

Green Hill Solar Farm EN010170

Environmental Statement
Appendix 22.1: Preliminary GeoEnvironmental Risk Assessment

Revision A (Tracked)

(Part 7 of 7)

Prepared by: Lucion

Date: May November 2025

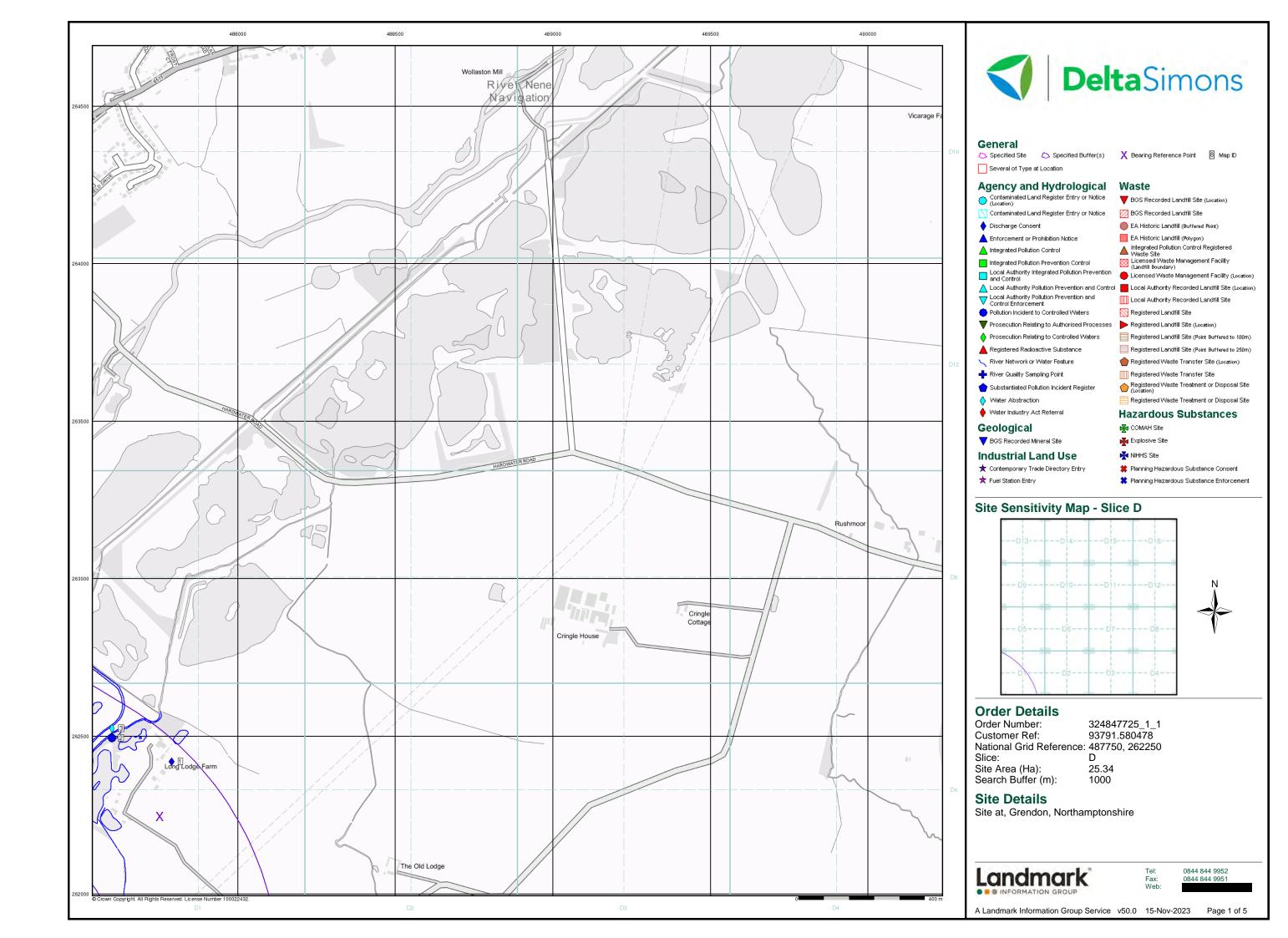
Document Reference: APPEX1/GH6.3.22.1 A

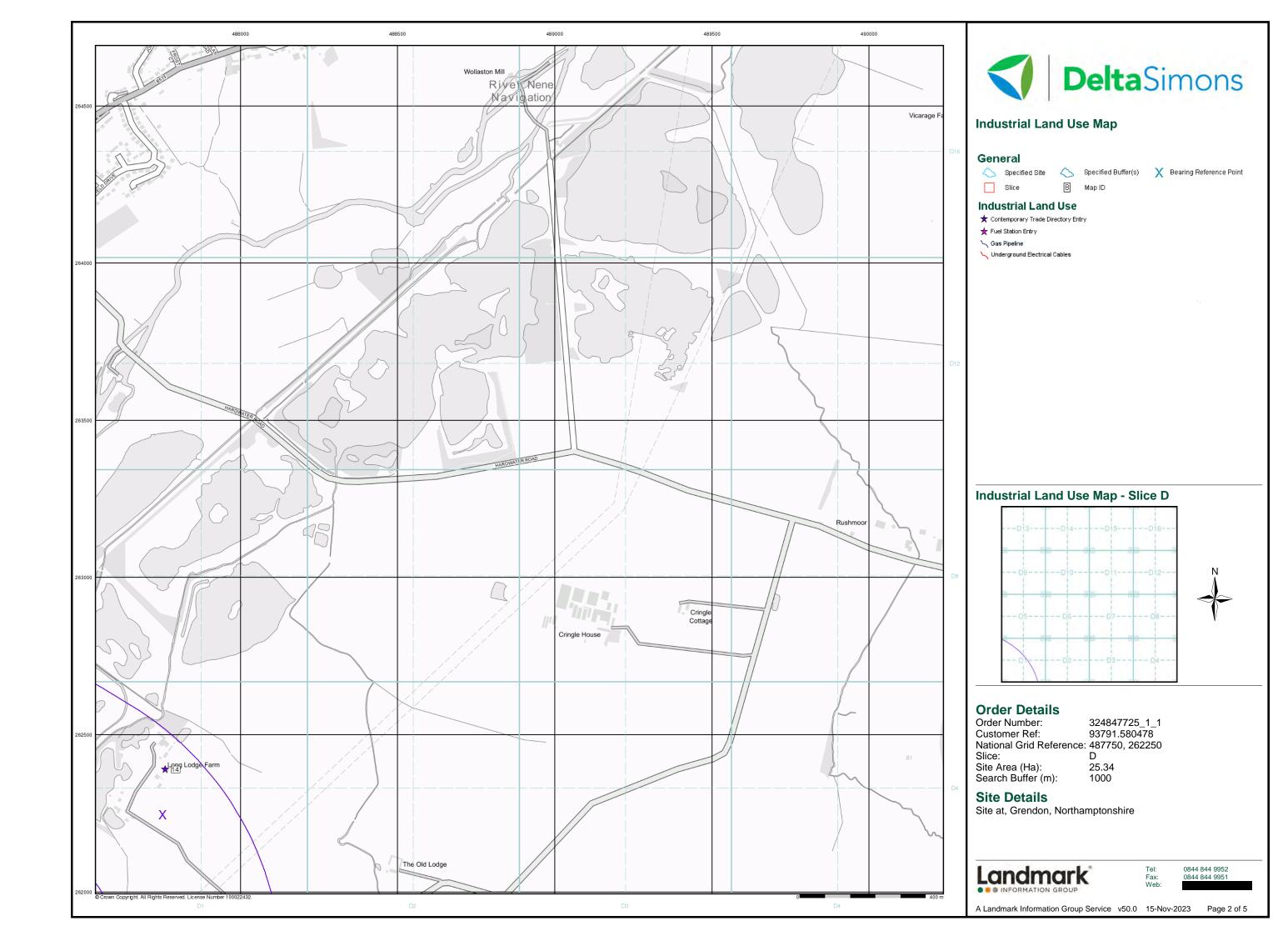
APFP Regulation 5(2)(a)

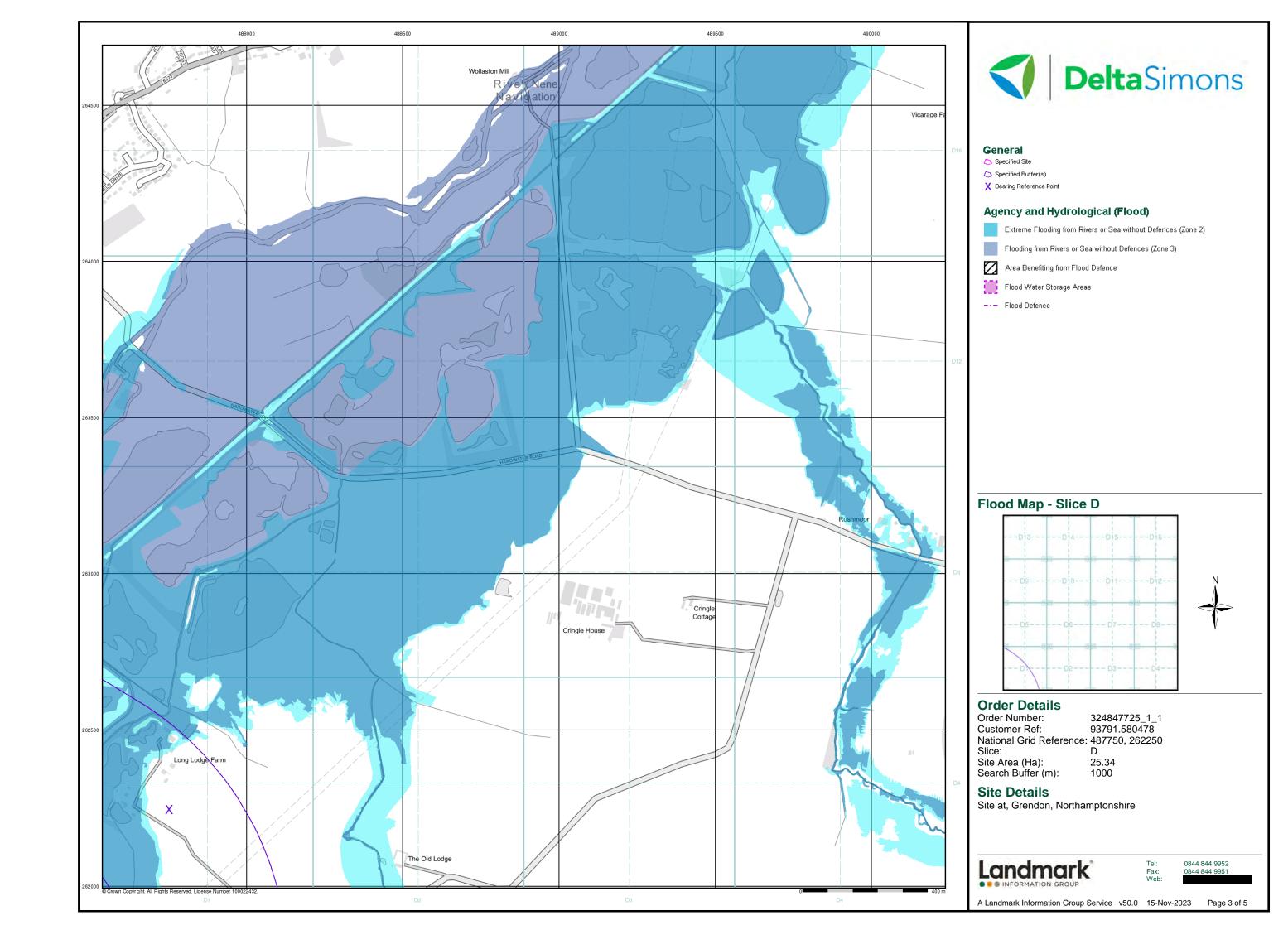


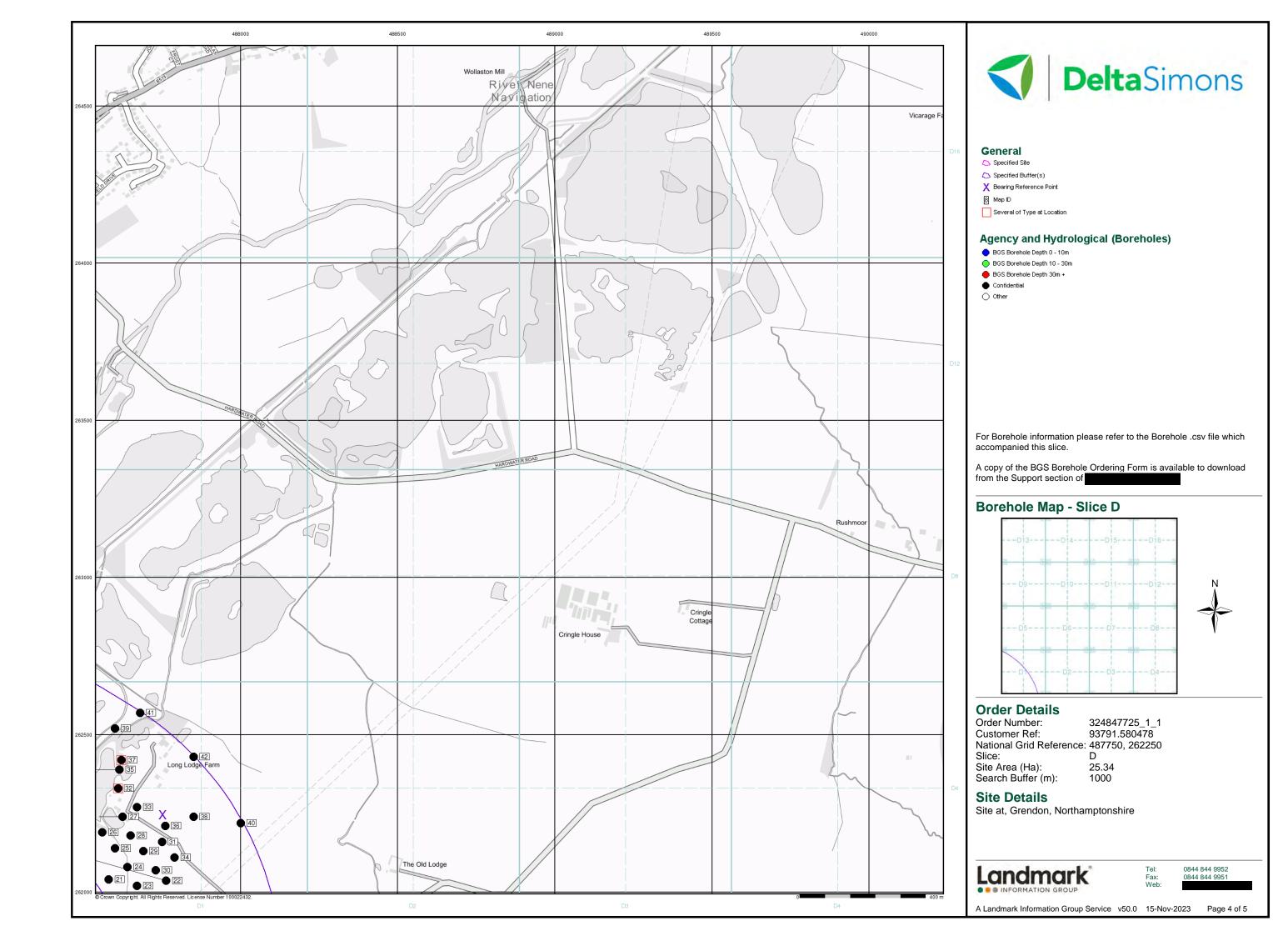
Schedule of Changes

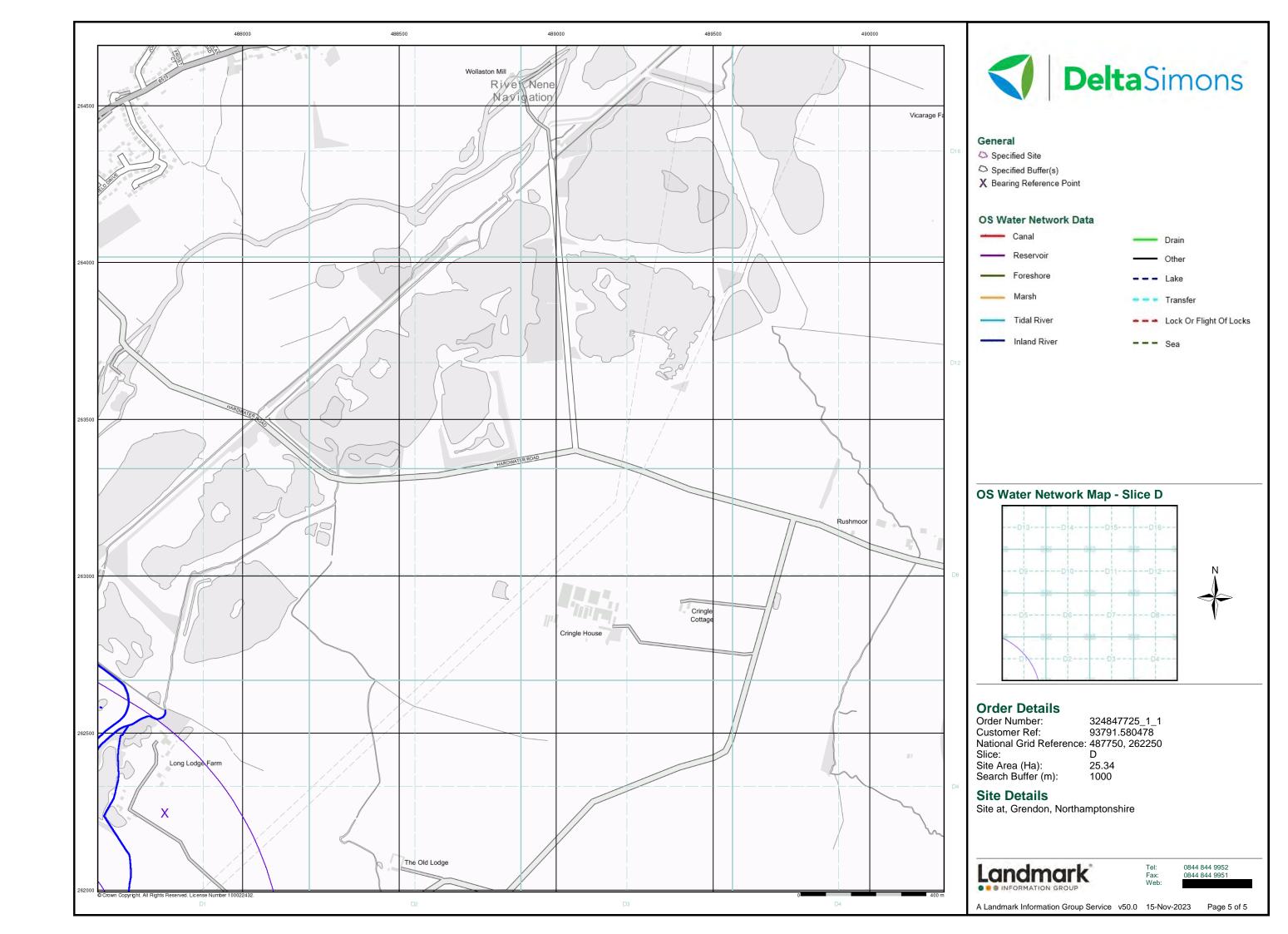
Revision	Section Reference	<u>Description of Changes</u>	Reason for Revision
<u>A</u>	[cover]	Updated document reference to Revision A	As required for submission at Deadline 1.
	(Part 1 of 7)	Cross assessment of full Envirocheck records into PRA report.	As recommended by the Environment Agency in their Relevant Representation
		Consistency updates with other PRA documents.	Applicant's due diligence.
	pp.331-332	Addition of Appendix G – Hotspot Protocol	Prior omission – Applicant's due diligence

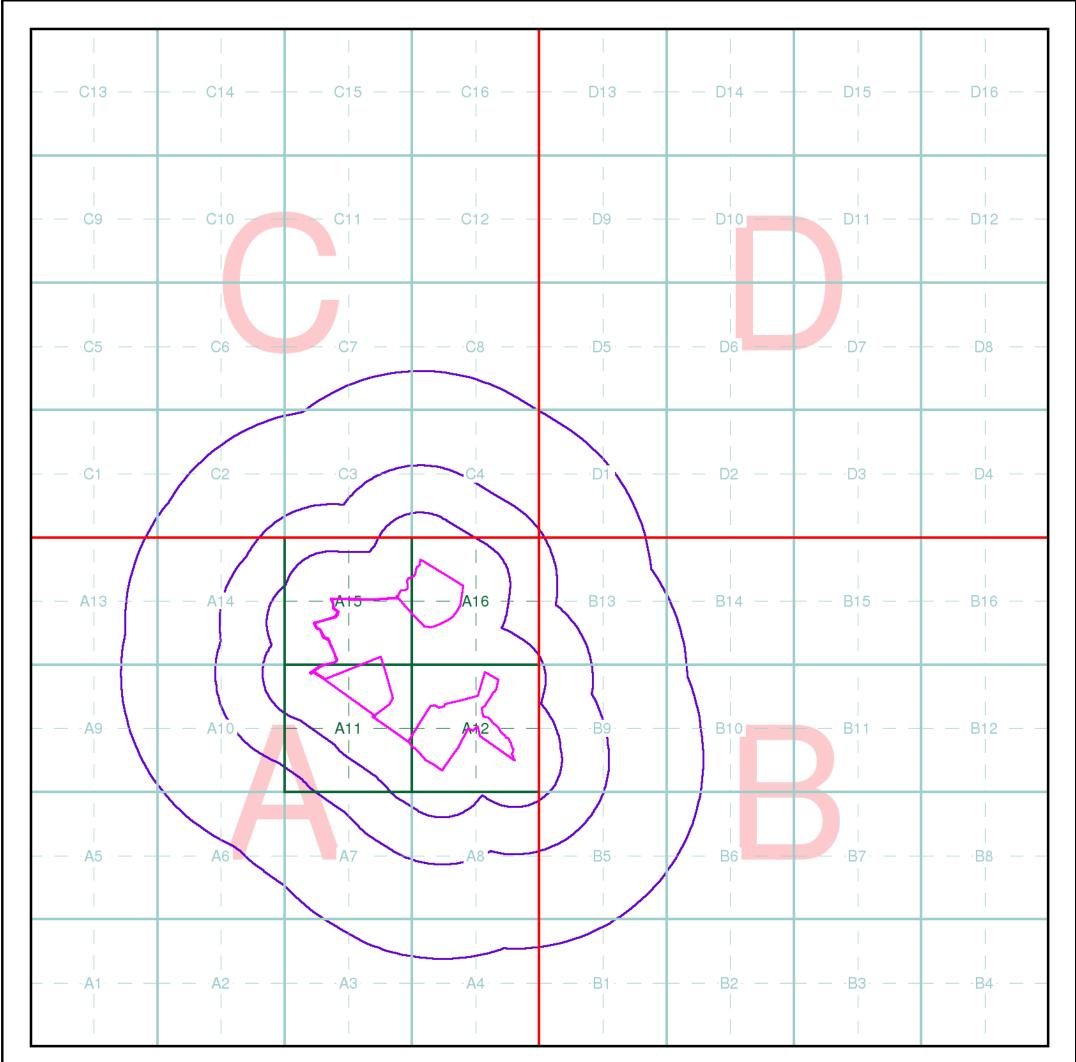














Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant

A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:









Envirocheck reports are compiled from 136 different sources of data.

Client Details

Mr J Rhoades, Delta Simons, 20 Little Britain, London, London, EC1A 7D

Order Details

Order Number: 324847725_1_1 Customer Ref: 93791.580478 National Grid Reference: 486940, 261260

Site Area (Ha): 25.34 Search Buffer (m): 1000

Site Details

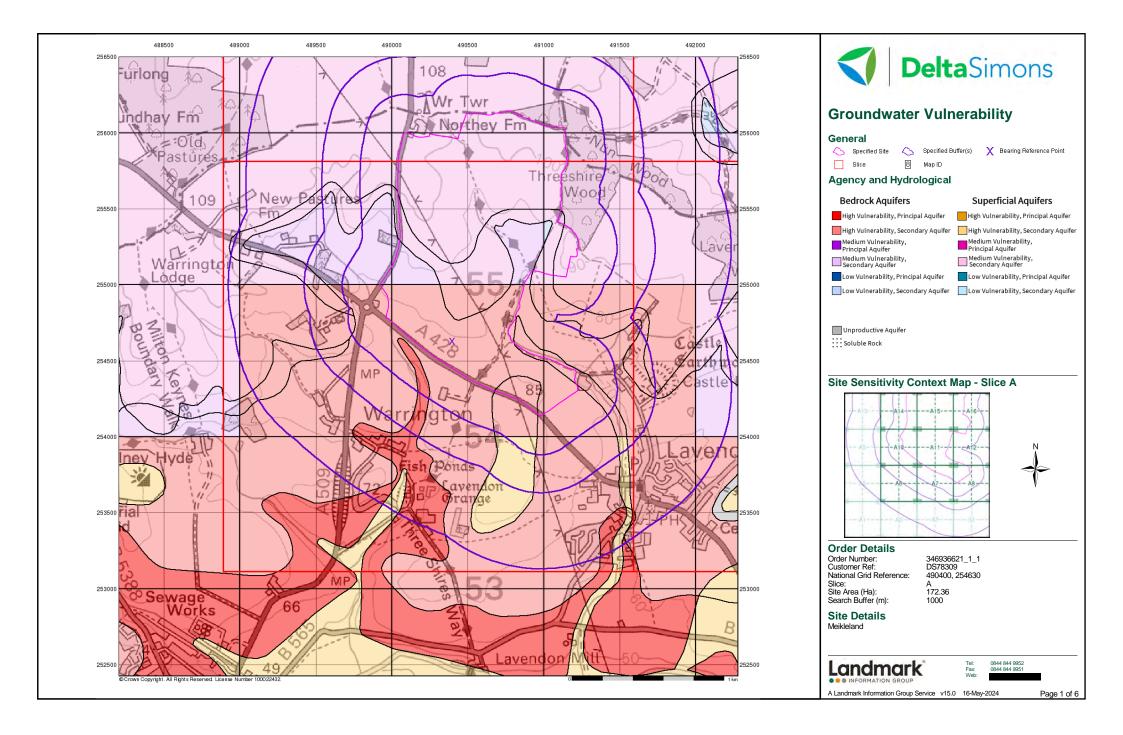
Site at, Grendon, Northamptonshire

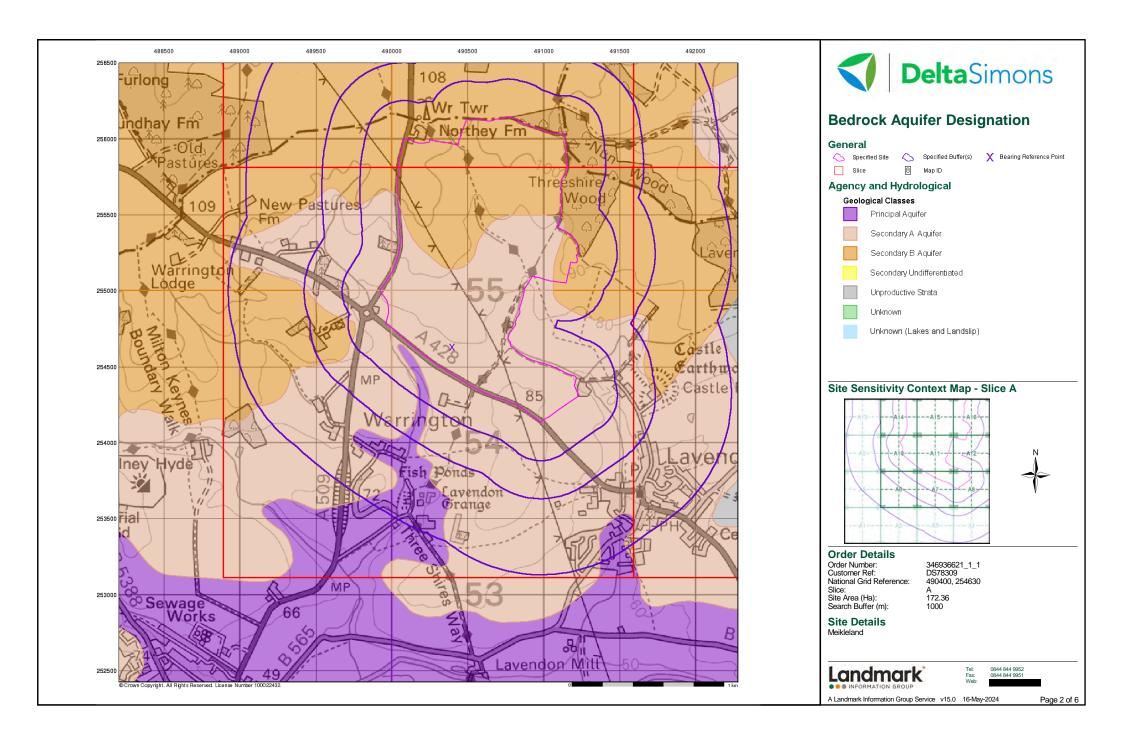
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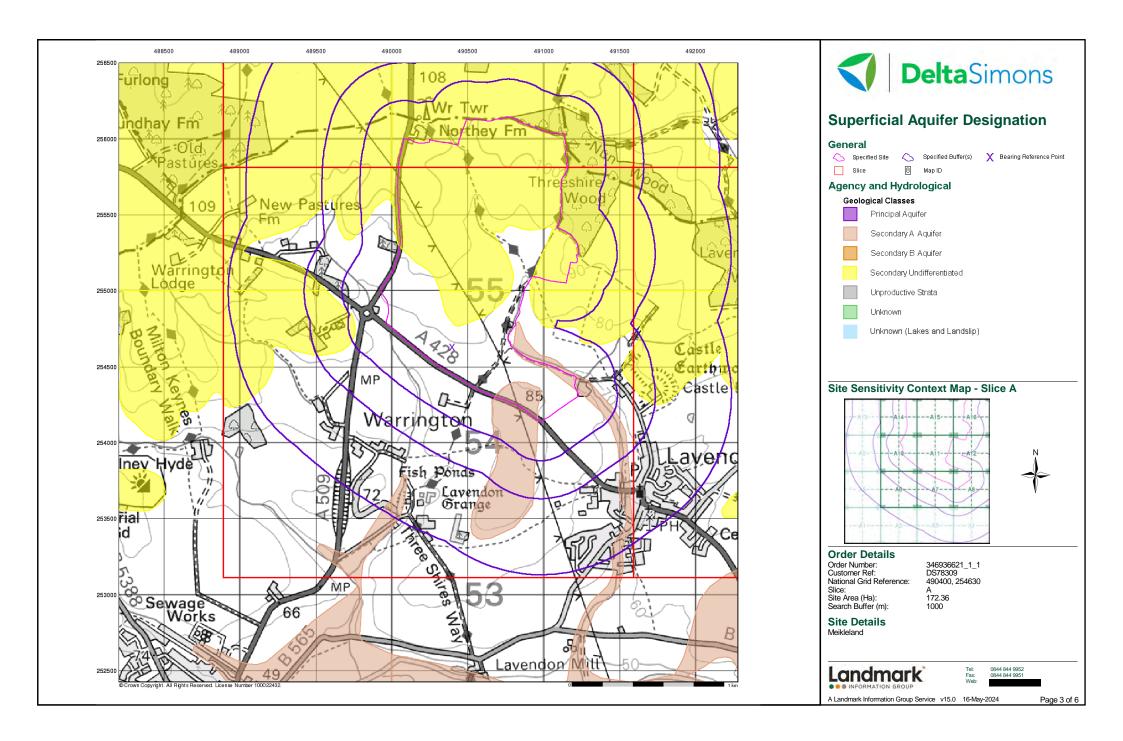


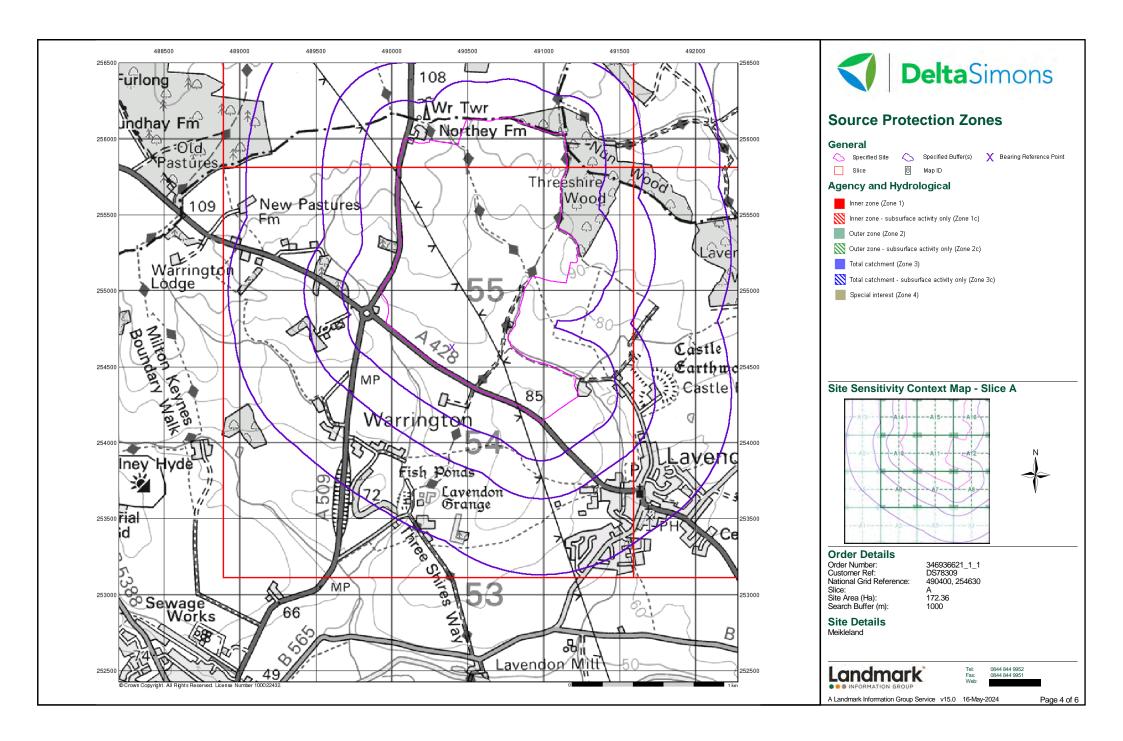
0844 844 9952 0844 844 9951

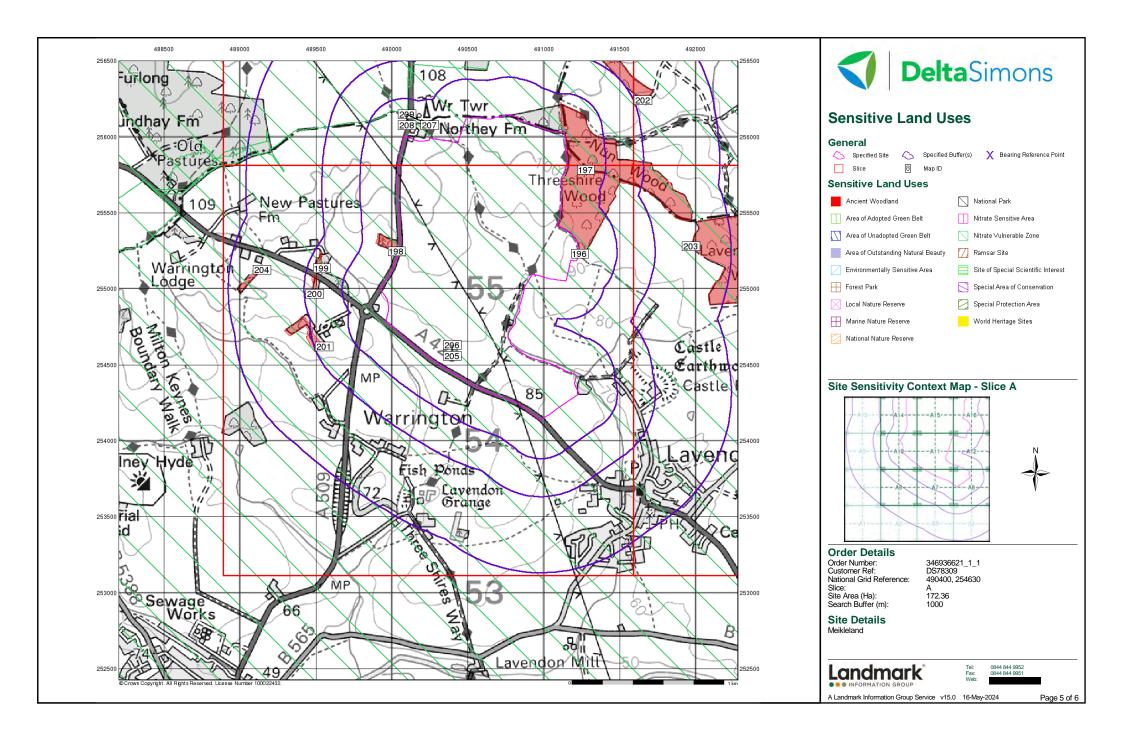
A Landmark Information Group Service v50.0 15-Nov-2023 Page 1 of 1

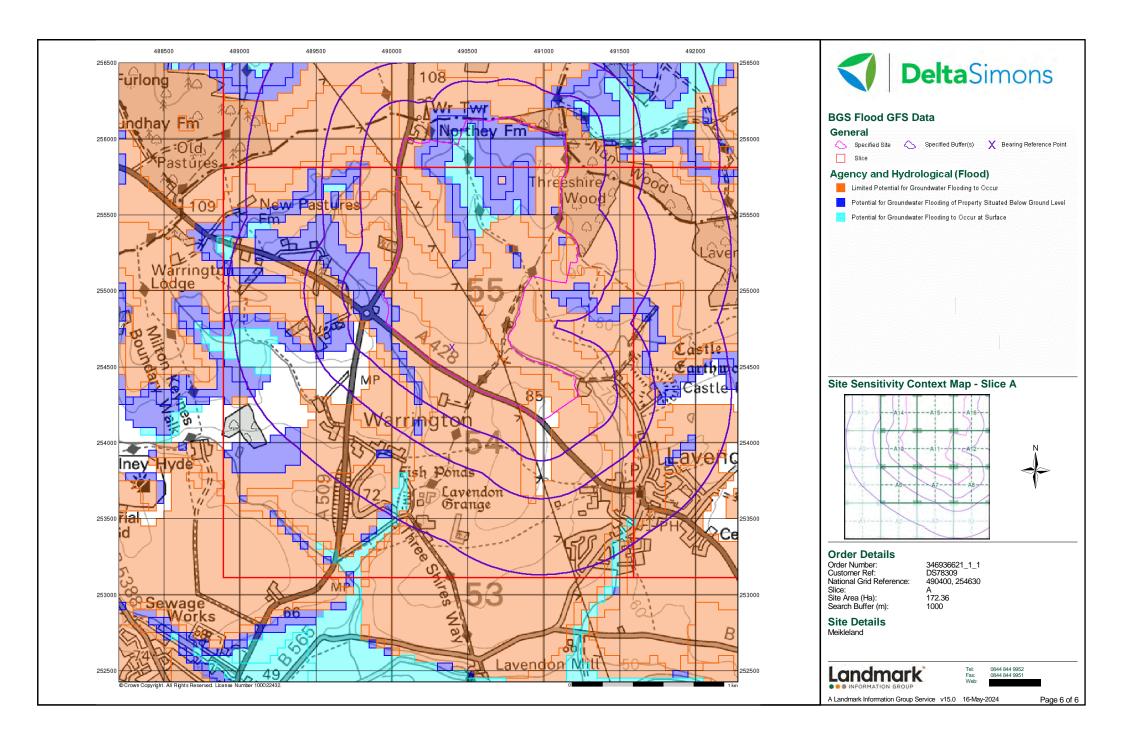














Envirocheck® Report:

Datasheet

Order Details:

Order Number:

346936621_1_1

Customer Reference:

DS78309

National Grid Reference:

490400, 254630

Slice:

Α

Site Area (Ha):

172.36

Search Buffer (m):

1000

Site Details:

Meikleland

Client Details:

Delta Simons
Suite 4A
One Portland Street
Manchester
M1 3BE







Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	34
Hazardous Substances	-
Geological	35
Industrial Land Use	42
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Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.

For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0





Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 5		3	2	9
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 9		1		1
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 9	Yes			
Pollution Incidents to Controlled Waters					
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 9			1	(*2)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 10	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk	pg 14	8	n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 15	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 15	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 15	Yes		n/a	n/a
Flooding from Rivers or Sea without Defences	pg 15	Yes		n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 15	38	33	26	65



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 34	3	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)					
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					





Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 35	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 35	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 37		1		
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 37	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 37	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 38	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 39	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 39	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 40	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 42		3	1	8
Fuel Station Entries	pg 43		1		1
Points of Interest - Commercial Services	pg 43		3		3
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 43				6
Points of Interest - Public Infrastructure	pg 44		6		2
Points of Interest - Recreational and Environmental					
Gas Pipelines					
Underground Electrical Cables					



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 45	2	1	3	3
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 45	2	3		
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NW (NE)	0	1	491000 255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (N)	0	1	490400 255350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A15SW (N)	0	1	490550 255350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SE (NE)	0	1	490750 255250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16SW (NE)	0	1	491100 255300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A16SW (NE)	0	1	491150 255300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SE)	0	1	490950 254350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NW (N)	0	1	490500 255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NE (N)	0	1	490650 255600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A16NW (NE)	0	1	490950 255500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A16NW (NE)	0	1	491050 255500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NW (N)	0	1	490250 255750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10SE (W)	0	1	490000 254628
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10SE (NW)	0	1	490050 254800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (N)	0	1	490395 255450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NE (N)	0	1	490200 255800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A15SW (N)	0	1	490395 255150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A15SW (N)	0	1	490300 255200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (N)	0	1	490500 255200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	0	1	490900 256050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SW (N)	0	1	490400 255150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15SE (NE)	0	1	490800 255150



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility	A 1 2 N I A /	0	1	401150
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NW (NE)	0	1	491150 255100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NE (N)	0	1	490100 255500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A15NE	0	1	490800
	BGS Groundwater Flooding Susceptibility	(NE)			255500
	Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NE (N)	0	1	490650 255500
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A10NE	0	1	490000
	BGS Groundwater Flooding Susceptibility	(NW)	-		255000
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A10NE (NW)	0	1	490100 255000
	BGS Groundwater Flooding Susceptibility	(1447)			233000
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A10NE (NW)	0	1	490000 254950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SW	0	1	490250
	BGS Groundwater Flooding Susceptibility	(W)			254628
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7NE (SE)	0	1	490900 254350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NW	0	1	490350
		(N)	U	-	255700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A15NW	0	1	490395
	BGS Groundwater Flooding Susceptibility	(N)			255700
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A15NE (N)	0	1	490700 255700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11NW	0	1	490395
	BGS Groundwater Flooding Susceptibility	(N)			255000
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SW (SW)	0	1	490395 254628
	BGS Groundwater Flooding Susceptibility	, ,			
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A11SE (NE)	0	1	490600 254750
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NW (NE)	0	1	491050 255000
	BGS Groundwater Flooding Susceptibility	(INL)			233000
	Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10NW (NW)	23	1	489900 255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	31	1	490050
		(11)	01	· ·	256000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SE (NW)	32	1	490000 255200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A9NE	39	1	489400
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W)	აშ	1	255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SE (NW)	40	1	490000 255400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10SE	45	1	490100



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	48	1	490000 255850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NW (NE)	51	1	491200 255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NW (NE)	52	1	491050 254950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SW (E)	64	1	490950 254800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A10SW	71	1	489900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10SE	90	1	254700 490100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W) A10SE	97	1	254550 490150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW) A12NW	102	1	254500 491150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(E) (NE)	109	1	254850 491250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A10SW	111	1	256000 489850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W) A10SE	114	1	254750 490000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W) (NE)	116	1	254600 491150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NE)	117	1	256150 491250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A10SE	122	1	256050 490050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W) (NE)	133	1	254550 491250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NE)	133	1	256100 491200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	139	1	256150 491000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A6NE	149	1	490200 254400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	156	1	254400 491050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(NE)	159	1	491300 450000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE	161	1	256000 491300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(E) A10SW (W)	162	1	254950 489800 254800



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(NE)	163	1	491250 256150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A6NE (SW)	167	1	490100 254450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A10SE (W)	184	1	490000 254500
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NW)	190	1	489850 255600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NW)	193	1	489850 255800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A6NE	200	1	490100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	203	1	254400 491350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	207	1	255950 490700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A10SW (W)	211	1	256350 489750 254650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A10NW (NW)	223	1	489700 255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NW)	239	1	489800 255700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW	242	1	489750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW)	253	1	255650 491400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE	270	1	255950 491450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW	290	1	255000 489750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW)	302	1	255600 491450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(N)	309	1	255950 490000 256300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A10NW (W)	323	1	256300 489600 254850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A14NW (NW)	339	1	489700 255650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW	340	1	489700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW) A14NW	341	1	255600 489700 255750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW)	344	1	255750 491500 255850



Map ID	Details		Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situation	ated Below Ground Level	(NE)	347	1	491500 255900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situation	ated Below Ground Level	A10SW (W)	355	1	489600 254650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situation	ated Below Ground Level	A6NE (S)	360	1	490200 254150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur		A9NE (NW)	373	1	489550 255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situation	ated Below Ground Level	A9NE (W)	385	1	489550 254850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situation	ated Below Ground Level	A14NW (NW)	390	1	489650 255550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur		(NE)	394	1	491550 255850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur		A9SE (W)	401	1	489550 254700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situation	ated Below Ground Level	(E)	436	1	491650 254600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situation	ated Below Ground Level	A9SE (W)	451	1	489550 254600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situation	ated Below Ground Level	(E)	469	1	491700 254400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur		A9NE (W)	473	1	489450 254950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur		A6NW (SW)	473	1	489800 254300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur		A9SE (W)	475	1	489450 254800
1	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Discharge Type: Discharge Environment: Receiving Water: Status: Domestic Property (Single) Lomestic Property (Single) Location: Lomestic Property (Single) Location: L		A8NW (E)	36	2	491244 254395



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Discharge Consents	s				
2	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status:	Domestic Property (Single) Environment Agency, Anglian Region Upper River Ouse Newport-Bedford Pr1nf1395 1 31st May 1983 31st May 1983 6th February 1992 Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Lavendon Brook (Trib) River Gr Pre National Rivers Authority Legislation where issue date < 01/09/1989	A8NE (E)	68	2	491300 254300
	Positional Accuracy:	Located by supplier to within 100m				
3	-	Elfakir Services Ltd SHOP INCL GARDEN CENTRE/RETAIL TRADE(NOT MOTOR VEHICLE) Warrington Crossroads Services Warrington, Olney, Buckinghamshire, Mk46 4jq Environment Agency, Anglian Region Upper River Ouse Newport-Bedford Prcnf04361 1 26th July 1991 26th July 1991 Not Supplied Discharge Of Other Matter-Surface Water Freshwater Stream/River Tributary Of The River Ouse Post National Rivers Authority Legislation where issue date > 31/08/1989 Located by supplier to within 100m	A10NW (W)	93	2	489880 254840
4	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Type: Status: Positional Accuracy:	Not Supplied Environment Agency, Anglian Region Not Supplied Prclf01567 1 8th August 1989 8th August 1989 1st October 1996 Unknown Land/Soakaway Land Post National Rivers Authority Legislation where issue date > 31/08/1989 Located by supplier to within 10m	A8NE (E)	262	2	491490 254360
5	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Environment Agency, Anglian Region Not Given Prcnf05479 1 26th May 1995 26th May 1995 Not Supplied Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Unnamed Drainage Ditch Post National Rivers Authority Legislation where issue date > 31/08/1989 Located by supplier to within 100m	A10SW (W)	374	2	489590 254740



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Environment Agency, Anglian Region Not Supplied Prclf03905 1 5th November 1990 5th November 1990 1st October 1996 Sewage Discharges - Final/Treated Effluent - Not Water Company Not Supplied Not Supplied Post National Rivers Authority Legislation where issue date > 31/08/1989 Located by supplier to within 10m	A8SE (SE)	555	2	491500 253820
7	1	WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Environment Agency, Anglian Region Upper River Ouse Newport-Bedford Pronf02494 2 3rd February 1992 3rd February 1992 Not Supplied Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Trib River Gt Ouse Post National Rivers Authority Legislation where issue date > 31/08/1989 Located by supplier to within 100m	A6SW (SW)	714	2	489900 253920
7	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Environment Agency, Anglian Region Upper River Ouse Newport-Bedford Prcnf02494 1 26th April 1990 26th April 1990 2nd February 1992 Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Trib River Great Ouse Post National Rivers Authority Legislation where issue date > 31/08/1989 Located by supplier to within 10m	A6SW (SW)	714	2	489900 253920
8	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Screencode Ltd T/A Bacchus WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Then Barn, Warrington House Farm, Olney, Bucks, Mk46 4hn Environment Agency, Anglian Region Catchment 33 Unknown Detail Pronf14275 1 13th October 1999 9th May 2000 Not Supplied Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Trib Of Gt. Ouse Consent without application (Water Resources Act 1991, Schedule 10) Located by supplier to within 10m	A6SW (SW)	715	2	489700 254070



Map ID	Details		Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	Discharge Consent Operator:	s S G Pibworth & Son	A6SW	789	2	489800
9	Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status:	FARMS (NOT HOUSE)/CROP + ANIMAL REARING/PLANT NURSERY Home Farm, Warrington, Bucks., Wa4 2tq Environment Agency, Anglian Region Not Supplied Pr1nfg0961 1 29th May 1963 29th May 1963 20th February 1991 Agricultural effluents Freshwater Stream/River Unknown Trib. Pre National Rivers Authority Legislation where issue date < 01/09/1989 Located by supplier to within 100m	(SW)	769	2	253900
40	Discharge Consent	s	400141	040	6	400700
10	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy: Discharge Consent	Arable Farming Environment Agency, Anglian Region Catchment 29 Unknown Detail Gwclf30736 1 1st April 1999 3rd August 2000 Not Supplied Trade Discharge - Agricultural And Surface Onto Land Groundwater Deemed Groundwater Regulations Authorisation Located by supplier to within 10m	A6SW (SW)	819	2	489720 253920
11	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status:	WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Environment Agency, Anglian Region Upper River Ouse Newport-Bedford Prcnf14636 1 17th December 2001 18th December 2001 Not Supplied Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Trib Of River Great Ouse New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)	A2NE (S)	881	2	490100 253600
	Positional Accuracy:	Located by supplier to within 100m				
12	Discharge Consent Operator:	s Anglian Water Services Limited	A4SE	898	2	491500
	Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status:	STÖRM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) S.W.S.S At Lavendon Olney Road, Lavendon, Olney, Mk46 4et Environment Agency, Anglian Region Upper River Ouse Newport-Bedford Aw1nf1024 1 13th October 1972 13th October 1972 23rd December 2016 Discharge Of Other Matter-Surface Water Freshwater Stream/River Lavendon Brook Surrendered under EPR 2010 Located by supplier to within 100m	(SE)			253400

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Discharge Consent Operator: Property Type: Location:	S Domestic Property (Single)	A13NW (NW)	1000	2	489044 255515
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, Anglian Region Upper River Ouse Newport-Bedford Npswqd004326 1				
	Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment:	26th September 2008 26th September 2008 Not Supplied Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River				
	Receiving Water: Status: Positional Accuracy:	Trib Of The River Great Ouse New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m				
	Local Authority Pol	lution Prevention and Controls				
14	Name: Location: Authority: Permit Reference: Dated: Process Type: Description: Status:	BpThree Counties Filling Station Warrington Road, OLNEY, Buckinghamshire, MK46 4DT Milton Keynes Council, Environmental Health Department PPC/VPR/009/01.10 Not Supplied Local Authority Air Pollution Control PG1/14 Petrol filling station Authorised	A10NE (NW)	64	3	489914 254869
	1	Automatically positioned to the address				
15	Local Authority Pol Name: Location: Authority: Permit Reference:	Jution Prevention and Controls Janlin Motors Northampton Road, Warrington, OLNEY, MK46 4HW Milton Keynes Council, Environmental Health Department Vpr 038	A13SW (NW)	920	3	489037 255248
	Dated: Process Type: Description: Status:	Not Supplied Local Authority Air Pollution Control PG1/14 Petrol filling station Authorised				
	Nearest Surface Wa	Manually positioned to the address or location				
			A15NW (N)	0	-	490562 255501
16	Water Abstractions Operator: Licence Number: Permit Version: Location:	The Secretary To Mr S C F 6/33/11/*g/126 Not Supplied	A8NE (E)	305	2	491520 254430
	Authority: Abstraction: Abstraction Type: Source:	Environment Agency, Anglian Region Domestic & Agriculture Not Supplied Well And Borehole				
	Daily Rate (m3): Yearly Rate (m3): Details: Authorised Start: Authorised End:	5 18180 Great Oolite; Status: Revoked Not Supplied Not Supplied				
	Permit Start Date: Permit End Date: Positional Accuracy:	Not Supplied Not Supplied Located by supplier to within 10m				
	Water Abstractions					
	Operator: Licence Number: Permit Version: Location: Authority: Abstraction:	A J Cony & Partners 6/33/11/*G/0036 101 Lagoon At Olney Environment Agency, Anglian Region General Agriculture: Spray Irrigation - Direct	(S)	1702	2	490500 252500
	Abstraction Type: Source: Daily Rate (m3): Yearly Rate (m3): Details: Authorised Start:	Water may be abstracted from a single point Groundwater Not Supplied Not Supplied Not Supplied 01 May				
	Authorised End: Permit Start Date: Permit End Date: Positional Accuracy:	30 September 1st March 2008 Not Supplied Located by supplier to within 100m				



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions					
	Operator: Licence Number: Permit Version: Location: Authority: Abstraction: Abstraction Type: Source: Daily Rate (m3): Yearly Rate (m3):	A J Cony 6/33/11/*G/0036 100 Environment Agency, Anglian Region General Agriculture: Spray Irrigation - Direct Water may be abstracted from a single point Groundwater Not Supplied Not Supplied	(S)	1702	2	490500 252500
	Details: Authorised Start: Authorised End: Permit Start Date: Permit End Date: Positional Accuracy:	Great Oolite; Status: Perpetuity 01 May 30 September 1st May 1978 Not Supplied Located by supplier to within 10m				
	Groundwater Vulne	erability Map				
	Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial	Secondary Bedrock Aquifer - High Vulnerability High Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year 40-70% <90%	A10SE (W)	0	4	490000 254628
	Patchiness: Superficial Thickness: Superficial Recharge:	3-10m No Data				
	_	wahilitu Man				
	Groundwater Vulne Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge: Groundwater Vulne	Secondary Bedrock Aquifer - High Vulnerability High Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year 40-70% <90% <3m No Data	A11SW (SW)	0	4	490395 254628
	Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	Secondary Bedrock Aquifer - High Vulnerability High Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year 40-70% <90% <3m Low	A12SW (E)	0	4	491000 254497



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Bedrock Aquifer - Medium Vulnerability	A10NE (NW)	0	4	490000 255000
	Combined Vulnerability:	Medium	(1444)			255000
	Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index:	Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year 40-70% <90%				
	Superficial Patchiness:					
	Superficial Thickness:	>10m				
	Superficial Recharge:	Low				
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Bedrock Aquifer - Medium Vulnerability	A11NW (N)	0	4	490317 255000
	Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow:	Medium Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures				
	Dilution: Baseflow Index: Superficial Patchiness:	<300 mm/year <40% <90%				
	Superficial Thickness:	3-10m				
	Superficial Recharge:	Low				
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Bedrock Aquifer - Medium Vulnerability	A11NE (NE)	0	4	490781 255000
	Combined Vulnerability: Combined Aquifer:	Medium Productive Redrock Aguifer, No Superficial Aguifer.				
	Pollutant Speed: Bedrock Flow: Dilution:	Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year				
	Baseflow Index: Superficial Patchiness:	<40% <90%				
	Superficial Thickness: Superficial	3-10m Low				
	Recharge:	LOW				
	Groundwater Vulne					
	Combined Classification:	Secondary Bedrock Aquifer - Low Vulnerability	A16SW (NE)	0	4	491000 255261
	Combined Vulnerability:	Low				
	Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution:	Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year				
	Baseflow Index: Superficial Patchiness:	<40% >90%				
	Superficial Thickness: Superficial	>10m Low				
	Recharge:					



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne					
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	(N)	0	4	490395 256000
	Combined Vulnerability:	Medium				
	Combined Aquifer: Pollutant Speed:	Productive Bedrock Aquifer, Productive Superficial Aquifer Low				
	Bedrock Flow:	Mixed				
	Dilution: Baseflow Index:	<300 mm/year 40-70%				
	Superficial	40-70% >90%				
	Patchiness:					
	Superficial Thickness:	>10m				
	Superficial	Low				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	(NE)	0	4	491000
	Classification: Combined	Medium				256000
	Vulnerability:	Mediaiii				
	Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed: Bedrock Flow:	Intermediate Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index:	<40%				
	Superficial Patchiness:	>90%				
	Superficial	>10m				
	Thickness:					
	Superficial Recharge:	Low				
	Groundwater Vulne	erability Map				
	Combined	Secondary Bedrock Aquifer - High Vulnerability	A11SW	0	4	490440
	Classification:	Joseph Land Control Co	(N)		·	254766
	Combined	High				
	Vulnerability: Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow: Dilution:	Well Connected Fractures				
	Baseflow Index:	<300 mm/year 40-70%				
	Superficial	<90%				
	Patchiness:	0				
	Superficial Thickness:	<3m				
	Superficial	No Data				
	Recharge:					
	Groundwater Vulne	• •				
	Combined Classification:	Secondary Bedrock Aquifer - High Vulnerability	A7NE (SE)	0	4	490695 254323
	Combined	High	(SL)			204323
	Vulnerability:	-				
	Combined Aquifer: Pollutant Speed:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index: Superficial	40-70% <90%				
	Patchiness:	NO 70				
	Superficial	<3m				
	Thickness:	No Data				
	Superficial Recharge:	No Data				



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Bedrock Aquifer - High Vulnerability	A11SE (E)	0	4	490802 254638
	Combined Vulnerability:	High				
	Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year 40-70% <90%				
	Superficial Thickness: Superficial	<3m No Data				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined Classification: Combined	Secondary Bedrock Aquifer - High Vulnerability High	A12SW (E)	0	4	491000 254570
	Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures				
	Dilution: Baseflow Index: Superficial Patchiness:	<300 mm/year 40-70% <90%				
	Superficial Thickness:	<3m				
	Superficial Recharge:	Low				
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	A11NW (N)	0	4	490395 255000
	Combined Vulnerability:	Medium				
	Combined Aquifer: Pollutant Speed: Bedrock Flow:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures				
	Dilution: Baseflow Index: Superficial	<300 mm/year <40% <90%				
	Patchiness: Superficial Thickness:	3-10m				
	Superficial Recharge:	Low				
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	A11NE (NE)	0	4	490912 255000
	Combined Vulnerability: Combined Aquifer:	Medium Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed: Bedrock Flow: Dilution:	Intermediate Well Connected Fractures <300 mm/year				
	Baseflow Index: Superficial Patchiness:	<40% <90%				
	Superficial Thickness:	3-10m				
	Superficial Recharge:	Low				



/lap ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map					
	Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution:	Secondary Superficial Aquifer - Medium Vulnerability Medium Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year	A15SW (N)	0	4	490385 255140
	Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	<40% <90% 3-10m Low				
	Groundwater Vulne	erability Map				
	Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	Secondary Superficial Aquifer - Medium Vulnerability Medium Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year <40% >90% >10m Low	A12NW (NE)	0	4	491000 255000
	Groundwater Vulne	erability Map				
	Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	Secondary Superficial Aquifer - Medium Vulnerability Medium Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year <40% >90% >10m Low	A12NW (NE)	0	4	491063 255000
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Low Possibility	(NE)	0	4	491000 256000
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Problems Unlikely	(N)	0	4	490395 256000
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Low Possibility	A10NE (NW)	0	4	490000 255000
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Low Possibility	A11NW (N)	0	4	490395 255000
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Low Possibility	A12NW (NE)	0	4	491000 255000
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Low Possibility	A10SE (W)	0	4	490000 254628
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Low Possibility	A11SW (SW)	0	4	490395 254628
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Low Possibility	A12SW (E)	0	4	491000 254628



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A10SE (W)	0	4	490000 254628
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A11SW (SW)	0	4	490395 254628
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A10NE (NW)	0	4	490000 255000
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A11NW (N)	0	4	490395 255000
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A15SW (N)	0	4	490385 255140
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A11SW (N)	0	4	490440 254766
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A11NW (N)	0	4	490395 255000
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A7NE (SE)	0	4	490695 254323
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A11SE (E)	0	4	490802 254638
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A8NW (E)	0	2	491191 254451
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A6SE (SW)	0	2	490001 253925
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
17	Water Network Lines Watercourse Form: Inland river Watercourse Length: 448.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15NW (N)	0	5	490562 255501
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 83.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A14NE (N)	0	5	490040 255620
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 316.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A14NE (N)	0	5	490039 255708



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	0	5	490793 254745
	OS Water Network Lines				
21	Watercourse Form: Inland river Watercourse Length: 3.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	0	5	490796 254748
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	0	5	490791 254755
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	0	5	490787 254757
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	0	5	490767 254766
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	0	5	490763 254768
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	0	5	490752 254774
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (NE)	0	5	490744 254776
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 242.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	0	5	490815 254775



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11NW (NE)	0	5	490525 254886
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11NE (NE)	0	5	490867 255006
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11NE (NE)	0	5	490872 255010
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11NE (NE)	0	5	490868 255013
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 262.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11NE (NE)	0	5	490868 255014
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11NE (NE)	0	5	490850 255022
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11NE (NE)	0	5	490844 255025
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 474.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11NE (NE)	0	5	490612 255122
37	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 88.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15SE (NE)	0	5	490794 255255



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 261.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15SE (NE)	0	5	490794 255255
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 188.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15SW (N)	0	5	490453 255278
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15SE (NE)	0	5	490781 255342
41	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 273.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15SE (NE)	0	5	490782 255348
42	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11NE (NE)	0	5	490867 255006
43	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15SE (N)	0	5	490589 255409
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15SW (N)	0	5	490576 255428
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 69.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15SW (N)	0	5	490575 255433
46	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 208.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A15SW (N)	0	5	490354 255475



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 105.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SW (SW)	0	5	490241 254551
	OS Water Network Lines				
48	Watercourse Form: Inland river Watercourse Length: 175.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A7NW (S)	0	5	490405 254444
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	0	5	490766 254682
50	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 737.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A7NE (SE)	0	5	490782 254262
51	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 357.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	0	5	490784 254639
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 78.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SW (E)	0	5	491102 254483
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SW (E)	0	5	491165 254467
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NW (E)	0	5	491171 254446
55	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 512.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A16NE (NE)	1	5	491278 255783



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	1	5	490798 254751
	OS Water Network Lines				
57	Watercourse Form: Inland river Watercourse Length: 4.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	1	5	490815 254775
58	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10SE (W)	1	5	490159 254617
59	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10SE (W)	1	5	490159 254617
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 183.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SW (SW)	1	5	490314 254501
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	1	5	490781 254643
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SW (E)	1	5	491097 254486
63	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SW (SW)	2	5	490246 254548
64	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A7NW (S)	2	5	490400 254447



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
65	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A7NW (SE)	2	5	490555 254353
66	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 236.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A7NW (SE)	2	5	490563 254349
67	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NW (E)	3	5	491218 254425
68	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 36.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A11SE (E)	4	5	490818 254777
69	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 188.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SW (E)	16	5	491153 254546
70	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 313.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10SE (W)	38	5	490064 254545
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NE (E)	66	5	491280 254412
72	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NE (E)	66	5	491280 254412
73	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 384.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NE (E)	68	5	491279 254404



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NE (E)	69	5	491283 254415
75	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 28.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10NW (W)	69	5	489900 254824
76	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 75.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10NW (W)	69	5	489900 254824
77	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 82.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NE (E)	82	5	491297 254434
78	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 40.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10NW (NW)	108	5	489868 254887
79	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 438.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10NW (NW)	108	5	489833 254928
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10NW (NW)	113	5	489834 254924
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10NW (NW)	115	5	489838 254914
82	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10SE (W)	116	5	490067 254541



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 757.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A10SE (SW)	118	5	490114 254475
84	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SE (E)	152	5	491349 254498
85	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 25.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SE (E)	165	5	491358 254508
86	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SE (E)	189	5	491376 254526
87	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 299.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SE (E)	196	5	491380 254531
88	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 223.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A14NW (NW)	257	5	489635 255615
89	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NE (E)	322	5	491555 254305
90	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NE (E)	326	5	491559 254301
91	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NE (E)	329	5	491562 254297



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8SE (SE)	337	5	491496 254099
93	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8SE (SE)	344	5	491497 254089
94	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NE (E)	352	5	491583 254275
95	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8SE (SE)	356	5	491493 254066
96	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8NE (E)	357	5	491588 254271
97	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 271.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8SE (SE)	359	5	491491 254059
98	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 134.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A14NW (NW)	405	5	489609 255483
99	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A14NW (NW)	405	5	489635 255614
100	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SE (E)	406	5	491557 254647



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SE (E)	406	5	491557 254647
	OS Water Network Lines				
102	Watercourse Form: Inland river Watercourse Length: 3.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A14NW (NW)	408	5	489632 255616
103	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 310.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A12SE (E)	409	5	491559 254649
104	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 92.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A14NW (NW)	411	5	489629 255618
105	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A14NW (NW)	439	5	489608 255480
106	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 249.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	441	5	489552 255248
107	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	443	5	489553 255242
108	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	443	5	489553 255242
109	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	445	5	489552 255244



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	448	5	489548 255243
111	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	466	5	489529 255247
112	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: Underground Permanent: True Watercourse Name: Catchment Name: Catchment Name: Primacy: 1	A13SE (NW)	478	5	489523 255259
113	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	478	5	489523 255259
114	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	505	5	489512 255293
115	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 171.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	507	5	489492 255266
116	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 15.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	507	5	489492 255266
117	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	520	5	489500 255301
118	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	523	5	489480 255276



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 112.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	532	5	489490 255308
120	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 98.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	569	5	489421 255264
121	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8SE (SE)	588	5	491525 253797
122	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A8SE (SE)	592	5	491522 253790
123	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 68.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A4NE (SE)	595	5	491523 253788
124	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A5NE (W)	637	5	489554 254294
125	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 14.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	640	5	489413 255389
126	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SE (SW)	652	5	490068 253887
127	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 199.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A4NE (SE)	653	5	491527 253719



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 163.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A4NE (SE)	653	5	491527 253719
	OS Water Network Lines				
129	Watercourse Form: Inland river Watercourse Length: 37.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	656	5	489322 255262
130	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SE (SW)	660	5	490050 253889
131	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SE (SW)	660	5	490050 253889
132	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SE (SW)	660	5	490054 253887
133	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SE (SW)	660	5	490064 253880
134	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 136.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SE (SW)	662	5	490041 253892
135	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 2	A6SE (SW)	662	5	490041 253892
136	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 2	A6SE (SW)	670	5	490045 253881



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 166.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 2	A6SE (SW)	672	5	490046 253877
	OS Water Network Lines				
138	Watercourse Form: Inland river Watercourse Length: 119.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SE (SW)	673	5	490074 253858
139	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 39.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A5NE (SW)	680	5	489540 254252
140	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	691	5	489285 255262
141	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	691	5	489285 255262
142	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	694	5	489276 255247
143	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A5NE (SW)	701	5	489553 254214
144	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SE (SW)	701	5	489911 253929
145	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A5NE (SW)	710	5	489562 254194



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 87.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A5NE (SW)	710	5	489559 254199
	OS Water Network Lines				
147	Watercourse Form: Inland river Watercourse Length: 553.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	712	5	489255 255244
148	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 914.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A5NE (SW)	714	5	489481 254227
149	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 84.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A5NE (SW)	714	5	489563 254190
150	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 25.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	714	5	489728 254047
151	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 42.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	714	5	489752 254023
152	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 60.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	715	5	489708 254062
153	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 85.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	720	5	489861 253941
154	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	721	5	489757 254016



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
155	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	724	5	489657 254092
156	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 24.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	727	5	489651 254094
157	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	731	5	489778 253986
158	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	731	5	489786 253982
159	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	733	5	489257 255304
160	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A5NE (SW)	735	5	489484 254226
161	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 81.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A13SE (NW)	737	5	489254 255308
162	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	741	5	489627 254095
163	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 29.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	742	5	489623 254097



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
164	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A6SW (SW)	746	Contact 5 5 5 5 5 5 5 5 5	489598 254113
	OS Water Network Lines				
165	Watercourse Form: Inland river Watercourse Length: 29.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A2NE (S)	760	5	490099 253741
166	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 278.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A3NW (S)	781	5	490458 253552
167	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 121.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A2NE (S)	787	5	490082 253720
168	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A4NE (SE)	833	5	491570 253531
169	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 128.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A4NE (SE)	839	5	491567 253521
170	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 32.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 2	A2NE (S)	879	5	490048 253633
171	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 53.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A2NE (S)	879	5	490048 253633
172	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 111.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A2NE (S)	907	5	490046 253601



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
173	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A4SE (SE)	918	5	491512 253384
174	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A4SE (SE)	918	5	491512 253384
175	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A4SE (SE)	923	5	491542 253400
176	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 731.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A4SE (SE)	928	5	491501 253365
177	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A2NE (S)	989	5	490054 253502
178	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 25.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	A2NE (S)	992	5	490055 253498





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Lan	dfill Coverage				
	Name:	Milton Keynes Unitary Council - Has supplied landfill data		0	6	490395 254628
	Local Authority Lan	dfill Coverage				
	Name:	Bedford Borough Council - Has supplied landfill data		0	8	491278 255783
	Local Authority Lan	dfill Coverage				
	Name:	Bedfordshire County Council - Has no landfill data to supply		0	7	491278 255783

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Description:	d Geology Kellaways Formation And Oxford Clay Formation (Undifferentiated)	A6NW	0	1	489860
	BGS 1:625,000 Solid	d Geology	(W)			254452
	Description:	Great Oolite Group	A11SW (SW)	0	1	490395 254628
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg <1.8 mg/kg 90 - 120 mg/kg	A11SE (E)	0	1	490802 254638
	Concentration: Lead Concentration: Nickel Concentration:					
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg	A11SW (SW)	0	1	490395 254628
	Chromium Concentration: Lead Concentration: Nickel Concentration:	90 - 120 mg/kg <100 mg/kg 30 - 45 mg/kg				
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg <1.8 mg/kg 60 - 90 mg/kg	A11SW (N)	0	1	490440 254766
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg <1.8 mg/kg 60 - 90 mg/kg <100 mg/kg 15 - 30 mg/kg	A7NE (SE)	0	1	490886 254277
	BGS Estimated Soil	-				
	Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg <1.8 mg/kg 60 - 90 mg/kg	A7NE (SE)	0	1	490695 254323
	Lead Concentration: Nickel Concentration:	<100 mg/kg 15 - 30 mg/kg				





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg	A12SW (E)	0	1	491000 254570
	Cadmium Concentration: Chromium	<1.8 mg/kg 60 - 90 mg/kg				
	Concentration: Lead Concentration:	<100 mg/kg				
	Nickel Concentration:	15 - 30 mg/kg				
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg	A10SE (SW)	34	1	490183 254506
	Cadmium Concentration:	<1.8 mg/kg				
	Chromium Concentration:	60 - 90 mg/kg				
	Lead Concentration: Nickel Concentration:	<100 mg/kg 15 - 30 mg/kg				
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg	A10SW (W)	118	1	489883 254679
	Concentration: Cadmium Concentration:	<1.8 mg/kg				
	Chromium Concentration:	60 - 90 mg/kg				
	Lead Concentration: Nickel Concentration:	15 - 30 mg/kg				
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg	A10SW (W)	279	1	489720 254645
	Concentration: Cadmium Concentration:	<1.8 mg/kg				
	Chromium Concentration:	60 - 90 mg/kg				
	Lead Concentration: Nickel Concentration:	<100 mg/kg 15 - 30 mg/kg				
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg	A4NE (SE)	813	1	491540 253534
	Cadmium Concentration:	<1.8 mg/kg				
	Chromium Concentration:	60 - 90 mg/kg				
	Lead Concentration: Nickel Concentration:	<100 mg/kg 30 - 45 mg/kg				
	BGS Estimated Soil	Chemistry				
	Source: Soil Sample Type: Arsenic	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg	A4NE (SE)	847	1	491581 253521
	Concentration: Cadmium	<1.8 mg/kg				
	Concentration: Chromium Concentration:	60 - 90 mg/kg				
	Lead Concentration: Nickel	<100 mg/kg 15 - 30 mg/kg				





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Source:	Chemistry British Geological Survey, National Geoscience Information Service	A9SW	923	1	489000
	Soil Sample Type: Arsenic Concentration:	Rural Soil 15 - 25 mg/kg	(W)		·	254628
	Cadmium Concentration: Chromium	<1.8 mg/kg 60 - 90 mg/kg				
	Concentration: Lead Concentration: Nickel					
	Concentration:	30 - 43 llig/kg				
	BGS Recorded Mine					
179	Site Name: Location: Source: Reference: Type: Status: Operator:	Lower Farm Pit Lavendon, Olney, Buckinghamshire British Geological Survey, National Geoscience Information Service 181197 Opencast Ceased Unknown Operator	A12SW (E)	54	1	491099 254543
	Operator Location: Periodic Type: Geology: Commodity: Positional Accuracy:	Not Supplied Jurassic Cornbrash Formation Limestone Located by supplier to within 10m				
	BGS Measured Urba	an Soil Chemistry				
	BGS Urban Soil Che	emistry Averages				
	No data available					
	Coal Mining Affecte In an area that might	not be affected by coal mining				
	Non Coal Mining Ar No Hazard	eas of Great Britain				
	Potential for Collap Hazard Potential: Source:	sible Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A11SE (E)	0	1	490758 254661
	Potential for Collap Hazard Potential: Source:	sible Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A10NE (NW)	0	1	490000 255000
	Potential for Collap Hazard Potential: Source:	sible Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	490395 255000
	-	sible Ground Stability Hazards	44005		,	400000
	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A10SE (W)	0	1	490000 254616
	Hazard Potential:	sible Ground Stability Hazards Very Low	A11SW	0	1	490395
	Source:	British Geological Survey, National Geoscience Information Service sible Ground Stability Hazards	(SW)			254628
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A10SE (W)	39	1	490000 254628
	Potential for Collap Hazard Potential: Source:	sible Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A6NE (SW)	69	1	490151 254448
	Potential for Collap Hazard Potential: Source:	sible Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A10NW (NW)	92	1	489846 254921
	Potential for Collap Hazard Potential: Source:	sible Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A10NW (NW)	98	1	489825 255000
	Potential for Collap Hazard Potential: Source:	sible Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A6NE (SW)	105	1	490133 254426
	Potential for Compr Hazard Potential:	ressible Ground Stability Hazards No Hazard	A11SW	0	1	490395
	Source:	British Geological Survey, National Geoscience Information Service	(SW)			254628





Map ID	Deta	ils	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Compressible Ground Stability Haz Hazard Potential: Moderate Source: British Geological Survey, Na	tards tional Geoscience Information Service	A11SE (E)	0	1	490758 254661
	Potential for Compressible Ground Stability Haz Hazard Potential: No Hazard Source: British Geological Survey, Na	trards	A10SE (W)	0	1	490000 254616
	Potential for Compressible Ground Stability Haz Hazard Potential: No Hazard Source: British Geological Survey, Na	tional Geoscience Information Service	A11NW (N)	0	1	490395 255000
	Potential for Compressible Ground Stability Haz Hazard Potential: No Hazard Source: British Geological Survey, Na	zards utional Geoscience Information Service	A10NE (NW)	0	1	490000 255000
	Potential for Compressible Ground Stability Haz Hazard Potential: Moderate Source: British Geological Survey, Na	tional Geoscience Information Service	A10SE (W)	39	1	490000 254628
	Potential for Compressible Ground Stability Haz Hazard Potential: Moderate Source: British Geological Survey, Na	tional Geoscience Information Service	A6NE (SW)	69	1	490151 254448
	Potential for Compressible Ground Stability Haz Hazard Potential: Moderate Source: British Geological Survey, Na	trards	A10NW (NW)	92	1	489846 254921
	Potential for Compressible Ground Stability Haz Hazard Potential: Moderate Source: British Geological Survey, Na	zards utional Geoscience Information Service	A10NW (NW)	98	1	489825 255000
	Potential for Compressible Ground Stability Haz Hazard Potential: No Hazard Source: British Geological Survey, Na	trands	A6NE (SW)	105	1	490133 254426
	Potential for Ground Dissolution Stability Hazard Hazard Potential: No Hazard Source: British Geological Survey, Na	ds tional Geoscience Information Service	A7NE (SE)	0	1	490688 254376
	Potential for Ground Dissolution Stability Hazar Hazard Potential: Very Low Source: British Geological Survey, Na	ds tional Geoscience Information Service	A10NE (NW)	0	1	490000 255000
	Potential for Ground Dissolution Stability Hazar Hazard Potential: Very Low Source: British Geological Survey, Na	ds tional Geoscience Information Service	A10NE (NW)	0	1	490170 255000
	Potential for Ground Dissolution Stability Hazar Hazard Potential: Very Low Source: British Geological Survey, Na	ds tional Geoscience Information Service	A11NE (NE)	0	1	490617 255000
	Potential for Ground Dissolution Stability Hazar Hazard Potential: Very Low Source: British Geological Survey, Na	ds tional Geoscience Information Service	A10SE (W)	0	1	490000 254553
	Potential for Ground Dissolution Stability Hazar Hazard Potential: Very Low Source: British Geological Survey, Na	ds tional Geoscience Information Service	A11SW (SW)	0	1	490395 254628
	Potential for Ground Dissolution Stability Hazar Hazard Potential: Low Source: British Geological Survey, Na	ds tional Geoscience Information Service	A7NE (SE)	0	1	490631 254389
	Potential for Ground Dissolution Stability Hazar Hazard Potential: Low Source: British Geological Survey, Na	ds tional Geoscience Information Service	A11NW (N)	0	1	490395 255000
	Potential for Ground Dissolution Stability Hazar Hazard Potential: Low Source: British Geological Survey, Na	ds tional Geoscience Information Service	A11SW (N)	0	1	490427 254745
	Potential for Ground Dissolution Stability Hazar Hazard Potential: Very Low Source: British Geological Survey, Na	ds tional Geoscience Information Service	A15SW (N)	0	1	490282 255183
	Potential for Ground Dissolution Stability Hazard Hazard Potential: No Hazard Source: British Geological Survey, Na	ds tional Geoscience Information Service	A8NW (E)	25	1	491239 254417
	Potential for Ground Dissolution Stability Hazar Hazard Potential: No Hazard Source: British Geological Survey, Na	ds ttional Geoscience Information Service	A10SE (W)	31	1	490000 254628

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Hazard Potential: Source:	I Dissolution Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A10SE (SW)	39	1	490188 254521
	Potential for Ground Hazard Potential: Source:	I Dissolution Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A9NE (NW)	39	1	489511 255000
	Potential for Ground Hazard Potential: Source:	I Dissolution Stability Hazards Low British Geological Survey, National Geoscience Information Service	A10NW (NW)	40	1	489724 255010
	Potential for Ground Hazard Potential: Source:	H Dissolution Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A12NW (NE)	52	1	490990 254885
	Potential for Ground Hazard Potential: Source:	I Dissolution Stability Hazards Low British Geological Survey, National Geoscience Information Service	A12NW (E)	53	1	490918 254812
	Potential for Ground Hazard Potential: Source:	I Dissolution Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A6NE (W)	95	1	489982 254463
	Potential for Ground Hazard Potential: Source:	I Dissolution Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A6NE (SW)	151	1	490055 254454
	Potential for Ground Hazard Potential: Source:	Dissolution Stability Hazards Low British Geological Survey, National Geoscience Information Service	A10NW (W)	177	1	489790 254831
	Potential for Landsli Hazard Potential: Source:	de Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A10NE (NW)	0	1	490000 255000
	Potential for Landsli Hazard Potential: Source:	ide Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	490395 255000
	Potential for Landsli Hazard Potential: Source:	ide Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A10SE (W)	0	1	490000 254628
	Potential for Landsli Hazard Potential: Source:	ide Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A11SW (SW)	0	1	490395 254628
	Potential for Runnin Hazard Potential: Source:	g Sand Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A10NE (NW)	0	1	490000 255000
	Potential for Runnin Hazard Potential: Source:	g Sand Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A10NE (NW)	0	1	490170 255000
	Potential for Runnin Hazard Potential: Source:	g Sand Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A11NE (NE)	0	1	490617 255000
	Potential for Runnin Hazard Potential: Source:	g Sand Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A10SE (W)	0	1	490000 254616
	Potential for Runnin Hazard Potential: Source:	g Sand Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	A11SW (SW)	0	1	490395 254628
	Potential for Runnin Hazard Potential: Source:	g Sand Ground Stability Hazards Low British Geological Survey, National Geoscience Information Service	A7NE (SE)	0	1	490839 254440
	Potential for Runnin Hazard Potential: Source:	g Sand Ground Stability Hazards Low British Geological Survey, National Geoscience Information Service	A11SE (E)	0	1	490758 254661
	Potential for Runnin Hazard Potential: Source:	g Sand Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A7NE (SE)	0	1	490631 254389
	Potential for Runnin Hazard Potential: Source:	g Sand Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	A11SW (N)	0	1	490427 254745

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Hazard Potential: Ve	Sand Ground Stability Hazards ery Low itish Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	490395 255000
	Hazard Potential: Lo	Sand Ground Stability Hazards w itish Geological Survey, National Geoscience Information Service	A10SE (W)	39	1	490000 254628
	Hazard Potential: Ve	Sand Ground Stability Hazards ery Low itish Geological Survey, National Geoscience Information Service	A10NW (NW)	39	1	489724 255010
	Hazard Potential: Ve	Sand Ground Stability Hazards ery Low itish Geological Survey, National Geoscience Information Service	A12NW (E)	52	1	490918 254812
	Hazard Potential: Lo	Sand Ground Stability Hazards w itish Geological Survey, National Geoscience Information Service	A6NE (SW)	69	1	490151 254448
	Hazard Potential: Lo	Sand Ground Stability Hazards w itish Geological Survey, National Geoscience Information Service	A10NW (NW)	92	1	489846 254921
	Hazard Potential: Ve	Sand Ground Stability Hazards ery Low itish Geological Survey, National Geoscience Information Service	A10SE (W)	95	1	489974 254479
	Hazard Potential: Lo	Sand Ground Stability Hazards w itish Geological Survey, National Geoscience Information Service	A10NW (NW)	98	1	489825 255000
	Hazard Potential: No	Sand Ground Stability Hazards b Hazard itish Geological Survey, National Geoscience Information Service	A6NE (SW)	105	1	490133 254426
	Hazard Potential: No	Sand Ground Stability Hazards Hazard itish Geological Survey, National Geoscience Information Service	A10NW (NW)	119	1	489804 255000
	Hazard Potential: Lo	or Swelling Clay Ground Stability Hazards w itish Geological Survey, National Geoscience Information Service	A11SW (N)	0	1	490427 254745
	Hazard Potential: Mo	or Swelling Clay Ground Stability Hazards oderate itish Geological Survey, National Geoscience Information Service	A7NE (SE)	0	1	490688 254376
	Hazard Potential: No	or Swelling Clay Ground Stability Hazards b Hazard itish Geological Survey, National Geoscience Information Service	A10NE (NW)	0	1	490000 255000
	Hazard Potential: No	or Swelling Clay Ground Stability Hazards b Hazard itish Geological Survey, National Geoscience Information Service	A10NE (NW)	0	1	490170 255000
	Hazard Potential: No	or Swelling Clay Ground Stability Hazards b Hazard itish Geological Survey, National Geoscience Information Service	A11NE (NE)	0	1	490617 255000
	Hazard Potential: No	or Swelling Clay Ground Stability Hazards b Hazard itish Geological Survey, National Geoscience Information Service	A10SE (W)	0	1	490000 254553
	Hazard Potential: No	or Swelling Clay Ground Stability Hazards b Hazard itish Geological Survey, National Geoscience Information Service	A7NE (SE)	0	1	490839 254440
	Hazard Potential: No	or Swelling Clay Ground Stability Hazards b Hazard itish Geological Survey, National Geoscience Information Service	A11SW (SW)	0	1	490395 254628
	Hazard Potential: Lo	or Swelling Clay Ground Stability Hazards w itish Geological Survey, National Geoscience Information Service	A7NE (SE)	0	1	490725 254338
	Hazard Potential: Lo	or Swelling Clay Ground Stability Hazards w itish Geological Survey, National Geoscience Information Service	A7NE (SE)	0	1	490631 254389
	Hazard Potential: Lo	or Swelling Clay Ground Stability Hazards w itish Geological Survey, National Geoscience Information Service	A11SE (E)	0	1	490758 254661

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	A11NW (N)	0	1	490395 255000
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Moderate British Geological Survey, National Geoscience Information Service	A8NW (E)	25	1	491239 254417
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Moderate British Geological Survey, National Geoscience Information Service	A10SE (W)	31	1	490000 254628
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Moderate British Geological Survey, National Geoscience Information Service	A10SE (SW)	39	1	490188 254521
			(344)			254521
	Hazard Potential:	ing or Swelling Clay Ground Stability Hazards Low	A10NW	39	1	489825
	Source:	British Geological Survey, National Geoscience Information Service	(NW)	33	'	255000
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential:	Low	A12NW	52	1	490918
	Source:	British Geological Survey, National Geoscience Information Service	(E)			254812
		ing or Swelling Clay Ground Stability Hazards	A			
	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	A10NW (NW)	92	1	489846 254921
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Moderate British Geological Survey, National Geoscience Information Service	A6NE (W)	95	1	489982 254463
		ing or Swelling Clay Ground Stability Hazards	(,			201.00
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A10NW (NW)	119	1	489804 255000
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards	,			
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A6NE (SW)	151	1	490055 254454
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	A10NW (W)	177	1	489790 254831
	Radon Potential - R	adon Affected Areas				
	Affected Area:	The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).	A11NW (N)	0	1	490395 255000
	Source:	British Geological Survey, National Geoscience Information Service				
		adon Affected Areas			_	40000
	Affected Area:	The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).	A10SE (W)	0	1	490000 254525
	Source:	British Geological Survey, National Geoscience Information Service	(***)			
-	Radon Potential - R	adon Affected Areas				
	Affected Area:	The property is in a Lower probability radon area (less than 1% of homes are	A11SW	0	1	490395
	Source:	estimated to be at or above the Action Level). British Geological Survey, National Geoscience Information Service	(SW)			254628
	Radon Potential - R	adon Affected Areas				
	Affected Area:	The property is in a Lower probability radon area (less than 1% of homes are	A10NE	0	1	490000
	Source:	estimated to be at or above the Action Level). British Geological Survey, National Geoscience Information Service	(NW)			255000
		adon Protection Measures				
		No radon protective measures are necessary in the construction of new	A11NW	0	1	490395
	Source:	dwellings or extensions British Geological Survey, National Geoscience Information Service	(N)			255000
		adon Protection Measures				
		No radon protection Measures No radon protective measures are necessary in the construction of new	A10SE	0	1	490000
	Source:	dwellings or extensions British Geological Survey, National Geoscience Information Service	(W)		'	254525
		adon Protection Measures				
		No radon protective measures are necessary in the construction of new	A11SW	0	1	49039
	Source:	dwellings or extensions British Geological Survey, National Geoscience Information Service	(SW)			254628
	Radon Potential - R	adon Protection Measures				
	Protection Measure:	No radon protective measures are necessary in the construction of new dwellings or extensions	A10NE (NW)	0	1	490000 255000
	Source:	British Geological Survey, National Geoscience Information Service				

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Industrial Land Use

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Contemporary Trad	e Directory Entries				
180	Name: Location: Classification: Status:	Bp Warrington Crossroads, Warrington, Olney, Buckinghamshire, MK46 4JQ Petrol Filling Stations Inactive Automatically positioned to the address	A10NE (NW)	64	-	489914 254869
	Contemporary Trad	e Directory Entries				
180	Name: Location: Classification: Status:	B P Service Station Warrington Roundabout, Warrington, Olney, Buckinghamshire, MK46 4JQ Petrol Filling Stations Active Manually positioned to the address or location	A10NE (NW)	66	-	489912 254875
	Contemporary Trad	e Directory Entries				
181	Name: Location: Classification: Status:	Olney Oven Wizards Nest Farm, Lavendon, Olney, Buckinghamshire, MK46 4HP Oven cleaning Inactive Automatically positioned to the address	A7NW (S)	218	-	490329 254236
	Contemporary Trad	e Directory Entries				
182	Name: Location: Classification: Status:	Stringing 2000 Ltd Nunirons,Bedford Road East, Warrington, Olney, Buckinghamshire, MK46 4HW Print Finishers Active Manually positioned to the address or location	A9SE (W)	445	-	489524 254705
183	Contemporary Trad Name: Location: Classification: Status: Positional Accuracy:	e Directory Entries Snackline The Courtyard, Home Farm, Warrington, Olney, Buckinghamshire, MK46 4HN Greeting Card Publishers & Wholesalers Inactive Automatically positioned to the address	A6SW (SW)	744	-	489789 253964
	Contemporary Trad	e Directory Entries				
183	Name: Location: Classification: Status:	New City Furniture Ltd UNIT 1, HOME FARM, WARRINGTON, MK46 4HN Kitchen Furniture Manufacturers Active Automatically positioned to the address	A6SW (SW)	752	-	489753 253979
184	Contemporary Trad Name: Location: Classification: Status: Positional Accuracy:	Janlin Service Station Bedford Road East, Warrington, Olney, Buckinghamshire, MK46 4HW Petrol Filling Stations Inactive Automatically positioned to the address	A13SW (NW)	901	-	489051 255228
		• • • • • • • • • • • • • • • • • • • •				
184	Contemporary Trad Name: Location: Classification: Status: Positional Accuracy:	Burectory Entries Janlins Motors Bedford Road East, Warrington, Olney, Buckinghamshire, MK46 4HW Car Dealers - Used Inactive Automatically positioned to the address	A13SW (NW)	901	-	489051 255228
	Contemporary Trad	e Directory Entries				
184	Name: Location: Classification: Status:	Bodycraft Accident Repair Centre Jenlin Complex, Bedford Road East, Warrington, Olney, Buckinghamshire, MK46 4HW Car Body Repairs Inactive	A13SW (NW)	902	-	489051 255228
		Manually positioned within the geographical locality				
184	Contemporary Trad Name: Location: Classification: Status: Positional Accuracy:	e Directory Entries P T Autos The Janlin Complex, Northhampton Road, Warrington, Olney, Buckinghamshire, MK46 4HW Garage Services Inactive Manually positioned to the address or location	A13SW (NW)	902	-	489051 255229
	Contemporary Trad					
184	Name: Location: Classification: Status:	Janlins Garage Bedford Road East, Warrington, Olney, MK46 4HW Car Dealers - Used Inactive Automatically positioned to the address	A13SW (NW)	935	-	489023 255251

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Industrial Land Use

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Contemporary Trad	e Directory Entries				
185	Name: Location: Classification: Status: Positional Accuracy:	Lone Pine Garage Bedford Road East, Warrington, Olney, MK46 4HW Garage Services Active Automatically positioned to the address	A13SW (NW)	997	-	488978 255317
	Fuel Station Entries					
186	Name: Location: Brand: Premises Type: Status:	Three Counties Service Station Warrington Roundabout Bedford Road, Warrington , Olney, Milton Keynes, MK46 4JQ Welcome Break Petrol Station Open	A10NE (NW)	66	-	489912 254874
		Manually positioned to the address or location				
187	Fuel Station Entries Name: Location: Brand: Premises Type: Status: Positional Accuracy:	Janlin Service Station Northampton Road , Warrington , Olney, Milton Keynes, MK46 4HW Unbranded Not Applicable Obsolete Approximate location provided by supplier	A9NW (W)	741	-	489192 255122
	Points of Interest -	Commercial Services				
188	Name: Location: Category: Class Code: Positional Accuracy:	B P Car Wash Warrington Roundabout, Warrington, Olney, MK46 4JQ Personal, Consumer and other Services Vehicle Cleaning Services Positioned to address or location	A10NE (NW)	49	9	489929 254862
	Points of Interest -	Commercial Services				
188	Name: Location: Category: Class Code: Positional Accuracy:	Three Counties Service Station Warrington Roundabout, Warrington, Olney, MK46 Personal, Consumer and other Services Vehicle Cleaning Services Positioned to address or location	A10NE (NW)	66	9	489912 254874
	Points of Interest -	Commercial Services				
188	Name: Location: Category: Class Code: Positional Accuracy:	Car Wash Warrington Roundabout, Warrington, Olney, Buckinghamshire, MK46 9JA Personal, Consumer and other Services Vehicle Cleaning Services Positioned to address or location	A10NE (NW)	66	9	489912 254874
	Points of Interest -	Commercial Services				
189	Name: Location: Category: Class Code: Positional Accuracy:	P T Autos The Janlin Complex, Northhampton Road, Warrington, Olney, MK46 4HW Repair and Servicing Vehicle Repair, Testing and Servicing Positioned to address or location	A13SW (NW)	902	9	489051 255229
190	Name: Location: Category: Class Code:	Commercial Services Bodycraft Accident Repair Centre Northampton Road, Warrington, MK46 4HW Repair and Servicing Vehicle Repair, Testing and Servicing Positioned to address or location	A13SW (NW)	997	9	488978 255317
	Points of Interest -	Commercial Services				
190	Name: Location: Category: Class Code: Positional Accuracy:	Lone Pine Garage Northampton Road, Warrington, MK46 4HW Repair and Servicing Vehicle Repair, Testing and Servicing Positioned to address or location	A13SW (NW)	997	9	488978 255317
	Points of Interest -	Manufacturing and Production				
191	Name: Location: Category: Class Code: Positional Accuracy:	Tanks MK46 Industrial Features Tanks (Generic) Positioned to an adjacent address or location	A4NW (SE)	542	9	491109 253606
191	Points of Interest - I Name: Location: Category: Class Code:	Manufacturing and Production Tank MK46 Industrial Features Tanks (Generic)	A4NW (SE)	549	9	491101 253597

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Industrial Land Use

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
191	Name: Location: Category: Class Code:	Manufacturing and Production Tank MK46 Industrial Features Tanks (Generic) Positioned to address or location	A4NW (SE)	549	9	491109 253599
191	Name: Location: Category: Class Code:	Manufacturing and Production Tank MK46 Industrial Features Tanks (Generic) Positioned to address or location	A4NW (SE)	549	9	491105 253598
192	Name: Location: Category: Class Code:	Manufacturing and Production B J Wells The Lodge, Northampton Road, Lavendon, Olney, MK46 4EY Farming Livestock Farming Positioned to address or location	A4NE (SE)	643	9	491495 253709
193	Name: Location: Category: Class Code:	Manufacturing and Production I G & G J Pibworth Home Farm, Warrington, Olney, Buckinghamshire, MK46 4HN Farming Arable Farming Positioned to address or location	A6SE (SW)	647	9	489935 253978
194	Category: Class Code:	Public Infrastructure BP Express Shopping Warrington Crossroads, Warrington, Olney, MK46 4JQ Road And Rail Petrol and Fuel Stations Positioned to address or location	A10NE (NW)	64	9	489914 254869
194	Category: Class Code:	Public Infrastructure BP Warrington Crossroads, Warrington, Olney, MK46 4JQ Road And Rail Petrol and Fuel Stations Positioned to address or location	A10NE (NW)	64	9	489914 254869
194	Category: Class Code:	Public Infrastructure Three Counties Filling Station Warrington Crossroads, Warrington, Olney, MK46 4JQ Road And Rail Petrol and Fuel Stations Positioned to address or location	A10NE (NW)	64	9	489914 254869
194	Category: Class Code:	Public Infrastructure BP Service Station Warrington Roundabout, Warrington, Olney, MK46 4JQ Road And Rail Petrol and Fuel Stations Positioned to address or location	A10NE (NW)	66	9	489912 254875
194	Category: Class Code:	Public Infrastructure BP Service Station Warrington Roundabout, Warrington, Olney, MK46 4JQ Road And Rail Petrol and Fuel Stations Positioned to address or location	A10NE (NW)	66	9	489912 254875
194	Location: Category: Class Code:	Public Infrastructure Three Counties Service Station Warrington Roundabout, Warrington, Olney, MK46 9JA Road And Rail Petrol and Fuel Stations Positioned to address or location	A10NE (NW)	66	9	489912 254874
195	Category: Class Code:	Public Infrastructure Janlin Service Station Bedford Road East, Warrington, Olney, MK46 4HW Road And Rail Petrol and Fuel Stations Positioned to address or location	A13SW (NW)	901	9	489051 255228
195	Class Code:	Public Infrastructure Janlin Service Station Bedford Road East, Warrington, Olney, MK46 4HW Road And Rail Petrol and Fuel Stations Positioned to address or location	A13SW (NW)	901	9	489051 255228

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Sensitive Land Use

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Ancient Woodland					
196	Name: Reference: Area(m²): Type:	Three Shire Wood 1501796 146931.81 Ancient and Semi-Natural Woodland	A16SW (NE)	0	10	491237 255229
197	Ancient Woodland Name: Reference: Area(m²): Type:	Nun Wood 1475867 178825.06 Ancient and Semi-Natural Woodland	A16NE (NE)	0	10	491278 255783
198	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 1503163 8567.12 Ancient and Semi-Natural Woodland	A14SE (NW)	14	10	490031 255246
199	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 1503162 3956.69 Ancient and Semi-Natural Woodland	A9NE (NW)	407	10	489539 255134
200	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 1503161 2865.51 Ancient and Semi-Natural Woodland	A9NE (W)	420	10	489493 254968
201	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 1503160 17534.78 Ancient and Semi-Natural Woodland	A9SE (W)	439	10	489554 254620
202	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 1418468 53849.6 Ancient and Semi-Natural Woodland	(NE)	503	10	491653 256241
203	Ancient Woodland Name: Reference: Area(m²): Type:	Lavendon Wood 1503173 205906.44 Ancient and Semi-Natural Woodland	(E)	737	10	491967 255280
204	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 1503141 5081.6 Ancient and Semi-Natural Woodland	A9NW (W)	789	10	489144 255126
205	Nitrate Vulnerable 2 Name: Description: Source:	Zones Great Ouse Nvz Surface Water Environment Agency, Head Office	A11SW (SW)	0	4	490395 254628
206	Nitrate Vulnerable 2 Name: Description: Source:		A11SW (SW)	0	4	490395 254628
207	Nitrate Vulnerable 2 Name: Description: Source:		(N)	147	4	490099 256148
208	Nitrate Vulnerable 2 Name: Description: Source:	Zones Northampton Sands Groundwater Environment Agency, Head Office	(N)	147	4	490099 256148
209	Nitrate Vulnerable 2 Name: Description: Source:	Zones River Nene Nvz Surface Water Environment Agency, Head Office	(N)	147	4	490099 256148

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Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Wellingborough Borough Council (now part of North Northamptonshire Council) - Environmental Health Department	August 2013	Annual Rolling Updat
Bedford Borough Council - Environmental Health Department	December 2014	Annual Rolling Updat
North Northamptonshire Council	December 2019	Annual Rolling Update
West Northamptonshire Council	December 2019	Annual Rolling Upda
Environment Agency - Head Office	November 2023	Annually
Milton Keynes Council - Environmental Health Division	October 2017	Annual Rolling Upda
South Northamptonshire Council (now part of West Northamptonshire Council) - Environment Division	September 2017	Annual Rolling Upda
Discharge Consents		
Environment Agency - Anglian Region	April 2024	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Anglian Region	March 2013	
ntegrated Pollution Controls		
Environment Agency - Anglian Region	January 2009	
ntegrated Pollution Prevention And Control		
Environment Agency - Anglian Region	October 2023	Quarterly
Local Authority Integrated Pollution Prevention And Control		
South Northamptonshire Council (now part of West Northamptonshire Council) - Environmental Health Department	December 2014	Variable
Wellingborough Borough Council (now part of North Northamptonshire Council) - Environmental Health Department	December 2020	Variable
North Northamptonshire Council	February 2015	Variable
Vest Northamptonshire Council	February 2015	Variable
filton Keynes Council - Environmental Health Department	June 2016	Variable
Bedford Borough Council - Environmental Health Department	March 2015	Variable
ocal Authority Pollution Prevention and Controls		
South Northamptonshire Council (now part of West Northamptonshire Council) - Environmental Health Department	December 2014	Annual Rolling Upda
Bedford Borough Council - Environmental Health Department	December 2020	Annual Rolling Upda
Vellingborough Borough Council (now part of North Northamptonshire Council) - Environmental Health Department	December 2020	Annual Rolling Upda
North Northamptonshire Council	February 2015	Annual Rolling Upda
Vest Northamptonshire Council	February 2015	Annual Rolling Upda
filton Keynes Council - Environmental Health Department	June 2016	Not Applicable
Local Authority Pollution Prevention and Control Enforcements		
South Northamptonshire Council (now part of West Northamptonshire Council) - Environmental Health Department	December 2014	Variable
Wellingborough Borough Council (now part of North Northamptonshire Council) - Environmental Health Department	December 2014	Variable
North Northamptonshire Council	February 2015	Variable
Vest Northamptonshire Council	February 2015	Variable
Milton Keynes Council - Environmental Health Department	June 2016	Variable
Bedford Borough Council - Environmental Health Department	March 2015	Variable
learest Surface Water Feature		
Ordnance Survey	March 2024	
Pollution Incidents to Controlled Waters	0	
Environment Agency - Anglian Region	September 1999	
Prosecutions Relating to Authorised Processes		
Environment Agency - Anglian Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - Anglian Region	March 2013	

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Agency & Hydrological	Version	Update Cycle
Registered Radioactive Substances		
Environment Agency - Anglian Region	June 2016	As notified
Environment Agency - Head Office	May 2023	Quarterly
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	April 2012	
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	April 2012	
Substantiated Pollution Incident Register		
Environment Agency - Anglian Region - Central Area	April 2024	Quarterly
Environment Agency - Anglian Region - Northern Area	April 2024	Quarterly
Water Abstractions		
Environment Agency - Anglian Region	April 2024	Quarterly
Water Industry Act Referrals		
Environment Agency - Anglian Region	October 2017	
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	As notified
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	As notified
Source Protection Zones		
Environment Agency - Head Office	September 2022	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	December 2023	Quarterly
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	December 2023	Quarterly
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	February 2023	Quarterly
Flood Water Storage Areas	,	
Environment Agency - Head Office	January 2024	Quarterly
Flood Defences	,	
Environment Agency - Head Office	August 2022	Quarterly
OS Water Network Lines	<u> </u>	
Ordnance Survey	April 2024	Quarterly
Surface Water 1 in 30 year Flood Extent	•	,
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent		7
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent	, 2010	,g
Environment Agency - Head Office	May 2018	Annually
	Iviay 2010	Aimany
Surface Water Suitability	Enhance 2046	Annually
Environment Agency - Head Office	February 2016	Annually
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	As notified

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Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Environment Agency - Head Office	May 2024	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Anglian Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)	,	
Environment Agency - Anglian Region - Central Area	May 2024	Quarterly
Environment Agency - Anglian Region - Northern Area	May 2024	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - Anglian Region - Central Area	January 2023	Quarterly
Environment Agency - Anglian Region - Northern Area	January 2023	Quarterly
	January 2025	Quarterly
Local Authority Landfill Coverage	F-1	Niet America
Bedford Borough Council - Environmental Health Department	February 2003	Not Applicable
Bedfordshire County Council (now part of Central Bedfordshire Council)	February 2003	Not Applicable
Milton Keynes Council - Planning and Transport Department	February 2003	Not Applicable
Northamptonshire County Council South Northamptonshire Council (now part of West Northamptonshire Council) -	February 2003	Not Applicable
Environmental Health Department	February 2003	Not Applicable
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2003	Not Applicable
North Northamptonshire Council	May 2000	Not Applicable
West Northamptonshire Council	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
North Northamptonshire Council	August 2006	
West Northamptonshire Council	August 2006	
Bedford Borough Council - Environmental Health Department	October 2018	
Bedfordshire County Council (now part of Central Bedfordshire Council)	October 2018	
Milton Keynes Council - Planning and Transport Department	October 2018	
Northamptonshire County Council	October 2018	
South Northamptonshire Council (now part of West Northamptonshire Council) - Environmental Health Department	October 2018	
Wellingborough Borough Council (now part of North Northamptonshire Council)	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - Anglian Region - Central Area	March 2006	Not Applicable
Environment Agency - Anglian Region - Northern Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Anglian Region - Central Area	April 2018	
Environment Agency - Anglian Region - Northern Area	April 2018	
	· · · · · · · · · · · · · · · · · · ·	
	luna 2015	
Registered Waste Treatment or Disposal Sites Environment Agency - Anglian Region - Central Area Environment Agency - Anglian Region - Northern Area	June 2015 June 2015	

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Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	January 2024	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
North Northamptonshire Council	February 2016	Variable
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2016	Variable
Bedfordshire County Council (now part of Central Bedfordshire Council)	July 2008	Annual Rolling Update
Bedford Borough Council	March 2023	Variable
Northamptonshire County Council	May 2013	Annual Rolling Update
Milton Keynes Council - Planning and Transport Department	May 2023	Variable
South Northamptonshire Council (now part of West Northamptonshire Council)	May 2023	Variable
West Northamptonshire Council	May 2023	Variable
Planning Hazardous Substance Consents		
Northamptonshire County Council	December 2014	Annual Rolling Update
Bedford Borough Council	February 2016	Variable
Milton Keynes Council - Planning and Transport Department	February 2016	Variable
North Northamptonshire Council	February 2016	Variable
South Northamptonshire Council (now part of West Northamptonshire Council)	February 2016	Variable
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2016	Variable
West Northamptonshire Council	February 2016	Variable
Bedfordshire County Council (now part of Central Bedfordshire Council)	July 2008	Annual Rolling Update

Order Number: 346936621_1_1 Date: 16-May-2024 rpr_ec_datasheet v53.0 A Landmark Information Group Service Page 49 of 54



Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology		
British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry		
British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	January 2024	Bi-Annually
CBSCB Compensation District		
Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	
Cheshire Brine Subsidence Compensation Board (CBSCB)	November 2020	As notified
Coal Mining Affected Areas		
The Coal Authority - Property Searches	February 2023	Annual Rolling Update
Mining Instability		
Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain		
British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas		
British Geological Survey - National Geoscience Information Service	October 2023	Annually
Radon Potential - Radon Protection Measures		
British Geological Survey - National Geoscience Information Service	October 2023	Annually

Order Number: 346936621_1_1 Date: 16-May-2024 rpr_ec_datasheet v53.0 A Landmark Information Group Service Page 50 of 54



Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries		
Thomson Directories	April 2024	Quarterly
Fuel Station Entries		
Catalist Ltd - Experian	February 2024	Quarterly
Gas Pipelines		
National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services		
PointX	March 2024	Quarterly
Points of Interest - Education and Health		
PointX	March 2024	Quarterly
Points of Interest - Manufacturing and Production		
PointX	March 2024	Quarterly
Points of Interest - Public Infrastructure		
PointX	March 2024	Quarterly
Points of Interest - Recreational and Environmental		
PointX	March 2024	Quarterly
Underground Electrical Cables		
National Grid	January 2024	Bi-Annually

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Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	April 2024	Bi-Annually
Areas of Adopted Green Belt		
Bedford Borough Council	February 2024	Quarterly
Milton Keynes Council - Planning and Transport Department	February 2024	Quarterly
North Northamptonshire Council	February 2024	Quarterly
South Northamptonshire Council (now part of West Northamptonshire Council)	February 2024	Quarterly
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2024	Quarterly
West Northamptonshire Council	February 2024	Quarterly
Areas of Unadopted Green Belt		
Bedford Borough Council	February 2024	Quarterly
Milton Keynes Council - Planning and Transport Department	February 2024	Quarterly
North Northamptonshire Council	February 2024	Quarterly
South Northamptonshire Council (now part of West Northamptonshire Council)	February 2024	Quarterly
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2024	Quarterly
West Northamptonshire Council	February 2024	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	May 2024	Bi-Annually
Environmentally Sensitive Areas		
Natural England	August 2023	
Forest Parks		
Forestry Commission	May 2023	Not Applicable
Local Nature Reserves		
Natural England	February 2024	Bi-Annually
Marine Nature Reserves		
Natural England	February 2024	Bi-Annually
National Nature Reserves		
Natural England	February 2024	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2023	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	April 2024	Bi-Annually
Ramsar Sites		
Natural England	February 2024	Bi-Annually
Sites of Special Scientific Interest		
Natural England	April 2024	Bi-Annually
Special Areas of Conservation		
Natural England	April 2024	Bi-Annually
Special Protection Areas		
Natural England	April 2024	Bi-Annually

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A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment
Scottish Environment Protection Agency	SEPA
The Coal Authority	The Coal Authority
British Geological Survey	British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	Cyfoeth Naturiol Cymru Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE 迎念新
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Stantec UK Ltd	Stantec

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Useful Contacts

Contact	Name and Address	Contact Details		
1	British Geological Survey - Enquiry Service	Telephone: 0115 936 3143		
	British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk		
2	Environment Agency - National Customer Contact Centre (NCCC)	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk		
	PO Box 544, Templeborough, Rotherham, S60 1BY			
3	Milton Keynes Council - Environmental Health Department	Telephone: 01908 252759 Website: www.miltonkeynes.gov.uk		
	Civic Offices, 1 Saxon Gate East, Milton Keynes, Buckinghamshire, MJ9 3HH			
4	Environment Agency - Head Office	Telephone: 01454 624400		
	Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Fax: 01454 624409		
5	Ordnance Survey	Telephone: 03456 05 05 05		
	Adanac Drive, Southampton, Hampshire, SO16 0AS	Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk		
6	Milton Keynes Council - Planning and Transport Department	Telephone: 01908 691691 Fax: 01908 252211 Website: www.miltonkeynes.gov.uk		
	PO Box 125, Civic Offices, 1 Saxon Gate East, Milton Keynes, Buckinghamshire, MK9 3ZJ	,		
7	Bedfordshire County Council (now part of Central Bedfordshire Council)	Telephone: 0300 300 8301 Email: www.centralbedfordshire.gov.uk Website: www.centralbedfordshire.gov.uk		
	Priory House, Monks Walk, Chicksands, Shefford, Bedfordshire, SG17 5TQ	3		
8	Bedford Borough Council - Environmental Health Department	Telephone: 01234 267422 Fax: 01234 325671		
	Town Hall, St Pauls Street, Bedford, Bedfordshire, MK40 1SJ	Email: enquiries@bedford.gov.uk Website: www.bedford.gov.uk		
9	PointX	Website: www.pointx.co.uk		
-	7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY			
10	Natural England	Telephone: 0300 060 3900		
	County Hall, Spetchley Road, Worcester, WR5 2NP	Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk		
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards	Telephone: 01235 822622 Fax: 01235 833891		
	Chilton, Didcot, Oxfordshire, OX11 0RQ	Email: radon@phe.gov.uk Website: www.ukradon.org		
-	Landmark Information Group Limited	Telephone: 0844 844 9952		
	Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk		

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

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Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age	
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene	
	LSGR	Landscaped Ground (Undivided)	Artificially Modified Ground	Not Supplied - Holocene	

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
		Faults		

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age	
	ALV	Alluvium	Clay and Silt	Not Supplied - Holocene	
	ODT	Oadby Member	Diamicton	Not Supplied - Anglian	
	GFDMP	Glaciofluvial Deposits, Mid Pleistocene	Sand and Gravel	Not Supplied - Cromerian	
	BIDM	Biddenham Member	Sand and Gravel	Not Supplied - Pleistocene	
	FELM	Felmersham Member	Sand and Gravel	Not Supplied - Pleistocene	
	STGO	Stoke Goldington Member	Sand and Gravel	Not Supplied - Pleistocene	
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary	

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age	
	KLS	Kellaways Sand Member	Sandstone and Siltstone, Interbedded	Not Supplied - Callovian	
	KLC	Kellaways Clay Member	Mudstone	Not Supplied - Callovian	
	OXC	Oxford Clay Formation	Mudstone	Not Supplied - Callovian	
	PET	Peterborough Member	Mudstone	Not Supplied - Callovian	
	СВ	Combrash Formation	Limestone	Not Supplied - Bathonian	
	BWC	Blisworth Clay Formation	Mudstone	Not Supplied - Bathonian	
	BWL	Blisworth Limestone Formation	Limestone	Not Supplied - Bathonian	
	RLD	Rutland Formation	Argillaceous Rocks with Subordinate Sandstone and Limestone	Not Supplied - Bajocian	



Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

 Map ID:
 1

 Map Sheet No:
 203

 Map Name:
 Bedford

 Map Date:
 2010

 Bedrock Geology:
 Available

 Superficial Geology:
 Available

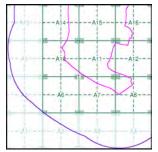
 Artificial Geology:
 Available

 Faults:
 Not Supplied

 Landslip:
 Available

 Rock Segments:
 Not Supplied

Geology 1:50,000 Maps - Slice A





Order Details:

Order Number: Customer Reference: National Grid Reference: Slice: Site Area (Ha): Search Buffer (m):

A 172.36 1000

346936621_1_1 DS78309 490400, 254630

Site Details:

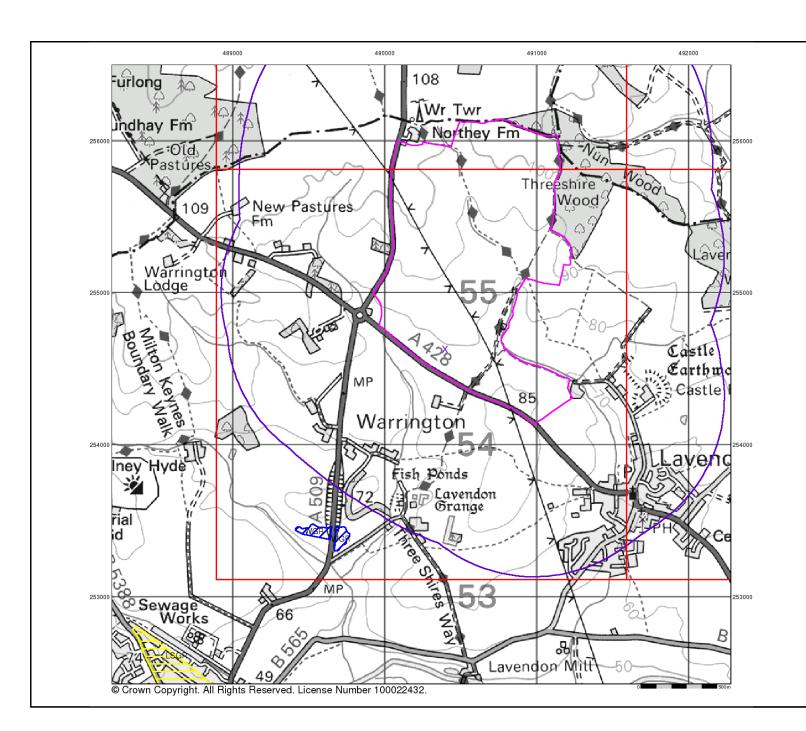
Meikleland



Tel: 0844 844 Fax: 0844 844

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Artificial Ground and Landslip

Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

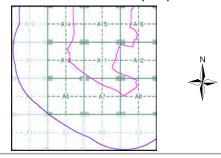
Artificial ground includes:

- Made ground man-made deposits such as embankments and spoil heaps on the natural ground surface.

 - Worked ground - areas where the ground has been cut away such as
- quarries and road cuttings.
- Infilled ground areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground areas where the surface has been reshaped.
 Disturbed ground areas of ill-defined shallow or near surface mineral
- workings where it is impracticable to map made and worked ground

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



346936621_1_1 DS78309

490400, 254630

Order Details:

Order Number: Customer Reference: National Grid Reference:

A 172.36 Site Area (Ha): Search Buffer (m):

Site Details:

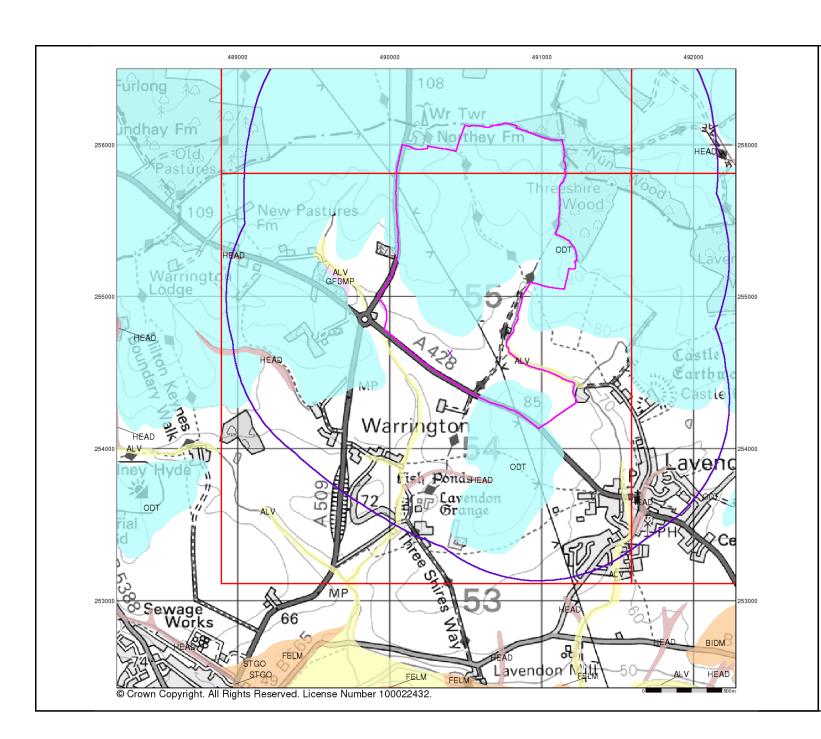
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v15.0 16-May-2024

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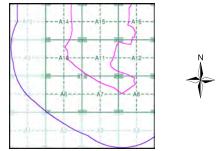
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

Order Number: Customer Reference: National Grid Reference: Slice: Site Area (Ha):

346936621_1_1 DS78309 : 490400, 254630 A 172.36

Site Area (Ha): Search Buffer (m):

Site Details:

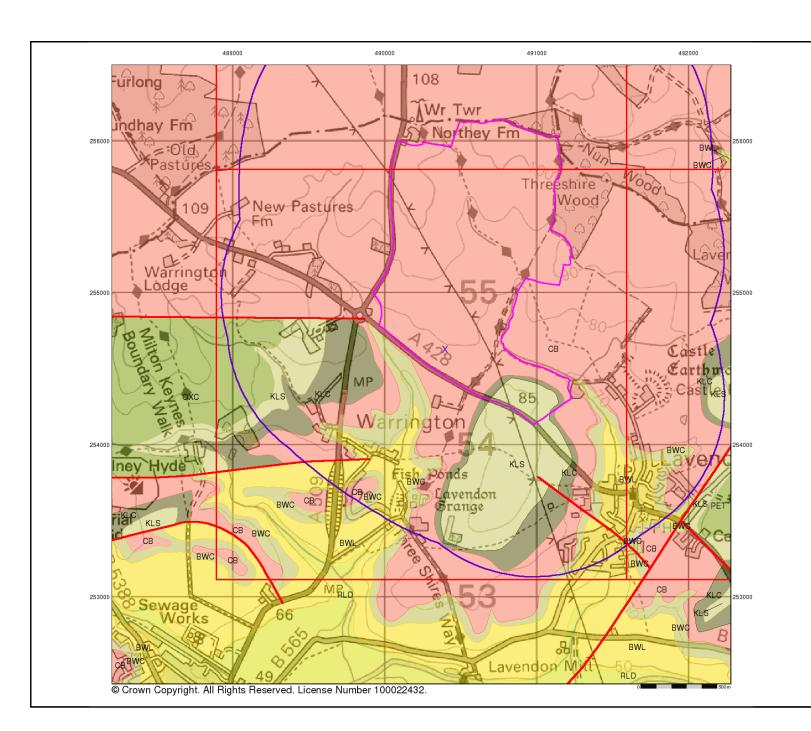
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Bedrock and Faults

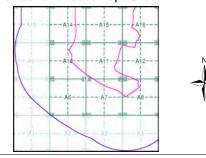
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



Order Details:

Order Number: Customer Reference: National Grid Reference: Site Area (Ha): Search Buffer (m):

346936621_1_1 DS78309 490400, 254630 A 172.36 1000

Site Details:

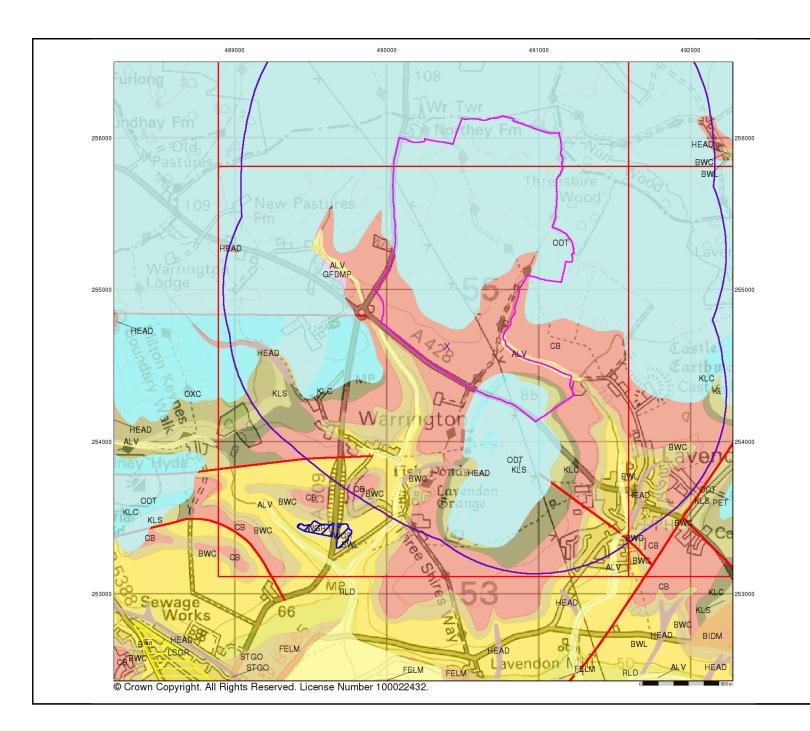
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v15.0 16-May-2024

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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

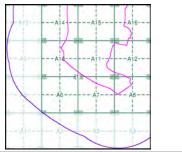
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS

Contact

British Geological Survey Kingsley Dunham Centre Keyworth Nottingham NG12 5GG Telephone: 0115 936 3143 Fax: 0115 936 3276 email: enquiries@bgs.ac.uk website: www.bgs.ac.uk

Combined Geology Map - Slice A



Order Details:

Order Number: Customer Reference: National Grid Reference: Site Area (Ha): Search Buffer (m):

346936621_1_1 DS78309 490400, 254630 A 172.36

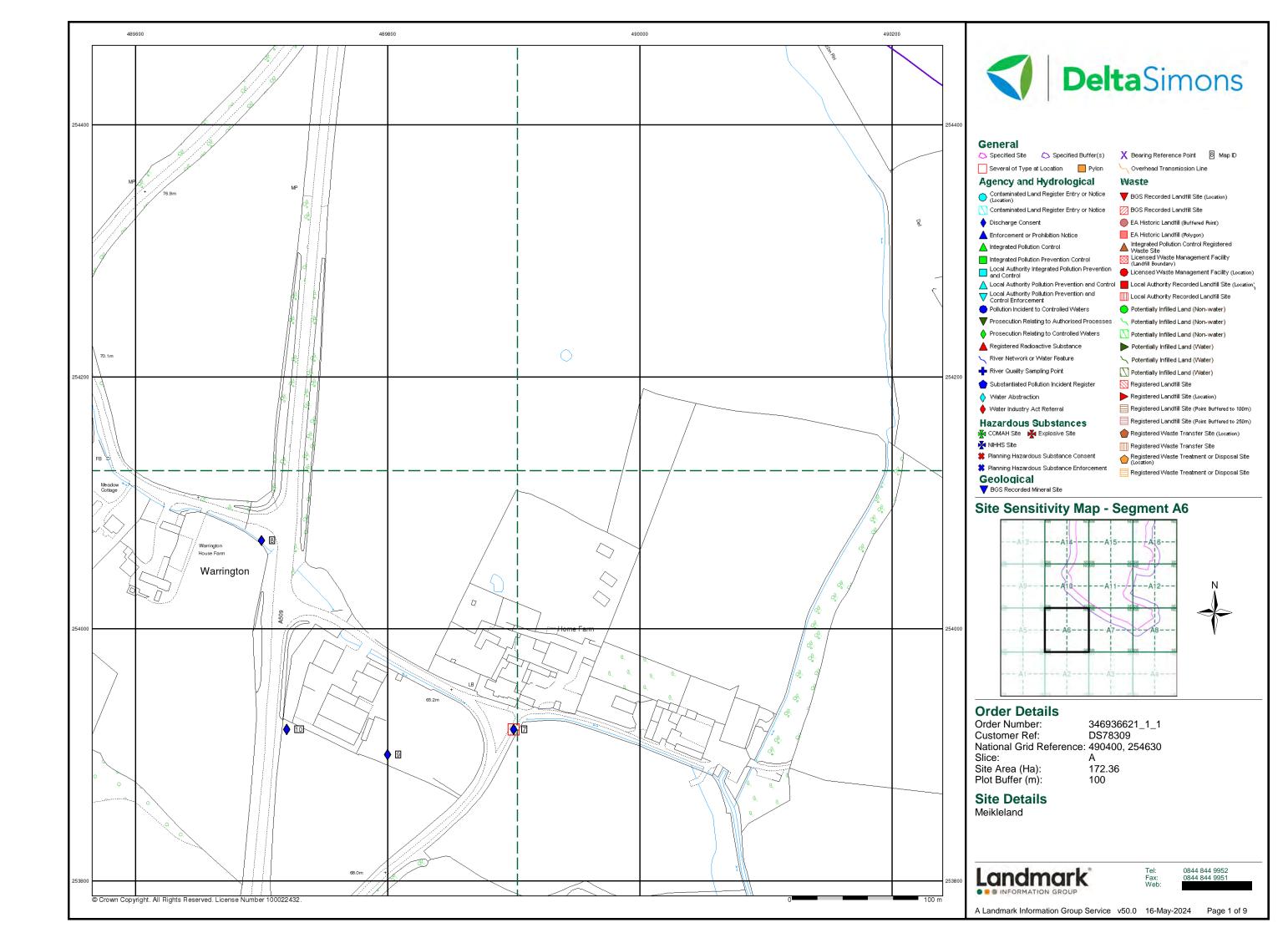
Site Details: Meikleland

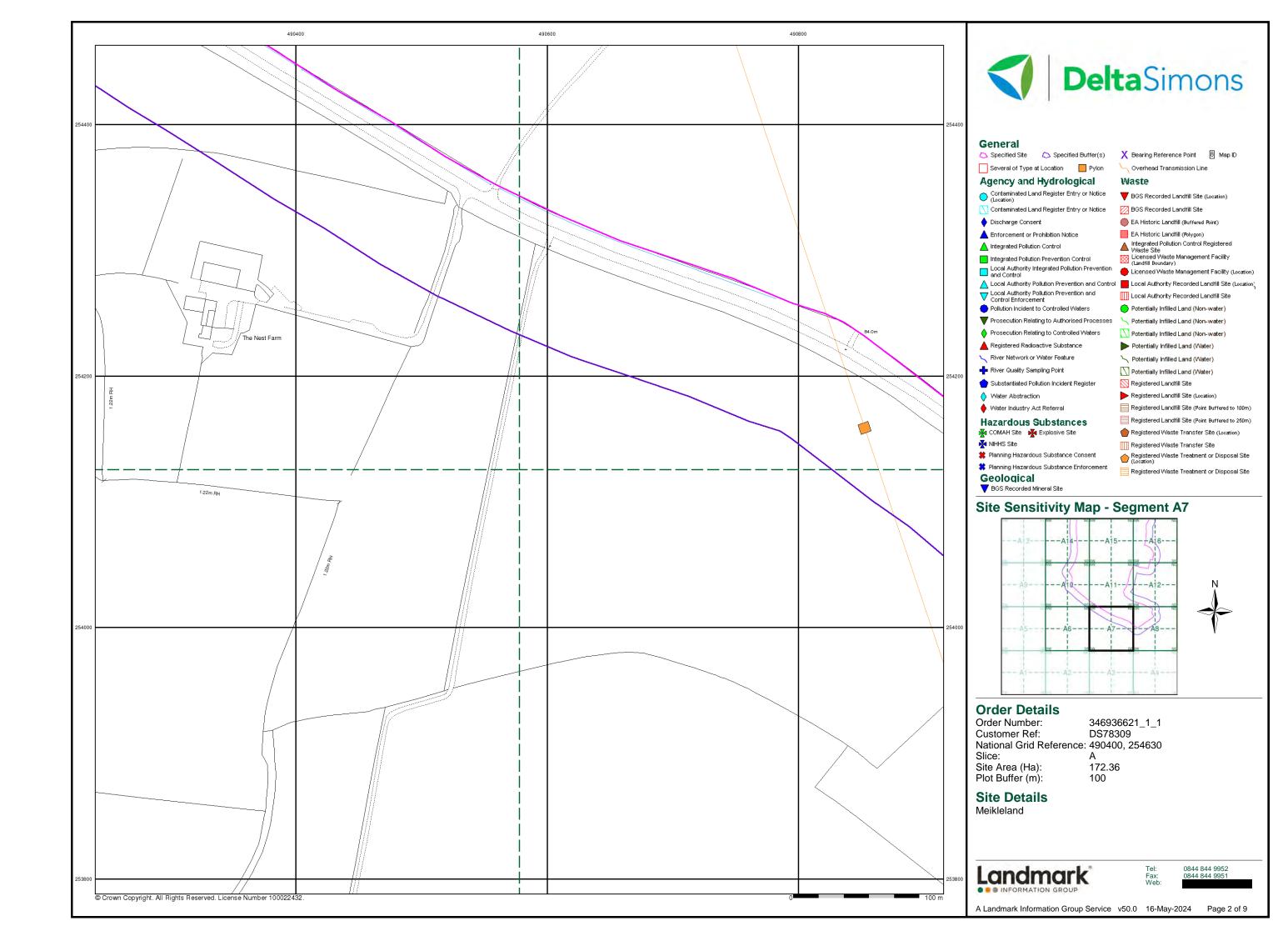
Landmark

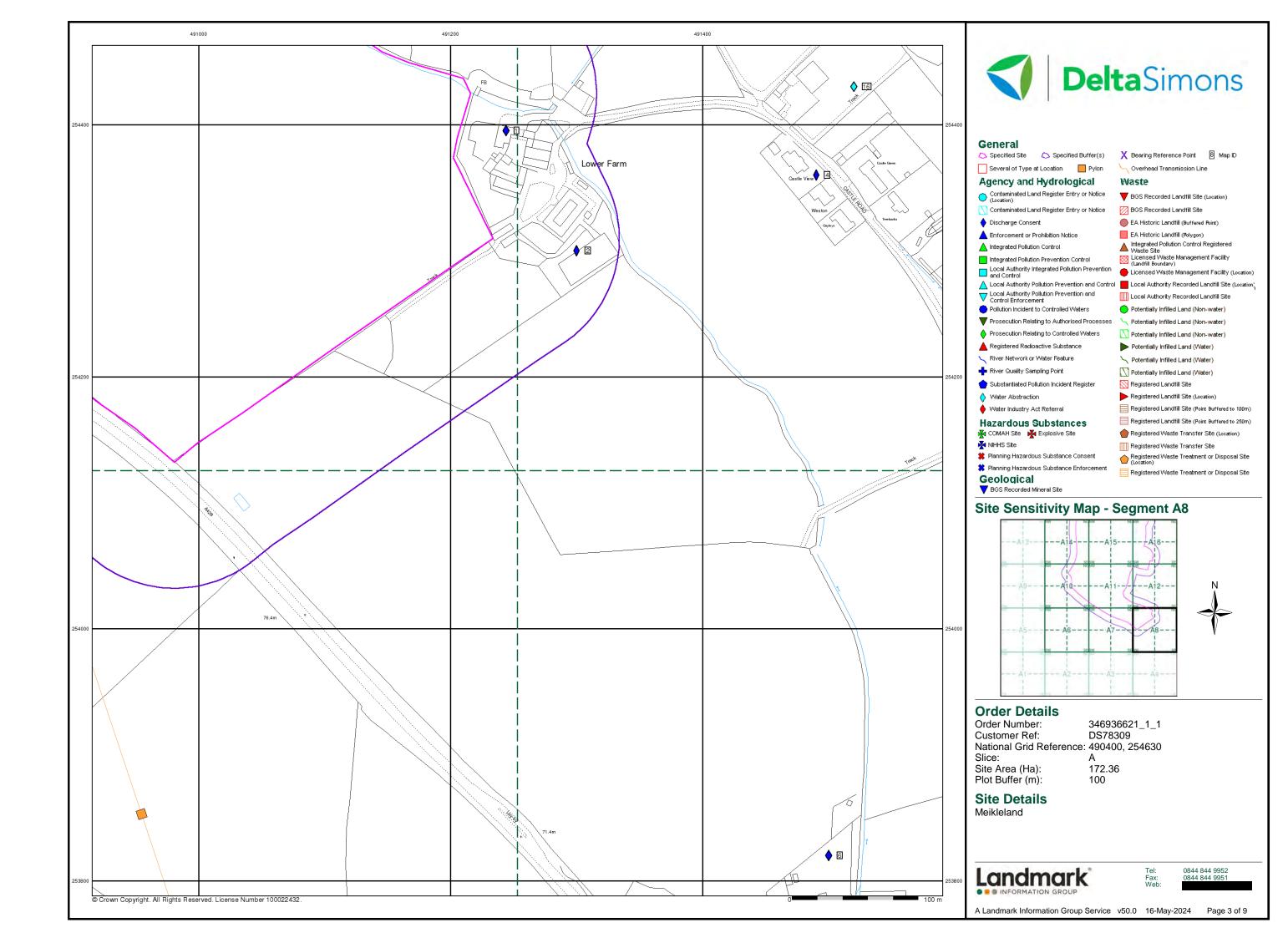
0844 844 9952 0844 844 9951

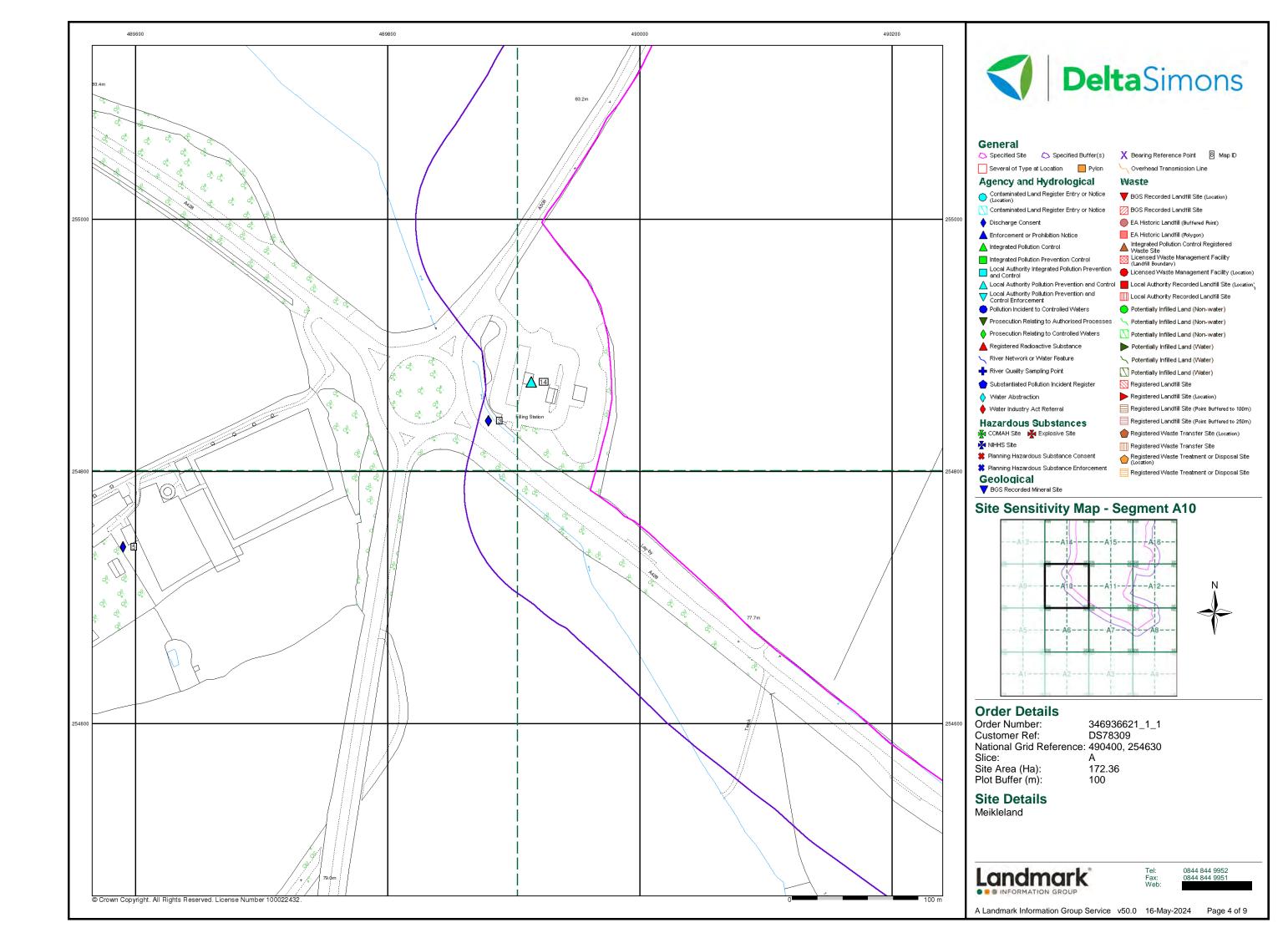
v15.0 16-May-2024

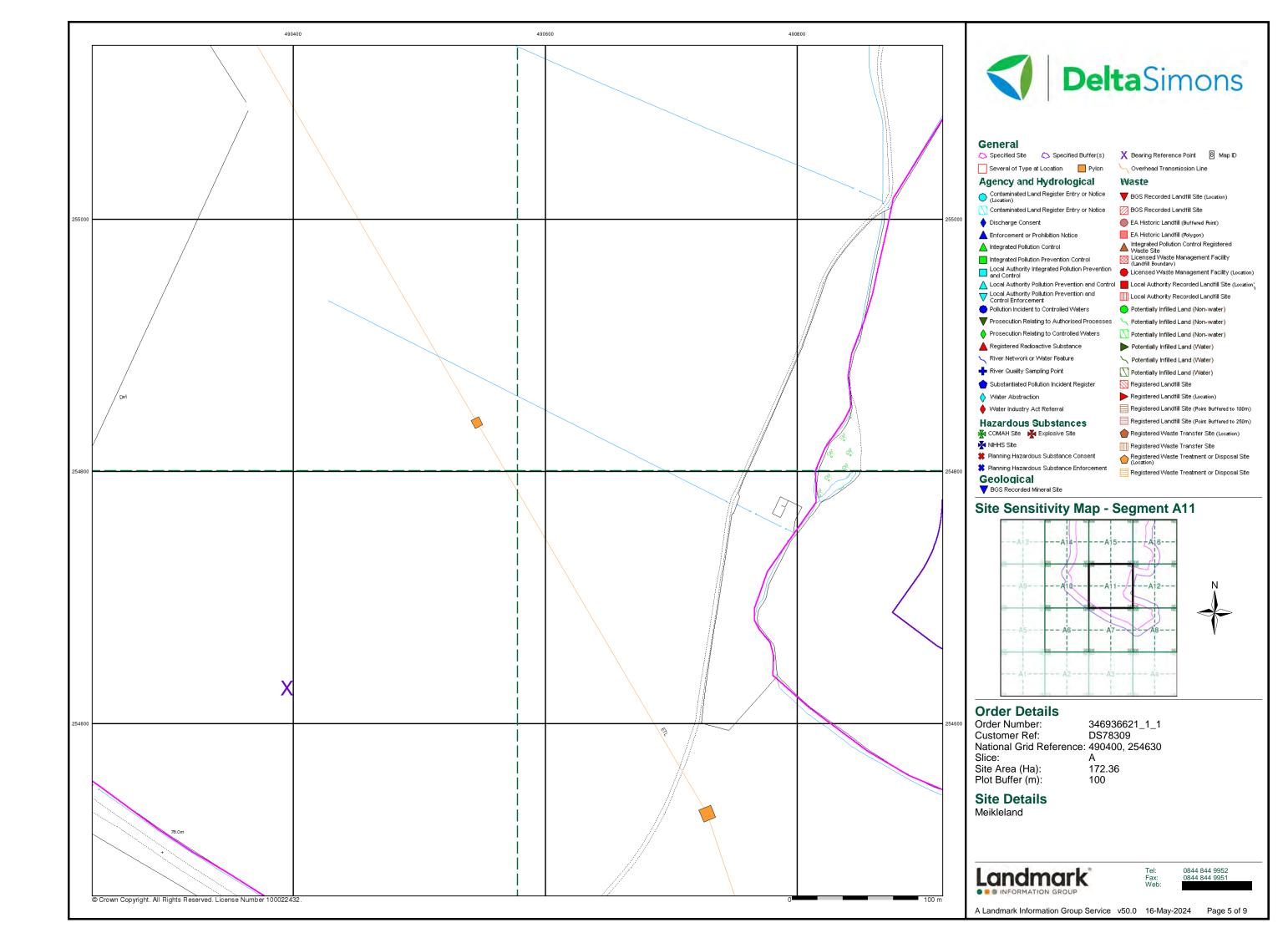
Page 5 of 5

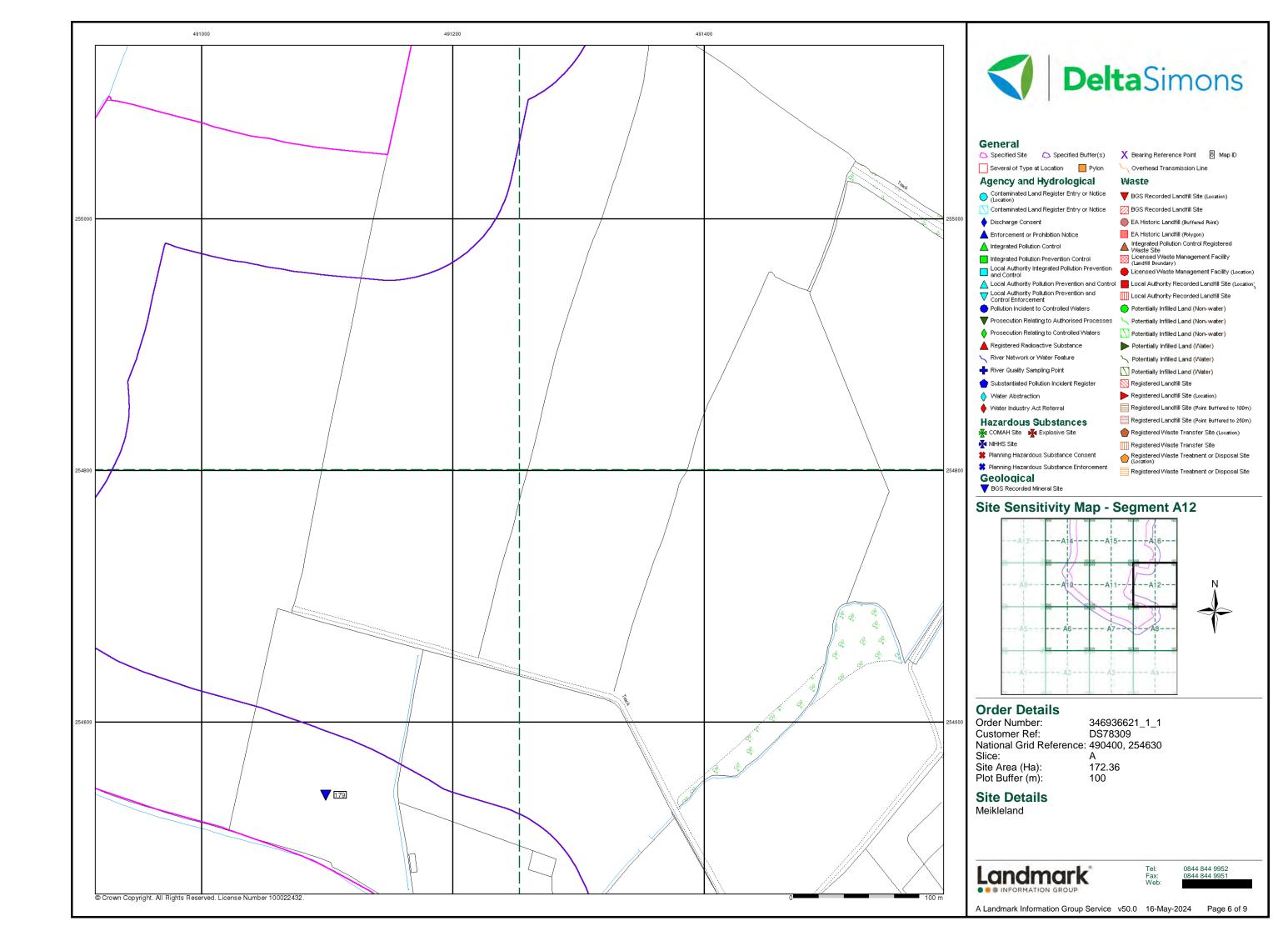


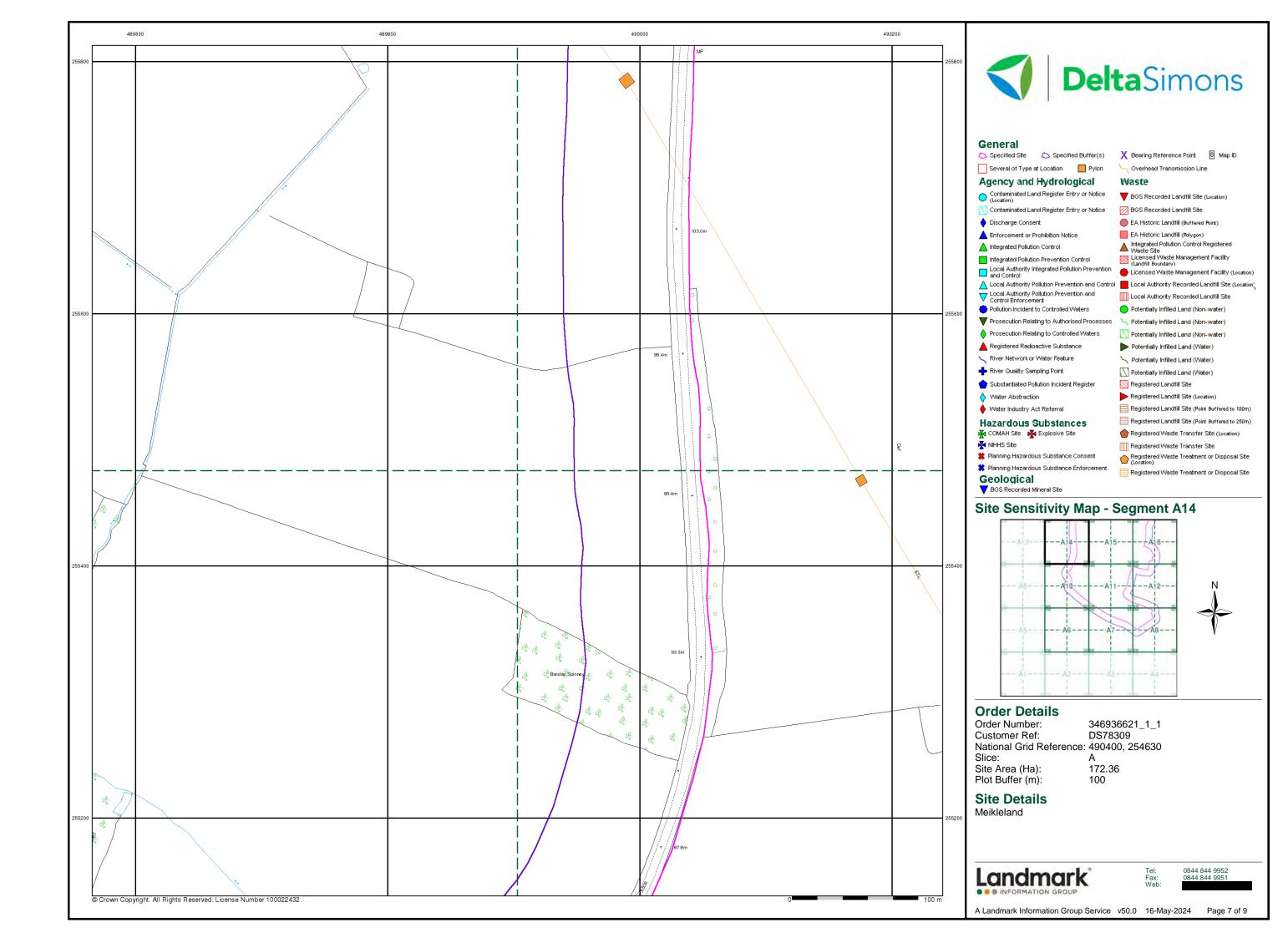


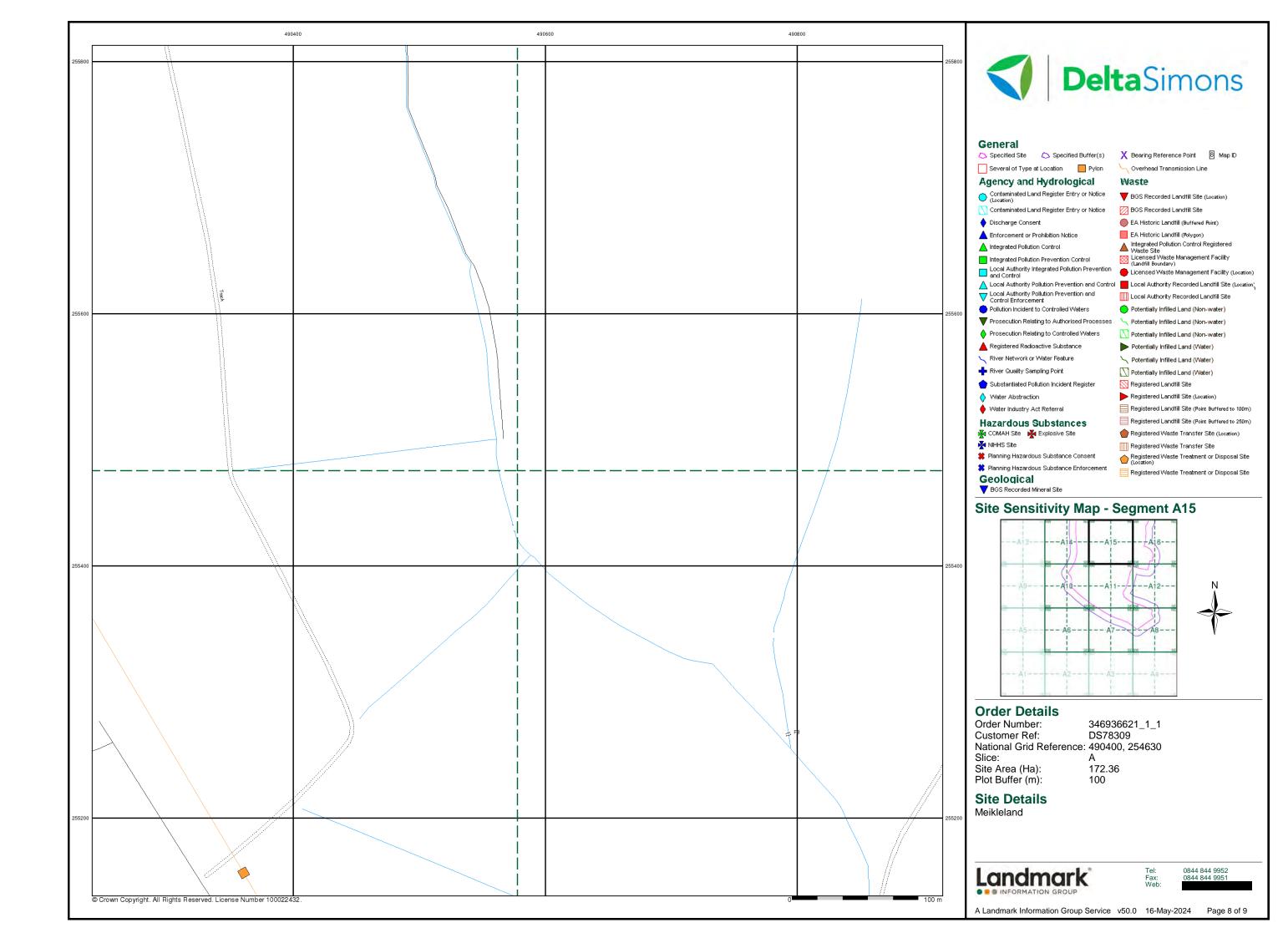


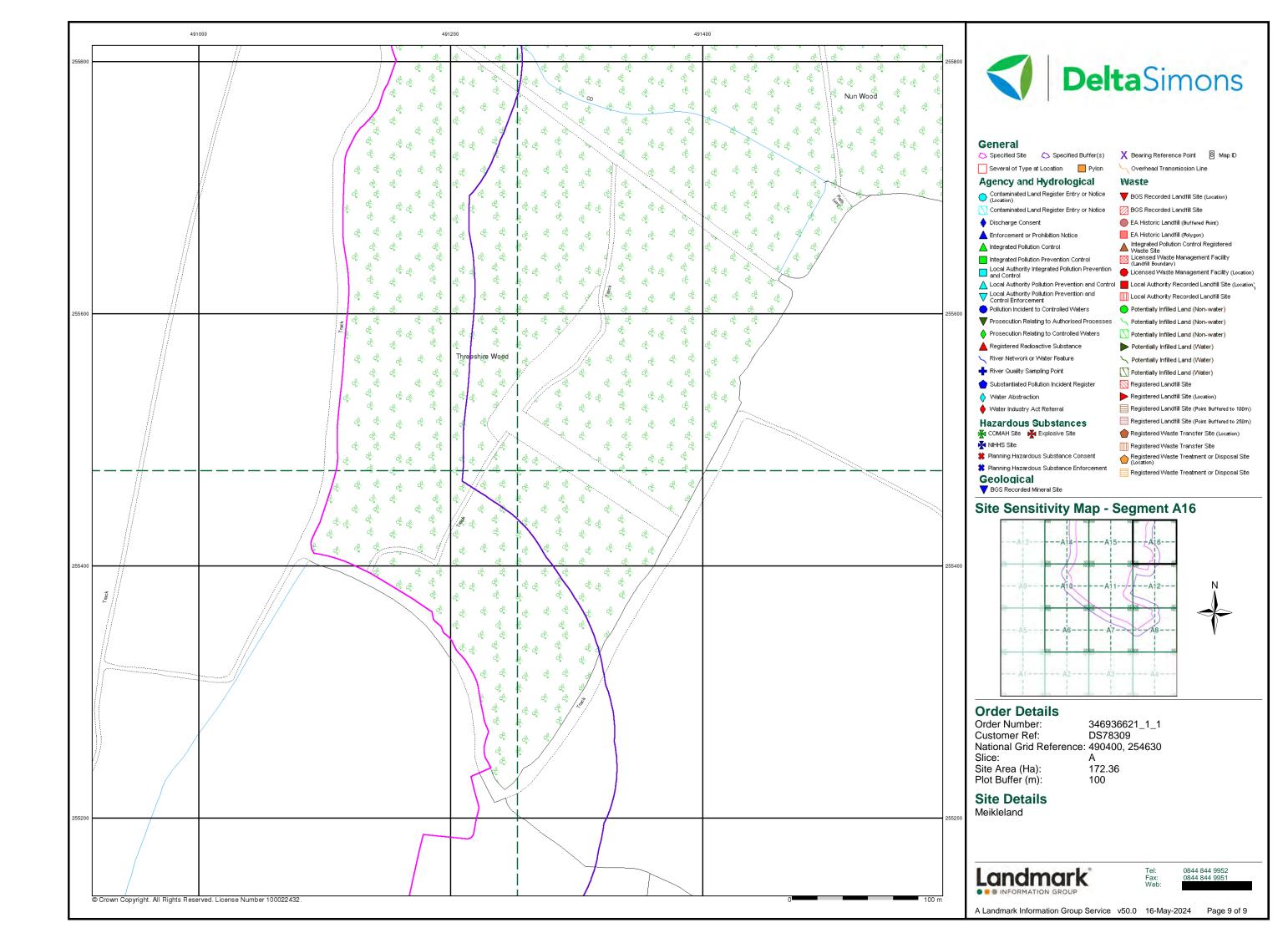


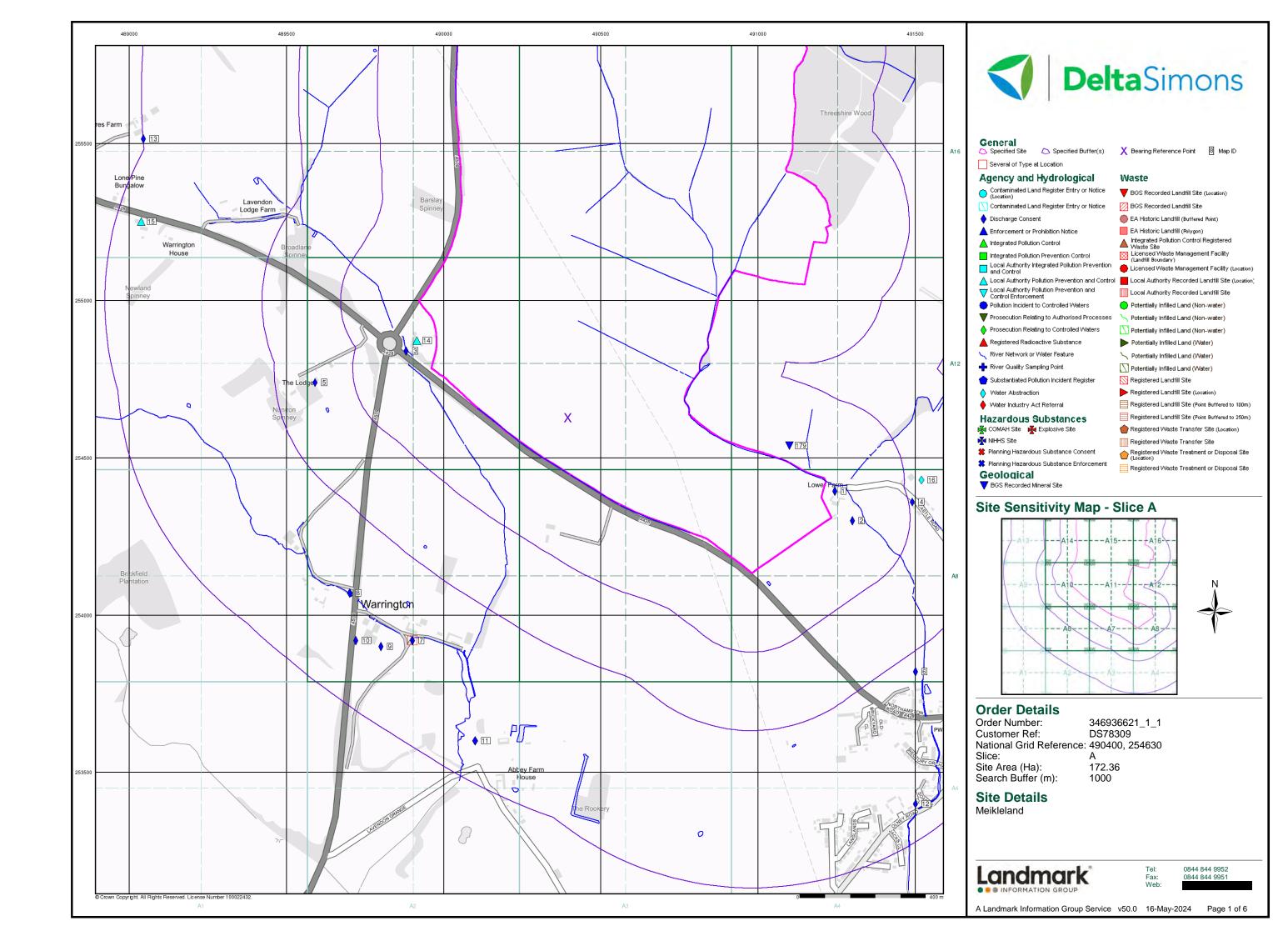


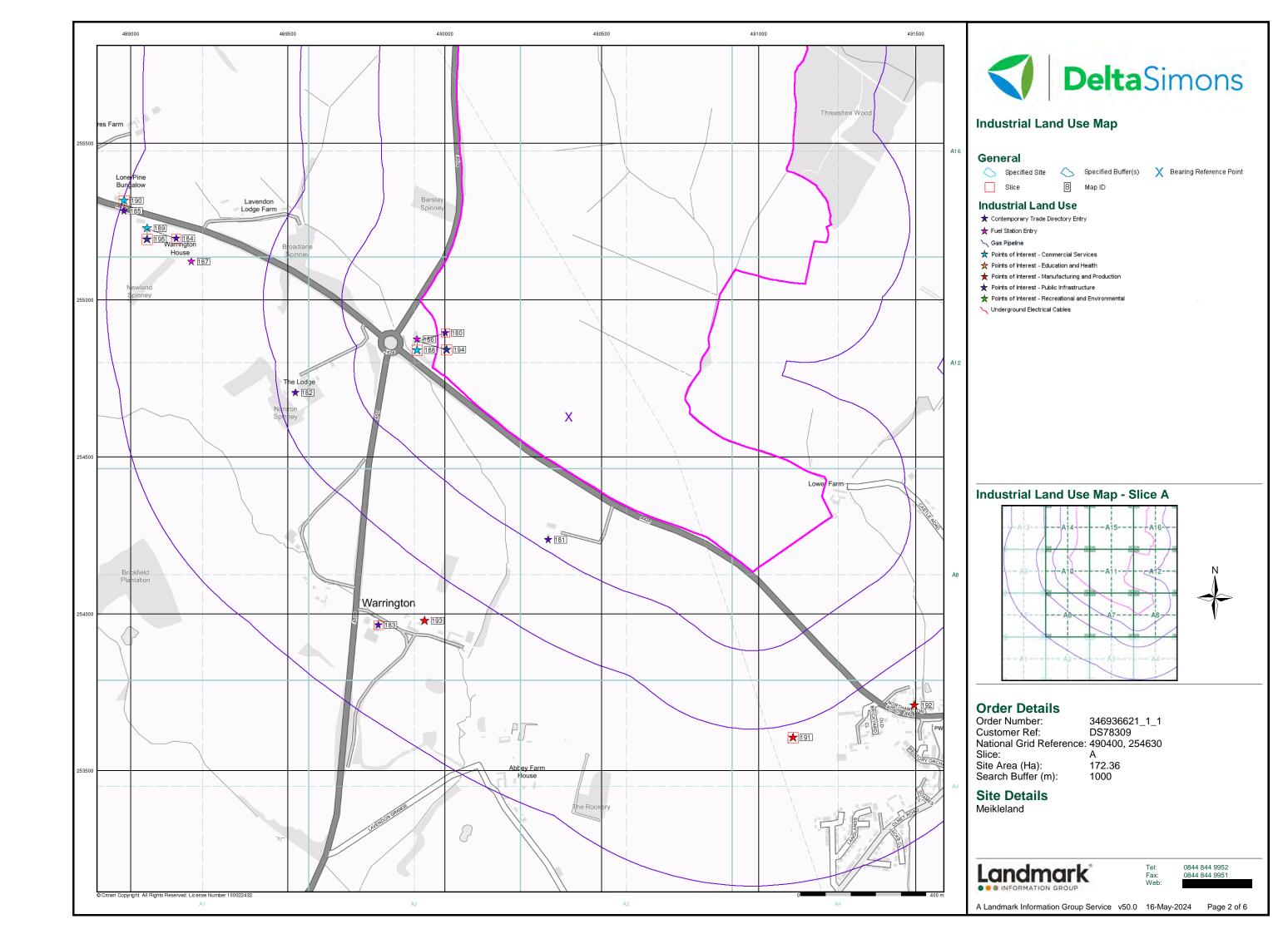


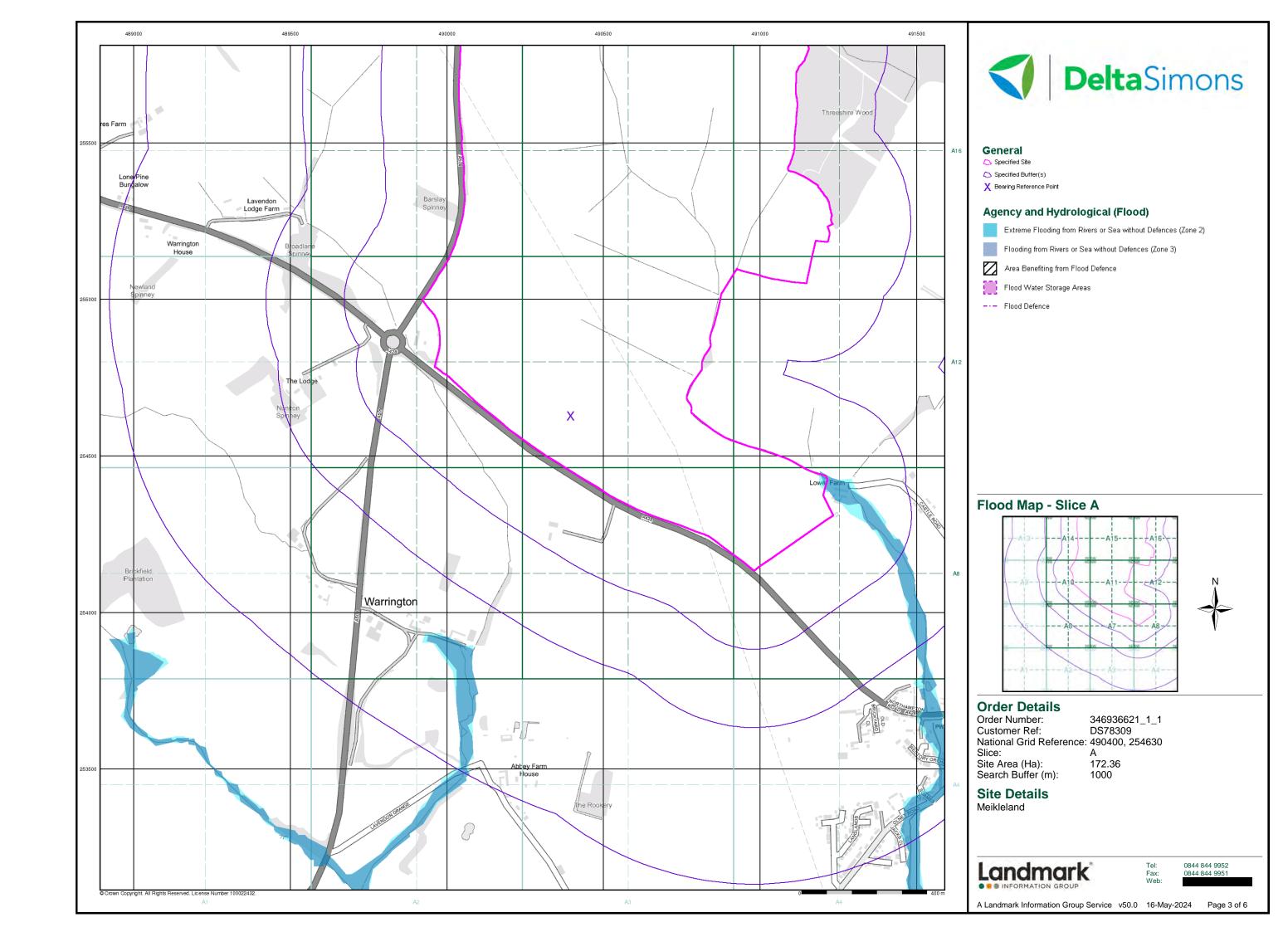


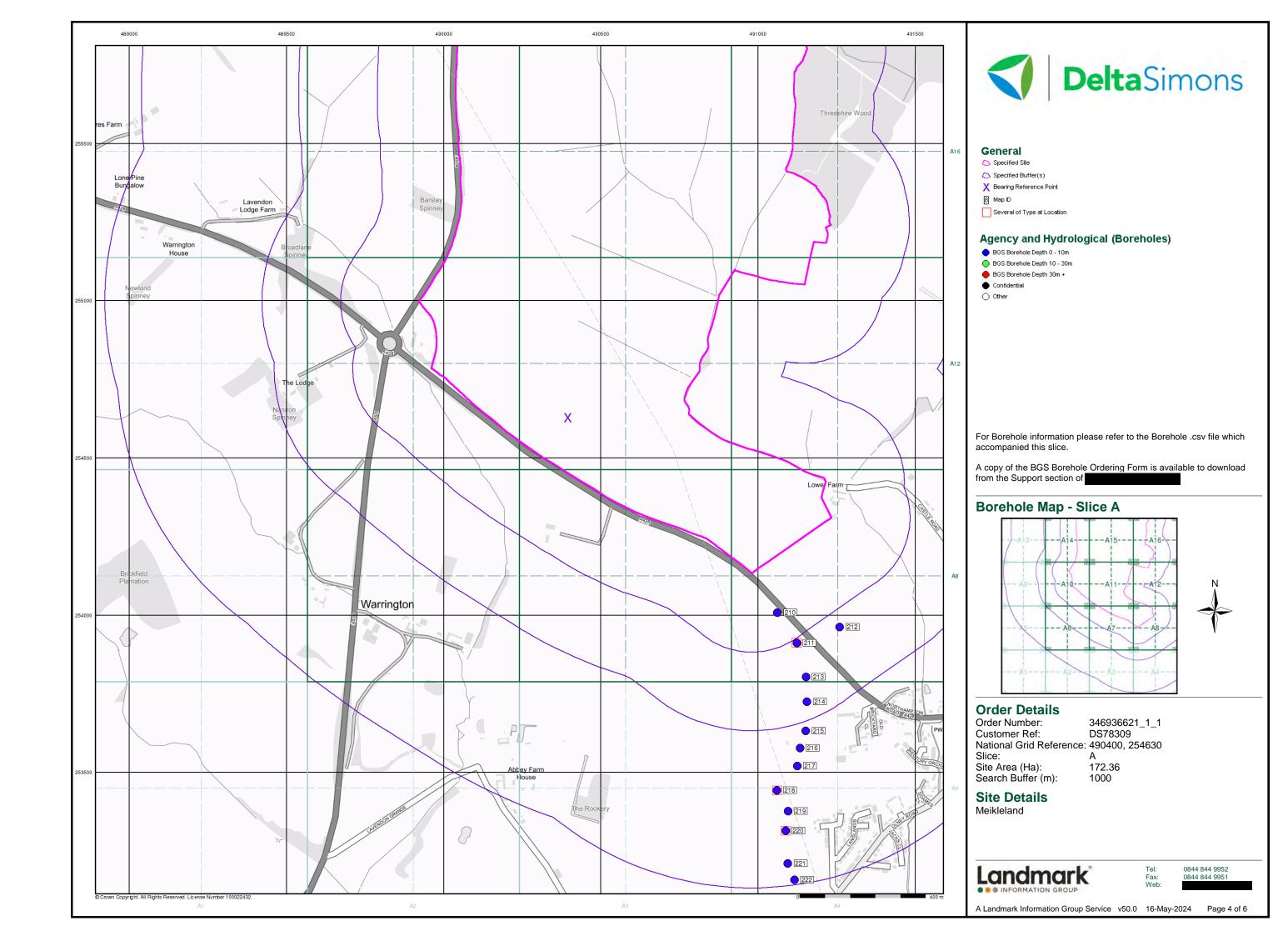


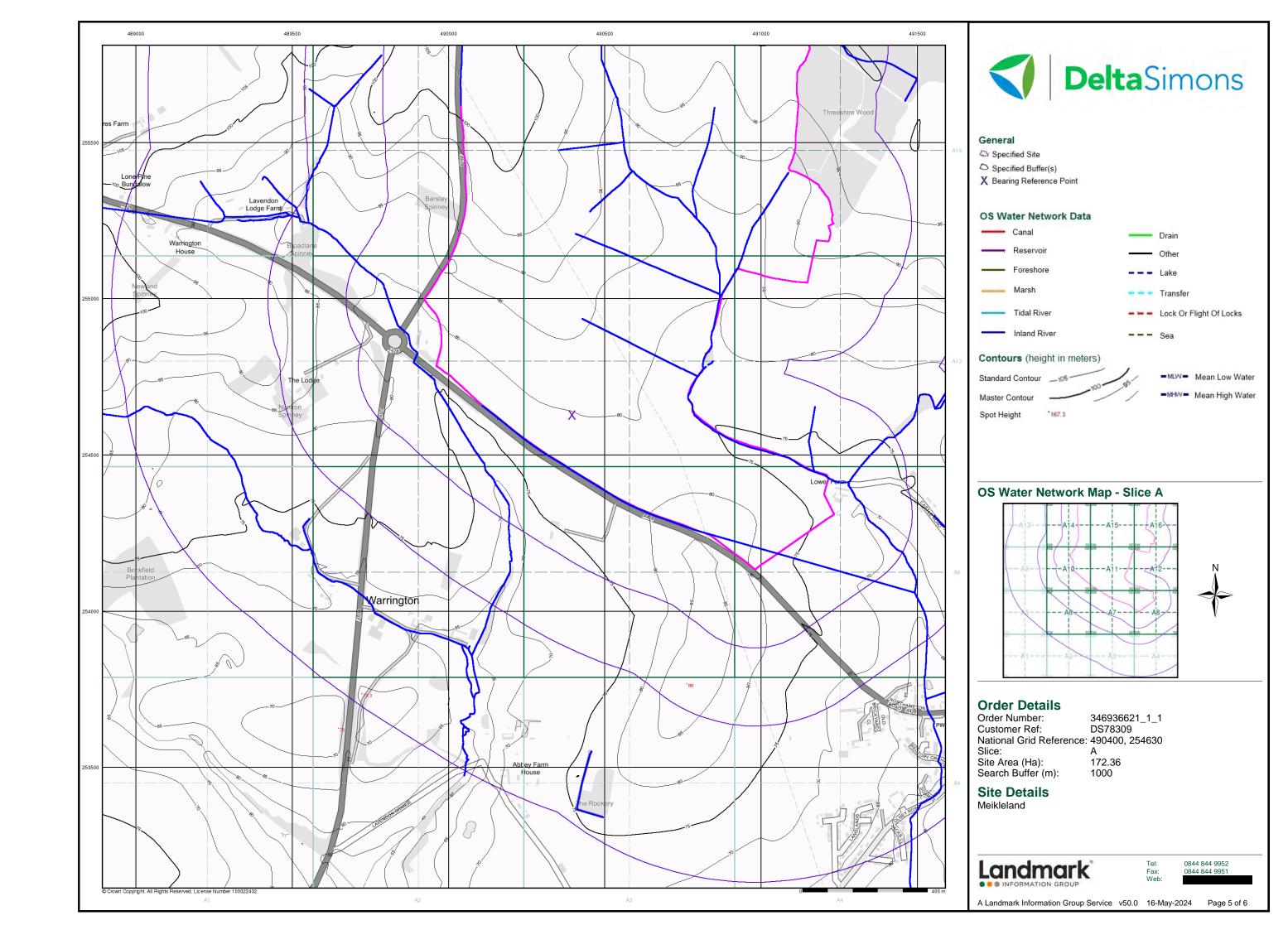


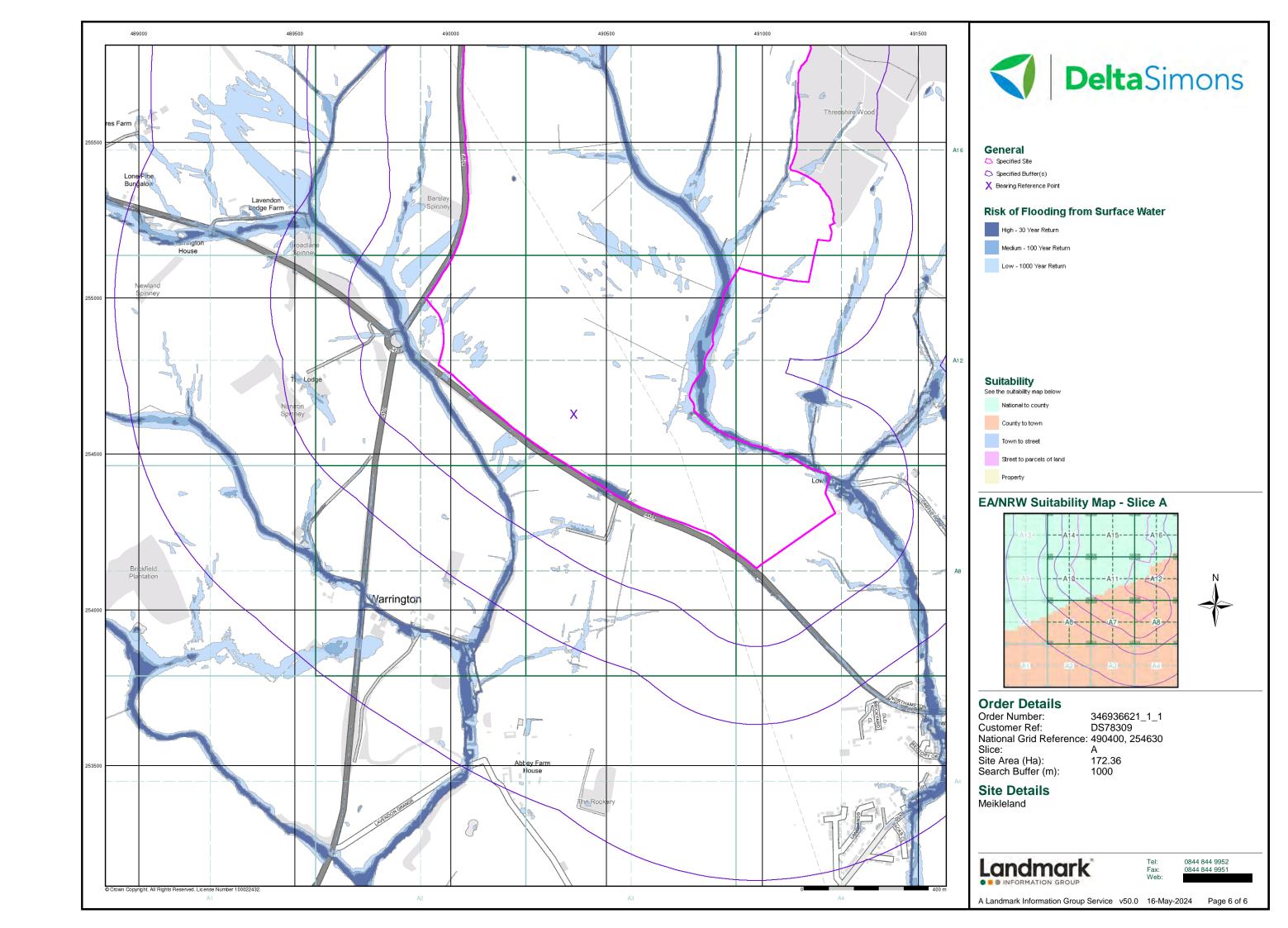


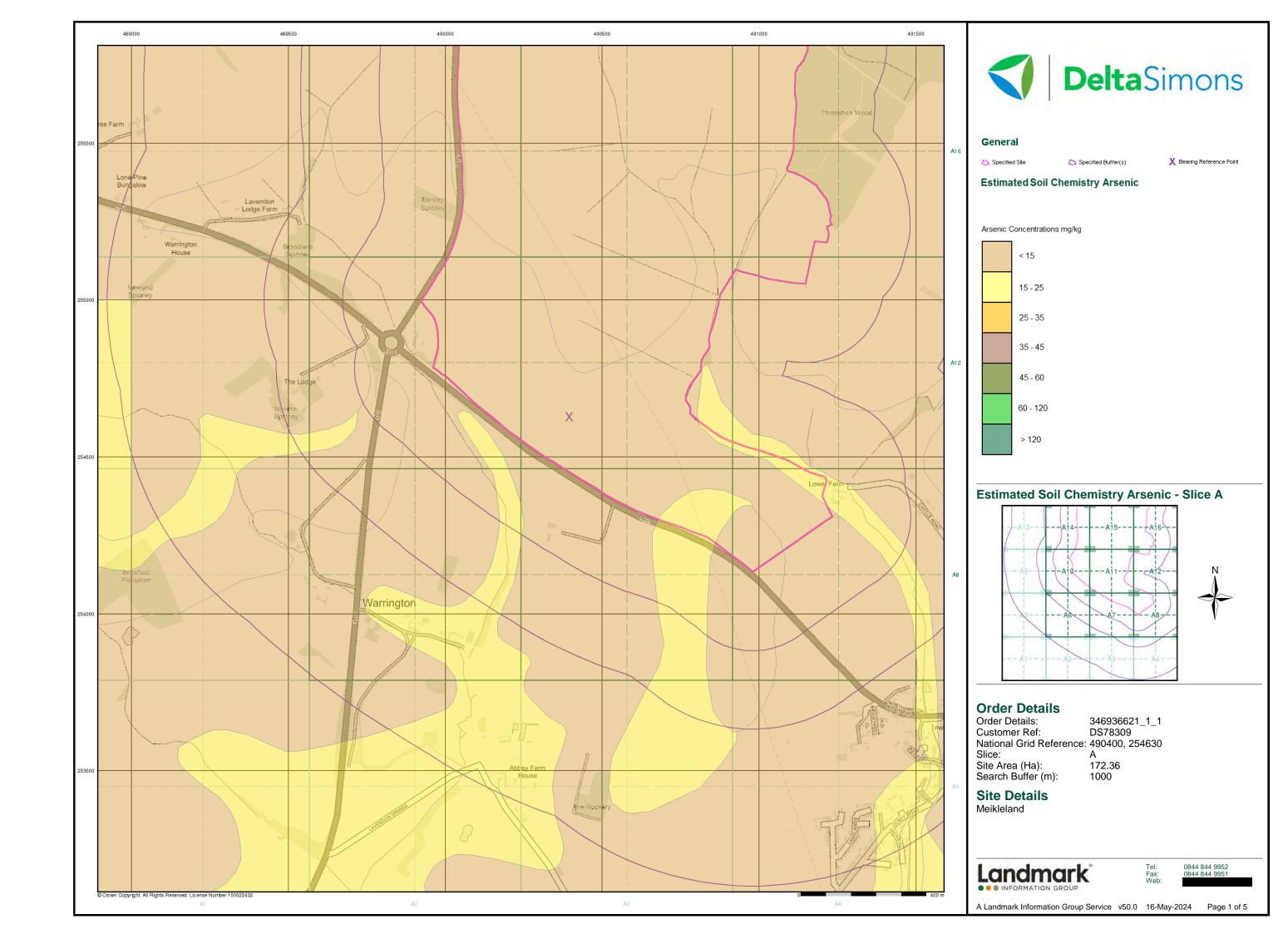


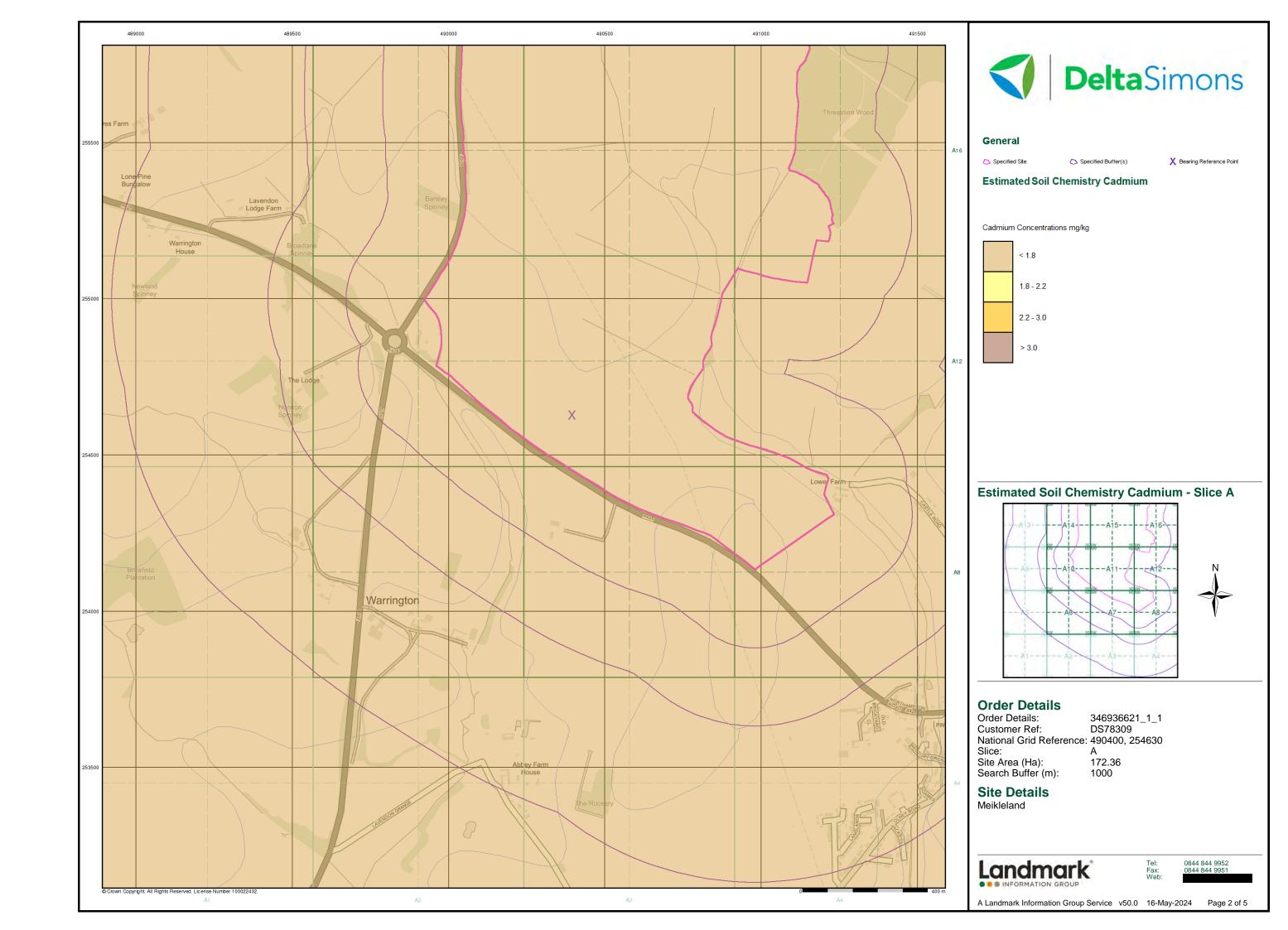


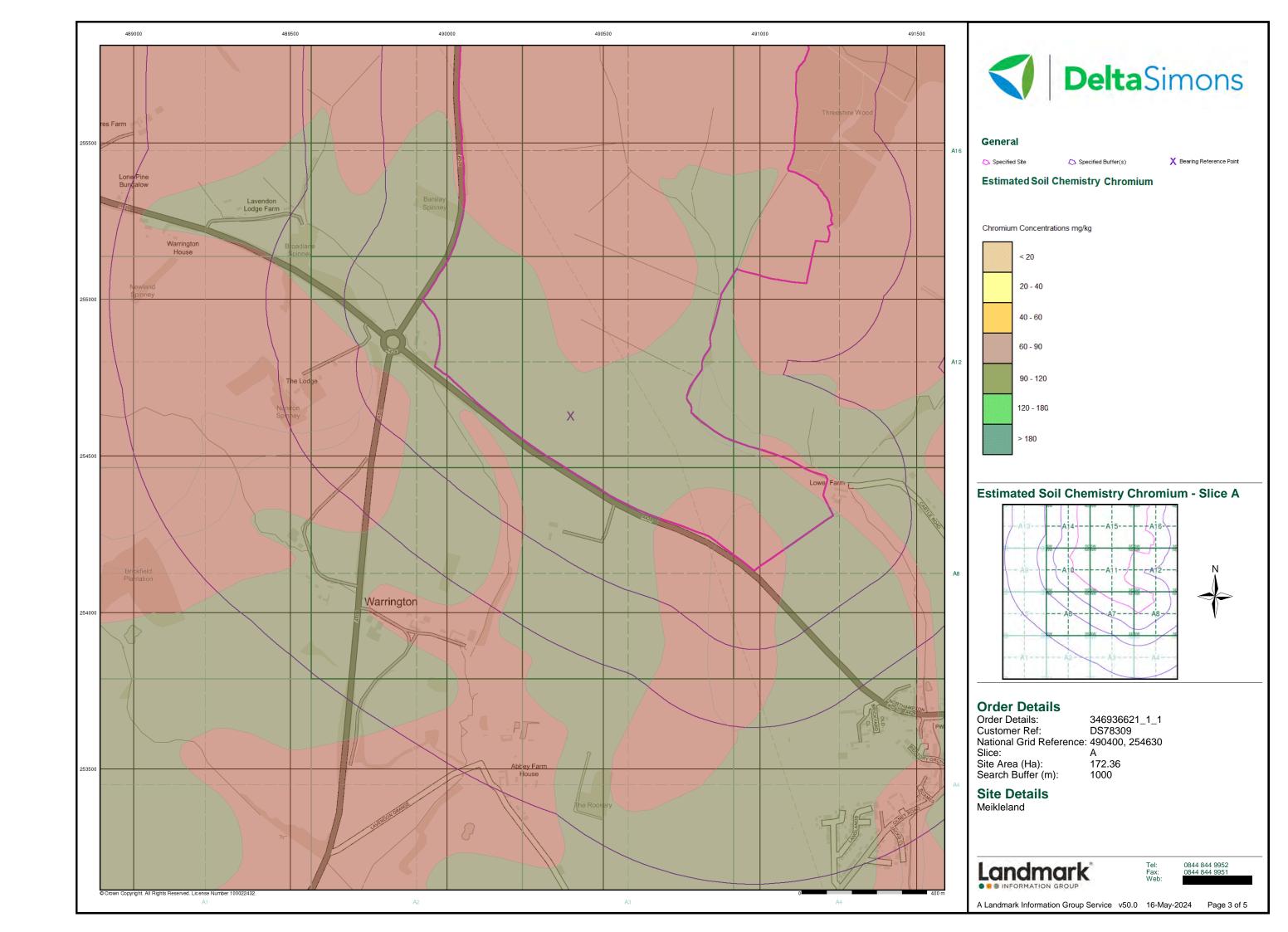


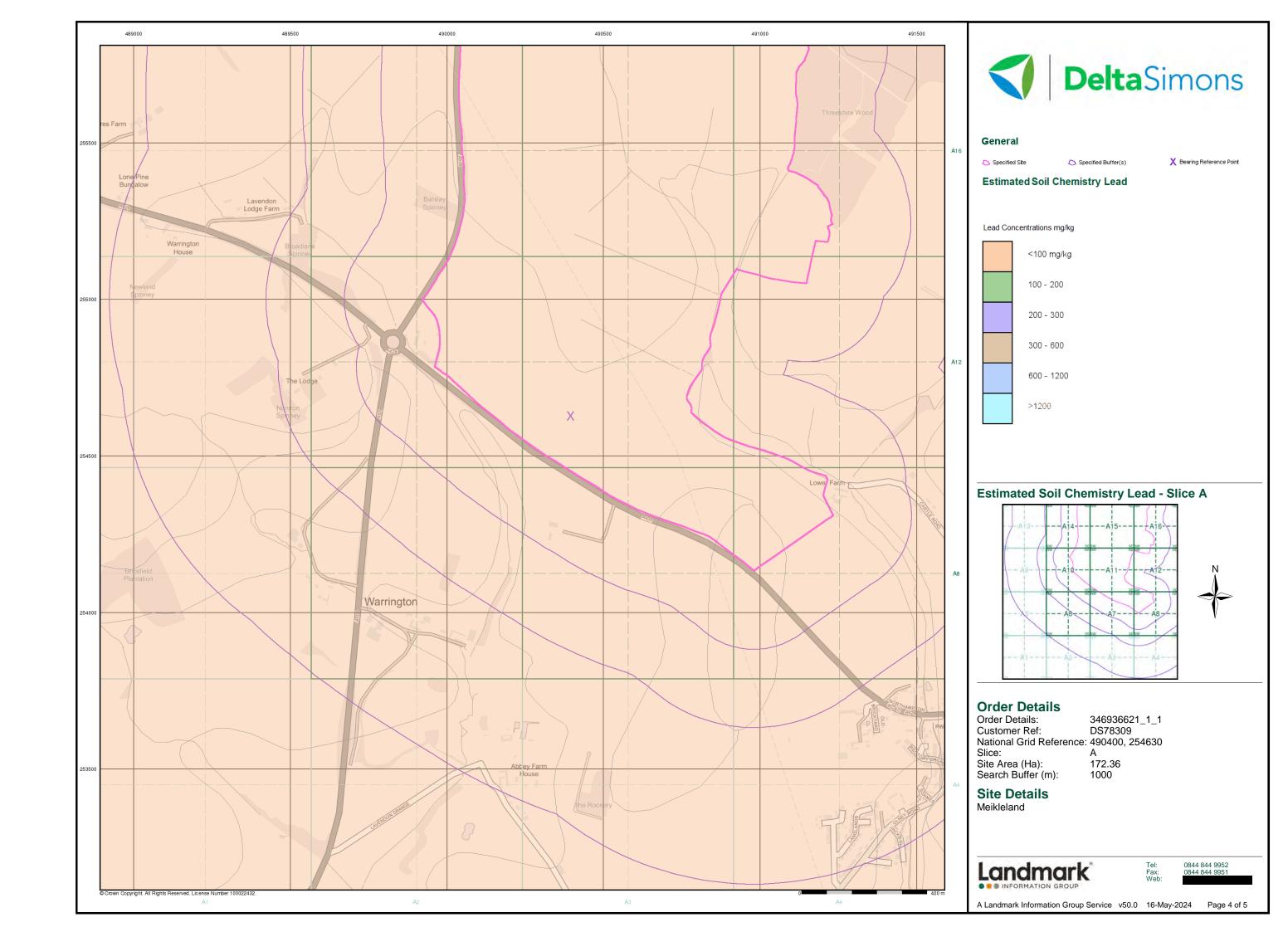


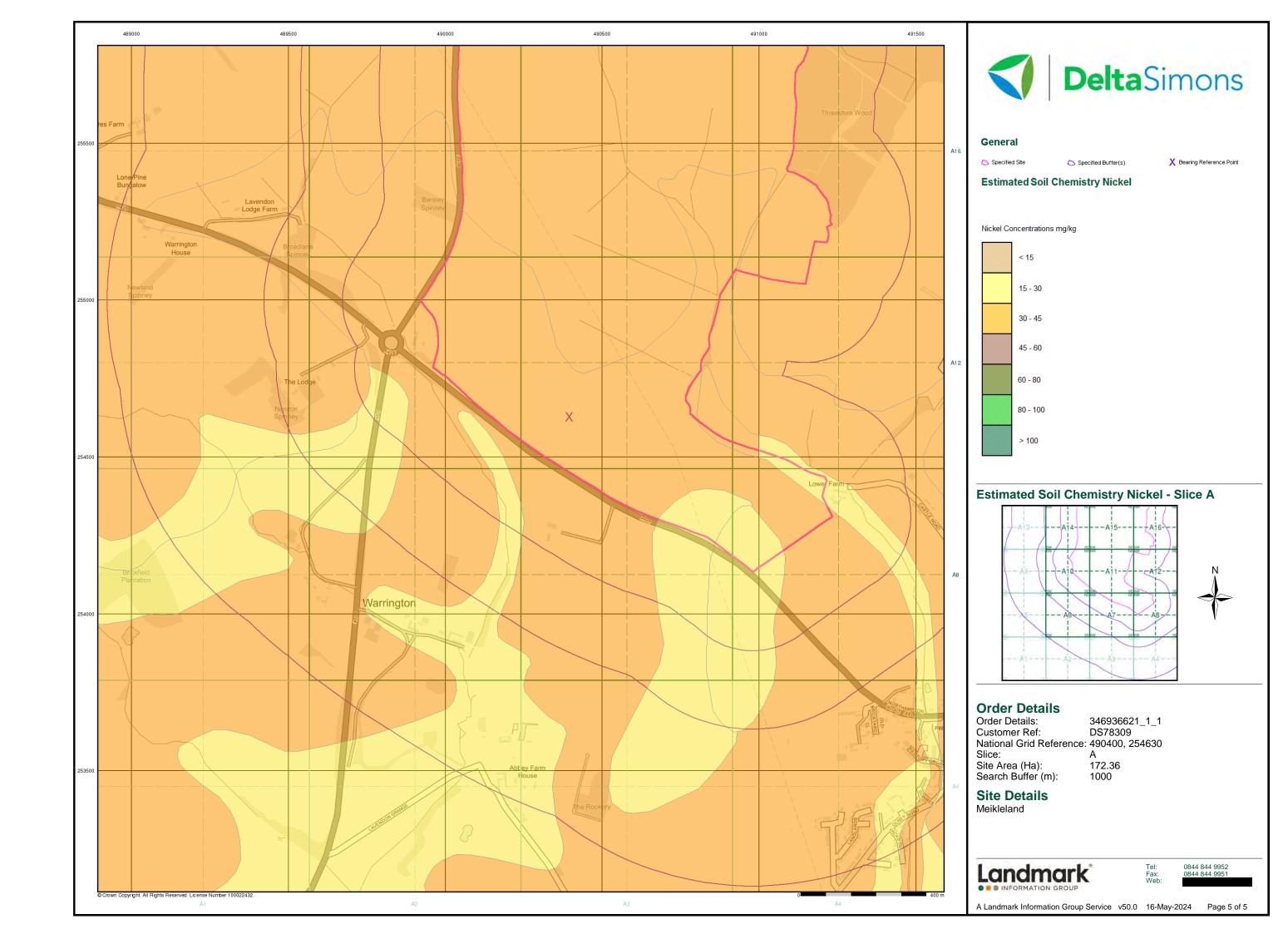


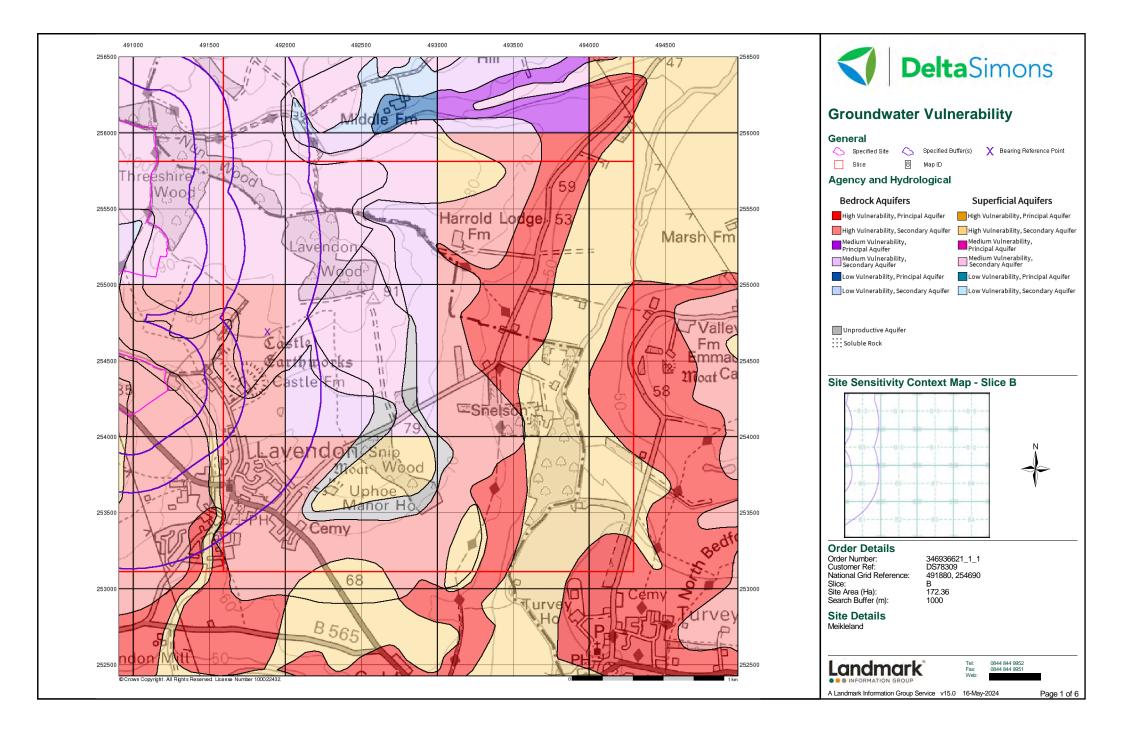


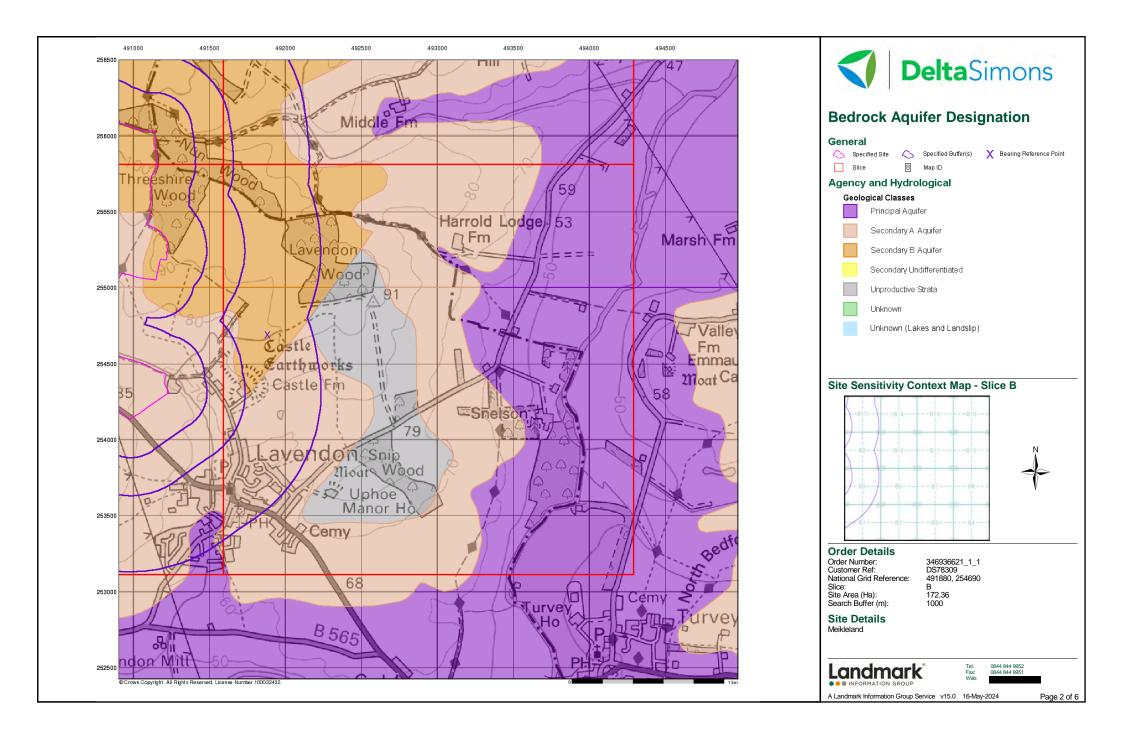


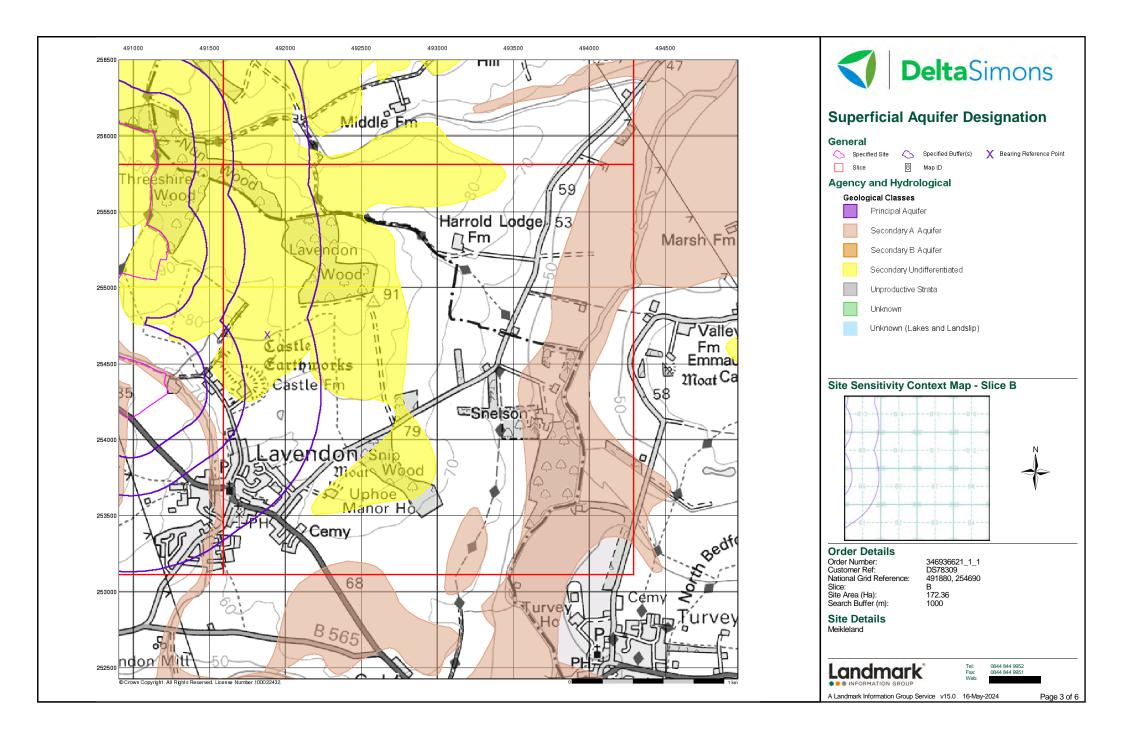


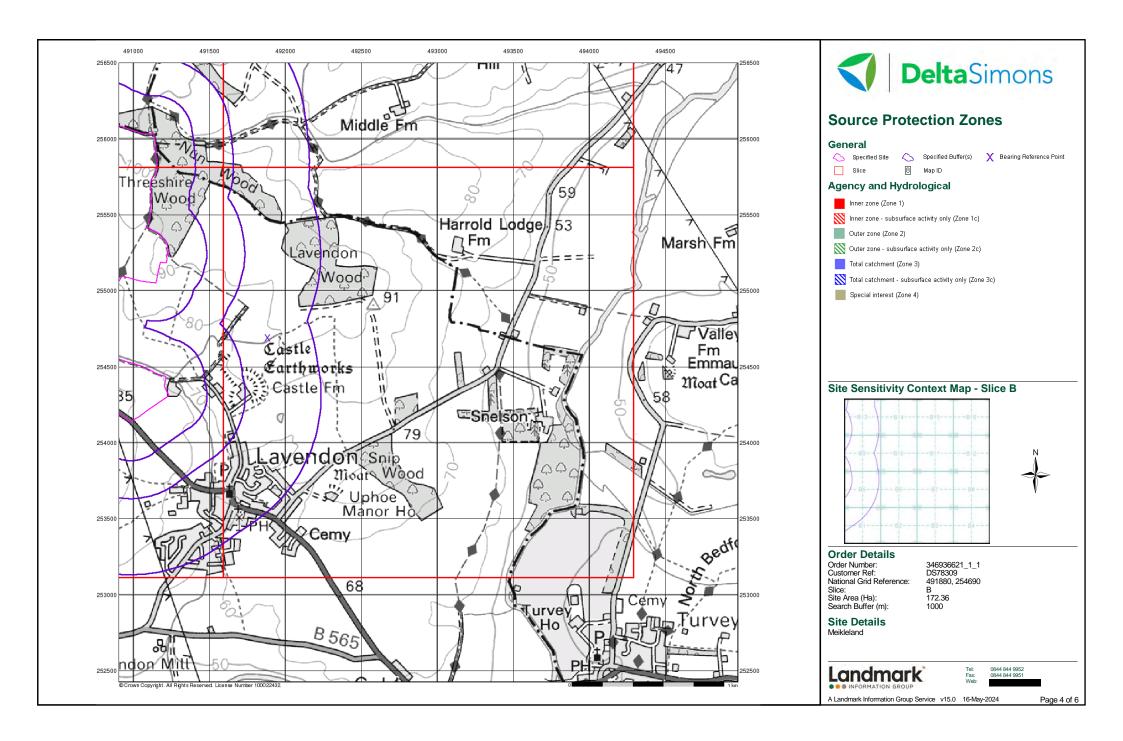


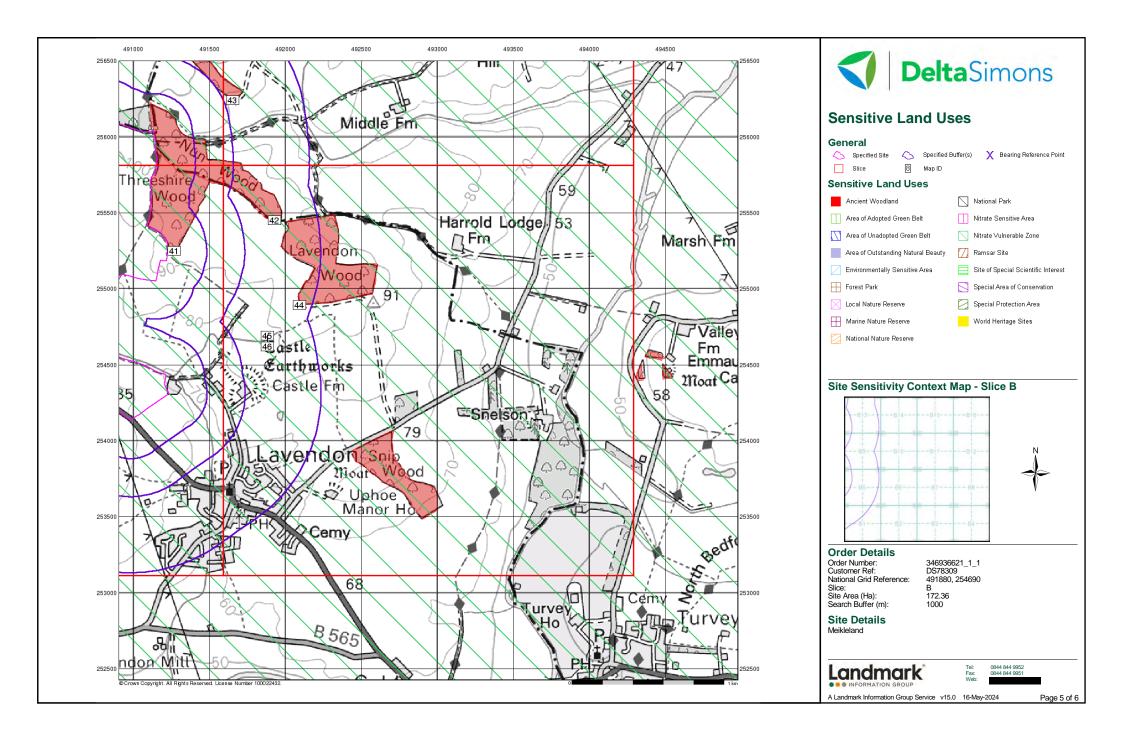


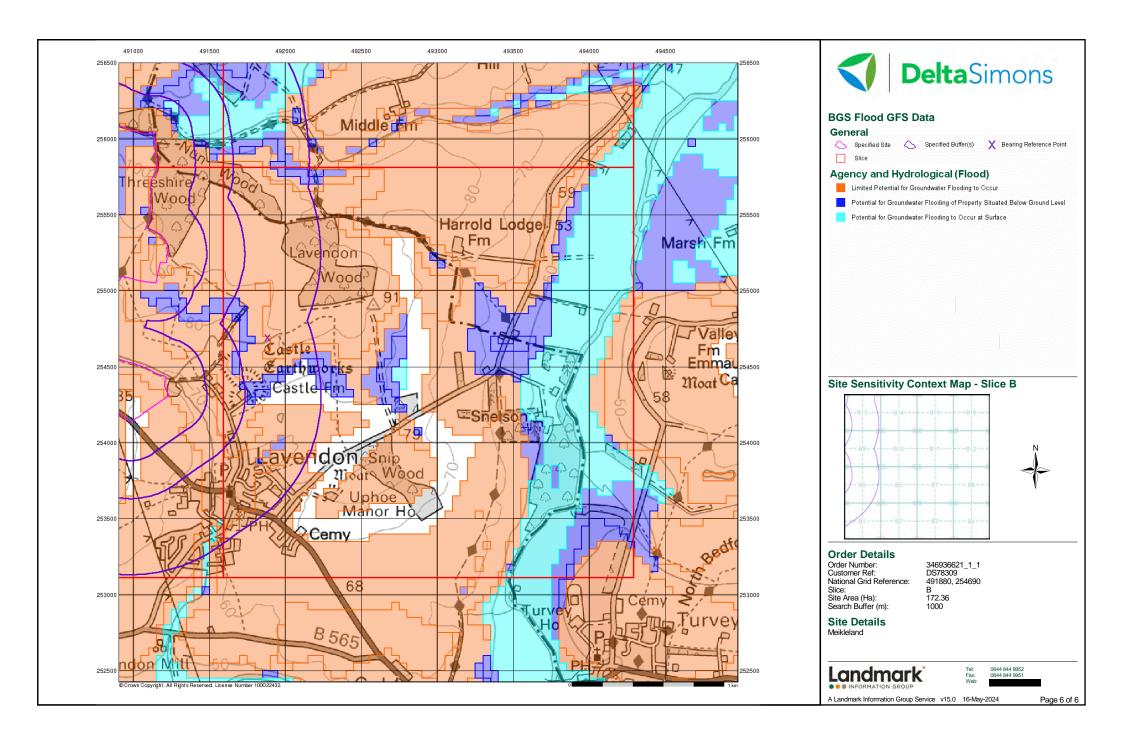














Envirocheck® Report:

Datasheet

Order Details:

Order Number:

346936621_1_1

Customer Reference:

DS78309

National Grid Reference:

491880, 254690

Slice:

R

Site Area (Ha):

172.36

Search Buffer (m):

1000

Site Details:

Meikleland

Client Details:

Delta Simons
Suite 4A
One Portland Street
Manchester
M1 3BE



Order Number: 346936621_1_1 Date: 16-May-2024 rpr_ec_datasheet v53.0 A Landmark Information Group Service





Report Section	Page Number
Summary	-
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Waste	11
Hazardous Substances	-
Geological	12
Industrial Land Use	15
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Data Suppliers	24
Useful Contacts	25

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread,

and to the vulnerable targets of contamination, as it does the potential sources of contamination.

For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client. In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0





Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 2			1	
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 3			Yes	
Pollution Incidents to Controlled Waters	pg 3				1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 3				1 (*1)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 3	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk	pg 7	6	n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 7	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 7	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 7	Yes		n/a	n/a
Flooding from Rivers or Sea without Defences	pg 7	Yes		n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 8			14	13



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 11	3	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)					
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					





Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 12	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 12	Yes			Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 13	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 13	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 13	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 13	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 14	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 15				6
Fuel Station Entries	pg 15				1
Points of Interest - Commercial Services	pg 15				3
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 15				2
Points of Interest - Public Infrastructure					
Points of Interest - Recreational and Environmental	pg 16				2
Gas Pipelines					
Underground Electrical Cables					



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 17	2			2
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 17	2			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W)	0	1	491050 255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW)	0	1	491150 255300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	0	1	491200 255300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W)	0	1	491000 254350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W)	0	1	491000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW)	0	1	255000 490950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	0	1	255500 491050 255500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW)	0	1	491100 255500
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W)	0	1	490450 255200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	0	1	490950 256050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	B9NW (N)	0	1	491900 255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W)	0	1	490950 254350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	0	1	491350 254200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W)	0	1	491500 254600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	0	1	491400 255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW)	51	1	491300 255000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	B9SW (W)	52	1	491800 254691
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	B9SW (W)	64	1	491700 254691
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W)	102	1	491300 254850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	109	1	491300 256000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	116	1	491200 256150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW)	117	1	491300 256050



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater	Flooding Susceptibility				
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	133	1	491300 256100
	BGS Groundwater	Flooding Susceptibility				
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	(NW)	133	1	491250 256150
	BGS Groundwater	Flooding Susceptibility				
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	139	1	491750 256400
		Flooding Susceptibility				
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	156	1	491500 256150
		Flooding Susceptibility	4.0	450		4040=0
	Flooding Type:	Potential for Groundwater Flooding to Occur at Surface	(N)	159	1	491650 255950
		Flooding Susceptibility				
	Flooding Type:	Limited Potential for Groundwater Flooding to Occur	B9SW (NW)	161	1	491882 254691
		Flooding Susceptibility				
	Flooding Type:	Potential for Groundwater Flooding to Occur at Surface	(N)	163	1	491300 256150
		Flooding Susceptibility				
	Flooding Type:	Limited Potential for Groundwater Flooding to Occur	(N)	203	1	491400 255950
	BGS Groundwater	Flooding Susceptibility				
	Flooding Type:	Limited Potential for Groundwater Flooding to Occur	(NW)	207	1	490950 256350
	BGS Groundwater	Flooding Susceptibility				
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	253	1	491450 255950
	BGS Groundwater	Flooding Susceptibility				
	Flooding Type:	Limited Potential for Groundwater Flooding to Occur	(NW)	270	1	491550 255000
	BGS Groundwater	Flooding Susceptibility				200000
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	302	1	491500 255950
	BGS Groundwater	Flooding Susceptibility				200000
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	344	1	491550 255850
	BGS Groundwater	Flooding Susceptibility				200000
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	(N)	347	1	491700 255900
	BGS Groundwater	Flooding Susceptibility				233900
	Flooding Type:	Limited Potential for Groundwater Flooding to Occur	B13NE	394	1	492050
	BGS Groundwater	Flooding Susceptibility	(N)			255650
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	B9SW	436	1	491700
	BGS Groundwater	Flooding Susceptibility	(SW)			254600
	Flooding Type:	Potential for Groundwater Flooding of Property Situated Below Ground Level	B5NW	469	1	491882
	Discharge Consent	s	(S)			254450
1	Operator:		B5NW	467	2	491700
	Property Type: Location:		(SW)			254300
	Authority: Catchment Area:	Not Supplied				
	Reference: Permit Version:	Pr1nfg0564 1				
	Effective Date:	19th May 1963				
	Issued Date:	19th May 1963 20th February 1991				
	Revocation Date: Discharge Type:	20th February 1991 Sewage Discharges - Final/Treated Effluent - Not Water Company				
	Discharge	Unknown				
	Environment: Receiving Water:	Unknown				
	Status:	Pre National Rivers Authority Legislation where issue date < 01/09/1989		1		

Order Number: 346936621_1_1 Date: 16-May-2024 rpr_ec_datasheet v53.0 A Landmark Information Group Service



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Nearest Surface Wa	nter Feature	(SW)	357	-	491588 254271
2	Property Type: Location: Authority: Pollutant: Note: Incident Date: Incident Reference: Catchment Area: Receiving Water: Cause of Incident: Incident Severity:	to Controlled Waters Not Given Bedford District Environment Agency, Anglian Region Oils - Other Oil Lavendon Road 17th March 1996 3126 Not Given Freshwater Stream/River Unknown Category 3 - Minor Incident Located by supplier to within 100m	B5SW (S)	628	2	491600 253800
3	Water Abstractions Operator: Licence Number: Permit Version: Location: Authority: Abstraction Type: Source: Daily Rate (m3): Yearly Rate (m3): Details: Authorised Start: Authorised Start: Authorised End: Permit Start Date: Permit End Date: Positional Accuracy:	Domestic & Agriculture Not Supplied Well And Borehole 1 4550 Great Oolite; Status: Revoked Not Supplied Not Supplied Not Supplied Not Supplied Not Supplied Located by supplier to within 10m	B5NW (S)	528	2	491760 254275
	Water Abstractions Operator: Licence Number: Permit Version: Location: Authority: Abstraction Type: Source: Daily Rate (m3): Yearly Rate (m3): Details: Authorised Start: Authorised End: Permit Start Date: Permit End Date: Positional Accuracy:	J Northern & Sons 6/33/11/*G/0089 100 Well Harrold Lodge Farm Environment Agency, Anglian Region General Farming And Domestic Water may be abstracted from a single point Groundwater Not Supplied Not Supplied Offer Oolite; Status: Perpetuity 01 January 31 December 1st February 1970 Not Supplied Located by supplier to within 10m	B15SW (NE)	1870	2	493100 255300
	Groundwater Vulner Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	Productive Bedrock Aquifer - High Vulnerability High Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year 40-70% <90% <3m No Data	(W)	0	3	491000 254691



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined	Secondary Bedrock Aquifer - High Vulnerability	(SW)	0	3	491387
	Classification:	High				254194
	Combined Vulnerability:	High				
	Combined Aquifer:	Productive Bedrock Aquifer, No Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow: Dilution:	Well Connected Fractures <300 mm/year				
	Baseflow Index:	40-70%				
	Superficial	<90%				
	Patchiness: Superficial	<3m				
	Thickness:	Com				
	Superficial	Low				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined	Secondary Bedrock Aquifer - Medium Vulnerability	(W)	0	3	490912
	Classification:	M. P.				255000
	Combined Vulnerability:	Medium				
	Combined Aquifer:	Productive Bedrock Aquifer, No Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow: Dilution:	Well Connected Fractures <300 mm/year				
	Baseflow Index:	<40%				
	Superficial	<90%				
	Patchiness: Superficial	3-10m				
	Thickness:	3-10111				
	Superficial	Low				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined	Secondary Bedrock Aquifer - Low Vulnerability	(NW)	0	3	491000
	Classification: Combined	Low				255261
	Vulnerability:	LOW				
	Combined Aquifer:	Productive Bedrock Aquifer, No Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow: Dilution:	Well Connected Fractures <300 mm/year				
	Baseflow Index:	<40%				
	Superficial	>90%				
	Patchiness: Superficial	>10m				
	Thickness:					
	Superficial	Low				
	Recharge:					
	Groundwater Vulne					
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	(NW)	0	3	491000 256000
	Combined	Medium				250000
	Vulnerability:					
	Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed: Bedrock Flow:	Low Mixed				
	Dilution:	<300 mm/year				
	Baseflow Index:	40-70%				
	Superficial Patchiness:	>90%				
	Superficial	>10m				
	Thickness:					
	Superficial	Low				
	Recharge:					



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	(N)	0	3	491882
	Classification: Combined	Medium				256000
	Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year <40%				
	Superficial Patchiness:	>90%				
	Superficial Thickness:	>10m				
	Superficial Recharge:	Low				
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Bedrock Aquifer - High Vulnerability	(W)	0	3	490974 254358
	Combined Vulnerability:	High				
	Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year				
	Baseflow Index: Superficial Patchiness:	<00 minyear 40-70% <90%				
	Superficial Thickness:	<3m				
	Superficial Recharge:	No Data				
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Bedrock Aquifer - High Vulnerability	(W)	0	3	491000 254570
	Combined Vulnerability:	High				
	Combined Aquifer: Pollutant Speed: Bedrock Flow:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures				
	Dilution: Baseflow Index: Superficial	<300 mm/year 40-70% <90%				
	Patchiness: Superficial Thickness:	<3m				
	Superficial Recharge:	No Data				
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Bedrock Aquifer - High Vulnerability	(SW)	0	3	491418 254268
	Combined Vulnerability:	High				
	Combined Aquifer: Pollutant Speed: Bedrock Flow:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures				
	Dilution: Baseflow Index:	<300 mm/year 40-70%				
	Superficial Patchiness: Superficial	<90% <3m				
	Thickness: Superficial	Low				
	Recharge:					

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	(NW)	0	3	491000 255413
	Combined Vulnerability:	Medium				
	Combined Aquifer: Pollutant Speed:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index:	<40%				
	Superficial	<90%				
	Patchiness: Superficial	3-10m				
	Thickness:	3 10111				
	Superficial	Low				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	(W)	0	3	491000
	Classification:					255000
	Combined	Medium				
	Vulnerability: Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index:	<40%				
	Superficial Patchiness:	<90%				
	Superficial	3-10m				
	Thickness:					
	Superficial	Low				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	(NW)	0	3	491000
	Classification: Combined	Medium				255496
	Vulnerability:	Wedium				
	Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution: Baseflow Index:	<300 mm/year <40%				
	Superficial	<40% <90%				
	Patchiness:					
	Superficial	3-10m				
	Thickness:	Len				
	Superficial Recharge:	Low				
		wal-life, Man				
	Groundwater Vulne Combined	• •	()4/)	_	2	491063
	Classification:	Secondary Superficial Aquifer - Medium Vulnerability	(W)	0	3	491063 255000
	Combined	Medium				200000
	Vulnerability:					
	Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed: Bedrock Flow:	Intermediate Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index:	<40%				
	Superficial	>90%				
	Patchiness:	40				
	Superficial	>10m				
	Thickness: Superficial	Low				
	Supernoidi	Lon				I



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	B9NW (N)	0	3	491882 255000
	Combined Vulnerability:	Medium	(14)			233000
	Combined Aquifer: Pollutant Speed: Bedrock Flow:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate Well Connected Fractures				
	Dilution: Baseflow Index:	<300 mm/year <40%				
	Superficial Patchiness: Superficial	>90% >10m				
	Thickness: Superficial Recharge:	Low				
	Groundwater Vulne	erability - Soluble Rock Risk				
	Classification:	Significant Risk - Low Possibility	(N)	0	3	491882 256000
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Problems Unlikely	(NW)	0	3	491000
		erability - Soluble Rock Risk	(INVV)	0	3	256000
	Classification:	Significant Risk - Low Possibility	(W)	0	3	491000 255000
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Low Possibility	B9NW (N)	0	3	491882 255000
	Groundwater Vulne Classification:	erability - Soluble Rock Risk Significant Risk - Low Possibility	(W)	0	3	491000 254691
		erability - Soluble Rock Risk				
	Classification:	Significant Risk - Low Possibility	B9SW (NW)	0	3	491882 254691
	Bedrock Aquifer De Aquifer Designation:	esignations Secondary Aquifer - A	B9SE (SE)	0	3	492001 254597
	Bedrock Aquifer De	esignations Secondary Aquifer - A		0	2	
	' '		(W)	0	3	491063 255000
	Bedrock Aquifer De Aquifer Designation:	Secondary Aquifer - B	B9NW (N)	0	3	491882 255000
	Superficial Aquifer Aquifer Designation:	Designations Secondary Aquifer - Undifferentiated	B9NW (N)	0	3	491882 255000
	Superficial Aquifer Aquifer Designation:	Designations Secondary Aquifer - A	(W)	0	3	490974 254358
	Superficial Aquifer Aquifer Designation:	Designations Secondary Aquifer - A	(SW)	0	3	491418
	Extreme Flooding f	From Rivers or Sea without Defences Extent of Extreme Flooding from Rivers or Sea without Defences	(SW)	0	2	254268 491387
	Flood Plain Type: Boundary Accuracy:	Fluvial Models As Supplied	(3)	_	_	254311
	Flooding from Rive Type: Flood Plain Type: Boundary Accuracy:	ers or Sea without Defences Extent of Flooding from Rivers or Sea without Defences Fluvial Models As Supplied	(SW)	0	2	491445 254235
	Areas Benefiting fro	om Flood Defences				
	Flood Water Storag	ge Areas				
	Flood Defences None					

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 31.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	(SW)	357	4	491588 254271
	OS Water Network Lines				
5	Watercourse Form: Inland river Watercourse Length: 14.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5NW (SW)	379	4	491607 254246
6	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 65.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5NW (SW)	386	4	491612 254232
7	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 52.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B9SW (W)	406	4	491592 254681
8	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 310.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B9NW (NW)	409	4	491703 254842
9	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 40.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5NW (SW)	423	4	491691 254342
10	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5NW (SW)	424	4	491634 254171
11	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5NW (SW)	426	4	491635 254167
12	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5NW (SW)	431	4	491637 254160



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 178.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5NW (SW)	434	4	491639 254156
	OS Water Network Lines				
14	Watercourse Form: Lake Watercourse Length: 45.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5NW (SW)	449	4	491675 254388
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B9SW (W)	454	4	491604 254679
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5NW (SW)	459	4	491697 254348
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 368.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B9SW (SE)	463	4	491894 254673
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 215.4 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5SW (S)	560	4	491689 253985
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 163.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B1NW (S)	653	4	491682 253770
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B1NW (S)	703	4	491682 253770
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 78.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5SW (S)	711	4	491753 253824



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5SW (S)	711	4	491755 253825
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 42.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5SW (S)	712	4	491788 253851
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B1NW (S)	714	4	491696 253766
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5SW (S)	720	4	491797 253858
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5SW (S)	722	4	491805 253864
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5SW (S)	725	4	491810 253868
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 350.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5SE (S)	726	4	492028 253977
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5SE (S)	949	4	492129 253995
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	B5SE (SE)	960	4	492217 254035





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority La	ndfill Coverage				
	Name:	Milton Keynes Unitary Council - Has supplied landfill data		0	5	491882 254691
	Local Authority La	ndfill Coverage				
	Name:	Bedford Borough Council - Has supplied landfill data		0	7	491921 255449
	Local Authority La	ndfill Coverage				
	Name:	Bedfordshire County Council - Has no landfill data to supply		0	6	491921 255449

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Description:	d Geology Kellaways Formation And Oxford Clay Formation (Undifferentiated)	B9SW (NW)	0	1	491882 254691
	BGS 1:625,000 Solid Description:	d Geology Great Oolite Group	B9SW	0	1	491745
			(W)			254672
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg <1.8 mg/kg 90 - 120 mg/kg	B9SW (W)	0	1	491646 254721
	Concentration:	30 40 mg/kg				
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg <1.8 mg/kg 60 - 90 mg/kg	B9SW (NW)	0	1	491882 254691
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg <1.8 mg/kg 90 - 120 mg/kg	B9SE (SE)	519	1	492001 254597
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg <1.8 mg/kg 60 - 90 mg/kg	B9SE (SE)	549	1	492097 254518
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg <1.8 mg/kg 90 - 120 mg/kg	B5NE (S)	768	1	492000 254263





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Source: Soil Sample Type: Arsenic	Chemistry British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg	(S)	847	1	491581 253521
	Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	<1.8 mg/kg 60 - 90 mg/kg <100 mg/kg 15 - 30 mg/kg				
	BGS Measured Urb No data available	an Soil Chemistry				
	BGS Urban Soil Che No data available	emistry Averages				
	Coal Mining Affecte In an area that might	not be affected by coal mining				
	Non Coal Mining Ar	eas of Great Britain				
	Potential for Collap Hazard Potential: Source:	sible Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	B9NW (N)	0	1	491882 255000
	Potential for Collap Hazard Potential: Source:	sible Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	B9SW (NW)	0	1	491882 254691
	Potential for Compo Hazard Potential: Source:	ressible Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	B9SW (NW)	0	1	491882 254691
	Potential for Compi Hazard Potential: Source:	ressible Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	B9NW (N)	0	1	491882 255000
	Potential for Groun Hazard Potential: Source:	d Dissolution Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	(W)	0	1	491562 254678
	Potential for Groun Hazard Potential: Source:	d Dissolution Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	B9NW (N)	0	1	491882 255000
	Potential for Groun Hazard Potential: Source:	d Dissolution Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	B9SE (SE)	25	1	492103 254575
	Potential for Groun Hazard Potential: Source:	d Dissolution Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	B9SW (NW)	52	1	491882 254691
	Potential for Groun Hazard Potential: Source:	d Dissolution Stability Hazards Low British Geological Survey, National Geoscience Information Service	B9SW (W)	53	1	491730 254672
	Potential for Lands Hazard Potential: Source:	lide Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	B9NW (N)	0	1	491882 255000
	Potential for Lands Hazard Potential: Source:	lide Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	B9SW (NW)	0	1	491882 254691
	Potential for Runnin Hazard Potential: Source:	ng Sand Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	(W)	0	1	491562 254678
	Potential for Runnin Hazard Potential: Source:	ng Sand Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	B9NW (N)	0	1	491882 255000
	Potential for Runnii Hazard Potential: Source:	ng Sand Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	B9SW (NW)	52	1	491882 254691



Geological

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
		ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	(W)	0	1	491562 254678
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	B9NW (N)	0	1	491882 255000
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Moderate British Geological Survey, National Geoscience Information Service	(SW)	25	1	491395 254327
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	B9SW (NW)	52	1	491882 254691
	Radon Potential - R	adon Affected Areas				
	Affected Area: Source:	The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). British Geological Survey, National Geoscience Information Service	B9NW (N)	0	1	491882 255000
		adon Affected Areas				
	Affected Area:	The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).	B9SW (NW)	0	1	491882 254691
	Source:	British Geological Survey, National Geoscience Information Service				
		adon Protection Measures				
	Protection Measure:	No radon protective measures are necessary in the construction of new dwellings or extensions	B9NW (N)	0	1	491882 255000
	Source:	British Geological Survey, National Geoscience Information Service	(,			200000
	Radon Potential - R	adon Protection Measures				
	Protection Measure: Source:	No radon protective measures are necessary in the construction of new dwellings or extensions British Geological Survey, National Geoscience Information Service	B9SW (NW)	0	1	491882 254691

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Industrial Land Use

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	Contemporary Trad Name: Location: Classification: Status: Positional Accuracy:	e Directory Entries Tranquility Reiki 65, The Glebe, Lavendon, OLNEY, Buckinghamshire, MK46 4HF Ironing & Home Laundry Services Inactive Automatically positioned to the address	B5SW (S)	754	-	491818 253833
32	Contemporary Trad Name: Location: Classification: Status: Positional Accuracy:	e Directory Entries Systemslink Two Ltd 4, High Street, Lavendon, Olney, Buckinghamshire, MK46 4EX Leather Garments & Products Inactive Manually positioned to the address or location	B1NW (S)	808	-	491643 253612
32	Contemporary Trad Name: Location: Classification: Status: Positional Accuracy:	e Directory Entries L W Burrows & Son Lavendon Garage, 6, Olney Road, Lavendon, Olney, MK46 4EU Garage Services Active Automatically positioned to the address	B1NW (S)	817	-	491616 253582
33	Contemporary Trad Name: Location: Classification: Status: Positional Accuracy:	e Directory Entries Full Steam Ahead 26, Joiners Way, Lavendon, Olney, Buckinghamshire, MK46 4JF Ironing & Home Laundry Services Inactive Automatically positioned to the address	B1NW (S)	859	-	491840 253702
34	Contemporary Trad Name: Location: Classification: Status: Positional Accuracy:	Tusting The Tannery Warehouse, 29-31, Olney Road, Lavendon, Olney, Buckinghamshire, MK46 4EU Bags, Belts & Accessories - Manufacturers & Suppliers Active Automatically positioned to the address	B1SW (S)	936	-	491628 253445
35	Contemporary Trad Name: Location: Classification: Status: Positional Accuracy:	le Directory Entries The Good Food & Gift Company 28, High Street, Lavendon, Olney, MK46 4HA Food Products - Manufacturers Inactive Automatically positioned to the address	B1NW (S)	946	-	491779 253537
36	Fuel Station Entries Name: Location: Brand: Premises Type: Status: Positional Accuracy:	Lavendon Garage Olney Road , , Lavendon, Milton Keynes, MK46 4EU Obsolete Not Applicable Obsolete Automatically positioned to the address	B1NW (S)	816	-	491616 253583
37	Name: Location: Category: Class Code:	Commercial Services L W Burrows & Son Lavendon Garage 6, Olney Road, Lavendon, Olney, MK46 4EU Repair and Servicing Vehicle Repair, Testing and Servicing Positioned to address or location	B1NW (S)	816	8	491616 253583
37	Name: Location: Category: Class Code:	Commercial Services Burrows 6 Olney Road, Lavendon, MK46 4EU Repair and Servicing Vehicle Repair, Testing and Servicing Positioned to address or location	B1NW (S)	817	8	491616 253582
38	Name: Location: Category: Class Code:	Commercial Services Norman Kitchener Transport 40 The Glebe, Lavendon, Olney, MK46 4HG Transport, Storage and Delivery Distribution and Haulage Positioned to address or location	B1NW (S)	845	8	491857 253740
39	Name: Location: Category: Class Code:	Manufacturing and Production Works Not Supplied Industrial Features Unspecified Works Or Factories Positioned to an adjacent address or location	B1NW (S)	928	8	491625 253453

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Industrial Land Use

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Points of Interest - I	Manufacturing and Production				
39	Class Code:	Works MK46 Industrial Features Unspecified Works Or Factories Positioned to an adjacent address or location	B1NW (S)	928	8	491625 253453
	Points of Interest - I	Recreational and Environmental				
40	Name: Location: Category: Class Code: Positional Accuracy:	Playground Not Supplied Recreational Playgrounds Positioned to an adjacent address or location	B1NW (S)	882	8	491846 253676
	Points of Interest - I	Recreational and Environmental				
40	Name: Location: Category: Class Code: Positional Accuracy:	Playground Joiners Way, MK46 Recreational Playgrounds Positioned to an adjacent address or location	B1NW (S)	885	8	491839 253665

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Sensitive Land Use

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Ancient Woodla	nd				
41	Name: Reference: Area(m²): Type:	Three Shire Wood 1501796 146931.81 Ancient and Semi-Natural Woodland	(NW)	0	9	491270 255249
	Ancient Woodla	nd				
42	Name: Reference: Area(m²): Type:	Nun Wood 1475867 178825.06 Ancient and Semi-Natural Woodland	B13SE (N)	0	9	491930 255450
	Ancient Woodla	nd				
43	Name: Reference: Area(m²): Type:	Not Supplied 1418468 53849.6 Ancient and Semi-Natural Woodland	(N)	503	9	491653 256241
	Ancient Woodla	nd				
44	Name: Reference: Area(m²): Type:	Lavendon Wood 1503173 205906.44 Ancient and Semi-Natural Woodland	B9NE (NE)	737	9	492092 254893
	Nitrate Vulnerak	ole Zones				
45	Name: Description: Source:	Great Ouse Nvz Surface Water Environment Agency, Head Office	B9SW (NW)	0	3	491882 254691
	Nitrate Vulneral	ole Zones				
46	Name: Description: Source:	Bedford Great Oolite Groundwater Environment Agency, Head Office	B9SW (NW)	0	3	491882 254691

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Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Bedford Borough Council - Environmental Health Department	December 2014	Annual Rolling Update
Environment Agency - Head Office	November 2023	Annually
Milton Keynes Council - Environmental Health Division	October 2017	Annual Rolling Update
Discharge Consents Environment Agency - Anglian Region	April 2024	Quarterly
	April 2024	Quarterly
Enforcement and Prohibition Notices Environment Agency - Anglian Region	March 2013	
Integrated Pollution Controls		
Environment Agency - Anglian Region	January 2009	
Integrated Pollution Prevention And Control		
Environment Agency - Anglian Region	October 2023	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Milton Keynes Council - Environmental Health Department	June 2016	Variable
Bedford Borough Council - Environmental Health Department	March 2015	Variable
Local Authority Pollution Prevention and Controls		
Bedford Borough Council - Environmental Health Department	December 2020	Annual Rolling Update
Milton Keynes Council - Environmental Health Department	June 2016	Not Applicable
Local Authority Pollution Prevention and Control Enforcements		
Milton Keynes Council - Environmental Health Department	June 2016	Variable
Bedford Borough Council - Environmental Health Department	March 2015	Variable
Nearest Surface Water Feature		
Ordnance Survey	March 2024	
Pollution Incidents to Controlled Waters		
Environment Agency - Anglian Region	September 1999	
Prosecutions Relating to Authorised Processes		
Environment Agency - Anglian Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - Anglian Region	March 2013	
Registered Radioactive Substances		
Environment Agency - Anglian Region	June 2016	As notified
Environment Agency - Head Office	May 2023	Quarterly
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	April 2012	
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	April 2012	
Substantiated Pollution Incident Register		
Environment Agency - Anglian Region - Central Area	April 2024	Quarterly
Water Abstractions		_
Environment Agency - Anglian Region	April 2024	Quarterly
Water Industry Act Referrals		
Environment Agency - Anglian Region	October 2017	
Groundwater Vulnerability Map	luno 2049	As notified
Environment Agency - Head Office	June 2018	AS HOURE
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations	04/10/2010	7.0 11041104
Environment Agency - Head Office	January 2018	As notified

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Agency & Hydrological	Version	Update Cycle
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	As notified
Source Protection Zones		
Environment Agency - Head Office	September 2022	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	December 2023	Quarterly
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	December 2023	Quarterly
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	February 2023	Quarterly
Flood Water Storage Areas		
Environment Agency - Head Office	January 2024	Quarterly
Flood Defences		
Environment Agency - Head Office	August 2022	Quarterly
OS Water Network Lines		
Ordnance Survey	April 2024	Quarterly
Surface Water 1 in 30 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water Suitability		
Environment Agency - Head Office	February 2016	Annually
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	As notified

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Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Environment Agency - Head Office	May 2024	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Anglian Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Anglian Region - Central Area	May 2024	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - Anglian Region - Central Area	January 2023	Quarterly
Local Authority Landfill Coverage		
Bedford Borough Council - Environmental Health Department	February 2003	Not Applicable
Bedfordshire County Council (now part of Central Bedfordshire Council)	February 2003	Not Applicable
Milton Keynes Council - Planning and Transport Department	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Bedford Borough Council - Environmental Health Department	October 2018	
Bedfordshire County Council (now part of Central Bedfordshire Council)	October 2018	
Milton Keynes Council - Planning and Transport Department	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - Anglian Region - Central Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Anglian Region - Central Area	April 2018	
Registered Waste Treatment or Disposal Sites	4	
Environment Agency - Anglian Region - Central Area	June 2015	
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	January 2024	Bi-Annually
Explosive Sites		•
Health and Safety Executive	March 2017	
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
Bedfordshire County Council (now part of Central Bedfordshire Council)	July 2008	Annual Rolling Update
Bedford Borough Council	March 2023	Variable
Milton Keynes Council - Planning and Transport Department	May 2023	Variable
Planning Hazardous Substance Consents	•	
Bedford Borough Council	February 2016	Variable
Milton Keynes Council - Planning and Transport Department	February 2016	Variable
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Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology		
British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry		
British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	January 2024	Bi-Annually
CBSCB Compensation District		
Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	
Cheshire Brine Subsidence Compensation Board (CBSCB)	November 2020	As notified
Coal Mining Affected Areas		
The Coal Authority - Property Searches	February 2023	Annual Rolling Update
Mining Instability		
Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain		
British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas		
British Geological Survey - National Geoscience Information Service	October 2023	Annually
Radon Potential - Radon Protection Measures		
British Geological Survey - National Geoscience Information Service	October 2023	Annually

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Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries		
Thomson Directories	April 2024	Quarterly
Fuel Station Entries		
Catalist Ltd - Experian	February 2024	Quarterly
Gas Pipelines		
National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services		
PointX	March 2024	Quarterly
Points of Interest - Education and Health		
PointX	March 2024	Quarterly
Points of Interest - Manufacturing and Production		
PointX	March 2024	Quarterly
Points of Interest - Public Infrastructure		
PointX	March 2024	Quarterly
Points of Interest - Recreational and Environmental		
PointX	March 2024	Quarterly
Underground Electrical Cables		
National Grid	January 2024	Bi-Annually

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	Version	Update Cycle
Ancient Woodland		
Natural England	April 2024	Bi-Annually
Areas of Adopted Green Belt		
Bedford Borough Council	February 2024	Quarterly
Milton Keynes Council - Planning and Transport Department	February 2024	Quarterly
Areas of Unadopted Green Belt		
Bedford Borough Council	February 2024	Quarterly
Milton Keynes Council - Planning and Transport Department	February 2024	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	May 2024	Bi-Annually
Environmentally Sensitive Areas		
Natural England	August 2023	
Forest Parks		
Forestry Commission	May 2023	Not Applicable
Local Nature Reserves		
Natural England	February 2024	Bi-Annually
Marine Nature Reserves		
Natural England	February 2024	Bi-Annually
National Nature Reserves		
Natural England	February 2024	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2023	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	April 2024	Bi-Annually
Ramsar Sites		
Natural England	February 2024	Bi-Annually
Sites of Special Scientific Interest		,
Natural England	April 2024	Bi-Annually
Special Areas of Conservation		
Natural England	April 2024	Bi-Annually
Special Protection Areas	, ipin 2021	2.741100119
Special Protection Areas Natural England	April 2024	Bi-Annually

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A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment Agency
Scottish Environment Protection Agency	SEPA Scottish Environment Protection Agency
The Coal Authority	The Coal Authority
British Geological Survey	British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	Cyfoeth Naturiol Cyfro Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE 판소귀
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Stantec UK Ltd	ARUP Stantec

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Useful Contacts

Contact	Name and Address	Contact Details	
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk	
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk	
3	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409	
4	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk	
5	Milton Keynes Council - Planning and Transport Department PO Box 125, Civic Offices, 1 Saxon Gate East, Milton Keynes, Buckinghamshire, MK9 3ZJ	Telephone: 01908 691691 Fax: 01908 252211 Website: www.miltonkeynes.gov.uk	
6	Bedfordshire County Council (now part of Central Bedfordshire Council) Priory House, Monks Walk, Chicksands, Shefford, Bedfordshire, SG17 5TQ	Telephone: 0300 300 8301 Email: www.centralbedfordshire.gov.uk Website: www.centralbedfordshire.gov.uk	
7	Bedford Borough Council - Environmental Health Department Town Hall, St Pauls Street, Bedford, Bedfordshire, MK40 1SJ	Telephone: 01234 267422 Fax: 01234 325671 Email: enquiries@bedford.gov.uk Website: www.bedford.gov.uk	
8	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY		
9	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk	
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk	
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk	

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

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Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay and Silt	Not Supplied - Holocene
	ODT	Oadby Member	Diamicton	Not Supplied - Anglian
	BIDM	Biddenham Member	Sand and Gravel	Not Supplied - Pleistocene
	FELM	Felmersham Member	Sand and Gravel	Not Supplied - Pleistocene
	STGO	Stoke Goldington Member	Sand and Gravel	Not Supplied - Pleistocene
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	KLS	Kellaways Sand Member	Sandstone and Siltstone, Interbedded	Not Supplied - Callovian
	KLC	Kellaways Clay Member	Mudstone	Not Supplied - Callovian
	PET	Peterborough Member	Mudstone	Not Supplied - Callovian
	СВ	Combrash Formation	Limestone	Not Supplied - Bathonian
	BWC	Blisworth Clay Formation	Mudstone	Not Supplied - Bathonian
	BWL	Blisworth Limestone Formation	Limestone	Not Supplied - Bathonian
	RLD	Rutland Formation	Argillaceous Rocks with Subordinate Sandstone and Limestone	Not Supplied - Bajocian
	RLD	Rutland Formation	Mudstone	Not Supplied - Bajocian
		Faults		



Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

 Map ID:
 1

 Map Sheet No:
 203

 Map Name:
 Bedford

 Map Date:
 2010

 Bedrock Geology:
 Available

 Superficial Geology:
 Available

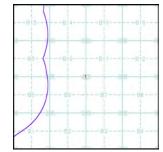
 Artificial Geology:
 Available

 Faults:
 Not Supplied

 Landslip:
 Available

 Rock Segments:
 Not Supplied

Geology 1:50,000 Maps - Slice B





Order Details:

Order Number: Customer Reference: National Grid Reference: Slice: Site Area (Ha):

Slice: B Site Area (Ha): 172.36 Search Buffer (m): 1000

Site Details:

Meikleland



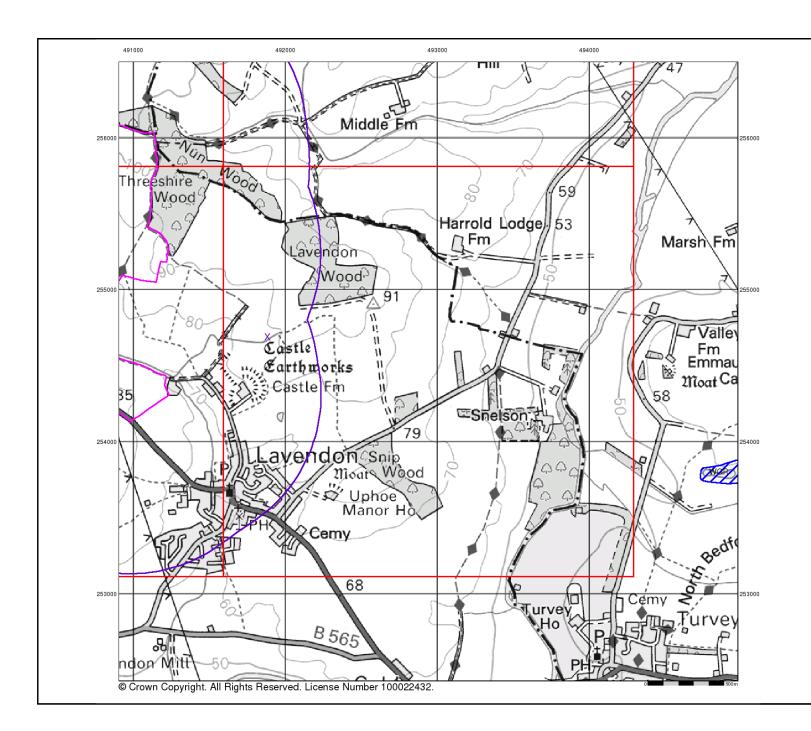


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v15.0 16-May-2024

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Artificial Ground and Landslip

Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

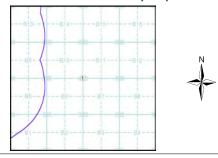
Artificial ground includes:

- Made ground man-made deposits such as embankments and spoil heaps on the natural ground surface.

 - Worked ground - areas where the ground has been cut away such as
- quarries and road cuttings.
- Infilled ground areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground areas where the surface has been reshaped.
 Disturbed ground areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice B



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B 172.36

Order Details:

Order Number: Customer Reference: National Grid Reference:

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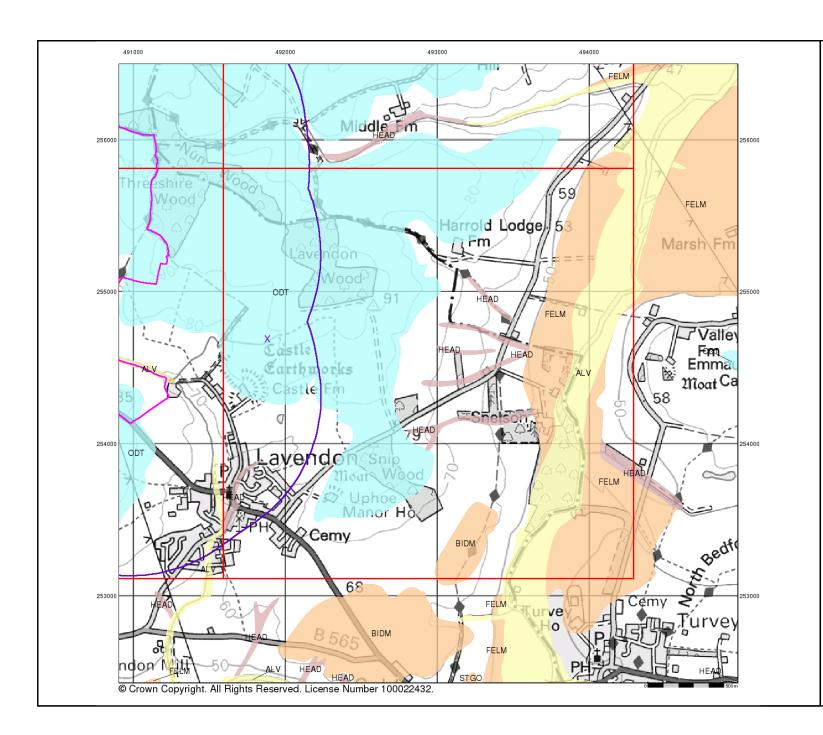
Site Details: Meikleland

Landmark

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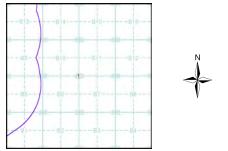
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice B



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Order Details:

Order Number: Customer Reference: National Grid Reference:

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Site Details:

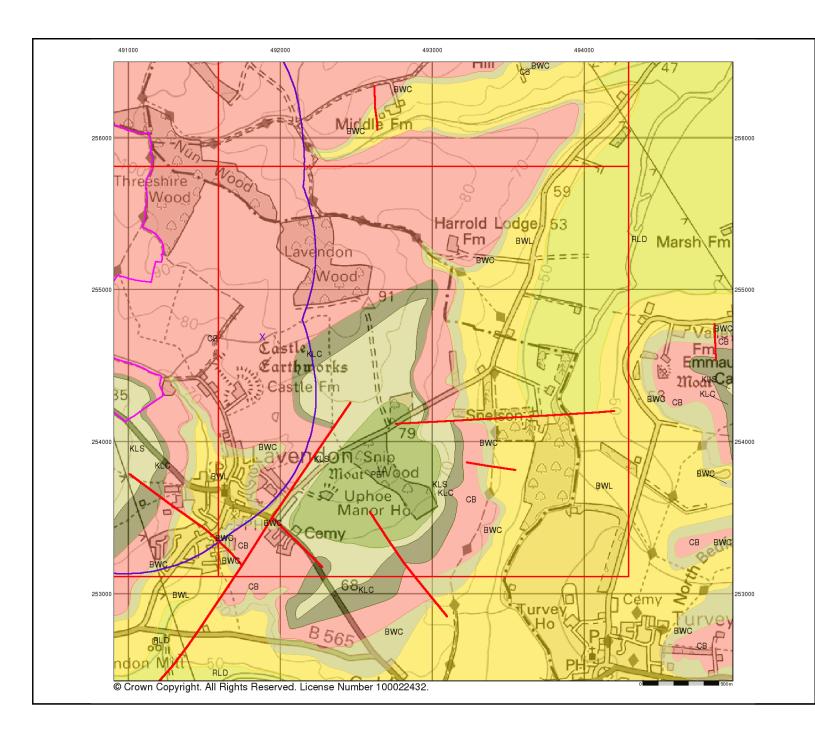
Meikleland



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Bedrock and Faults

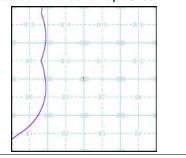
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice B



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Order Details:

Order Number: Customer Reference: National Grid Reference: Site Area (Ha): Search Buffer (m):

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Site Details:

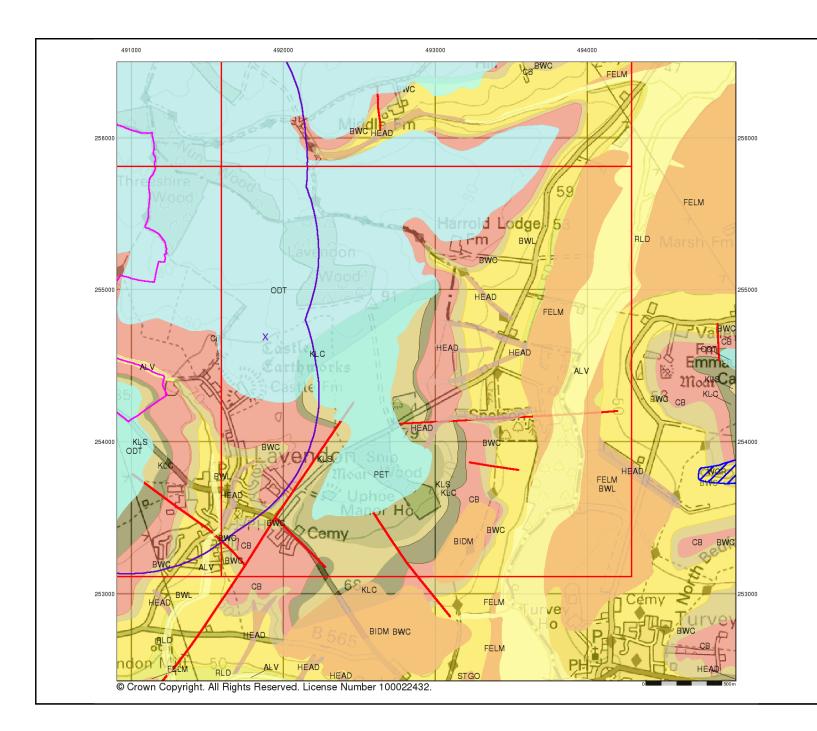
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v15.0 16-May-2024

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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

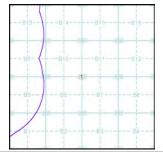
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS

Contact

British Geological Survey Kingsley Dunham Centre Keyworth Nottingham NG12 5GG Telephone: 0115 936 3143 Fax: 0115 936 3276 email: enquiries@bgs.ac.uk website: www.bgs.ac.uk

Combined Geology Map - Slice B





Order Details:

Order Number: Customer Reference: National Grid Reference:

Site Area (Ha): Search Buffer (m):

Site Details: Meikleland

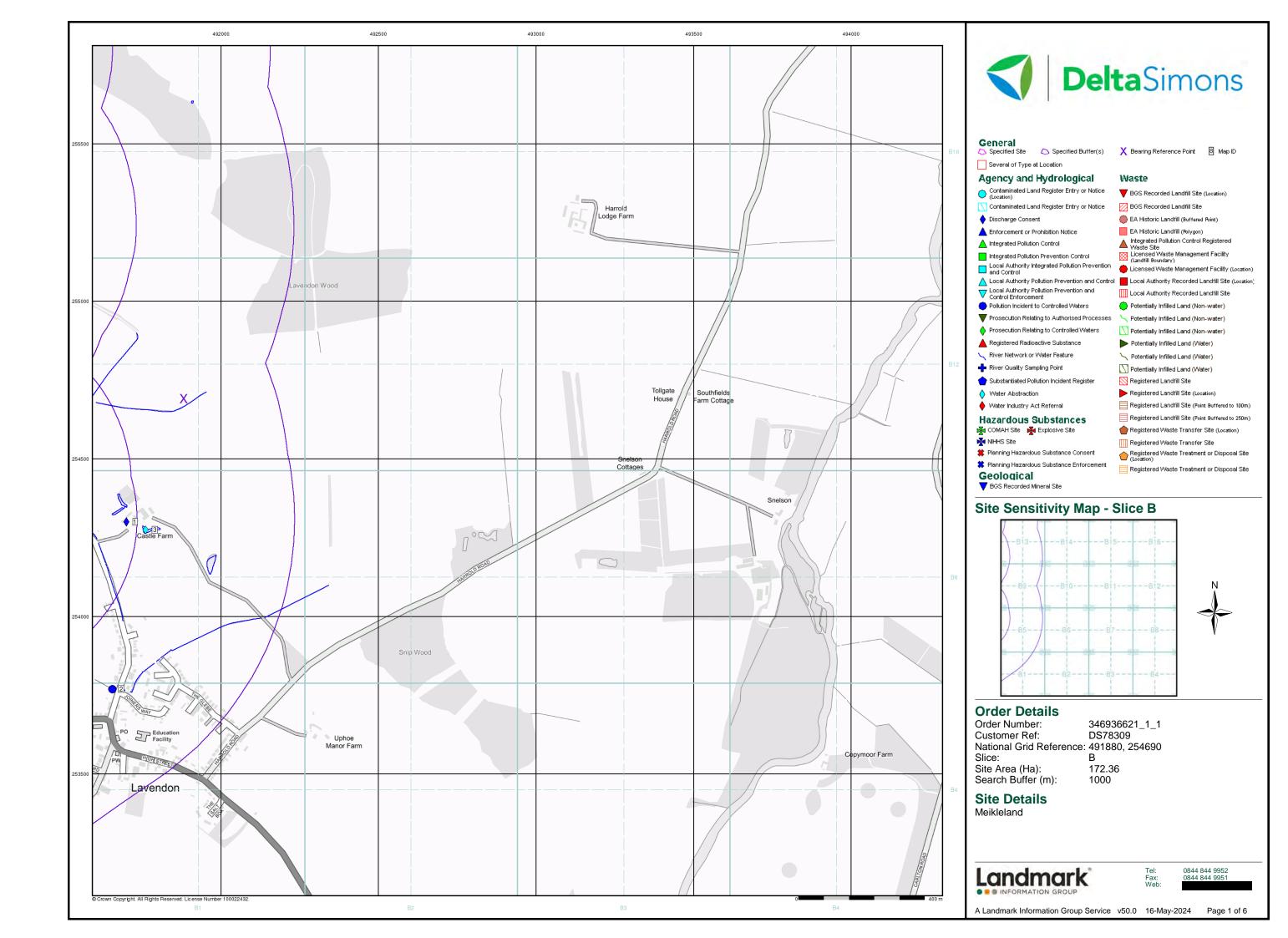
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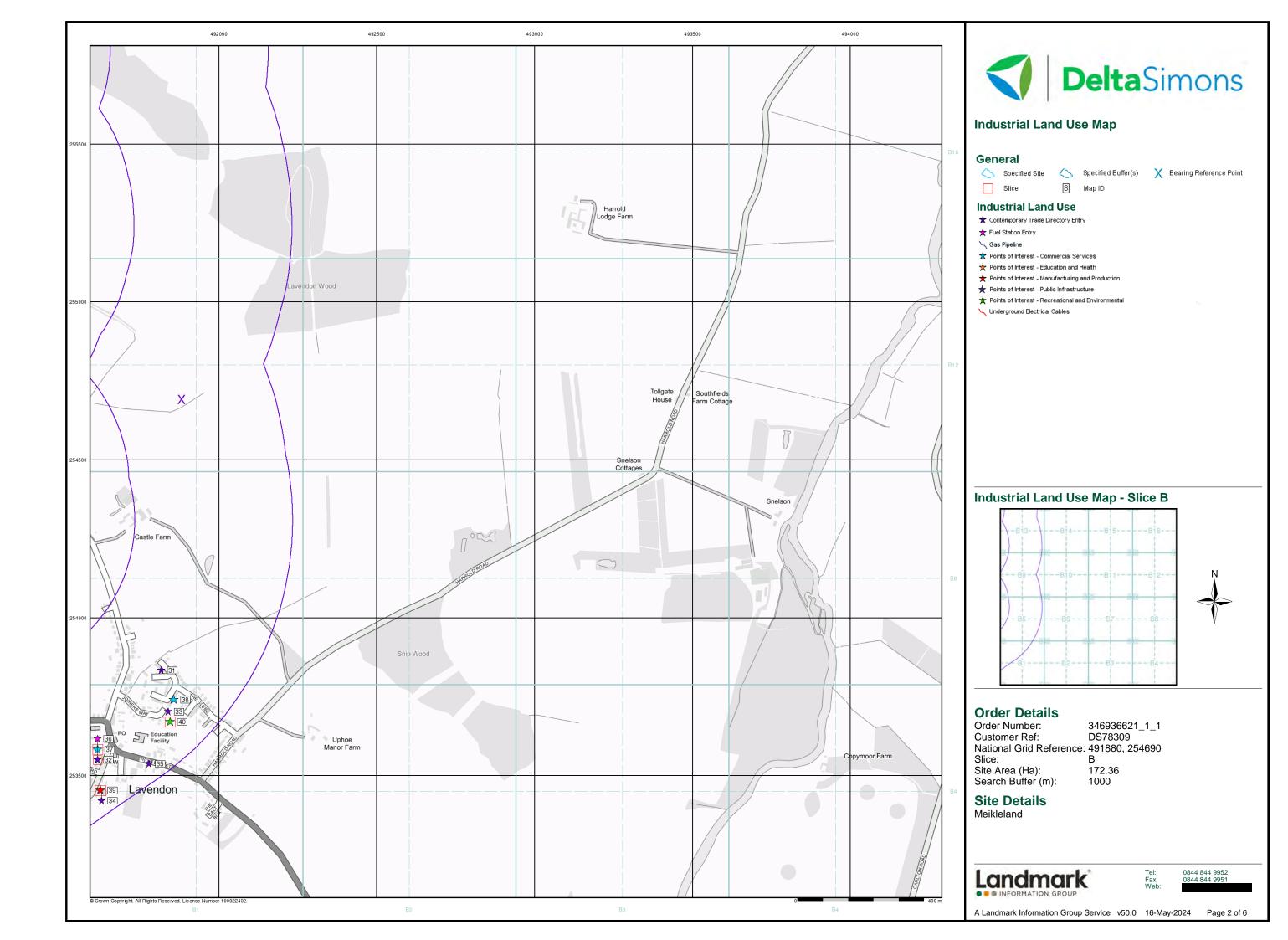


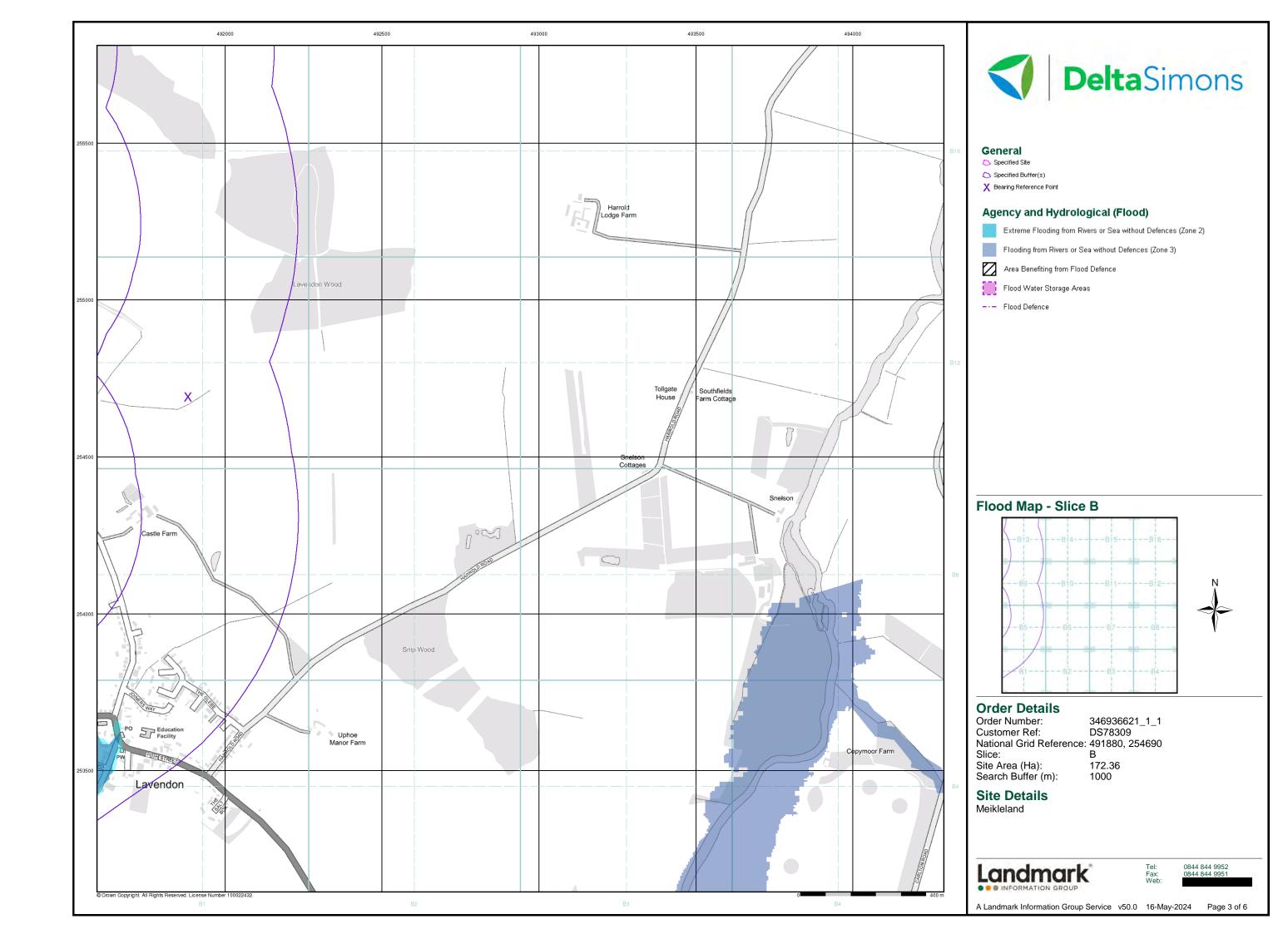
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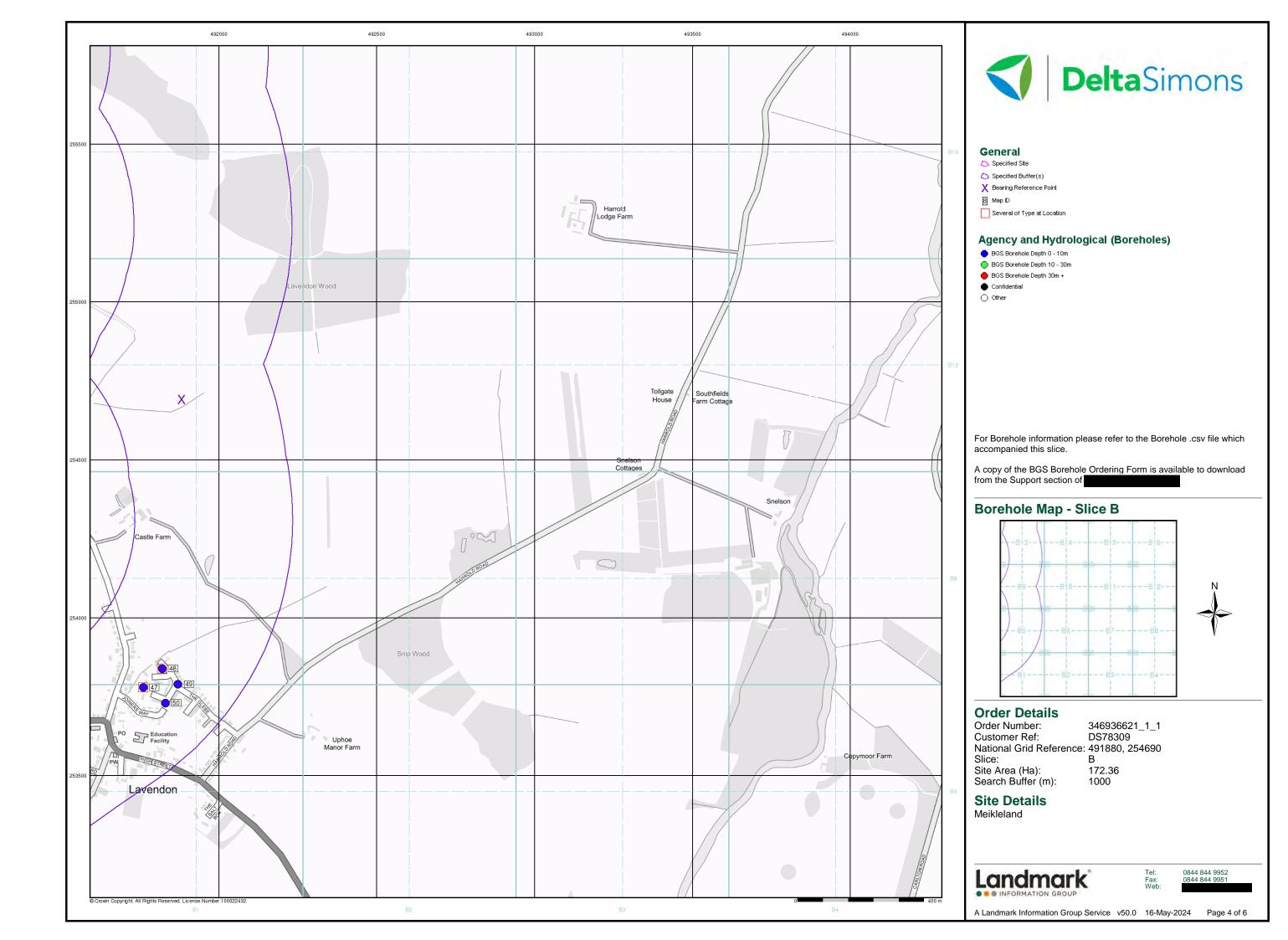
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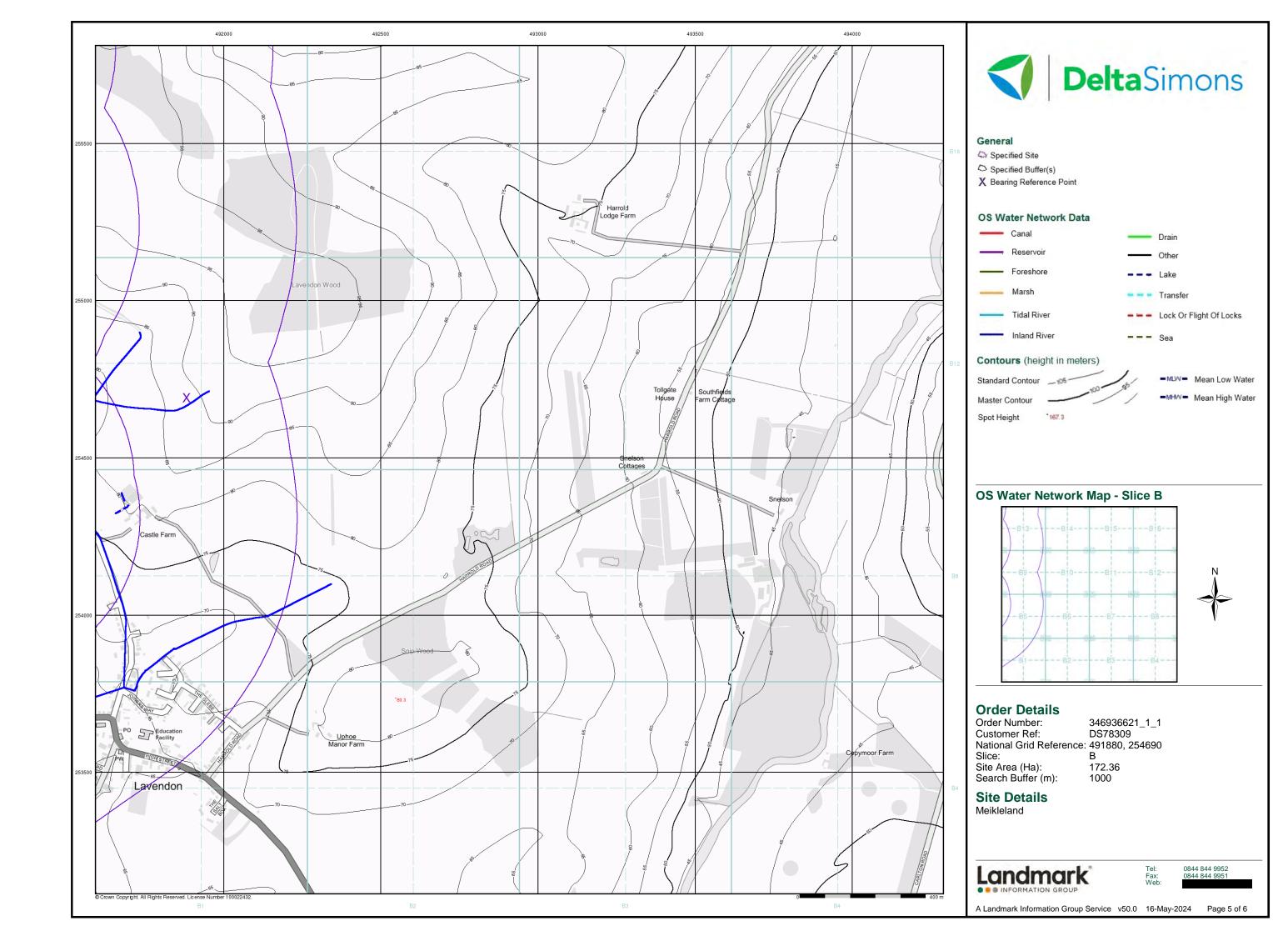
Page 5 of 5

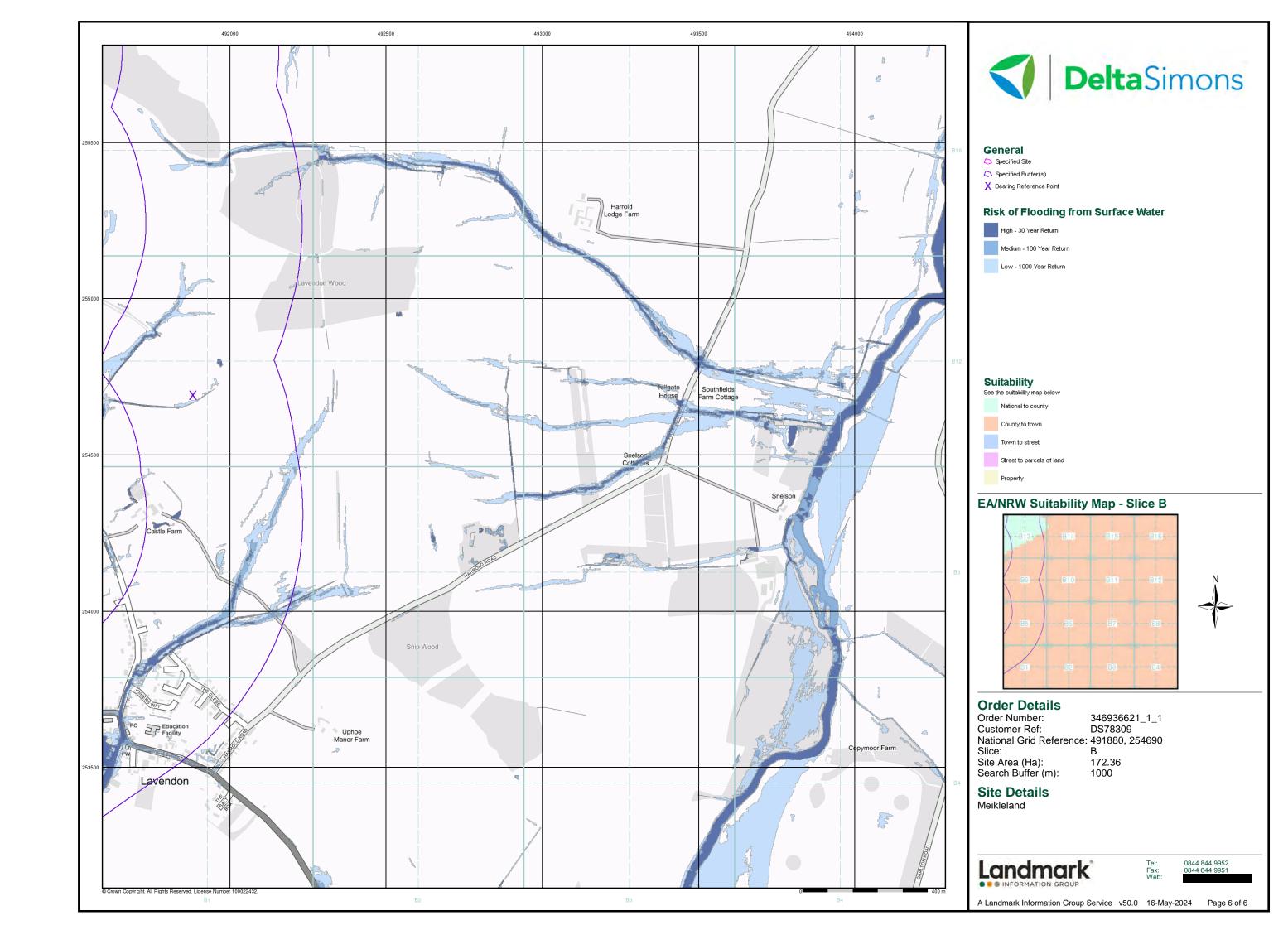


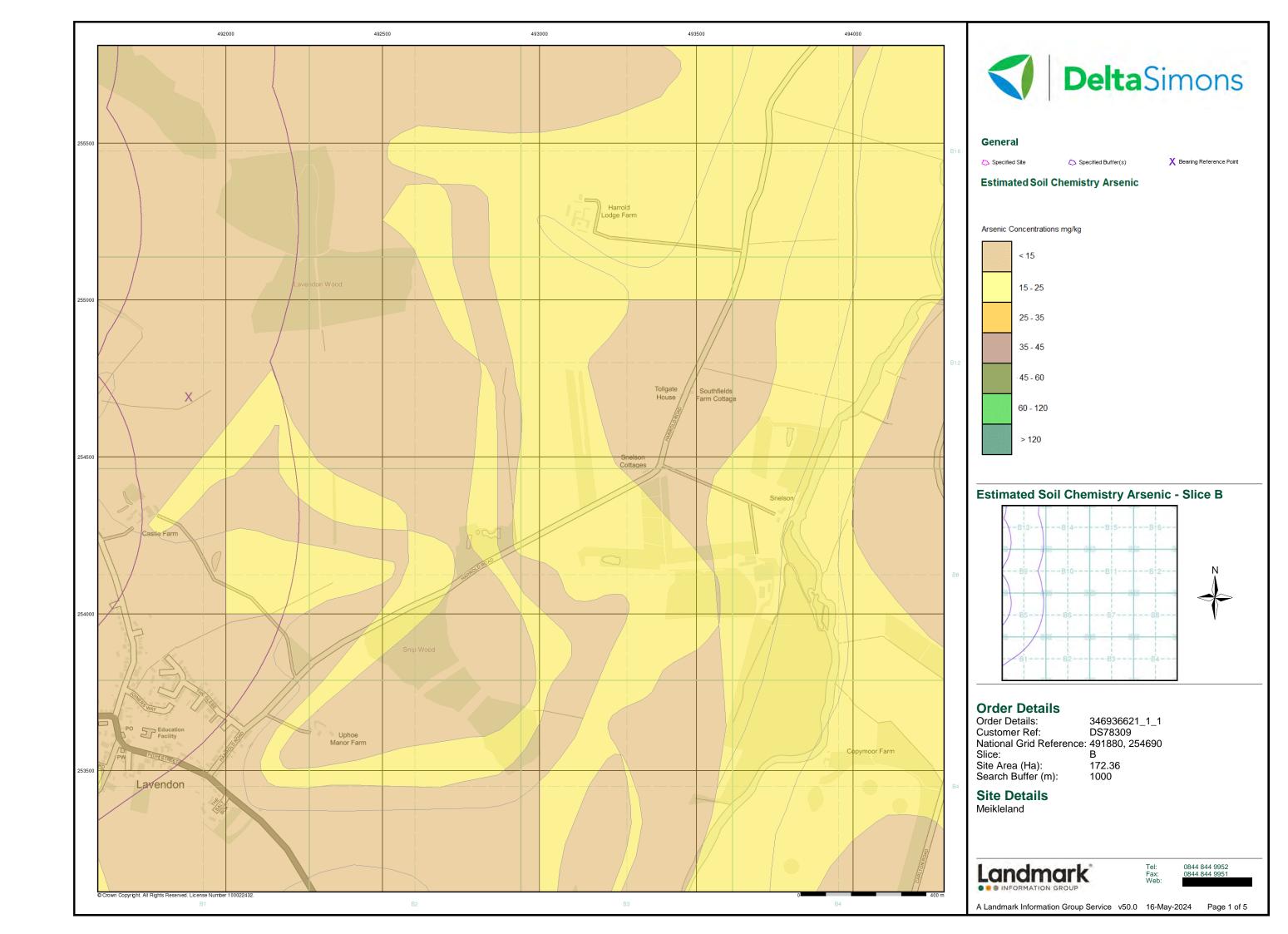


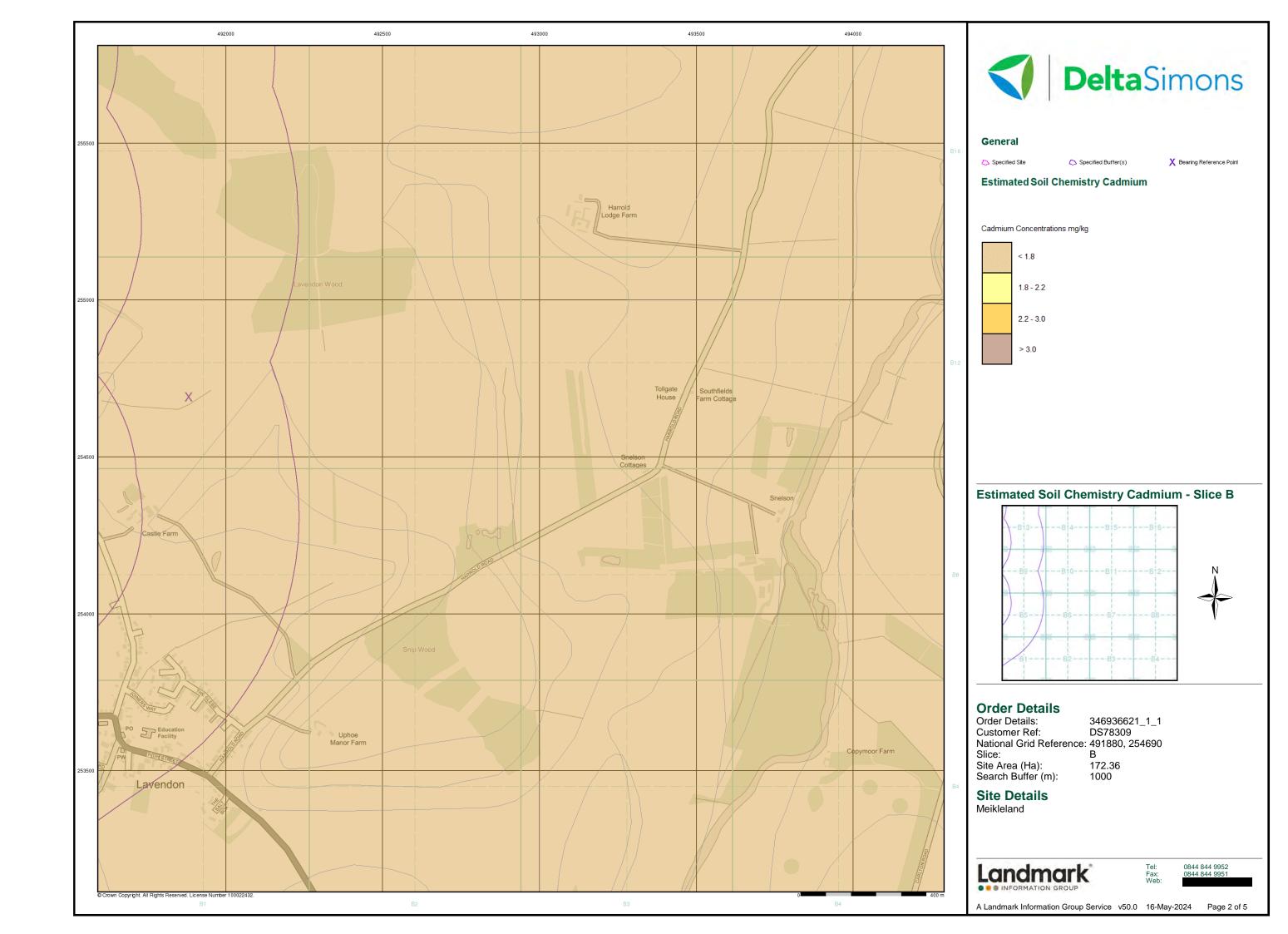


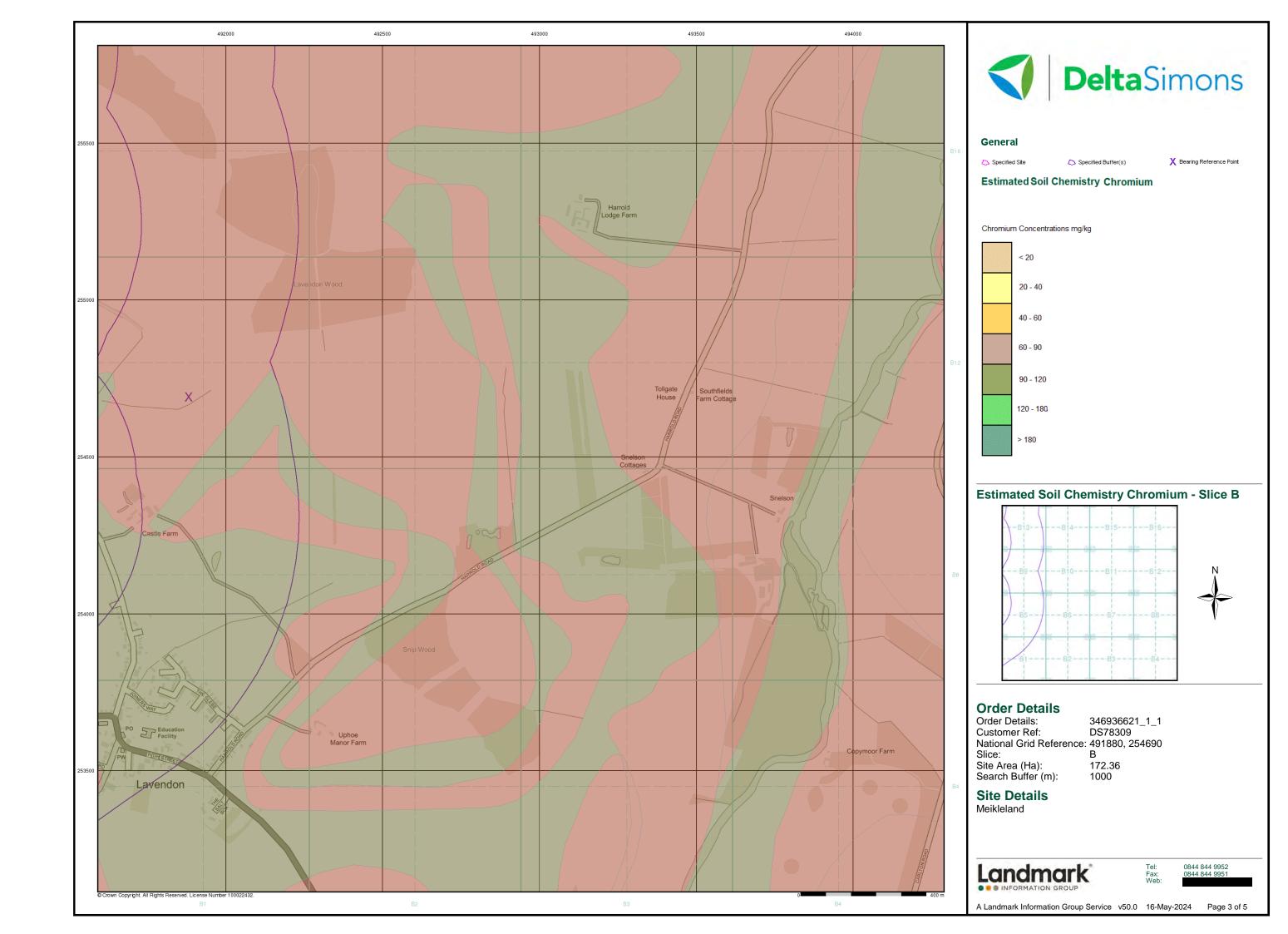


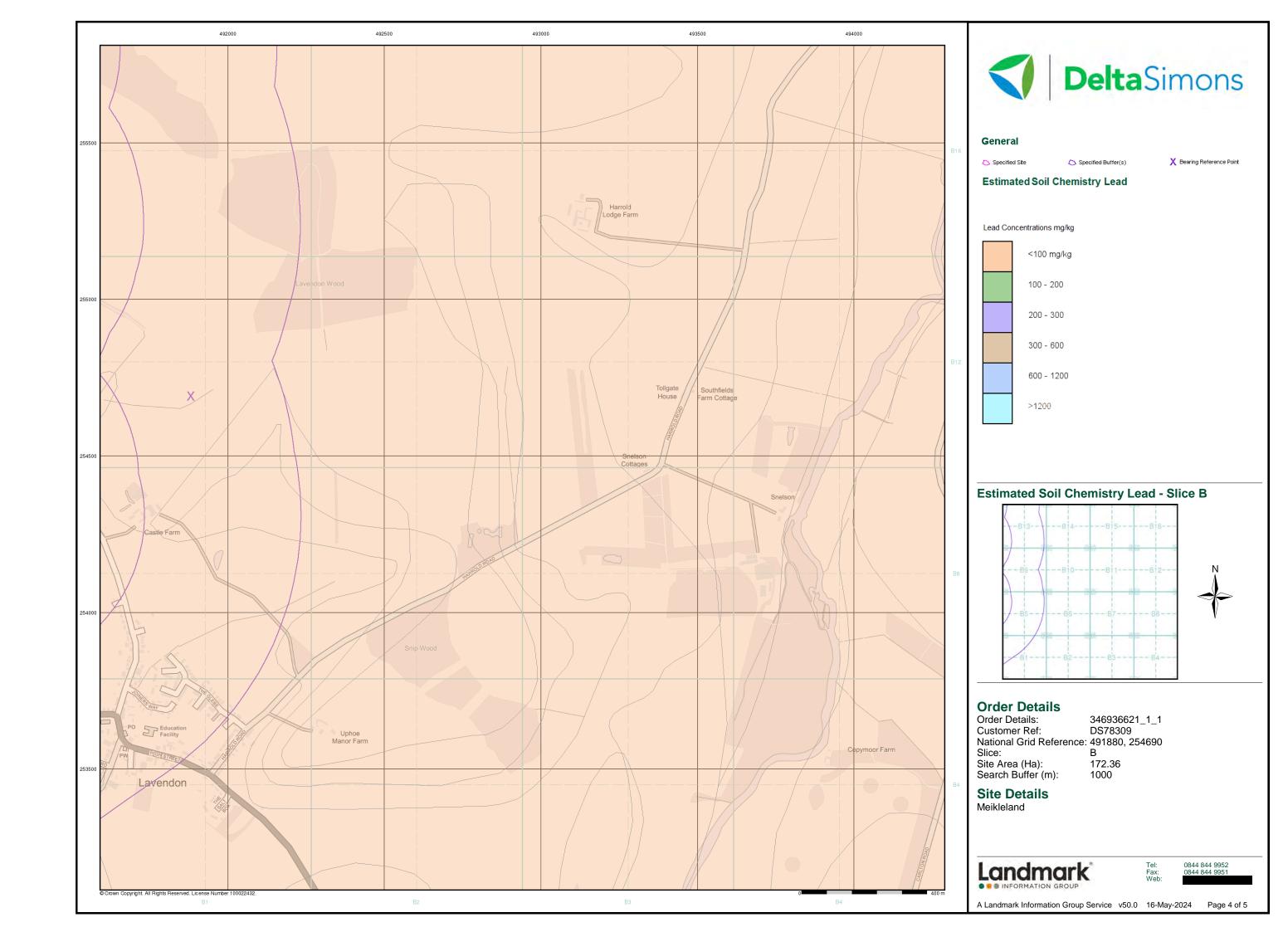


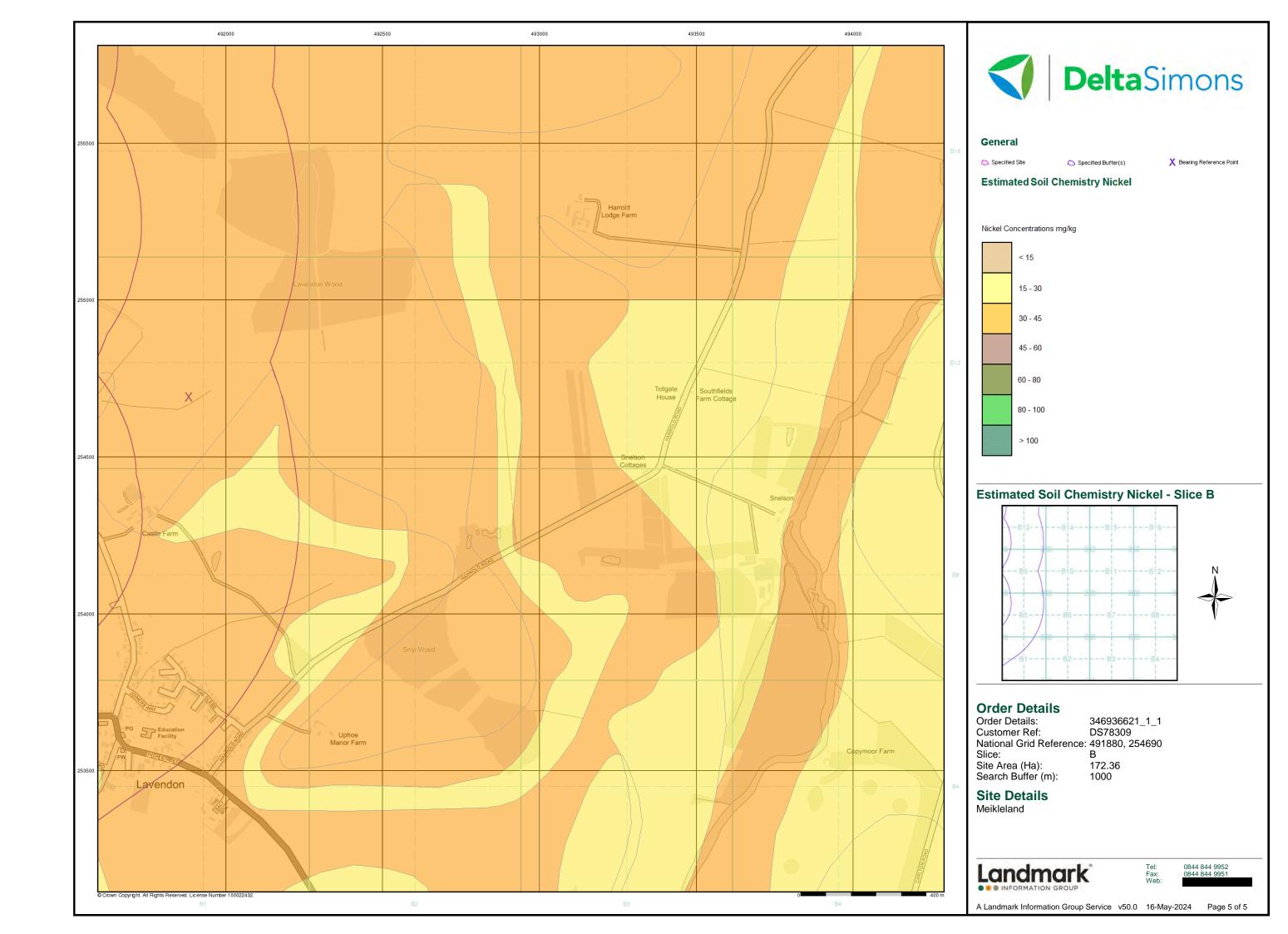


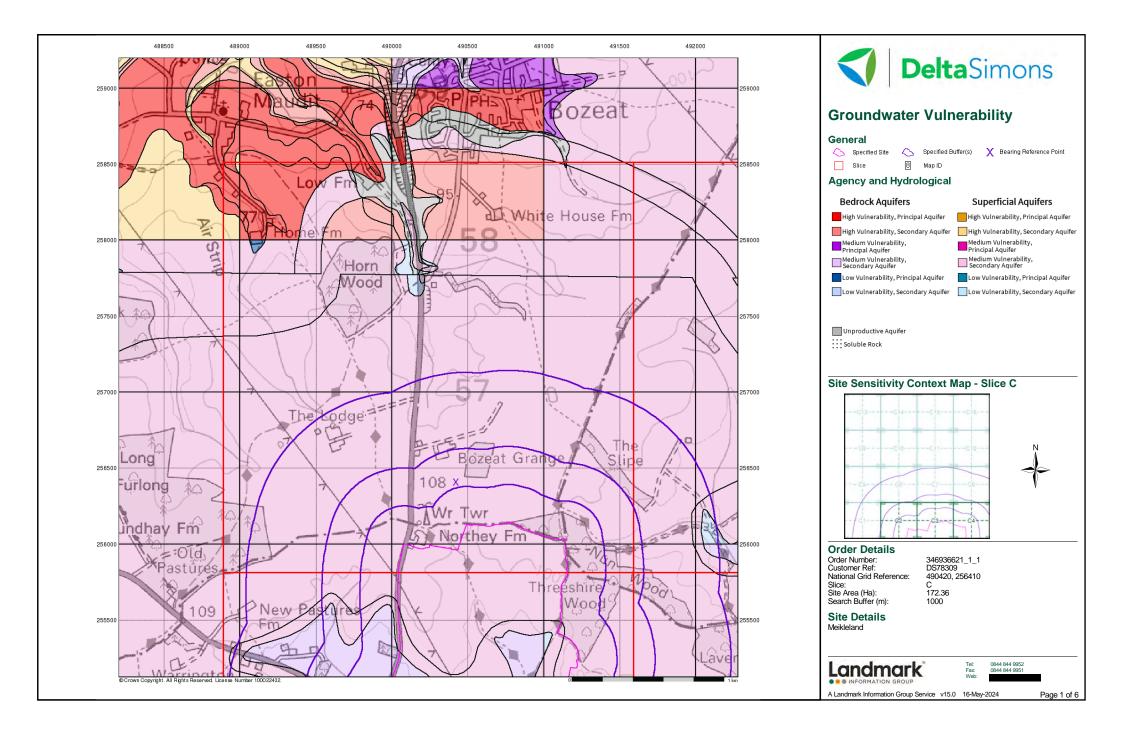


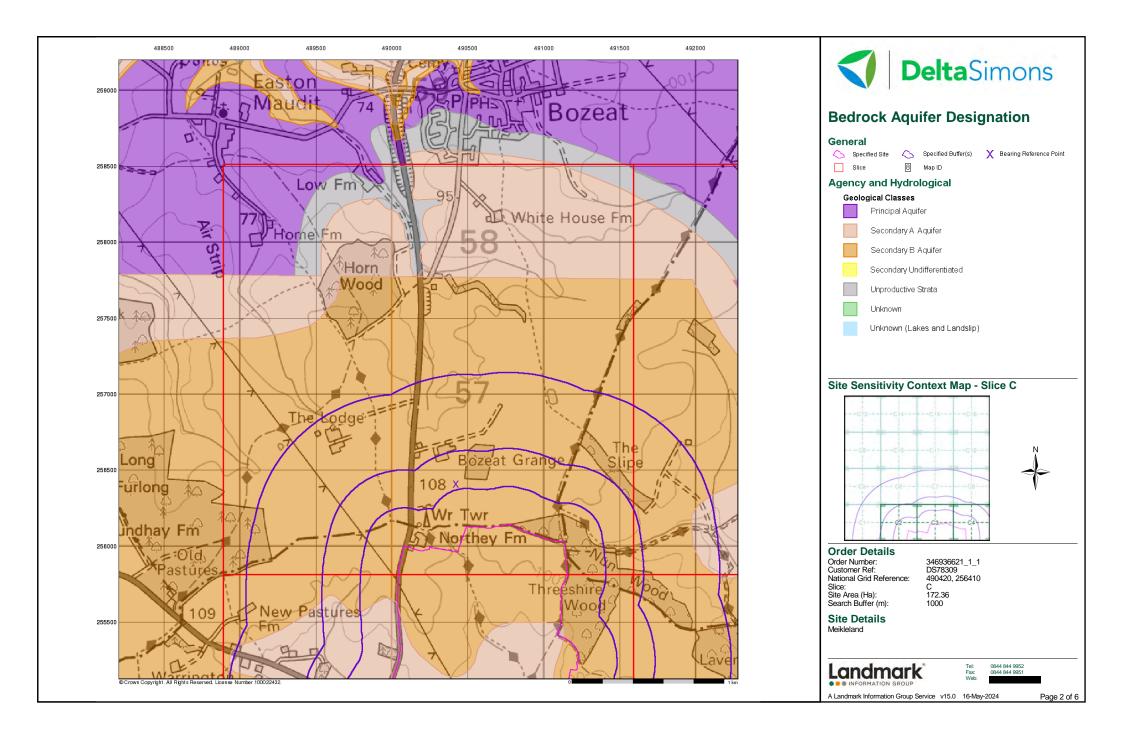


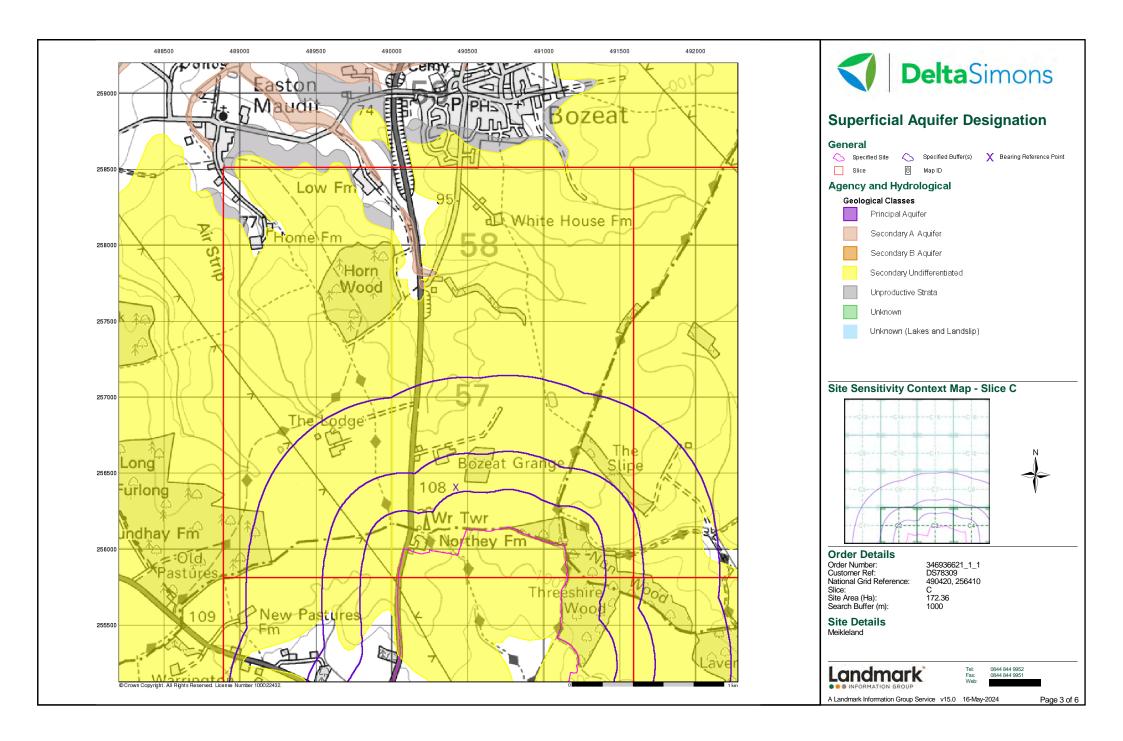


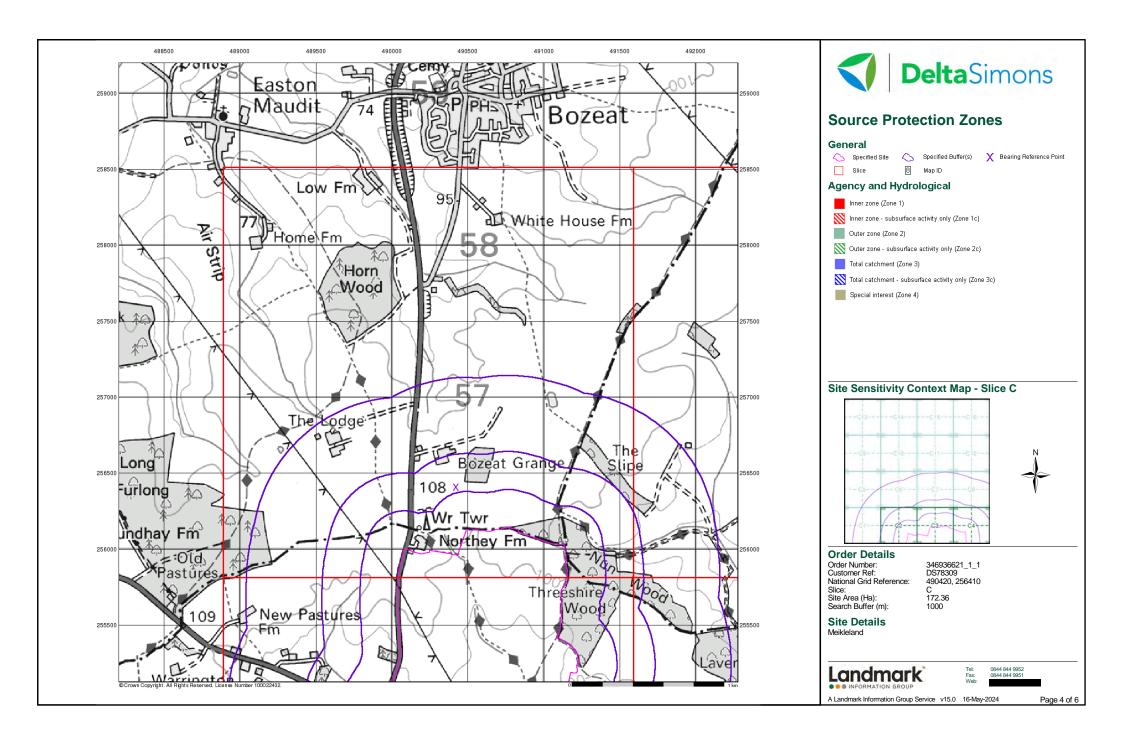


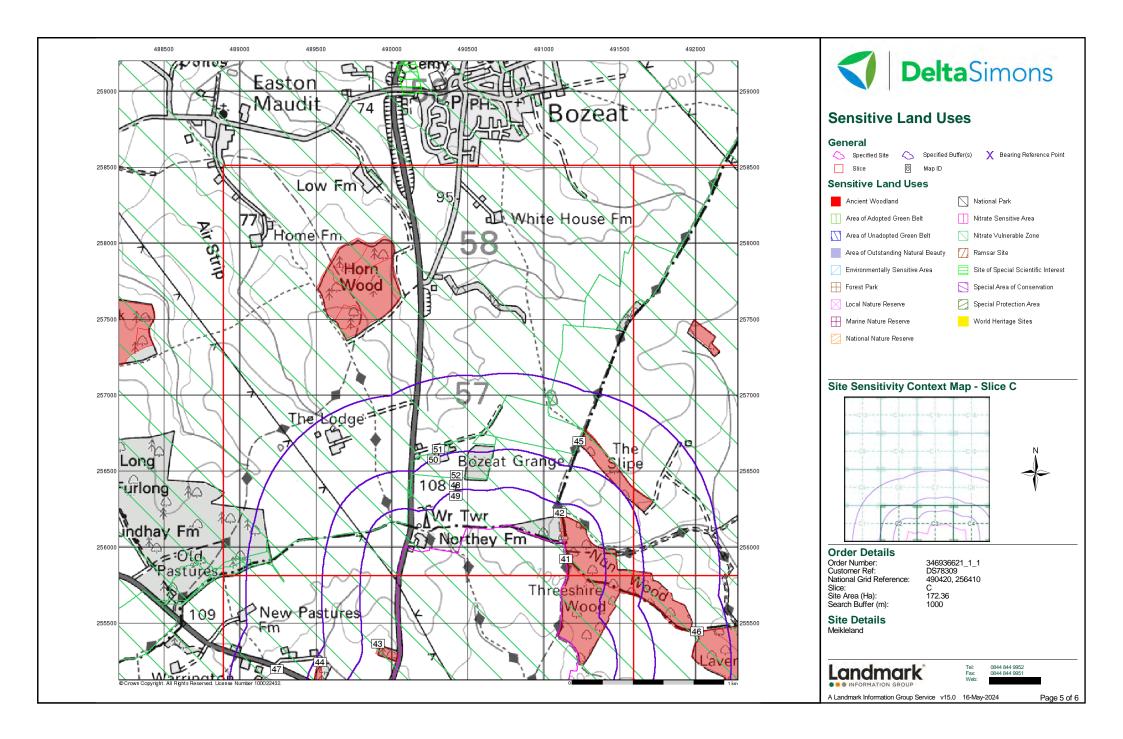


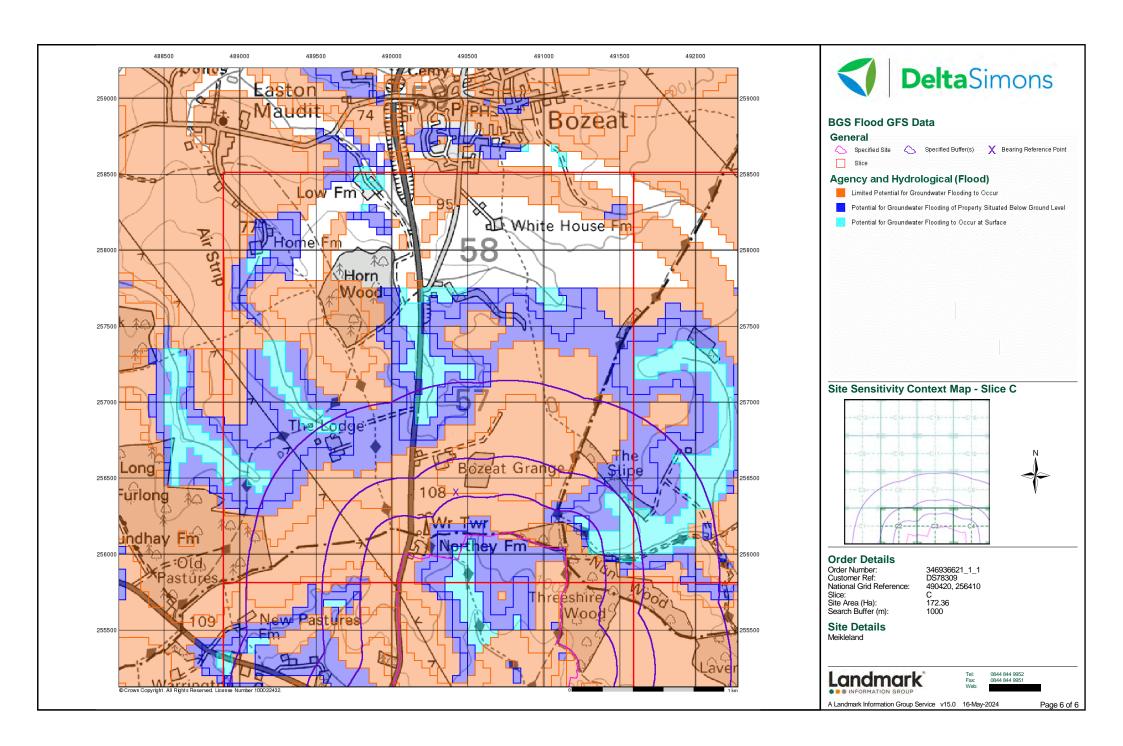














Envirocheck® Report:

Datasheet

Order Details:

Order Number:

346936621_1_1

Customer Reference:

DS78309

National Grid Reference:

490420, 256410

Slice:

С

Site Area (Ha):

172.36

Search Buffer (m):

1000

Site Details:

Meikleland

Client Details:

Delta Simons
Suite 4A
One Portland Street
Manchester
M1 3BE







Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	13
Hazardous Substances	-
Geological	14
Industrial Land Use	16
Sensitive Land Use	17
Data Currency	18
Data Suppliers	25
Useful Contacts	26

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.

For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0





Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 4	1	3		1
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 5	Yes			
Pollution Incidents to Controlled Waters	pg 5				1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 5				(*1)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 5	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk	pg 8	5	n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 8	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 8	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 9	10	4	2	14



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 13	5	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)					
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					





Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 14	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 14	Yes			
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 14	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 14	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 14	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 14	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 15	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries					
Fuel Station Entries					
Points of Interest - Commercial Services					
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 16		1	1	3
Points of Interest - Public Infrastructure					
Points of Interest - Recreational and Environmental					
Gas Pipelines					
Underground Electrical Cables					



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 17	2	1	1	3
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 17	2	3		
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SE)	0	1	490850 255500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(S)	0	1	490421 255450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	C3SW (S)	0	1	490500 256100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(S)	0	1	490750 255300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SE)	0	1	491100 255350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SE)	0	1	491150 255350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(S)	0	1	490700 255500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	C3NW (SE)	0	1	490500 256250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C4SW (SE)	0	1	490950 255950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SE)	0	1	491050 255550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(S)	0	1	490250 255800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(S)	0	1	490400 255700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	C3NW (S)	0	1	490421 256200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C3NW (S)	0	1	490421 256400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	0	1	490100 255750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(S)	0	1	490421 255700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C3SE (SE)	0	1	490900 256100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(S)	0	1	490450 255350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(S)	0	1	490800 255250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C3SE (SE)	0	1	490850 256150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(S)	0	1	490100 255550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(SE)	0	1	490800 255600



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Lev	el C3NW	0	1	490500 256200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	0	1	489950 255450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(S)	0	1	490050 255150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Lev	el (S)	0	1	490350 255750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Lev	el (S)	0	1	490400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SE)	0	1	255750 490700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	0	1	255750 490050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SE)	0	1	255650 491100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Lev	el (SW)	23	1	255300 489600 255500
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C2NE	31	1	255500 490050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	32	1	256250 490000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C2SE	39	1	255350 489950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	40	1	255900 490000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C2NE	48	1	255650 490000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C4SW	109	1	256300 491250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SE)	116	1	256050 491150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Lev		117	1	256200 491250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Lev		133	1	256100 491250 256150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Lev		133	1	256150 491200 256200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Lev	(E) el C4NW (E)	139	1	491000 256300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Lev		156	1	491050 256250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	C4SE (E)	159	1	491300 256150



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	C4NW (E)	163	1	491200 256250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	190	1	489850 255650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	C2SW (SW)	193	1	489850 255850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C4SE (SE)	203	1	491350 256000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C3NW (NE)	207	1	490421 256407
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	223	1	489550 255200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	239	1	489800 255750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	242	1	489800 255800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	C4SE (SE)	253	1	491400 256000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	290	1	489750 255650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	C4SE (E)	302	1	491450 256000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C2NE (W)	309	1	490000 256407
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(SW)	339	1	489700 255700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	340	1	489700 255650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	341	1	489700 255800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	C4SE (SE)	344	1	491500 255900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	C4SE (SE)	347	1	491500 255950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	373	1	489500 255100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	390	1	489650 255650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	C4SE (SE)	394	1	491550 255900



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Discharge Consent	S				
1	Operator: Property Type: Location:		C3SW (S)	0	2	490300 255900
	Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Environment Agency, Anglian Region Upper River Ouse Newport-Bedford Pr1nf1776 1 30th January 1985 30th January 1985 24th March 1992 Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Trib Lavendon Brook Pre National Rivers Authority Legislation where issue date < 01/09/1989 Located by supplier to within 100m				
	Discharge Consent	S				
2	Operator: Property Type: Location:		C2SE (SW)	14	2	490116 256008
	Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Upper River Ouse Newport-Bedford Pr1nf1776 2 25th March 1992 25th March 1992 Not Supplied Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Trib Lavenden Brook Post National Rivers Authority Legislation where issue date > 31/08/1989 Located by supplier to within 10m				
	Discharge Consent	s				
3	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Upper River Ouse Newport-Bedford Pr1nf1777 2 25th March 1992 25th March 1992 Not Supplied Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Trib Lavendon Brook Post National Rivers Authority Legislation where issue date > 31/08/1989 Located by supplier to within 100m	C3SW (S)	18	2	490300 256000
3	Operator:	<u> </u>	C3SW	18	2	490300
	Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status:	Not Supplied Pr1nf1777 1 30th January 1985 30th January 1985 24th March 1992 Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Trib Lavendon Brook Pre National Rivers Authority Legislation where issue date < 01/09/1989 Located by supplier to within 100m	(S)		2	256000



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	Discharge Consent Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Compton Estates Co(C V Hill Manager) WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Easton Lodge Farm, Easton Maudit, Nr Bozeat Environment Agency, Anglian Region Not Supplied Pr5nf2238p 1 8th May 1963 8th May 1963 8th May 1963 11th June 1991 Sewage Discharges - Final/Treated Effluent - Not Water Company Not Supplied Not Supplied Pre National Rivers Authority Legislation where issue date < 01/09/1989 Located by supplier to within 100m	C6SW (NW)	933	2	489600 256800
	Nearest Surface Wa	ater Feature	C3SW (S)	0	-	490484 255935
5	Property Type: Location: Authority: Pollutant: Note: Incident Date: Incident Reference: Catchment Area: Receiving Water: Cause of Incident: Incident Severity:	to Controlled Waters Road Kettering District Environment Agency, Anglian Region Oils - Diesel (Including Agricultural) Tributary Gendon Brook 6th December 1998 3601 Not Given Potential River Collision Category 3 - Minor Incident Located by supplier to within 100m	C6SE (NW)	554	2	490200 256600
	Water Abstractions Operator: Licence Number: Permit Version: Location: Authority: Abstraction: Abstraction Type: Source: Daily Rate (m3): Yearly Rate (m3): Details: Authorised Start: Authorised End: Permit Start Date: Permit End Date: Positional Accuracy:	G Green Bozeat Ltd 5/32/09/*G/0157 100 Well At Bozeat Environment Agency, Anglian Region General Farming And Domestic Water may be abstracted from a single point Groundwater Not Supplied Not Supplied Northampton Sanstone; Status: Perpetuity 01 January 31 December 1st January 1966 Not Supplied Located by supplier to within 10m	C15SE (N)	1964	2	490600 258100
	Groundwater Vulner Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	Prability Map Secondary Bedrock Aquifer - Medium Vulnerability Medium Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year 40-70% <90% >10m Low	(SW)	0	3	489990 255596



Page 6 of 26

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined	Secondary Bedrock Aquifer - Medium Vulnerability	(SW)	0	3	490000
	Classification: Combined	Medium				255573
	Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow:	Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures				
	Dilution: Baseflow Index: Superficial	<300 mm/year <40% <90%				
	Patchiness: Superficial	3-10m				
	Thickness: Superficial Recharge:	Low				
	Groundwater Vulne	arahility Man				
	Combined	Secondary Bedrock Aquifer - Medium Vulnerability	(S)	0	3	490772
	Classification: Combined Vulnerability:	Medium				255431
	Combined Aquifer: Pollutant Speed: Bedrock Flow:	Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures				
	Dilution: Baseflow Index: Superficial	<300 mm/year <40% <90%				
	Patchiness: Superficial Thickness:	3-10m				
	Superficial Recharge:	Low				
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Bedrock Aquifer - Low Vulnerability	(SE)	0	3	491000 255413
	Combined Vulnerability:	Low				
	Combined Aquifer: Pollutant Speed: Bedrock Flow:	Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures				
	Dilution: Baseflow Index:	<300 mm/year <40%				
	Superficial Patchiness: Superficial Thickness:	>90% >10m				
	Superficial Recharge:	Low				
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	C3NW (NE)	0	3	490421 256407
	Combined Vulnerability:	Medium	(/			
	Combined Aquifer: Pollutant Speed:	Productive Bedrock Aquifer, Productive Superficial Aquifer Low				
	Bedrock Flow: Dilution: Baseflow Index:	Mixed <300 mm/year 40-70%				
	Superficial Patchiness: Superficial	>90% >10m				
	Thickness: Superficial Recharge:	Low				



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	C4NW (E)	0	3	491000 256407
	Combined Vulnerability:	Medium	(-)			200.0.
	Combined Aquifer: Pollutant Speed:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index:	<40%				
	Superficial Patchiness:	>90%				
	Superficial	>10m				
	Thickness:	210111				
	Superficial	Low				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	(SW)	0	3	490011
	Classification:	Modium				255649
	Combined Vulnerability:	Medium				
	Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index: Superficial	<40% <90%				
	Patchiness:	23070				
	Superficial	3-10m				
	Thickness:					
	Superficial Recharge:	Low				
	_					
	Groundwater Vulne		(05)			404000
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	(SE)	0	3	491000 255261
	Combined	Medium				255201
	Vulnerability:					
	Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow: Dilution:	Well Connected Fractures <300 mm/year				
	Baseflow Index:	<40%				
	Superficial	<90%				
	Patchiness:					
	Superficial Thickness:	3-10m				
	Superficial	Low				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	C3SW	0	3	490421
	Classification:		(S)		-	256000
	Combined	Medium	, ,			
	Vulnerability:	Description Description Description Co. 10.114.16				
	Combined Aquifer: Pollutant Speed:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index:	<40%				
	Superficial	<90%				
	Patchiness: Superficial	3-10m				
	Thickness:	J-TOITI				
	Superficial	Low				
	Recharge:					I



ap O		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	(SE)	0	3	491000
	Classification:	, , , , , , , , , , , , , , , , , , ,	(- /	-		255496
	Combined	Medium				
	Vulnerability:	Draductive Dedrack Aquifer Draductive Curarficial Aquifer				
	Combined Aquifer: Pollutant Speed:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index:	<40%				
	Superficial	>90%				
	Patchiness: Superficial	>10m				
	Thickness:	>10111				
	Superficial	Low				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined	• •	C4SW	0	3	491000
	Classification:	Secondary Superficial Aquifer - Medium Vulnerability	(SE)	0	3	256000
	Combined	Medium	(02)			250000
	Vulnerability:					
	Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow: Dilution:	Well Connected Fractures <300 mm/year				
	Baseflow Index:	<40%				
	Superficial	>90%				
	Patchiness:					
	Superficial	>10m				
	Thickness:	Low				
	Superficial Recharge:	LOW				
		rability - Soluble Rock Risk				
	Classification:	Significant Risk - Low Possibility	C4NW	0	3	491000
			(E)			256407
	Groundwater Vulne	rability - Soluble Rock Risk				
	Classification:	Significant Risk - Problems Unlikely	C3NW	0	3	490421
			(NE)			256407
	Groundwater Vulne	rability - Soluble Rock Risk				
	Classification:	Significant Risk - Low Possibility	C2SE	0	3	490000
			(SW)			256000
	Groundwater Vulne	rability - Soluble Rock Risk				
	Classification:	Significant Risk - Low Possibility	C3SW	0	3	490421
			(S)			256000
	Groundwater Vulne	rability - Soluble Rock Risk				
	Classification:	Significant Risk - Low Possibility	C4SW	0	3	491000
			(SE)			256000
	Bedrock Aquifer De	esignations				
		Secondary Aquifer - A	(SW)	0	3	490000
			` ′			255653
	Bedrock Aquifer De	esignations				
	Aguifer Designation:	Secondary Aquifer - A	(SW)	0	3	490011
	1	1	(- /			255649
	Bedrock Aquifer De	esignations				
	-	Secondary Aquifer - B	C3NW	0	3	490421
	7 iquilor Doolgiiation.	occordary requirer B	(NE)		Ü	256407
	Superficial Aquifer	Designations				
		Secondary Aquifer - Undifferentiated	C3NW	0	3	490421
	quiioi Dosigilatioli.	5555aary / iquiror - Griantoromiatou	(NE)			256407
	Extreme Flooding f	rom Rivers or Sea without Defences				
	None					
	Flooding from Rive	rs or Sea without Defences				
	None					
	Areas Benefiting fro	om Flood Defences				
	None					
	Flood Water Storag	e Areas				
	None					
	Flood Defences					
,	I IOOU DEICIICES					



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 448.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C3SW (S)	0	4	490484 255935
	OS Water Network Lines				
7	Watercourse Form: Inland river Watercourse Length: 261.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C3SE (SE)	0	4	490793 255917
8	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C3SW (S)	0	4	490437 255953
9	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 111.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C3SW (S)	0	4	490519 256040
10	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 12.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C3SW (S)	0	4	490431 255964
11	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 167.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C3SW (S)	0	4	490364 255967
12	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C3SW (S)	0	4	490521 256045
13	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 68.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C3SW (S)	0	4	490541 256111
14	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 4.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C3SW (S)	0	4	490542 256115



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 316.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C2SE (SW)	0	4	490087 256020
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 512.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C4SW (SE)	1	4	491149 255923
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 190.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C3SW (S)	5	4	490337 256124
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 453.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C4NW (E)	155	4	491127 256216
19	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 6.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C4NW (E)	182	4	491121 256219
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C4SE (E)	327	4	491473 255976
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 189.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	C4SE (E)	331	4	491477 255976
22	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 12.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C6NE (NW)	802	4	490166 256862
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 79.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C6NE (NW)	813	4	490167 256874



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C7NW (N)	817	4	490243 256908
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.2 Watercourse Level: On ground surface	C1SE (SW)	817	4	489229 255866
	Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1				
26	Water Network Lines Watercourse Form: Inland river Watercourse Length: 13.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C6NE (N)	836	4	490229 256923
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C7NW (N)	839	4	490241 256930
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C6NE (N)	841	4	490240 256932
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 344.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C1NW (W)	848	4	489146 256258
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C1SW (W)	848	4	489203 255919
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C6NE (N)	849	4	490238 256940
32	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 13.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C6SW (NW)	897	4	489644 256784



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 6.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C6SW (NW)	909	4	489642 256797
34	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 210.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C6SW (NW)	916	4	489638 256803
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 268.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Nene Primacy: 1	C1NW (W)	971	4	489146 256258





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Lan	dfill Coverage				
	Name:	Northamptonshire County Council - Has supplied landfill data		0	6	490421 256407
	Local Authority Lan	dfill Coverage				
	Name:	Wellingborough Borough Council - Has no landfill data to supply		0	5	490421 256407
	Local Authority Lan	dfill Coverage				
	Name:	Milton Keynes Unitary Council - Has supplied landfill data		0	9	490416 256145
	Local Authority Lan	dfill Coverage				
	Name:	Bedford Borough Council - Has supplied landfill data		0	8	491083 256305
	Local Authority Lan	dfill Coverage				
	Name:	Bedfordshire County Council - Has no landfill data to supply		0	7	491083 256305





Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Soli	d Geology				
	Description:	Kellaways Formation And Oxford Clay Formation (Undifferentiated)	C3NW (NE)	0	1	490421 256407
	BGS Estimated Soi Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg <1.8 mg/kg 60 - 90 mg/kg	C3NW (NE)	0	1	490421 256407
	BGS Measured Urb	an Soil Chemistry				
	BGS Urban Soil Ch	emistry Averages				
	No data available					
	Coal Mining Affects	ed Areas				
	In an area that might	t not be affected by coal mining				
	Non Coal Mining An No Hazard	reas of Great Britain				
	Potential for Collap Hazard Potential: Source:	very Low British Geological Survey, National Geoscience Information Service	C2NE (W)	0	1	490000 256407
	Potential for Collap	sible Ground Stability Hazards				
	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	C3NW (NE)	0	1	490421 256407
	-	ressible Ground Stability Hazards	001111			,,,,,,
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	C3NW (NE)	0	1	490421 256407
	Potential for Comp	ressible Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	C2NE (W)	0	1	490000 256407
	Potential for Groun Hazard Potential: Source:	d Dissolution Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	C3SE (SE)	0	1	490865 256122
	Potential for Groun Hazard Potential: Source:	d Dissolution Stability Hazards Low British Geological Survey, National Geoscience Information Service	C3SW (S)	0	1	490429 255818
	Potential for Groun Hazard Potential: Source:	d Dissolution Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	C3NW (NE)	0	1	490421 256407
	Potential for Groun Hazard Potential: Source:	d Dissolution Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	C2NE (W)	39	1	490000 256407
	Potential for Lands Hazard Potential:	lide Ground Stability Hazards Very Low	C2NE	0	1	490000
	Source:	British Geological Survey, National Geoscience Information Service	(W)			256407
	Potential for Lands Hazard Potential: Source:	lide Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	C3NW (NE)	0	1	490421 256407
	Potential for Lands Hazard Potential: Source:	lide Ground Stability Hazards Low British Geological Survey, National Geoscience Information Service	C3SE (SE)	0	1	490858 256116
	Potential for Runnin Hazard Potential: Source:	ng Sand Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	C3NW (NE)	0	1	490421 256407
	Potential for Runnin Hazard Potential: Source:	ng Sand Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	C2NE (W)	39	1	490000 256407



Geological

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	C3NW (NE)	0	1	490421 256407
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Low British Geological Survey, National Geoscience Information Service	C2NE (W)	39	1	490000 256407
	Radon Potential - R	adon Affected Areas				
	Affected Area: Source:	The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). British Geological Survey, National Geoscience Information Service	C3NW (NE)	0	1	490421 256407
	Radon Potential - R	adon Affected Areas				
	Affected Area: Source:	The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). British Geological Survey, National Geoscience Information Service	C2NE (W)	0	1	490000 256407
	Radon Potential - R	adon Protection Measures				
	Protection Measure: Source:	No radon protective measures are necessary in the construction of new dwellings or extensions British Geological Survey, National Geoscience Information Service	C3NW (NE)	0	1	490421 256407
	Radon Potential - R	adon Protection Measures				
	Protection Measure: Source:	No radon protective measures are necessary in the construction of new dwellings or extensions British Geological Survey, National Geoscience Information Service	C2NE (W)	0	1	490000 256407



Industrial Land Use

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Points of Interest - I	Manufacturing and Production				
36	Name: Location: Category: Class Code: Positional Accuracy:	Tank NN29 Industrial Features Tanks (Generic) Positioned to an adjacent address or location	C2SE (SW)	20	10	490227 255993
	Points of Interest - I	Manufacturing and Production				
37	Name: Location: Category: Class Code: Positional Accuracy:	Solar Panels NN29 Industrial Features Energy Production Positioned to an adjacent address or location	C7SW (NW)	462	10	490299 256550
	Points of Interest - I	Manufacturing and Production				
38	Name: Location: Category: Class Code: Positional Accuracy:	B W Howkins & Sons Bozeat Grange Cottage, London Road, Bozeat, NN29 7NP Farming Arable Farming Positioned to address or location	C7SW (N)	707	10	490265 256799
	Points of Interest - I	Manufacturing and Production				
39	Name: Location: Category: Class Code: Positional Accuracy:	P E B Skinner Easton Lodge Farm, London Road, Bozeat, NN29 7NP Farming Arable Farming Positioned to address or location	C6SW (NW)	863	10	489650 256749
	Points of Interest - I	Manufacturing and Production				
40	Name: Location: Category: Class Code: Positional Accuracy:	P E B Skinner Easton Lodge Farm, London Road, Bozeat, Wellingborough, NN29 7NP Farming Arable Farming Positioned to address or location	C5SE (W)	916	10	489550 256748



Sensitive Land Use

Map ID		Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR	
41	Ancient Woodland Name: Reference: Area(m²): Type:	Three Shire Wood 1501796 146931.81 Ancient and Semi-Natural Woodland	C4SW (SE)	0	11	491147 255921
42	Ancient Woodland Name: Reference: Area(m²): Type:	Nun Wood 1475867 178825.06 Ancient and Semi-Natural Woodland	C4NW (E)	0	11	491106 256226
43	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 1503163 8567.12 Ancient and Semi-Natural Woodland	(SW)	14	11	489912 255364
44	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 1503162 3956.69 Ancient and Semi-Natural Woodland	(SW)	407	11	489530 255244
45	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 1418468 53849.6 Ancient and Semi-Natural Woodland	C8SW (E)	503	11	491234 256696
46	Ancient Woodland Name: Reference: Area(m²): Type:	Lavendon Wood 1503173 205906.44 Ancient and Semi-Natural Woodland	(SE)	737	11	492007 255444
47	Ancient Woodland Name: Reference: Area(m²): Type:	Not Supplied 1503141 5081.6 Ancient and Semi-Natural Woodland	(SW)	789	11	489144 255126
48	Nitrate Vulnerable 2 Name: Description: Source:	Zones Great Ouse Nvz Surface Water Environment Agency, Head Office	C3NW (NE)	0	3	490421 256407
49	Nitrate Vulnerable 2 Name: Description: Source:	<u> </u>	C3NW (NE)	0	3	490421 256407
50	Nitrate Vulnerable 2 Name: Description: Source:		C7SW (NW)	147	3	490275 256575
51	Nitrate Vulnerable 2 Name: Description: Source:	Zones Northampton Sands Groundwater Environment Agency, Head Office	C7SW (NW)	147	3	490308 256604
52	Nitrate Vulnerable 2 Name: Description: Source:	Zones River Nene Nvz Surface Water Environment Agency, Head Office	C3NW (N)	147	3	490425 256452

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Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Wellingborough Borough Council (now part of North Northamptonshire Council) - Environmental Health Department	August 2013	Annual Rolling Updat
Bedford Borough Council - Environmental Health Department	December 2014	Annual Rolling Updat
North Northamptonshire Council	December 2019	Annual Rolling Upda
West Northamptonshire Council	December 2019	Annual Rolling Upda
Environment Agency - Head Office	November 2023	Annually
Milton Keynes Council - Environmental Health Division	October 2017	Annual Rolling Upda
South Northamptonshire Council (now part of West Northamptonshire Council) - Environment Division	September 2017	Annual Rolling Upda
Discharge Consents		
Environment Agency - Anglian Region	April 2024	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Anglian Region	March 2013	
ntegrated Pollution Controls		
Environment Agency - Anglian Region	January 2009	
ntegrated Pollution Prevention And Control		
Environment Agency - Anglian Region	October 2023	Quarterly
Local Authority Integrated Pollution Prevention And Control		
South Northamptonshire Council (now part of West Northamptonshire Council) - Environmental Health Department	December 2014	Variable
Vellingborough Borough Council (now part of North Northamptonshire Council) - Environmental Health Department	December 2020	Variable
North Northamptonshire Council	February 2015	Variable
Vest Northamptonshire Council	February 2015	Variable
Milton Keynes Council - Environmental Health Department	June 2016	Variable
Bedford Borough Council - Environmental Health Department	March 2015	Variable
Local Authority Pollution Prevention and Controls		
South Northamptonshire Council (now part of West Northamptonshire Council) - Environmental Health Department	December 2014	Annual Rolling Upda
Bedford Borough Council - Environmental Health Department	December 2020	Annual Rolling Upda
Vellingborough Borough Council (now part of North Northamptonshire Council) - Environmental Health Department	December 2020	Annual Rolling Upda
North Northamptonshire Council	February 2015	Annual Rolling Upda
Vest Northamptonshire Council	February 2015	Annual Rolling Upda
Milton Keynes Council - Environmental Health Department	June 2016	Not Applicable
Local Authority Pollution Prevention and Control Enforcements		
South Northamptonshire Council (now part of West Northamptonshire Council) - Environmental Health Department	December 2014	Variable
Wellingborough Borough Council (now part of North Northamptonshire Council) - Environmental Health Department	December 2014	Variable
North Northamptonshire Council	February 2015	Variable
Vest Northamptonshire Council	February 2015	Variable
Milton Keynes Council - Environmental Health Department	June 2016	Variable
Bedford Borough Council - Environmental Health Department	March 2015	Variable
learest Surface Water Feature		
Ordnance Survey	March 2024	
Pollution Incidents to Controlled Waters	Combonella in 1999	
Environment Agency - Anglian Region	September 1999	
Prosecutions Relating to Authorised Processes	L.L. 2215	
Environment Agency - Anglian Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - Anglian Region	March 2013	

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Agency & Hydrological	Version	Update Cycle
Registered Radioactive Substances		
Environment Agency - Anglian Region	June 2016	As notified
Environment Agency - Head Office	May 2023	Quarterly
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	April 2012	
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	April 2012	
Substantiated Pollution Incident Register		
Environment Agency - Anglian Region - Central Area	April 2024	Quarterly
Environment Agency - Anglian Region - Northern Area	April 2024	Quarterly
Water Abstractions		
Environment Agency - Anglian Region	April 2024	Quarterly
Water Industry Act Referrals		
Environment Agency - Anglian Region	October 2017	
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	As notified
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	As notified
Source Protection Zones		
Environment Agency - Head Office	September 2022	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	December 2023	Quarterly
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	December 2023	Quarterly
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	February 2023	Quarterly
Flood Water Storage Areas	,	
Environment Agency - Head Office	January 2024	Quarterly
Flood Defences	,	
Environment Agency - Head Office	August 2022	Quarterly
OS Water Network Lines	<u> </u>	
Ordnance Survey	April 2024	Quarterly
Surface Water 1 in 30 year Flood Extent	•	,
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent		7
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent	, 2010	,
Environment Agency - Head Office	May 2018	Annually
	Iviay 2010	Aimany
Surface Water Suitability	Enhance 2046	Annually
Environment Agency - Head Office	February 2016	Annually
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	As notified

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Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Environment Agency - Head Office	May 2024	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Anglian Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Anglian Region - Central Area	May 2024	Quarterly
Environment Agency - Anglian Region - Northern Area	May 2024	Quarterly
Licensed Waste Management Facilities (Locations)	•	,
Environment Agency - Anglian Region - Central Area	January 2023	Quarterly
Environment Agency - Anglian Region - Northern Area	January 2023	Quarterly
Local Authority Landfill Coverage		
Bedford Borough Council - Environmental Health Department	February 2003	Not Applicable
Bedfordshire County Council (now part of Central Bedfordshire Council)	February 2003	Not Applicable
Milton Keynes Council - Planning and Transport Department	February 2003	Not Applicable
Northamptonshire County Council	February 2003	Not Applicable
South Northamptonshire Council (now part of West Northamptonshire Council) - Environmental Health Department	February 2003	Not Applicable
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2003	Not Applicable
North Northamptonshire Council	May 2000	Not Applicable
West Northamptonshire Council	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
North Northamptonshire Council	August 2006	
West Northamptonshire Council	August 2006	
Bedford Borough Council - Environmental Health Department	October 2018	
Bedfordshire County Council (now part of Central Bedfordshire Council)	October 2018	
Milton Keynes Council - Planning and Transport Department	October 2018	
Northamptonshire County Council	October 2018	
South Northamptonshire Council (now part of West Northamptonshire Council) - Environmental Health Department	October 2018	
Wellingborough Borough Council (now part of North Northamptonshire Council)	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - Anglian Region - Central Area	March 2006	Not Applicable
Environment Agency - Anglian Region - Northern Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Anglian Region - Central Area	April 2018	
Environment Agency - Anglian Region - Northern Area	April 2018	
Registered Waste Treatment or Disposal Sites	·	
Environment Agency - Anglian Region - Central Area	June 2015	
Environment Agency - Anglian Region - Northern Area	June 2015	

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Hazardous Substances	Version	Update Cycle	
Control of Major Accident Hazards Sites (COMAH)			
Health and Safety Executive	January 2024	Bi-Annually	
Explosive Sites			
Health and Safety Executive	March 2017		
Notification of Installations Handling Hazardous Substances (NIHHS)			
Health and Safety Executive	August 2001		
Planning Hazardous Substance Enforcements			
North Northamptonshire Council	February 2016	Variable	
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2016	Variable	
Bedfordshire County Council (now part of Central Bedfordshire Council)	July 2008	Annual Rolling Update	
Bedford Borough Council	March 2023	Variable	
Northamptonshire County Council	May 2013	Annual Rolling Update	
Milton Keynes Council - Planning and Transport Department	May 2023	Variable	
South Northamptonshire Council (now part of West Northamptonshire Council)	May 2023	Variable	
West Northamptonshire Council	May 2023	Variable	
Planning Hazardous Substance Consents			
Northamptonshire County Council	December 2014	Annual Rolling Update	
Bedford Borough Council	February 2016	Variable	
Milton Keynes Council - Planning and Transport Department	February 2016	Variable	
North Northamptonshire Council	February 2016	Variable	
South Northamptonshire Council (now part of West Northamptonshire Council)	February 2016	Variable	
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2016	Variable	
West Northamptonshire Council	February 2016	Variable	
Bedfordshire Council (now part of Central Bedfordshire Council)	July 2008	Annual Rolling Update	

Order Number: 346936621_1_1 Date: 16-May-2024 rpr_ec_datasheet v53.0 A Landmark Information Group Service Page 21 of 26



Geological	Version	Update Cycle	
BGS 1:625,000 Solid Geology			
British Geological Survey - National Geoscience Information Service	January 2009	As notified	
BGS Estimated Soil Chemistry			
British Geological Survey - National Geoscience Information Service	December 2015	As notified	
BGS Recorded Mineral Sites			
British Geological Survey - National Geoscience Information Service	January 2024	Bi-Annually	
CBSCB Compensation District			
Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011		
Cheshire Brine Subsidence Compensation Board (CBSCB)	November 2020	As notified	
Coal Mining Affected Areas			
The Coal Authority - Property Searches	February 2023	Annual Rolling Update	
Mining Instability			
Ove Arup & Partners	June 1998	Not Applicable	
Non Coal Mining Areas of Great Britain			
British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable	
Potential for Collapsible Ground Stability Hazards			
British Geological Survey - National Geoscience Information Service	April 2020	As notified	
Potential for Compressible Ground Stability Hazards			
British Geological Survey - National Geoscience Information Service	January 2019	As notified	
Potential for Ground Dissolution Stability Hazards			
British Geological Survey - National Geoscience Information Service	January 2019	As notified	
Potential for Landslide Ground Stability Hazards			
British Geological Survey - National Geoscience Information Service	January 2019	As notified	
Potential for Running Sand Ground Stability Hazards			
British Geological Survey - National Geoscience Information Service	January 2019	As notified	
Potential for Shrinking or Swelling Clay Ground Stability Hazards			
British Geological Survey - National Geoscience Information Service	January 2019	As notified	
Radon Potential - Radon Affected Areas			
British Geological Survey - National Geoscience Information Service	October 2023	Annually	
Radon Potential - Radon Protection Measures			
British Geological Survey - National Geoscience Information Service	October 2023	Annually	

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Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries		
Thomson Directories	April 2024	Quarterly
Fuel Station Entries		
Catalist Ltd - Experian	February 2024	Quarterly
Gas Pipelines		
National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services		
PointX	March 2024	Quarterly
Points of Interest - Education and Health		
PointX	March 2024	Quarterly
Points of Interest - Manufacturing and Production		
PointX	March 2024	Quarterly
Points of Interest - Public Infrastructure		
PointX	March 2024	Quarterly
Points of Interest - Recreational and Environmental		
PointX	March 2024	Quarterly
Underground Electrical Cables		
National Grid	January 2024	Bi-Annually

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Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	April 2024	Bi-Annually
Areas of Adopted Green Belt		
Bedford Borough Council	February 2024	Quarterly
Milton Keynes Council - Planning and Transport Department	February 2024	Quarterly
North Northamptonshire Council	February 2024	Quarterly
South Northamptonshire Council (now part of West Northamptonshire Council)	February 2024	Quarterly
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2024	Quarterly
West Northamptonshire Council	February 2024	Quarterly
Areas of Unadopted Green Belt		
Bedford Borough Council	February 2024	Quarterly
Milton Keynes Council - Planning and Transport Department	February 2024	Quarterly
North Northamptonshire Council	February 2024	Quarterly
South Northamptonshire Council (now part of West Northamptonshire Council)	February 2024	Quarterly
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2024	Quarterly
West Northamptonshire Council	February 2024	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	May 2024	Bi-Annually
Environmentally Sensitive Areas		
Natural England	August 2023	
Forest Parks		
Forestry Commission	May 2023	Not Applicable
Local Nature Reserves		
Natural England	February 2024	Bi-Annually
Marine Nature Reserves		
Natural England	February 2024	Bi-Annually
National Nature Reserves		
Natural England	February 2024	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2023	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	April 2024	Bi-Annually
Ramsar Sites		
Natural England	February 2024	Bi-Annually
Sites of Special Scientific Interest		
Natural England	April 2024	Bi-Annually
Special Areas of Conservation		
Natural England	April 2024	Bi-Annually
Special Protection Areas		
Natural England	April 2024	Bi-Annually

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A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment Agency
Scottish Environment Protection Agency	SEPA Scottish Environment Protection Agency
The Coal Authority	The Coal Authority
British Geological Survey	British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	Cyfoeth Naturiol Cyfro Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE 谜살기
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Stantec UK Ltd	ARUP Stantec

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Useful Contacts

Contact	Name and Address	Contact Details Telephone: 0115 936 3143 Fax: 0115 936 3276	
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG		
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk	
3	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409	
4	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk	
5	Wellingborough Borough Council (now part of North Northamptonshire Council) Croyland Abbey, Tithe Barn Road, Wellingborough, Northamptonshire, NN8 1BJ	Telephone: 01933 229777 Fax: 01933 441375 Website: www.wellingborough.gov.uk	
6	Northamptonshire County Council County Hall, Northampton, Northamptonshire, NN1 1DN	Telephone: 0300 126 1000 Website: www.northamptonshire.gov.uk	
7	Bedfordshire County Council (now part of Central Bedfordshire Council) Priory House, Monks Walk, Chicksands, Shefford, Bedfordshire, SG17 5TQ	Telephone: 0300 300 8301 Email: www.centralbedfordshire.gov.uk Website: www.centralbedfordshire.gov.uk	
8	Bedford Borough Council - Environmental Health Department Town Hall, St Pauls Street, Bedford, Bedfordshire, MK40 1SJ	Telephone: 01234 267422 Fax: 01234 325671 Email: enquiries@bedford.gov.uk Website: www.bedford.gov.uk	
9	Milton Keynes Council - Planning and Transport Department PO Box 125, Civic Offices, 1 Saxon Gate East, Milton Keynes, Buckinghamshire, MK9 3ZJ	Telephone: 01908 691691 Fax: 01908 252211 Website: www.miltonkeynes.gov.uk	
10	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY		
11	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk	
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Fmail: radon@phe gov uk	
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951	

 ${\sf Please\ note\ that\ the\ Environment\ Agency\ /\ Natural\ Resources\ Wales\ /\ SEPA\ have\ a\ charging\ policy\ in\ place\ for\ enquiries.}$

Order Number: 346936621_1_1 Date: 16-May-2024 rpr_ec_datasheet v53.0 A Landmark Information Group Service Page 26 of 26

Geology 1:50,000 Maps Legends

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay and Silt	Not Supplied - Holocene
	ODT	Oadby Member	Diamicton	Not Supplied - Anglian
	GFDMP	Glaciofluvial Deposits, Mid Pleistocene	Sand and Gravel	Not Supplied - Cromerian
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	BOZE	Bozeat Till	Diamicton	Not Supplied - Quaternary
	MLTS	Milton Sand	Sand and Gravel	Not Supplied - Quaternary
	MLTS	Milton Sand	Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	KLB	Kellaways Formation	Sandstone, Siltstone and Mudstone	Not Supplied - Callovian
	СВ	Cornbrash Formation	Limestone	Not Supplied - Bathonian
	BWC	Blisworth Clay Formation	Mudstone	Not Supplied - Bathonian
	BWL	Blisworth Limestone Formation	Limestone	Not Supplied - Bathonian
	WBRO	Wellingborough Limestone Member	Limestone and Mudstone, Interbedded	Not Supplied - Bathonian
	RLD	Rutland Formation	Mudstone	Not Supplied - Bajocian
	STAM	Stamford Member	Sandstone and Siltstone, Interbedded	Not Supplied - Bajocian
	WHM	Whitby Mudstone Formation	Mudstone	Not Supplied - Toarcian



Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

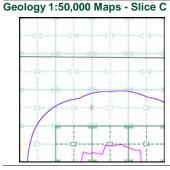
The various geological layers - artificial and landslip deposits, superficial

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Not Supplied

Map ID: 1
Map Sheet No: 203
Map Name: Bedford
Map Date: 2010
Bedrock Geology: Available
Superficial Geology: Available
Faults: Not Supplied
Landslip: Available





Order Details:

Order Number: Customer Reference: National Grid Reference: Slice: Site Area (Ha):

Site Area (Ha): Search Buffer (m):

Site Details: Meikleland

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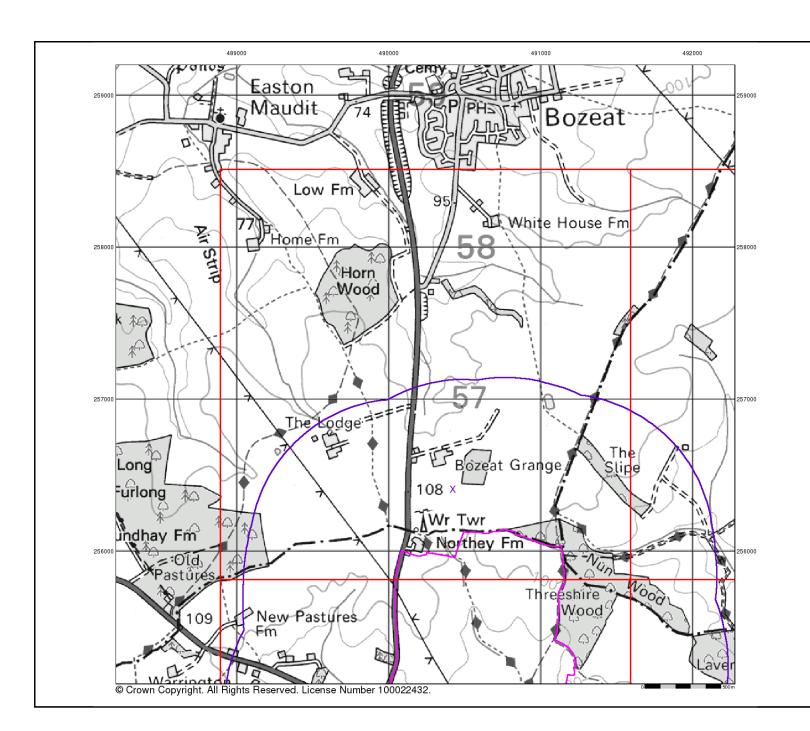
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> 0844 844 9952 0844 844 9951

Fax: 0844 844 Web:





Artificial Ground and Landslip

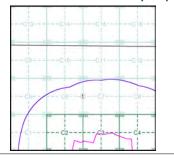
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground man-made deposits such as embankments and spoil heaps on the natural ground surface.
 Worked ground - areas where the ground has been cut away such as
- Worked ground areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground areas where the surface has been reshaped.
 Disturbed ground areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice C



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Order Number: Customer Reference: National Grid Reference: Slice: Site Area (Ha):

Site Area (Ha): Search Buffer (m): 346936621_1_1 DS78309 490420, 256410 C 172.36

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Site Details:

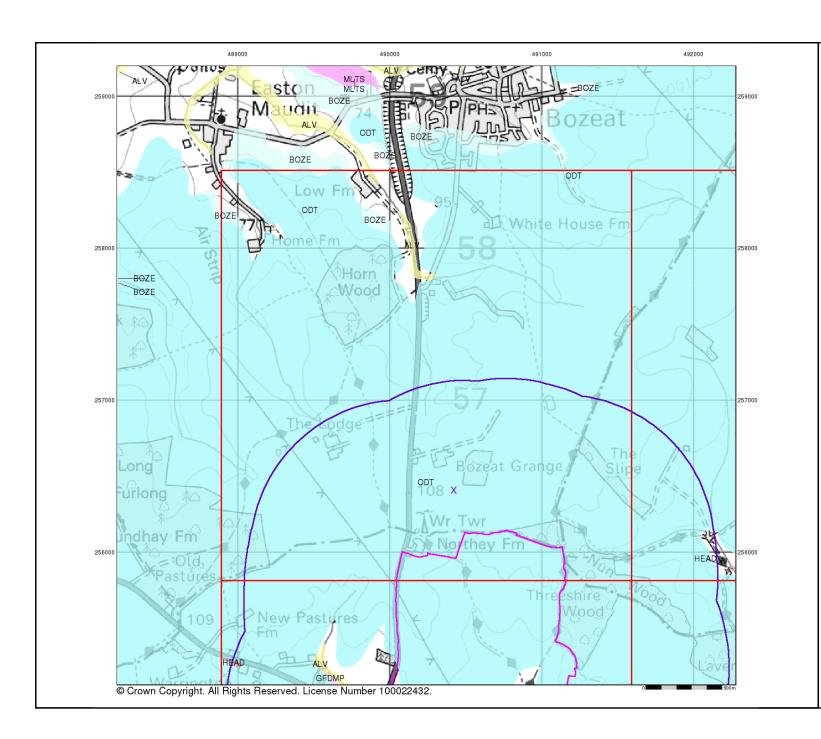
Meikleland



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v15.0 16-May-2024

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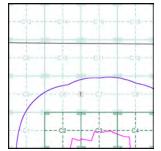
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice C





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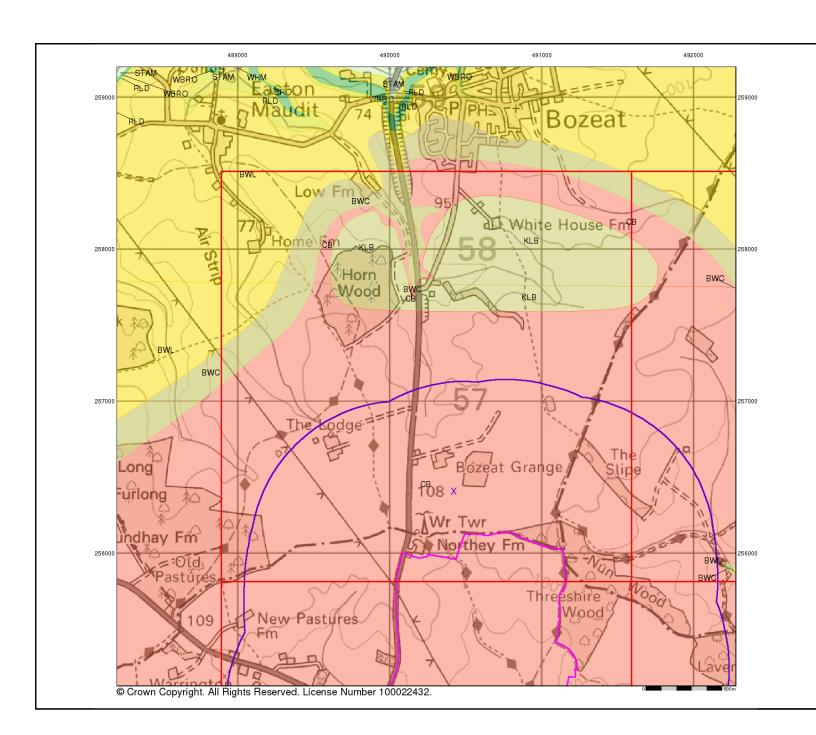
Landmark INFORMATION GROUP

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Bedrock and Faults

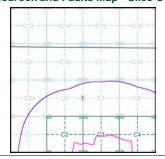
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice C



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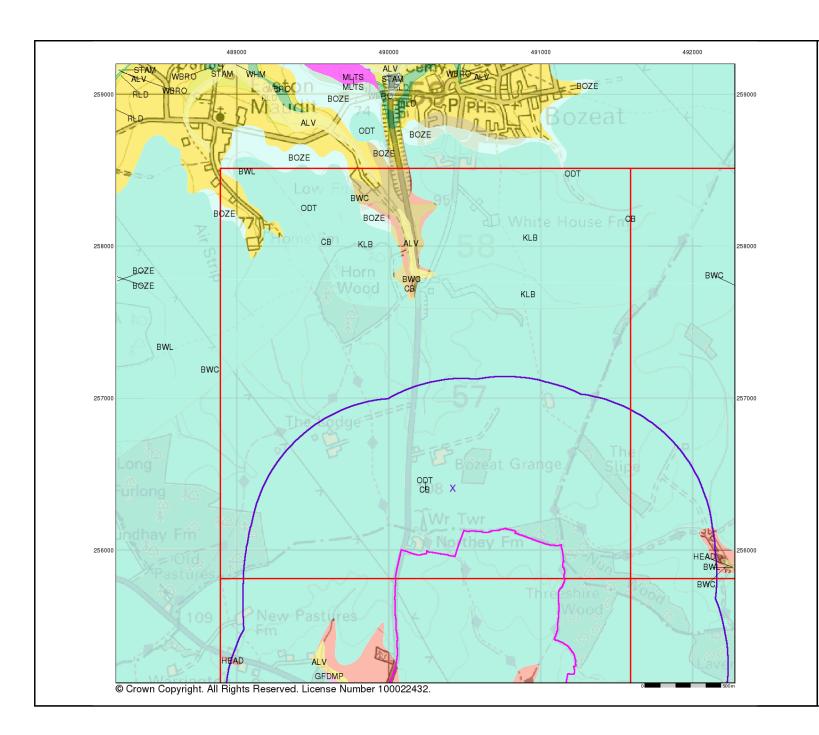
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

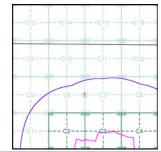
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey Kingsley Dunham Centre Keyworth Nottingham NG12 5GG Telephone: 0115 936 3143 Fax: 0115 936 3276 email: enquiries@bgs.ac.uk website: www.bgs.ac.uk

Combined Geology Map - Slice C



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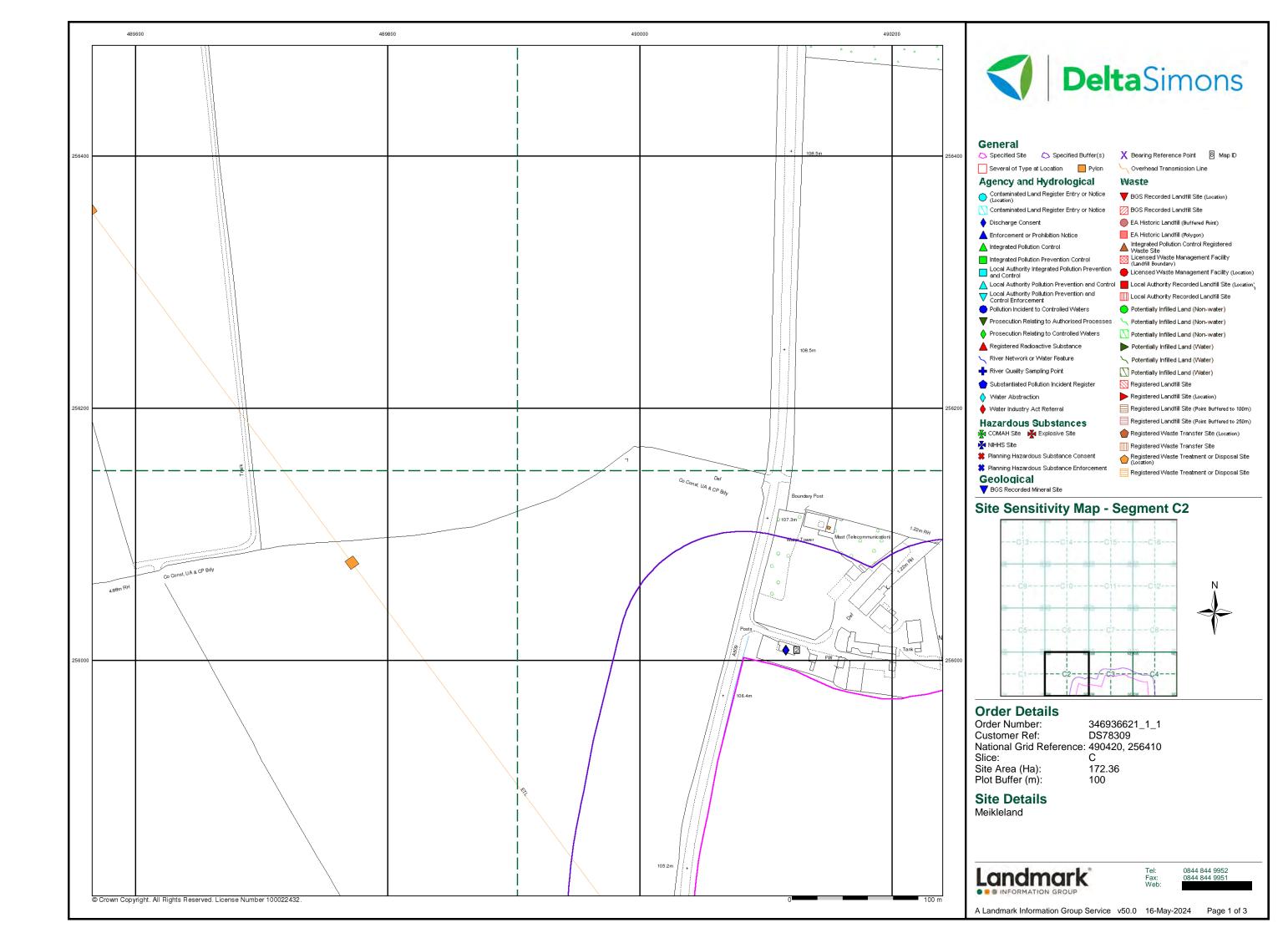
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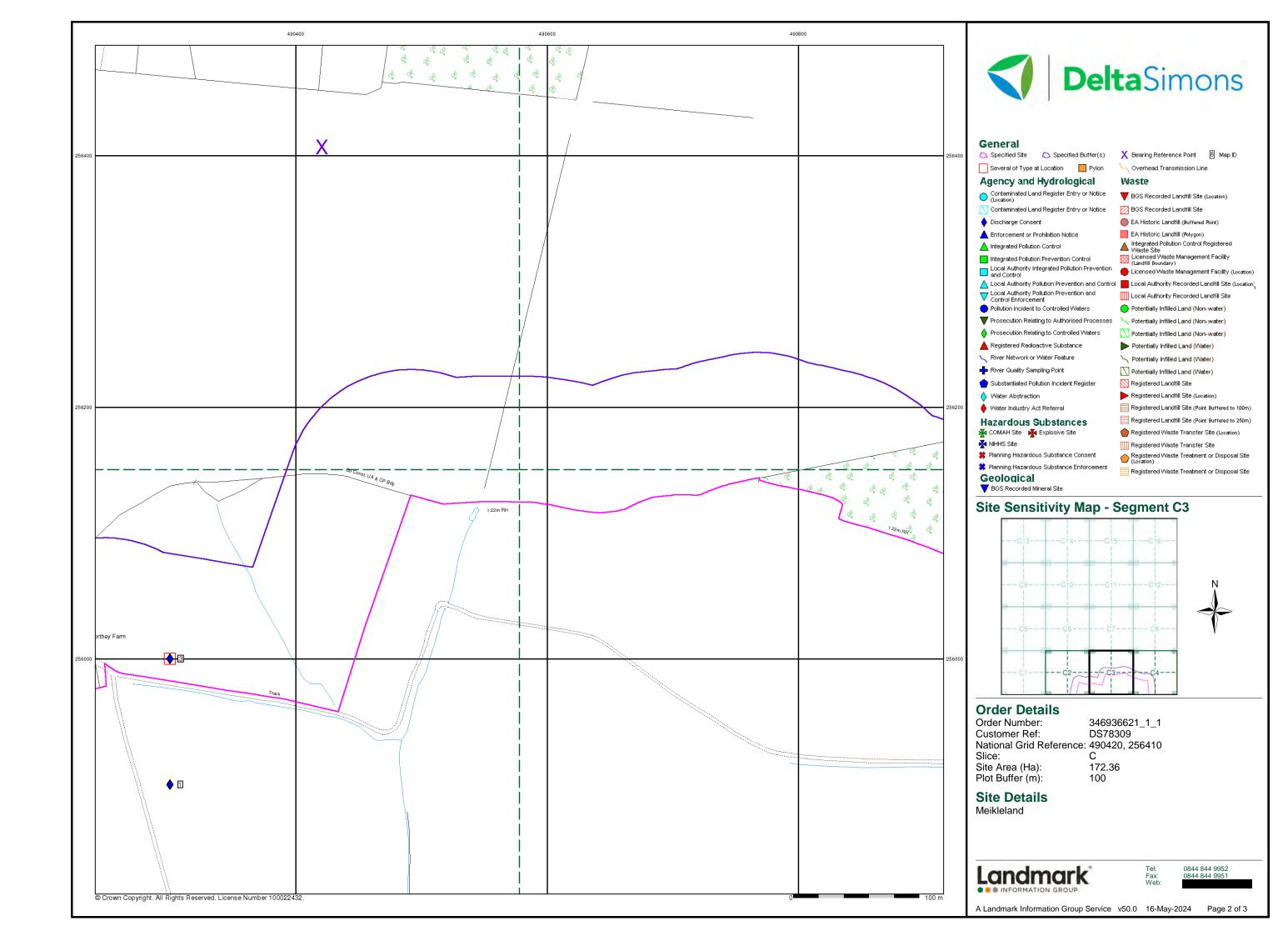


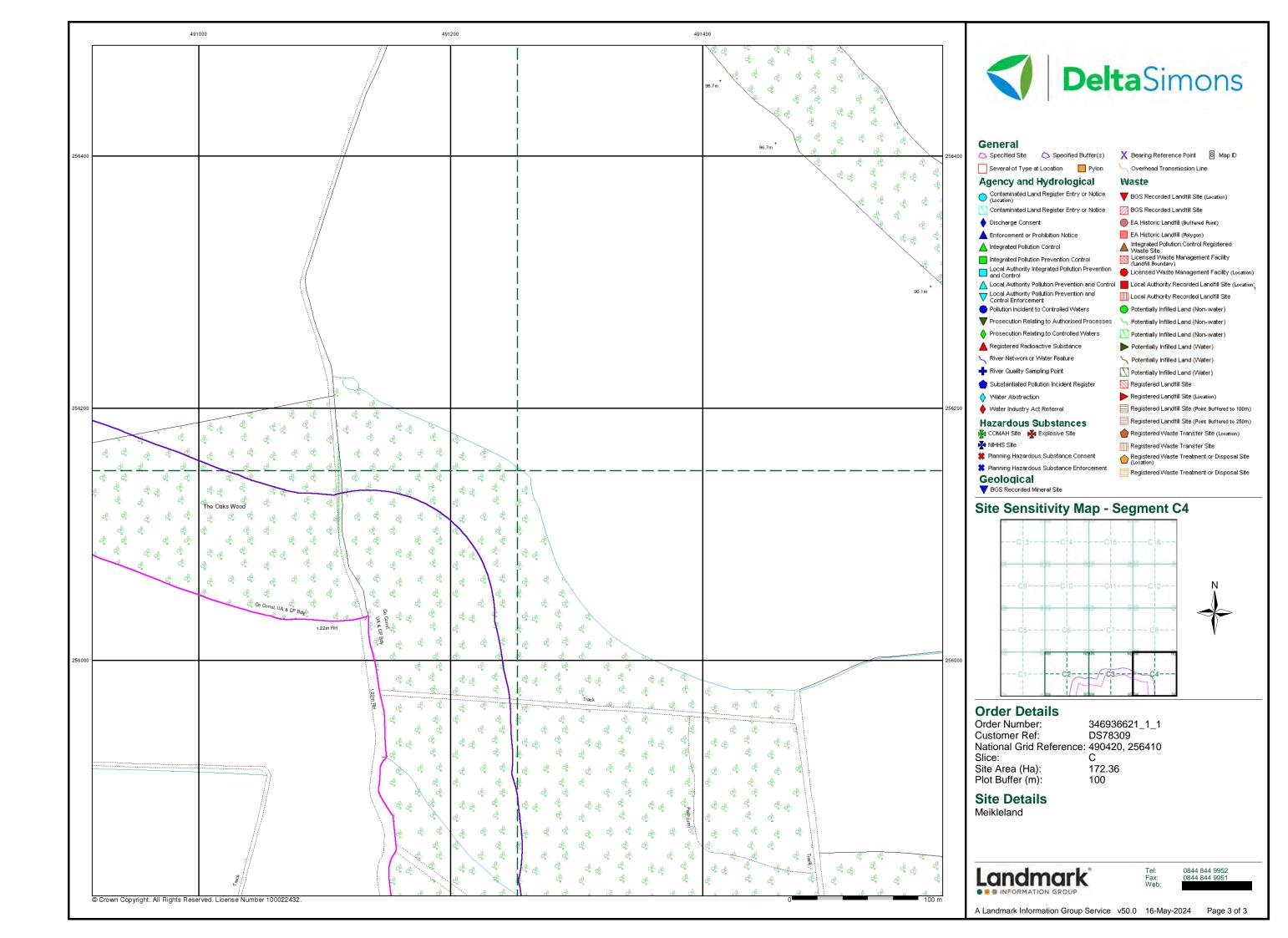
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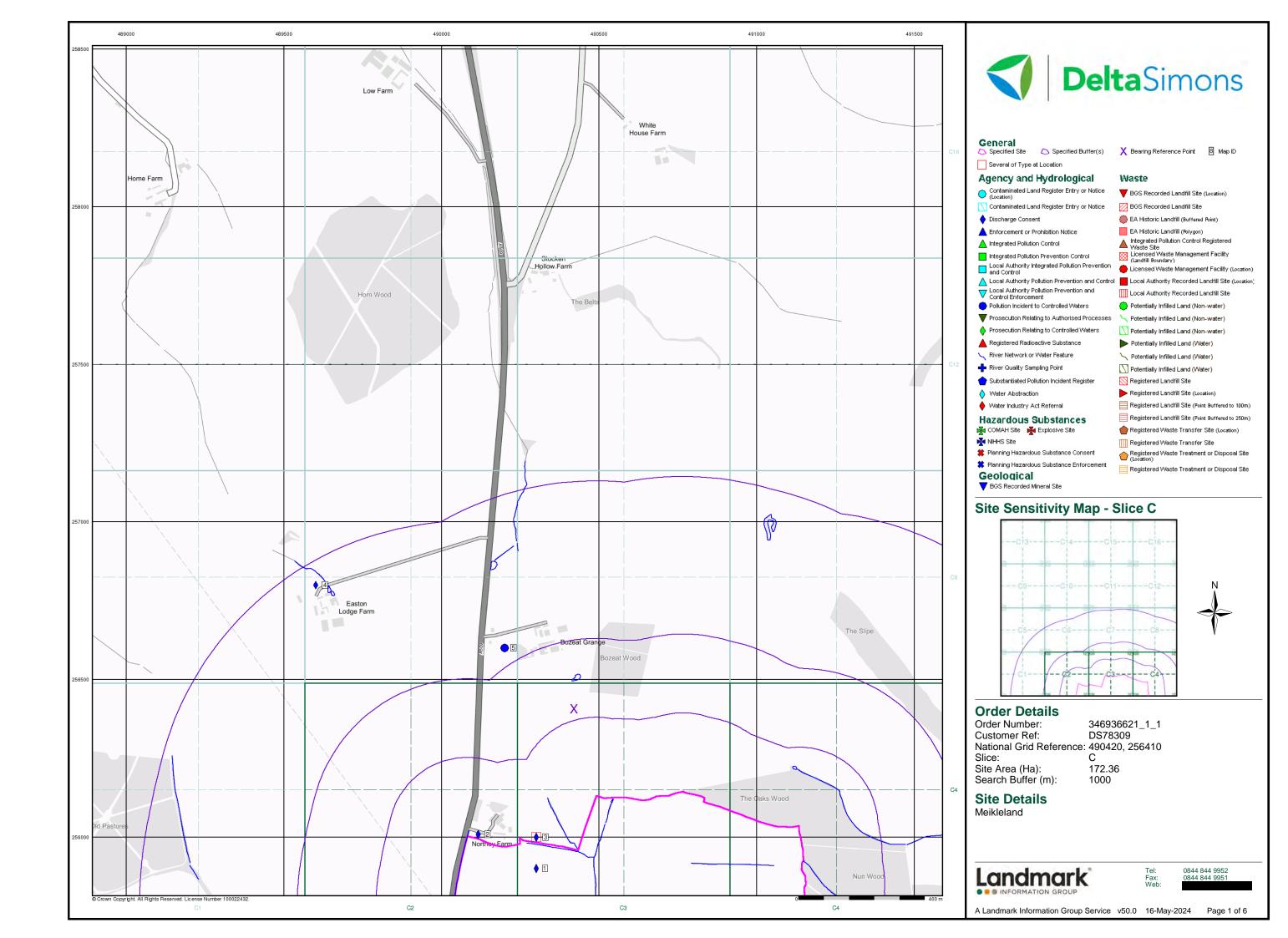
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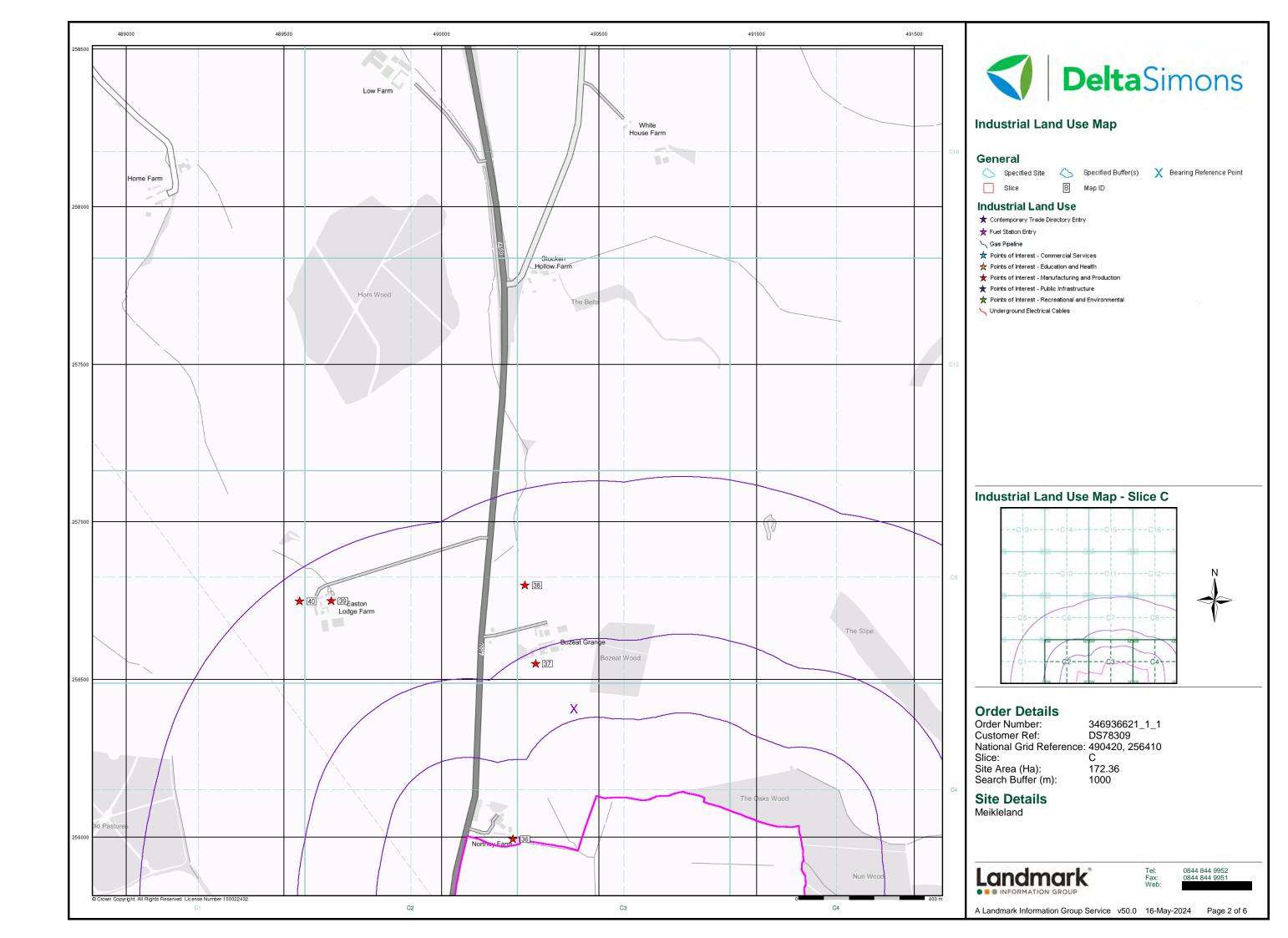
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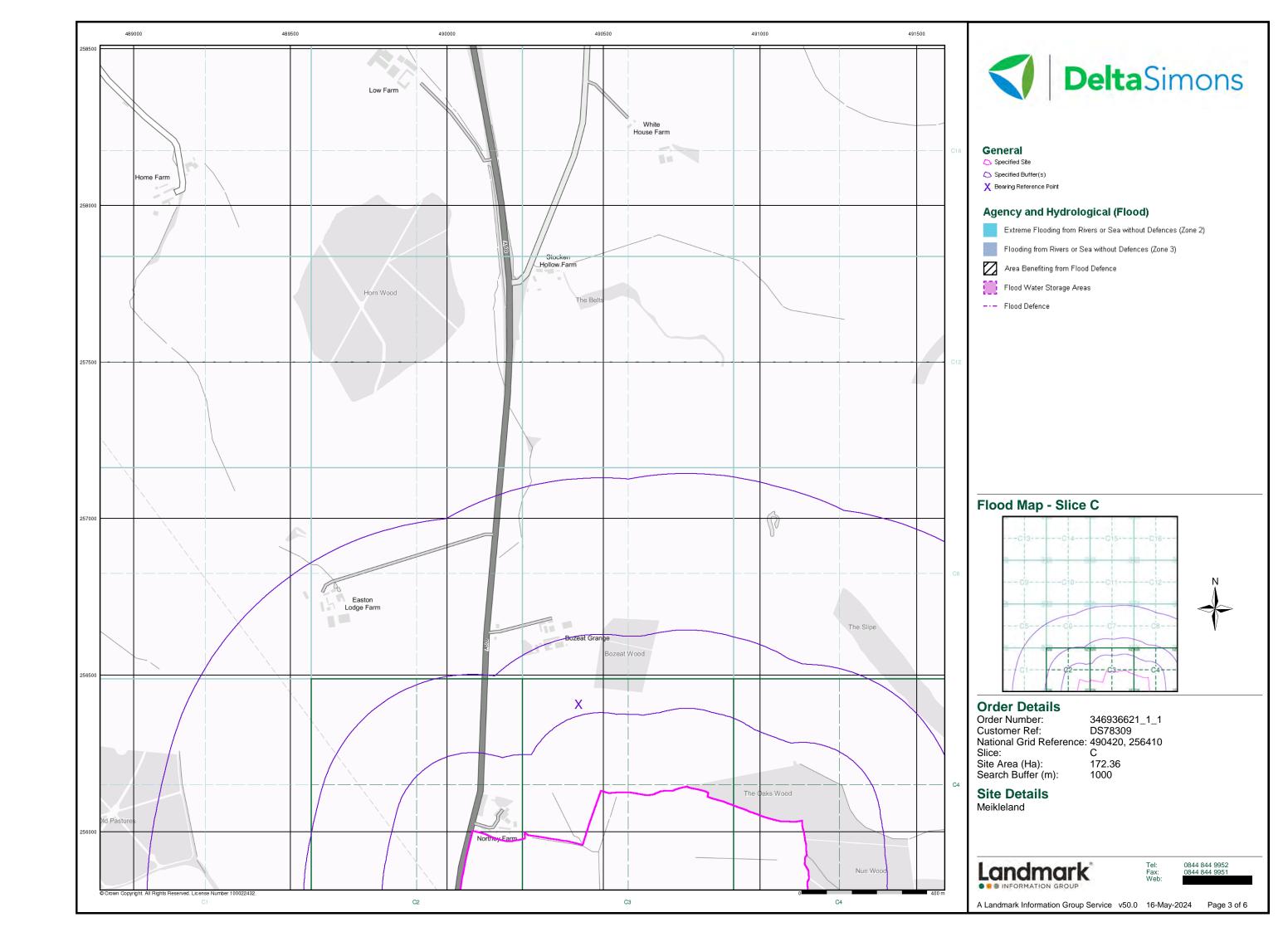


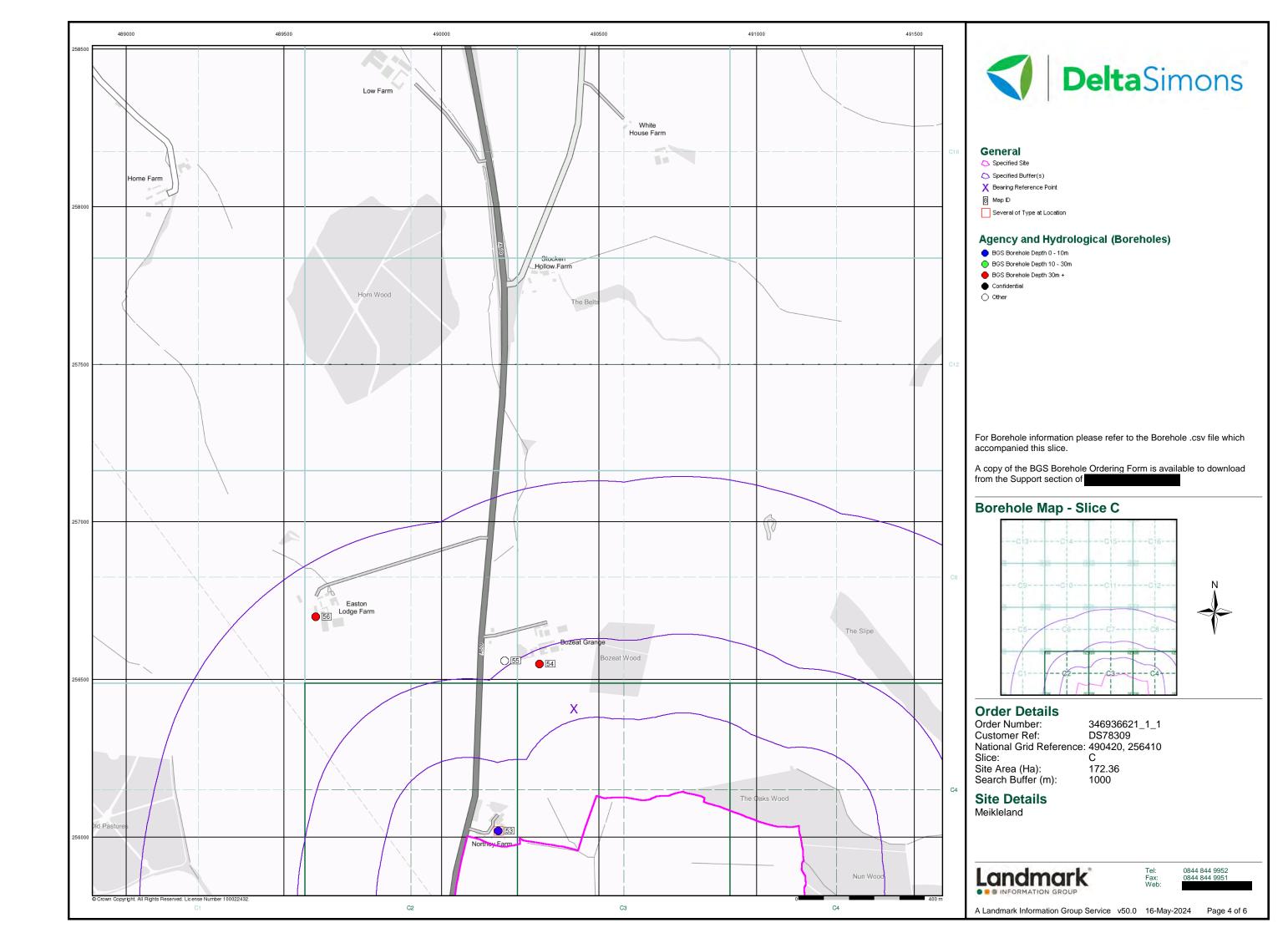


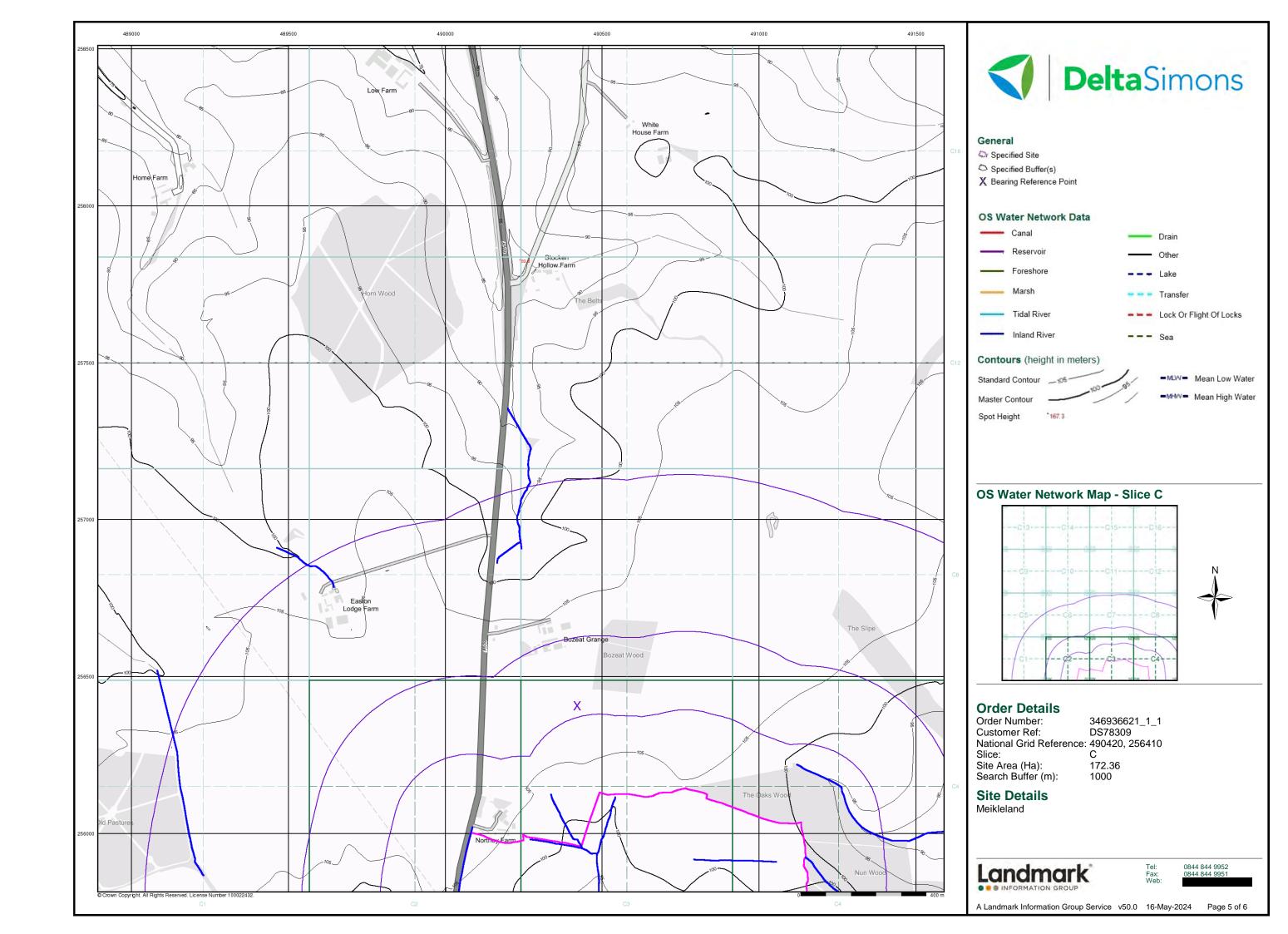


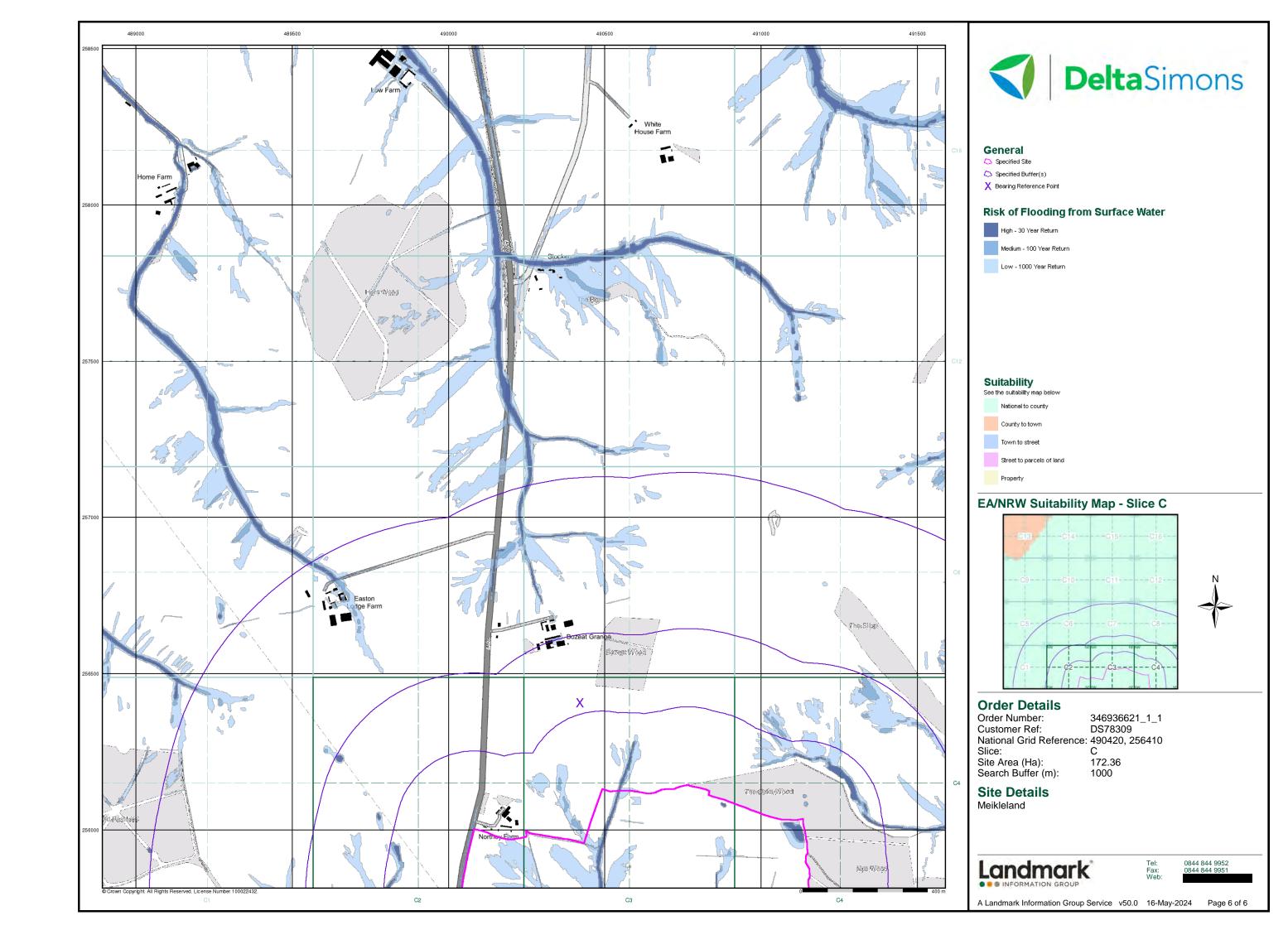


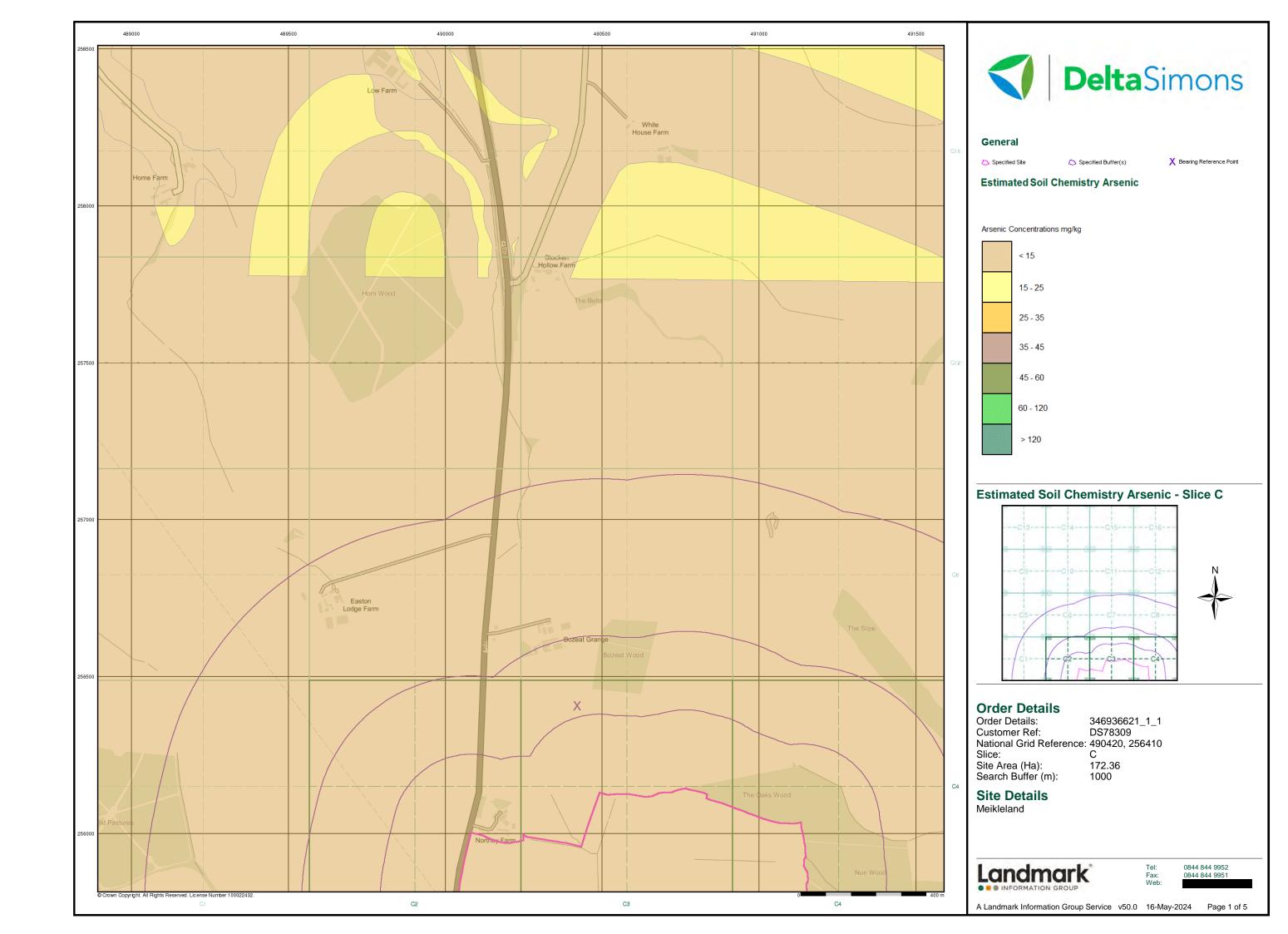


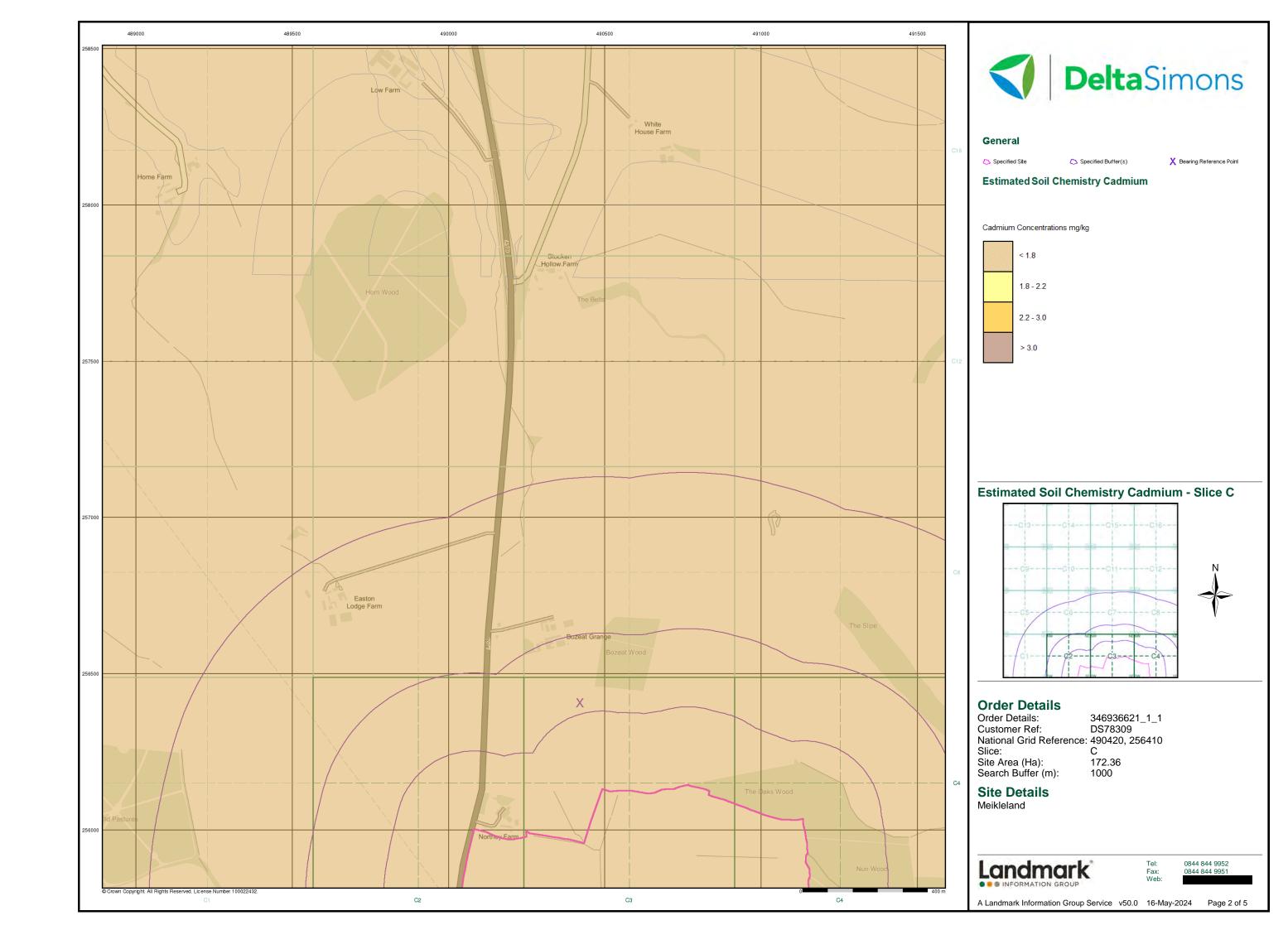


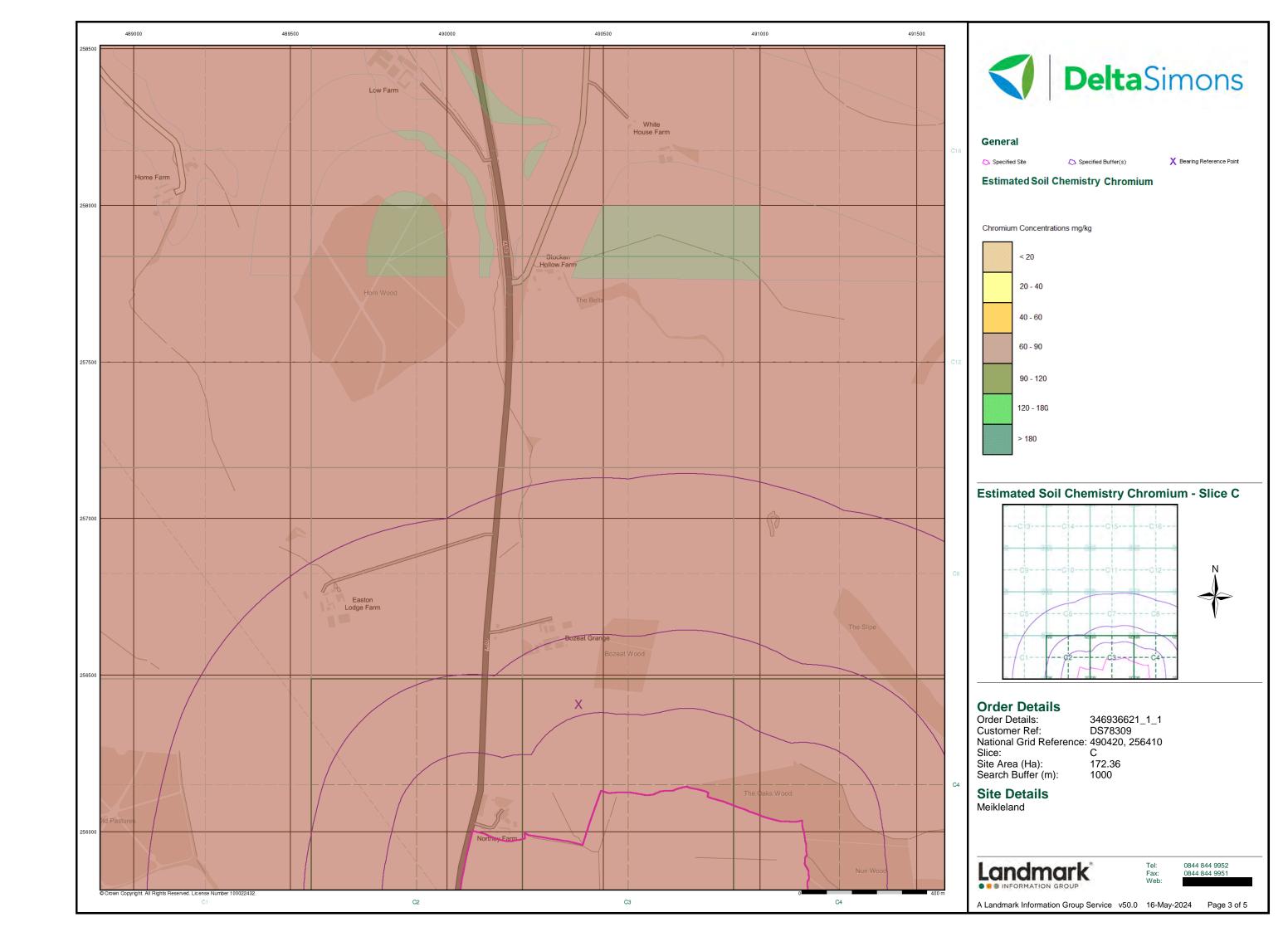


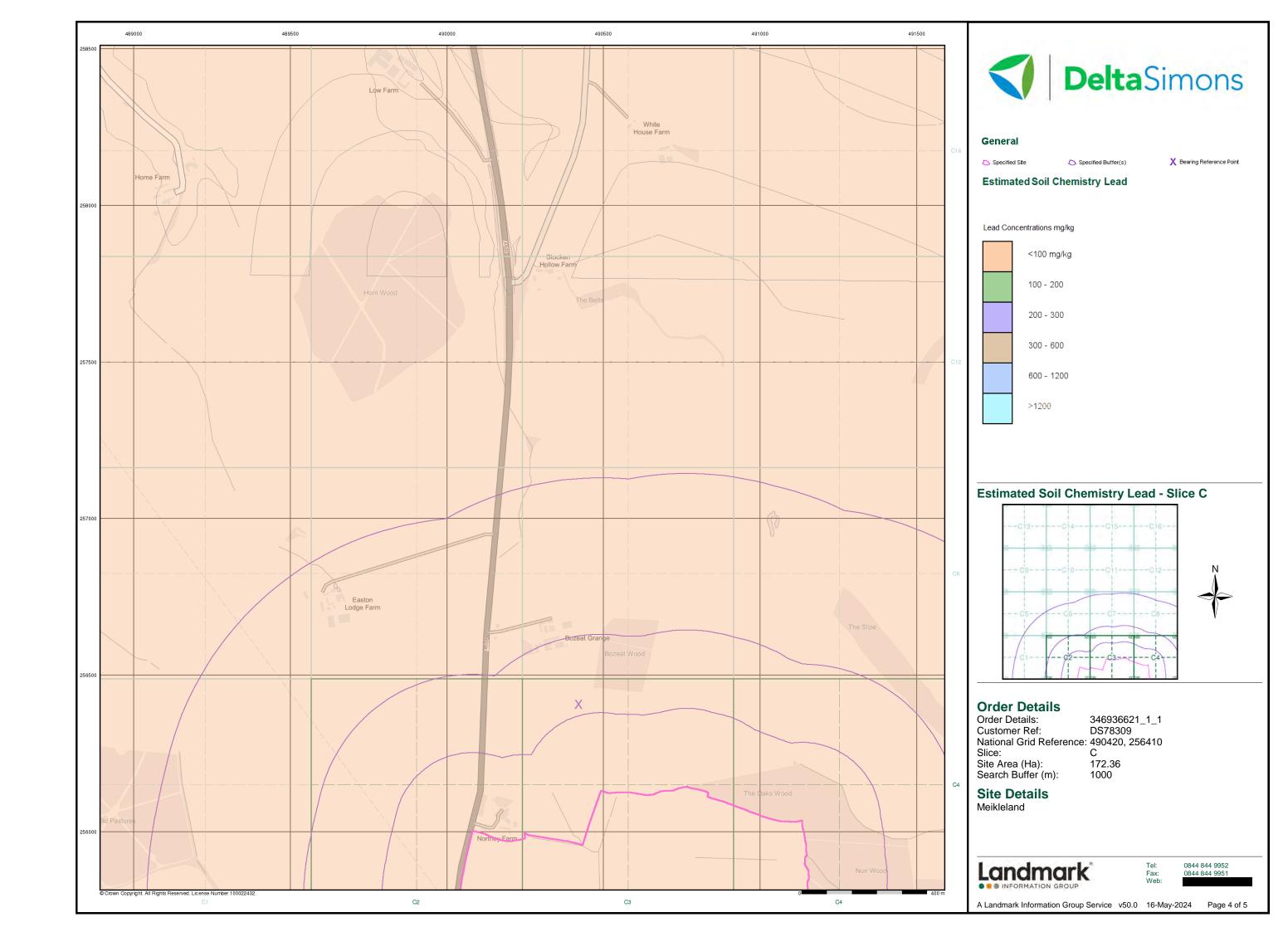


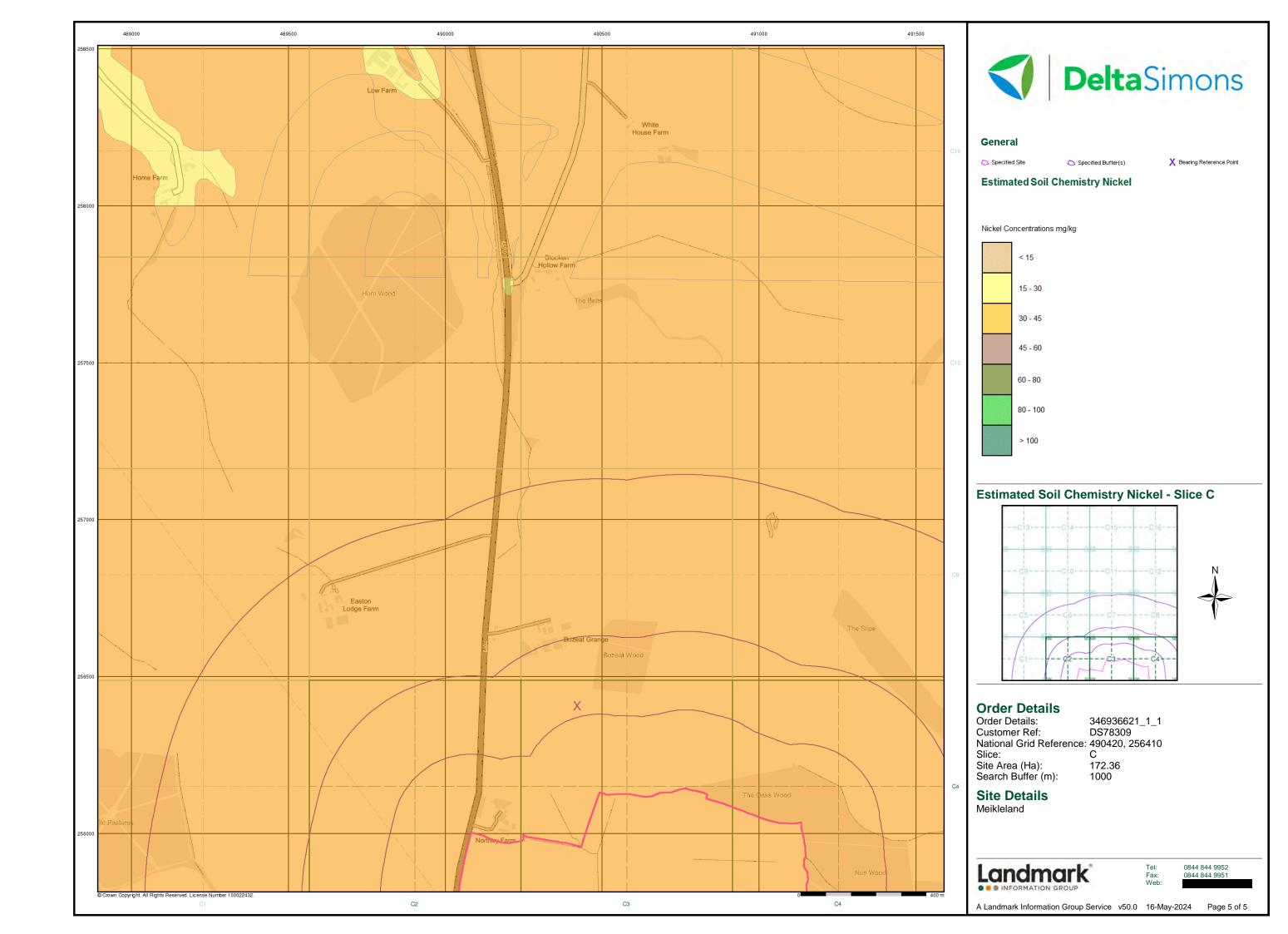


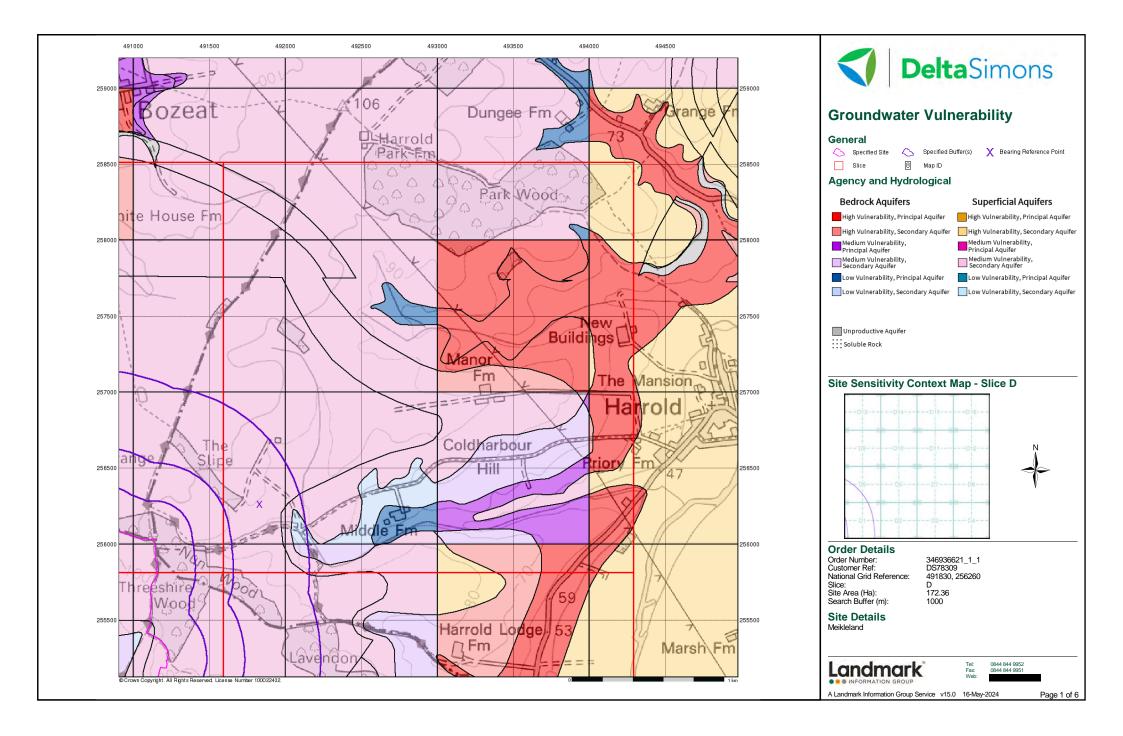


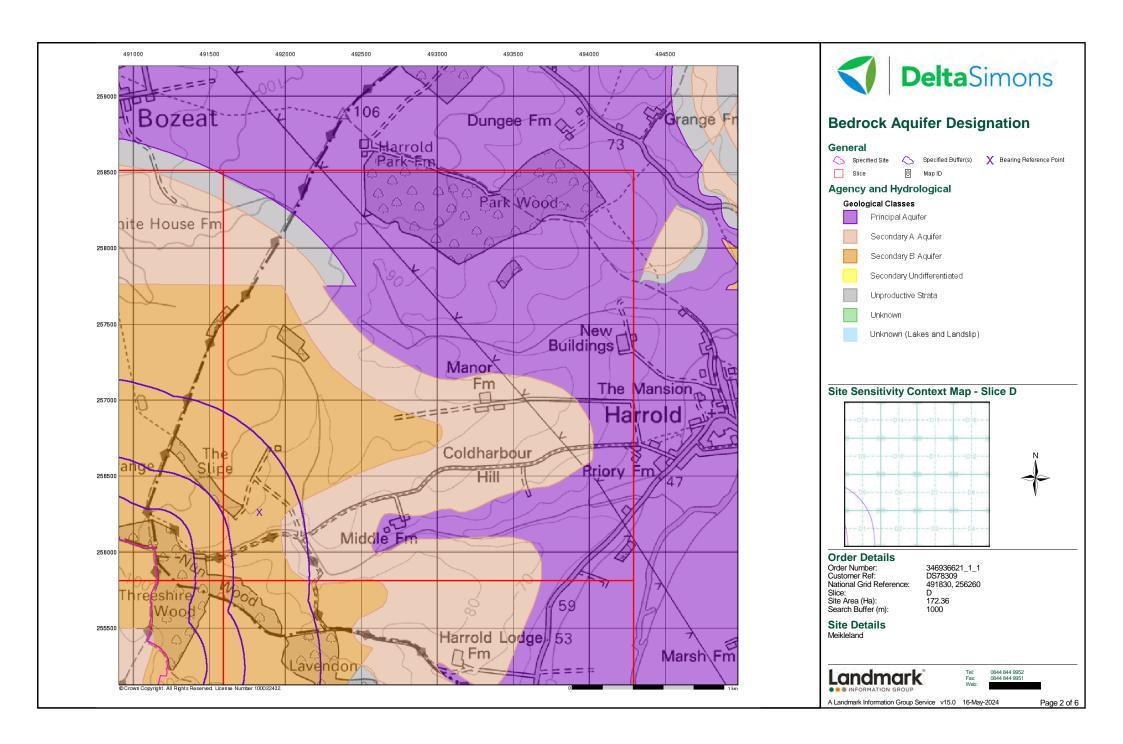


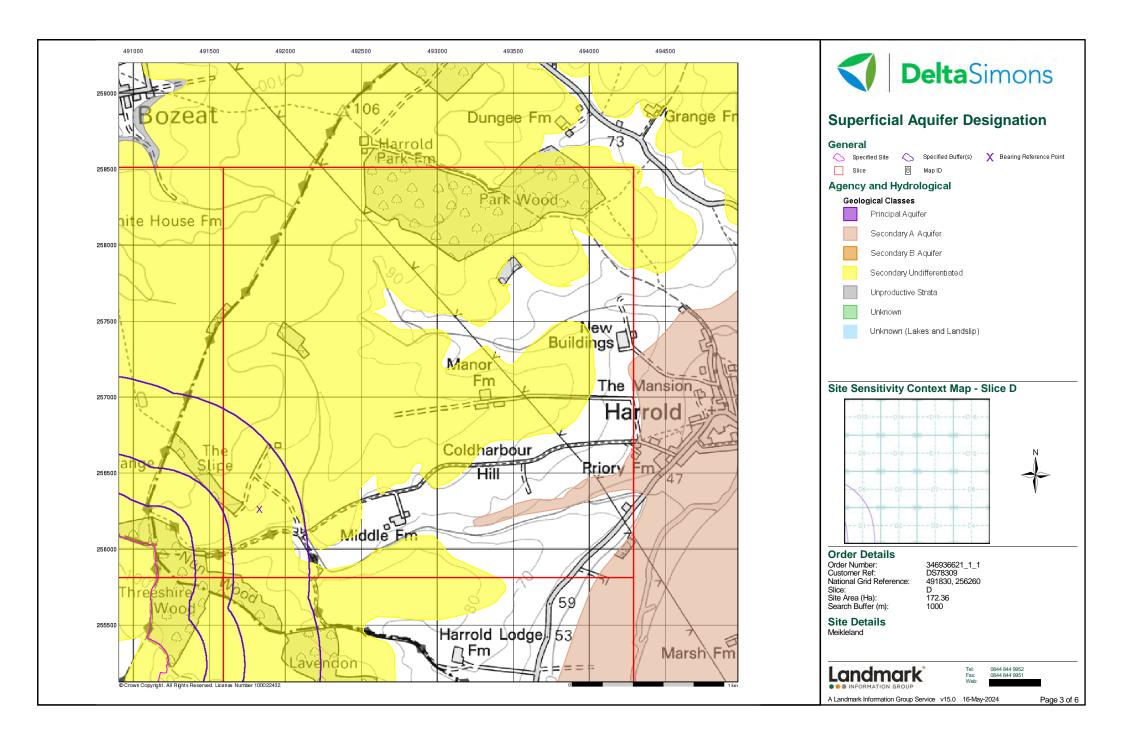


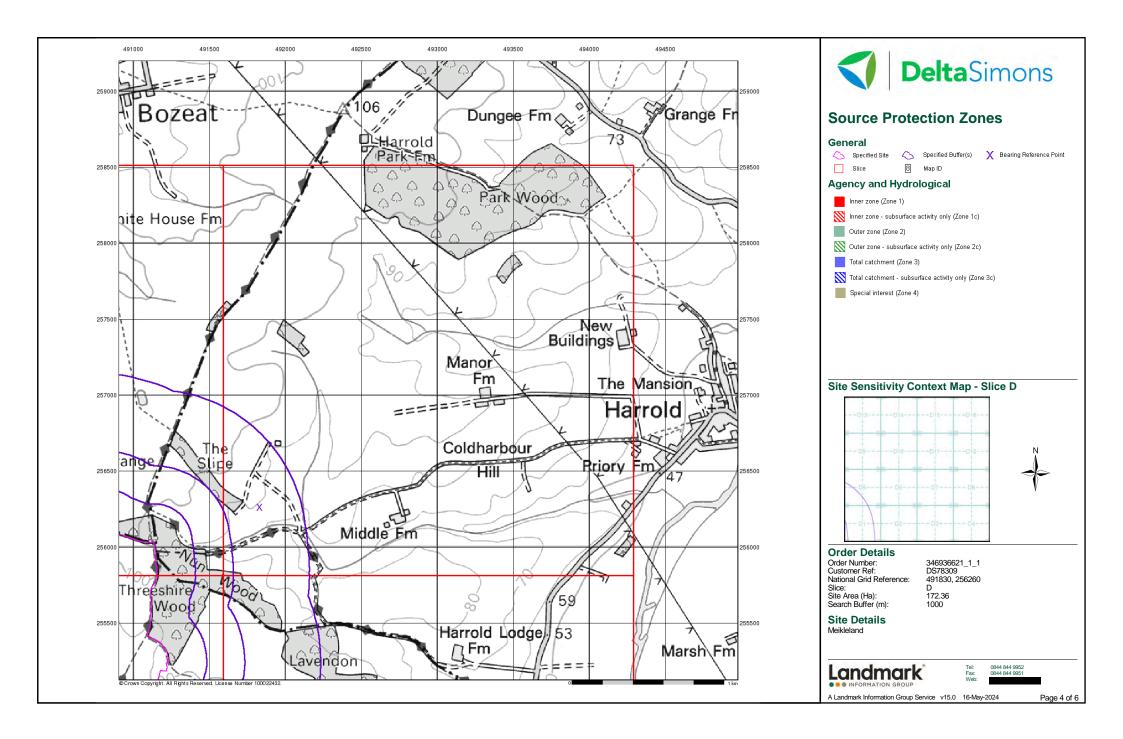


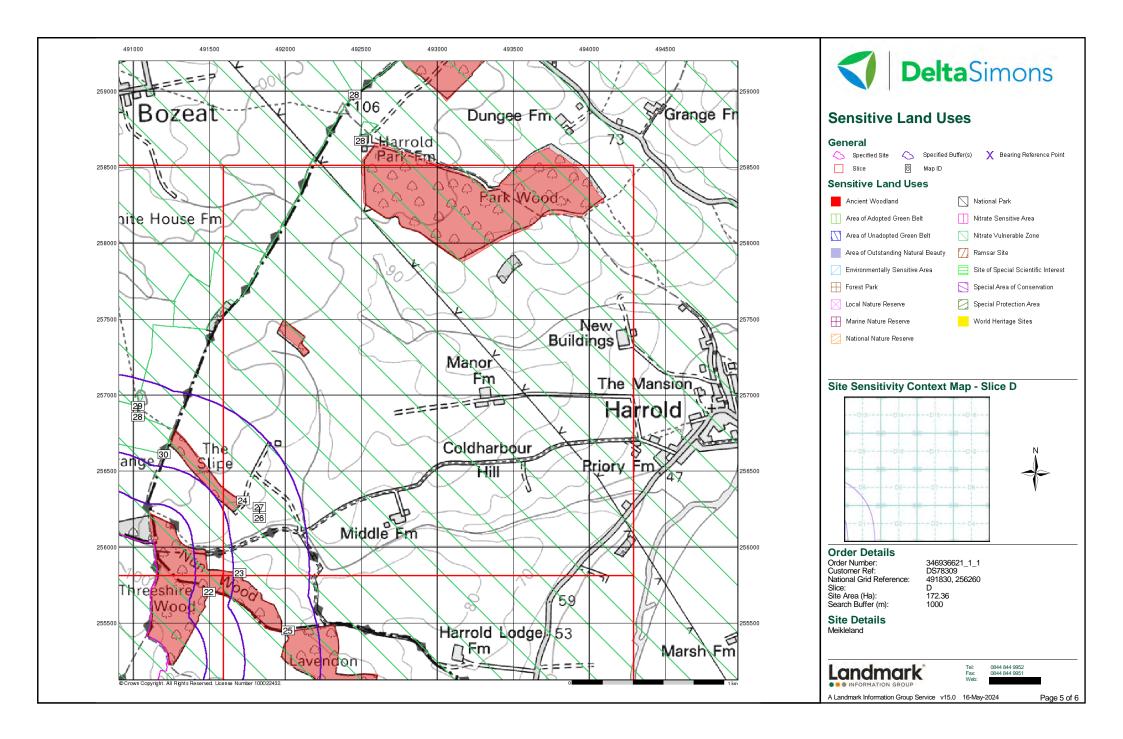


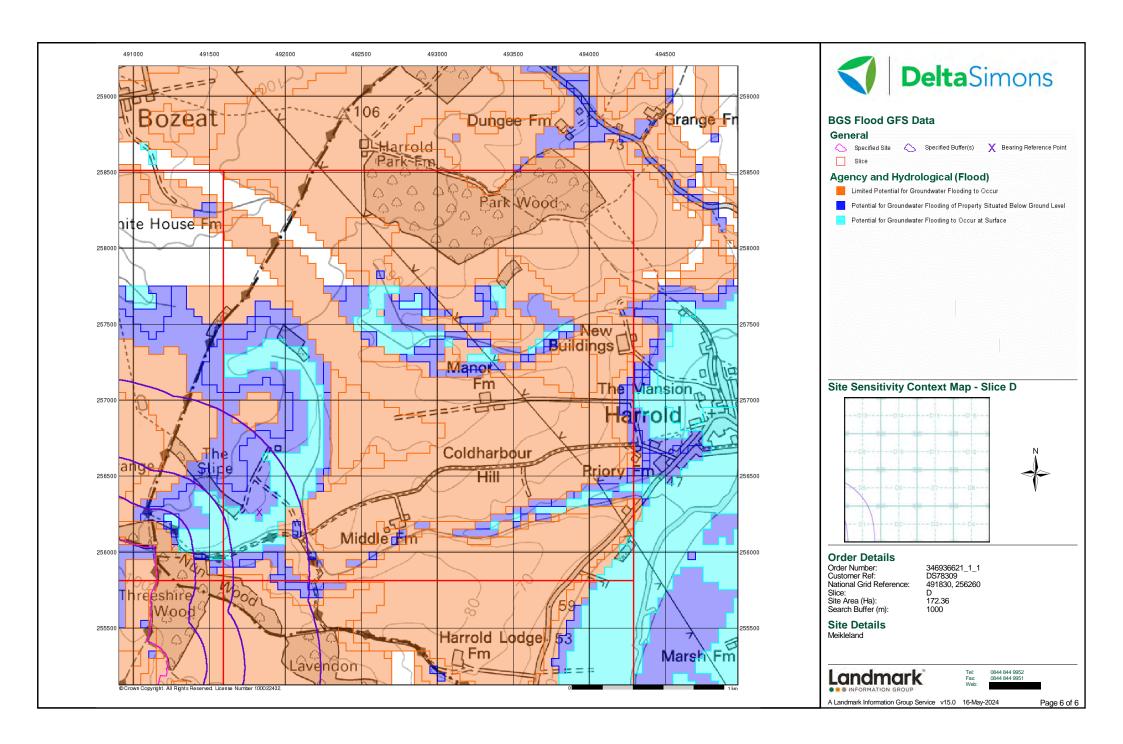














Envirocheck® Report:

Datasheet

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Customer Reference:

DS78309

National Grid Reference:

491830, 256260

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Site Details:

Meikleland

Client Details:

Delta Simons
Suite 4A
One Portland Street
Manchester
M1 3BE



Order Number: 346936621_1_1 Date: 16-May-2024 rpr_ec_datasheet v53.0 A Landmark Information Group Service





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Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.

For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0





Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents					
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 2			Yes	
Pollution Incidents to Controlled Waters					
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions					
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 2	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk	pg 4	4	n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 4	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 4	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 4			1	20



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 8	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)					
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 9	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 9	Yes			Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 9	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 9	Yes		n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 9	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 9	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 9	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries					
Fuel Station Entries					
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					
Gas Pipelines					
Underground Electrical Cables					



Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 10	2			2
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 10	2	3		
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	0	1	491150 255500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	0	1	491150 255350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	0	1	491200 255350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	0	1	491050 255350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W)	0	1	491150 256050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	0	1	491150 255950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	0	1	491100 255550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	0	1	491450 256600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W)	0	1	490950 256100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	D1SW (S)	0	1	491830 255850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	0	1	491150 255300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W)	109	1	491300 256050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(W)	116	1	491200 256200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W)	117	1	491300 256100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W)	133	1	491300 256150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	(W)	133	1	491250 256200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	D1NW (NW)	139	1	491750 256400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	D1NW (NW)	156	1	491830 256263
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	D1NW (SE)	159	1	491850 256250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	(W)	163	1	491300 256250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(SW)	203	1	491400 256000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	(NW)	207	1	491200 256550



Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	253	1	491450 256000
	BGS Groundwater Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	302	1	491500 256000
	BGS Groundwater Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding of Property Situated Below Ground Level	(SW)	344	1	491550 255900
	BGS Groundwater Flooding Type:	Flooding Susceptibility Potential for Groundwater Flooding of Property Situated Below Ground Level	D1SW (S)	347	1	491830 256000
	BGS Groundwater Flooding Type:	Flooding Susceptibility Limited Potential for Groundwater Flooding to Occur	D1SW (S)	394	1	491830 255950
	Nearest Surface Wa	ater Feature	D1SW (SW)	331	-	491659 256021
	Groundwater Vulne Combined Classification:	Secondary Bedrock Aquifer - Medium Vulnerability	(SW)	0	2	491000 255413
	Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness:	Medium Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year <40% <90% 3-10m				
	Superficial Recharge:	Low				
	Groundwater Vulner Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge: Groundwater Vulner	Secondary Bedrock Aquifer - Low Vulnerability Low Productive Bedrock Aquifer, No Superficial Aquifer Intermediate Well Connected Fractures <300 mm/year <40% >90% >10m Low	(SW)	0	2	491051 255418
	Combined Classification: Combined Vulnerability: Combined Aquifer: Pollutant Speed: Bedrock Flow: Dilution: Baseflow Index: Superficial Patchiness: Superficial Thickness: Superficial Recharge:	Secondary Superficial Aquifer - Medium Vulnerability Medium Productive Bedrock Aquifer, Productive Superficial Aquifer Low Mixed <300 mm/year 40-70% >90% >10m Low	(W)	0	2	491000 256263

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	D1NW	0	2	491830
	Classification: Combined	Medium	(NW)			256263
	Vulnerability: Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow: Dilution:	Well Connected Fractures <300 mm/year				
	Baseflow Index:	<40%				
	Superficial Patchiness:	>90%				
	Superficial	>10m				
	Thickness:					
	Superficial Recharge:	Low				
	_	walailite. Man				
	Groundwater Vulne Combined	Prability map Secondary Superficial Aquifer - Medium Vulnerability	(SW)	0	2	491000
	Classification:	Cocondary Cupornolar Aquiler - Medianti vulliciability	(300)		۷	255496
	Combined	Medium				
	Vulnerability: Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution: Baseflow Index:	<300 mm/year <40%				
	Superficial	<90%				
	Patchiness: Superficial	2.40m				
	Thickness:	3-10m				
	Superficial	Low				
	Recharge:					
	Groundwater Vulne		(2)	_	_	
	Combined Classification:	Secondary Superficial Aquifer - Medium Vulnerability	(SW)	0	2	491000 255261
	Combined	Medium				200201
	Vulnerability:					
	Combined Aquifer: Pollutant Speed:	Productive Bedrock Aquifer, Productive Superficial Aquifer Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index: Superficial	<40% <90%				
	Patchiness:					
	Superficial Thickness:	3-10m				
	Superficial	Low				
	Recharge:					
	Groundwater Vulne	erability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	(W)	0	2	491000
	Classification: Combined	Medium				256000
	Vulnerability:	WCGIGITI				
	Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed: Bedrock Flow:	Intermediate Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index:	<40%				
	Superficial Patchiness:	<90%				
	Superficial	3-10m				
	Thickness:					
	Superficial Recharge:	Low				

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ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	erability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	(SW)	0	2	491124
	Classification:	Occordary Supernolar/Aquiler Wediam valiterability	(644)			255478
	Combined	Medium				
	Vulnerability:					
	Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed: Bedrock Flow:	Intermediate Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index:	<40%				
	Superficial	>90%				
	Patchiness:					
	Superficial	>10m				
	Thickness:	Low				
	Superficial Recharge:	Low				
	Groundwater Vulne	rability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	D1SW	0	2	491830
	Classification:	Madina	(S)			256000
	Combined	Medium				
	Vulnerability: Combined Aquifer:	Productive Bedrock Aquifer, Productive Superficial Aquifer				
	Pollutant Speed:	Intermediate				
	Bedrock Flow:	Well Connected Fractures				
	Dilution:	<300 mm/year				
	Baseflow Index:	<40%				
	Superficial Patchiness:	>90%				
	Superficial	>10m				
	Thickness:	710111				
	Superficial	Low				
	Recharge:					
	Groundwater Vulne	erability - Soluble Rock Risk				
		-	DANIM			404000
	Classification:	Significant Risk - Low Possibility	D1NW (NW)	0	2	491830 256263
	Groundwater Vulne	erability - Soluble Rock Risk	(1111)			200200
		-	0.40			
	Classification:	Significant Risk - Problems Unlikely	(W)	0	2	491000 256263
	O	and illian. Calcula Deals Biols				230203
		erability - Soluble Rock Risk		_	_	
	Classification:	Significant Risk - Low Possibility	(W)	0	2	491000 256000
	0	and illian. Calcula Bank Bink				230000
		erability - Soluble Rock Risk		_	_	
	Classification:	Significant Risk - Low Possibility	D1SW	0	2	491830
			(S)			256000
	Bedrock Aquifer De					
	Aquifer Designation:	On a sure diametrial from the control of the contro				
		Secondary Aquirer - A	(SW)	0	2	
	+		(SW)	0	2	
	Bedrock Aquifer De		(SW)	0	2	
			(SW)	0	2	255478
		esignations				255478 491830
		esignations Secondary Aquifer - B	D1NW			255478 491830
	Aquifer Designation: Superficial Aquifer	esignations Secondary Aquifer - B	D1NW			255478 491830 256263
	Aquifer Designation: Superficial Aquifer	esignations Secondary Aquifer - B Designations	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation:	esignations Secondary Aquifer - B Designations	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding for	esignations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding for None	Designations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences	D1NW (NW)	0	2	491124 255478 491830 256263 491830 256263
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding f None Flooding from Rive	esignations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding for None	Designations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding f None Flooding from Rive	esignations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding fi None Flooding from Rive None Areas Benefiting from	esignations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding fi None Flooding from Rive None Areas Benefiting from None	Designations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding f None Flooding from Rive None Areas Benefiting from None Flood Water Storag	Designations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding fi None Flooding from Rive None Areas Benefiting from None	Designations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding fi None Flooding from Rive None Areas Benefiting from None Flood Water Storag None	Designations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding fi None Flooding from Rive None Areas Benefiting fro None Flood Water Storag None Flood Defences	Designations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding fi None Flooding from Rive None Areas Benefiting from None Flood Water Storag None Flood Defences None	Designations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences de Areas	D1NW (NW)	0	2	255478 491830 256263 491830
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding fi None Flooding from Rive None Areas Benefiting fro None Flood Water Storag None Flood Defences	Designations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences de Areas	D1NW (NW)	0	2	255478 491830 256263 491830
1	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding fi None Flooding from Rive None Areas Benefiting from None Flood Water Storag None Flood Defences None OS Water Network Watercourse Form:	esignations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences de Areas Lines Inland river	D1NW (NW) D1NW (NW)	0	2	255478 491830 256263 491830
1	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding from Rive None Areas Benefiting from None Flood Water Storag None Flood Defences None OS Water Network Watercourse Form: Watercourse Length	esignations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences le Areas Lines Inland river : 189.4	D1NW (NW) D1NW (NW)	0	2	255478 491830 256263 491830 256263
1	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding from Rive None Areas Benefiting from None Flood Water Storag None Flood Defences None OS Water Network of the storag of the sto	esignations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences le Areas Lines Inland river : 189.4 On ground surface	D1NW (NW) D1NW (NW)	0	2	255478 491830 256263 491830 256263 491659
	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding fi None Flooding from Rive None Areas Benefiting from None Flood Water Storag None Flood Defences None OS Water Network i Watercourse Form: Watercourse Length Watercourse Level: Permanent:	esignations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences de Areas Lines Inland river : 189.4 On ground surface True	D1NW (NW) D1NW (NW)	0	2	255478 491830 256263 491830 256263 491659
1	Aquifer Designation: Superficial Aquifer Aquifer Designation: Extreme Flooding from Rive None Areas Benefiting from None Flood Water Storag None Flood Defences None OS Water Network of the storag of the sto	esignations Secondary Aquifer - B Designations Secondary Aquifer - Undifferentiated rom Rivers or Sea without Defences rs or Sea without Defences om Flood Defences de Areas Lines Inland river: 189.4 On ground surface True Not Supplied	D1NW (NW) D1NW (NW)	0	2	255478 491830 256263 491830 256263 491659



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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 125.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1SW (S)	516	3	491769 256078
	OS Water Network Lines				
3	Watercourse Form: Inland river Watercourse Length: 11.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1NW (W)	557	3	491661 256232
4	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1NW (W)	562	3	491664 256229
5	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1NW (W)	564	3	491673 256221
6	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 5.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1NW (W)	570	3	491676 256216
7	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 5.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1NW (W)	571	3	491678 256212
8	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 12.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1NW (W)	571	3	491689 256216
9	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1NW (W)	572	3	491678 256212
10	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 115.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1NW (SW)	573	3	491704 256152



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1SW (S)	633	3	491768 256080
12	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1SW (S)	634	3	491837 256104
13	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1SW (S)	705	3	491840 256106
14	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1SW (S)	709	3	491856 256113
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1SE (SE)	927	3	492061 256114
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1SE (SE)	941	3	492074 256119
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 17.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1SE (SE)	958	3	492093 256109
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1SE (SE)	968	3	492105 256097
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 2.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1SE (SE)	968	3	492105 256099



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 600.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1	D1NE (E)	969	3	492120 256225
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 950.0 Watercourse Level: On ground surface Permanent: True	D1SE (SE)	971	3	492110 256090
	Watercourse Name: Not Supplied Catchment Name: Cam Ely Ouse and South Level Primacy: 1				

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage				
	Name: Bedford Borough Council - Has supplied landfill data		0	4	491830 256263
	Local Authority Landfill Coverage				
	Name: Bedfordshire County Council - Has no landfill data to supply		0	5	491830 256263

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid	d Geology				
	Description:	Kellaways Formation And Oxford Clay Formation (Undifferentiated)	D1NW (NW)	0	1	491830 256263
	BGS 1:625,000 Solid	d Geology				
	Description:	Great Oolite Group	D1NW (E)	0	1	491905 256239
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil <15 mg/kg <1.8 mg/kg 60 - 90 mg/kg	D1NW (NW)	0	1	491830 256263
	BGS Estimated Soil Source: Soil Sample Type: Arsenic Concentration: Cadmium Concentration: Chromium Concentration: Lead Concentration: Nickel Concentration:	British Geological Survey, National Geoscience Information Service Rural Soil 15 - 25 mg/kg <1.8 mg/kg 90 - 120 mg/kg	D1NE (E)	898	1	492048 256223
	No data available BGS Urban Soil Che No data available	·				
	Coal Mining Affecte In an area that might Non Coal Mining Ar No Hazard	not be affected by coal mining				
		sible Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	D1NW (NW)	0	1	491830 256263
	Potential for Compr Hazard Potential: Source:	ressible Ground Stability Hazards No Hazard British Geological Survey, National Geoscience Information Service	D1NW (NW)	0	1	491830 256263
	Potential for Ground Hazard Potential: Source:	d Dissolution Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	D1NW (NW)	0	1	491830 256263
	Potential for Landsl Hazard Potential: Source:	ide Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	D1NW (NW)	0	1	491830 256263
	Potential for Runnin Hazard Potential: Source:	ng Sand Ground Stability Hazards Very Low British Geological Survey, National Geoscience Information Service	D1NW (NW)	0	1	491830 256263
	Potential for Shrink Hazard Potential: Source:	ing or Swelling Clay Ground Stability Hazards Low British Geological Survey, National Geoscience Information Service	D1NW (NW)	0	1	491830 256263
	Radon Potential - R Affected Area: Source:	adon Affected Areas The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). British Geological Survey, National Geoscience Information Service	D1NW (NW)	0	1	491830 256263
		adon Protection Measures No radon protective measures are necessary in the construction of new dwellings or extensions British Geological Survey, National Geoscience Information Service	D1NW (NW)	0	1	491830 256263



Sensitive Land Use

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR	
22	Ancient Woodla Name: Reference: Area(m²): Type:	nd Three Shire Wood 1501796 146931.81 Ancient and Semi-Natural Woodland	(SW)	0	7	491498 255705	
23	Ancient Woodla Name: Reference: Area(m²): Type:	Nun Wood 1475867 178825.06 Ancient and Semi-Natural Woodland	D1SW (S)	0	7	491701 255828	
24	Ancient Woodla Name: Reference: Area(m²): Type:	nd Not Supplied 1418468 53849.6 Ancient and Semi-Natural Woodland	D1NW (W)	503	7	491720 256306	
25	Ancient Woodla Name: Reference: Area(m²): Type:	nd Lavendon Wood 1503173 205906.44 Ancient and Semi-Natural Woodland	(S)	737	7	492019 255449	
26	Nitrate Vulnerab Name: Description: Source:	ole Zones Great Ouse Nvz Surface Water Environment Agency, Head Office	D1NW (NW)	0	2	491830 256263	
27	Nitrate Vulnerab Name: Description: Source:	ole Zones Bedford Great Oolite Groundwater Environment Agency, Head Office	D1NW (NW)	0	2	491830 256263	
28	Nitrate Vulnerab Name: Description: Source:	ole Zones Thrapstone Lake Eutrophic Lake Nvz Eutrophic Water Environment Agency, Head Office	(NW)	147	2	491031 256928	
29	Nitrate Vulnerab Name: Description: Source:	ole Zones Northampton Sands Groundwater Environment Agency, Head Office	(NW)	147	2	491031 256928	
30	Nitrate Vulnerab Name: Description: Source:	ole Zones River Nene Nvz Surface Water Environment Agency, Head Office	(NW)	147	2	491199 256610	

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Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Wellingborough Borough Council (now part of North Northamptonshire Council) - Environmental Health Department	August 2013	Annual Rolling Update
Bedford Borough Council - Environmental Health Department	December 2014	Annual Rolling Update
North Northamptonshire Council	December 2019	Annual Rolling Update
Environment Agency - Head Office	November 2023	Annually
Discharge Consents		
Environment Agency - Anglian Region	April 2024	Quarterly
Enforcement and Prohibition Notices	Marrie 0040	
Environment Agency - Anglian Region	March 2013	
Integrated Pollution Controls Environment Agency - Anglian Region	January 2000	
	January 2009	
Integrated Pollution Prevention And Control	O-t-h 2002	Our and a release
Environment Agency - Anglian Region	October 2023	Quarterly
Local Authority Integrated Pollution Prevention And Control	Dogombar 2020	Variable
Wellingborough Borough Council (now part of North Northamptonshire Council) - Environmental Health Department	December 2020	Variable
North Northamptonshire Council	February 2015	Variable
Bedford Borough Council - Environmental Health Department	March 2015	Variable
Local Authority Pollution Prevention and Controls		
Bedford Borough Council - Environmental Health Department	December 2020	Annual Rolling Update
Wellingborough Borough Council (now part of North Northamptonshire Council) -	December 2020	Annual Rolling Update
Environmental Health Department		
North Northamptonshire Council	February 2015	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Wellingborough Borough Council (now part of North Northamptonshire Council) -	December 2014	Variable
Environmental Health Department North Northamptonshire Council	February 2015	Variable
Bedford Borough Council - Environmental Health Department	March 2015	Variable
Nearest Surface Water Feature		7 4.145.10
Ordnance Survey	March 2024	
Pollution Incidents to Controlled Waters		
Environment Agency - Anglian Region	September 1999	
Prosecutions Relating to Authorised Processes		
Environment Agency - Anglian Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - Anglian Region	March 2013	
Registered Radioactive Substances		
Environment Agency - Anglian Region	June 2016	As notified
Environment Agency - Head Office	May 2023	Quarterly
River Quality		,
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	April 2012	
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	April 2012	
Substantiated Pollution Incident Register	·	
Environment Agency - Anglian Region - Central Area	April 2024	Quarterly
Environment Agency - Anglian Region - Northern Area	April 2024	Quarterly
Water Abstractions		
Environment Agency - Anglian Region	April 2024	Quarterly
Water Industry Act Referrals		
Environment Agency - Anglian Region	October 2017	

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Agency & Hydrological	Version	Update Cycle
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	As notified
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	As notified
Source Protection Zones		
Environment Agency - Head Office	September 2022	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	December 2023	Quarterly
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	December 2023	Quarterly
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	February 2023	Quarterly
Flood Water Storage Areas		
Environment Agency - Head Office	January 2024	Quarterly
Flood Defences		
Environment Agency - Head Office	August 2022	Quarterly
OS Water Network Lines		
Ordnance Survey	April 2024	Quarterly
Surface Water 1 in 30 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent		
Environment Agency - Head Office	May 2018	Annually
Surface Water Suitability		
Environment Agency - Head Office	February 2016	Annually
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	As notified

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Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Environment Agency - Head Office	May 2024	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Anglian Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Anglian Region - Central Area	May 2024	Quarterly
Environment Agency - Anglian Region - Northern Area	May 2024	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - Anglian Region - Central Area	January 2023	Quarterly
Environment Agency - Anglian Region - Northern Area	January 2023	Quarterly
Local Authority Landfill Coverage		
Bedford Borough Council - Environmental Health Department	February 2003	Not Applicable
Bedfordshire County Council (now part of Central Bedfordshire Council)	February 2003	Not Applicable
Northamptonshire County Council	February 2003	Not Applicable
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2003	Not Applicable
North Northamptonshire Council	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
North Northamptonshire Council	August 2006	
Bedford Borough Council - Environmental Health Department	October 2018	
Bedfordshire County Council (now part of Central Bedfordshire Council)	October 2018	
Northamptonshire County Council	October 2018	
Wellingborough Borough Council (now part of North Northamptonshire Council)	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - Anglian Region - Central Area	March 2006	Not Applicable
Environment Agency - Anglian Region - Northern Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Anglian Region - Central Area	April 2018	
Environment Agency - Anglian Region - Northern Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency - Anglian Region - Central Area	June 2015	
Environment Agency - Anglian Region - Northern Area	June 2015	

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Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	January 2024	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
North Northamptonshire Council	February 2016	Variable
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2016	Variable
Bedfordshire County Council (now part of Central Bedfordshire Council)	July 2008	Annual Rolling Update
Bedford Borough Council	March 2023	Variable
Northamptonshire County Council	May 2013	Annual Rolling Update
Planning Hazardous Substance Consents		
Northamptonshire County Council	December 2014	Annual Rolling Update
Bedford Borough Council	February 2016	Variable
North Northamptonshire Council	February 2016	Variable
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2016	Variable
Bedfordshire County Council (now part of Central Bedfordshire Council)	July 2008	Annual Rolling Update
Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology		
British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry		
British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	January 2024	Bi-Annually
CBSCB Compensation District		
Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	
Cheshire Brine Subsidence Compensation Board (CBSCB)	November 2020	As notified
Coal Mining Affected Areas		
The Coal Authority - Property Searches	February 2023	Annual Rolling Update
	1 Coldary 2020	Annual Rolling Opdate
Mining Instability Ove Arup & Partners	luna 1000	Not Applicable
· · · · · · · · · · · · · · · · · · ·	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain	M 2045	Not Apple able
British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards	·	
British Geological Survey - National Geoscience Information Service	January 2019	As notified
		7.0
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	October 2023	Annually
	October 2023	Annually
Radon Potential - Radon Protection Measures	0 / 1 0000	
British Geological Survey - National Geoscience Information Service	October 2023	Annually

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Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries		
Thomson Directories	April 2024	Quarterly
Fuel Station Entries		
Catalist Ltd - Experian	February 2024	Quarterly
Gas Pipelines		
National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services		
PointX	March 2024	Quarterly
Points of Interest - Education and Health		
PointX	March 2024	Quarterly
Points of Interest - Manufacturing and Production		
PointX	March 2024	Quarterly
Points of Interest - Public Infrastructure		
PointX	March 2024	Quarterly
Points of Interest - Recreational and Environmental		
PointX	March 2024	Quarterly
Underground Electrical Cables		
National Grid	January 2024	Bi-Annually

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Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	April 2024	Bi-Annually
Areas of Adopted Green Belt		
Bedford Borough Council	February 2024	Quarterly
North Northamptonshire Council	February 2024	Quarterly
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2024	Quarterly
Areas of Unadopted Green Belt		
Bedford Borough Council	February 2024	Quarterly
North Northamptonshire Council	February 2024	Quarterly
Wellingborough Borough Council (now part of North Northamptonshire Council)	February 2024	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	May 2024	Bi-Annually
Environmentally Sensitive Areas		
Natural England	August 2023	
Forest Parks		
Forestry Commission	May 2023	Not Applicable
Local Nature Reserves		
Natural England	February 2024	Bi-Annually
Marine Nature Reserves		
Natural England	February 2024	Bi-Annually
National Nature Reserves		
Natural England	February 2024	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2023	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	April 2024	Bi-Annually
Ramsar Sites		
Natural England	February 2024	Bi-Annually
Sites of Special Scientific Interest		
Natural England	April 2024	Bi-Annually
Special Areas of Conservation		
Natural England	April 2024	Bi-Annually
Special Protection Areas		
Natural England	April 2024	Bi-Annually

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A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment
Scottish Environment Protection Agency	SEPA
The Coal Authority	The Coal Authority
British Geological Survey	British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	Cyfoeth Naturiol Cymru Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE 迎念新
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Stantec UK Ltd	Stantec

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Useful Contacts

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Fmail: enquiries@bgs.ac.uk
2	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
3	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
4	Bedford Borough Council - Environmental Health Department Town Hall, St Pauls Street, Bedford, Bedfordshire, MK40 1SJ	Telephone: 01234 267422 Fax: 01234 325671 Email: enquiries@bedford.gov.uk Website: www.bedford.gov.uk
5	Bedfordshire County Council (now part of Central Bedfordshire Council) Priory House, Monks Walk, Chicksands, Shefford, Bedfordshire, SG17 5TQ	Telephone: 0300 300 8301 Email: www.centralbedfordshire.gov.uk Website: www.centralbedfordshire.gov.uk
6	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	
7	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Geology 1:50,000 Maps Legends

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay and Silt	Not Supplied - Holocene
	ODT	Oadby Member	Diamicton	Not Supplied - Anglian
	FELM	Felmersham Member	Sand and Gravel	Not Supplied - Pleistocene
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	BOZE	Bozeat Till	Diamicton	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	KLB	Kellaways Formation	Sandstone, Siltstone and Mudstone	Not Supplied - Callovian
	KLC	Kellaways Clay Member	Mudstone	Not Supplied - Callovian
	KLS	Kellaways Sand Member	Sandstone and Siltstone, Interbedded	Not Supplied - Callovian
	СВ	Combrash Formation	Limestone	Not Supplied - Bathonian
	BWC	Blisworth Clay Formation	Mudstone	Not Supplied - Bathonian
	BWL	Blisworth Limestone Formation	Limestone	Not Supplied - Bathonian
	RLD	Rutland Formation	Mudstone	Not Supplied - Bajocian
		Faults		



Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial

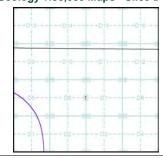
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID: 1
Map Sheet No: 203
Map Name: Bedford
Map Date: 2010
Bedrock Geology: Available
Superficial Geology: Available
Faults: Not Supplied
Landslip: Available

Rock Segments: Not Supplied

Geology 1:50,000 Maps - Slice D





Order Details:

Order Number: Customer Reference: National Grid Reference: Slice:

Site Area (Ha): Search Buffer (m):

tails:

Site Details:

Meikleland

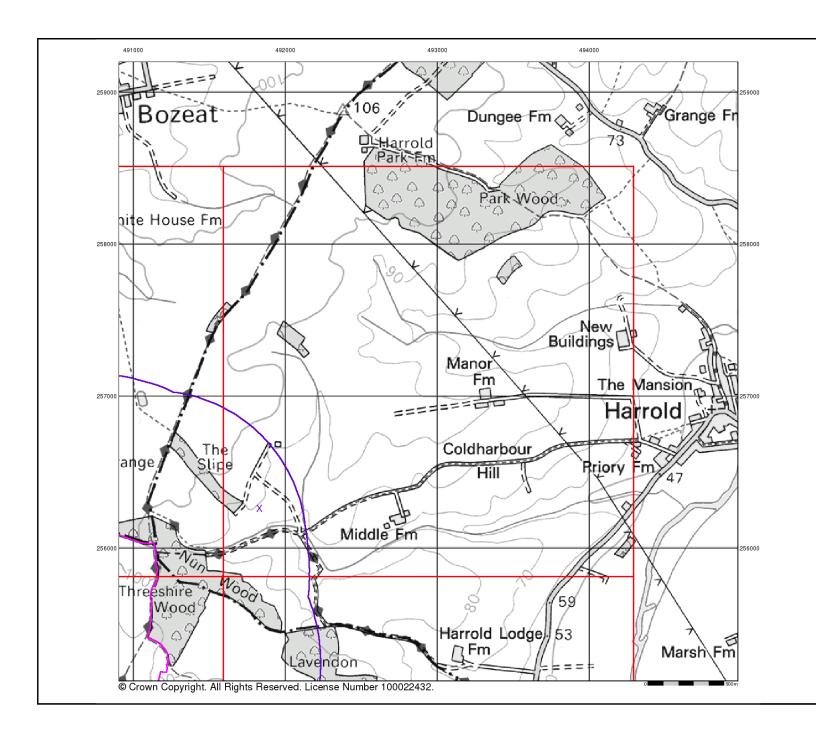


Tel: Fax: Web

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D 172.36

> 0844 844 9952 0844 844 9951





Artificial Ground and Landslip

Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

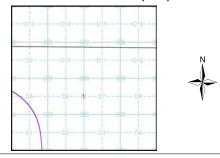
Artificial ground includes:

- Made ground man-made deposits such as embankments and spoil heaps on the natural ground surface.

 - Worked ground - areas where the ground has been cut away such as
- quarries and road cuttings.
- Infilled ground areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground areas where the surface has been reshaped.
 Disturbed ground areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice D



346936621_1_1 DS78309

491830, 256260

Order Details:

Order Number: Customer Reference: National Grid Reference:

D 172.36 Site Area (Ha): Search Buffer (m):

Site Details:

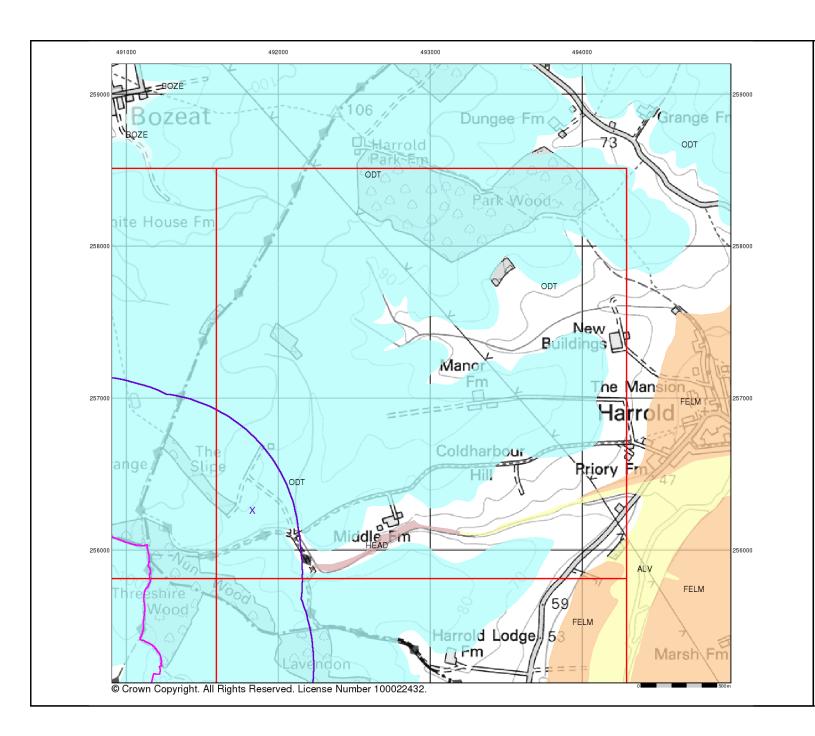
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v15.0 16-May-2024

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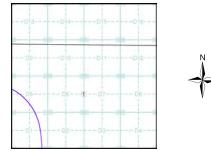
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice D



Order Details:

Order Number: Customer Reference: National Grid Reference:

346936621_1_1 DS78309 491830, 256260 D 172.36 Site Area (Ha): Search Buffer (m):

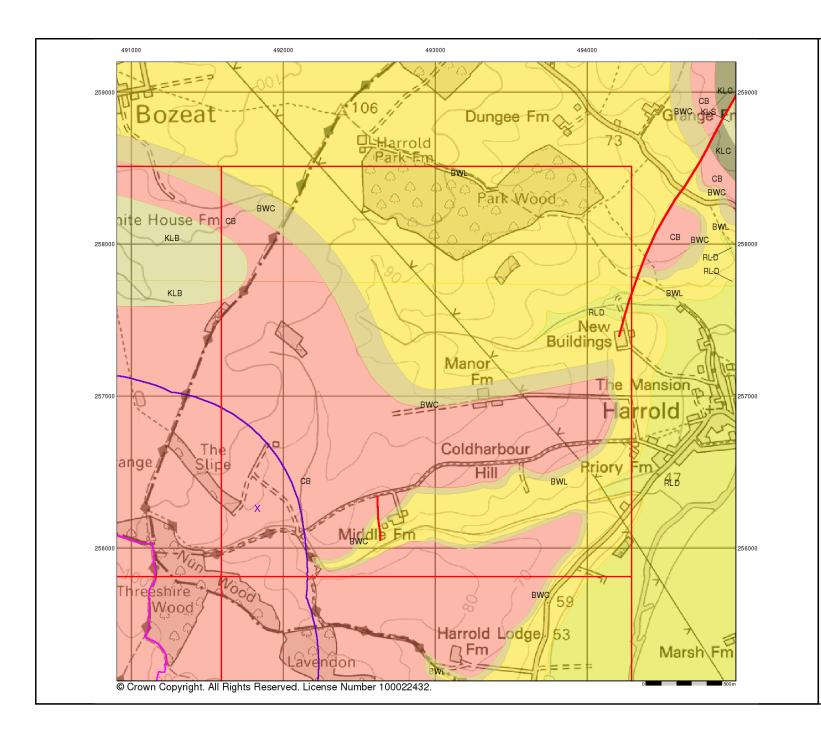
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Bedrock and Faults

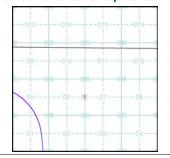
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice D



346936621_1_1 DS78309 491830, 256260

D 172.36

1000



Order Details:

Order Number: Customer Reference: National Grid Reference:

Site Area (Ha): Search Buffer (m):

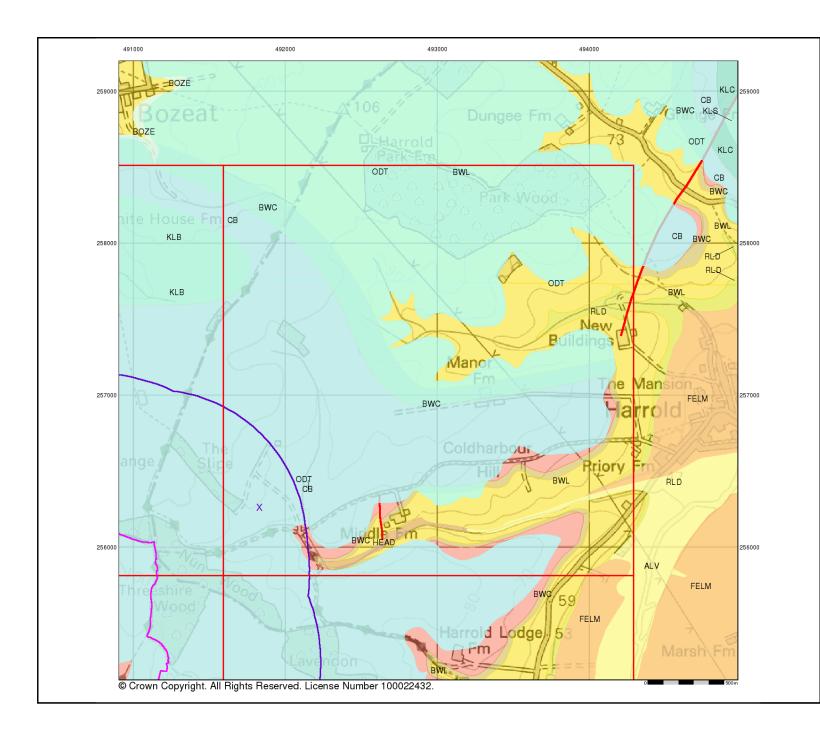
Site Details: Meikleland

Landmark

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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

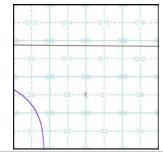
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS

Contact

British Geological Survey Kingsley Dunham Centre Keyworth Nottingham NG12 5GG Telephone: 0115 936 3143 Fax: 0115 936 3276 email: enquiries@bgs.ac.uk website: www.bgs.ac.uk

Combined Geology Map - Slice D



346936621_1_1 DS78309 491830, 256260

D 172.36

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Order Details:

Order Number: Customer Reference: National Grid Reference:

Site Area (Ha): Search Buffer (m):

Site Details:

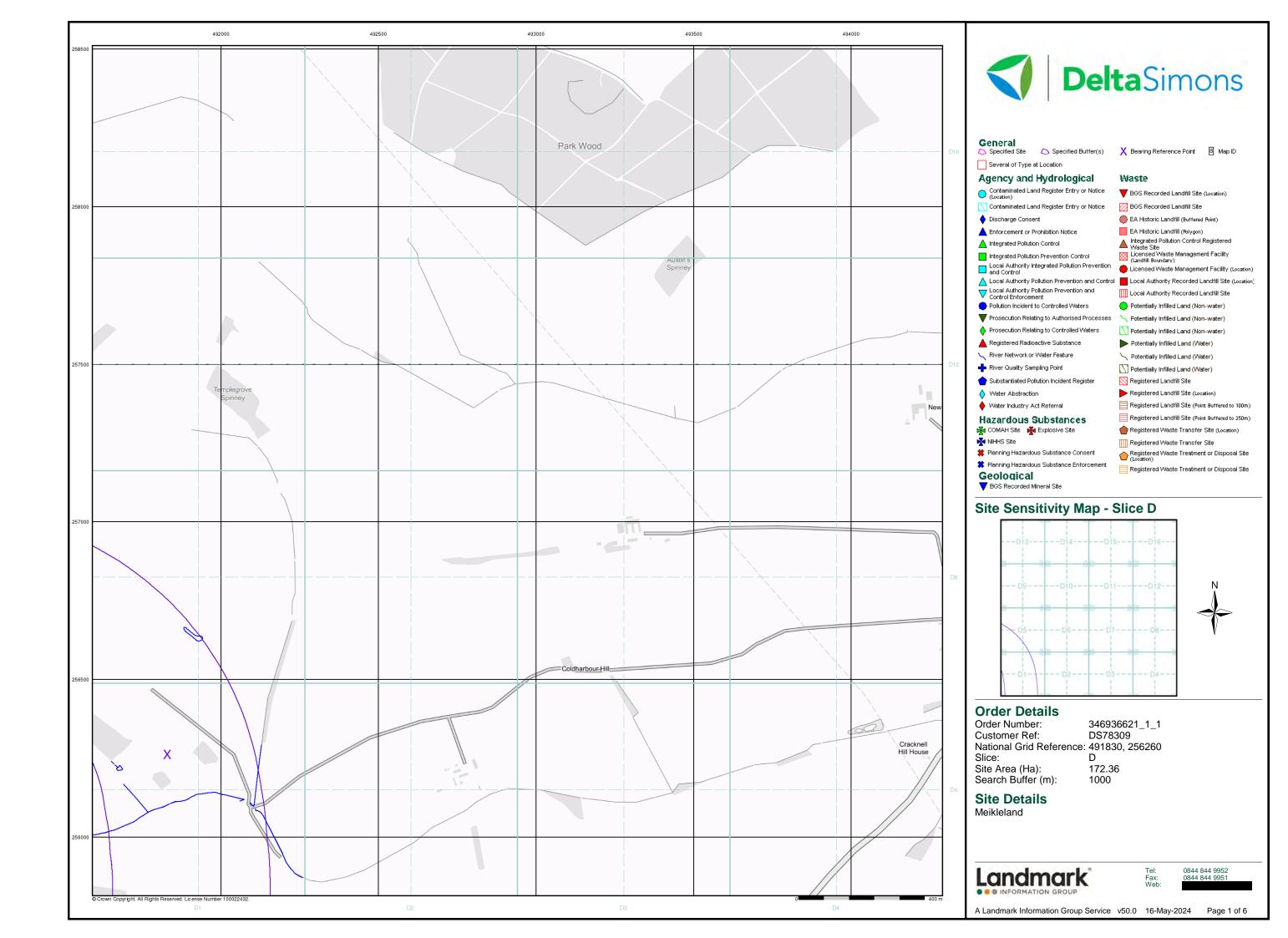
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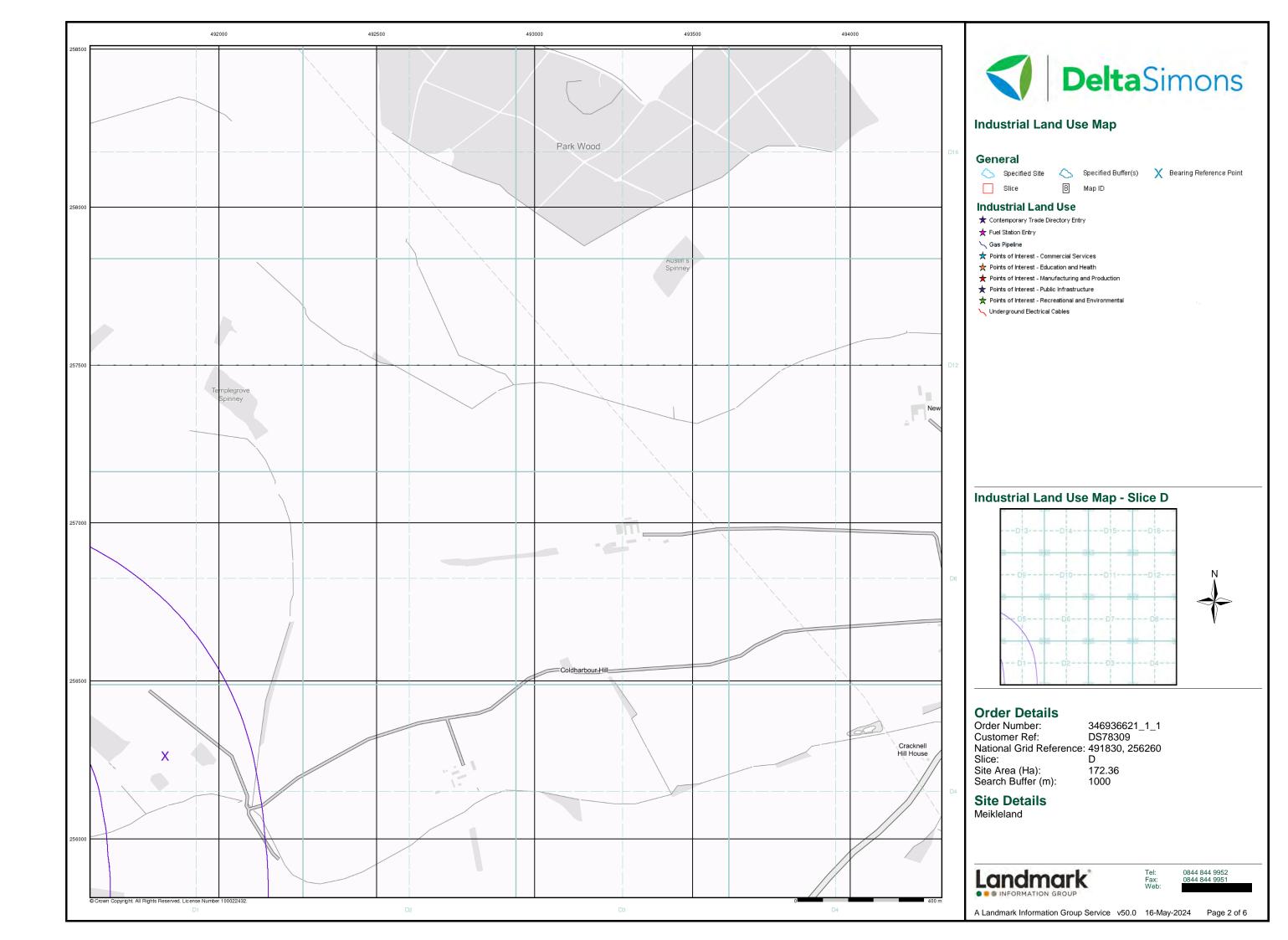
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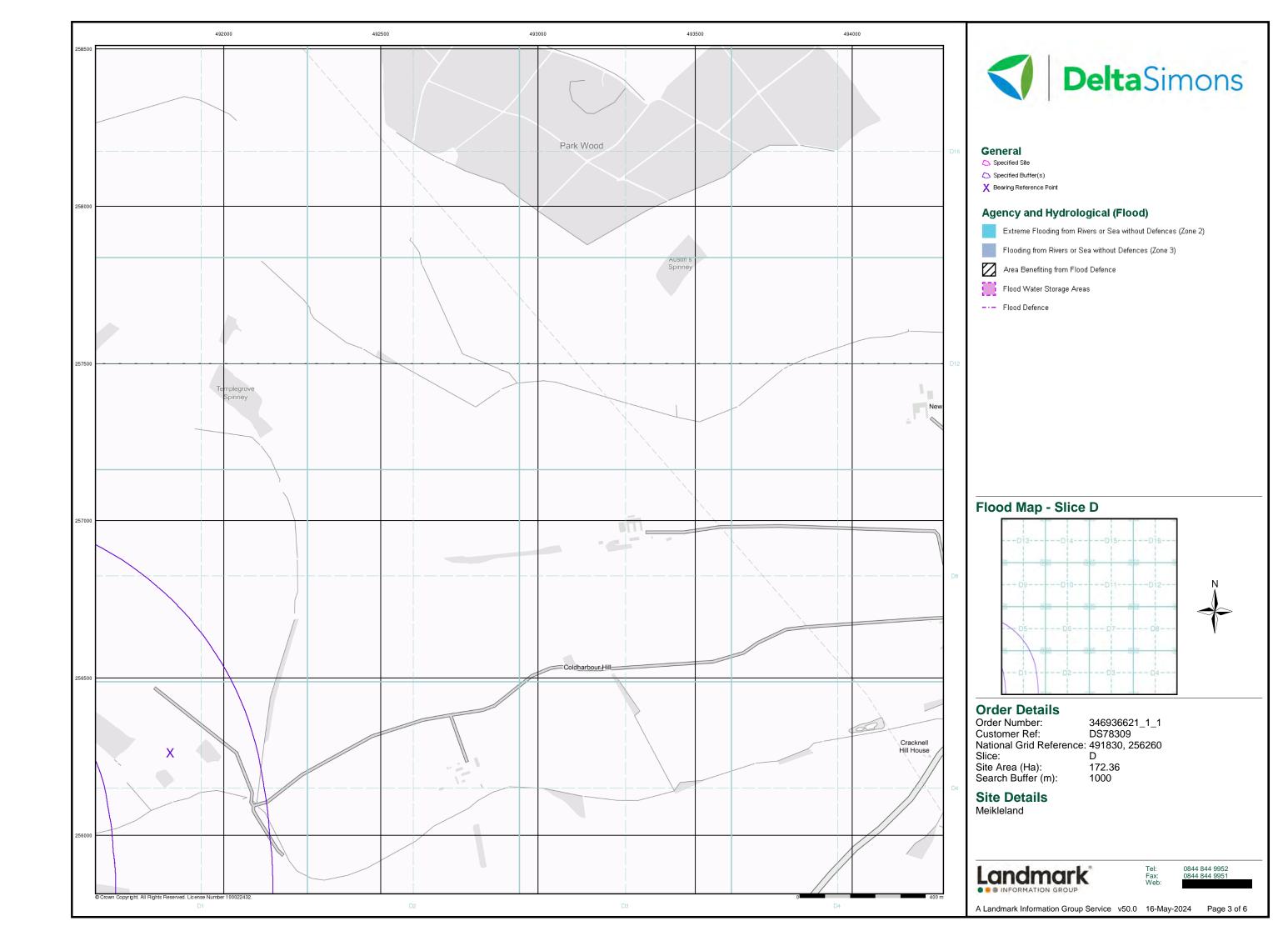
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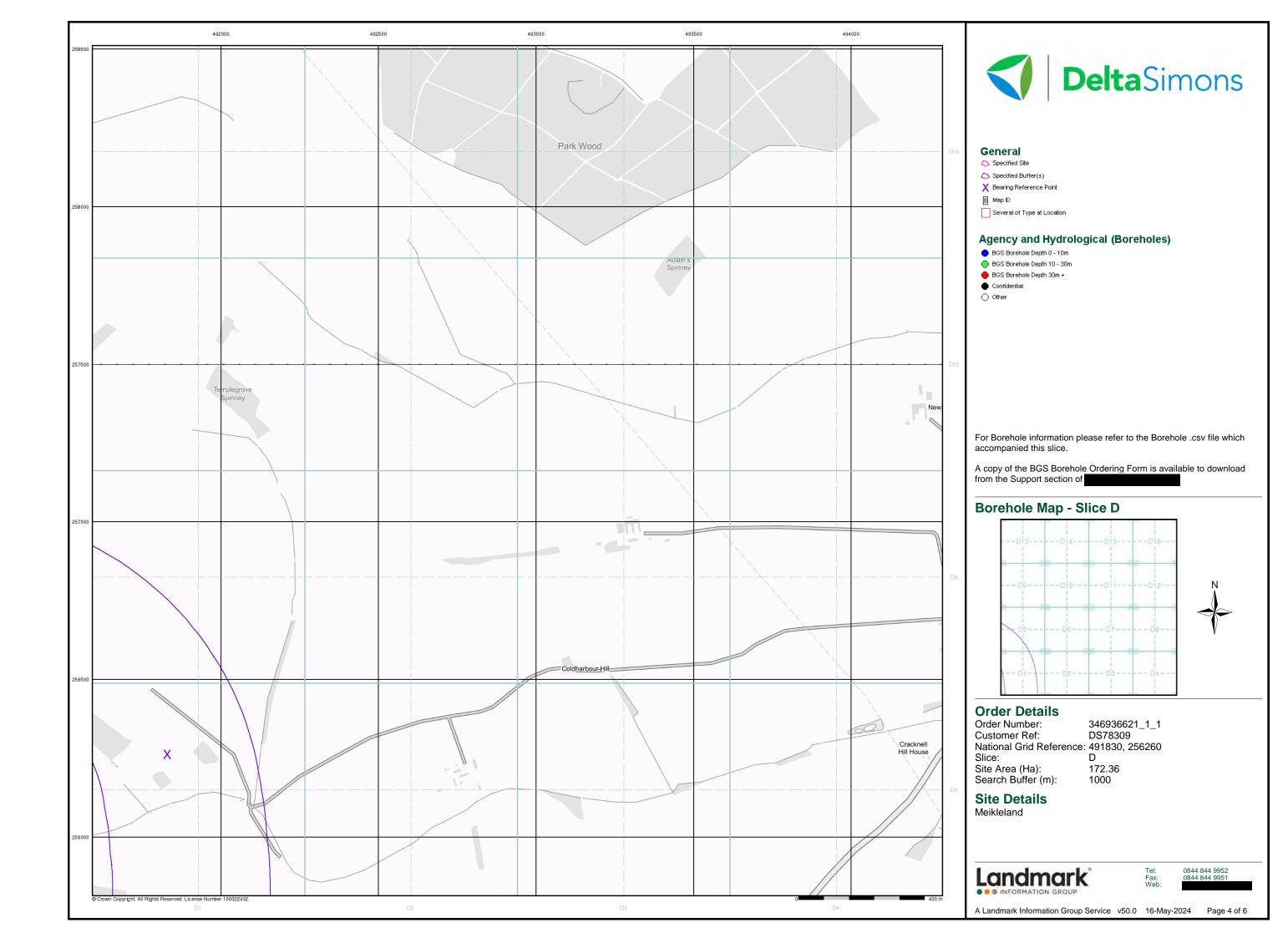
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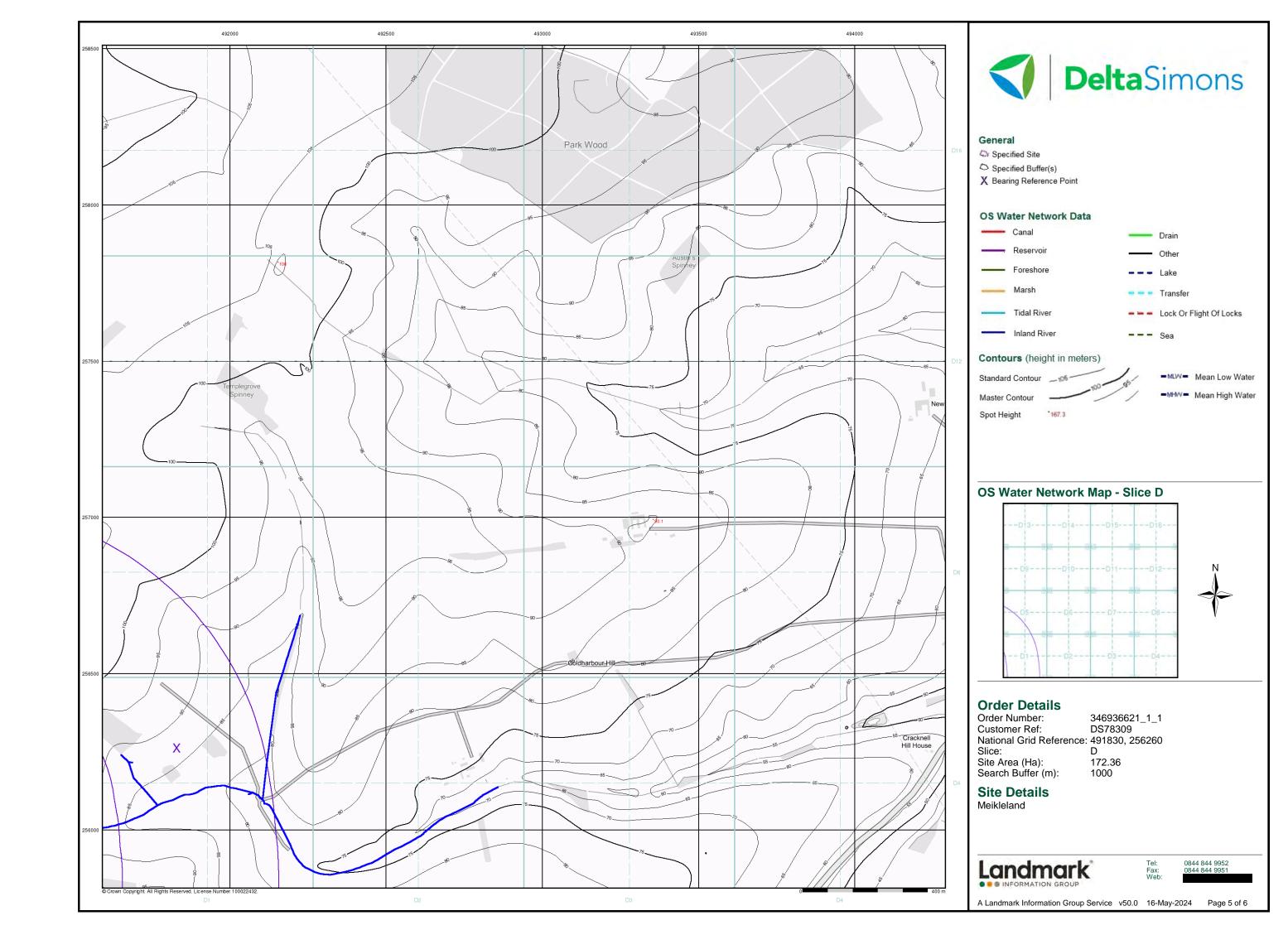
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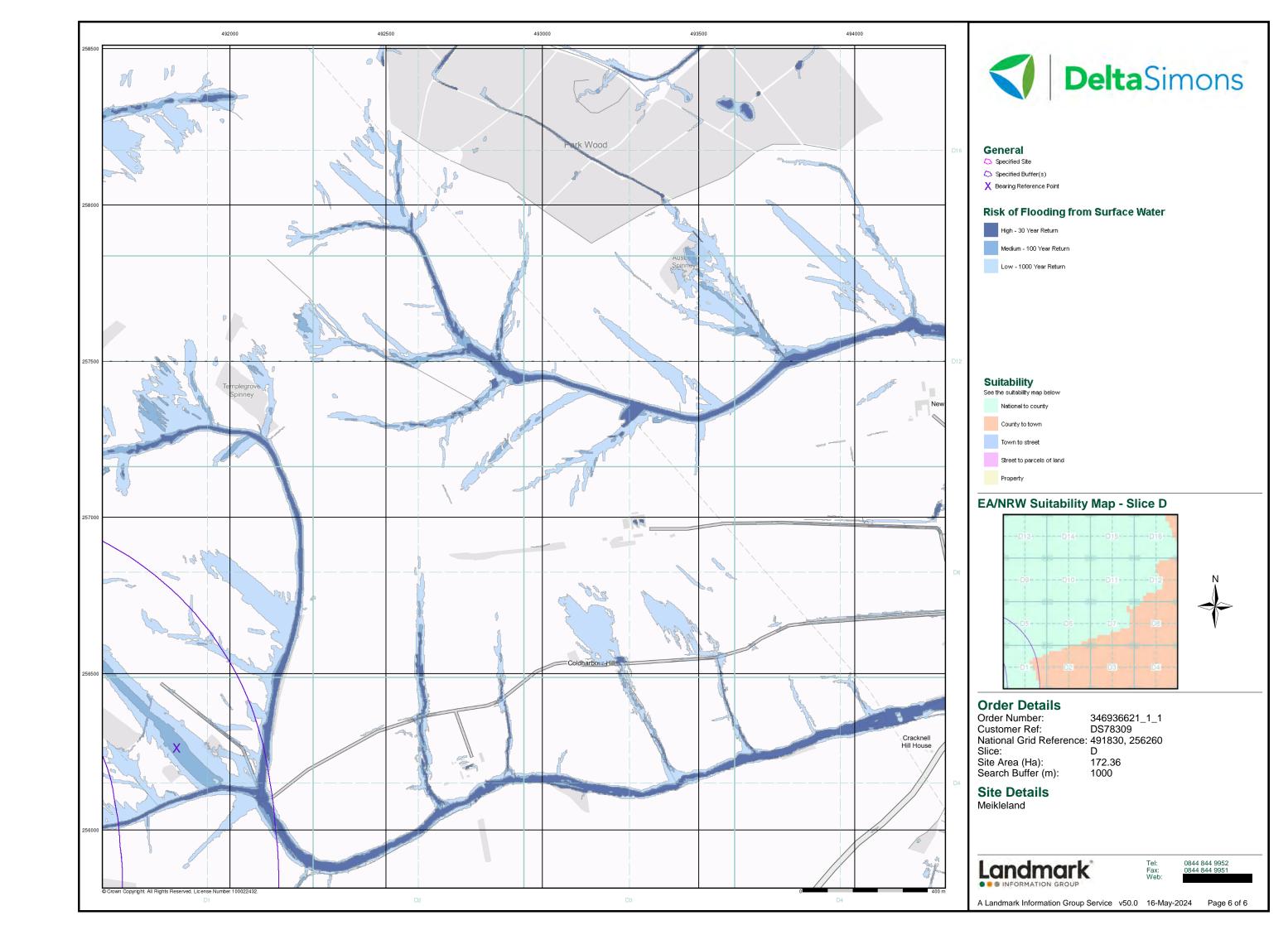


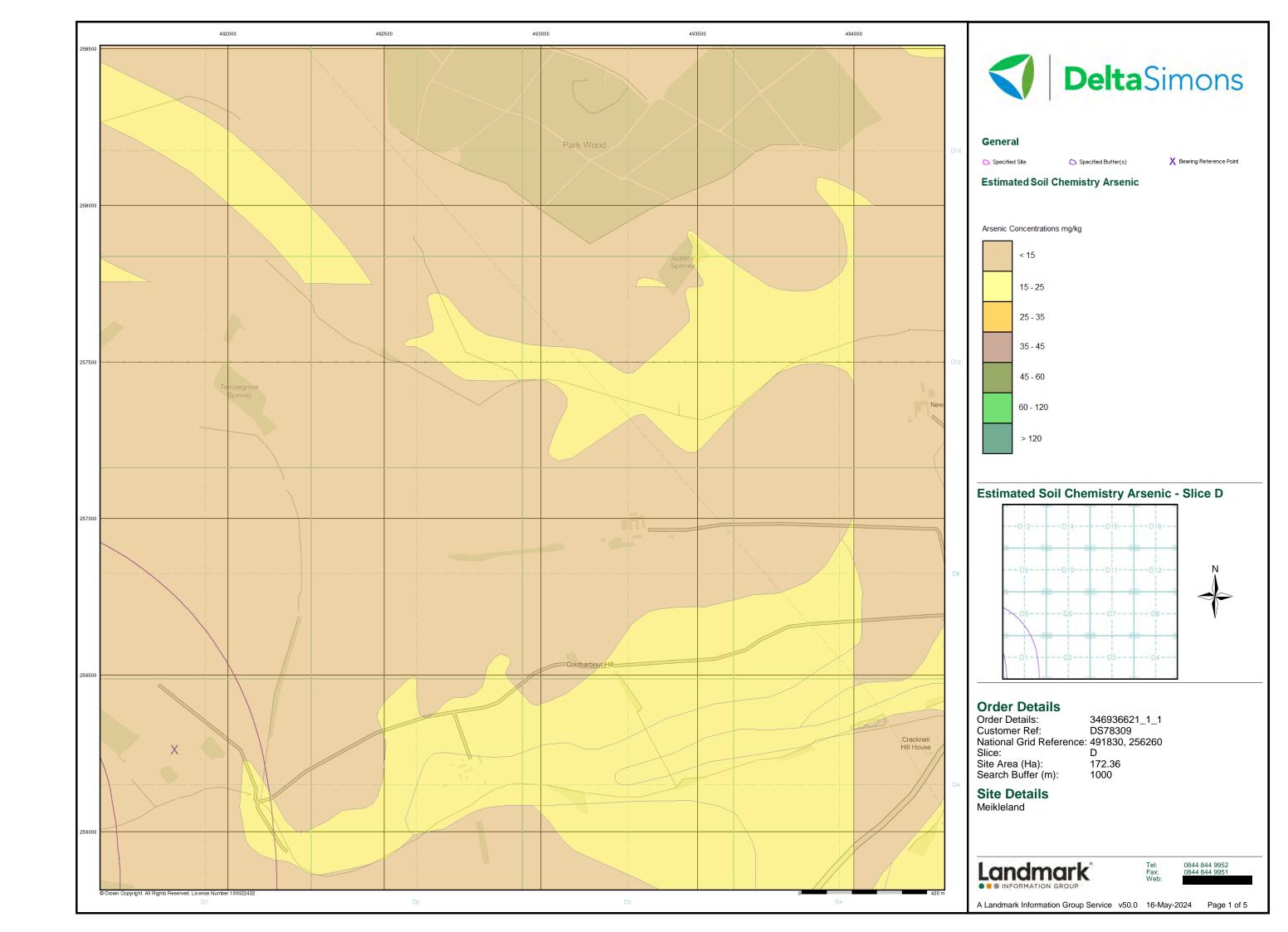


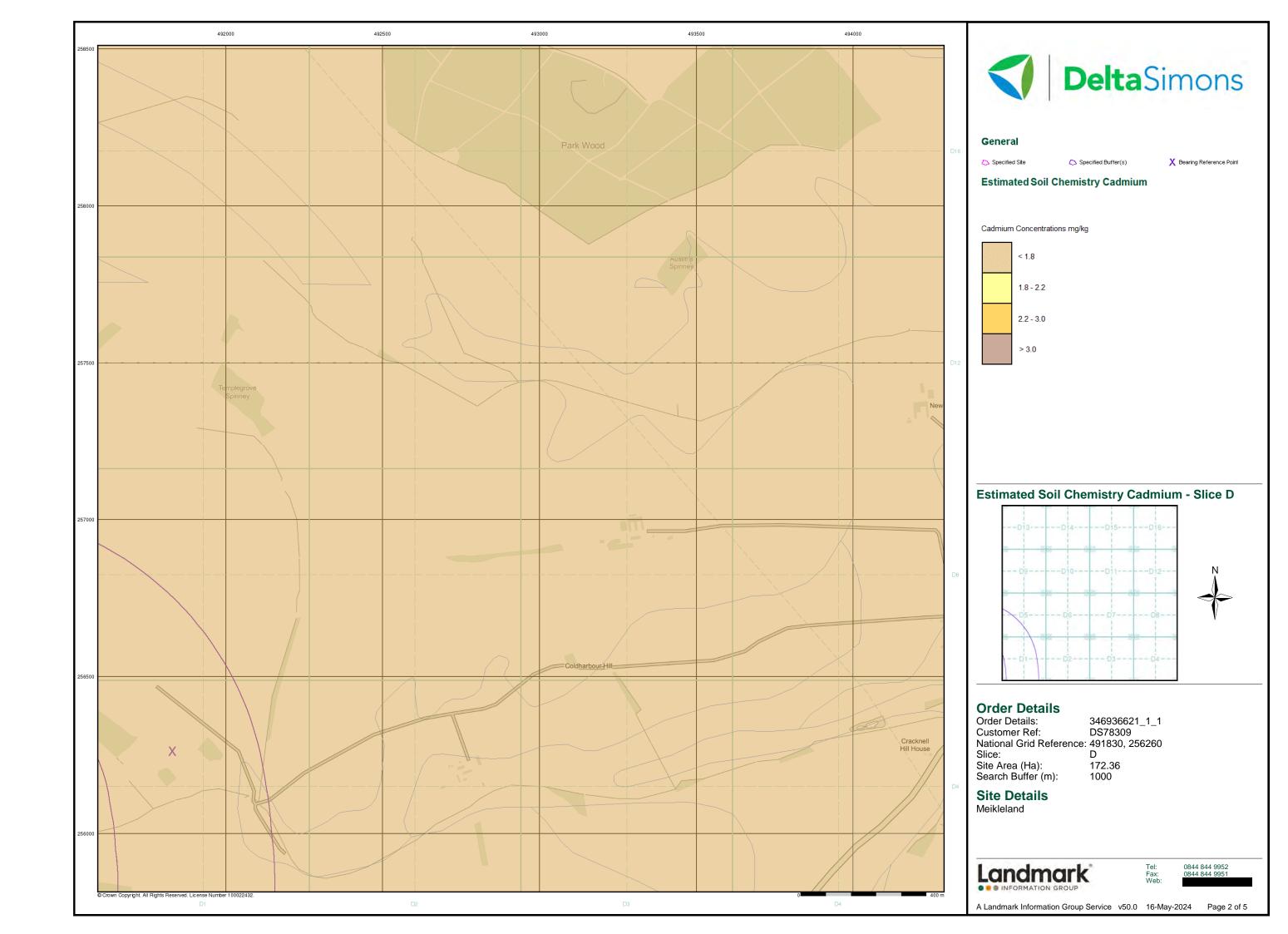


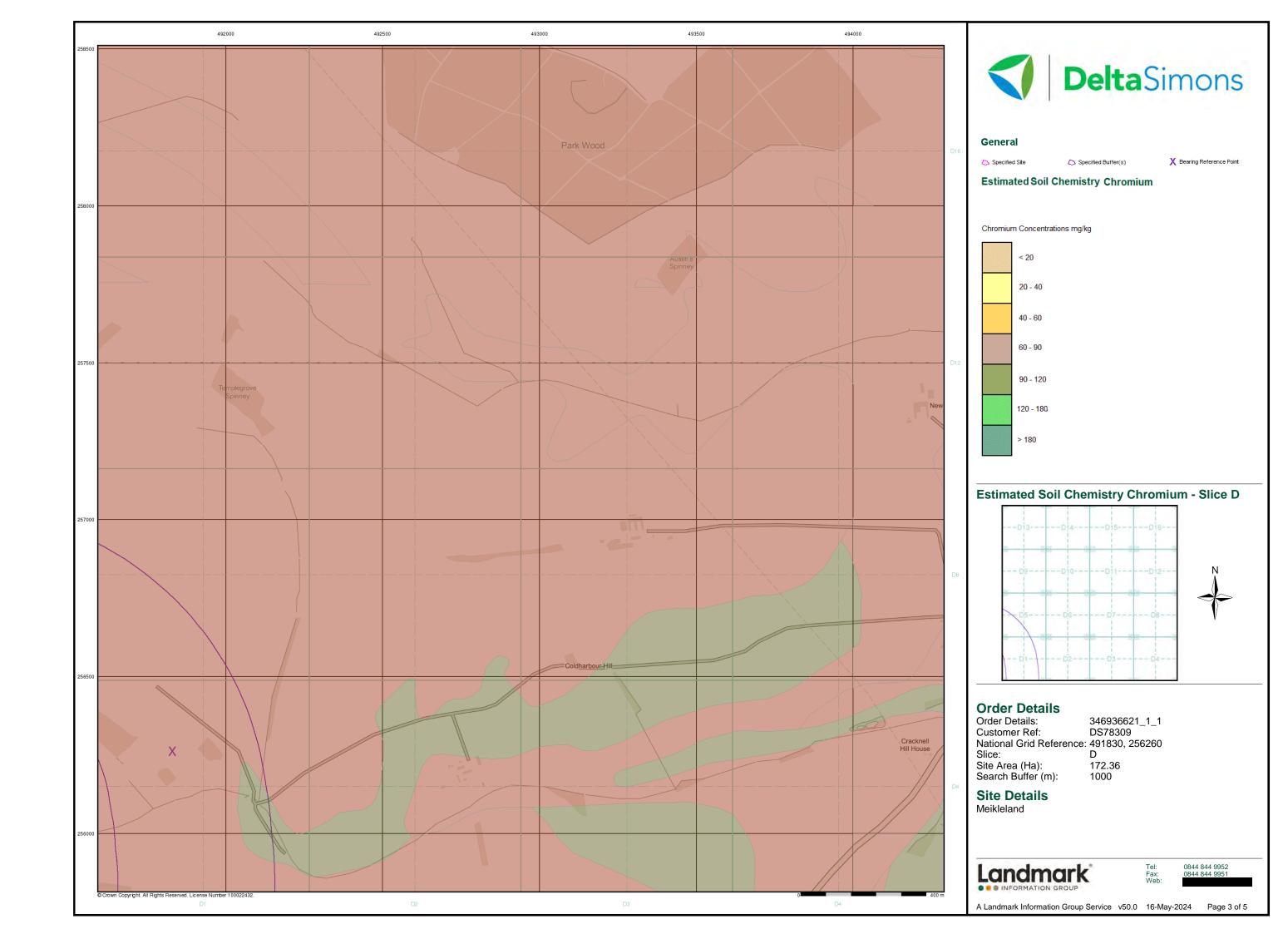


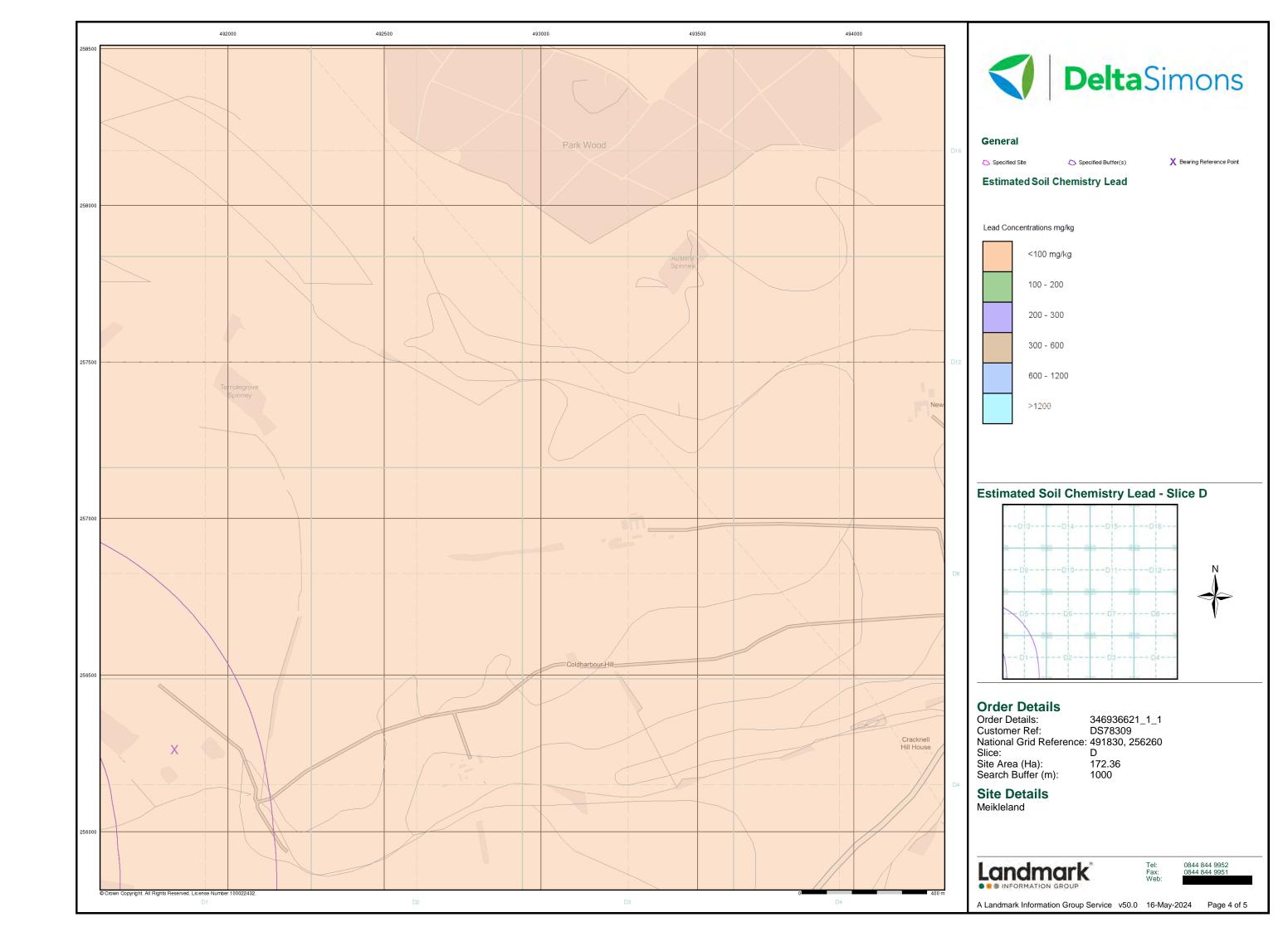


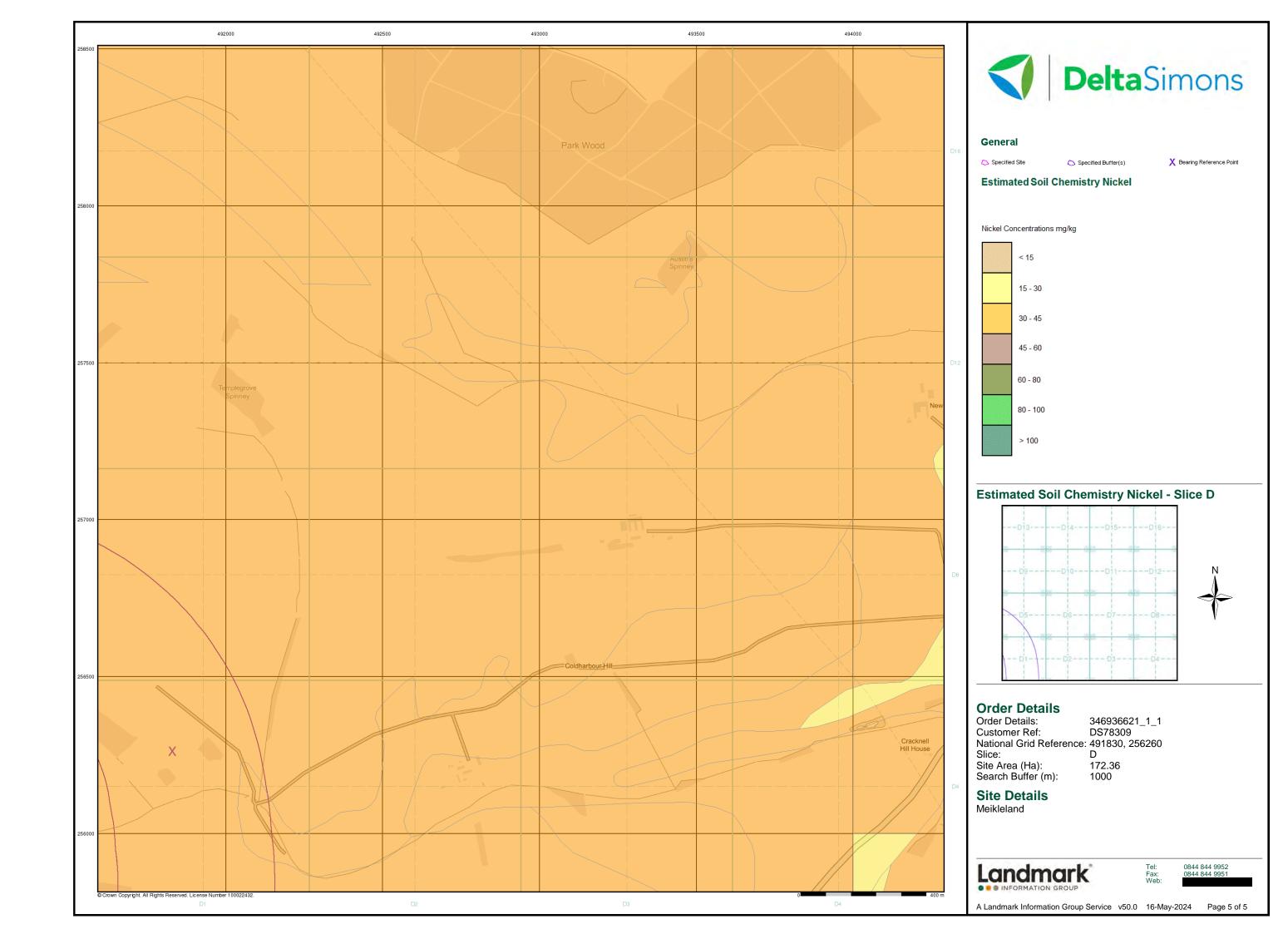


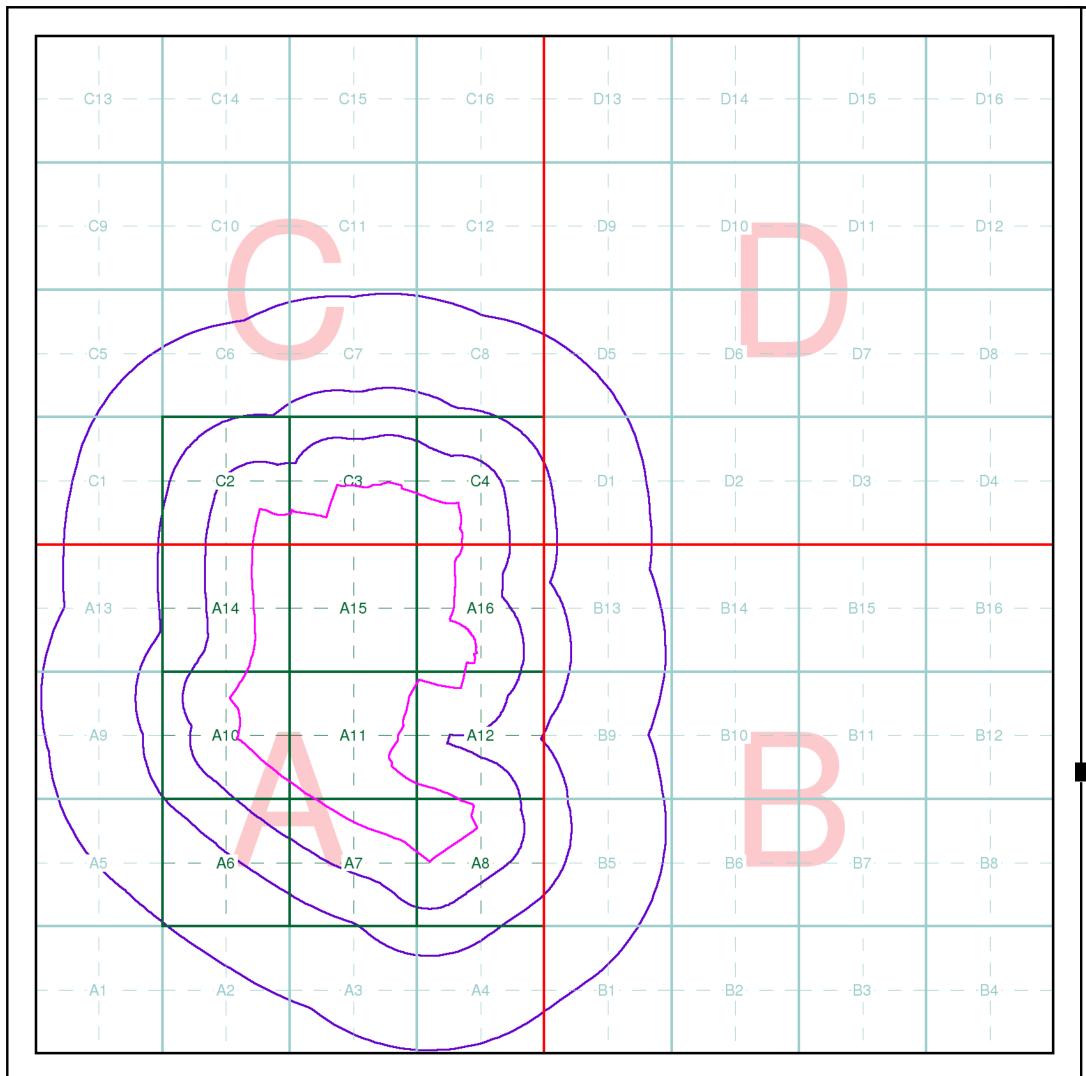














Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice

Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment

A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant

A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:









Envirocheck reports are compiled from 136 different sources of data.

Client Details

Delta Simons, Suite 4A, One Portland Street,

Manchester, M1 3BE

Order Details

Order Number: 346936621_1_1
Customer Ref: DS78309
National Grid Reference: 490590, 255230

Site Area (Ha): 172.36 Search Buffer (m): 1000

Site Details

Meikleland

Full Terms and Conditions can be found on the following link: http://www.landmarkinfo.co.uk/Terms/Show/515



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Web:

A Landmark Information Group Service v50.0 16-May-2024 Page 1 of 1

Preliminary Geo-Environmental Risk Assessment Green Hill Solar Scheme Delta-Simons Project Number 93791.580478

Appendix F - Detailed UXO Risk Assessment Green Hill G





Stage 2 Detailed Explosive Ordnance Risk Assessment

Project: Green Hill Solar Project - Site G, Buckinghamshire | Client: Lucion Delta-Simons



The Client

Lucion Delta-Simons Limited

Project

Green Hill Solar Project - Site G, Buckinghamshire

Report Reference Number

DRA.10219.25

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V1	Final	1 st April 2025
V2	Revision 1	-

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This report refers to the conditions present on Site at the time of writing. Impartial Assessments will not be held responsible for any subsequent changes to these conditions or any relevant information that may subsequently become available which could render part(s) of this report obsolete.

Reliance must be based on the report as a whole and not on extracts which may lead to incorrect conclusions when taken out of context.

This report has been produced in accordance with the relevant industry guidelines that existed at the time of writing. All conclusions and any recommendations represent our professional opinion determined in accordance with these guidelines. Subsequent revisions to these guidelines, new guidelines / legislation or improvements in techniques, may render part(s) of this report obsolete. Impartial Assessments Ltd cannot accept responsibility for future changes to the industry good practice which may affect the opinions expressed within this report. If this report is to be used at a time in excess of two years after its issue date, it is recommended that Impartial Assessments Ltd be contacted to carry out a review.

All reasonable skill, care and diligence has been exercised by Impartial Assessments Ltd in producing this report. However, due to the uncertainty inherent in analysing all risk variables, we cannot/do not guarantee the correctness or accuracy of any interpretation and we shall not, except in the case of gross negligence on our part, be liable for any loss or damages incurred by anyone resulting from any interpretation made within this report.

As detailed a search for pertinent information as possible within the stated timeframe and budget has been conducted. Although unlikely, additional significant information (e.g. local anecdotal accounts) may exist, however future emergence of such evidence would not constitute a failure of this risk assessment.

This report has been prepared for the exclusive use of the Client. Any third party relying on any information, conclusion or recommendation contained within this report, does so at their own risk.



EXECUTIVE SUMMARY							
Conclusion	Explosive ordnance (EO) poses	s a varying risk. Three risk zones h	nave been identified.				
Conclusion	Low Risk Low-to-Moderate Risk High Risk						
	► EO Safety & Awareness B on Site.	riefing to all Site personnel prior t	o breaking ground anywhere				
		mergency Response Plan to be Low Risk and Low-to-Moderate R					
Recommendation(s)	► EOD Engineer Supervision within the High Risk Zone or	n: 'Watching brief' in support of annly.	y mechanical excavations				
	► Intrusive Magnetometer S	urvey of all / any pile positions wit	hin the High Risk Zone only.				
	Note, if subsequent phases of are appropriate for any such grou	chaeological excavations are require und works.	ed, the above recommendations				
The Site		arrington, Milton Keynes Borough, oximate National Grid Ref: SP 905	•				
	The Site comprises several agricultural fields crossed by a footpath.						
Proposed works	A solar farm is planned for the Site. The solar arrays will be supported on either shallow pile foundations (to 1.5m - 2.0m bgl) or concrete pads placed on the surface or buried (very shallow mechanical excavations). Cable trenches will be excavated to depths of 0.6m - 1.0m bgl.						
Risk Assessment - Ke	ey Findings						
Historic Site occupancy	During WW1 and WW2, the Site was temporarily requisitioned for	was entirely occupied farmland. A or military use (see below).	Ithough the central east section				
	British EO:						
Likelihood of EO contamination:	practice bombing range for e Only practice bombs (low harange, partly due to its clos occasions when inexperience released live HE bombs over	uisitioned a few fields in the east exclusive use with the United State azard EO variant) were authorise e proximity to a village. Although ced USAAF aircrew (newly arrive the wrong bombing range, no even a Lavendon was a practice range is considered highly unlikely.	tes Army Air Force (USAAF). ed for use at RAF Lavendon n official RAF records report ved in England) accidentally vidence of such an incident at				
	Lavendon) confirm 16No. inci up to ~1.37km east of the rar bomb aiming in Britain dur conceivably have landed any danger area. Indeed, waywa during WW2. Although it ca	g to another WW2 practice born dents of wayward practice bombs age target marker. This highlights ring training sorties. It suggests where on Site, well beyond the per ard practice bomb strikes were reard practice bomb strikes were reard be assumed that the likelihood on the bombing target marker increase.	falling in and around a village the inaccuracies of WW2-era that practice bombs could rimeter of the 600-yard radius ecorded in Lavendon village d of such EO contamination				

- ▶ Immediately after WW2, the bombing range was largely derequisitioned however the government retained one field on Site as an explosives demolition ground. For approximately two years, various types of ammunition / munitions were disposed of here, via burning or controlled explosions. However recent experience (EO finds) at similar sites in the UK confirms that some military personnel cut corners by simply burying EO (unauthorised disposal), presumably to speed up the processing of huge quantities ammunition.
- ► Controlled explosions will have deposited large quantities of inert 'EO scrap' metal (much of which would have been tiny fragments) over the demolition ground and adjacent fields. However, the possibility that some EO was only partially destroyed (still potentially hazardous) or was simply buried on land neighbouring (just outside the official demolition ground area) cannot be discounted.
- ▶ The types of all EO disposed of on Site are not known. As a War Office site, one might assume that it was all of British Army origin. However, as numerous USAAF fuzes (from live bombs) have been found in this area as well as components of RAF incendiary bomb (IBs), it is likely that a wide variety of EO (British and American) was processed at this explosives demolition ground.
- ▶ Although two heavy anti-aircraft (HAA) gun batteries were located within firing range of the Site during WW2, the likelihood that any unexploded AA shells fired from these batteries fell within the Site boudnary, is very low.

German Unexploded Bombs (UXBs):

- ▶ The Site experienced a low bombing density during WW2, with research identifying a single aircraft sortie incident (one or more 1kg / 2kg IB clusters) in the wider study area (500m radius from the Site boundary). However, the records do not contain the level of detail required to deduce whether this aircraft flew over the Site. Although unlikely, it is conceivable that this aircraft released a high explosive (HE) bomb over the Site which struck the ground as a UXB.
- ▶ Had a German HE UXB been released over the Site, it could have occurred unwitnessed and the entry hole could have gone undetected. Note, the Site was isolated, infrequently accessed farmland potentially occupied by tall / dense crop growth which could obscure a UXB entry hole from view. However, the likelihood of a HE UXB strike to the Site in the first instance is low.
- ▶ If the reported 1kg / 2kg IBs fell in the south of the Site, any UXBs are unlikely to have passed unnoticed. As these bombs were dropped in clusters, those IBs that functioned as designed would have created clear evidence of this type of bombing incident (burnt vegetation / scared ground), with a subsequent investigation / search by air raid precautions (ARP) wardens and farm workers almost certainly recovering all unexploded examples. That said, if dropped from a significant height, these lightweight UXBs were able to fully penetrate soft soil, leaving only a very small (easily obscured) entry hole.
- ▶ It is of course conceivable that a second German aircraft flew over the local area and released a single bomb that stuck the Site unwitnessed and failed to detonate, thereby leaving no recordable evidence of the air raid. However, the probability of such a scenario occurring is extremely remote.



▶ MoD responses to FOI requests confirm that they will not search for or release to the pubic any historic records of British Army or RAF EO clearance tasks relating to RAF Lavendon. However, as this was a practice bombing range (assumed to pose a low EO hazard), it is quite possible that no such range-wide EO surveying / clearance tasks were ever carried out post-WW2. And as the explosives demolition ground was a location where EO was disposed of, it will have been assumed that no EO contamination could have persisted after disposal activities ceased in 1947, and therefore a subsequent survey of the site by EOD engineers would have been unnecessary.

Likelihood of EO remaining

- ▶ Recent aerial photographs confirm evidence of arable farming activity within the field containing the explosives disposal ground and bombing range target marker and neighboruing fields. However, numerous EO-related items remain on the surface here and magnetometer surveying confirms very high density buried contamination as well. Assuming this land has been ploughing multiple times, this soil disturbance has had no risk mitigating effect.
- ▶ Even if bombing range personnel did search parts of the Site for 'dud' practice bombs, the soft ground conditions may have seen such UXO fully penetrate the soil, making recovery more difficult. Any such bombs may have been simply abandoned. Note, no empirical data on the penetration depths of USAAF practice bombs is available. However, as RAF practice bombs (weighing considerably less) are known to have penetrated topsoil / surficial geology to 1.3m bgl, it can be assumed that a USAAF practice bomb could be encountered intact at greater depths on Site.

Likelihood of EO encounter and initiation

- ▶ The likelihood of encountering hazardous EO (undamaged, live devices) is probably limited to the former explosives disposal ground field and its environs the primary area of potential concern. USAAF practice bombs could be (and have been) encountered in fields beyond this area. This secondary area of potential concern cannot be easily demarcated as it relates to wayward bomb drops by trainee air crew. It is conceivable that USAAF practice bombs could be encountered anywhere on Site.
- ▶ As numerous USAAF practice bombs have been encountered within archaeological trenches on Site, it can be assumed that all future intrusive works (even those disturbing very shallow depth soil only) would be exposed to encountering this type of EO. If a cache of complete EO devices (buried not destroyed) exists within the primary area of potential concern it would also likely be encountered at shallow depth.
- ▶ If a German aircraft flying at average or higher altitude released even the smallest / lightest German HE UXB over the Site, it would almost certainly have penetrated the soil and geology on Site to depths beyond the reach of the planned mechanical excavations. Note, most of the Site area was underlain by topsoil and a layer of superficial Diamicton geology (almost certainly soft / unconsolidated at this shallow depth).
- ▶ If piled foundations are utilised, the likelihood of forcefully encountering / striking EO is greater due to the 'blind' nature of such intrusive methodologies. Note, during 'open' mechanical excavations an item of EO could be partially unearthed without the excavator bucket striking it. At which point, work could be halted if the suspicious object were to be spotted.



- ► There is no reason to believe that the Site-specific hazard items are more sensitive to an initiation when compared to similar EO contamination elsewhere in the UK.
- ▶ It has been demonstrated that the USAAF practice bomb contamination on Site does not pose a significant hazard. Furthermore, this type of device did not contain a significant quantity of HE or any other very hazardous substance. Striking the corroded remnants of these practice bombs during ground works will not cause an initiation / detonation event of any consequence.
- ▶ However, if during piling works or mechanical excavations, a cache of live, undamaged EO were to be encountered within the primary area of concern, the likelihood of an EO initiation would be significantly elevated. Note, some types of WW2-era British land service ammunition (LSA) were part constructed of glass and therefore especially sensitive. Such a scenario would also raise the possibility of additional sympathetic explosions a chain reaction of initiations due to multiple / numerous devices in close proximity.

The executive summary covers the key points only. The main body of this report contains the majority of the Site-specific detail and the limitations of the assessment. Should the proposed works be significantly modified or additional works be considered, IAL should be contacted as a reassessment of EO risk may be required.

Risk Map



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Glossary

AA	Anti-Aircraft	MU	Maintenance Unit
AAA	Anti-Aircraft Artillery	NEQ	Net Explosive Quantity
ALARP	As Low As Reasonably Practicable	NFF	National Filling Factory
AP	Anti-Personnel	NGR	National Grid Reference
ARP	Air Raid Precautions	ОВ	Oil Bomb
AT	Anti-Tank	OS	Ordnance Survey
AXO	Abandoned Explosive Ordnance	PAC	Pilotless Aircraft (V1 missile)
BD	Bomb Disposal	РВ	Phosphorus Bomb
bgl	below ground level	PM	Parachute Mine (bomb type)
BGS	British Geological Survey	POW	Prisoner of War
BPD	Bomb Penetration Depth	RADAR	Radio Detection And Ranging
CIRIA	Construction Industry Research & Information Association	RAF	Royal Air Force
DA	Delayed Action (bomb type)	RDX	Research Department Explosive
EO	Explosive Ordnance (UXO and AXO)	REF	Royal Explosive Factory
EOC	Explosive Ordnance Clearance	RFC	Royal Flying Corps (1912-1918)
EOD	Explosive Ordnance Disposal	RN	Royal Navy
FAA	Fleet Air Arm (Royal Navy)	RNAD	Royal Naval Armaments Depot
FP	Fire Pot (WW2 German bomb)	RNAS	Royal Naval Air Station
GP	General Purpose (bomb type)	ROF	Royal Ordnance Factory
ha	hectare(s)	SAA	Small Arms Ammunition
HAA	Heavy Anti-Aircraft (gun)	SI	Site Investigation
HC	High Capacity (bomb type)	SIP	Self-Igniting Phosphorus (grenade type)
HE	High Explosive	TA	Territorial Army
HMNB	Her/His Majety's Naval Base	TNT	Trinitrotoluene (explosive)
HMS	Her/His Majesty's Service (shore establishment)	UK	United Kingdom
НО	Home Office	UN	United Nations
HQ	Headquarters	UP	Unrotating Projectile (AA rocket)
HSE	Health & Safety Executive	USAAF	United States Army Air Force (1941-1947)
IB	Incendiary Bomb	USAF	United States Air Force (since 1947)
kg	kilogram(s)	UX	Unexploded
km	kilometre(s)	UX AA	Unexploded Anti-Aircraft (projectile)
LAA	Light Anti-Aircraft (gun)	UXB	Unexploded Bomb
LM	Land Mine	UXO	Unexploded Ordnance
LRRB	Long Range Rocket Bomb (V2 rocket)	V1	Vergeltungswaffe 1 (German cruise missile)
LSA	Land Service Ammunition	V2	Vergeltungswaffe 2 (German ballistic missile)
m	metre(s)	WAAF	Women's Auxiliary Air Force (1939-1949)
MC	Medium Capacity (bomb type)	WO	War Office (1857-1964)
mm	millimetre(s)	WW1	World War One (1914-1918)
MOD	Ministry of Defence	WW2	World War Two (1939-1945)



1 Introduction

1.1 Instruction

Lucion Delta-Simons (referred to hereon in as the Client) has commissioned Impartial Assessments Limited (referred to hereon in as IAL) to carry out a Stage 2 Detailed EO Risk Assessment of the proposed works at the Green Hill Solar Project - Site G, Buckinghamshire site (referred to hereon in as the Site).

1.2 Objective

The objective of this report is to assess the likelihood of encountering buried explosive ordnance (EO) during intrusive ground works and to assess the consequences of any such encounter. If an intolerable risk level is identified, risk mitigation measures will be recommended.

1.3 Using This Report

In the UK, EO risk is not always considered or fully understood and is often misunderstood. This report aims to provide a comprehensive and coherent account, including introductory text and details on location-specific types of EO. We believe it is important to provide sufficient information to allow the layman to form a good understanding of the potential EO risks.

However, we also appreciate that some readers will not require the full contextual information and therefore the report is structured with this in mind. From **Chapters 3 to 13**, all Site-specific text that affects the outcome of this risk assessment can be found under the highlighted Site-Specific subheadings.

1.4 Explosive Ordnance Risk in the UK

The term EO describes both unexploded ordnance (UXO) and abandoned explosive ordnance (AXO). The former describes devices and projectiles that have been armed (and in some cases fired, dropped, placed, etc) yet failed to function. The latter describes devices and projectiles that have simply been abandoned (discarded or buried).

Fortunately, inadvertent EO initiations (detonations) in the UK are very rare, however, buried EO can cause significant delays to construction projects with associated increases in costs. The origin of UK EO can be broadly categorised as such:

- ▶ Enemy Action (UXO): the German air force bombed targets throughout the UK during WW1 and WW2. The German Navy bombarded coastal targets in eastern England during WW1 and German long-range artillery bombarded Kent during WW2.
- ▶ Allied Military Activity (UXO and AXO): several Allied nations used the UK as a staging area for military action in the European theatre of conflict (most notably the US and Canada) during WW1 and WW2.
- ▶ **UK Military Activity (UXO and AXO):** domestic British Army, Royal Air Force (RAF) and Royal Navy (RN) training activities as well as anti-aircraft (AA) weapons used during WW1 and WW2.

1.5 Guidelines for Risk Assessment

1.5.1 CIRIA

This assessment has been designed and written in accordance with the relevant Construction Industry Research and Information Association (CIRIA) guidelines: **C681** 'Unexploded Ordnance - A Guide for the Construction Industry' (published 2009) and **C785** 'Unexploded Ordnance Risk Management Guide for Land-Based Projects' (published 2019). C681 and C785 were written (with the support of the UK Health and Safety Executive) to provide the construction industry with accurate and authoritative information regarding matters of onshore EO risk in the UK.



1.5.2 Legislation

There is no specific UK legislation covering the assessment and management of EO risk. However, there is legislation that more broadly covers the consideration of EO hazards:

- Health & Safety at Work Act (1974) and Management of Health & Safety at Work Regulations 1999
- Construction (Design & Management) Regulations (CDM) 2015
- Corporate Manslaughter and Corporate Homicide Act 2007

1.5.3 MOD

EO finds in the UK are handled by the MOD's Joint Service Explosive Ordnance Disposal Operations Centre (JSEODOC). At any site where an identifiable EO risk was not highlighted at project design stage, JSEODOC will not provide EOD services for frequent callouts to EO encounters. Instead, the client will be required to employ the services of a commercial EO risk management contractor to manage the ongoing EO risk.

The delay caused by retrospectively carrying out a risk assessment can have significant cost implications as site works are halted. Therefore, it is essential that EO risk is considered at the earliest possible stage, ideally through the commissioning of a Stage 1 or Stage 2 EO risk assessment.

1.6 Assessment Methodology

1.6.1 Introduction

This report is based on a traditional source-pathway-receptor-consequence (SPRC) assessment methodology and semi-quantitative risk model. The following subheadings describe how this risk assessment structure is applied to buried EO risk (in the UK).

1.6.2 Source

In the UK there are numerous sources of potential EO contamination. Three main factors govern the likelihood of buried EO being present at a given site today:

- Contamination: The likelihood that EO came to be buried at a site.
- ▶ Subsequent Detection: The likelihood that EO (chiefly UXO) contamination went unobserved and reported.
- ▶ Degree of (any) Risk Mitigation: Could subsequent earthworks or Explosive Ordnance Clearance (EOC) activities have mitigated the buried EO risk?

1.6.3 Pathway

The activities that could result in the EO hazard reaching sensitive receptors and the specific type of EO hazard.

- Encounter: The likelihood of buried EO being encountered during the proposed works depends on the total volume of soil disturbed and the type(s) of intrusion methodology. Note, site-specific bomb penetration depth (BPD) calculations must be conducted where appropriate.
- Initiation: The likelihood that an encounter results in the EO initiating.

1.6.4 Receptor

The number and sensitivity of receptors will vary from site to site. In the context of an EO initiation, the receptors present at the time of the event will almost always include the most sensitive category; human health.



1.6.5 Consequence

The consequences of an inadvertent EO initiation event vary from none to catastrophic. However, the likelihood of initiating EO is far lower than that of encountering EO. The negative consequences of an EO encounter are much more likely to be financial, resulting from project delays.

1.6.6 Semi-Quantitative Risk Calculation

Once all project-specific factors have been assessed, a semi-quantitative risk assessment (likelihood versus consequence risk matrix) will be carried out or multiple calculations will be carried out if the factors described above vary considerably across the site. In the latter scenario, a risk map will be drawn to illustrate the differing risk zones.

1.6.7 Recommendations

If a significantly elevated risk level(s) is concluded, industry standard risk mitigation measures (appropriate to the project specific intrusive methodologies) will be recommended to reduce the elevated risk level(s) to as low as reasonably practicable (ALARP) level.

1.7 Information Sources

To guarantee a robust assessment of risk, primary source records form the basis of this report. The following information types and information sources were accessed / contacted during the research process:

- ► The National Archives, Buckinghamshire Archives, Northamptonshire Archives, The MoD, The RAF Museum, Historic England, Council for British Archaeology, Buckinghamshire Historic Environment Record, British Geological Society, the Client.
- ▶ Historic OS mapping, historic aerial photography, secondary sources material, and various web resources.
- Our PIEO (potential indicators of explosive ordnance) GIS map and our physical library. Note, PIEO is the result of over fifteen years of research and is constantly growing.

1.8 Reporting Conditions

The accuracy of original records relating to bombing is difficult to verify. Wartime bombing records were only as detailed and accurate as the availability of time, personnel, and ease of access to information would allow. The conditions under which information was gathered in many urban locations, i.e. intense aerial bombardment, will not have been conducive to accurate record keeping. Air raids within sparsely populated locations are less likely to have been witnessed, limiting the accuracy of any corresponding records. Furthermore, such records were often based on unverifiable second-hand eyewitness accounts.

Many records of historic military activity have not survived and some of those that have are only declassified and released into the public domain decades after their creation. Consequently, pertinent records can be inaccessible at the time of requirement. Impartial Assessments cannot accept liability for any missing historic records, inaccuracies or omissions within the available historic records.

It is never possible to accurately determine, through desktop study alone, the precise location, type and condition of buried EO at a given site. Furthermore, some factors (human behavioural) make assessment of EO risk partly subjective.



2 The Site

2.1 Location

Site address: London Road, Warrington, Milton Keynes Borough, Buckinghamshire, MK46 4JQ.

The Site is centred on the approximate National Grid Ref: SP 90569 55329.

2.2 Description

Several agricultural fields crossed by a footpath.

A recent aerial photograph is displayed at FIGURE 1.

2.3 Proposed Works

A solar farm is planned for the Site. The solar arrays will be supported on either shallow pile foundations (to 1.5m - 2.0m bgl) or concrete pads placed on the surface or buried (very shallow mechanical excavations). Cable trenches will be excavated to depths of 0.6m - 1.0m bgl.

Note, at the time of writing an intrusive archaeological survey (comprising numerous trenches excavated to a maximum depth of ~0.60m bgl throughout the Site) had just completed.

3 Site History Assessment

3.1 OS Mapping

3.1.1 Introduction

Bomb damage to structures, resulting from enemy action can be identified by comparing pre and post conflict OS maps. These maps can also help identify historic military activity, as 19th / 20th Century military structures had a typical shape and were distributed in typical patterns. Note however, the process adopted in generating these maps (mapping intervals, scale, exclusion of some features, e.g. military, in the interests of national security, etc), may result in an incomplete account of a site's history.

Those available historic OS maps covering the Site (between 1:1,056 and 1:10,560 scale) have been assessed, with relevant observations detailed in the table below.

The earliest available post-WW2 OS map is displayed at FIGURE 2.

3.1.2 Site-Specific

	Maps	Observations				
W2	1883	Site occupancy?	Farmland and 'Tinick Farm' in the east. 'Northey Farm' and 'Lower Farm' are located just beyond the northwest and southeast Site boundaries, respectively.			
Pre-WW2	1901 1907	Evidence of local military activity?	None.			
		Other significant observations?	None.			
Pre-WW2		-	No maps available.			



		Site occupancy?	No significant changes.
WW2	1952	Evidence of local military activity?	None.
Post-WW2	1960 1978	Evidence of WW2 German bombing?	None.
		Other significant observations?	None.

TABLE 1: Historical OS Mapping Review

3.2 Aerial Photography

3.2.1 Introduction

Historical aerial photography is often key in identifying temporary wartime activity. As well as clarifying historic site occupancy, aerial photographs can elucidate the degree of bomb damage to structures and show the locations of German high explosive (HE) bomb craters. Note, the latter usually only persisted for a short time.

WW2-era aerial photography is displayed at FIGURE 3.

3.2.2 Site-Specific

	Date	Туре	Observations							
			Timing?	Approx. two years after the period of most intense Luftwaffe activity in the region had ceased.						
	16th	Vertical	Site occupancy / ground cover?	As per the period OS mapping, although this image only covers the central eastern part of the Site.						
WW2	7 16 th Jul 1943	view. Low resolution	Evidence of WW2 bombing? (ruins, clearance, craters)	No obvious evidence.						
			Evidence of local military activity?	No obvious evidence.						
			Other significant observations?	None.						
			Timing?	Approximately 13No. months after the cessation of hostilities in Europe.						
		Vertical view.	Site occupancy / ground cover?	No significant changes.						
Post-WW2	7 th Jun			Evidence of WW2 bombing? (ruins, clearance, craters)	Unlikely, see below.					
Post	1946	Moderate resolution	Evidence of local military activity?	One of the fields contains crater-like, almost circular features (not caused by HE bomb strikes). There are other ambiguous ground disturbance features and a small triangular feature.						
			Other significant observations?	None.						

TABLE 2: Historical Aerial Photography Review



3.3 Additional Historical Information

If a site encompasses a historic landmark, significant building etc, further research might locate a written account providing details on the site's historic occupancy. Such details could prove significant when assessing the various variables relating to, for example, the likelihood of a German UXB strike going unnoticed and unreported.

No relevant information located.

4 WW2 Enemy Action Assessment: Aerial Bombing

4.1 German bombing during WW2

Between 1939 and 1945, the German air force (the Luftwaffe) dropped approximately 75,000 tonnes of HE bombs and over two million incendiary bombs (IBs) on the four nations of the UK. Almost all counties were affected to some degree.

At the time, bombing was still in its infancy. Testing showed that the accuracy of daylight, level flight bombardment would put 50% of the bombload within 91m of the centre of the target from an altitude of 3,000m. At double this altitude the error exceeded 400m. In poor visibility and at night, the error could increase by >250%.

Furthermore, these tests were conducted within an uncontested environment. The various British AA defences and navigational countermeasures greatly hindered bombing. Luftwaffe aircraft frequently abandoned their intended target and jettisoned their bombloads indiscriminately. Consequently, numerous bombing incidents occurred in open countryside throughout the UK, many miles from intended targets.

Bombs were only rarely dropped individually. The normal procedure was to drop an internally carried bombload in a single sequence, with release spacings pre-set from 10m to 100m. 20No. 50kg bombs (the most numerous HE bombload) could thus extend in a line (called a bomb-stick) varying between 200m and 2km in length. These patterns (when accurately plotted) can aid in locating unreported UXBs. It should be noted however that externally carried bombs could be released individually, creating uneven bomb-stick patterns or solitary bomb strikes.

For other types of commonly deployed ordnance, inaccuracy was inherent. 1kg / 2kg IBs and parachute retarded mines (high-capacity blast bombs) were easily blown off course by the wind.

4.2 Explosive Ordnance Hazards Overview

4.2.1 Introduction

During WW2 the Luftwaffe deployed a variety of ordnance against the UK. The most frequently deployed large bombs achieved significant ground penetration due to their 'thick-skinned' steel construction and are therefore more likely to remain buried in the ground today. These HE (and some incendiary type) bombs are termed 'iron' bombs. The 50kg and 250kg 'iron' bombs accounted for approximately 93% of 'iron' bombs dropped on the UK.

Descriptions of these different bomb types are presented below. Data sheets detailing those bombs most likely to be encountered today are displayed at **APPENDIX 1**.

Note, the Italian Air Force participated in a small number of air raids in Essex and Kent during 1940. The Italian bombs were comparable to German general purpose 'iron' bombs, however any UXB find would be extremely rare.

4.2.2 More Likely to be Unearthed in the UK Today

▶ **High Explosive** 'iron' bombs - General Purpose: The SC series accounted for the majority of HE bombs dropped on the UK. This design had a moderate charge to weight ratio, approximately 50% charge. The most common weights were 50kg (SC50), 250kg (SC250) and 500kg (SC500). 6No. additional models (1,000kg, 1,200kg, 1,400kg, 1,800kg, 2,000kg and 2,500kg) were deployed in much smaller numbers.



- ▶ **High Explosive 'iron' bombs** Semi Armour Piercing: The SD series were very similar in appearance to the SC bombs but had lower charge to weight ratios, approximately 30% charge. The casing was thicker, allowing for greater penetration through structures. There were six 'iron' bombs models ranging from 50kg to 1,700kg.
- Incendiary 'iron' bombs: The Brand C50A used a SC50 type casing but contained a mixture of incendiary liquids (including phosphorus) that ignited on contact with the air. The C50B was the same size but mostly phosphorus filled. The Sprengbrand C50 (Firepot) also utilised a thick 'iron' bomb casing, however contained both Thermite incendiary containers and a 7kg HE charge. These bombs weighed approximately 41kg and 50kg respectively and were introduced later in the war.
- ▶ Incendiary Sub-Munitions: The 1kg B1E IB was the most frequently dropped German bomb. Up to 620No. B1Es could be packed into a sub-munition canister, which opened at a pre-determined height, scattering the IBs over a wide area. The Thermite fill burns at extremely high temperature. The longer 2kg B2E model incorporated a small HE charge with delay fuze. The B2E is therefore more hazardous than the B1E, however was dropped in smaller numbers. Although light weight, both had the potential to fully penetrate soft ground.

4.2.3 Less Likely to be Unearthed in the UK Today

- ▶ High Explosive 'iron' bombs Armour Piercing: The PC series (four models between 500kg and 1,600kg) were used against reinforced military structures and warships. Consequently, they were not commonly used against the UK mainland. Charge to weight ratios were low, approximately 15% charge.
- ▶ High Explosive Blast Bombs Parachute Mines: Converted naval influence mines were dropped on urban targets. Their thin steel bodies allowed for very high charge to weight ratios, approximately 73% charge. Luftmine A (LMA) and Luftmine B (LMB) weighed 500kg and 1,000kg respectively. Each was parachute retarded, enabling detonation at ground level and therefore no ground penetration. Consequently, the only unexploded parachute mines found today, wash up along the coastline or remain on river or lake beds.
- ▶ Oil Incendiary Bombs: The Flam 250 and Flam 500 bombs contained a mixture of benzine and petroleum, ignited by a small HE charge. They were constructed of thin metal which broke up on impact, spreading the incendiary mixture across an area. As such they are unlikely to remain buried in the UK today. The bombs proved unreliable, often failing to ignite, and consequently were withdrawn from service in 1941.
- ▶ Anti-Personnel (AP) Sub-Munitions: The 2kg SD2 'Butterfly' bomb was dropped on several British cities and towns. It was a nuisance weapon incorporating both time-delay and anti-handling fuzes. It contained a small 225g HE charge, however had no ground penetration ability. A sub-munition canister could hold up to 108No. SD2s. The SD10 was a larger (10kg) AP bomb. It could achieve full penetration, however this model was dropped in very small numbers on the UK. A sub-munition canister could hold 17No. SD10s.
- ▶ **Miscellaneous:** The Luftwaffe dropped various other devices on the UK. Flares (for target illumination) were by far the most numerous, however had no ground penetration potential. Photoflash bombs (to aid reconnaissance photography) are similar in appearance to 50kg bombs. Inert concrete-filled bombs were dropped to cause disruption and unnecessarily tie up bomb disposal (BD) resources.

4.2.4 'Iron' Bomb Penetration Depths

The Research & Experiments Department of the Ministry of Home Security used BD records to study German HE UXB penetration depths, publishing their findings in 1949. The British Army's BD headquarters provided details of 1,304 UXB recoveries. In addition, the ministry carried out their own tests, involving 24No. bombs dropped into Chalk under controlled conditions.

The average penetration depth of 430No. 50kg bombs (the most commonly dropped HE bomb) in London Clay was 4.6m and 6.1m for the 250kg model. Note, these bombs landed in open ground and were therefore unaffected by structures or hardstanding. Once the distribution of bomb weights against penetration depths was plotted, the mean line was extrapolated for each bomb weight to produce probable maximum depth figures.



For each bomb weight, the mean average of all observed penetration depths was calculated for each geology. The resulting figures, plus the observed minimum penetration depths, are presented in the table below. Note, bombs weighing >1,000kg have been omitted from the table as only several such UXBs were recovered during WW2.

		Clay			Chalk			Gravel			Sand		S	andston	е
Bomb (Kg)	Min (m)	Average (m)	Max (m)	Min (m)	Average (m)	Max (m)	Min (m)	Average (m)	Max (m)	Min (m)	Average (m)	Max (m)	Min (m)	Average (m)	Max (m)
50	0.7	4.0	9.1	1.0	3.5	7.7	1.0	2.8	7.8	1.0	2.8	7.8	1.8	2.7	6.0
250	1.5	6.8	15.8	1.0	6.0	13.1	0.7	4.8	13.7	1.8	4.8	13.7	2.5	4.6	10.3
500	3.8	8.7	19.8	4.0	7.6	16.4	2.5	6.0	17.3	3.0	6.0	17.3	-	5.8	13.1
1,000	4.8	10.9	24.9	4.2	9.6	20.7	2.0	7.6	21.9	6.8	7.6	21.9	-	7.3	16.4

TABLE 3: WW2 German UXB Penetration Depths Data

Although most German HE UXBs came to rest after several metres travel through the ground, these weapons can be encountered at any depth between just below WW2 ground level and the maximum BPD. There are three reasons why heavy bombs might be found at surprisingly shallow depths:

- ▶ Low Altitude Release: Some Luftwaffe raids (particularly those involving fast fighter-bombers) were executed at very low altitudes, to avoid RADAR detection. Bombs released over soft ground from very low altitude would impact at a shallower angle, resulting in extreme J-Curve Effect (see Heading 4.2.5).
- ▶ **Deflection:** 'iron' bombs had conical nosecones and were therefore susceptible to deflection. A bomb striking a structure (above or below ground), could deflect and come to rest at a shallower depth.
- ▶ Aircraft Crash Site: For several reasons, a pilot may not have been able to dump his bombload before impacting the ground. Any internally or externally fitted bombs could have become shallow buried on impact.

4.2.5 'Iron' Bomb J-Curve Effect

WW2 BD units reported that most deep buried German HE UXBs were observed in a horizontal or up-turned orientation. As a HE UXB penetrates the ground at an angle slightly offset from the vertical, it begins to turn, creating a curved passage through the soil.

This phenomenon can be significant when assessing the risk of UXO as the J-Curve Effect results in a horizontal offset from the point of UXB entry. A HE UXB could impact soft ground adjacent to a building and then come to rest beneath that building. The degree of lateral offset is typically one third (approximately) of the bomb's ultimate penetration depth. Therefore, for locations which experienced high-altitude bombing raids, J-Curve offsets will typically be between 2.0m and 4.0m. In extreme conditions, a low altitude attack resulting in a low angle UXB strike could produce even greater horizontal offset, up to 15.0m.

4.3 British Records of Bombing

4.3.1 Official Records

The Bomb Census was undertaken by the Ministry of Home Security. The Bomb Census was compiled using information primarily gathered by ARP (Air Raid Precautions) wardens. Standardised forms were used to keep a written record of each incident. In many areas, these reports were used to create bomb plot maps. The Ministry also calculated bombing density statistics for every administrative area and created Daily Intelligence Reports, recording the date and location of every single air raid.



The Bomb Census commenced in September 1940, more than three months after the German bombing campaign commenced. Initially, only information relating to London, Birmingham and Liverpool was collated. It was not until September 1941 that the Bomb Census was extended to cover the entire UK. Consequently, many pre-September 1941 records were not standardised and, in some cases, were poor quality.

The level of detail varied greatly with location. Furthermore, the Bomb Census did not cover air raids on military property. The armed forces had no formal process for recording air raids and processing associated records. As well as bombing incident records, some local authorities produced war damage maps. Council engineers carried out street by street surveys to create a record of the varying degrees of damage sustained by buildings. Today, many original (archived) bombing records are incomplete, some collections are missing altogether, and, in some cases, entire records were destroyed at the time by German bombs.

4.3.2 Unofficial Records

In some parts of the UK where official bombing records are incomplete or missing, historic eyewitness accounts, newspaper articles, aerial photographs, etc can be used to build up a picture of WW2 air raids. The credibility of any such information, however, must be addressed and assessed.

4.4 Luftwaffe Targets

4.4.1 Brief Overview

The Luftwaffe carried out reconnaissance flights over the UK. Numerous aerial photographs were taken with subsequent German annotations earmarking various facilities for attack. Luftwaffe crews were also given British OS maps with German annotations highlighting their target area. In the absence of detailed bombing records, the presence of a known target increases the likelihood that bombs fell locally.

Although official German doctrine did not specifically target civilian residential areas, the Blitz raids on individual targets were gradually replaced by what was, for all intents and purposes, unrestricted indiscriminate bombing. This was due to the effectiveness of British countermeasures. The Luftwaffe identified city centre aiming points for some attacks, as well as identifying individual targets. Typical types of target:

- Common Primary (strategic) Targets: RAF airfields, Royal Navy bases, commercial docks, weapons (chiefly aircraft) factories and RADAR installations.
- ► Common Secondary Targets: engineering works, steel works, factories, depots, railway marshalling yards, gasworks, power stations, army camps / barracks, AA artillery batteries, coastal gun batteries etc.

Note, the inherent inaccuracies in WW2-era aerial bombardment resulted in many wayward bomb strikes in areas surrounding targeted facilities.

4.4.2 Site-Specific

Original Luftwaffe target mapping and target reconnaissance photography of the region was accessed.

Target Category	Relevance and Proximity to the Site
Confirmed primary aiming point (indiscriminate bombing)	None within 10km
Confirmed primary individual target(s)	None within 5km
Confirmed secondary individual target(s)	None within 5km
Unconfirmed but potential secondary target(s)	None locally.

TABLE 4: WW2 Bombing Targets



4.5 Bombing Decoy Installations

4.5.1 Brief Overview

British decoys were intended to draw enemy bombers away from the true targets. 839No. decoys were built at 602No. sites in England, with approximately 200No. more established in Wales, Scotland, and Northern Ireland. Although success rates varied greatly, the confirmed presence of a bombing decoy significantly increases the likelihood that bombs fell near or on that location. 5No. types were fielded:

- 'K' and 'Q' Sites Dummy Aerodromes. 230No. were established. 'K' decoys (landing field, mock-up buildings, and inflatable aircraft) were for daylight use. 'Q' decoys used lights to create a flarepath simulating a runway at night.
- 'QL' Sites Urban Lighting. Electric lights were used to simulate poorly implemented blackout procedures. As a bomber force approached, the lights would be extinguished erratically.
- 'SF' and 'QF' Sites Diversionary Fires. The largest and most sophisticated decoys. When lit, 'Starfish' sites gave the impression of an urban area set alight by incendiary bombing. They were installed near cities. Similar to, however smaller than 'SF' decoys, 'QF's were installed near and for the protection of specific vulnerable points (VPs) such as factories, military sites, oil storage tank farms, etc. Some 100No. 'QF' sites were established in England.
- ▶ 'M' and 'C' Sites Dummy Factories and AA Batteries. The former comprised a scale model of a specific factory, vital to the war effort. They were made from wood and canvas and had other features, such as access roads and equipment.
- ▶ **ASQL Assault.** During August and September 1943, 18No 'QL' sites were installed along the south coast of England during a deception operation. These **temporary** decoys received very little attention.

Between 1942 and 1943, most 'K' sites were dismantled, however many of the other decoys were used up until late 1944 when Luftwaffe activity over the UK had all but ceased. By the end of 1941, the airfield decoys had received 359No. attacks compared with 358No. raids carried out against the real airfields. By June 1944, approximately 730No. attacks had been recorded on all decoy types. At least 5% of the total weight of German bombs dropped are estimated to have been aimed at Britain's decoy sites.

4.5.2 Site-Specific

No decoy sites were installed within a significant distance of the Site. The closest being ~10km to the southwest.



4.6 Local Bombing Density

4.6.1 Official Records

The table below records the MoHS' bombing density calculations for the former Rural Districts of Newport Pagnell (Buckinghamshire) and Wellingborough (Northamptonshire). Note, the Site was located within the former, however the north Site boundary marked the border with the latter. It gives a breakdown of the number of large Luftwaffe bombs reported within the administrative area. The adjacent table displays IAL's bombing density parameters.

Administrative Area	NP.RD	W.RD
Administrative Area Size (Acres)	61,686	33,115
HE 'iron' bombs (all types)	161	65
HE Parachute Mines	1	0
'Flam' Oil IBs	1	1
Phosphorus IBs	0	0
'Fire Pot' Phosphorus IBs	0	0
V1 Flying Bomb	1	0
V2 Long Range Rocket	0	0
Total (excluding V Weapons)	163	66
Bombs Per 1,000 Acres (405ha)	2.6	2.0

Quantitative
<5 bombs per 1,000 acres (405ha)
5 to 15 bombs per 405ha
15 to 30 bombs per 405ha
30 to 75 bombs per 405ha
75 to 150 bombs per 405ha
150 to 300 bombs per 405ha
>300 bombs per 405ha

TABLE 5: Bombing Statistics and Parameters - National Source

Note, these figures include UXBs, 1kg / 2kg IBs, or small AP bombs (2kg or 10kg models). However, it is known that no AP bombs were dropped locally during WW2.

4.6.2 Site-Specific

The bombing density figure for a whole administrative area is not always a good indication of the bombing density over a specific site. Within larger districts, particularly rural districts, bombing density figures may be skewered by the presence of a heavily bombed target.

Indeed, the Site occupied rural districts, where the local bombing density figure is less likely to be accurate at the local level. Also noteworthy is that Bedford Rural District (another very low bombing density area) was located immediately beyond the northeast Site corner. According to the bombing density calculation above, the Site occupied an area that experienced a very low bombing density. Further research however indicates that **the wider study area experienced a low bombing density**.



4.7 Bomb Failure Rate

4.7.1 Brief Overview

There are three reasons why German 'iron' bombs dropped during WW2 failed to function as designed:

- ▶ Human Error: failure of the aircraft's crew to charge the electrical condenser in the fuze.
- ▶ Very Low Altitude Release: the fuze would not have enough time to arm itself before impact.
- ▶ Faulty Fuze: inadvertently during manufacture or sabotage by POWs working in German factories.

The Bomb Census recorded a daily average of 84No. German 'iron' bomb UXBs dropped on civilian targets throughout Britain, between 21st September 1940 and 5th July 1941. 8.5% of these were Delayed Action (DA) bombs (time bombs) which exploded sometime later. The remainder were unintentional 'duds' (UXBs).

By the end of WW2, the Ministry of Home Security calculated a total figure of 200,195No. HE bombs recorded as exploded in Britain. An additional 25,195No. HE UXBs were recorded, giving a HE bomb failure rate of 12.6%.

The Luftwaffe figure for the total number of bombs dropped on the UK was approximately 11% higher than the number observed and reported by UK authorities. This suggests that the total number of UXBs remaining buried in the UK today is greater. However, anecdotal evidence suggests that German sources overstated their bombing statistics for propaganda reasons.

The average HE bomb failure rate of all boroughs and districts making up the London Civil Defence Region (the most heavily bombed part of the UK) was calculated as 10%, with rates ranging from 6% to 15%. Note, those areas of the capital that suffered the most damage, had the most ruins into which subsequent UXBs could fall unnoticed / go unrecorded. This limits the accuracy of the observed failure rates in those areas.

The discrepancy between the British and German records combined with the fact that HE UXBs are still consistently being discovered in the UK today (averaging five per year), confirms that the UK's 12.6% rate is inaccurate and is in fact higher. As rates of 15% were observed in some areas, this is considered to be a more accurate estimate of the true failure rate.

4.7.2 Site-Specific

No evidence has been found to suggest that the local HE bomb failure rate differs significantly from the national average.

4.8 Site-Specific Bombing Incident Records

4.8.1 Buckinghamshire - Incidents Register

An original register of bombing incidents throughout the county was accessed. This register appears to be complete, however only records general incident locations. A search of this register for local incidents located three entries:

- 20th October 1940 Serial No.20. Four HE bombs at Lodge Farm, Warrington. No damage or casualties.
 - [This farmstead was located ~1.35km west of the Site].
- ▶ 14th November 1940 Serial No.34. One IB at Uphoe Farm, Lavendon. No damage or casualties.
 - [This farmstead was located ~1.2km southeast of the Site].
- ▶ 4th December 1940 Serial No.44. Three HE bombs and 200No. IBs at Lavendon & Warrington. Slight damage to property. No casualties.



4.8.2 Buckinghamshire - Damage to Property Reports

A collection of original reports detailing the 'particulars of war damage for information of district valuer' was accessed. It is not clear whether this record is a complete record of all property damage incidents. A search of this collection located one relevant report:

4th / 5th December 1940:

- Near Lavendon Grange one HE bomb, one broken window [~850m south of the Site].
- Near Warrendon Farmhouse, Lavendon [precise location unknown] one HE bomb causing no damage. One UXB also reported.

4.8.3 Buckinghamshire - UXO Records

An collection of original UXO incident reports and disposals produced by the county constabulary was accessed. This record covers German UXBs as well as British UX AA projectiles. A search highlighted one local incident:

One German HE bomb dropped between the **19**th - **21**st October **1940** was located 300 yards from Lodge Farm, Warrington, 2.5 miles north of Olney Police Station. Disposal priority category 'D'. Disposed of on the 25th November 1940.

This farmstead was located ~1.35km west of the Site.

4.8.4 The 'Bombs Over Bucks' Project

The 'Bombs Over Bucks' project is a digital bomb plot map of the county which was produced using original records of the county council's Emergency Planning Officer. The map records the general locations of German bombing incidents (not necessarily all resulting individual bomb strikes), friendly fire incidents (RAF / Allied aircraft bomb strikes) and German V1 Flying Bomb strikes. The level of detail included for each incident is generally poor.

A section of the map showing the wider study area is displayed at **FIGURE 4**. Observations / comments are listed below.

- ► Two incidents referencing Olney (19th November 1940 and 4th December 1940) have been incorrectly plotted at Warrington village.
- ► The 5th December 1940 Warrendon Farm house, Lavendon incident has been plotted at the centre of Lavendon village ~800m southeast of the Site. This plotted location raises the possibly that the map creator was also unable to identify the precise location of this farmhouse and therefore plotted it at the centre of the village.
- ► The 15th November 1940 incident at 'Apho' Farm is almost certainly a typo for Uphoe Farm.

4.8.5 Northamptonshire - Wellingborough Rural District Records

The rural district council's collection of original ARP incident message forms (produced by ARP wardens at the scene of an incident) are not available in the public domain and therefore may not have survived to the present day.

Two other potentially relevant Northamptonshire records (Air Raid Damage Record and War Damage Commission Damage Schedule) were accessed / searched. However, no references to bombing incidents within ~500m of the north Site boundary were found. Note, these two record types do not represent comprehensive records covering every bombing incident in the rural district.



4.8.6 Bomb Census - Daily Intelligence Reports

The MoHS collated basic data on every air raid throughout the UK (the administrative area affected, the date and casualty figures). A complete collection of original Daily Intelligence Reports for Civil Defence Regions 3 and 6 was searched for the relevant parish names. Note, the Site was located within the parishes of Lavendon and Warrington and the parishes of Bozeat and Harrold occupied the wider study area (a 500m radius around the Site).

Two relevant reports were located (below). No raids were reported for Bozeat (Northamptonshire) or Harrold (Bedfordshire).

- ▶ 14th / 15th November 1940. Night raid affecting Lavendon. No casualties reported.
- ▶ 4th / 5th December 1940. Night raid affecting Warrington, Buckinghamshire. No casualties reported.

Note, the 20th October 1940 raid is missing from this record.

4.8.7 Bomb Census - Incident Reports

Four separate types of MoHS incident record that could potentially describe local bombs strikes, were accessed. The level of detail varies across these different records. Only one record type (reporting minimal detail) represents a complete record of all incidents in the region. A search of these collections located one relevant report:

4th December 1940:

- At 19:40hrs 3No. HE bombs dropped at Olney, damaging one cottage.
- At 19:40hrs IBs dropped at Warrington, 2 miles northeast of Olney, damaging telephone wires.

Olney was located ~2.8km to 3.4km southwest of the Site during WW2. The reported IBs probably fell somewhere between ~200m southwest of the Site and within the southern part of the Site.

4.8.8 Bomb Census - Incident Plot Maps

Collections of original MoHS bomb census maps and trace plot maps for the region were searched. Such maps were only produced from late 1941 onwards and record 'iron' bomb strikes only (not 1kg / 2kg IBs). Therefore, bomb census maps do not represent a complete picture of local bombing. No such maps covering the study area were available.

4.8.9 Anecdotal and Secondary Source Evidence

A search of online resources and local history publications was carried out with the intention of locating any relevant anecdotal / eyewitness accounts or secondary source information relating to local bombing incidents. No such information was located

4.9 Abandoned Bombs

4.9.1 Brief Overview

When a WW2 BD team arrived at the scene of a confirmed UXO strike, they would classify the incident by its potential hazard, Categories A, B, C and D, with A the highest priority for immediate removal and disposal. Occasionally, BD engineers could not find or recover the UXO and its location was simply recorded as an 'abandoned bomb'. The reasons for abandonment could be inaccessibility, extremely soft ground (extreme burial depth) or simply a harmless location (e.g. an isolated field). Note, BD teams in heavily bombed areas were constantly overstretched due to the sheer number of UXBs reported.

The archive office of the British Army's 29 EOD&S Group holds an Abandoned Bomb Register for Britain, as does the Ministry of Housing, Communities & Local Government. The registers lack detail, particularly with regards to locations. A general address rather than a precise position (grid refence) is usually given. Some of the abandoned bombs are likely to have been subsequently recovered or discredited, however remain on the register.

4.9.2 Site-Specific

No abandoned bombs are listed locally.

4.9.3 WW2 Bombing Incident Records Conclusion

- ▶ Number and intensity of local air raids: One bombing incident has been confirmed within the wider study area IBs dropped two miles northeast of Olney on the 4th December 1940. However, due to the lack of detail within most record types, it is conceivable that additional incidents occurred locally.
- ▶ Number of local bombing incidents: Unknown. Probably one cluster of 1kg / 2kg IBs (multiple bombs).
- ▶ Local bomb-stick orientations: The Bomb Census daily summary report (incidents at Olney and Warrington on the 4th December 1940) is inconsistent with the two Buckinghamshire County records, which reference Warrington and Lavendon as the incident locations. As the location of Warrendon farmhouse is unknown and lightweight (1kg / 2kg) IBs are not a reliable indicator of aircraft flight path direction, it is not known whether this aircraft flew over the Site.

Note, the difference in wind effect experienced by lightweight (1kg / 2kg) IBs when dropped from average to high altitude compared to heavy HE bombs, means the strike location(s) of the former bombs cannot be used to deduce the likely strike locations of any HE UXBs, if the aircraft in question was carrying a mixed HE and 1kg / 2kg incendiary bombload.

4.10 Aircraft Crash Sites

4.10.1 Brief Overview

Numerous German aircraft came down over the UK during WW2. In most cases, the pilot was able to jettison any remaining bombload prior to impact or the aircraft belly-landed resulting in only superficial damage to the fuselage. However, in some cases, mechanical malfunction and / or crew injury meant bombs were not released. If the aircraft struck the ground at a steep angle and at high velocity, high density objects (engines and bombs) became buried, sometimes to significant depths.

4.10.2 Site-Specific

No evidence has been found of a German aircraft crash site within the Site boundary.

5 WW2 Enemy Action Assessment: Other

5.1 V Weapons

5.1.1 Brief Overview

In mid-1944 Germany launched the V1 Flying Bomb campaign. The V1 was a primitive cruise missile carrying an 848kg HE warhead. Between 13th June 1944 and 29th March 1945, V1s were launched from static sites in France and Belgium. 5,823No. missiles landed in England, 2,419No. of which reached London, their intended target.

Not long after, Germany launched the V2 Rocket campaign. The V2 was a primitive ballistic missile carrying a slightly smaller HE warhead (735kg). Between 8th September 1944 and 27th March 1945, V2s were launched from static and mobile sites in Holland. 1,102No. rockets landed in England, 516No. of which hit London, the initial target area. Later on, Norwich was targeted, sustaining 43No. strikes.

Both weapons were constructed of thin sheet steel and consequently had very limited ground penetration ability, if they failed to function. Therefore, V Weapons do not themselves pose a UXO risk, however the damage they caused can hamper the accurate assessment of Luftwaffe UXB risk.



5.1.2 Site-Specific

The V1 Bomb strike density in the region was very low. It is considered highly unlikely that such a weapon struck the Site unnoticed and the Site's wartime ground conditions would not have been conducive to UXO contamination in the extremely unlikely event that a V Weapon struck the Site and failed to detonate.

Note, the V2 Rocket campaign did not affect the region.

5.2 Artillery Bombardment

5.2.1 Brief Overview

Six German Navy artillery batteries (comprising 20No. guns of between 21cm and 40.6cm calibre) were established in the German occupied Pas-de-Calais area from July 1940. In addition, the German army brought railway-mounted guns to this area of France, seven of which (six 28.0cm calibre guns and one 21.0cm gun) were capable of striking inland targets in Kent.

The first shells were fired at Kent on the 12th August 1940 with frequent attacks occurring during each of the next four years until the final bombardment on the 26th September 1944. In all, at least 1,000No. attacks (each involving multiple projectiles fired) were recorded, an average of one every two days. The towns of Folkestone, Deal and Dover were targeted, however many shells landed in the surrounding countryside. UXO finds of this type are rare.

5.2.2 Site-Specific

Buckinghamshire was located well beyond the range of the cross-channel artillery batteries.

6 WW1 Enemy Action Assessment

6.1 Aerial Bombing

6.1.1 Brief Overview

Between December 1914 and August 1918, the German navy air wing and army air wing carried out 51No. Zeppelin airship raids and 52No. fixed-wing aircraft raids (involving multiple aircraft) against England and south-east Scotland. Note, many more attacks involving solitary fixed-wing aircraft occurred. An estimated total of 9,000No. HE bombs and IBs were dropped, with London and the east Kent towns experiencing the most raids. During the four years long campaign, Britain suffered 4,820No. casualties.

The German bombing campaign of WW1 was significantly smaller in scale than the WW2 campaign, in terms of the number of raids, number of aircraft per raid, and size of bombloads (for fixed-wing aircraft). As it was the first time Britain had experienced aerial bombardment, the small-scale daytime attacks often attracted spectators, which increased the chance of any UXB being observed and reported. When combined with the fact that most WW1 bombsites have been redeveloped, German WW1 UXB finds are extremely rare.

6.1.2 Site-Specific

The wider Lavendon / Warrington area did not experience aerial bombardment during WW1.



6.2 Naval Bombardment

6.2.1 Brief Overview

Several coastal towns in Yorkshire, Norfolk, Suffolk, and Kent were subjected to naval bombardment from German warships during seven raids in 1914, 1916 and 1917. These raids varied in intensity, both in terms of duration (number of shells expended) and calibre of artillery employed. The heaviest attack resulted in >1,000No. shells fired, with the lightest raid expending only several rounds.

The relatively short firing distances during these bombardments resulted in many shells failing to explode, as there was not enough time for some shells to arm themselves before striking the coast. German WW1 UX naval shell finds are extremely rare.

6.2.2 Site-Specific

The wider Lavendon / Warrington area did not experience naval bombardment during WW1.

7 Domestic Military Activity Assessment

7.1 Sources of Potential Explosive Ordnance Contamination

The table below lists all the modern and historical sites and activities that could have potentially resulted in British / Allied UXO and AXO contamination in the UK.

Source of EO	Examples	Associated EO Hazard Items	Relevance
Military Bases and Installations	Army camps, RAF, RN or USAAF airfields, RN shore establishments, signals or communications installations, military training centres, etc.	Various conventional and chemical EO. The types of EO will depend on the type of site and branch of the military utilising it. Plus AXO (SAA, LSA and AA ammunition) for WW2 site defence, if applicable.	INSIGNIFICANT
Military Training Areas and Weapons Ranges	Inland and costal RAF and USAAF bombing ranges. Army / Royal Marines / RAF Regiment etc weapons ranges.	Various conventional and chemical EO. The types of EO will depend on the type of range / training area and branch of the military utilising it.	POTENTIALLY SIGNIFICANT
Munitions and Explosives Factories	Royal Ordnance Factories, National Filling Factories, National Explosives Factories, Royal Naval Cordite Factories, etc.	Various conventional and chemical EO. The types of EO and explosives contamination will depend on the type of factory. Potentially plus AXO (SAA, LSA and AA ammunition) for WW2 defence.	INSIGNIFICANT
Munitions Storage Depots	Royal Naval Armaments Depot, Royal Naval Ordnance Depots, RAF Ammunition Depots, Air Ammunition Parks, Reserve / Forward Ammunition Depots, Central Ammunition Depots, etc	Various conventional and chemical EO. The types of EO potentially present will depend on the branch of the military utilising it. Potentially plus AXO (SAA, LSA and AA ammunition) for WW2 defence.	INSIGNIFICANT
Fortifications and Defence Measures	Pillboxes, fortified houses, various earthworks (e.g. trenches) etc at: Nodal Points, Stop-Lines, VPs, etc.	SAA, regular army LSA, AA ammunition, Flame Fougasse, and Home Guard-specific weapons / ammunition.	UNLIKELY
Military Requisitioned Sites: WW1 and WW2	During WW1 and WW2 many private properties were requisitioned by the War Office for military use, including training.	SAA, regular army LSA and Home Guard specific weapons / ammunition.	POTENTIALLY SIGNIFICANT
Pipe Mines and Conventional Minefields: WW2	Pipe mines and improvised mines at military bases. Conventional minefields at beaches and some Nodal Points.	Canadian pipe mines, various British landmines (AT and AP) and IEDs.	INSIGNIFICANT



RAF and USAAF Crash Sites	Numerous British and American aircraft crashed in the UK, chiefly during WW2. Munitions and ammunition not always fully recovered.	Various conventional air-delivered ordnance (bombs and rockets) and machine gun / autocannon ammunition.	POTENTIALLY SIGNIFICANT
Home Guard Activity: WW2	Volunteer army tasked with home defence during WW2. An armed branch of the British Army. Battalions were active in all British counties.	SAA, regular army LSA, Home Guard specific ammunition e.g. 29mm Spigot Mortar, 3-inch Smith Gun, No.73, No.74, No.75 and No.76 grenades, etc.	UNLIKELY
Anti-Aircraft Weaponry: WW1 and WW2	Light AA (machine gun and autocannon), Heavy AA (QF guns), and ZAA (rocket projectors).	SAA, autocannon shells (20mm, 37mm, 40mm), QF shells (3, 3.7, 4.5-inch), UP rockets (2 and 3-inch).	POTENTIALLY SIGNIFICANT

TABLE 6: Sources of Potential Domestic Explosive Ordnance

7.2 RAF Lavendon - Practice Bombing Range

In 1944, the Air Ministry established a practice bombing range (RAF Lavendon) within the Site boundary. This range was exclusively for use with locally based squadrons of the United States Army Air Force (USAAF).

The original Air Ministry plan / drawing of the bombing range danger area and associated structures is not held by any of the relevant archives. However, alternative research has located some details. The range comprised a standard triangular target marker at the centre of a 600-yard radius danger area. The danger area extent was marked out by two quadrant markers. The range extent is illustrated at **FIGURE 5**. Additional features include a concrete direction arrow (to the south), a range observation building, and several Nissen huts. The range was operational from April 1944 (at the latest) to 1945.

RAF Lavendon was one of numerous small, inland practice bombing ranges established by the Air Ministry for temporary (largely wartime) use. Due to the relative close proximity of villages, live ordnance was strictly forbidden at such ranges. Instead, practice bombs (largely inert) were utilised. Note, the 'Bombs over Bucks' map records wayward USAAF practice bomb strikes in the parishes of Lavendon and Olney, well away from the range target.

The 1946 aerial photograph exhibits linear 'tail-like' ejecta features within the bombing range field. This was likely caused by USAAF practice bombs breaking apart on impact, with the sand fill strewn across the ground in one direction.

An official Ministry of Agriculture & Fisheries record (dated October 1945) lists Lavendon as a practice bombing range recommended for derequisitioning. And an Air Ministry report (dated December 1945) states that the bombing range was derequisitioned except for a small area, by this date (see **FIGURE 6**).

Note, a small number of WW2 bombing ranges in England were designated as locations where Allied aircraft returning from the continent could safely jettison any surplus live bombs before returning to base. RAF Lavendon does not appear to have been one such range.

7.3 Explosives Demolition Ground

The aforementioned December 1945 Air Ministry report alludes to the immediate post-WW2 use of RAF Lavendon and the origin of most of the ground disturbance features visible on the 1946 aerial photograph. Although detailed research has located only cursory references to this post-war use, it is known that between late 1945 and December 1947, the War Office (the government department responsible for the British Army) utilised the former bombing range as a disposal site for surplus ammunition / munitions.

The specific types of ammunition handled / disposed of on Site post-WW2 are unknown. However, as it was a War Office site, it can be assumed that EO of British Army origin was processed here, i.e. WW2-era land service ammunition (LSA) and small arms ammunition (SAA).



One disposal option involved devices being cut open and the HE fill steamed out (melted) during a controlled burn. This would not have resulted in significant EO contamination of soil. The crater features visible on the 1946 aerial photograph confirm that controlled explosions were used. These explosions will have deposited large quantities of inert 'EO scrap' metal (much of which would have been tiny fragments) over adjacent fields. There is also the possibility that some EO was only partially destroyed (still potentially hazardous) or corners were cut and EO was simply buried to speed up the process. Note, examples of the latter option have been found in recent years (through EO finds) at similar sites in the UK.

7.4 Home Guard Activity

As the original operational records (including defence scheme documentation) of the local HG battalion are unavailable, the day-to-day activities of local HG troops are unknown and therefore commentary on any potentially significant activities is limited.

However, it can be said that as no defensive stop-lines, perimeter defences (associated with a fortified urban area or vital point) or areas that could have been requisitioned as ad-hoc live firing ranges were situated nearby, significant HG activity is highly unlikely to have affected the Site.

It is conceivable that HG soldiers accessed the Site during armed patrols, especially during 1940 and 1941 when the invasion threat was highest. However, patrols would not have involved / required LSA (e.g. grenades), with only live SAA (a low hazard EO variant) for rifles and sidearms being carried.

Training exercises in open countryside (not within an established training area) typically involved blank SAA and battle simulants (e.g. smoke grenades and pyrotechnics), neither of which pose a significant EO hazard. Therefore, although the possibility that such items were accidentally dropped or intentionally discarded on Site cannot be discounted, the potential EO hazards involved are low.

7.5 Aircraft Crash Sites

On the 6th October 1944 a Vickers Wellington X (medium bomber aircraft) serial No: LN536 of No.12 OTU (Operational Training Unit) based at RAF Chipping Warden crashed locally at 22:45hrs with the loss of all six crew on board. The aircraft experienced an engine fire and exploded above Lavendon village with most of the wreckage falling about half a mile from the village (precise position not known). For some time, no one could approach the wreckage because of exploding ammunition.

As the Site's southeast extent was situated approximately half a mile from the village, it is conceivable (although unlikely) that the wreckage fell here, however the likelihood that this OTU aircraft was carrying live bombs at the time is very low. The aforementioned ammunition was almost certainly SAA or practice bombs.

On the 21st January 1957 a de Havilland Vampire crashed in a field close to Lower Farm, Lavendon (southeast extent of the Site), however as this trainer aircraft was on a navigational exercise at the time, it is highly unlikely to have been carrying live EO.

7.6 British Anti-Aircraft Weaponry

7.6.1 WW1

AA artillery was in its infancy during WW1 and therefore British AA gun deployments were on a far smaller scale than during WW2. Initial activity saw guns installed on top of some buildings and at other key facilities in London and Kent during 1914. By the end of WW1, the London Air Defence Area comprised 286No. guns.

London was the most heavily defended region. Some other cities were defended; however Kent had the most AA batteries outside of the capital. Note, many of Britain's AA guns were not static. Single guns were mounted on trucks and moved around. RN installations also received protection. At the beginning of the conflict, 58No. guns were distributed between naval facilities at Dover, Harwich, Liverpool, the Tyne and the Humber.



The 3-inch QF gun was the mainstay of British AA artillery. UX 3-inch shells typically landed between 8km and 10km away. The smaller calibre 1-Pounder QF autocannon was also used in the LAA role.

7.6.2 WW2

During WW2, the British Army's AA Command utilised three types of AA weapon for home defence: heavy AA (HAA) guns, light AA (LAA) guns, and Unrotated Projectile (UP) rocket projectors. From 1940 to 1945, BD units dealt with approximately 7,000No. UX AA projectiles in the UK, however such UXO is still unearthed today.

- ▶ HAA Guns: The vast majority of HAA guns (3.7 and 4.5-inch calibre) were deployed in static batteries of between four and eight guns. HAA batteries were used to engage bombers at high altitudes and were the main constituent of most city's (and some town's) Gun Defence Area (GDA). Mobile gun mounts were also available for temporary deployments to key military and civilian targets. Note, a very small number of British 5.25-inch guns were deployed from 1942 onwards, as well as batteries of US Army 90mm guns during 1944.
 - Some 2,000No. of these guns were available during the 1940 / 1941 Blitz. GDAs could expend vast quantities of ammunition during each engagement. The most numerous 3.7-inch gun variant had a firing ceiling of approximately 9km. Although a number of factors will have affected the range of falling UX shells, most typically landed 10km to 15km away. Note, greater distances were achievable.
- LAA Guns: Smaller calibre guns (machine guns, 20mm and 40mm autocannon) were used for point (individual target) defence of strategic targets / vulnerable points (VPs). At the time, government policy mandated that (where possible) every VP should be protected, however in reality, a chronic shortage of effective LAA guns (autocannon) during the early years meant that only priority VPs received adequate protection. These smaller guns were easily transportable, and LAA regiment deployments were often temporary. British WW2 40mm guns had a firing ceiling of approximately 7.1km. Although a number of factors will have affected the range of falling UX shells, most typically landed <10km away.
- ▶ ZAA Rockets: A ZAA battery comprised a grid of typically 64No. UP rocket projectors firing single and (later) multiple 2-inch (UP-2) and 3-inch (UP-3) rockets in a volley, creating a 'box of effect' at preselected altitudes. Although a number of factors will have affected the range of falling UX rockets, they typically landed within 10km of the battery.

Prototype ZAA weapons were fielded in late 1940 and deployed in cities around Britain from 1941. However, they were only deployed in significant numbers after the initial nine-month Blitz campaign had ended. Consequently, ZAA batteries saw far less action than AA guns. By the end of the war, >50No. ZAA batteries were operational across Britain.

7.6.3 Site-Specific

- ▶ No static AA gun batteries were established within firing range of the Site during WW1 and the likelihood of temporary mobile AA gun deployments to the local area is low. The associated UXO risk to the Site can be discounted.
- ▶ 2No. HAA gun batteries (totalling at least eight gun emplacements) were established within firing range of the Site during WW2. However, as local Luftwaffe activity was infrequent and low intensity, these guns almost certainly expended an insignificant quantity of ammunition.
- ▶ No LAA gun sites armed with significant weapons (20mm or 40mm calibre autocannon) were deployed within firing range of the Site during WW2. Three local military airfields will almost certainly have relied solely on machine guns for LAA defence, with the associated ammunition (SAA) posing no UXO hazard.
- ▶ No ZAA rocket batteries were active within firing range of the Site during WW2.



7.7 Explosive Ordnance Hazards Overview

7.7.1 Introduction

The following subheadings detail the EO hazards most likely to be relevant to the study area. Note, this is not an exhaustive list of potential local EO contaminates.

7.7.2 Artillery Projectiles: Anti-Armour and Anti-Aircraft

AT guns, AA guns, and howitzers have been in use with the British Army for over a hundred years. The former ranged from the Ordnance QF 2 Pounder (40mm) to the Ordnance QF 17 Pounder (76mm) in calibre. The latter ranged from the Ordnance QF 25 Pounder (87.6mm) to the BL 60 Pounder (127mm). HAA gun calibres are medium. Note, from 1942 / 1943, many HG units were armed with a variety of small / medium calibre AT guns.

A wide variety of artillery projectiles have been deployed in the UK historically, by British and allied nation armies. In general, projectiles fall into two categories; shot and shell. The former are inert; solid metal projectiles containing no hazardous element, whereas the latter are hollow (like bombs), containing a variety of potentially hazardous fills.

Solid shot falls into four categories, mainly for gun proofing, target practice, and AT use, however as they are inert they are relatively irrelevant with regards to present day UXO risk. Historically, there were three types of WW2-era British artillery shell:

- ▶ Bursting Type The filling (or part of it) caused the shell to burst. The most common filling was HE where the shell caused damage to material by the force of the burst or to personnel and aircraft by fragmentation of the shell casing producing shrapnel. WW2 HAA shells were of the bursting type. Note, bursting shells were also used with chemical fillings.
- ▶ Shrapnel Type These usually burst in the air and projected their 'payload' forwards acting like a shotgun. The usual payload was shrapnel bullets however Thermite 'pots' were used during WW1. By the start of WW2 shrapnel shells were obsolete for field artillery.
- ▶ Carrier Type These also burst in the air, however ejected their payload backwards after blowing the base plate off the shell. The most common fills used were smoke, star and flare shells. The latter two being designed to illuminate an area or target. Smoke shells were used to produce smoke screens and used various fillings (the most common being white Phosphorus).

Artillery projectiles were always painted, this protected the steel from rust but was also used to indicate the nature of the ammunition. The basic body colours for artillery were; Yellow (HE), Light Green (smoke), Black (Flare / Star) and Grey (chemical). Note, artillery shell fuzes found on their own can also represent a hazard. Although small, such items can contain enough HE to cause serious injury if mishandled.

With regards to HAA shells, British mechanical time-delay and barometric pressure fuzes of WW2 were poorly designed, resulting in high HAA ammunition failure rates (around 30%) during 1940 and 1941. By 1944 however, new fuzes had reduced the rate to approximately 2%.

Unlike bombs, AA shells were not designed to strike the ground nose first and therefore UX AA shell strikes on soft ground did not always create recognisable circular entry holes. This, combined with their lower mass (compared to a UXB) resulted in shallower ground penetration depths, typically <1.0m bgl in soil. Although, in very soft / saturated ground, UX HAA shells were observed to penetrate to >1.5m bgl.

Data sheets detailing examples of this EO type are displayed at APPENDICES 2 and 3.



7.7.3 Grenades

Grenades are the most commonly encountered type of WW2-era British LSA in the UK. Other types of LSA include mortars, artillery projectiles (e.g. AT guns), infantry rocket systems and mines (AP and AT).

Hand grenades and rifle (projected) grenades are small devices with a delay fuze that detonates three to five seconds after initiation / launch. They are divided into two categories, explosive (fragmentation or blast) and carrier. The latter are used for signalling (smoke) and incendiary (chiefly white phosphorus for AP and AT use).

A wide variety of grenades have been deployed in the UK historically. The first modern British fragmentation grenade (the Mills Bomb) was used from 1915 onwards, with later models used well into the post-WW2 period. Consequently, this model accounts for the majority of UX grenade finds in Britain. A Mills Bomb (the No.36 grenade in British service) is approximately 95mm x 61mm and contains approximately 71g of HE.

Another common UK grenade find is the No.76 Self-Igniting Phosphorus (SIP) grenade. These cheap and simple devices comprised a glass bottle (152mm x 63mm) containing a composition that reacts with air (when broken) creating an intense white phosphorus incendiary effect (burns hazard). They equipped most HG units during WW2.

Data sheets detailing examples of this EO type are displayed at APPENDIX 3.

7.7.4 Mortars

A mortar is a compact infantry support weapon that fires a projectile (mortar bomb) in a high-arcing ballistic trajectory, at low velocity. The first British mortars were used during WW1.

A mortar bomb / round is usually tear-drop shaped or cylindrical, nosed-fused and fitted with its own propelling charge. A small tail fin assembly stabilises the round in flight and a 'spigot tube' containing the propellant charge is screwed or welded to the base of the round.

During WW2, the 2-inch and 3-inch calibre mortars were the most commonly used by the British Army. These systems utilised several different types of ammunition (HE, smoke, illumination, signal, chemical and drill). The most commonly deployed round (the 2-inch HE variant) weighed approximately 1kg, 200g of which was the HE bursting charge. As such, mortars pose a hazard similar to grenades.

Data sheets detailing examples of this EO type are displayed at **APPENDIX 3**.

7.7.5 Autocannon Shells (LAA)

In Britain, two types of autocannon were used in the LAA home defence role by the Royal Artillery and later the RAF Regiment, the Hispano (20mm calibre) and Bofors (40mm calibre). These guns are similar to machine guns, however fire larger calibre rounds at a lower rate of fire (<750 rounds / min and 120 rounds / min, respectively).

Although cannon ammunition looks similar to SAA, these larger projectiles incorporate a small, simple impact fuse and hazardous charge. 20mm projectiles were typically 41mm in length and included a 6g - 11g HE and / or incendiary composition charge. 40mm projectiles were typically 130mm in length and included a 70g HE charge. Although small, when compared to artillery shells, each projectile still has the potential to cause serious injury.

Most WW2 autocannon ammunition incorporated a self-destruct mechanism, detonating the projectile after five seconds if no impact occurred. This resulted in less collateral damage and far less unexploded shells falling back to earth. If this mechanism failed, a UXO strike would occur at ground level.

Data sheets detailing examples of this EO type are displayed at APPENDIX 2.



7.7.6 Small Arms Ammunition

SAA (or bullets colloquially) is primarily cartridge-type ammunition with a calibre of <20mm. Each 'round' comprises a cartridge case, projectile (bullet), propellant and primer. Side arms (pistols), rifles and light to heavy machine guns utilise SAA.

Generally, SAA poses a relatively low EO hazard due to the small amount of explosive contained within the cartridge case and the low sensitivity / stable nature of the complete round. Although a cache of unspent rounds subjected to high temperatures (e.g. fire) could function and create a hazard.

Expended SAA (the projectile) is almost always solid shot, i.e. inert. Note, During WW1, experimental incendiary and explosive .303-inch SAA saw limited use with the Royal Flying Core and the RAF. Consequently, such SAA encounters today are very rare.

In the UK, the most commonly encountered historic SAA is .303-inch calibre. This was the standard cartridge used by British and Commonwealth armed forces from 1889 until the 1950s. However, many other calibres have been deployed in the UK by British and Allied forces.

7.7.7 USAAF Practice Bombs

During WW2, the USAAF used larger practice bombs than the RAF. By far the most numerous type was the Mk38A2 model, weighing 100lb. This sand filled bomb was painted blue and incorporated two different types of spotting charge, for day or night training. The M1A1 spotting charge (night training) included 3lb of black powder, whereas the M3 spotting charge (day training) comprised a ~2.3lb dark smoke emitting composition with a small (425 grains) black powder igniter. The M85 bomb used the same casing as the Mk38A2 model, however with a concrete filling.

There were several other smaller practice bombs (cluster / sub-munitions) for more specialist training, e.g. the M71 parachute fragmentation bomb, however these were used in small numbers on UK bombing ranges. Furthermore, their hazardous charges were smaller than that of the ubiquitous Mk38A2 model. USAAF practice bombs pose a relatively low hazard due to their inert main 'charges'.

A data sheet detailing the most common WW2-era USAAF practice bomb is displayed at APPENDIX 4.

7.7.8 RAF Practice Bombs

During WW2 the RAF used two types of practice bomb. Service bomb shells loaded with water or a chalk lime solution (for high altitude training) and dedicated small practice bombs (for low altitude training). The former were inert and used in very small numbers. The latter however, although small, contained hazardous material. There were four sizes, 8.5lb, 10lbs, 11.5lbs and 25lbs. The smoke-filled variant was used for daylight practice with the flash (explosive) filled variant for night. Post-war finds indicate that the smoke type of bomb was more commonly deployed.

The flash bombs only contained a 1lb back powder (a type of low - not high - explosive) charge which although small is nevertheless still potentially dangerous, if handled incorrectly. The smoke bombs contained a liquid that poses a corrosive chemical hazard. Note, both bombs also contained a very small explosive detonator.

A data sheet detailing WW2-era RAF practice bombs is displayed at APPENDIX 5.



8 Explosive Ordnance Migration

8.1 Introduction

Any fill material deposited on a site is unlikely to be contaminated with EO, as the material will have experienced excavation, transport, and processing during which any large objects are likely to have been observed and removed. However, EO encounters within such material do occur, confirming that items can be missed.

One known reason is WW2 Blitz rubble. The Blitz resulted in vast quantities of bombsite rubble. This material was put to use in a variety of ways. >750,000No. tonnes of London's rubble were used to build runways for new military airfields and Liverpool's rubble was used to create and maintain flood defences throughout Merseyside. Blitz rubble was also commonly used for smaller scale construction works, immediately following WW2.

In 2010, two German HE UXBs were encountered in, what was later identified as, Blitz rubble at a Plymouth building site. Such incidents are rare however, and such contamination is much more likely to take the form of smaller items e.g. UX AA projectiles or UX 1kg / 2kg German IBs.

8.2 Site-Specific

No evidence of such activity found. It is highly unlikely that any Blitz rubble or any other EO-contaminated material was inadvertently deposited on Site historically.

9 Local Explosive Ordnance Encounters

9.1 Introduction

Even if research does not identify potential sources of EO contamination at a given site, knowledge of a recent EO encounter in the vicinity could indicate an elevated risk at that site. EO encounters on civilian land are often reported in the media and therefore a web search of media outlets was carried out.

9.2 Site-Specific

9.2.1 Archaeological Magnetometer Survey

Prior to the aforementioned archaeological trenching works, an archaeological non-intrusive magnetometer survey of the Site was carried out, which modelled numerous ferrous anomalies as potential EO items (see survey results map displayed at **FIGURE 7**). The area of highest density was the field containing the former explosives disposal ground / the practice bombing range target and its environs. Numerous sporadic potential EO anomalies are plotted throughout the wider Site.

9.2.2 Intrusive Archaeological Survey

EO risk mitigation measures were employed in support of these recent ground works, provided by a UXO risk management contractor. In addition, prior to ground works commencing in the fields around the former explosives disposal ground, an EOD engineer carried out a surface search. The results of both these activities were shared with IAL and are summarised below.

9.2.3 Walk Over Survey

The search area (divided into four sections, Areas 1 to 4) is illustrated at **FIGURE 8**. The field containing the former explosives demolition ground and practice bombing target marker (Area 3) was found to be heavily contaminated. Numerous items were found on the surface.



Items found:

- ▶ 71No. ANM-104 fuzes (USAAF bomb component)
- ► 5No. ANM-103 fuzes (USAAF bomb component)
- No.1 Mk221 fuze (USAAF bomb component)
- 2No. arming vanes (USAAF bomb component)
- ▶ 2No. pieces of (destroyed) British Army mortars one smoke type, one HE type
- 3No. British RAF 4lb IB nose weights (bomb component)

Key Findings:

All EO / EO-related items found were free from explosives.

Areas 2 and 3 showed the greatest surface contamination.

Over 90% of surface EO related contamination was the AN-M104 nose fuze.

All AN-M104 fuzes identified had safety pins fitted and showed signs of being part of a bulk demolition.

The safety arming pins and arming cups on the fuzes remained intact, suggesting the items were part of a demolition rather than being dropped from the air and armed, as originally intended. The only exception was the MK221 nose fuze, where both the arming cup and internal components were missing, making it impossible to determine the mechanism of detonation.

Strong magnetometry signals detected throughout the search area indicate significant subsurface contamination.

9.2.4 EOD Engineer 'Watching brief'

The contractor provided an EOD engineer 'watching brief' service during archaeological trenching within Areas 1, 2 and 4, as well as a few other fields surrounding Areas 1 to 4. It was decided that no archaeological excavations should be carried out within Area 3, due to this being an especially high threat area (i.e. significantly elevated likelihood of encountering intact items of British LSA and potentially other munitions).

Over 50No. USAAF practice bombs were unearthed during the very shallow depth excavations. The positions of the most numerous EO type (USAAF practice bomb - type Mk38A2) are plotted at **FIGURE 8**. Note, a few more of this EO type were found during trenching in the other fields.

Key Findings:

All Mk38A2 bombs uncovered were very heavily corroded, with many disintegrating during investigation.

All Mk38A2 bombs uncovered had no residual black powder charge. Presumably they either functioned as intended or for any UXBs, corrosion resulted in expose of the powder to moisture.

It would be assumed that Area 3 (the field containing the WW2 practice bombing target marker) would have the highest density of practice bombs.



10 Site-Specific Risk Assessment

10.1 Introduction

Two key Site-specific considerations must be assessed, the likelihood of an EO linkage (source-pathway-receptor) becoming complete and the severity of the resulting consequences. The 'likelihood' consideration itself is a function of the likelihood of contamination, the degree of subsequent risk mitigation (if any), the likelihood of encounter and the likelihood of initiation. These factors (in relation to the Site) are assessed at **Headings 10.2 to 10.5**.

10.2 The Likelihood of Contamination

10.2.1 Hazard Items

The table below details the most common EO types encountered in the UK today. The / those EO type(s) relevant to the study area (the Site-specific hazard item / items) are:

- USAAF practice bombs (possibly also RAF practice bombs)
- British LSA
- British SAA
- German UXBs
- British AA shells

Note, as a few components of WW2 RAF 4lb IBs have been found on Site (on the surface of the former explosives demolition ground), it is likely that other similar finds and the possibility cannot be completely ruled out that live RAF munitions remain buried here today.

EO Type	NEQ or Incendiary Hazard	Likely Contamination Depth	Hazard Class	
German HE 'iron' bombs	25kg to 220kg HE (most common) 530kg to 990kg HE (least common)	Deep (3.0m to 10.0m+)	Very High	
German 41kg and 50kg Incendiary 'iron' bombs	13kg incendiary composition or 7kg HE	Shallow / Deep (2.0m to 6.0m)		
British HE HAA Shells and Rockets	1.1kg - 2.2kg HE	Shallow (0.5m to 2.0m)	High	
Some British HE Land Service Ammunition	1 - 2kg HE			
Some British HE Land Service Ammunition <1kg HE		Very Shallow (<1.0m)	Moderate	
German 2kg Incendiary + HE Bombs			Moderate	
German 1kg Incendiary Bombs	680g thermite	Very Shallow (<1.0m)	Low to	
British HE LAA Autocannon Shells	9 3		Moderate	
British Small Arms Ammunition	Small quantity of black powder. Inert projectile or <1g incendiary composition	Very Shallow (<0.5m)	Low	

TABLE 7: Most Common Hazard Items



10.2.2 Subsequent Detection

There are many variables that affect the likelihood that a German UXB or British UX AA projectile strike was detected and reported, either as it fell to the ground or subsequently. Accurately assessing the precise conditions that existed at a given site >75 years ago is problematic. The most pertinent variables are addressed below.

Historic Ground Cover	
Risk Elevating Ground Cover	Site-Specific Comment
Bombsite: a UXO strike to a building in ruin will likely have remained undetected. The entry hole of a UXB will have been easily obscured under the rubble / debris. However, a small UX AA projectile or UX 1kg / 2kg IB may not have achieved ground penetration, instead coming to rest within the rubble.	n/a
Water: UXO landing in a stream, canal, river, pond, lake, or the sea would have been immediately lost beneath the waterline and would not have resulted in any persistent evidence of its incidence.	n/a
Soft / Waterlogged / Unconsolidated Ground: a UXO entry hole within marshland, tidal riverbank sediment, tidal coastal sediment / sand dunes, etc will have closed up / collapsed relatively soon after it occurred.	No evidence found.
Dense Vegetation: Peripheral unmaintained vegetation or woodland in an urban location. Or rural forest, heathland, etc. A UXO entry hole within inaccessible vegetation could have been overlooked. Note, WW2-era woodland obscures the view of the ground cover beneath and therefore it must be assumed that vegetation exists beneath the canopy.	No significant quantities.
Arable Land: a field under dense crop growth or ploughed soil. A UXO entry hole within this dense foliage or broken soil could have been overlooked.	The whole Site.
Risk Reducing Ground Cover	Site-Specific Comment
Undamaged Building / Structures: any UXO strike would have caused substantial damage and incontrovertible evidence of the incident.	One farmstead. WW2 condition unknown.
Undamaged Hardstanding: A UXO strike on historic hard surfacing (roads, pavements, commercial yards, etc) would have created an easily recognisable entry hole.	n/a
Maintained Grass Lawns: a grass lawn known to have been in use throughout WW2 and therefore subject to regular grounds maintenance, e.g playing fields, parkland, sports pitches, golf course fairways. A UXO strike would have created an easily recognisable entry hole.	n/a
Less Easily Assessed Ground Cover Types	Site-Specific Comment
Waste / scrap / aggregate etc storage area: a UXO strike to a heap of unconsolidated material could have collapsed / become obscured. However, if the ground cover beneath was hard surfaced, a large UXB entry hole could have been subsequently observed and reported.	n/a
Wasteland: the ground cover on such land may not be easily identifiable. Weed-covered bare earth or broken up made ground could conceivably obscure a UXO entry hole. Alternatively, a UXO strike to hard unvegetated earth could have been recognisable.	n/a
Railway Tracks: a small UXO entry hole within unconsolidated track ballast material in between tracks could conceivably have collapsed. Alternatively, a large UXB strike to rail track would have caused obvious damage.	n/a



Quarry: clay pit, gravel pit, etc. The type and condition of the ground cover might not be easily identifiable. Note, disused quarries could easily become flooded.

n/a

TABLE 8: Historic Ground Cover

Historic Site Occupancy and Access	
UXO Observed as it Occurred	Site-Specific Comment
Air Raid Timing: If most local air raids occurred during the hours of darkness, there is a greater chance that any UXO fall occurred unobserved. If the study area only experienced daylight attacks, there is a greater chance that any UXO strike was witnessed as it occurred.	The one potentially significant air raid occurred during the hours of darkness (evening).
Population Density: If the study area was sparsely populated, there is a greater chance that any UXO strike could occur unobserved. Within a densely populated built up area, the opposite is true. Note however, most people would have been sheltering during large scale night raids.	The wider study area was sparsely populated.
Civil Defence and Military Defence: Many vital facilities (factories, dockyards, etc) had their own teams of Fire Watchers tasked with extinguishing small IBs. These observers would have also reported any UXB strikes. AA batteries, searchlight batteries, barrage balloon sites, and Royal Observer Corps posts. Associated personnel would have reported any UXB strikes.	There was a Royal Artillery searchlight battery just ~130m west of the Site. During its period of operation (timing unknown), the military personnel based here would have been on stand-by every night, throughout the night to engage any Luftwaffe aircraft. Therefore, any bombs dropped locally (including UXBs) will almost certainly have been witnessed and reported. Note, as bombing range became operational after all local air raids had occurred, this establishment and its personnel are irrelevant.
Civil Defence Requisition: many schools, churches and other public buildings in frequently bombed areas were requisitioned by Civil Defence for use as first aid posts, reception centres and canteens for bombed out civilians. Such buildings were therefore in use during night raids.	n/a
UXO Subsequently Observed	Site-Specific Comment
Bomb Damage: If substantial bomb damage occurred, parts or all of a site would have been abandoned for the remainder of the war. Any subsequent evidence of a UXO strike is more likely to have remained unobserved for a significant period.	n/a
Site Occupancy: If a site was occupied by buildings that survived the war intact, it likely remained inhabited or in use during the bombing campaign. Probably accessed on a daily basis, evidence of a UXO strike is highly unlikely to have gone unreported. Undeveloped sites could have been neglected for significant periods. Any UXO is more likely to have remained unobserved and gone unreported.	The Site will have only experienced infrequent accessed (agricultural activities) between 1940 and 1943.
UXB Searches: the Luftwaffe used delayed-action (DA) bombs, designed to detonate up to 72hrs after impact. As a result, ARP wardens, residents and workers often carried out specific searches for DA / UXB entry holes within the environs of their buildings, following local raids. Undeveloped isolated land is unlikely to have been searched.	The Site would not have been routinely / regularly searched for UXB entry holes throughout WW2.

TABLE 9: Historic Site Occupancy and Access



10.2.3 Site-Specific Conclusion

British EO:

Only practice bombs (low hazard EO variant) were authorised for use at RAF Lavendon, partly due to its close proximity to a village. Although official RAF records report occasions when inexperienced USAAF aircrew (newly arrived in England) accidentally released live HE bombs over the wrong bombing range, no evidence of such an incident at Lavendon was found, and as Lavendon was a practice range exclusively used by USAAF squadrons, such an incident is considered highly unlikely.

Official RAF records relating to another WW2 practice bombing range (similar to RAF Lavendon) confirm 16No. incidents of wayward practice bombs falling in and around a village up to ~1.37km east of the range target marker. This highlights the inaccuracies of WW2-era bomb aiming in Britain during training sorties. It suggests that practice bombs could conceivably have landed anywhere on Site, well beyond the perimeter of the 600-yard radius danger area. Indeed, wayward practice bomb strikes were recorded in Lavendon village during WW2. Although it can be assumed that the likelihood of such EO contamination decreases as the distance from the bombing target marker increases.

The explosives demolition ground will have seen various EO types burnt, destroyed (controlled explosions) or simply buried (unauthorised disposal). Recent experience (EO finds) at similar sites in the UK indicates that the latter option probably resulted from military personnel cutting corners to speed up the processing of huge quantities of EO in the immediate post-war period.

Controlled explosions will have deposited large quantities of inert 'EO scrap' metal (much of which would have been tiny fragments) over the demolition ground and adjacent fields. However, the possibility that some EO was only partially destroyed (still potentially hazardous) or was simply buried on land neighbouring (just outside the official demolition ground area) cannot be discounted.

The types of all EO disposed of on Site are not known. As a War Office site, one might assume that it was all of British Army origin. However, as numerous USAAF fuzes (from live bombs) have been found in this area as well as components of RAF IBs, it is likely that a wide variety of EO (British and American) was processed at this explosives demolition ground.

Although two HAA gun batteries were located within firing range of the Site during WW2, the likelihood that any unexploded AA shells fired from these batteries fell within the Site boudnary, is very low.

German UXBs:

The Site experienced a low bombing density during WW2, with research identifying a single aircraft sortic incident (one or more 1kg / 2kg IB clusters) in the wider study area (500m radius from the Site boundary). However, the records do not contain the level of detail required to deduce whether this aircraft flew over the Site. Although unlikely, it is conceivable that this aircraft released a HE bomb over the Site which struck the ground as a UXB.

Had a German HE UXB been released over the Site, it could have occurred unwitnessed and the entry hole could have gone undetected. Note, the Site was isolated, infrequently accessed farmland potentially occupied by tall / dense crop growth which could obscure a UXB entry hole from view. However, the likelihood of a HE UXB strike to the Site in the first instance is low.

If the reported 1kg / 2kg IBs fell in the south of the Site, any UXBs are unlikely to have passed unnoticed. As these bombs were dropped in clusters, those IBs that functioned as designed would have created clear evidence of this type of bombing incident (burnt vegetation / scared ground), with a subsequent investigation / search by ARP wardens and farm workers almost certainly recovering all unexploded examples. That said, if dropped from a significant height, these lightweight UXBs were able to fully penetrate soft soil, leaving only a very small (easily obscured) entry hole.

It is of course conceivable that a second German aircraft flew over the local area and released a single bomb that stuck the Site unwitnessed and failed to detonate, thereby leaving no recordable evidence of the air raid. However, the probability of such a scenario occurring is extremely remote.



10.3 Degree of Risk Mitigation

10.3.1 Ground Works

Ground works on an EO contaminated site could have resulted in the partial or complete removal of the buried EO threat. If EO was uncovered during intrusive ground works, the incident would have been reported and dealt with by the armed forces. Note, it is usually not possible to accurately determine the volume of soil disturbance associated with historic or even recent ground works at a given site.

10.3.2 Explosive Ordnance Clearance

EOC was not as effective historically as it is today. Surveys were not always undertaken to set parameters and degrees of certainty. Recent EO finds on land known to have been previously surveyed for EO confirm that older detection equipment was ineffective. Furthermore, some EOC tasks did not result in 100% clearance of all EO, by design. Magnetometer surveys can be calibrated to ignore magnetic anomalies that model under a certain mass.

A standard notice accompanying British Army EOC documentation states that 'the presence of EO can never be completely discounted. Although considered unlikely, there still remains the possibility of buried or stray [EO] items.' EOC tasks are not conducted on all MOD land prior to disposal / sale. An EOC task will only be carried out on land where there is a known risk of EO contamination, e.g. a former firing range.

IAL has access to a database of historic EOC tasks carried out by the British Army's 33 Engineer Regiment EOD (now part of 29 EOD&S Group). However, this database is only complete up until the early 2000s and only provides basic details on each task. Freedom of Information requests lodged by IAL confirm that the MOD will almost always withhold any historic EOC task documentation for civilian sites in the UK.

10.3.3 Site-Specific Conclusion

Ground Works: Post-WW2 / Post Military Use	Site-Specific Comment
EOC Activity: evidence of EOC task(s) affecting the Site. Or, is there an increased chance that the Site has experienced partial or complete EOC?	No evidence found.
Phases of Development / Redevelopment: How many phases of ground work have affected the Site?	None.
Greenfield Land: Does the Site contain any significant areas of undisturbed greenfield land?	Yes, the whole Site.
Very Shallow Buried EO: Have any parts of the Site experienced very shallow level soil / made ground disturbance? e.g. demolition works, soil stripping, site enabling works, minor grading, agricultural ploughing, etc.	Confirmed evidence of agricultural ploughing.
Shallow Buried EO: Have any parts of the Site experienced shallow level soil disturbance? e.g. grading works, strip / pad foundations, buried services installation (drainage), etc.	Unlikely.
Deep Buried German 'Iron' UXBs: Have any parts of the Site experienced deep level soil disturbance? e.g. bulk excavations (basement levels), dense pile layout, installation of large subsurface tanks, cut and fill, etc.	Highly unlikely.



Conclusion

MoD responses to FOI requests confirm that they will not search for or release to the pubic any historic records of British Army or RAF EO clearance tasks relating to RAF Lavendon. However, as this was a practice bombing range (assumed to pose a low EO hazard), it is quite possible that no such range-wide EO surveying / clearance tasks were ever carried out post-WW2. And as the explosives demolition ground was a location where EO was disposed of, it will have been assumed that no EO contamination could have persisted after disposal activities ceased in 1947, and therefore a subsequent survey of the site by EOD engineers would have been unnecessary.

Recent aerial photographs confirm evidence of arable farming activity within the field containing the explosives disposal ground and bombing range target marker and neighboruing fields. However, numerous EO-related items remain on the surface here and magnetometer surveying confirms very high density buried contamination as well. Assuming this land has been ploughing multiple times, this soil disturbance has had no risk mitigating effect.

Even if bombing range personnel did search parts of the Site for 'dud' practice bombs, the soft ground conditions may have seen such UXO fully penetrate the soil, making recovery more difficult. Any such bombs may have been simply abandoned. Note, no empirical data on the penetration depths of USAAF practice bombs is available. However, as RAF practice bombs (weighing considerably less) are known to have penetrated topsoil / surficial geology to 1.3m bgl, it can be assumed that a USAAF practice bomb could be encountered intact at greater depths on Site.

TABLE 10: The Degree of Risk Mitigation: Site-Specific Comments

10.4 The Likelihood of Encounter

10.4.1 Introduction

The likelihood of an EO encounter at a given site will vary depending on the hazard items, the EO burial depth and the type(s) of intrusive methodology employed. The greater the volume of soil disturbed within the Zone of Potential EO Contamination (ZPC), the greater the likelihood of an EO encounter.

Most domestic AXO and UXO (LSA and SAA), British UXAA projectiles and small (1kg and 2kg) German IBs will typically be encountered at very shallow or shallow burial levels (<1.0m and <2.0m). Whereas heavy German 'iron' bombs will typically be encountered at deeper levels.

The ZPC is defined as the site-specific volume of soil which could contain EO. The size of a ZPC will depend on the history of the site. At a site where the hazard items are German UXBs only, the ZPC will exist between just below WW2 ground level and the maximum BPD. Alternatively, at an active military site where the threat items are known to be British AXO only, the ZPC will exist between just below present-day ground level and approx. 1.0m bgl.

The smaller the mass of the individual EO threat item, the shallower the likely 'as found' depth, generally speaking. There are however some noteworthy exceptions regarding German 'iron' UXBs. In extreme cases, heavy UXBs can be encountered at shallow depths (see **Heading 4.2.5**).

10.4.2 Bomb Penetration Depth Calculations

To calculate BPDs for a given site, one must make assumptions based on the most likely bomb impact scenario:

- ▶ Impact Velocity: The majority of German HE bombs dropped on the UK resulted from large-scale carpet-bombing raids. These attacks were carried out at altitudes exceeding 5,000m which would have resulted in a 500kg HE UXB impacting the ground at approximately 260m/s.
- ▶ **Impact Angle:** Luftwaffe high altitude bombing resulted in bomb impact angles of 10 to 15 degrees from the vertical. Note, it will be assumed that the bomb was stable at the point of impact.
- **Bomb Design:** Some larger German bombs had metal 'Kopfrings' fitted around the nose of the bomb to limit ground penetration. It must be assumed that no such retarder units were fitted.



10.4.3 Site-Specific Maximum Bomb Penetration Depth

As the proposed ground works will not involve any deep level (>3.0m bgl) intrusions, a Site-specific calculation of the maximum BPD is unnecessary.

10.4.4 Site-Specific Conclusion

- The likelihood of encountering hazardous EO (undamaged, live devices) is probably limited to the former explosives disposal ground field and its environs the primary area of potential concern. USAAF practice bombs could be (and have been) encountered in fields beyond this area. This secondary area of potential concern cannot be easily demarcated as it relates to wayward bomb drops by trainee air crew. It is conceivable that USAAF practice bombs could be encountered anywhere on Site.
- As numerous USAAF practice bombs have been encountered within archaeological trenches on Site, it can be assumed that all future intrusive works (even those disturbing very shallow depth soil only) would be exposed to encountering this type of EO. If a cache of complete EO devices (buried not destroyed) exists within the primary area of potential concern it would also likely be encountered at shallow depth.
- ▶ If a German aircraft flying at average or higher altitude released even the smallest / lightest German HE UXB over the Site, it would almost certainly have penetrated the soil and geology on Site to depths beyond the reach of the planned mechanical excavations. Note, most of the Site area was underlain by topsoil and a layer of superficial Diamicton geology (almost certainly soft / unconsolidated at this shallow depth).
- ▶ If piled foundations are utilised, the likelihood of forcefully encountering / striking EO is greater due to the 'blind' nature of such intrusive methodologies. Note, during 'open' mechanical excavations an item of EO could be partially unearthed without the excavator bucket striking it. At which point, work could be halted if the suspicious object were to be spotted.

10.5 The Likelihood of Initiation

10.5.1 Introduction

The likelihood of initiating EO depends on the type of EO and how aggressively it is encountered. Various types of EO buried in the UK require an impact, vibration or heat to initiate. Most EO contains a fuze and most fuzes contain a small quantity of shock-sensitive primary explosive. An impact to a fuze can therefore cause it to initiate, in turn detonating the main explosive charge.

German UXBs buried in the UK do not spontaneously self-detonate. The vast majority of German WW2 'iron' bombs contained an electrical fuze. Decades of burial (exposure to environmental conditions) will have caused these fuzes to corrode and lose their electrical charge. Consequently, during any such UXO encounter, it would be almost impossible for the fuze to initiate via its original (electrical) explosive train.

In theory, German UXBs could still initiate if the bomb were impacted with enough force. Percussive piling and boreholing are engineering works that could impart enough force to detonate the main explosive charge of an EO, without requiring the fuze to function. Furthermore, the 'blind' nature of these intrusions elevates the likelihood of an EO impact.

Excavators and loaders impart less energy via their buckets and site workers might be able to notice a partially unearthed EO and halt works prior to an impact. For these reasons, IAL conducts separate risk rating calculations for different intrusive methodologies.

During WW2, the Allied air forces used mechanical (not electrical) fuzes, which pose a greater long-term UXB hazard on the continent. Furthermore, in Germany, 1No. buried Allied WW2 HE bomb per year (on average) self-detonates due to degradation of the chemical detonator in its time-delay fuze.

Sensitive types of EO include German 2kg (mechanically fuzed) 'Butterfly' bombs, types of British (mechanically fuzed) unexploded LSA ('blind' / 'dud' items), and bombs with chemical time-delay fuzes.



10.5.2 Site-Specific Conclusion

- ▶ There is no reason to believe that the Site-specific hazard items are more sensitive to an initiation when compared to similar EO contamination elsewhere in the UK.
- ▶ It has been demonstrated that the USAAF practice bomb contamination on Site does not pose a significant hazard. Furthermore, this type of device did not contain a significant quantity of HE or any other very hazardous substance. Striking the corroded remnants of these practice bombs during ground works will not cause an initiation / detonation event of any consequence.
- However, if during piling works or mechanical excavations, a cache of live, undamaged EO were to be encountered within the primary area of concern, the likelihood of an EO initiation would be significantly elevated. Note, some types of WW2-era British LSA were part constructed of glass and therefore especially sensitive. Such a scenario would also raise the possibility of additional sympathetic explosions a chain reaction of initiations due to multiple / numerous devices in close proximity.

11 The Historical Record: Extent and Accuracy

11.1 Introduction

The availability of key documents and data will affect the completeness and accuracy of the Site-specific risk assessment. Furthermore, historical records can sometimes be proven inaccurate, when compared with other records. Some inaccuracies could significantly affect the outcome of a risk assessment and therefore a Site-specific review must be conducted.

11.2 Site-Specific

Inconsistencies between the bombing records have been identified and some incident records are incomplete. However, a sufficient picture of local bombing incidents has likely been identified. IAL is confident that an accurate German UXB risk assessment can be performed.

Although gaps have been identified, the quality of the historic record relating to USAAF and British military activity in the local area is deemed sufficient to confidently draw conclusions. IAL is confident that an accurate British / Allied EO risk assessment can be performed.



12 Site-Specific Risk Calculation

12.1 Introduction

The first stage of the semi-quantitative risk model considers potential sources of buried EO on Site. The next stage evaluates the possible linkages, identifying whether significant harm could occur (as a result of the proposed Site works) and the impact of such harm. To provide a numerical evaluation of risk, the two key considerations must be assigned a score and then multiplied together to provide a final risk rating / risk level:

- ▶ The likelihood of an EO linkage becoming complete: **FACTOR 3** (= Factors 1 x 2)
- ▶ The severity of the consequence(s) resulting from this linkage completion: FACTOR 6 (= Factors 4 x 5)

12.2 Factor 1 (F1): Explosive Ordnance Presence

The Likelihood of EO contamination of the Site combined with the degree of subsequent risk mitigation. This factor is described and scored in the table below.

Classification	Example Descriptions	F1 Rating
Impossible	No EO contamination due to complete subsequent excavation / removal of the ZPC.	0
Highly Unlikely	EO contamination is highly unlikely to have occurred. Most of the ZPC subsequently excavated or EOC task(s) have been conducted.	1
Unlikely	EO contamination is unlikely to have occurred. Part of the ZPC subsequently excavated or EOC task(s) have been conducted.	2
Possible	EO contamination could have occurred. Part or none of the ZPC subsequently excavated.	3
Likely	EO contamination is likely to have occurred. Only a fraction or none of the ZPC subsequently excavated.	4
Almost Certain	Confirmed evidence of local EO contamination. Greenfield land / ZPC remains undisturbed.	5

TABLE 11: Factor 1 Scoring

12.3 Factor 2 (F2): Explosive Ordnance Initiation

The likelihood of encountering EO during the proposed works combined with the likelihood of initiating EO during the proposed works. This factor is described and scored in the table below.

Classification	Example Descriptions	F2 Rating
Impossible	The ZPC will not be disturbed during the proposed ground works.	0
Highly Unlikely	Fraction of the ZPC will be intruded / excavated. Hand-dug trial pits. Vegetation clearance / soil stripping. Hazard items include relatively insensitive EO.	1
Unlikely	Part of the ZPC will be intruded / excavated. Mechanically excavated trial pits. Shallow excavations for traditional foundations. Piling or boreholes. Hazard items include relatively insensitive EO.	2
Possible	Moderate to high intrusion / excavation of the ZPC. Large-scale shallow excavations for traditional foundations. Single basement level construction. Piling or boreholes. Hazard items include relatively insensitive and possibly sensitive EO.	3
Likely	Most of the ZPC will be excavated. Multi-level basement construction. Large scale piling works (including percussive piling). Hazard items include sensitive EO.	4
Almost Certain	Almost the entire ZPC will be excavated. Multi-level basement construction. Large scale piling works (including percussive piling). Hazard items include highly sensitive EO.	5

TABLE 12: Factor 2 Scoring



12.4 Factor 3 (F3): Calculating the Likelihood of an Explosive Ordnance Initiation Event

The table below includes the calculations of 'Likelihood' and descriptions of the resulting scores.

F1 x F2 = F3	Classification	Example Descriptions	F3 Rating
F3 = 0	Impossible	Confirmed evidence that no EO is present or no pathway to sensitive receptors present.	0
F3 = 1 to 4	Highly Unlikely	EO is highly unlikely to be present. No pathway to sensitive receptors present. Initiation of EO is highly unlikely.	1
F3 = 5 to 8	Unlikely	EO is unlikely to be present. There is an established pathway to sensitive receptors. Initiation of EO unlikely.	2
F3 = 9 to 13	Possible	EO could be present. There is an established pathway to sensitive receptors. Initiation of EO is unlikely but possible.	3
F3 = 14 to 20	Likely	EO is likely to be present. There is an established pathway to sensitive receptors. Initiation of EO could occur.	4
F3 = 21 to 25	Almost Certain	Confirmed evidence of EO contamination. There is an established pathway to sensitive receptors. Initiation of EO is likely.	5

TABLE 13: Factor 3 Scoring

12.5 Factor 4 (F4): Explosive Ordnance Event Magnitude

The potential hazard associated with each hazard item combined with the likely depth of EO initiation. This factor is described and scored in the table below.

Classification	Example Descriptions	F4 Rating
None	British military training device (inert).	0
Very Small	British SAA at depth. 1kg German bomb at depth.	1
Small	British LSA or HAA projectile at depth. British LAA projectile near the surface. 2kg German bomb at depth. 1kg German bomb near the surface. British SAA near the surface.	2
Medium	British LSA or HAA projectile near the surface. 2kg German bomb near the surface. Medium German 'iron' bombs at depth.	3
Large	Large 'iron' bombs at depth. Medium 'iron' bombs near the surface.	4
Very Large	Large 'iron' bombs near the surface.	5

TABLE 14: Factor 4 Scoring

12.6 Factor 5 (F5): Sensitive Receptors

The presence and sensitivity of receptors in the vicinity at the time of the proposed works. This factor is described and scored in the table below.

Classification	Example Descriptions	F5 Rating
Single	Plant / equipment.	1
Few	Human, plant / equipment.	2
Medium	Human, plant / equipment, buried services.	3



Most	Human, plant / equipment, buried services, buildings.	4
All	Human, plant / equipment, buried services, buildings, listed buildings, scheduled ancient monuments, protected environment (e.g. TPO).	5

TABLE 15: Factor 5 Scoring

12.7 Factor 6 (F6): Calculating the Consequence of an Explosive Ordnance Initiation Event

The table below includes the calculations of 'Consequence' and descriptions of the resulting scores.

F4 x F5 = F6	Classification	Example Descriptions	F6 Rating
F6 = 0	None	Contact with inert military device. No initiation event. No risk to human health or damage sustained.	0
F6 = 1 to 4	Insignificant	Very small magnitude inadvertent initiation at depth. Possible cosmetic damage to plant. No risk to human health or buildings damaged.	1
F6 = 5 to 8	Mild	Small magnitude inadvertent initiation. Possible damage to plant. Possible risk to human health (minor first aid injury).	2
F6 = 9 to 13	Moderate	Medium magnitude inadvertent initiation. Damage to plant. Possible damage to buried services. Possible cosmetic damage to buildings. Possible risk to human health (minor injury).	3
F6 = 14 to 20	Severe	Large magnitude inadvertent initiation. Severe damage to plant, buried services and buildings. Fatality and / or severe injuries.	4
F6 = 21 to 25	Catastrophic	Large magnitude inadvertent initiation. Catastrophic damage to plant, buried services and buildings (including listed buildings, scheduled ancient monuments, etc). Multiple fatalities and severe injuries.	5

TABLE 16: Factor 6 Scoring

12.8 Calculating the Final Risk Level(s)

The 'Likelihood' and 'Consequence' factors are combined in the risk matrix below to produce a final risk score.

			Consequence (F6)					
		0	1	2	3	4	5	
	5	0	5	10	15	20	25	
-3)	4	0	4	8	12	16	20	Final
J) po	3	0	3	6	9	12	15	al Risk
Likelihood (F3)	2	0	2	4	6	8	10	ж Sc
兰	1	0	1	2	3	4	5	Score
	0	0	0	0	0	0	0	

		Fir	nal Risk Rating (score)		
0 - 1	2 - 5	6 - 9	10 - 12	15 - 16	20	25
Very Low	Low	Low-to- Moderate	Moderate	Moderate-to- High	High	Very High
			Risk Levels			

TABLE 17: Risk Matrix



12.9 Conceptual Site Model

Risk assessment calculations have identified three risk zones, illustrated on a Risk Map displayed at FIGURE 9. The conceptual model is displayed in the tables below.

			High Risk Table	к Таblе			
	Hazard Item	Pathway	Receptor	Likelihood (F3)	Consequence (F6)	Final Risk Rating	Risk Level
	HE and Incendiary 'Iron'	Mech excavations. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:2)	4 (F4:4 x F5:4)	4 (1 × 4)	Low
wsw	Bombs	Piling. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:4)	4 (F4:4 x F5:4)	4 (1 × 4)	Low
nəə	1kg Incendiary and 2kg	Mech excavations. Blast + heat.	Human, Plant.	1 (F1:2 x F2:2)	2 (F4:3 x F5:2)	2 (1 × 2)	Low
	Incendiary (+ HE) Bombs	Piling. Blast + heat.	Human, Plant.	1 (F1:2 x F2:2)	2 (F4:3 x F5:2)	2 (1 × 2)	Low
	RAF and USAAF HE and	Mech excavations. Blast + heat + frag.	Human, Plant, Structures.	4 (F1:5 x F2:3)	4 (F4:5 x F5:4)	16 (4 × 4)	Moderate-to-High
	Rockets	Piling. Blast + heat + frag.	Human, Plant, Structures.	5 (F1:5 x F2:5)	4 (F4:5 x F5:4)	20 (5 × 4)	High
	l and Sorvice Ammunition	Mech excavations. Blast + heat + frag.	Human, Plant, Structures.	4 (F1:5 x F2:4)	3 (F4:3 x F5:3)	12 (4 × 3)	Moderate
p		Piling. Blast + heat + frag.	Human, Plant, Structures.	4 (F1:5 x F2:4)	3 (F4:3 x F5:3)	12 (4 × 3)	Moderate
əillA \	Anti-Aircraft Projectiles	Mech excavations. Blast + frag.	Human, Plant, Structures.	1 (F1:1 x F2:2)	3 (F4:3 x F5:3)	3 (1 × 3)	Low
deitin8		Piling. Blast + frag.	Human, Plant, Structures.	1 (F1:1 x F2:3)	3 (F4:3 x F5:3)	3 (1 × 3)	Low
	RAF and USAAF Practice	Mech excavations. Burn or smoke.	Human.	2 (F1:5 x F2:1)	1 (F4:1 x F5:2)	2 (2 × 1)	Low
	Bombs	Piling. Burn or smoke.	Human.	2 (F1:5 x F2:1)	1 (F4:1 x F5:2)	2 (2 × 1)	Low
	Small Arms Amminition	Mech excavations.	Human.	1 (F1:4 x F2:1)	1 (F4:1 x F5:1)	1 (1 × 1)	Very Low
		Piling.	Human.	1 (F1:4 x F2:1)	1 (F4:1 x F5:1)	1 (1 × 1)	Very Low

TABLE 18: High Risk Table

			Low-to-Moderate Risk Table	ate Risk Table			
	Hazard Item	Pathway	Receptor	Likelihood (F3)	Consequence (F6)	Final Risk Rating	Risk Level
	HE and Incendiary 'Iron'	Mech excavations. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:2)	4 (F4:4 × F5:4)	4 (1 × 4)	Low
มลท	Bombs	Piling. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:4)	4 (F4:4 × F5:4)	4 (1 × 4)	Low
nəĐ	1kg Incendiary and 2kg	Mech excavations. Blast + heat.	Human, Plant.	1 (F1:2 x F2:2)	2 (F4:3 x F5:2)	2 (1 × 2)	Low
	Incendiary (+ HE) Bombs	Piling. Blast + heat.	Human, Plant.	1 (F1:2 x F2:2)	2 (F4:3 × F5:2)	2 (1 × 2)	Low
	RAF and USAAF HE and	Mech excavations. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:3)	4 (F4:5 × F5:4)	4 (1 × 4)	Low
	Rockets	Piling. Blast + heat + frag.	Human, Plant, Structures.	2 (F1:1 × F2:5)	4 (F4:5 × F5:4)	8 (2 × 4)	Low-to-Moderate
	A coming A maninition	Mech excavations. Blast + heat + frag.	Human, Plant, Structures.	2 (F1:2 × F2:4)	3 (F4:3 x F5:3)	6 (2 × 3)	Low-to-Moderate
ŗ		Piling. Blast + heat + frag.	Human, Plant, Structures.	2 (F1:2 x F2:4)	3 (F4:3 x F5:3)	6 (2 × 3)	Low-to-Moderate
əillA \	Anti Airceaft Droioctilos	Mech excavations. Blast + frag.	Human, Plant, Structures.	1 (F1:1 x F2:2)	3 (F4:3 x F5:3)	3 (1 × 3)	Low
deitin8		Piling. Blast + frag.	Human, Plant, Structures.	1 (F1:1 x F2:3)	3 (F4:3 x F5:3)	3 (1 × 3)	Low
-	RAF and USAAF Practice	Mech excavations. Burn or smoke.	Human.	2 (F1:5 x F2:1)	1 (F4:1 x F5:2)	2 (2 × 1)	Low
	Bombs	Piling. Burn or smoke.	Human.	2 (F1:5 x F2:1)	1 (F4:1 x F5:2)	2 (2 × 1)	Low
	Small Arms Amminition	Mech excavations.	Human.	1 (F1:2 x F2:1)	1 (F4:1 × F5:1)	1 (1 × 1)	Very Low
		Piling.	Human.	1 (F1:2 x F2:1)	1 (F4:1 x F5:1)	1 (1 × 1)	Very Low

TABLE 19: Low-to-Moderate Risk Table

			Low Risk Table	ς Table			
	Hazard Item	Pathway	Receptor	Likelihood (F3)	Consequence (F6)	Final Risk Rating	Risk Level
	HE and Incendiary 'Iron'	Mech excavations. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:2)	4 (F4:4 × F5:4)	4 (1 × 4)	Low
มยน	Bombs	Piling. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:4)	4 (F4:4 × F5:4)	4 (1 × 4)	Low
nəə	1kg Incendiary and 2kg	Mech excavations. Blast + heat.	Human, Plant.	1 (F1:2 x F2:2)	2 (F4:3 × F5:2)	2 (1 × 2)	Low
	Incendiary (+ HE) Bombs	Piling. Blast + heat.	Human, Plant.	1 (F1:2 x F2:2)	2 (F4:3 × F5:2)	2 (1 × 2)	Low
	RAF and USAAF HE and	Mech excavations. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:2)	4 (F4:5 × F5:4)	4 (1 × 4)	Low
	Rockets	Piling. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:4)	4 (F4:5 × F5:4)	4 (1 × 4)	Low
		Mech excavations. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:4)	3 (F4:3 x F5:3)	3 (1 × 3)	Low
ŗ		Piling. Blast + heat + frag.	Human, Plant, Structures.	1 (F1:1 x F2:4)	3 (F4:3 × F5:3)	3 (1 × 3)	Low
əillA \	Anti Airentt Decioniles	Mech excavations. Blast + frag.	Human, Plant, Structures.	1 (F1:1 x F2:2)	3 (F4:3 x F5:3)	3 (1 × 3)	Low
deifin8		Piling. Blast + frag.	Human, Plant, Structures.	1 (F1:1 x F2:3)	3 (F4:3 x F5:3)	3 (1 × 3)	Low
	RAF and USAAF Practice	Mech excavations. Burn or smoke.	Human.	1 (F1:4 x F2:1)	1 (F4:1 x F5:2)	1 (1 × 1)	Very Low
	Bombs	Piling. Burn or smoke.	Human.	1 (F1:4 x F2:1)	1 (F4:1 x F5:2)	1 (1×1)	Very Low
	Small Arme Ammunition	Mech excavations.	Human.	1 (F1:2 x F2:1)	1 (F4:1 x F5:1)	1 (1×1)	Very Low
		Piling.	Human.	1 (F1:2 x F2:1)	1 (F4:1 x F5:1)	1 (1 × 1)	Very Low

TABLE 20: Low Risk Table

13 Risk Mitigation

13.1 ALARP Principle

ALARP is a risk principle associated with the Health and Safety at Work Act 1974. It is used in the regulation and management of construction industry risks and states that risk must be averted unless there is a gross disproportion between the costs and benefits of doing so.

The ALARP principle arises from the fact that infinite time, effort and money could be spent attempting to eliminate a risk entirely. It should not be understood as simply a quantitative measure of benefit against detriment. Instead, a best common practice of judgement, balancing risk and societal benefit.

13.2 Risk Levels and Risk Tolerance

The table below outlines the relationship between final risk scores / levels (the output of the IAL semi-quantitative risk model), risk tolerance and the available industry standard risk mitigation measures. An elevated UXO risk should always be reduced to ALARP level.

Risk Level	IAL Recommendation	Risk Tolerance	Mitigation Measures
Very High	Proactive mitigation measures considered essential	Intolerable risk level in all but extreme circumstances.	
High			EOD Engineer supervision of ground works
Moderate- to-High	Proactive mitigation measures recommended	Intolerable level of risk where risk mitigation to ALARP is cost effective. A client may consider the risk tolerable due to impracticability of the available risk mitigation measures or disproportionately high cost of mitigation.	 Magnetometer surveying prior to ground works Explosive Ordnance Safety & Awareness Briefing(s) Explosive Ordnance Site Safety Instructions
Moderate		Tolerable risk level providing the recommended mitigation measures have been adopted.	
Low-to- Moderate	Reactive mitigation measures recommended	Possibly tolerable risk level, however reactive risk mitigation measures would be the prudent course of action. For sensitive, high value sites, a zerotolerance policy may exist, mandating proactive risk mitigation measures.	 Explosive Ordnance Safety & Awareness Briefing(s) Explosive Ordnance Site Safety Instructions
Low	Reactive mitigation measures considered prudent (not recommended)	Likely to be a tolerable risk level for most clients. However, adoption of the basic precautionary mitigation measure would be the prudent (and very cost effective) course of action, especially for greenfield sites.	 Explosive Ordnance Safety & Awareness Briefing(s) considered prudent. Explosive Ordnance Site Safety Instructions considered prudent.
Very Low	No mitigation measures	N/A	N/A

TABLE 21: Risk Levels and Risk Tolerance



13.3 Site-Specific Recommendation(s)

The following table describes the available industry standard risk mitigation measures and identifies those (if any) that are recommended to reduce an elevated risk to ALARP level.

Mitigation Measure	Appropriate For	Site-Specific
Explosive Ordnance Safety Instructions / Emergency Response Plan: EO Safety Instructions (compiled by an EO specialist) provide a written record of the key points that make up an EO Safety & Awareness Briefing. Including instructions on making a preliminary suspicious object threat assessment, a visual catalogue of commonly found EO types, and the steps to take in the event of a potential EO find. The instructions should be included within the site-specific Health & Safety Manual.	Provided to Site personnel prior to commencement of excavations.	Recommended to be held on Site for the duration of the ground works within the Low Risk and Low-to-Moderate Risk zones.
Explosive Ordnance Safety & Awareness Briefings: All personnel conducting ground works on Site should receive this briefing. It should feature as a key element of the CDM Regulations 2015 Health & Safety training package for the site. The briefing should be conducted by a trained EO specialist. Such briefings instruct recipients in the identification of EO hazards and actions to be taken in the event of an EO incident.	Not appropriate for 'blind' intrusions (e.g. boreholes)	Recommended to all Site personnel prior to breaking ground anywhere on Site.
Explosive Ordnance Disposal (EOD) Engineer Supervision: An EOD engineer (banksman) providing a 'watching brief' of mechanical excavations. Any suspicious objects will be quickly identified, allowing works to continue if the object is not EO. This reduces the risk of delays to the project. EOD engineers can use portable / handheld magnetometer instruments to scan ground ahead of boreholes.	 SI (including some boreholes) Small volume earthworks on greenfield land Excavations within made ground 	Recommended 'Watching brief' in support of any mechanical excavations within the High Risk Zone only.
Intrusive Magnetometer Survey: A range of intrusive magnetometer methodologies can be deployed. Which equipment is most appropriate will depend upon the ground conditions and site access. This survey will scan the ground down to the maximum bomb penetration depth and therefore is the most appropriate option for clearing pile locations ahead of 'blind' piling works. Multiple overlapping surveys can be conducted, providing matrix clearance of made ground, e.g basement dig.	 Piling Boreholes Large volume earthworks on brownfield land 	Recommended at all / any pile positions within the High Risk Zone only.
Non-Intrusive Magnetometer Survey: A range of non-intrusive magnetometer survey methodologies can be deployed to survey ground to a limited depth. Such surveys can typically detect a 50kg 'iron' bombs at a depth of 4.5m bgl, providing the ground is 'magnetically clean'. Such surveys are not appropriate for brownfield land where 'magnetic noise' will result in unusable data.	► Large volume earthworks on magnetically clean land	Not Recommended

TABLE 22: Recommendations for Risk Mitigation





Figure Title: Recent Aerial Photograph Recent Aerial Photograph Project: Google Source: Google Green Hill Solar Project - Site G. Glient: Lucion Delta-Simons Doc Ret DRA,10219,25 Explosive Ordnance Risk Assessments Tel: +44(0) 2071288194 Web: www.imparialessesements.com Email: info@mparialessesements.com Email: info@mparialessesements.com Email: info@mparialessesements.com



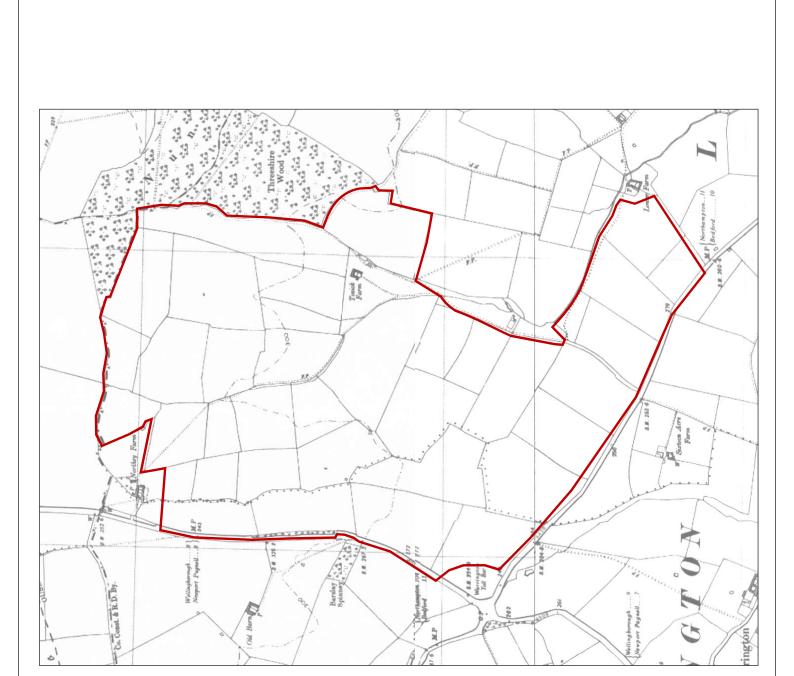


Figure: 02.0

Figure Title: Historic OS Mapping -1951/52

Approx. Site boundary

Legend:

Notes:

Source:

Groundsure

Project: Green Hill Solar Project - Site G, Buckinghamshire

Client: Lucion Delta-Simons

Doc Ref. DRA 10219.25

Version: 1

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Web: www.impartialassessments.com
Email: info@impartialassessments.com

Figure Title: Historic Aerial Photography: 16th July 1943 Notes: Robert: Green Hill Solar Project - Site G. Project: Green Hill Solar Project - Site G. Inciron Delta-Simons Doc Ref: DRA.10219.25 Explosive Ordinance Risk Assessments Fig. **44(0) 2071 288 194 Fig. **44(0) 2071 288 194

Figure Title: Historic Aerial Photography: 7th June 1946 Notes: Source: Historic England arrow) Project: Green Hill Solar Project - Site G, concrete navigation arrow) Notes: Explosive Ordinance Explosive Ordinance Explosive Ordinance Explosive Ordinance Tel: #4(0) 2077 288 194 Web: #4(0) 2077 288 194



Figure: 03.3

Figure Title: Historic Aerial Photography: 7th June 1946

Legend:

Approx. Site boundary

Former practice bombing range target marker

Crater-like (not circular features)

Historic England

Source:

Project: Green Hill Solar Project - Site G, Buckinghamshire

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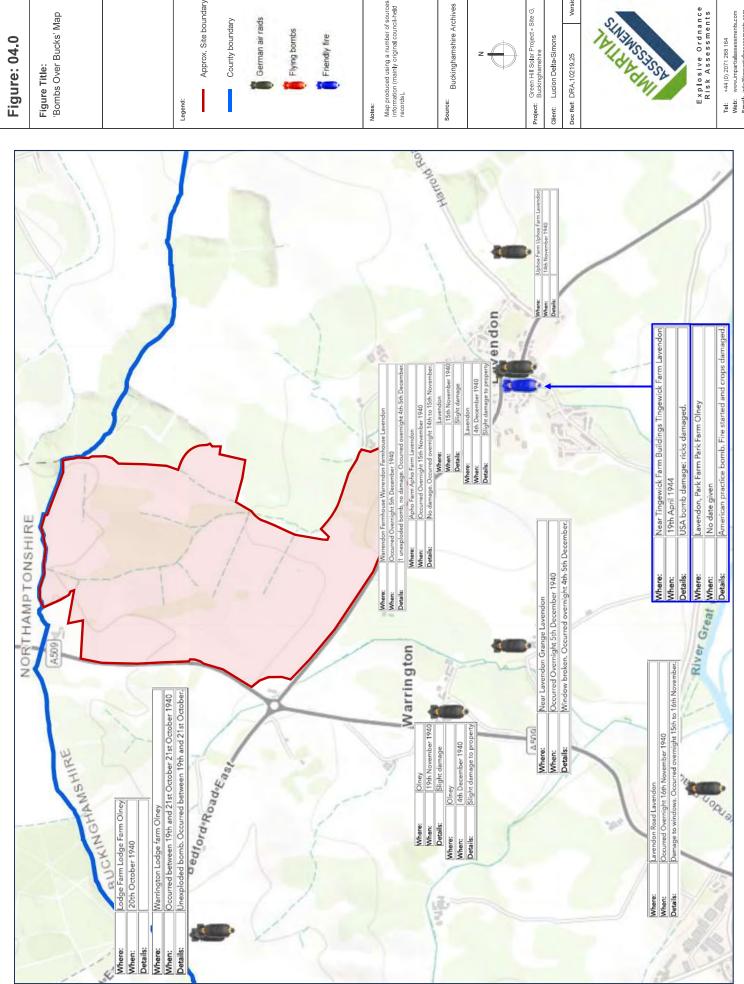


Figure: 04.0

'Bombs Over Bucks' Map Figure Title:

Approx. Site boundary German air raids County boundary Flying bombs Friendly fire Map produced using a number of sources of information (mainly original council-held records).

Buckinghamshire Archives



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Source: Legend: Area used for explosives destruction post war Quadrant No.1 and arrow Lavendon Danger Area 0 O Quadrant No.2

Figure: 05.0

Figure Title: Plan of RAF Lavendon Practice Bombing Range

Approx. Site boundary

Bombing range target marker location

The white circle marks the perimeter of the bombing range danger area (600 yards radius from the bombing target)

Airfield Research Group & RAF Air Historical Branch



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~ A.J. 71/104/16 88/555010 3 RELINCUISIED Practice Bombing Range for small area required Practice Bombing Range Derequisitioned except Moving Target Range by mar Office until Bombing Range RANGES AIR MINISTRY Dec. Cheshire ENGLAND AND WALES CHETTON, Salop. Severn River HEAD, Yorks. LAVENDON, Bucke DIE MARSHES, FLAMBOROUGH SCOTTLAND DUMERICS FRAMPTON SAMDS,

Figure: 06.0

Figure Title: Air Ministry Report -December 1945

Source: The National Archives

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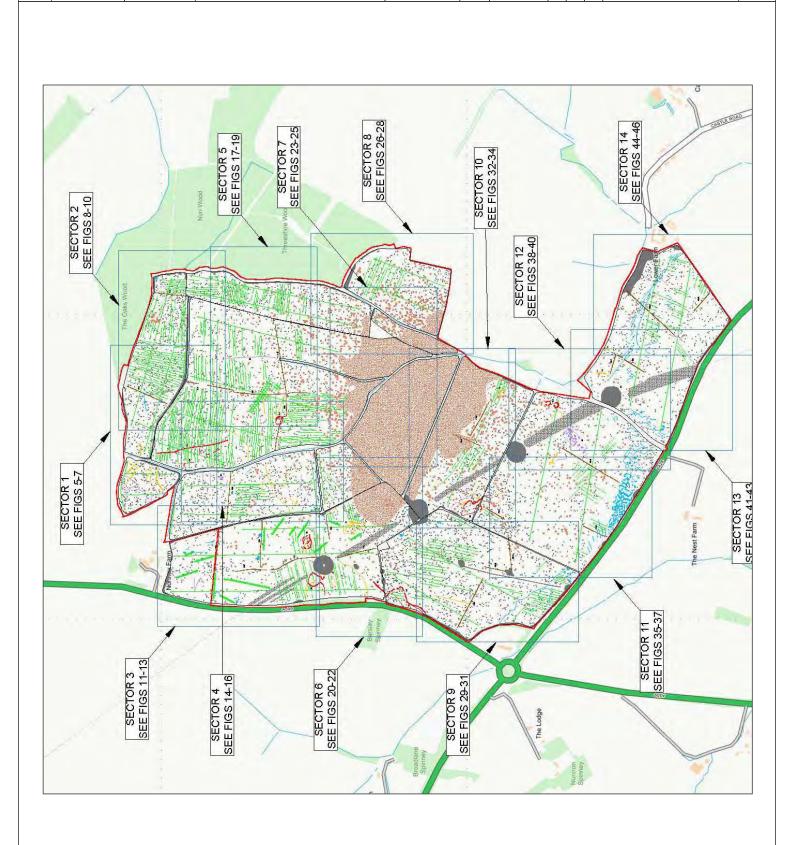


Figure: 07.0

Magnetometer Survey Results Map Figure Title:

Legend:

Approx. Site boundary

BOMBING

Notes:

Source:

Lucion Delta-Simons

Project: Green Hill Solar Project - Site G, Buckinghamshire

Client: Lucion Delta-Simons Doc Ref. DRA.10219.25

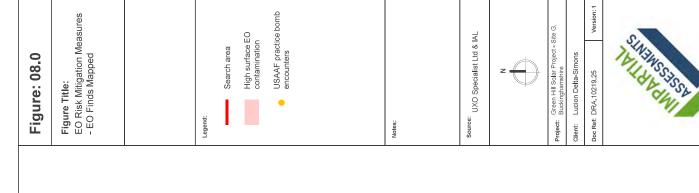
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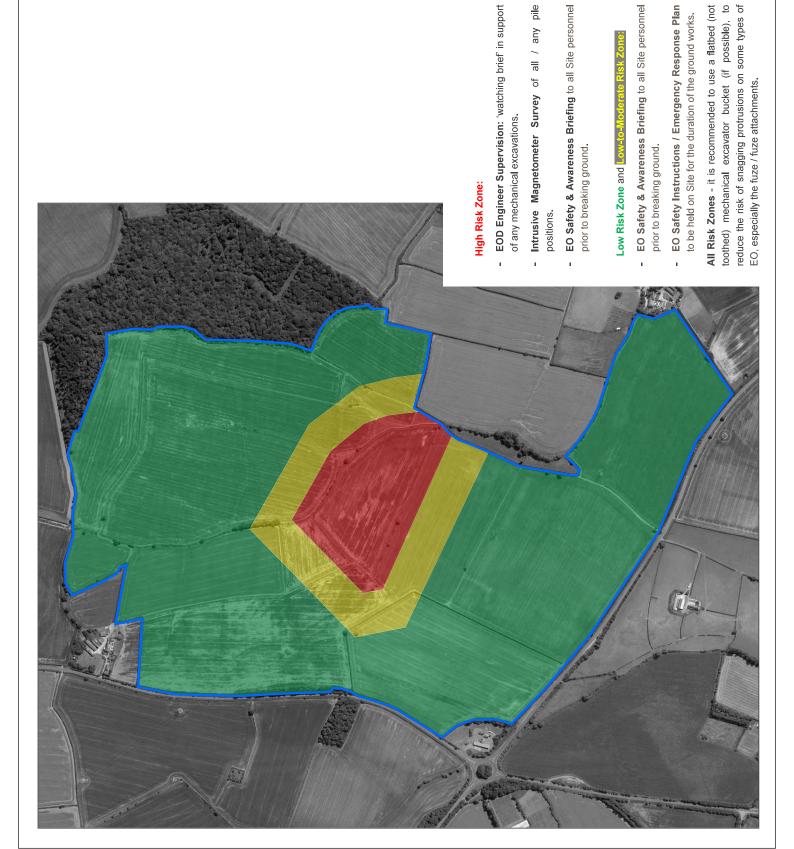


Figure: 09.0

Figure Title: Risk Zone Map -Development Works

Low-to-Moderate Risk Zone Within each mapped risk zone, the risk levels relating to each EO hazard item vary. High Risk Zone Low Risk Zone Site boundary

Ā

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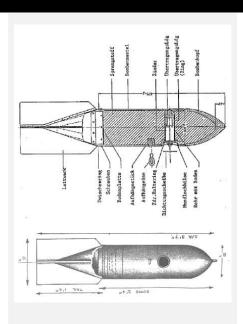


German WW2 High Explosive 'Iron Bombs' - most likely to be encountered

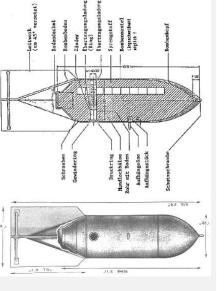
Side fuzed. Electrical impact or mechanical delay Grey/green with yellow stripe on the tail unit 670 to 762mm x 203mm TNT, Amatol or Trialen 54kg (119lb) 25kg (55lb) 46% Charge/Weight Ratio: Body Dimensions: Explosive Weight: Bomb Weight: Appearance: Fuze Type: Material: Filling: SC 50

Grades I, II and III. Body length / construction

Variants:



Side fuzed. Electrical impact or mechanical delay 1,173 to 1,193mm x 368mm Steel Grey/green with yellow stripe on the tail unit Grades I and II. Body length and doubled fuzed type
Steel Grey/green with yellow stripe on the tail unit Grades I and II. Body length and doubled fuzed type
Grey/green with yellow stripe on the tail unit Grades I and II. Body length and doubled fuzed type
Grades I and II. Body length and doubled fuzed type





Appendix: 01.1

Appendix Title:

Data Sheets - Commonly Deployed German WWZ Bombs



Project: Green Hill Solar Project - Site G, Buckinghamshire

Lucion Delta-Simons

Client:

Leitverk (um 45° versetzt)

Zvíschenring

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German WW2 Incendiary Bombs - most likely to be encountered

Appendix: 01.2

Data Sheets - Commonly

Appendix Title:

Deployed German WWZ Bombs

B1 Series Sub-Munition

1.0 to 1.3kg (2.20 to 2.87lb) 680g Incendiary Weight: Bomb Weight:

Nose fuzed, impact Thermite Fuze Type: Filling:

A3338a WEGGSARE

247mm x 50mm **Body Dimensions:** Grey body, dark green tail unit Appearance:

Magnesium alloy body, steel tail

Material:

Four types. Two delayed action and one steel nosed Variants:

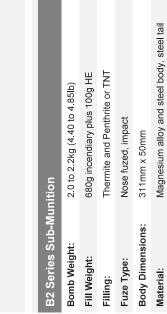
**1,1 V/0

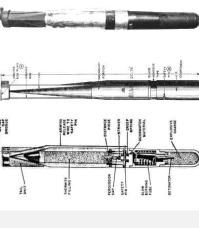
.. 1% 6 BMOS

Various sizes holding between 36No. and 620No. B1s Bomb Container:









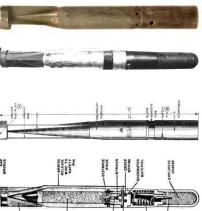
Green body and tail, explosive black, red or unpainted Two types; round nose or flat nose plus longer tail unit Various sizes holding up to 372No. B2s. Usually

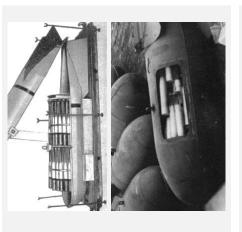
Appearance:

Variants:

mixed with B1s.

Bomb Container:





Brand C50 A

15 litres (86% Benzine, 10% Rubber, 4% Phosphorus) 13kg (30lb) Incendiary Weight: Filling:

41kg (75lb)

Bomb Weight:

Side fuzed. Electrical impact Fuze Type:

762mm x 203mm Body Dimensions:

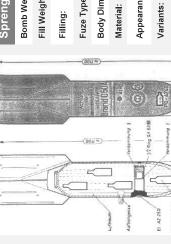
Stee

Material:

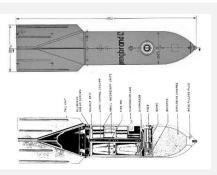
Grey or green body, red base, red band around the centre of the body Appearance:

C50 B (77% Phosphorus fill) Variants:

None



.⊑ Grey or green body, red or brown stencilling on body 7kg TNT and 3kg Thermite multiple small containers Side fuzed. Electrical impact 711mm x 203mm Sprengbrand C50 'Fire Pot' 50kg (110lb) 10kg (22lb) Stee Body Dimensions: Bomb Weight: Appearance: Fuze Type: Fill Weight: Material: Filling:



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British WW1 and WW2 Anti-Aircraft Projectiles

Appendix: 02.0

Data Sheets - Commonly

Appendix Title:

Deployed British Anti-

Aircraft Projectiles

3.7-inch QF Heavy AA Gun (WW2)

Amatol, TNT or RDX and TNT 1.1kg Shell Weight: Fill Weight: Filling:

1011

Nose mechanical time delay fuze Fuze Type:

Yellow or Grey body, copper driving bands, brass neck, grey nose fuze 94mm x 360 or 438mm Shell Appearance: Shell Dimensions:

10 to 20rpm Rate of Fire:

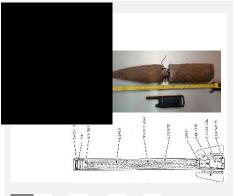
12,000m

Max Range:

3 000 A HOTAL

6,770m 24.5kg 3.4kg 0.96kg Rocket Dimensions: Shell Appearance: Narhead Weight: Rocket Weight: Max Range: Fill Weight: Fuze Type: Filling:

TNT warhead. Black Powder solid Nose mechanical time delay fuze Pointed bronze or black nose 3-inch UP Rocket - Z Battery (WW2) 1,930mm x 82mm fuel rocket motor





40mm Light AA Gun (WW2)

0.84kg

Shell Weight:

Fill Weight:

AXXX + O Yellow or orange body, copper

driving band, grey nose fuze

Shell Appearance:

7,160m

Max Range:

WAXED CLOTH

PILLING

PAPER DISCS

Blue, orange, red or green bodies

indicate TNT fill

Shell Appearance:

Shell Dimensions:

Fuze Type:

4,389m

Max Range:

250 to 450rpm

Rate of Fire:

20mm x 110mm or 128mm

Nose impact fuze

Incendiary comp and/or TNT or Tetryl

123g or 116g or 130g

Shell Weight:

6.0 to 11.0g

Fill Weight:

Filling:

20mm Light AA Gun (WW2)

FUZE -REAR DISC -DETONATOR HE FILLING 120rpm

Rate of Fire:

PRIMING

COMPOSITION

HE/INCENDIARY/TRACER

3 inch QF Heavy AA Gun (WW1)

Shell Weight:

Fill Weight:

Nose impact fuze

Ĭ 68g

Filling:

40mm x 180mm

Shell Dimensions:

Fuze Type:

Copper Nober - Fourt Ligid - Fourt of Case const - Fing Day Trease Fent. - External Right Treese - Paper Cylinder Steel Disc. To Cup with R.F.G.T. Pander Burster Marry Metal Bullets Convey Tube. Deem

Black body, copper driving bands, Nose mechanical time delay fuze TNT or TNT plus ball bearings 76.2mm x 384mm or 420mm <0.6kg (explosive) brass nose fuze 5.7kg or 7.3kg Shell Dimensions: Shell Appearance:

Fuze Type:

16 to 18rpm Max Range: Rate of Fire:

Primer pervisem Of Carbridges NV Cartridge, Q.F. 3 Inch Shrapnel Shell, Mark I

37mm Light AA Gun (WW1) Shell Dimensions: Shell Weight: Fill Weight: Fuze Type: Filling:

Gunpowder / black powder

0.45kg 17.0g Nose impact fuze

Brown body, copper driving bands and brass fuze. 93mm x 37mm 4,110m Shell Appearance: Max Range:

300rpm

Rate of Fire:

Spile Collan Optionatur Patient, Paper Mecha Zingrama Zineer Ligare Flug Vent

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COMMON SHELL FUZED MARK II.

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British Army WW2-era Land Service Ammunition

2-inch SBML Mortar (HE)

RDX or TNT (high explosive) 51mm x 290mm 1.02kg 200g Shell Weight: Dimensions: Fill Weight: Filling:



Cylindrical shape. Brown body,

green and red bands, five

Appearance:

Material:

parachute illumination, white

Variants

phosphorus.

Smoke, signal multi-star,

finned.







Deployed WW2-era British Army Land Service

Ammunition

Data Sheets - Commonly

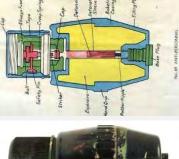
Appendix Title:

Appendix: 03.0



No.36 Hand	No.36 Hand Grenade - Frag
Weight:	760g
Fill Weight:	71g
Filling:	Baratol (high explosive)
Dimensions:	95mm x 61mm
Material:	Cast iron
Appearance:	Black grooved lemon shaped body. Fragmentation pineapple' design.
Fuze:	4 second time delay fuze.





Pear-drop shape. Brown body, RDX or TNT (high explosive) parachute illumination, white green and red bands, five Smoke, signal multi-star, 81mm x 490mm phosphorus. 3-inch ML Mortar (HE) finned tail. 882g 4.5kg Stee Shell Weight: Dimensions: Appearance: Fill Weight: Material: Variants Filling:







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DX, Lyddite or Pentolite (high explosive) These grenades were fired from a rifle using a special 'cup' attachment. Bell-shaped buff coloured No.68 Anti-Tank Rifle Grenade body. Tail unit. Red and 178mm x 64mm

Stee

Material:

Dimensions:

Fill Weight:

Filling:

Weight:

Ordnance QF 2-pounder Gun - HE

1.86kg (full cartridge)

HE Round Weight:

Fill Weight:

85g (plus propellant)

RDX or TNT (high 40mm x 304mm

explosive)

Dimensions:

Filling:

Material:

green bands.

Appearance:

with red and green bands. Note, the HE round was

brough into service in 1942.

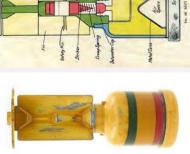
Brass body. Buff nose

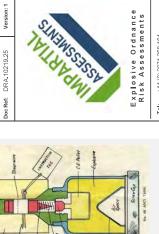
Appearance:

Remark

Steel projectile. Brass

Remark





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Anti-tank solid shot variant pictured

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WW2-era Practice Bombs - USAAF

Appendix: 04.0

Appendix Title:

Commonly Deployed USAAF WW2-era Practice Bomb Data Sheets - Most

M38A2 Smoke and Flash Bomb

Flash and smoke spotting charges (M1A1, M3, and M4). Variants:

100lb (including inert sand fill and spotting charge) Weight: Flash: black powder (~3lb). Smoke: stannic chloride, sodium phosphate and titanium tetrachloride (1lb)

47.5" x 8.13" Dimensions:

Filling:

Stee Material: Blue paint, white text. Appearance: Impact fuse. The spotting charge is assembled in a sleeve at the base of the bomb, within the fin assembly. Fuze:

Note, the M85 bomb was a concrete filled version of the M38A2, ordered to relieve a temporary wartime shortage of the M38A2 model.

698







Green Hill Solar Project - Site G, Buckinghamshire

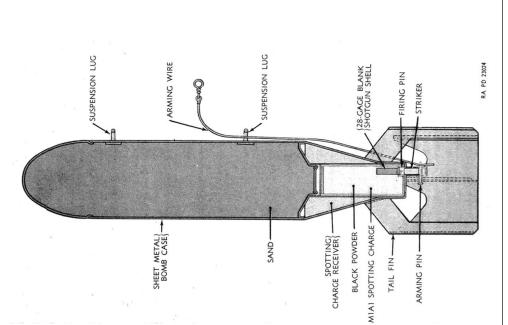
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Lucion Delta-Simons

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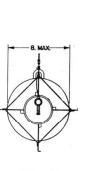
BLUE BAND

OOLB.M38A2

PRACTICE BOMB

CENTER OF GRAVITY APPROX. 18.





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WW2-era Practice Bombs - RAF

Smoke and Flash Bombs

Data Sheets - Commonly

Appendix Title:

Deployed RAF WW2-era Practice Bombs

Appendix: 05.0

Smoke emitting and flash (pyrotechnic) Variants:

8.5lb, 10lb, 11.5lb, 25lb Weights:

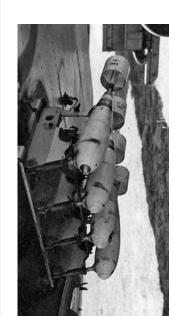
Flash: gunpowder and Magnesium (1lb). Smoke: stannic chloride, sodium phosphate and titanium tetrachloride (1lb) Filling:

Lengths: 16", 18" and 22", Diameters: 3", 4" and 8" Dimensions:

Bakelite and steel Material: White paint, black text, 2 x green lines (smoke) or 2 x red lines (flash). Appearance:

Impact fuse Fuze:

Note, RAF WW2 practice bombs are one of the most frequently encountered types of EO at former military airfield sites.







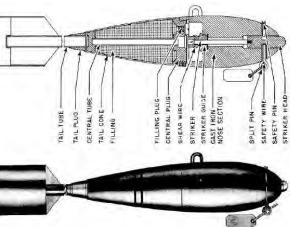




CYLINDRICAL FINA

11.5lb bomb

10lb bomb



CENTRAL TUBE

CENTRAL TUBE

TAIL TUBE TAIL PLUG TAIL CONE -

CENTRAL PLUG-FILLING PLUG

GRUB SCREW

SHEAR WIRE-

GUIDE BUSH

NOSE CASTING STRIKER ROD

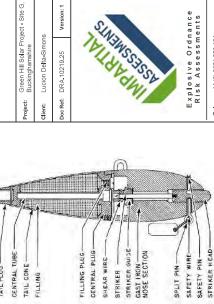
SAFETY PIN

TAIL BONE.

TAIL PLUG.

STRUT

Version: 1



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igure 58-Procise 25-lb. Bomb

Figure 57 Practice 11.5-lb, Bomb

ique 56 Practice 10.8b. Bomb-

STRIKER HEAD

SPLIT PIN-

SAFETY WIRE

STRIKER HEAD.

SAFETY WIRE.

LEAD FILLING

Bates H - Flying Bombs Over England - Frogletts Publications Ltd - 1994

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TNA Ref HO 195 (various docs) Ministry of Home Security: Research & Experiments Department, Civil Defence

TNA Ref HO 198 (various docs) Ministry of Home Security: Research & Experiments Department, Bomb Census Papers

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Wood D et al. The Narrow Margin: The Battle of Britain & the Rise of Air Power 1930-1940 - Pen & Sword Military - 2010

Appendix: 06.0

Appendix Title: Bibliography

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Preliminary Geo-Environmental Risk Assessment Green Hill Solar Scheme Delta-Simons Project Number 93791.580478

Appendix G - Hotspot Protocol



<u>Protocol for Addressing Previously Unidentified</u> <u>'Hotspots' of Contamination</u>

As with any Brownfield development, there is a possibility that an unknown area of soil contamination may be encountered during excavation works. Should an area of contamination be identified by visual or olfactory means the following procedure will be followed:

- Immediately stop all works in the area where contamination is suspected;
- Immediately inform the Site Agent who should then contact the Environmental Consultant;
- The Environmental Consultant will contact the Environment Agency or relevant regulatory authorities if conditions impact receptors within their jurisdiction;
- The Environmental Consultant will provide a verbal response outlining immediate actions with regard to Site Health and Safety and to limit the potential for contaminants to migrate;
- The Environmental Consultant will judge each occurrence on merit and should it be deemed necessary. The Environmental Consultant will attend Site to assess and delineate the source material through lateral and vertical examination;
- If deemed the most appropriate course of action the Environmental Consultant will oversee the removal of the 'hotspot' and collect validation samples;
- If contamination is suspected within groundwater samples, a delineation exercise will be undertaken to determine the source and monitoring of groundwater would be undertaken at an occurrence basis:
- Any excavated material should be isolated from all other material at the Site, on plastic sheeting and covered with plastic sheeting until the material can be tested for contamination and an appropriate disposal route can be identified;
- Any 'hotspot' stockpiles and excavations should be fenced off, have appropriate signage and their locations recorded on a Site drawing;
- Should any excavated material be required to be disposed of at an off-Site location, the material will be isolated from all other material at the Site prior to disposal at a suitably licensed facility. All documentation associated with the movement and disposal of any such material will be supplied to The Environmental Consultant, including waste transfer documentation;
- Subject to appropriate Site Health & Safety controls (typically comprising fencing off the excavation) the excavation will remain open until the validation has been completed. Alternatively, for Site Health & Safety reasons, it may be necessary to backfill the excavation with Site derived material. In this case, the location of the excavation will be accurately recorded and the excavation reopened if required, based on the validation results; and
- The Regulatory Authorities shall be informed by the Environmental Consultant of any remedial activities required and associated validation testing results. Representatives of these organisations may also wish to visit the Site.
- The proposed remedial measures are to remain flexible, depending on the nature and extent of the contamination identified and the conditions at hand.

