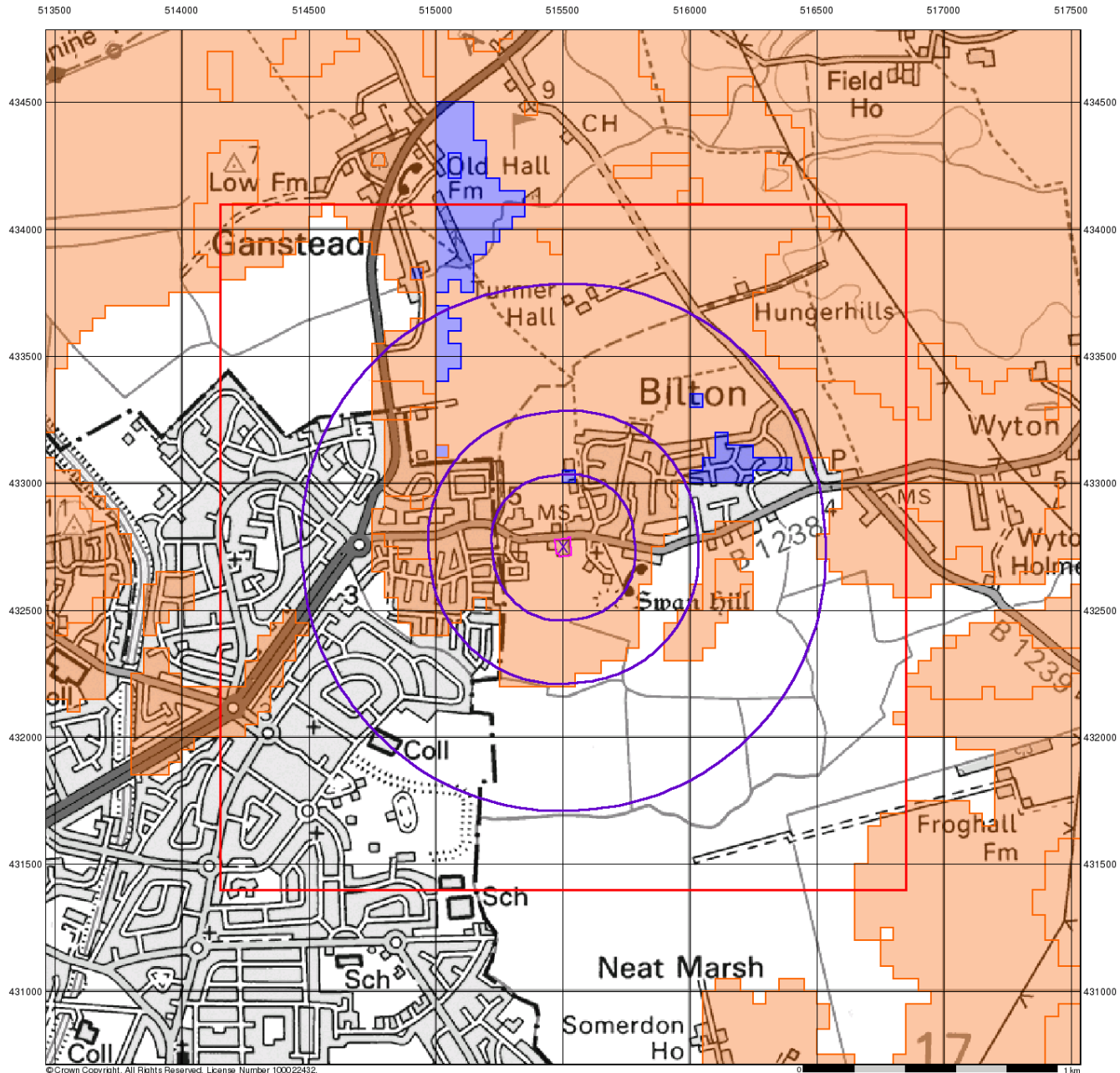
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BGS Flood GFS Data

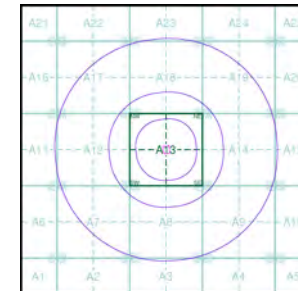
General

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

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

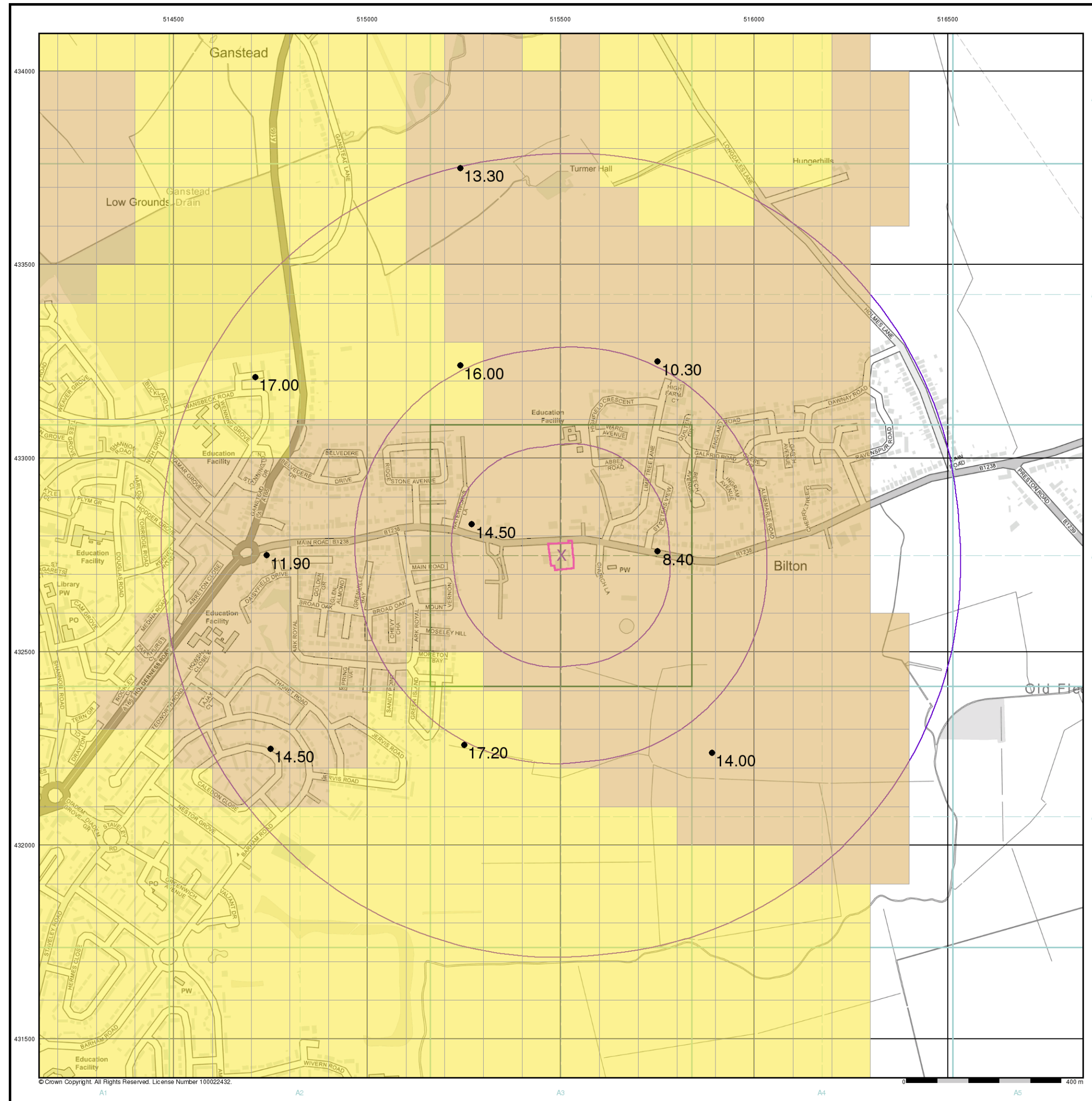
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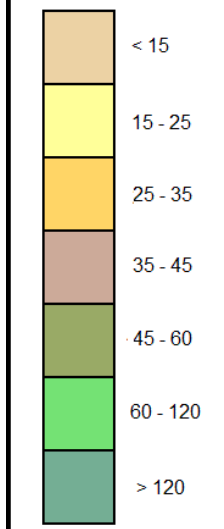


General

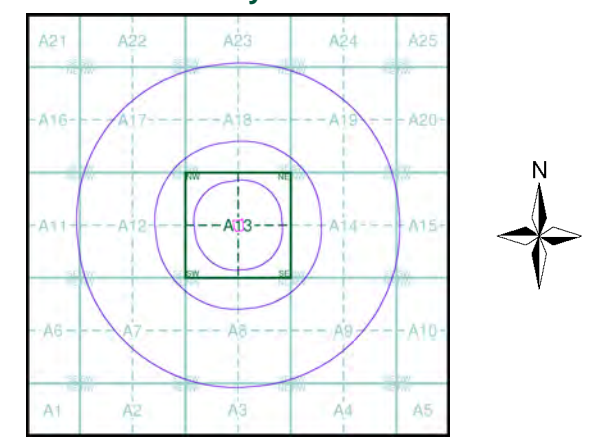
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- Specified Buffer(s)
- X Bearing Reference Point

Urban Soil Chemistry Arsenic

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



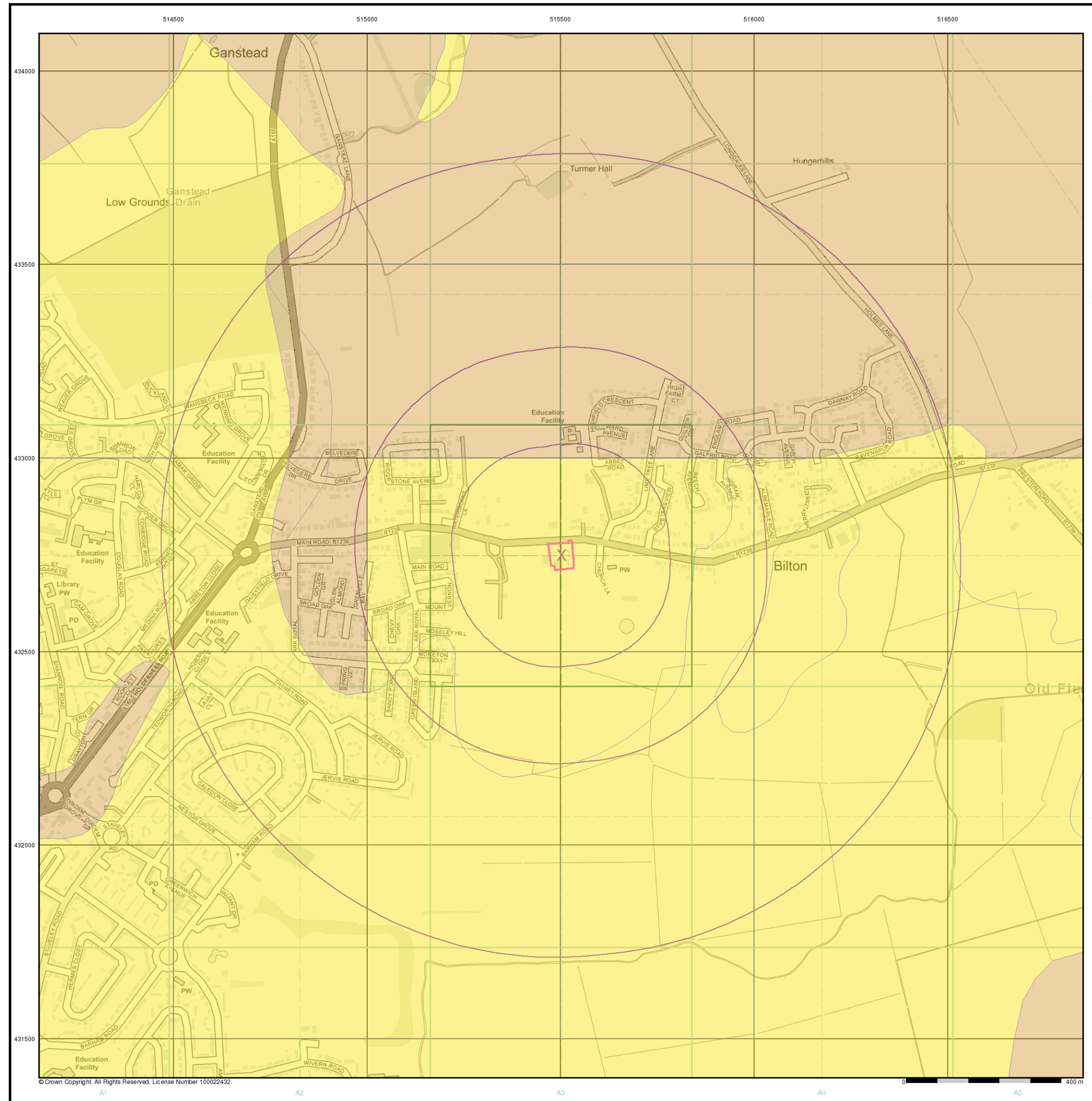
Urban Soil Chemistry Arsenic - Slice A



Order Details

Order Details: 250992254_1_1
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 National Grid Reference: 515500, 432750
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Site Details
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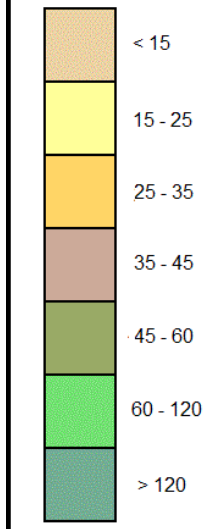


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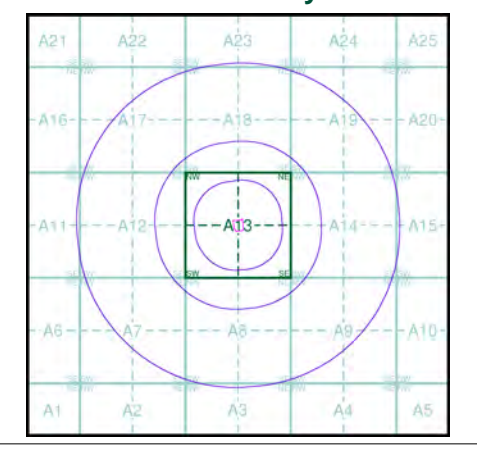
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Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A



Order Details

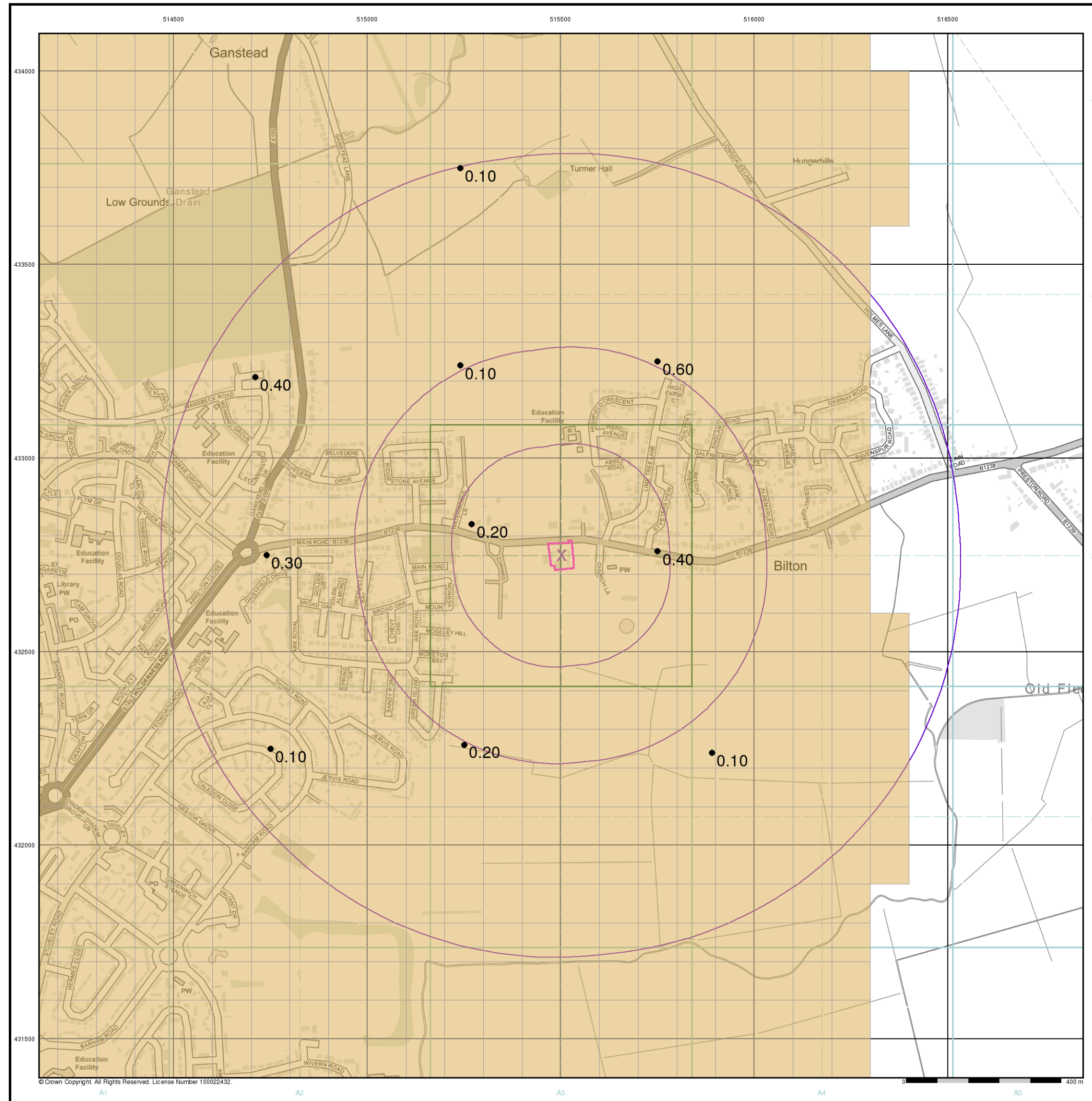
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Site Details

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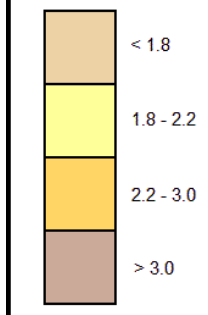
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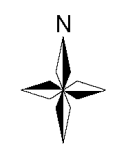
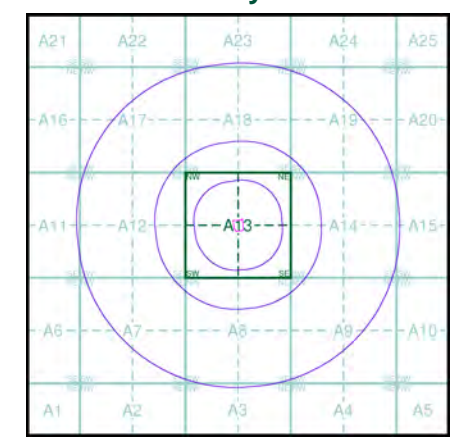
Urban Soil Chemistry Cadmium

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

Cadmium Concentrations mg/kg



Urban Soil Chemistry Cadmium - Slice A



Order Details

Order Details: 250992254_1_1
 Customer Ref: 20-241 (JPD)
 National Grid Reference: 515500, 432750
 Slice: A
 Site Area (Ha): 0.41
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Site Details

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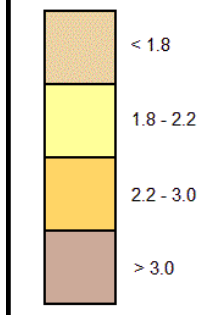


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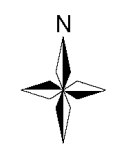
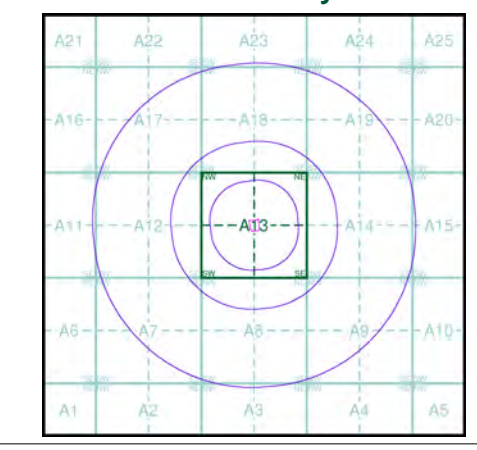
- ✕ Specified Site
- Specified Buffer(s)
- ✕ Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A



Order Details

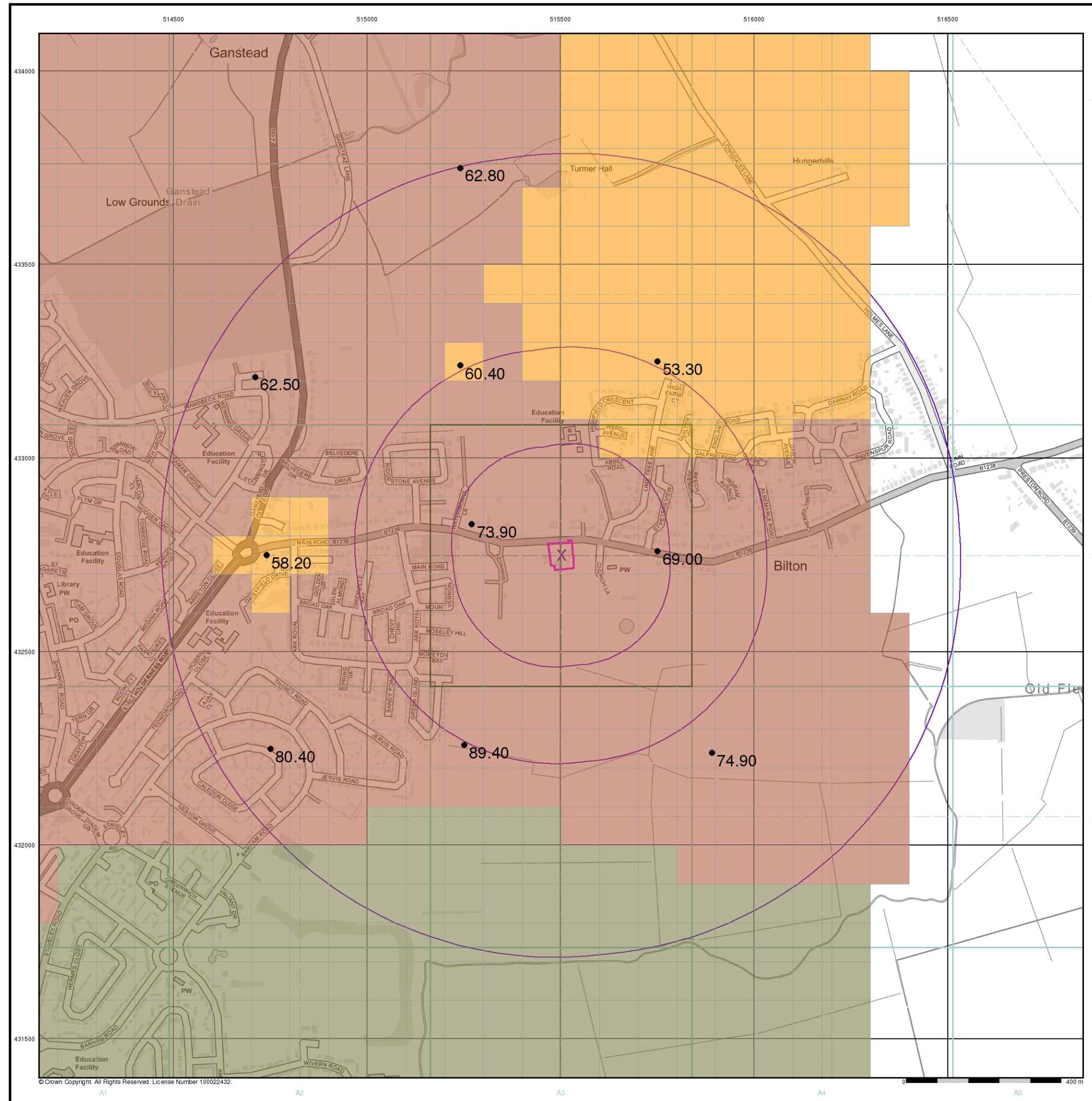
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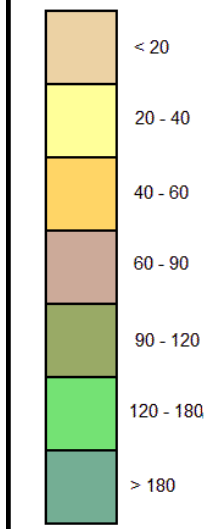
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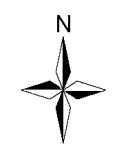
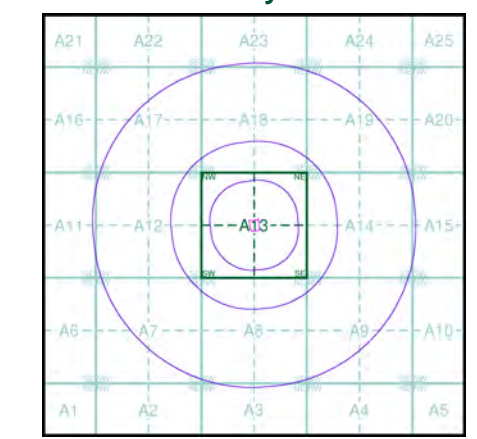
Urban Soil Chemistry Chromium

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

Chromium Concentrations mg/kg



Urban Soil Chemistry Chromium - Slice A



Order Details

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 Customer Ref: 20-241 (JPD)
 National Grid Reference: 515500, 432750
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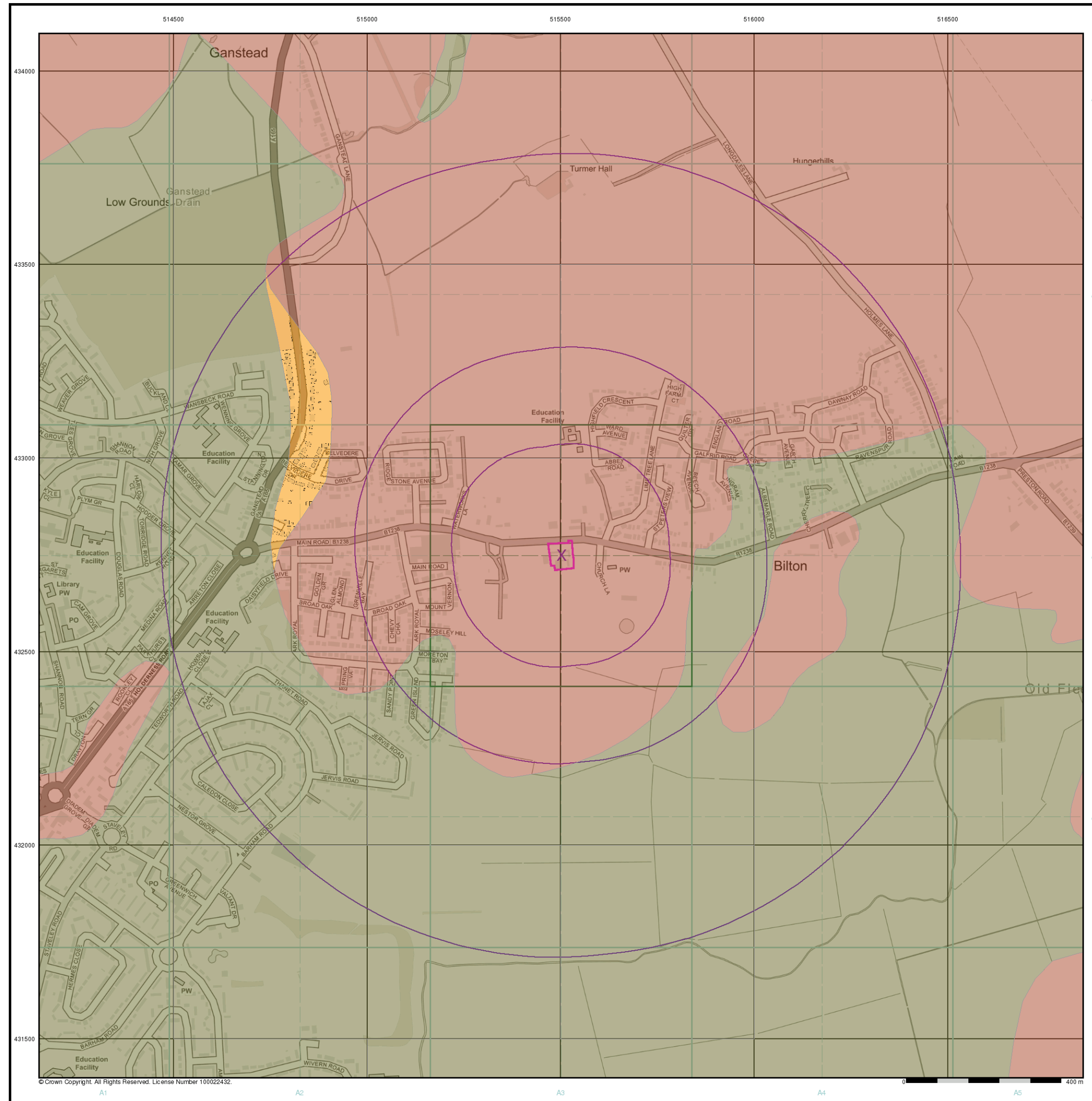
Site Details

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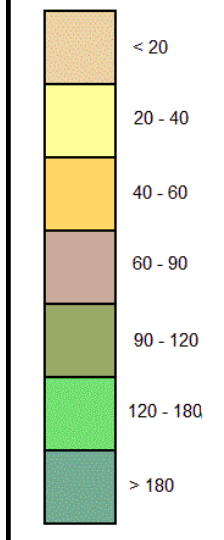


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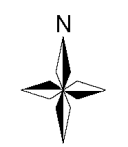
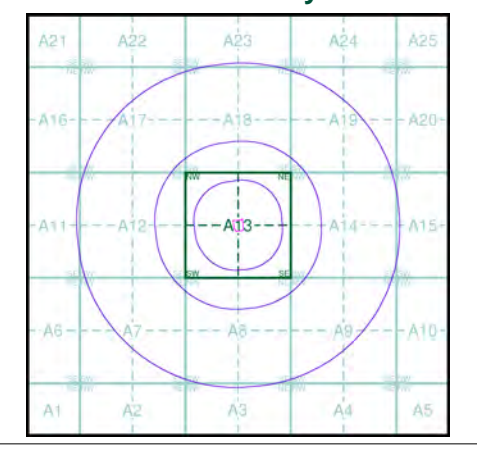
✕ Specified Site
 ○ Specified Buffer(s)
 ✕ Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A

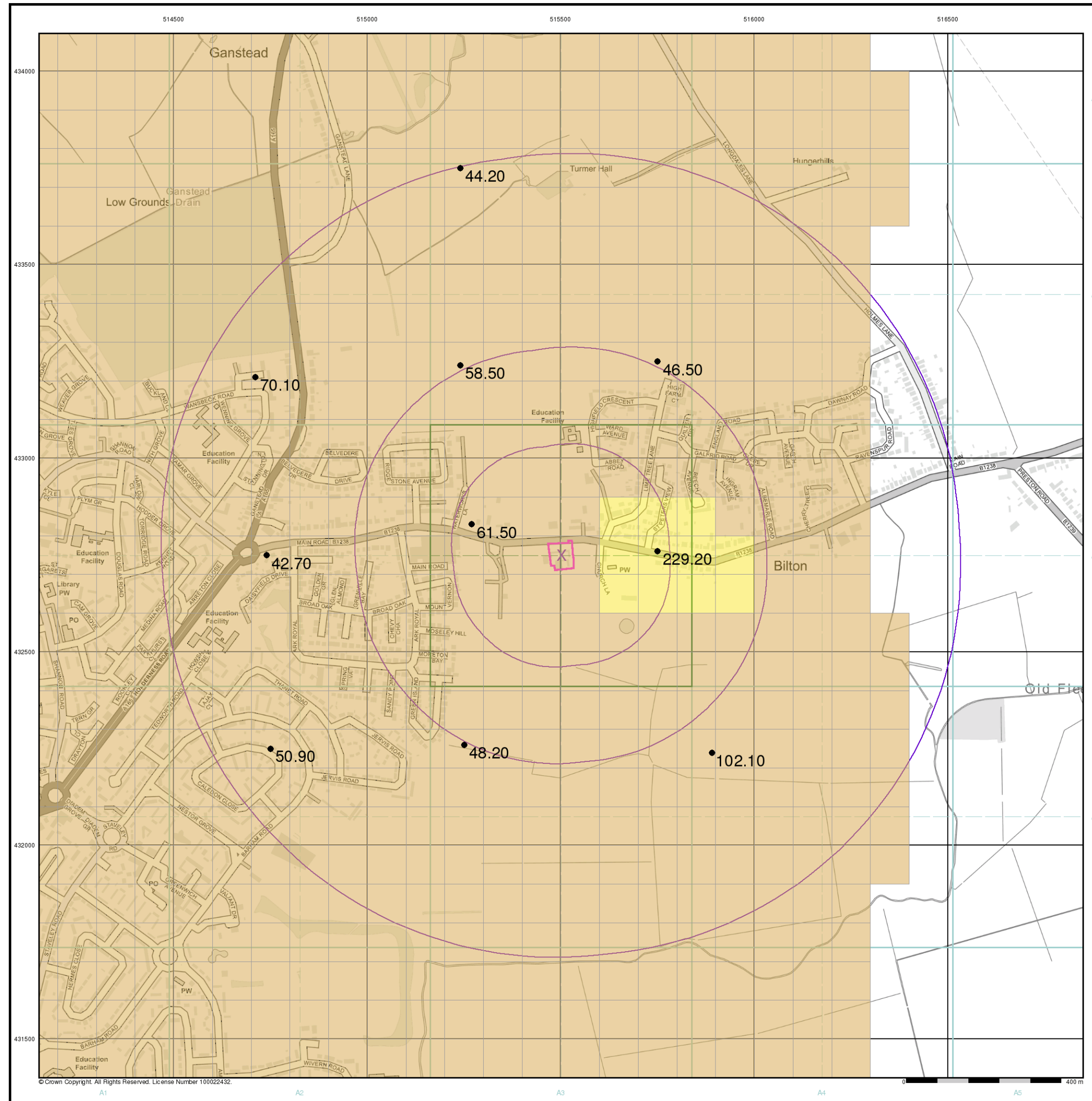


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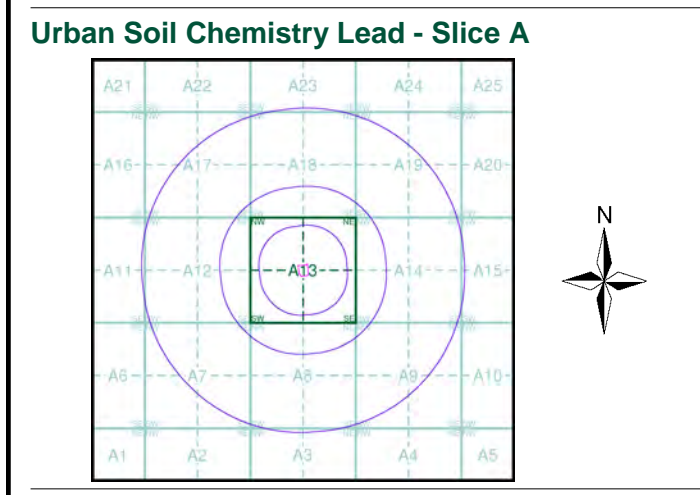
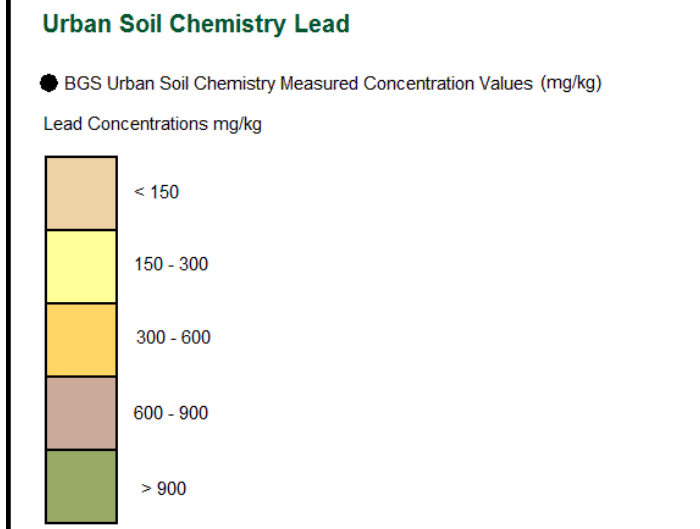
Site Details

138, Main Road, Bilton, Hull, HU11 4AA



General

✱ Specified Site
 ○ Specified Buffer(s)
 ✱ Bearing Reference Point



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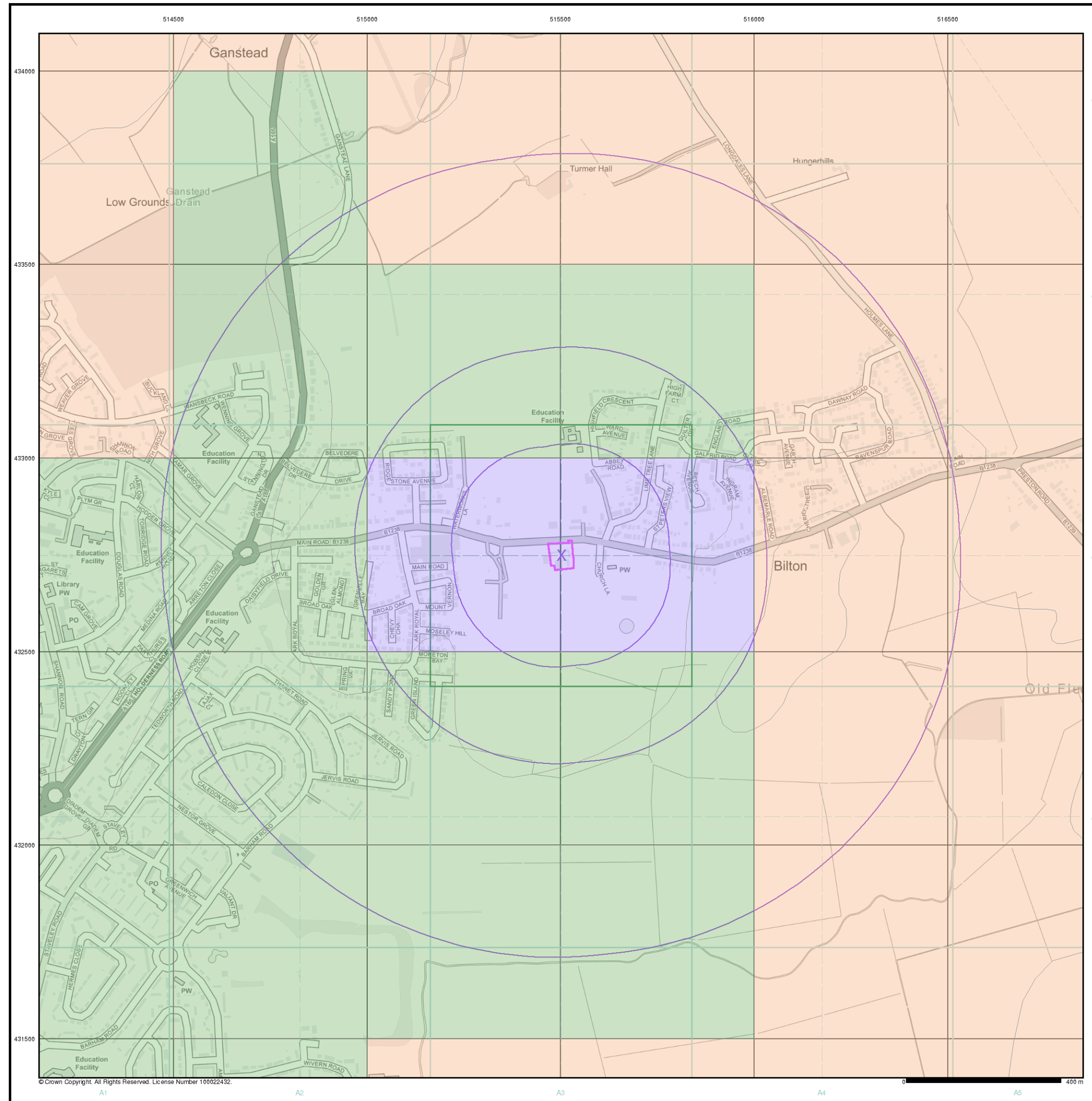
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 Customer Ref: 20-241 (JPD)
 National Grid Reference: 515500, 432750
 Slice: A
 Site Area (Ha): 0.41
 Search buffer (m): 1000

Site Details

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Landmark
 INFORMATION GROUP

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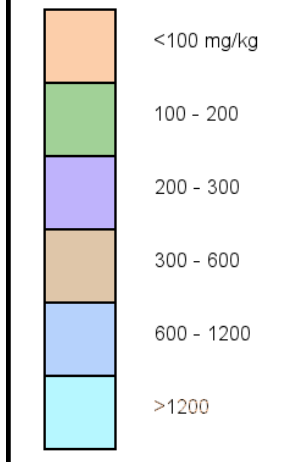


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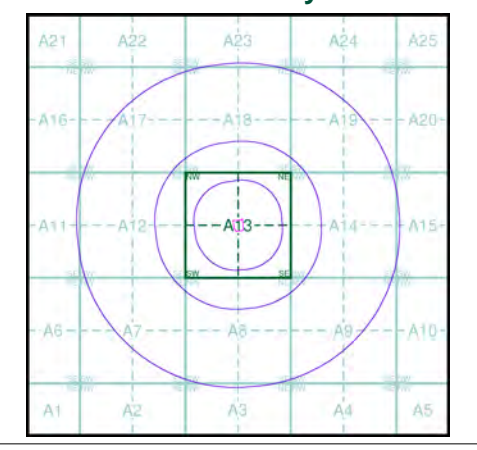
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 X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A

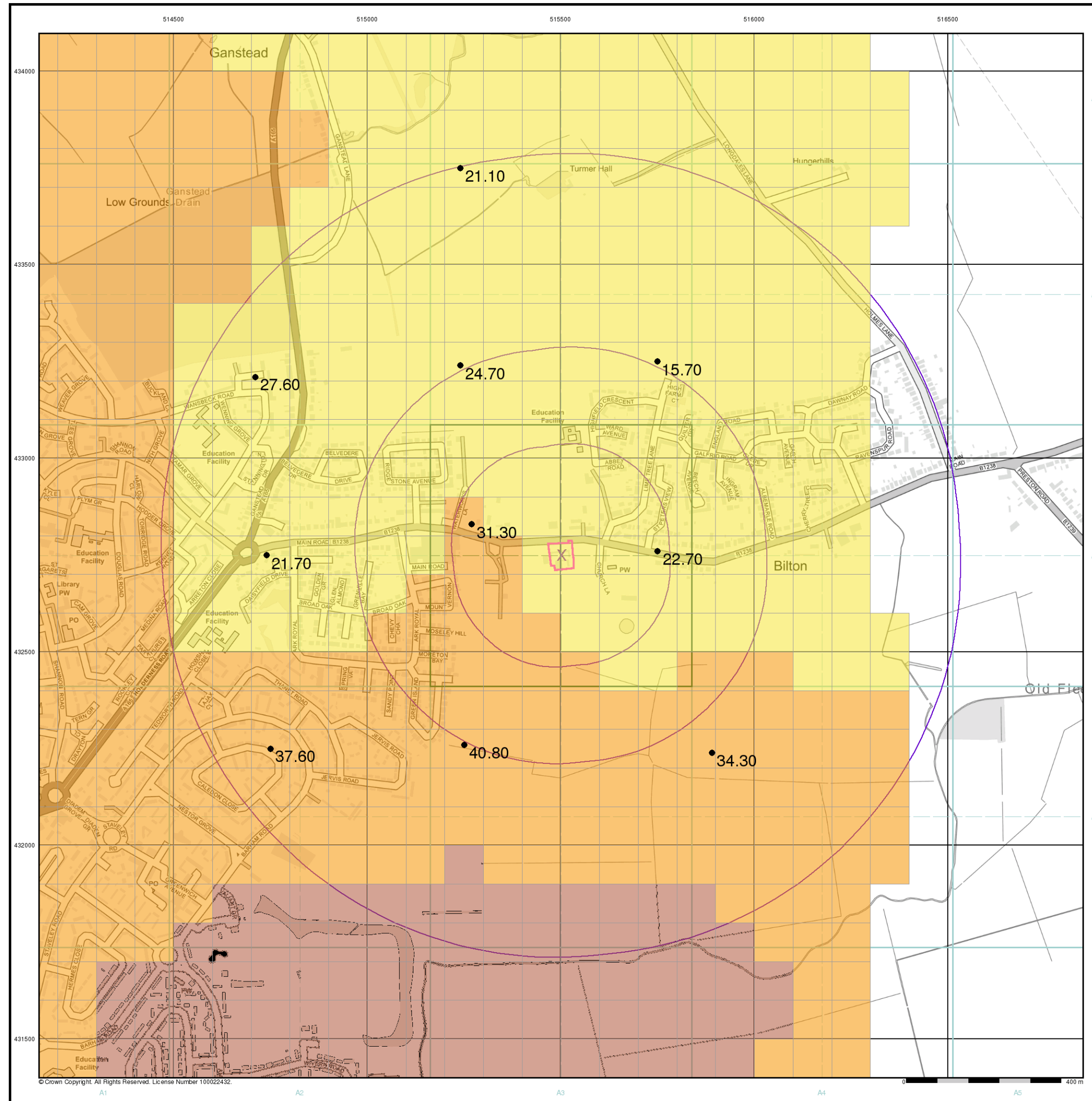


Order Details

Order Details: 250992254_1_1
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Site Details

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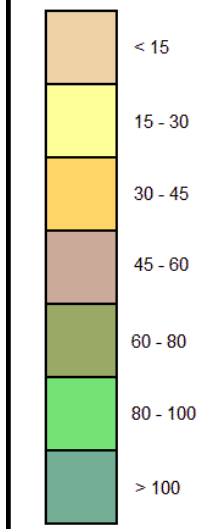
General

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

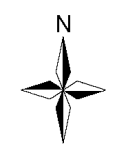
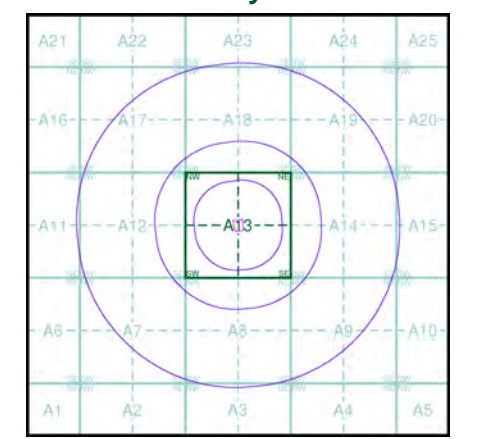
Urban Soil Chemistry Nickel

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

Nickel Concentrations mg/kg



Urban Soil Chemistry Nickel - Slice A



Order Details

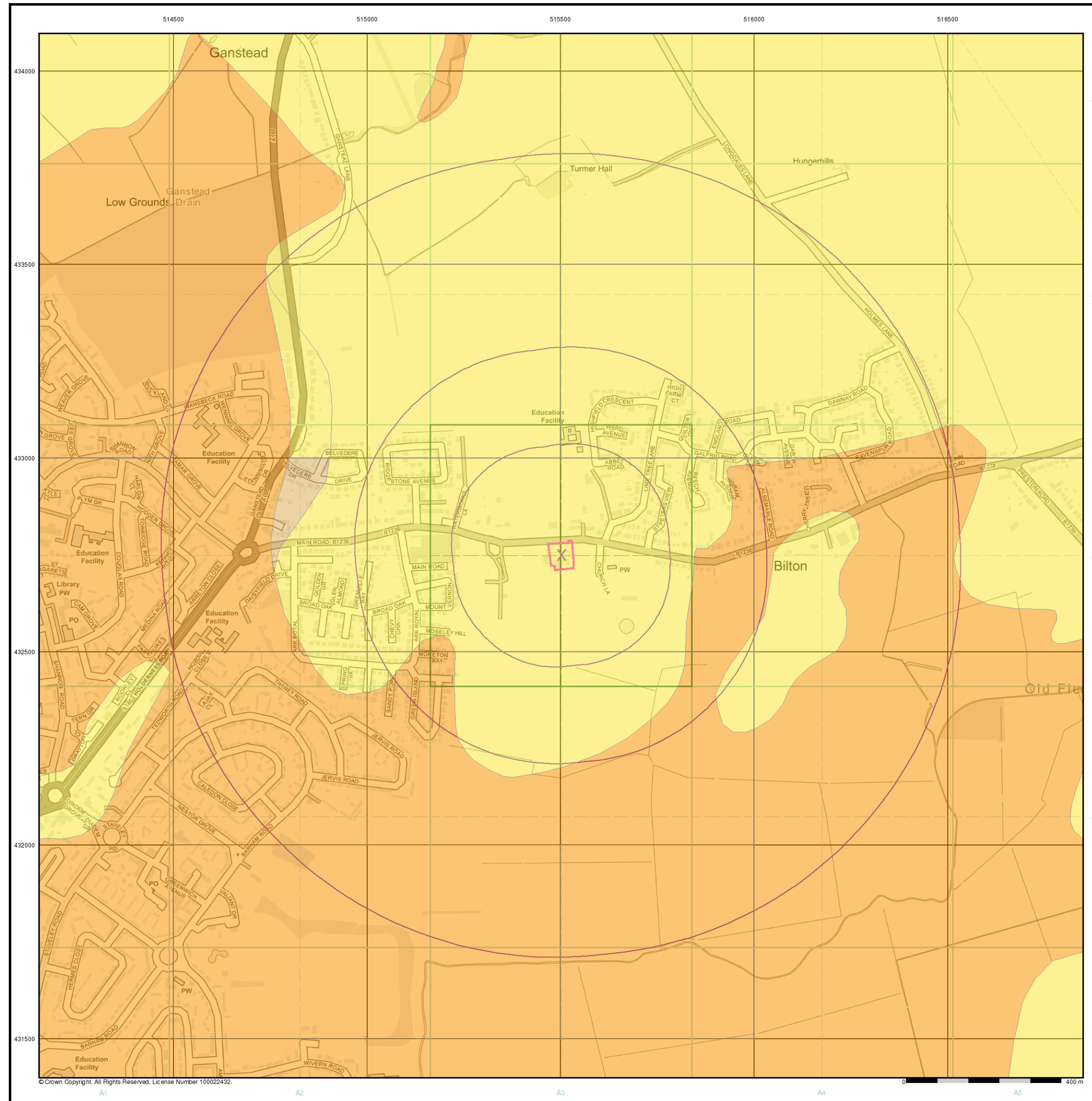
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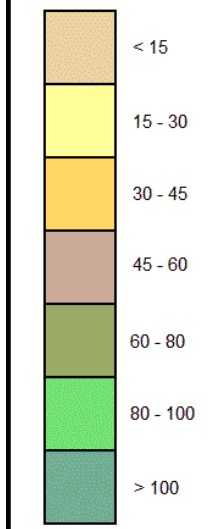


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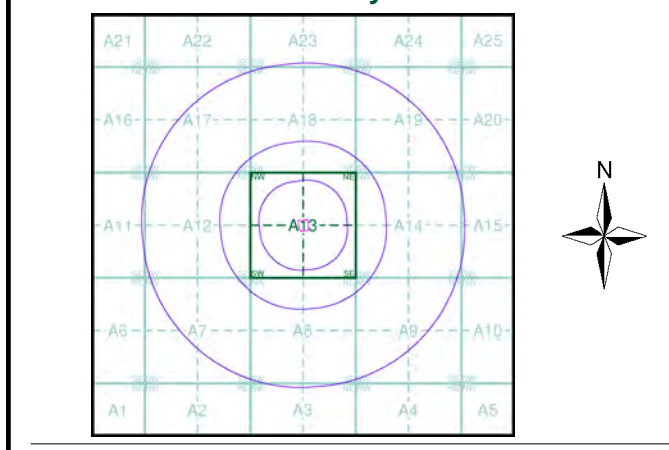
- ✕ Specified Site
- Specified Buffer(s)
- ✕ Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details: 250992254_1_1
 Customer Ref: 20-241 (JPD)
 National Grid Reference: 515500, 432750
 Slice: A
 Site Area (Ha): 0.41
 Search buffer (m): 1000

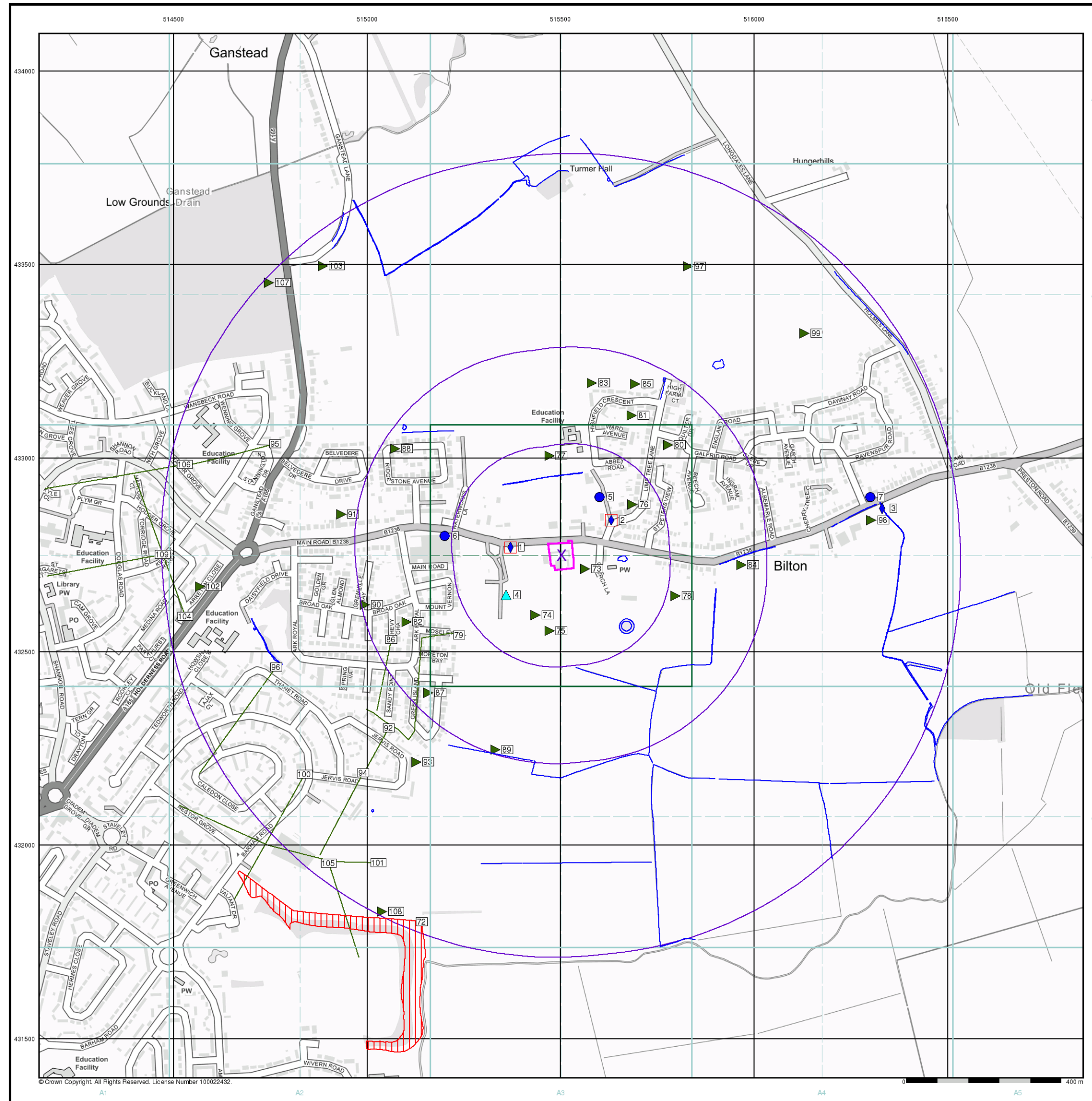
Site Details

138, Main Road, Bilton, Hull, HU11 4AA



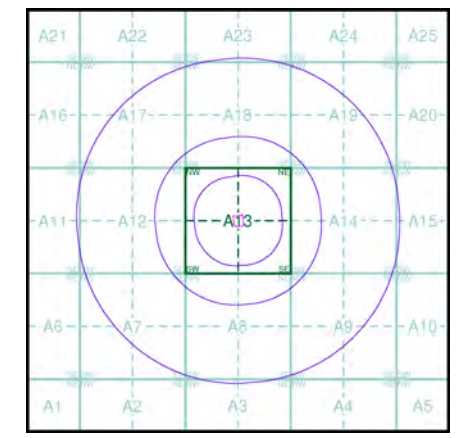
Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

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- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
 - 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

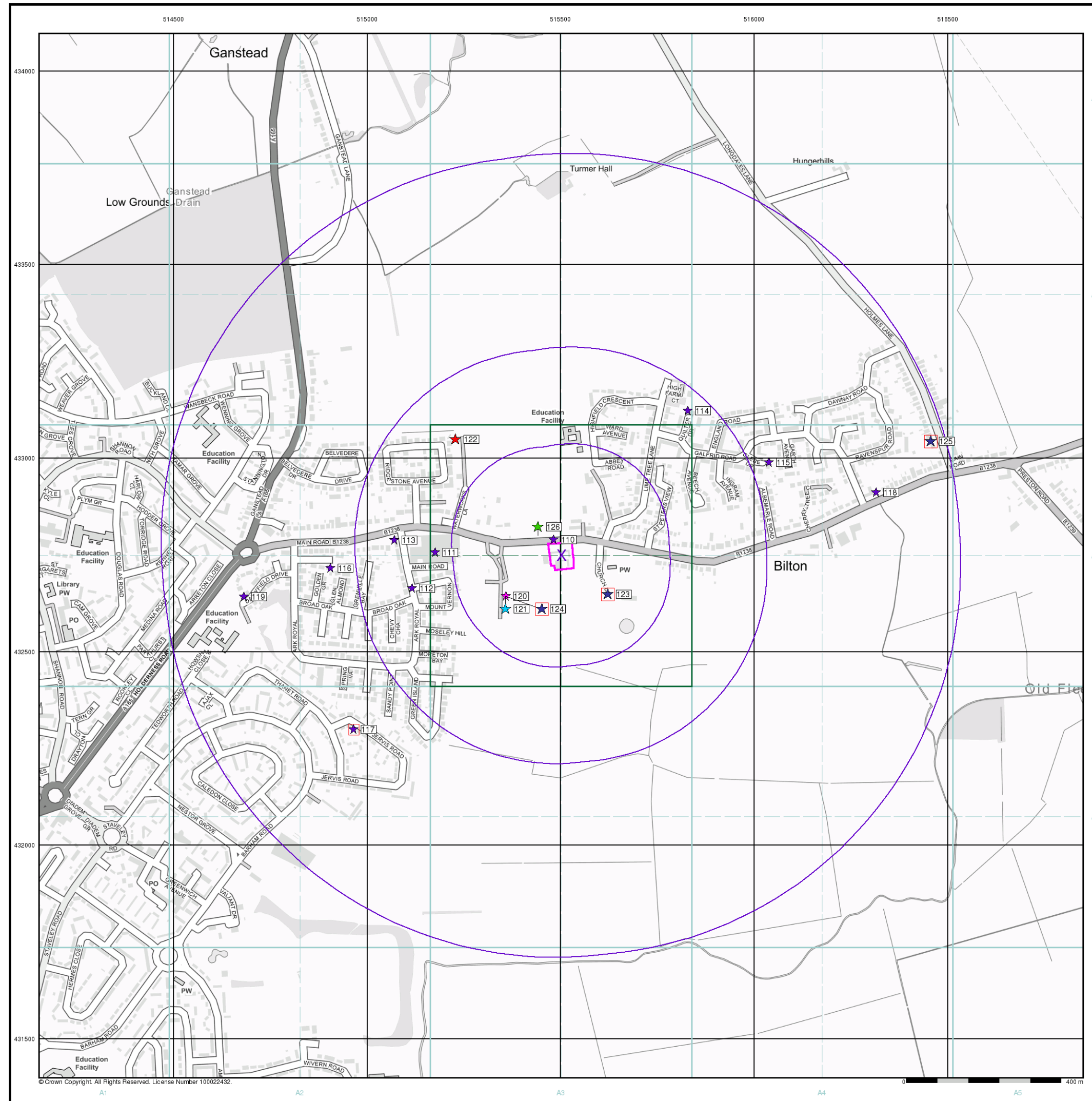
Site Sensitivity Map - Slice A



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Industrial Land Use Map

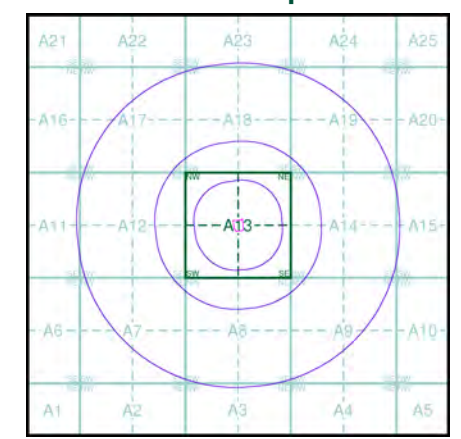
General

- 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



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